

F8A250205_PARCEL H

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Analytical Data Package Prepared For
TESTAMERICA ST. LOUIS

BASIC REMEDIATION - PARCEL H

Radiochemical Analysis By

TestAmerica

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

Assigned Laboratory Code:

Data Package Contains _____ Pages

Report No.: 38650

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
8030200		TSB-HJ-04-0'	F8A250205-4	KF5F01AA	9KF5F010	8030200
		TSB-HJ-04-0'	F8A250205-4	KF5F01AD	9KF5F010	8030203
		TSB-HJ-04-10'	F8A250205-6	KF5F31AA	9KF5F310	8030200
		TSB-HJ-04-10'	F8A250205-6	KF5F31AD	9KF5F310	8030203
		TSB-HJ-05-0'	F8A250205-2	KF5FV1AA	9KF5FV10	8030200
		TSB-HJ-05-0'	F8A250205-2	KF5FV1AD	9KF5FV10	8030203
		TSB-HJ-05-10'	F8A250205-1	KF5A21AA	9KF5A210	8030200
		TSB-HJ-05-10'	F8A250205-1	KF5A21AD	9KF5A210	8030203
		TSB-HJ-07-0'	F8A250205-11	KF5GC1AA	9KF5GC10	8030200
		TSB-HJ-07-0'	F8A250205-11	KF5GC1AD	9KF5GC10	8030203
		TSB-HJ-07-0'-FD	F8A250205-12	KF5GF1AA	9KF5GF10	8030200
		TSB-HJ-07-0'-FD	F8A250205-12	KF5GF1AD	9KF5GF10	8030203
		TSB-HJ-07-10'	F8A250205-13	KF5GG1AA	9KF5GG10	8030200
		TSB-HJ-07-10'	F8A250205-13	KF5GG1AD	9KF5GG10	8030203
		TSB-HJ-07-10'	F8A250205-13	KF5GG1AE	9KF5GG10	8042381
		TSB-HJ-07-10'	F8A250205-13	KF5GG1AF	9KF5GG10	8042382
		TSB-HR-04-0'	F8A250205-5	KF5F11AA	9KF5F110	8030200
		TSB-HR-04-0'	F8A250205-5	KF5F11AD	9KF5F110	8030203
		TSB-HR-04-10'	F8A250205-3	KF5FX1AA	9KF5FX10	8030200
		TSB-HR-04-10'	F8A250205-3	KF5FX1AD	9KF5FX10	8030203
		TSB-HR-06-0'	F8A250205-9	KF5F81AA	9KF5F810	8030200
		TSB-HR-06-0'	F8A250205-9	KF5F81AD	9KF5F810	8030203
		TSB-HR-06-10'	F8A250205-10	KF5F91AA	9KF5F910	8030200
		TSB-HR-06-10'	F8A250205-10	KF5F91AD	9KF5F910	8030203
		TSB-HR-07-0'	F8A250205-7	KF5F41AA	9KF5F410	8030200
		TSB-HR-07-0'	F8A250205-7	KF5F41AD	9KF5F410	8030203

Report No.: 38650

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
8030200		TSB-HR-07-10'	F8A250205-8	KF5F71AA	9KF5F710	8030200
		TSB-HR-07-10'	F8A250205-8	KF5F71AD	9KF5F710	8030203
		TSB-HR-08-0'	F8A250205-14	KF5GJ1AA	9KF5GJ10	8030200
		TSB-HR-08-0'	F8A250205-14	KF5GJ1AD	9KF5GJ10	8030203
		TSB-HR-08-10'	F8A250205-15	KF5GL1AA	9KF5GL10	8030200
		TSB-HR-08-10'	F8A250205-15	KF5GL1AD	9KF5GL10	8030203
		TSB-HR-08-10'	F8A250205-15	KF5GL1AE	9KF5GL10	8042381
		TSB-HR-08-10'	F8A250205-15	KF5GL1AF	9KF5GL10	8042382
8067181		TSB-HJ-04-0'	F8A250205-4	KF5F02AE	9KF5F020	8067181
		TSB-HJ-04-0'	F8A250205-4	KF5F02AF	9KF5F020	8067203
		TSB-HJ-04-10'	F8A250205-6	KF5F32AE	9KF5F320	8067181
		TSB-HJ-04-10'	F8A250205-6	KF5F32AF	9KF5F320	8067203
		TSB-HJ-05-0'	F8A250205-2	KF5FV2AE	9KF5FV20	8067181
		TSB-HJ-05-0'	F8A250205-2	KF5FV2AF	9KF5FV20	8067203
		TSB-HJ-05-10'	F8A250205-1	KF5A22AE	9KF5A220	8067181
		TSB-HJ-05-10'	F8A250205-1	KF5A22AF	9KF5A220	8067203
		TSB-HJ-07-0'	F8A250205-11	KF5GC2AE	9KF5GC20	8067181
		TSB-HJ-07-0'	F8A250205-11	KF5GC2AF	9KF5GC20	8067203
		TSB-HJ-07-0'-FD	F8A250205-12	KF5GF2AE	9KF5GF20	8067181
		TSB-HJ-07-0'-FD	F8A250205-12	KF5GF2AF	9KF5GF20	8067203
		TSB-HR-04-0'	F8A250205-5	KF5F12AE	9KF5F120	8067181
		TSB-HR-04-0'	F8A250205-5	KF5F12AF	9KF5F120	8067203
		TSB-HR-04-10'	F8A250205-3	KF5FX2AE	9KF5FX20	8067181
		TSB-HR-04-10'	F8A250205-3	KF5FX2AF	9KF5FX20	8067203
		TSB-HR-06-0'	F8A250205-9	KF5F82AE	9KF5F820	8067181
		TSB-HR-06-0'	F8A250205-9	KF5F82AF	9KF5F820	8067203
		TSB-HR-06-10'	F8A250205-10	KF5F92AE	9KF5F920	8067181
		TSB-HR-06-10'	F8A250205-10	KF5F92AF	9KF5F920	8067203
		TSB-HR-07-0'	F8A250205-7	KF5F42AE	9KF5F420	8067181
		TSB-HR-07-0'	F8A250205-7	KF5F42AF	9KF5F420	8067203
		TSB-HR-07-10'	F8A250205-8	KF5F72AE	9KF5F720	8067181
		TSB-HR-07-10'	F8A250205-8	KF5F72AF	9KF5F720	8067203
		TSB-HR-08-0'	F8A250205-14	KF5GJ2AL	9KF5GJ20	8067181
		TSB-HR-08-0'	F8A250205-14	KF5GJ2AM	9KF5GJ20	8067203

Certificate of Analysis

March 30, 2008

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045

Attention: Jerry Everett

Date Received at Lab	:	January 28, 2008
Sample Type	:	Fifteen (15) Soil
Project Name	:	Basic Remediation / Tronox Parcel H

CASE NARRATIVE

I. Introduction

On January 28, 2008, fifteen soil samples were received at the TestAmerica Laboratories in Richland, WA for radiochemical analysis. Upon receipt at St. Louis, the samples were assigned to Lot Number F8A250205 with the laboratory ID numbers corresponding to the client ID as shown on the cover page.

II. Sample Receipt

The samples were received in good condition. The lab was notified on 1-31-08 that the Ra226/228 soils now needed to be performed by the chemical methods (EPA 903.1/904.0), rather than the Gamma Spectrometry analysis. St. Louis re-logged the samples and Richland made the changes accordingly.

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 Detectors

Radium-228 by method RICH-RC-5005

Alpha Scintillation

Radium-226 by method 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

SOIL:

Alpha Spectroscopy

Thorium-228, -230, -232 by method RICH-RC-5087:

The FWHM of sample TSB-HJ-08-0' exceeds 100; 103. The sample was hand edited for the best result. Thorium peaks tend to be wider therefore the data can be accepted. Except as noted, the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Uranium-234, -235, -238 by method RICH-RC-5067:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Gas Proportional Detectors

Radium-228 by method RICH-RC-5005:

The samples were processed in two analytical batches: 8042382 and 8067203.

Batch 8042382 - The LCS, batch blank, matrix spike, matrix spike duplicate, sample and sample duplicate results are within acceptance limits.

Batch 8067203 - The LCS and the matrix spike for the initial analysis failed with low recoveries. The batch was re-analyzed and the results are within acceptance limits. Data is accepted. Except as noted, the LCS, batch blank, matrix spike, matrix spike duplicate, sample and sample duplicate results are within acceptance limits.

Alpha Scintillation

Radium-226 by method RICH-RC-5005:

The samples were processed in two analytical batches: 8042381 and 8067181.

Batch 8042381 - The LCS, batch blank, matrix spike, matrix spike duplicate, sample and sample duplicate results are within acceptance limits.

Batch 8067181 - The LCS and the matrix spike for the initial analysis failed with low recoveries. The batch was re-analyzed and the results are within acceptance limits. Data is accepted. Except as noted, the LCS, batch blank, matrix spike, matrix spike duplicate, sample and sample duplicate results are within acceptance limits.

TestAmerica St. Louis
March 30, 2008

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:



Erika Jordan
Customer Service 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 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

Uncertainty Estimation

Test America 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, $R = \text{constants} * f(x,y,z, \dots)$. 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/\sqrt{n}), 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) <i>u_c - Combined Uncertainty.</i>	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, <i>u_c the combined uncertainty.</i> 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%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgrndCnt} / \text{BkgrndCntMin}) / \text{SCntMin})) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. 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%. $MDC = (4.65 * \text{Sqrt}((\text{BkgrndCnt} / \text{BkgrndCntMin}) / \text{SCntMin}) + 2.71 / \text{SCntMin}) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. 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 = $(S-D) / [\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ 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

Date: 30-Mar-08

TestAmerica

Ordered by Method, Batch No., Client Sample ID.

Report No. : 38650

SDG No: 8030213

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (1s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RER2
8042381 EPA 903.1										
TSB-HJ-02-10' DUP										
	KF6E21AM		RADIUM-226	1.91E+00 +/- 2.44E-01		pci/g	100%	1.31E-01		1.1
	KF6E21AK		RADIUM-226	1.63E+00 +/- 2.06E-01		pci/g	100%	1.56E-01		0.2
TSB-HJ-07-10'										
	KF5GG1AE		RADIUM-226	1.41E+00 +/- 1.74E-01		pci/g	96%	1.44E-01	1.00E+00	
TSB-HR-08-10'										
	KF5GL1AE		RADIUM-226	1.59E+00 +/- 1.88E-01		pci/g	93%	1.05E-01	1.00E+00	
8042382 EPA 904.0										
TSB-HJ-02-10' DUP										
	KF6E21AL		RADIUM-228	8.58E-01 +/- 1.36E-01		pci/g	91%	4.38E-01		2.6
	KF6E21AN		RADIUM-228	1.71E+00 +/- 1.91E-01		pci/g	90%	4.90E-01		1.0
TSB-HJ-07-10'										
	KF5GG1AF		RADIUM-228	1.33E+00 +/- 1.95E-01	J	pci/g	88%	6.34E-01	2.00E+00	
TSB-HR-08-10'										
	KF5GL1AF		RADIUM-228	1.41E+00 +/- 1.92E-01	J	pci/g	84%	5.93E-01	2.00E+00	
8067181 EPA 903.1										
TSB-HJ-04-0'										
	KF5F02AE		RADIUM-226	1.17E+00 +/- 1.57E-01		pci/g	93%	1.71E-01	1.00E+00	
TSB-HJ-04-10'										
	KF5F32AE		RADIUM-226	1.07E+00 +/- 1.44E-01		pci/g	100%	9.86E-02	1.00E+00	
TSB-HJ-05-0'										
	KF5FV2AE		RADIUM-226	9.01E-01 +/- 1.28E-01	J	pci/g	100%	1.47E-01	1.00E+00	
TSB-HJ-05-10'										
	KF5A22AE		RADIUM-226	1.25E+00 +/- 1.66E-01		pci/g	95%	1.78E-01	1.00E+00	
TSB-HJ-07-0'										
	KF5GC2AE		RADIUM-226	1.26E+00 +/- 1.66E-01		pci/g	97%	1.60E-01	1.00E+00	
TSB-HJ-07-0'-FD										
	KF5GF2AE		RADIUM-226	1.52E+00 +/- 1.93E-01		pci/g	93%	1.21E-01	1.00E+00	
TSB-HR-04-0'										
	KF5F12AE		RADIUM-226	1.31E+00 +/- 1.61E-01		pci/g	98%	1.65E-01	1.00E+00	
TSB-HR-04-10'										
	KF5FX2AE		RADIUM-226	1.60E+00 +/- 2.09E-01		pci/g	87%	2.08E-01	1.00E+00	
TSB-HR-06-0'										
	KF5F82AE		RADIUM-226	8.58E-01 +/- 1.31E-01	J	pci/g	99%	2.12E-01	1.00E+00	
TSB-HR-06-10'										
	KF5F92AE		RADIUM-226	1.18E+00 +/- 1.56E-01		pci/g	100%	1.30E-01	1.00E+00	
TSB-HR-07-0'										
	KF5F42AE		RADIUM-226	9.96E-01 +/- 1.36E-01	J	pci/g	100%	2.14E-01	1.00E+00	
TSB-HR-07-10'										

TestAmerica
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A2002

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.

Sample Results Summary

Date: 30-Mar-08

TestAmerica

Ordered by Method, Batch No., Client Sample ID.

Report No. : 38650

SDG No: 8067181

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (1s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RER2
8067181 EPA 903.1										
TSB-HR-07-10'										
	KF5F72AE		RADIUM-226	1.74E+00 +/- 1.99E-01		pci/g	99%	1.27E-01	1.00E+00	
TSB-HR-08-0'										
	KF5GJ2AL		RADIUM-226	1.17E+00 +/- 1.53E-01		pci/g	100%	1.25E-01	1.00E+00	
	KF5GJ2AQ		RADIUM-226	1.27E+00 +/- 1.81E-01		pci/g	91%	2.00E-01		0.4
8067203 EPA 904.0										
TSB-HJ-04-0'										
	KF5F02AF		RADIUM-228	2.22E+00 +/- 2.36E-01		pci/g	85%	5.67E-01	2.00E+00	
TSB-HJ-04-10'										
	KF5F32AF		RADIUM-228	1.40E+00 +/- 1.68E-01	J	pci/g	91%	4.01E-01	2.00E+00	
TSB-HJ-05-0'										
	KF5FV2AF		RADIUM-228	1.45E+00 +/- 1.85E-01	J	pci/g	92%	5.31E-01	2.00E+00	
TSB-HJ-05-10'										
	KF5A22AF		RADIUM-228	1.46E+00 +/- 2.11E-01	J	pci/g	87%	6.85E-01	2.00E+00	
TSB-HJ-07-0'										
	KF5GC2AF		RADIUM-228	2.32E+00 +/- 2.25E-01		pci/g	87%	4.74E-01	2.00E+00	
TSB-HJ-07-0'-FD										
	KF5GF2AF		RADIUM-228	3.01E+00 +/- 2.74E-01		pci/g	84%	5.50E-01	2.00E+00	
TSB-HR-04-0'										
	KF5F12AF		RADIUM-228	1.87E+00 +/- 2.11E-01	J	pci/g	87%	4.73E-01	2.00E+00	
TSB-HR-04-10'										
	KF5FX2AF		RADIUM-228	1.40E+00 +/- 1.91E-01	J	pci/g	76%	5.62E-01	2.00E+00	
TSB-HR-06-0'										
	KF5F82AF		RADIUM-228	1.68E+00 +/- 2.12E-01	J	pci/g	88%	6.38E-01	2.00E+00	
TSB-HR-06-10'										
	KF5F92AF		RADIUM-228	1.47E+00 +/- 1.81E-01	J	pci/g	90%	5.12E-01	2.00E+00	
TSB-HR-07-0'										
	KF5F42AF		RADIUM-228	1.33E+00 +/- 1.62E-01	J	pci/g	91%	3.87E-01	2.00E+00	
TSB-HR-07-10'										
	KF5F72AF		RADIUM-228	1.55E+00 +/- 1.88E-01	J	pci/g	91%	4.48E-01	2.00E+00	
TSB-HR-08-0'										
	KF5GJ2AM		RADIUM-228	1.85E+00 +/- 2.03E-01	J	pci/g	90%	4.38E-01	2.00E+00	
	KF5GJ2AR		RADIUM-228	2.06E+00 +/- 2.11E-01		pci/g	82%	4.09E-01		0.7
8030203 HASL-300 Th Mod										
TSB-HJ-04-0'										
	KF5F01AD		THORIUM-228	1.61E+00 +/- 1.98E-01		pci/g	97%	5.99E-02	1.00E-01	
			THORIUM-230	8.40E-01 +/- 1.24E-01		pci/g	97%	5.83E-02	1.00E-01	
			THORIUM-232	1.17E+00 +/- 1.55E-01		pci/g	97%	5.83E-02	1.00E-01	
TSB-HJ-04-10'										

TestAmerica RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRchSaSummary2 V5.1.5 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 A2002

Sample Results Summary

Date: 30-Mar-08

TestAmerica

Ordered by Method, Batch No., Client Sample ID.

Report No. : 38650

SDG No: 8030200

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (1s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RER2
8030203	HASL-300	Th Mod							
	TSB-HJ-04-10'								
	KF5F31AD	THORIUM-228	1.72E+00 +- 1.95E-01		pci/g	88%	4.60E-02	1.00E-01	
		THORIUM-230	1.51E+00 +- 1.76E-01		pci/g	88%	5.28E-02	1.00E-01	
		THORIUM-232	1.54E+00 +- 1.79E-01		pci/g	88%	4.47E-02	1.00E-01	
	TSB-HJ-05-0'								
	KF5FV1AD	THORIUM-228	1.84E+00 +- 2.11E-01		pci/g	86%	7.19E-02	1.00E-01	
		THORIUM-230	1.41E+00 +- 1.71E-01		pci/g	86%	7.50E-02	1.00E-01	
		THORIUM-232	1.95E+00 +- 2.19E-01		pci/g	86%	5.76E-02	1.00E-01	
	TSB-HJ-05-10'								
	KF5A21AD	THORIUM-228	1.52E+00 +- 1.75E-01		pci/g	96%	5.18E-02	1.00E-01	
		THORIUM-230	1.14E+00 +- 1.40E-01		pci/g	96%	4.28E-02	1.00E-01	
		THORIUM-232	1.61E+00 +- 1.83E-01		pci/g	96%	4.28E-02	1.00E-01	
	TSB-HJ-07-0'								
	KF5GC1AD	THORIUM-228	2.25E+00 +- 2.26E-01		pci/g	96%	3.14E-02	1.00E-01	
		THORIUM-230	1.06E+00 +- 1.22E-01		pci/g	96%	3.05E-02	1.00E-01	
		THORIUM-232	1.93E+00 +- 1.99E-01		pci/g	96%	3.05E-02	1.00E-01	
	TSB-HJ-07-0'-FD								
	KF5GF1AD	THORIUM-228	2.62E+00 +- 2.63E-01		pci/g	90%	4.44E-02	1.00E-01	
		THORIUM-230	1.31E+00 +- 1.47E-01		pci/g	90%	3.28E-02	1.00E-01	
		THORIUM-232	2.55E+00 +- 2.55E-01		pci/g	90%	3.28E-02	1.00E-01	
	TSB-HJ-07-10'								
	KF5GG1AD	THORIUM-228	1.71E+00 +- 2.06E-01		pci/g	85%	6.87E-02	1.00E-01	
		THORIUM-230	1.61E+00 +- 1.95E-01		pci/g	85%	5.67E-02	1.00E-01	
		THORIUM-232	1.16E+00 +- 1.54E-01		pci/g	85%	5.67E-02	1.00E-01	
	TSB-HR-04-0'								
	KF5F11AD	THORIUM-228	2.08E+00 +- 2.44E-01		pci/g	92%	6.40E-02	1.00E-01	
		THORIUM-230	1.24E+00 +- 1.65E-01		pci/g	92%	6.23E-02	1.00E-01	
		THORIUM-232	2.16E+00 +- 2.50E-01		pci/g	92%	6.23E-02	1.00E-01	
	TSB-HR-04-10'								
	KF5FX1AD	THORIUM-228	1.67E+00 +- 2.02E-01		pci/g	99%	6.01E-02	1.00E-01	
		THORIUM-230	1.15E+00 +- 1.53E-01		pci/g	99%	5.85E-02	1.00E-01	
		THORIUM-232	1.11E+00 +- 1.50E-01		pci/g	99%	5.85E-02	1.00E-01	
	TSB-HR-06-0'								
	KF5F81AD	THORIUM-228	2.29E+00 +- 2.40E-01		pci/g	95%	4.04E-02	1.00E-01	
		THORIUM-230	1.06E+00 +- 1.30E-01		pci/g	95%	3.94E-02	1.00E-01	
		THORIUM-232	2.10E+00 +- 2.22E-01		pci/g	95%	3.94E-02	1.00E-01	
	TSB-HR-06-10'								
	KF5F91AD	THORIUM-228	1.72E+00 +- 2.00E-01		pci/g	95%	6.08E-02	1.00E-01	

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

rptSTLRchSaSum
mary2 V5.1.5
A2002

Sample Results Summary

Date: 30-Mar-08

TestAmerica

Ordered by Method, Batch No., Client Sample ID.

Report No. : 38650

SDG No: 8030200

Client Id										
Batch	Work Order	Parameter	Result	+/- Uncertainty (1s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RER2
8030203 HASL-300 Th Mod										
TSB-HR-06-10'										
	KF5F91AD	THORIUM-230	1.32E+00	+/- 1.63E-01		pci/g	95%	5.02E-02	1.00E-01	
		THORIUM-232	1.54E+00	+/- 1.83E-01		pci/g	95%	5.02E-02	1.00E-01	
TSB-HR-07-0'										
	KF5F41AD	THORIUM-228	2.49E+00	+/- 2.76E-01		pci/g	89%	5.85E-02	1.00E-01	
		THORIUM-230	1.26E+00	+/- 1.63E-01		pci/g	89%	5.69E-02	1.00E-01	
		THORIUM-232	1.97E+00	+/- 2.28E-01		pci/g	89%	5.69E-02	1.00E-01	
TSB-HR-07-10'										
	KF5F71AD	THORIUM-228	1.95E+00	+/- 2.13E-01		pci/g	93%	4.30E-02	1.00E-01	
		THORIUM-230	1.90E+00	+/- 2.07E-01		pci/g	93%	4.19E-02	1.00E-01	
		THORIUM-232	1.41E+00	+/- 1.64E-01		pci/g	93%	4.19E-02	1.00E-01	
TSB-HR-08-0'										
	KF5GJ1AD	THORIUM-228	2.04E+00	+/- 2.32E-01		pci/g	92%	7.94E-02	1.00E-01	
		THORIUM-230	1.00E+00	+/- 1.36E-01		pci/g	92%	5.39E-02	1.00E-01	
		THORIUM-232	1.97E+00	+/- 2.25E-01		pci/g	92%	5.39E-02	1.00E-01	
	KF5GJ1AK	THORIUM-228	1.97E+00	+/- 2.15E-01		pci/g	104%	5.24E-02		0.2
		THORIUM-230	1.06E+00	+/- 1.34E-01		pci/g	104%	7.05E-02		0.3
		THORIUM-232	2.03E+00	+/- 2.19E-01		pci/g	104%	5.10E-02		0.2
TSB-HR-08-10'										
	KF5GL1AD	THORIUM-228	2.38E+00	+/- 2.73E-01		pci/g	90%	6.64E-02	1.00E-01	
		THORIUM-230	1.55E+00	+/- 1.97E-01		pci/g	90%	6.46E-02	1.00E-01	
		THORIUM-232	2.23E+00	+/- 2.58E-01		pci/g	90%	6.46E-02	1.00E-01	
8030200 KWSR										
TSB-HJ-04-0'										
	KF5F01AA	URANIUM-233/234	9.79E-01	+/- 1.14E-01	J	pci/g	93%	4.42E-02	1.00E+00	
		URANIUM-235/236	5.66E-02	+/- 1.99E-02	J	pci/g	93%	3.08E-02	1.00E+00	
		URANIUM-238	8.80E-01	+/- 1.05E-01	J	pci/g	93%	3.08E-02	1.00E+00	
TSB-HJ-04-10'										
	KF5F31AA	URANIUM-233/234	1.96E+00	+/- 1.96E-01		pci/g	96%	2.90E-02	1.00E+00	
		URANIUM-235/236	5.93E-02	+/- 1.98E-02	J	pci/g	96%	2.90E-02	1.00E+00	
		URANIUM-238	1.60E+00	+/- 1.65E-01		pci/g	96%	2.90E-02	1.00E+00	
TSB-HJ-05-0'										
	KF5FV1AA	URANIUM-233/234	1.09E+00	+/- 1.24E-01		pci/g	94%	3.17E-02	1.00E+00	
		URANIUM-235/236	4.50E-02	+/- 1.80E-02	J	pci/g	94%	3.17E-02	1.00E+00	
		URANIUM-238	1.01E+00	+/- 1.17E-01		pci/g	94%	3.17E-02	1.00E+00	
TSB-HJ-05-10'										
	KF5A21AA	URANIUM-233/234	1.56E+00	+/- 1.62E-01		pci/g	95%	2.88E-02	1.00E+00	
		URANIUM-235/236	6.02E-02	+/- 1.97E-02	J	pci/g	95%	2.88E-02	1.00E+00	

TestAmerica RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRChSaSummary2 V5.1.5 J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 A2002

Sample Results Summary

Date: 30-Mar-08

TestAmerica

Ordered by Method, Batch No., Client Sample ID.

Report No. : 38650

SDG No: 8030200

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (1s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RER2
8030200 KWSR										
			TSB-HJ-05-10'							
		KF5A21AA	URANIUM-238	1.25E+00 +/- 1.35E-01		pci/g	95%	3.80E-02	1.00E+00	
			TSB-HJ-07-0'							
		KF5GC1AA	URANIUM-233/234	1.07E+00 +/- 1.20E-01		pci/g	90%	2.90E-02	1.00E+00	
			URANIUM-235/236	5.20E-02 +/- 1.87E-02	J	pci/g	90%	3.42E-02	1.00E+00	
			URANIUM-238	1.11E+00 +/- 1.23E-01		pci/g	90%	2.90E-02	1.00E+00	
			TSB-HJ-07-0'-FD							
		KF5GF1AA	URANIUM-233/234	1.11E+00 +/- 1.26E-01		pci/g	90%	3.08E-02	1.00E+00	
			URANIUM-235/236	4.51E-02 +/- 1.75E-02	J	pci/g	90%	3.08E-02	1.00E+00	
			URANIUM-238	1.21E+00 +/- 1.34E-01		pci/g	90%	3.08E-02	1.00E+00	
			TSB-HJ-07-10'							
		KF5GG1AA	URANIUM-233/234	1.79E+00 +/- 2.91E-01		pci/g	23%	1.41E-01	1.00E+00	
			URANIUM-235/236	5.07E-02 +/- 3.78E-02	U	pci/g	23%	1.06E-01	1.00E+00	
			URANIUM-238	1.31E+00 +/- 2.34E-01		pci/g	23%	1.41E-01	1.00E+00	
			TSB-HR-04-0'							
		KF5F11AA	URANIUM-233/234	9.37E-01 +/- 1.46E-01	J	pci/g	37%	6.92E-02	1.00E+00	
			URANIUM-235/236	4.05E-02 +/- 2.55E-02	U	pci/g	37%	6.92E-02	1.00E+00	
			URANIUM-238	1.20E+00 +/- 1.74E-01		pci/g	37%	9.93E-02	1.00E+00	
			TSB-HR-04-10'							
		KF5FX1AA	URANIUM-233/234	1.43E+00 +/- 1.54E-01		pci/g	93%	5.03E-02	1.00E+00	
			URANIUM-235/236	7.09E-02 +/- 2.22E-02	J	pci/g	93%	3.09E-02	1.00E+00	
			URANIUM-238	1.17E+00 +/- 1.31E-01		pci/g	93%	4.43E-02	1.00E+00	
			TSB-HR-06-0'							
		KF5F81AA	URANIUM-233/234	9.62E-01 +/- 1.16E-01	J	pci/g	83%	3.39E-02	1.00E+00	
			URANIUM-235/236	4.95E-02 +/- 1.92E-02	J	pci/g	83%	3.39E-02	1.00E+00	
			URANIUM-238	1.13E+00 +/- 1.31E-01		pci/g	83%	3.39E-02	1.00E+00	
			TSB-HR-06-10'							
		KF5F91AA	URANIUM-233/234	1.67E+00 +/- 1.74E-01		pci/g	96%	3.10E-02	1.00E+00	
			URANIUM-235/236	6.48E-02 +/- 2.12E-02	J	pci/g	96%	3.10E-02	1.00E+00	
			URANIUM-238	1.31E+00 +/- 1.43E-01		pci/g	96%	3.66E-02	1.00E+00	
			TSB-HR-07-0'							
		KF5F41AA	URANIUM-233/234	1.10E+00 +/- 1.25E-01		pci/g	94%	3.08E-02	1.00E+00	
			URANIUM-235/236	6.30E-02 +/- 2.10E-02	J	pci/g	94%	3.08E-02	1.00E+00	
			URANIUM-238	1.10E+00 +/- 1.25E-01		pci/g	94%	3.08E-02	1.00E+00	
			TSB-HR-07-10'							
		KF5F71AA	URANIUM-233/234	2.39E+00 +/- 2.41E-01		pci/g	79%	3.47E-02	1.00E+00	
			URANIUM-235/236	5.79E-02 +/- 2.11E-02	J	pci/g	79%	3.47E-02	1.00E+00	
			URANIUM-238	1.67E+00 +/- 1.79E-01		pci/g	79%	3.47E-02	1.00E+00	

TestAmerica RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPuD))] as defined by ICPT BOA.
 rptSTLRchSaSummary2 V5.1.5 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 A2002 U 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

Date: 30-Mar-08

TestAmerica

Ordered by Method, Batch No., Client Sample ID.

Report No. : 38650

SDG No: 8030200

Batch	Client Id Work Order	Parameter	Result +/- Uncertainty (1s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RER2
8030200	KWSR								
	TSB-HR-08-0'								
	KF5GJ1AA	URANIUM-233/234	1.17E+00 +/- 1.40E-01		pci/g	81%	3.26E-02	1.00E+00	
		URANIUM-235/236	4.86E-02 +/- 2.03E-02	J	pci/g	81%	3.26E-02	1.00E+00	
		URANIUM-238	1.39E+00 +/- 1.60E-01		pci/g	81%	3.26E-02	1.00E+00	
	KF5GJ1AH	URANIUM-233/234	1.13E+00 +/- 1.32E-01		pci/g	89%	3.46E-02		0.2
		URANIUM-235/236	4.19E-02 +/- 1.81E-02		pci/g	89%	3.46E-02		0.2
		URANIUM-238	9.02E-01 +/- 1.11E-01		pci/g	89%	3.46E-02		2.5
	TSB-HR-08-10'								
	KF5GL1AA	URANIUM-233/234	1.61E+00 +/- 1.68E-01		pci/g	95%	4.32E-02	1.00E+00	
		URANIUM-235/236	6.16E-02 +/- 2.06E-02	J	pci/g	95%	3.01E-02	1.00E+00	
		URANIUM-238	1.39E+00 +/- 1.49E-01		pci/g	95%	3.97E-02	1.00E+00	
No. of Results:		132							

QC Results Summary

Date: 30-Mar-08

TestAmerica

Ordered by Method, Batch No, QC Type,.

Report No. : 38650

SDG No.: 8030213

Batch	Work Order	Parameter	Result +/- Uncertainty (1s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
EPA 903.1									
8042381	BLANK QC,								
	KGXJA1AA	RADIUM-226	1.48E-02 +- 2.39E-02	U	pci/g	97%			9.15E-02
8042381	LCS,								
	KGXJA1AC	RADIUM-226	1.53E+00 +- 1.89E-01		pci/g	91%	112%	0.1	9.12E-02
EPA 904.0									
8042382	BLANK QC,								
	KGXJE1AA	RADIUM-228	-1.45E-01 +- 1.01E-01	U	pci/g	88%			5.16E-01
8042382	LCS,								
	KGXJE1AC	RADIUM-228	5.09E+00 +- 3.90E-01		pci/g	82%	101%	0.0	5.82E-01
EPA 903.1									
8067181	BLANK QC,								
	KGXH02AA	RADIUM-226	2.62E-02 +- 2.39E-02	U	pci/g	100%			8.59E-02
8067181	LCS,								
	KGXH02AC	RADIUM-226	1.62E+00 +- 2.09E-01		pci/g	100%	121%	0.2	1.35E-01
8067181	MATRIX SPIKE, TSB-HR-08-0'								
	KF5GJ2AN	RADIUM-226	3.10E+00 +- 4.69E-01		pci/g	89%	62%	-0.4	8.32E-02
EPA 904.0									
8067203	BLANK QC,								
	KGXH22AA	RADIUM-228	8.84E-02 +- 9.57E-02	U	pci/g	89%			4.39E-01
8067203	LCS,								
	KGXH22AC	RADIUM-228	4.61E+00 +- 3.67E-01		pci/g	91%	93%	-0.1	4.06E-01
8067203	MATRIX SPIKE, TSB-HR-08-0'								
	KF5GJ2AP	RADIUM-228	9.80E+00 +- 7.86E-01		pci/g	80%	97%	0.0	4.31E-01
HASL-300 Th Mod									
8030203	BLANK QC,								
	KGAEJ1AA	THORIUM-228	0.00E+00 +- 1.38E-02	U	pci/g	88%			6.49E-02
		THORIUM-230	0.00E+00 +- 1.35E-02	U	pci/g	88%			6.32E-02
		THORIUM-232	1.32E-02 +- 1.35E-02	U	pci/g	88%			6.32E-02
8030203	LCS,								
	KGAEJ1AC	THORIUM-230	2.61E+00 +- 2.83E-01		pci/g	83%	117%	0.2	6.82E-02
8030203	MATRIX SPIKE, TSB-HR-08-0'								
	KF5GJ1AG	THORIUM-230	2.22E+00 +- 3.41E-01		pci/g	88%	100%	0.0	4.70E-02
KWSR									
8030200	BLANK QC,								
	KGAD61AA	URANIUM-233/234	1.68E-02 +- 1.14E-02	U	pci/g	90%			3.65E-02
		URANIUM-235/236	0.00E+00 +- 6.59E-03	U	pci/g	90%			3.10E-02
		URANIUM-238	1.16E-02 +- 9.28E-03	U	pci/g	90%			3.10E-02
8030200	LCS,								
	KGAD61AC	URANIUM-233/234	2.12E+00 +- 2.73E-01		pci/g	39%	123%	0.2	7.58E-02
		URANIUM-238	2.01E+00 +- 2.62E-01		pci/g	39%	112%	0.1	7.58E-02
8030200	MATRIX SPIKE, TSB-HR-08-0'								
	KF5GJ1AE	URANIUM-233/234	1.47E+00 +- 3.39E-01		pci/g	89%	88%	-0.1	5.39E-02

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSummary V5.1.5 A2002 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

QC Results Summary

Date: 30-Mar-08

TestAmerica

Ordered by Method, Batch No, QC Type,.

Report No. : 38650

SDG No.: 8030200

Batch	Work Order	Parameter	Result +- Uncertainty (1s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
	KF5GJ1AE	URANIUM-238	1.26E+00 +- 3.61E-01		pci/g	89%	72%	-0.3	3.84E-02

No. of Results: 22

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

rptSTLRchQcSummary V5.1.5 A2002

FORM I
SAMPLE RESULTS

Date: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-4
 Client Sample ID: TSB-HJ-04-0'
 SDG: 8030200
 Report No.: 38650
 COC No.:
 Collection Date: 1/24/2008 11:30:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO
 Ordered by Client Sample ID, Batch No.

BASIC REMEDIATION - PARCEL H

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR											
URANIUM-233/234	9.79E-01	J	8.0E-02	1.1E-01	4.42E-02	pci/g	93% (22.2)	2/20/08 06:22 p	1.0	1.0	ALP4
							1.34E-02 1.00E+00 (8.6)			G	
URANIUM-235/236	5.66E-02	J	1.9E-02	2.0E-02	3.08E-02	pci/g	93% (1.8)	2/20/08 06:22 p	1.0	1.0	ALP4
							6.69E-03 1.00E+00 (2.8)			G	
URANIUM-238	8.80E-01	J	7.5E-02	1.1E-01	3.08E-02	pci/g	93% (28.6)	2/20/08 06:22 p	1.0	1.0	ALP4
							6.69E-03 1.00E+00 (8.4)			G	

Ratio U-234/238 = 1.1

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030203 HASL-300 Th Mod											
THORIUM-228	1.61E+00		1.4E-01	2.0E-01	5.99E-02	pci/g	97% (26.9)	2/20/08 09:00 a	1.01	1.01	ALP174
							1.30E-02 1.00E-01 (8.2)			G	
THORIUM-230	8.40E-01		1.0E-01	1.2E-01	5.83E-02	pci/g	97% (14.4)	2/20/08 09:00 a	1.01	1.01	ALP174
							1.27E-02 1.00E-01 (6.8)			G	
THORIUM-232	1.17E+00		1.2E-01	1.6E-01	5.83E-02	pci/g	97% (20.)	2/20/08 09:00 a	1.01	1.01	ALP174
							1.27E-02 1.00E-01 (7.5)			G	

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8067181 EPA 903.1											
RADIUM-226	1.17E+00		1.1E-01	1.6E-01	1.71E-01	pci/g	93% (6.8)	3/25/08 01:50 p	1.01	1.01	ASC4UA
							7.49E-02 1.00E+00 (7.4)			G	

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8067203 EPA 904.0											
RADIUM-228	2.22E+00		1.9E-01	2.4E-01	5.67E-01	pci/g	85% (3.9)	3/28/08 05:54 a	1.01	1.01	GPC1D
							2.58E-01 2.00E+00 (9.4)			G	

TestAmerica MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample efficiency, yield, and volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-4
 Client Sample ID: TSB-HJ-04-0'
 BASIC REMEDIATION - PARCEL H

SDG: 8067181
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 11:30:00 AM
 Received Date: 1/25/2008 9:15:00 AM

Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

SAMPLE RESULTS

Date: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-6
 Client Sample ID: TSB-HJ-04-10'
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 11:55:00 AM
 Received Date: 1/25/2008 9:15:00 AM

Matrix: SOLID SO
 Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR Work Order: KF5F31AA Report DB ID: 9KF5F310												
URANIUM-233/234	1.96E+00		1.1E-01	2.0E-01	2.90E-02 pci/g		96% (67.6)		2/20/08 06:23 p		1.01	ALP6
					6.30E-03		1.00E+00 (10.)				G	
URANIUM-235/236	5.93E-02	J	1.9E-02	2.0E-02	2.90E-02 pci/g		96% (2.)		2/20/08 06:23 p		1.01	ALP6
					6.30E-03		1.00E+00 (3.)				G	
URANIUM-238	1.60E+00		9.8E-02	1.7E-01	2.90E-02 pci/g		96% (55.1)		2/20/08 06:23 p		1.01	ALP6
					6.30E-03		1.00E+00 (9.7)				G	
Batch: 8030203 HASL-300 Th Mod Work Order: KF5F31AD Report DB ID: 9KF5F310												
THORIUM-228	1.72E+00		1.3E-01	2.0E-01	4.60E-02 pci/g		88% (37.3)		2/20/08 09:00 a		1.03	ALP176
					9.98E-03		1.00E-01 (8.8)				G	
THORIUM-230	1.51E+00		1.2E-01	1.8E-01	5.28E-02 pci/g		88% (28.6)		2/20/08 09:00 a		1.03	ALP176
					1.37E-02		1.00E-01 (8.6)				G	
THORIUM-232	1.54E+00		1.2E-01	1.8E-01	4.47E-02 pci/g		88% (34.4)		2/20/08 09:00 a		1.03	ALP176
					9.72E-03		1.00E-01 (8.6)				G	
Batch: 8067181 EPA 903.1 Work Order: KF5F32AE Report DB ID: 9KF5F320												
RADIUM-226	1.07E+00		8.6E-02	1.4E-01	9.86E-02 pci/g		100% (10.8)		3/25/08 01:54 p		1.0	ASC6MA
					4.07E-02		1.00E+00 (7.4)				G	
Batch: 8067203 EPA 904.0 Work Order: KF5F32AF Report DB ID: 9KF5F320												
RADIUM-228	1.40E+00	J	1.5E-01	1.7E-01	4.01E-01 pci/g		91% (3.5)		3/28/08 05:54 a		1.0	GPC3C
					1.74E-01		2.00E+00 (8.3)				G	

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica **SDG:** 8067181 **Collection Date:** 1/24/2008 11:55:00 AM
Lot-Sample No.: F8A250205-6 **Report No.:** 38650 **Received Date:** 1/25/2008 9:15:00 AM
Client Sample ID: TSB-HJ-04-10' **COC No.:** **Matrix:** SOLID SO
 BASIC REMEDIATION - PARCEL H

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica **SDG:** 8030200 **Collection Date:** 1/24/2008 9:55:00 AM
Lot-Sample No.: F8A250205-2 **Report No.:** 38650 **Received Date:** 1/25/2008 9:15:00 AM
Client Sample ID: TSB-HJ-05-0' **COC No.:** **Matrix:** SOLID SO
 BASIC REMEDIATION - PARCEL H **Ordered by Client Sample ID, Batch No.**

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR												
URANIUM-233/234	1.09E+00		8.5E-02	1.2E-01	3.17E-02	pci/g	94%	(34.2)	2/20/08 06:21 p	1.01	1.01	ALP2
URANIUM-235/236	4.50E-02	J	1.8E-02	1.8E-02	3.17E-02	pci/g	94%	(1.4)	2/20/08 06:21 p	1.01	1.01	ALP2
URANIUM-238	1.01E+00		8.2E-02	1.2E-01	3.17E-02	pci/g	94%	(31.7)	2/20/08 06:21 p	1.01	1.01	ALP2
Work Order: KF5FV1AA Report DB ID: 9KF5FV10												
Ratio U-234/238 = 1.1												
Batch: 8030203 HASL-300 Th Mod												
THORIUM-228	1.84E+00		1.4E-01	2.1E-01	7.19E-02	pci/g	86%	(25.7)	2/20/08 09:00 a	1.03	1.03	ALP172
THORIUM-230	1.41E+00		1.2E-01	1.7E-01	7.50E-02	pci/g	86%	(18.8)	2/20/08 09:00 a	1.03	1.03	ALP172
THORIUM-232	1.95E+00		1.4E-01	2.2E-01	5.76E-02	pci/g	86%	(33.9)	2/20/08 09:00 a	1.03	1.03	ALP172
Work Order: KF5FV1AD Report DB ID: 9KF5FV10												
Batch: 8067181 EPA 903.1												
RADIUM-226	9.01E-01	J	9.0E-02	1.3E-01	1.47E-01	pci/g	100%	(6.1)	3/25/08 01:42 p	1.01	1.01	ASC2RC
Work Order: KF5FV2AE Report DB ID: 9KF5FV20												
Batch: 8067203 EPA 904.0												
RADIUM-228	1.45E+00	J	1.6E-01	1.8E-01	5.31E-01	pci/g	92%	(2.7)	3/28/08 05:54 a	1.01	1.01	GPC1A
Work Order: KF5FV2AF Report DB ID: 9KF5FV20												

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No Uj< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-2
 Client Sample ID: TSB-HJ-05-0'
 BASIC REMEDIATION - PARCEL H

SDG: 8067181
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 9:55:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rpt\$TLRchSample J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I
SAMPLE RESULTS

Date: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-1
 Client Sample ID: TSB-HJ-05-10'
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 10:15:00 AM
 Received Date: 1/25/2008 9:15:00 AM

Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR Work Order: KF5A21AA Report DB ID: 9KF5A210												
URANIUM-233/234	1.56E+00		9.7E-02	1.6E-01	2.88E-02	pci/g	95% (54.)	(54.)	2/20/08 06:21 p	1.03	G	ALP1
URANIUM-235/236	6.02E-02	J	1.9E-02	2.0E-02	2.88E-02	pci/g	95% (2.1)	(2.1)	2/20/08 06:21 p	1.03	G	ALP1
URANIUM-238	1.25E+00		8.7E-02	1.4E-01	3.80E-02	pci/g	95% (3.1)	(3.1)	2/20/08 06:21 p	1.03	G	ALP1
							95% (32.9)	(32.9)				
							95% (9.2)	(9.2)				

Ratio U-234/238 = 1.2												
Batch: 8030203 HASL-300 Th Mod Work Order: KF5A21AD Report DB ID: 9KF5A210												
THORIUM-228	1.52E+00		1.2E-01	1.8E-01	5.18E-02	pci/g	96% (29.3)	(29.3)	2/20/08 09:00 a	1.02	G	ALP171
THORIUM-230	1.14E+00		1.0E-01	1.4E-01	4.28E-02	pci/g	96% (8.7)	(8.7)	2/20/08 09:00 a	1.02	G	ALP171
THORIUM-232	1.61E+00		1.2E-01	1.8E-01	4.28E-02	pci/g	96% (26.7)	(26.7)	2/20/08 09:00 a	1.02	G	ALP171
							96% (8.1)	(8.1)				
							96% (37.7)	(37.7)				
							96% (8.8)	(8.8)				

Batch: 8067181 EPA 903.1 Work Order: KF5A22AE Report DB ID: 9KF5A220												
RADIUM-226	1.25E+00		1.0E-01	1.7E-01	1.78E-01	pci/g	95% (7.)	(7.)	3/25/08 01:53 p	1.0	G	ASC1RH
							95% (7.5)	(7.5)				

Batch: 8067203 EPA 904.0 Work Order: KF5A22AF Report DB ID: 9KF5A220												
RADIUM-228	1.46E+00	J	1.9E-01	2.1E-01	6.85E-01	pci/g	87% (2.1)	(2.1)	3/28/08 05:54 a	1.0	G	GPC7C
							87% (6.9)	(6.9)				

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica **SDG:** 8067181 **Collection Date:** 1/24/2008 10:15:00 AM
Lot-Sample No.: F8A250205-1 **Report No.:** 38650 **Received Date:** 1/25/2008 9:15:00 AM
Client Sample ID: TSB-HJ-05-10' **COC No.:** **Matrix:** SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I
SAMPLE RESULTS

Date: 30-Mar-08

Lab Name: TestAmerica **SDG:** 8030200 **Collection Date:** 1/24/2008 8:05:00 AM
Lot-Sample No.: F8A250205-11 **Report No.:** 38650 **Received Date:** 1/25/2008 9:15:00 AM
Client Sample ID: TSB-HJ-07-0' **COC No.:** **Matrix:** SOLID SO
BASIC REMEDIATION - PARCEL H

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR Work Order: KF5GC1AA Report DB ID: 9KF5GC10											
URANIUM-233/234	1.07E+00		8.0E-02	1.2E-01	2.90E-02	pci/g	90% (37.)	2/20/08 06:24 p	1.01		ALP11
						6.29E-03	1.00E+00 (8.9)		G		
URANIUM-235/236	5.20E-02	J	1.8E-02	1.9E-02	3.42E-02	pci/g	90% (1.5)	2/20/08 06:24 p	1.01		ALP11
						8.90E-03	1.00E+00 (2.8)		G		
URANIUM-238	1.11E+00		8.2E-02	1.2E-01	2.90E-02	pci/g	90% (38.2)	2/20/08 06:24 p	1.01		ALP11
						6.29E-03	1.00E+00 (9.)		G		
Ratio U-234/238 = 1.0											
Batch: 8030203 HASL-300 Th Mod Work Order: KF5GC1AD Report DB ID: 9KF5GC10											
THORIUM-228	2.25E+00		1.2E-01	2.3E-01	3.14E-02	pci/g	96% (71.6)	2/20/08 09:47 a	1.02		ALP117
						6.82E-03	1.00E-01 (9.9)		G		
THORIUM-230	1.06E+00		8.2E-02	1.2E-01	3.05E-02	pci/g	96% (34.8)	2/20/08 09:47 a	1.02		ALP117
						6.63E-03	1.00E-01 (8.7)		G		
THORIUM-232	1.93E+00		1.1E-01	2.0E-01	3.05E-02	pci/g	96% (63.3)	2/20/08 09:47 a	1.02		ALP117
						6.63E-03	1.00E-01 (9.7)		G		
Batch: 8067181 EPA 903.1 Work Order: KF5GC2AE Report DB ID: 9KF5GC20											
RADIUM-226	1.26E+00		9.9E-02	1.7E-01	1.60E-01	pci/g	97% (7.9)	3/25/08 02:49 p	1.02		ASCBMA
						7.14E-02	1.00E+00 (7.6)		G		
Batch: 8067203 EPA 904.0 Work Order: KF5GC2AF Report DB ID: 9KF5GC20											
RADIUM-228	2.32E+00		1.8E-01	2.3E-01	4.74E-01	pci/g	87% (4.9)	3/28/08 07:42 a	1.02		GPC1C
						2.13E-01	2.00E+00 (10.3)		G		

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-11
 Client Sample ID: TSB-HJ-07-0'
 BASIC REMEDIATION - PARCEL H

SDG: 8067181
 Report No.: 38650
 COC No. :
 Collection Date: 1/24/2008 8:05:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

SAMPLE RESULTS

Date: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-12
 Client Sample ID: TSB-HJ-07-0'-FD
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 8:05:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR												
URANIUM-233/234	1.11E+00		8.5E-02	1.3E-01	3.08E-02	pci/g	90% (36.1)		2/20/08 06:24 p		1.01	ALP12
						6.70E-03	1.00E+00 (8.8)				G	
URANIUM-235/236	4.51E-02	J	1.7E-02	1.7E-02	3.08E-02	pci/g	90% (1.5)		2/20/08 06:24 p		1.01	ALP12
						6.70E-03	1.00E+00 (2.6)				G	
URANIUM-238	1.21E+00		8.8E-02	1.3E-01	3.08E-02	pci/g	90% (39.3)		2/20/08 06:24 p		1.01	ALP12
						6.70E-03	1.00E+00 (9.)				G	

Ratio U-234/238 = 0.9

Batch:	8030203	HASL-300 Th Mod	Work Order:	KF5GF1AD	Report DB ID:	9KF5GF10
THORIUM-228	2.62E+00		2.6E-01	4.44E-02	pci/g	90% (59.)
					1.27E-02	1.00E-01 (10.)
THORIUM-230	1.31E+00		1.5E-01	3.28E-02	pci/g	90% (39.9)
					7.13E-03	1.00E-01 (8.9)
THORIUM-232	2.55E+00		2.6E-01	3.28E-02	pci/g	90% (77.7)
					7.13E-03	1.00E-01 (10.)

Batch:	8067181	EPA 903.1	Work Order:	KF5GF2AE	Report DB ID:	9KF5GF20
RADIUM-226	1.52E+00		1.9E-01	1.21E-01	pci/g	93% (12.5)
					5.00E-02	1.00E+00 (7.9)

Batch:	8067203	EPA 904.0	Work Order:	KF5GF2AF	Report DB ID:	9KF5GF20
RADIUM-228	3.01E+00		2.1E-01	5.50E-01	pci/g	84% (5.5)
					2.51E-01	2.00E+00 (11.)

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-12
 Client Sample ID: TSB-HJ-07-0'-FD
 BASIC REMEDIATION - PARCEL H

SDG: 8067181
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 8:05:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002

FORM I

SAMPLE RESULTS

Date: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-13
 Client Sample ID: TSB-HJ-07-10'
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 8:40:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR Work Order: KF5GG1AA Report DB ID: 9KF5GG10											
URANIUM-233/234	1.79E+00		2.2E-01	2.9E-01	1.41E-01	pci/g	23% (12.7)	2/20/08 06:25 p	1.01	1.01	ALP71
						3.48E-02	1.00E+00 (6.2)		G		
URANIUM-235/236	5.07E-02	U	3.7E-02	3.8E-02	1.06E-01	pci/g	23% 0.48	2/20/08 06:25 p	1.01	1.01	ALP71
						1.74E-02	1.00E+00 (1.3)		G		
URANIUM-238	1.31E+00		1.9E-01	2.3E-01	1.41E-01	pci/g	23% (9.3)	2/20/08 06:25 p	1.01	1.01	ALP71
						3.48E-02	1.00E+00 (5.6)		G		
Batch: 8030203 HASL-300 Th Mod Work Order: KF5GG1AD Report DB ID: 9KF5GG10											
THORIUM-228	1.71E+00		1.4E-01	2.1E-01	6.87E-02	pci/g	85% (24.9)	2/20/08 09:47 a	1.01	1.01	ALP119
						1.79E-02	1.00E-01 (8.3)		G		
THORIUM-230	1.61E+00		1.4E-01	2.0E-01	5.67E-02	pci/g	85% (28.4)	2/20/08 09:47 a	1.01	1.01	ALP119
						1.23E-02	1.00E-01 (8.2)		G		
THORIUM-232	1.16E+00		1.2E-01	1.5E-01	5.67E-02	pci/g	85% (20.5)	2/20/08 09:47 a	1.01	1.01	ALP119
						1.23E-02	1.00E-01 (7.5)		G		
Batch: 8042381 EPA 903.1 Work Order: KF5GG1AE Report DB ID: 9KF5GG10											
RADIUM-226	1.41E+00		9.8E-02	1.7E-01	1.44E-01	pci/g	96% (9.8)	3/3/08 01:33 p	1.03	1.03	ASC2HA
						6.39E-02	1.00E+00 (8.1)		G		
Batch: 8042382 EPA 904.0 Work Order: KF5GG1AF Report DB ID: 9KF5GG10											
RADIUM-228	1.33E+00	J	1.8E-01	2.0E-01	6.34E-01	pci/g	88% (2.1)	3/5/08 06:02 a	1.03	1.03	GPC7C
						2.92E-01	2.00E+00 (6.8)		G		

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rpt\$TLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-13
 Client Sample ID: TSB-HJ-07-10'
 BASIC REMEDIATION - PARCELH

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 8:40:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica
 rptSTLRchSample
 V5.1.5 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 U 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: 30-Mar-08

Lab Name: TestAmerica **SDG:** 8030200 **Collection Date:** 1/24/2008 10:45:00 AM
Lot-Sample No.: F8A250205-5 **Report No.:** 38650 **Received Date:** 1/25/2008 9:15:00 AM
Client Sample ID: TSB-HR-04-0' **COC No.:** **Matrix:** SOLID SO
BASIC REMEDIATION - PARCEL H Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200	KWSR						Report DB ID: 9KF5F110				
URANIUM-233/234	9.37E-01	J	1.2E-01	1.5E-01	6.92E-02	pci/g	37% (13.5) 1.50E-02 1.00E+00 (6.4)	2/20/08 06:22 p	1.01	G	ALP5
URANIUM-235/236	4.05E-02	U	2.5E-02	2.5E-02	6.92E-02	pci/g	37% 0.58 (1.6) 1.50E-02 1.00E+00 (1.6)	2/20/08 06:22 p	1.01	G	ALP5
URANIUM-238	1.20E+00		1.3E-01	1.7E-01	9.93E-02	pci/g	37% (12.1) 3.01E-02 1.00E+00 (6.9)	2/20/08 06:22 p	1.01	G	ALP5

Ratio U-234/238 = 0.8

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030203	HASL-300 Th Mod						Report DB ID: 9KF5F110				
THORIUM-228	2.08E+00		1.7E-01	2.4E-01	6.40E-02	pci/g	92% (32.6) 1.39E-02 1.00E-01 (8.5)	2/20/08 09:00 a	1.0	G	ALP175
THORIUM-230	1.24E+00		1.3E-01	1.7E-01	6.23E-02	pci/g	92% (19.8) 1.35E-02 1.00E-01 (7.5)	2/20/08 09:00 a	1.0	G	ALP175
THORIUM-232	2.16E+00		1.7E-01	2.5E-01	6.23E-02	pci/g	92% (34.7) 1.35E-02 1.00E-01 (8.7)	2/20/08 09:00 a	1.0	G	ALP175

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8067181	EPA 903.1						Report DB ID: 9KF5F120				
RADIUM-226	1.31E+00		1.0E-01	1.6E-01	1.65E-01	pci/g	98% (7.9) 7.40E-02 1.00E+00 (8.1)	3/25/08 01:51 p	1.01	G	ASC5HA
Batch: 8067203	EPA 904.0						Report DB ID: 9KF5F120				
RADIUM-228	1.87E+00	J	1.8E-01	2.1E-01	4.73E-01	pci/g	87% (4.) 2.06E-01 2.00E+00 (8.9)	3/28/08 05:54 a	1.01	G	GPC2A

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No Uj< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-5
 Client Sample ID: TSB-HR-04-0'
 SDG: 8067181
 Report No.: 38650
 COC No.:
 Collection Date: 1/24/2008 10:45:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO
 Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-3
 Client Sample ID: TSB-HR-04-10'
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 11:00:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR Work Order: KF5FX1AA Report DB ID: 9KF5FX10												
URANIUM-233/234	1.43E+00		9.6E-02	1.5E-01	5.03E-02	pci/g	93% (28.4)	(28.4)	2/20/08 06:21 p	1.0	1.0	ALP3
URANIUM-235/236	7.09E-02	J	2.1E-02	2.2E-02	3.09E-02	pci/g	93% (2.3)	(2.3)	2/20/08 06:21 p	1.0	1.0	ALP3
URANIUM-238	1.17E+00		8.7E-02	1.3E-01	4.43E-02	pci/g	93% (26.4)	(26.4)	2/20/08 06:21 p	1.0	1.0	ALP3
Batch: 8030203 HASL-300 Th Mod Work Order: KF5FX1AD Report DB ID: 9KF5FX10 Ratio U-234/238 = 1.2												
THORIUM-228	1.67E+00		1.4E-01	2.0E-01	6.01E-02	pci/g	99% (27.7)	(27.7)	2/20/08 09:00 a	1.01	1.01	ALP173
THORIUM-230	1.15E+00		1.2E-01	1.5E-01	5.85E-02	pci/g	99% (19.6)	(19.6)	2/20/08 09:00 a	1.01	1.01	ALP173
THORIUM-232	1.11E+00		1.2E-01	1.5E-01	5.85E-02	pci/g	99% (19.)	(19.)	2/20/08 09:00 a	1.01	1.01	ALP173
Batch: 8067181 EPA 903.1 Work Order: KF5FX2AE Report DB ID: 9KF5FX20												
RADIUM-226	1.60E+00		1.2E-01	2.1E-01	2.08E-01	pci/g	87% (7.7)	(7.7)	3/25/08 01:50 p	1.02	1.02	ASC3HA
Batch: 8067203 EPA 904.0 Work Order: KF5FX2AF Report DB ID: 9KF5FX20												
RADIUM-228	1.40E+00	J	1.7E-01	1.9E-01	5.62E-01	pci/g	76% (2.5)	(2.5)	3/28/08 05:54 a	1.02	1.02	GPC1C

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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: 30-Mar-08

Lab Name: TestAmerica **SDG:** 8067181 **Collection Date:** 1/24/2008 11:00:00 AM
Lot-Sample No.: F8A250205-3 **Report No.:** 38650 **Received Date:** 1/25/2008 9:15:00 AM
Client Sample ID: TSB-HR-04-10' **COC No.:** **Matrix:** SOLID SO
 BASIC REMEDIATION - PARCEL H Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-9
 Client Sample ID: TSB-HR-06-0'
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No. :
 Collection Date: 1/24/2008 1:00:00 PM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR Work Order: KF5F81AA Report DB ID: 9KF5F810											
URANIUM-233/234	9.62E-01	J	8.2E-02	1.2E-01	3.39E-02	pci/g	83% (28.4)	2/20/08 06:24 p		1.01	ALP9
							7.36E-03 (8.3)			G	
URANIUM-235/236	4.95E-02	J	1.9E-02	1.9E-02	3.39E-02	pci/g	83% (1.5)	2/20/08 06:24 p		1.01	ALP9
							7.36E-03 (2.6)			G	
URANIUM-238	1.13E+00		8.9E-02	1.3E-01	3.39E-02	pci/g	83% (33.4)	2/20/08 06:24 p		1.01	ALP9
							7.36E-03 (8.6)			G	
Batch: 8030203 HASL-300 Th Mod Work Order: KF5F81AD Report DB ID: 9KF5F810 Ratio U-234/238 = 0.9											
THORIUM-228	2.29E+00		1.4E-01	2.4E-01	4.04E-02	pci/g	95% (56.7)	2/20/08 09:47 a		1.02	ALP113
							8.78E-03 (9.6)			G	
THORIUM-230	1.06E+00		9.3E-02	1.3E-01	3.94E-02	pci/g	95% (26.9)	2/20/08 09:47 a		1.02	ALP113
							8.55E-03 (8.2)			G	
THORIUM-232	2.10E+00		1.3E-01	2.2E-01	3.94E-02	pci/g	95% (53.2)	2/20/08 09:47 a		1.02	ALP113
							8.55E-03 (9.4)			G	
Batch: 8067181 EPA 903.1 Work Order: KF5F82AE Report DB ID: 9KF5F820											
RADIUM-226	8.58E-01	J	1.0E-01	1.3E-01	2.12E-01	pci/g	99% (4.)	3/25/08 02:57 p		1.01	ASC9RC
							9.50E-02 (6.5)			G	
Batch: 8067203 EPA 904.0 Work Order: KF5F82AF Report DB ID: 9KF5F820											
RADIUM-228	1.68E+00	J	1.9E-01	2.1E-01	6.38E-01	pci/g	88% (2.6)	3/28/08 06:54 a		1.01	GPC7C
							2.95E-01 (7.9)			G	

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica **SDG:** 8067181 **Collection Date:** 1/24/2008 1:00:00 PM
Lot-Sample No.: F8A250205-9 **Report No.:** 38650 **Received Date:** 1/25/2008 9:15:00 AM
Client Sample ID: TSB-HR-06-0' **Matrix:** SOLID SO
 BASIC REMEDIATION - PARCEL H

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-10
 Client Sample ID: TSB-HR-06-10'
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 1:10:00 PM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200	KWSR						Report DB ID: 9KF5F910				
URANIUM-233/234	1.67E+00		1.0E-01	1.7E-01	3.10E-02	pci/g	96% (53.8)	2/20/08 06:24 p	1.01	1.01	ALP10
						6.74E-03	1.00E+00 (9.6)		G	G	
URANIUM-235/236	6.48E-02	J	2.1E-02	2.1E-02	3.10E-02	pci/g	96% (2.1)	2/20/08 06:24 p	1.01	1.01	ALP10
						6.74E-03	1.00E+00 (3.1)		G	G	
URANIUM-238	1.31E+00		9.2E-02	1.4E-01	3.66E-02	pci/g	96% (35.7)	2/20/08 06:24 p	1.01	1.01	ALP10
						9.54E-03	1.00E+00 (9.1)		G	G	

Ratio U-234/238 = 1.3

Batch:	Work Order:	Report DB ID:	Yield	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
8030203	HASL-300 Th Mod	9KF5F910						
THORIUM-228	1.72E+00		95% (28.2)	2/20/08 09:47 a	1.03	1.03	ALP116	
			1.58E-02	1.00E-01 (8.6)	G	G		
THORIUM-230	1.32E+00		95% (26.3)	2/20/08 09:47 a	1.03	1.03	ALP116	
			1.09E-02	1.00E-01 (8.1)	G	G		
THORIUM-232	1.54E+00		95% (30.7)	2/20/08 09:47 a	1.03	1.03	ALP116	
			1.09E-02	1.00E-01 (8.4)	G	G		

Batch:	Work Order:	Report DB ID:	Yield	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
8067181	EPA 903.1	9KF5F920						
RADIUM-226	1.18E+00		100% (9.1)	3/25/08 02:41 p	1.02	1.02	ASCASB	
			5.51E-02	1.00E+00 (7.5)	G	G		

Batch:	Work Order:	Report DB ID:	Yield	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
8067203	EPA 904.0	9KF5F920						
RADIUM-228	1.47E+00		90% (2.9)	3/28/08 06:54 a	1.02	1.02	GPC1A	
			2.33E-01	2.00E+00 (8.1)	G	G		

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-10
 Client Sample ID: TSB-HR-06-10'
 BASIC REMEDIATION - PARCEL H

SDG: 8067181
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 1:10:00 PM
 Received Date: 1/25/2008 9:15:00 AM

Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-7
 Client Sample ID: TSB-HR-07-0'
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 12:30:00 PM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR												
URANIUM-233/234	1.10E+00		8.4E-02	1.3E-01	3.08E-02	pci/g	94%	(35.9)	2/20/08 06:23 p	1.0	1.0	ALP7
							1.00E+00	(8.8)		G		
URANIUM-235/236	6.30E-02	J	2.0E-02	2.1E-02	3.08E-02	pci/g	94%	(2.)	2/20/08 06:23 p	1.0	1.0	ALP7
							1.00E+00	(3.)		G		
URANIUM-238	1.10E+00		8.4E-02	1.3E-01	3.08E-02	pci/g	94%	(35.9)	2/20/08 06:23 p	1.0	1.0	ALP7
							1.00E+00	(8.8)		G		
Batch: 8030203 HASL-300 Th Mod												
THORIUM-228	2.49E+00		1.7E-01	2.8E-01	5.85E-02	pci/g	89%	(42.6)	2/20/08 09:00 a	1.01	1.01	ALP177
							1.00E-01	(9.)		G		
THORIUM-230	1.26E+00		1.2E-01	1.6E-01	5.69E-02	pci/g	89%	(22.1)	2/20/08 09:00 a	1.01	1.01	ALP177
							1.00E-01	(7.7)		G		
THORIUM-232	1.97E+00		1.5E-01	2.3E-01	5.69E-02	pci/g	89%	(34.7)	2/20/08 09:00 a	1.01	1.01	ALP177
							1.00E-01	(8.6)		G		
Batch: 8067181 EPA 903.1												
RADIUM-226	9.96E-01	J	9.7E-02	1.4E-01	2.14E-01	pci/g	100%	(4.7)	3/25/08 01:55 p	1.01	1.01	ASC7HB
							1.00E+00	(7.3)		G		
Batch: 8067203 EPA 904.0												
RADIUM-228	1.33E+00	J	1.4E-01	1.6E-01	3.87E-01	pci/g	91%	(3.4)	3/28/08 06:54 a	1.01	1.01	GPC3D
							2.00E+00	(8.2)		G		

Ratio U-234/238 = 1.0

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No Uj< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-7
 Client Sample ID: TSB-HR-07-0'
 BASIC REMEDIATION - PARCEL H

SDG: 8067181
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 12:30:00 PM
 Received Date: 1/25/2008 9:15:00 AM

Matrix: SOLID S0

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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: 30-Mar-08

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-8
 Client Sample ID: TSB-HR-07-10'
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 12:45:00 PM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR Work Order: KF5F71AA Report DB ID: 9KF5F710											
URANIUM-233/234	2.39E+00		1.3E-01	2.4E-01	3.47E-02	pci/g	79% (68.9)	2/20/08 06:23 p	1.01		ALP8
						7.53E-03	1.00E+00 (9.9)		G		
URANIUM-235/236	5.79E-02	J	2.1E-02	2.1E-02	3.47E-02	pci/g	79% (1.7)	2/20/08 06:23 p	1.01		ALP8
						7.53E-03	1.00E+00 (2.7)		G		
URANIUM-238	1.67E+00		1.1E-01	1.8E-01	3.47E-02	pci/g	79% (48.2)	2/20/08 06:23 p	1.01		ALP8
						7.53E-03	1.00E+00 (9.3)		G		
Batch: 8030203 HASL-300 Th Mod Work Order: KF5F71AD Report DB ID: 9KF5F710 Ratio U-234/238 = 1.4											
THORIUM-228	1.95E+00		1.3E-01	2.1E-01	4.30E-02	pci/g	93% (45.3)	2/20/08 09:00 a	1.0		ALP178
						9.35E-03	1.00E-01 (9.2)		G		
THORIUM-230	1.90E+00		1.3E-01	2.1E-01	4.19E-02	pci/g	93% (45.3)	2/20/08 09:00 a	1.0		ALP178
						9.10E-03	1.00E-01 (9.2)		G		
THORIUM-232	1.41E+00		1.1E-01	1.6E-01	4.19E-02	pci/g	93% (33.6)	2/20/08 09:00 a	1.0		ALP178
						9.10E-03	1.00E-01 (8.6)		G		
Batch: 8067181 EPA 903.1 Work Order: KF5F72AE Report DB ID: 9KF5F720											
RADIUM-226	1.74E+00		1.1E-01	2.0E-01	1.27E-01	pci/g	99% (13.6)	3/25/08 01:50 p	1.01		ASC8HC
						5.51E-02	1.00E+00 (8.7)		G		
Batch: 8067203 EPA 904.0 Work Order: KF5F72AF Report DB ID: 9KF5F720											
RADIUM-228	1.55E+00	J	1.6E-01	1.9E-01	4.48E-01	pci/g	91% (3.5)	3/28/08 06:54 a	1.01		GPC4A
						1.98E-01	2.00E+00 (8.3)		G		

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-8
 Client Sample ID: TSB-HR-07-10'
 BASIC REMEDIATION - PARCEL H

SDG: 8067181
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 12:45:00 PM
 Received Date: 1/25/2008 9:15:00 AM
 Matrix: SOLID SO

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-14
 Client Sample ID: TSB-HR-08-0'
 BASIC REMEDIATION - PARCEL H

SDG: 8030200
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 9:00:00 AM
 Received Date: 1/25/2008 9:15:00 AM

Matrix: SOLID SO
 Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR Work Order: KF5GJ1AA Report DB ID: 9KF5GJ10												
URANIUM-233/234	1.17E+00		9.7E-02	1.4E-01	3.26E-02 pci/g		81% (35.7)		2/20/08 06:25 p		1.03 G	ALP84
URANIUM-235/236	4.86E-02 J		2.0E-02	2.0E-02	3.26E-02 pci/g	5.34E-03	1.00E+00 (8.3)		2/20/08 06:25 p		1.03 G	ALP84
URANIUM-238	1.39E+00		1.1E-01	1.6E-01	3.26E-02 pci/g	5.34E-03	1.00E+00 (2.4)		2/20/08 06:25 p		1.03 G	ALP84
						5.34E-03	1.00E+00 (8.7)					
Batch: 8030203 HASL-300 Th Mod Work Order: KF5GJ1AD Report DB ID: 9KF5GJ10												
THORIUM-228	2.04E+00		1.5E-01	2.3E-01	7.94E-02 pci/g		92% (25.6)		2/20/08 09:47 a		1.02 G	ALP120
THORIUM-230	1.00E+00		1.1E-01	1.4E-01	5.39E-02 pci/g	2.40E-02	1.00E-01 (8.8)		2/20/08 09:47 a		1.02 G	ALP120
THORIUM-232	1.97E+00		1.5E-01	2.2E-01	5.39E-02 pci/g	1.17E-02	1.00E-01 (7.3)		2/20/08 09:47 a		1.02 G	ALP120
						1.17E-02	1.00E-01 (8.8)					
Batch: 8067181 EPA 903.1 Work Order: KF5GJ2AL Report DB ID: 9KF5GJ20												
RADIUM-226	1.17E+00		9.4E-02	1.5E-01	1.25E-01 pci/g		100% (9.3)		3/25/08 02:51 p		1.01 G	ASCDUD
						5.36E-02	1.00E+00 (7.7)					
Batch: 8067203 EPA 904.0 Work Order: KF5GJ2AM Report DB ID: 9KF5GJ20												
RADIUM-228	1.85E+00 J		1.7E-01	2.0E-01	4.38E-01 pci/g		90% (4.2)		3/28/08 07:37 a		1.01 G	GPC2A
						1.91E-01	2.00E+00 (9.1)					

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-14
 Client Sample ID: TSB-HR-08-0'
 BASIC REMEDIATION - PARCEL H

SDG: 8067181
 Report No.: 38650
 COC No.:

Collection Date: 1/24/2008 9:00:00 AM

Received Date: 1/25/2008 9:15:00 AM

Matrix: SOLID S0

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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: 30-Mar-08

Lab Name: TestAmerica **SDG:** 8030200 **Collection Date:** 1/24/2008 9:30:00 AM
Lot-Sample No.: F8A250205-15 **Report No.:** 38650 **Received Date:** 1/25/2008 9:15:00 AM
Client Sample ID: TSB-HR-08-10' **COC No.:** SOLID SO **Matrix:** SO
 BASIC REMEDIATION - PARCEL H **Ordered by Client Sample ID, Batch No.**

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR											
URANIUM-233/234	1.61E+00		1.0E-01	1.7E-01	4.32E-02 pci/g	1.31E-02	95% (37.2) (9.6)	2/21/08 06:26 a	1.0	1.0	ALP3
URANIUM-235/236	6.16E-02 J		2.0E-02	2.1E-02	3.01E-02 pci/g	6.54E-03	95% (2.) (3.)	2/21/08 06:26 a	1.0	1.0	ALP3
URANIUM-238	1.39E+00		9.4E-02	1.5E-01	3.97E-02 pci/g	1.13E-02	95% (35.1) (9.3)	2/21/08 06:26 a	1.0	1.0	ALP3

Ratio U-234/238 = 1.2											
Batch: 8030203 HASL-300 Th Mod											
Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
THORIUM-228	2.38E+00		1.8E-01	2.7E-01	6.64E-02 pci/g	1.44E-02	90% (35.9) (8.7)	2/20/08 12:48 p	1.0	1.0	ALP173
THORIUM-230	1.55E+00		1.4E-01	2.0E-01	6.46E-02 pci/g	1.40E-02	90% (24.) (7.9)	2/20/08 12:48 p	1.0	1.0	ALP173
THORIUM-232	2.23E+00		1.7E-01	2.6E-01	6.46E-02 pci/g	1.40E-02	90% (34.5) (8.6)	2/20/08 12:48 p	1.0	1.0	ALP173

Batch: 8042381 EPA 903.1											
Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RADIUM-226	1.59E+00		1.0E-01	1.9E-01	1.05E-01 pci/g	4.41E-02	93% (15.1) (8.4)	3/3/08 01:42 p	1.03	1.03	ASC3MA

Batch: 8042382 EPA 904.0											
Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL) Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RADIUM-228	1.41E+00 J		1.7E-01	1.9E-01	5.93E-01 pci/g	2.71E-01	84% (2.4) (7.3)	3/5/08 06:02 a	1.03	1.03	GPC1A

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: F8A250205-15
 Client Sample ID: TSB-HR-08-10'
 SDG: 8030200
 Report No.: 38650
 COC No.:
 Matrix: SOLID SO
 Collection Date: 1/24/2008 9:30:00 AM
 Received Date: 1/25/2008 9:15:00 AM
 Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
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No. of Results: 8 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.5 A2002 U 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

Date: 30-Mar-08

DUPLICATE RESULTS

Lab Name: TestAmerica **SDG:** 8030213 **Collection Date:** 1/25/2008 8:55:00 AM
Lot-Sample No.: F8A260145-10 **Report No.:** 38650 **Received Date:** 1/26/2008 10:15:00 AM
Client Sample ID: TSB-HJ-02-10' DUP **COC No.:** **Matrix:** SOLID **SO**

Parameter	Result, Orig Rst	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8042381	EPA 903.1		Work Order: KF6E21AK Report DB ID: KF6E21KR									
RADIUM-226	1.63E+00		1.3E-01	2.1E-01	1.56E-01	pci/g	100%	(10.5)	Orig Sa DB ID: 9KF6E210		1.03	ASCFSA
	1.58E+00		RER2 0.2 (7.9)									
Batch: 8042382	EPA 903.1		Work Order: KF6E21AM Report DB ID: KF6E21MR									
RADIUM-226	1.91E+00		1.3E-01	2.4E-01	1.31E-01	pci/g	100%	(14.6)	Orig Sa DB ID: 9KF6E210		1.0	ASCGSA
	1.58E+00		RER2 1.1 (7.8)									
Batch: 8042382	EPA 904.0		Work Order: KF6E21AL Report DB ID: KF6E21LR									
RADIUM-228	8.58E-01		1.3E-01	1.4E-01	4.38E-01	pci/g	91%	(2.)	Orig Sa DB ID: 9KF6E210		1.03	GPC5C
	1.45E+00		RER2 2.6 (6.3)									
Batch: 8042382	EPA 904.0		Work Order: KF6E21AN Report DB ID: KF6E21NR									
RADIUM-228	1.71E+00		1.6E-01	1.9E-01	4.90E-01	pci/g	90%	(3.5)	Orig Sa DB ID: 9KF6E210		1.0	GPC5D
	1.45E+00		RER2 1.0 (9.)									

No. of Results: 4 Comments:

TestAmerica RER2 - Replicate Error Ratio = (S-D)/[sqrt((sq(TPU_s)+sq(TPU_d)))] as defined by ICPT BOA.
 rptSTLRchDupV5.1 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 .5 A2002

FORM II

Date: 30-Mar-08

DUPLICATE RESULTS

Lab Name: TestAmerica **SDG:** 8030200 **Collection Date:** 1/24/2008 9:00:00 AM
Lot-Sample No.: F8A250205-14 **Report No.:** 38650 **Received Date:** 1/25/2008 9:15:00 AM
Client Sample ID: TSB-HR-08-0' **COC No.:** **Matrix:** SOLID **SO**

Parameter	Result, Orig Rst	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030200 KWSR												
URANIUM-233/234	1.13E+00		9.1E-02	1.3E-01	3.46E-02	pci/g	89%	Report DB ID: KF5GJ1HR	Orig Sa DB ID: 9KF5GJ10	2/20/08 06:25 p	1.02	ALP88
	1.17E+00		RER2 0.2					(32.8)			G	
URANIUM-235/236	4.19E-02		1.8E-02	1.8E-02	3.46E-02	pci/g	89%	(8.6)	2/20/08 06:25 p	1.02	ALP88	
	4.86E-02		RER2 0.2					(1.2)		G		
URANIUM-238	9.02E-01		8.1E-02	1.1E-01	3.46E-02	pci/g	89%	(2.3)	2/20/08 06:25 p	1.02	ALP88	
	1.39E+00		RER2 2.5					(26.1)		G		
								(8.1)				

Ratio U-234/238 = 1.3

Alpha Spec Result Sum = 2.1E+00

Batch: 8030203 HASL-300 Th Mod												
THORIUM-228	1.97E+00		1.4E-01	2.2E-01	5.24E-02	pci/g	104%	Report DB ID: KF5GJ1KR	Orig Sa DB ID: 9KF5GJ10	2/20/08 12:48 p	1.0	ALP172
	2.04E+00		RER2 0.2					(37.6)		G		
THORIUM-230	1.06E+00		9.9E-02	1.3E-01	7.05E-02	pci/g	104%	(9.2)	2/20/08 12:48 p	1.0	ALP172	
	1.00E+00		RER2 0.3					(15.1)		G		
THORIUM-232	2.03E+00		1.4E-01	2.2E-01	5.10E-02	pci/g	104%	(8.)	2/20/08 12:48 p	1.0	ALP172	
	1.97E+00		RER2 0.2					(39.7)		G		

Alpha Spec Result Sum = 7.1E+00

Batch: 8067181 EPA 903.1												
RADIUM-226	1.27E+00		1.3E-01	1.8E-01	2.00E-01	pci/g	91%	Report DB ID: KF5GJ2QR	Orig Sa DB ID: 9KF5GJ20	3/25/08 02:59 p	1.01	ASCFSA
	1.17E+00		RER2 0.4					(6.4)		G		
								(7.)				

Alpha Spec Result Sum = 7.1E+00

Batch: 8067203 EPA 904.0												
								Report DB ID: KF5GJ2RR	Orig Sa DB ID: 9KF5GJ20			

TestAmerica **RER2** - Replicate Error Ratio = (S-D)/sqrt(sq(TPU_s)+sq(TPU_d)) as defined by ICPT BOA.
rptSTLRchDupV5.1 MDC|MDA.Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 .5 A2002

FORM II

Date: 30-Mar-08

DUPLICATE RESULTS

Lab Name: TestAmerica SDG: 8067181 Collection Date: 1/24/2008 9:00:00 AM
 Lot-Sample No.: F8A250205-14 Report No.: 38650 Received Date: 1/25/2008 9:15:00 AM
 Client Sample ID: TSB-HR-08-0' COC No.: Matrix: SOLID SO

Parameter	Result, Orig Rst	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
RADIUM-228	2.06E+00		1.7E-01	2.1E-01	4.09E-01	pci/g	82%	(5.)	3/28/08 07:37 a		1.01	GPC3D
	1.85E+00		RER2 0.7					(9.8)			G	

No. of Results: 8 Comments:

TestAmerica RER2 - Replicate Error Ratio = $(S-D)/\sqrt{\text{sq}(\text{TPUs})+\text{sq}(\text{TPUd})}$ as defined by ICPT BOA.
 rptSTLRchDupV5.1 MDC|MDA,Le - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 .5 A2002

FORM II

Date: 30-Mar-08

BLANK RESULTS

Lab Name: TestAmerica

SDG: 8030200

Matrix: SOLID

Report No.: 38650

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 8030203 HASL-300 Th Mod Work Order: KGAEJ1AA Report DB ID: KGAEJ1AB												
THORIUM-228	0.00E+00	U	0.0E+00	1.4E-02	6.49E-02	pci/g	88%	0.	2/20/08 12:48 p		1.02	ALP174
					1.41E-02	1.00E-01		0.			G	
THORIUM-230	0.00E+00	U	0.0E+00	1.3E-02	6.32E-02	pci/g	88%	0.	2/20/08 12:48 p		1.02	ALP174
					1.37E-02	1.00E-01		0.			G	
THORIUM-232	1.32E-02	U	1.3E-02	1.3E-02	6.32E-02	pci/g	88%	0.21	2/20/08 12:48 p		1.02	ALP174
					1.37E-02	1.00E-01		0.98			G	
Batch: 8042381 EPA 903.1 Work Order: KGXJA1AA Report DB ID: KGXJA1AB												
RADIUM-226	1.48E-02	U	2.4E-02	2.4E-02	9.15E-02	pci/g	97%	0.16	3/3/08 03:25 p		1.03	ASCJMA
					3.78E-02	1.00E+00		0.62			G	
Batch: 8067181 EPA 903.1 Work Order: KGXH02AA Report DB ID: KGXH02AB												
RADIUM-226	2.62E-02	U	2.4E-02	2.4E-02	8.59E-02	pci/g	100%	0.31	3/25/08 02:49 p		1.0	ASCGAB
					3.41E-02	1.00E+00		(1.1)			G	
Batch: 8042382 EPA 904.0 Work Order: KGXJE1AA Report DB ID: KGXJE1AB												
RADIUM-228	-1.45E-01	U	1.0E-01	1.0E-01	5.16E-01	pci/g	88%	-0.28	3/5/08 05:57 a		1.03	GPC6C
					2.35E-01	2.00E+00		-(1.4)			G	
Batch: 8067203 EPA 904.0 Work Order: KGXH22AA Report DB ID: KGXH22AB												
RADIUM-228	8.84E-02	U	9.6E-02	9.6E-02	4.39E-01	pci/g	89%	0.2	3/28/08 07:37 a		1.0	GPC4A
					1.94E-01	2.00E+00		0.92			G	
Batch: 8030200 KWSR Work Order: KGAD61AA Report DB ID: KGAD61AB												
URANIUM-233/234	1.68E-02	U	1.1E-02	1.1E-02	3.65E-02	pci/g	90%	0.46	2/20/08 10:11 p		1.02	ALP1
					9.51E-03	1.22E+00		(1.5)			G	

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchBlank U 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.
 V5.1.5 A2002

FORM II

BLANK RESULTS

Date: 30-Mar-08

Lab Name: TestAmerica
 Matrix: SOLID

SDG: 8030200
 Report No. : 38650

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
URANIUM-235/236	0.00E+00	U	0.0E+00	6.6E-03	3.10E-02	pci/g	90%	0.	2/20/08 10:11 p		1.02	ALP1
					6.72E-03	5.83E-02		0.			G	
URANIUM-238	1.16E-02	U	9.2E-03	9.3E-03	3.10E-02	pci/g	90%	0.38	2/20/08 10:11 p		1.02	ALP1
					6.72E-03	1.28E+00		(1.3)			G	

No. of Results: 10 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rpt\$TLRchBlank U 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.
 V5.1.5 A2002

FORM II
LCS RESULTS

Date: 30-Mar-08

Lab Name: TestAmerica
Matrix: SOLID

SDG: 8030200
Report No.: 38650

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 8030203													
THORIUM-230	HASL-300 Th Mod	2.61E+00	1.9E-01	2.8E-01	6.82E-02	pci/g	83%	2.23E+00	6.7E-02	117%	2/20/08 12:48 p	1.01	ALP175
Work Order: KGAEJ1AC													
Rec Limits: 75 125 0.2													
Report DB ID: KGAEJ1CS													
Batch: 8042381													
RADIUM-226	EPA 903.1	1.53E+00	1.0E-01	1.9E-01	9.12E-02	pci/g	91%	1.37E+00	2.1E-02	112%	3/3/08 03:19 p	1.0	ASCKMF
Work Order: KGXJA1AC													
Rec Limits: 70 130 0.1													
Report DB ID: KGXJA1CS													
Batch: 8067181													
RADIUM-226	EPA 903.1	1.62E+00	1.2E-01	2.1E-01	1.35E-01	pci/g	100%	1.34E+00	2.1E-02	121%	3/25/08 04:41 p	1.02	ASCHSB
Work Order: KGXH02AC													
Rec Limits: 70 130 0.2													
Report DB ID: KGXH02CS													
Batch: 8042382													
RADIUM-228	EPA 904.0	5.09E+00	2.6E-01	3.9E-01	5.82E-01	pci/g	82%	5.01E+00	1.7E-02	101%	3/5/08 05:57 a	1.0	GPC6D
Work Order: KGXJE1AC													
Rec Limits: 70 130 0.0													
Report DB ID: KGXJE1CS													
Batch: 8067203													
RADIUM-228	EPA 904.0	4.61E+00	2.4E-01	3.7E-01	4.06E-01	pci/g	91%	4.95E+00	1.6E-01	93%	3/28/08 07:37 a	1.02	GPC4C
Work Order: KGXH22AC													
Rec Limits: 70 130 -0.1													
Report DB ID: KGXH22CS													
Batch: 8030200													
URANIUM-233/234	KWSR	2.12E+00	1.8E-01	2.7E-01	7.58E-02	pci/g	39%	1.72E+00	5.3E-02	123%	2/20/08 10:11 p	1.01	ALP2
Work Order: KGAD61AC													
Rec Limits: 75 125 0.2													
Report DB ID: KGAD61CS													
URANIUM-238		2.01E+00	1.8E-01	2.6E-01	7.58E-02	pci/g	39%	1.80E+00	5.5E-02	112%	2/20/08 10:11 p	1.01	ALP2
Work Order: KGAD61AC													
Rec Limits: 75 125 0.1													
Report DB ID: KGAD61CS													
No. of Results: 7													
Comments:													

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

rpSTLRchLcs
V5.1.5 A2002

FORM II

MATRIX SPIKE RESULTS

Date: 30-Mar-08

Lab Name: TestAmerica

SDG: 8030200

Lot-Sample No.: F8A250205-14, TSB-HR-08-0'

Report No.: 38650

Matrix: SOLID SO

Parameter	SpikeResult, Orig Rst	Count Error (1 s)	Total Uncert(1 s)	MDC MDA	Rpt Unit, CRDL	Yield	Recovery	Expected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 8030200												
Work Order: KF5GJ1AE												
URANIUM-233/234	1.47E+00	1.6E-01	3.4E-01	5.39E-02	pci/g	89%	87.55%	1.68E+00	5.2E-02	2/20/08 06:25 p	1.03	KWSR
	1.17E+00										G	ALP85
URANIUM-238	1.26E+00	1.7E-01	3.6E-01	3.84E-02	pci/g	89%	71.89%	1.76E+00	5.4E-02	2/20/08 06:25 p	1.03	KWSR
	1.39E+00										G	ALP85
Batch: 8030203												
Work Order: KF5GJ1AG												
THORIUM-230	2.22E+00	1.8E-01	3.4E-01	4.70E-02	pci/g	88%	100.50%	2.21E+00	6.6E-02	2/20/08 12:48 p	1.01	HASL-300 Th Mod
	1.00E+00										G	ALP171
Batch: 8067181												
Work Order: KF5GJ2AN												
RADIUM-226	3.10E+00	1.7E-01	4.7E-01	8.32E-02	pci/g	89%	62.24%	4.98E+00	7.6E-02	3/25/08 03:00 p	1.0	EPA 903.1
	1.17E+00										G	ASCESD
Batch: 8067203												
Work Order: KF5GJ2AP												
RADIUM-228	9.80E+00	3.9E-01	7.9E-01	4.31E-01	pci/g	80%	97.18%	1.01E+01	3.3E-01	3/28/08 07:37 a	1.0	EPA 904.0
	1.85E+00										G	GPC3C

Number of Results: 5

Comments:

TestAmerica RER - Replicate Error Ratio = (S-D)/[sqrt((sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
 rpt\$TLRchMs Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 V5.1.5 A2002

CHAIN OF CUSTODY

COMMENTS:

Project Manager:
 Project: LANDWELL - Tronox Parc
 Report Type: W
 Client: 1418995 - Landwell Company

Date Received: 2008-01-25
 Analytical Due Date: 2008-02-05
 Report Due Date: 2008-02-11

WORK LOCATION: 10 TestAmerica Richland

SMP#: 1 CLIENT ID: TSB-HJ-05-10' DATE SAMPLED: 20080124 MATRIX: A SOLID
 SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5A21AC METAL: XX

METHOD: S1 NONE ThIso by ALP Thorium-228,230,232 by Alpha Spec
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5A21AD METAL: XX

METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5A21AA METAL: XX

SMP#: 2 CLIENT ID: TSB-HJ-05-0' DATE SAMPLED: 20080124 MATRIX: A SOLID
 SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5FV1AC METAL: XX

METHOD: S1 NONE ThIso by ALP Thorium-228,230,232 by Alpha Spec
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5FV1AD METAL: XX

METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5FV1AA METAL: XX

SMP#: 3 CLIENT ID: TSB-HJ-04-10' DATE SAMPLED: 20080124 MATRIX: A SOLID
 SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5FX1AC METAL: XX

METHOD: S1 NONE ThIso by ALP Thorium-228,230,232 by Alpha Spec
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5FX1AD METAL: XX

METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5FX1AA METAL: XX

SMP#: 4 CLIENT ID: TSB-HJ-04-0' DATE SAMPLED: 20080124 MATRIX: A SOLID
 SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET

COMMENTS:

Project Manager:
 Project: LANDWELL - Tronox Parc
 Report Type: W
 Client: 1418995 - Landwell Company

Date Received: 2008-01-25
 Analytical Due Date: 2008-02-05
 Report Due Date: 2008-02-11

WORKORDER KF5F01AC METAL: **XX**

METHOD: **S1** NONE Thlso by ALP **Thorium-228,230,232 by Alpha Spec**
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F01AD METAL: **XX**

METHOD: **SR** NONE Uiso by ALP **Uranium-234,235,238 by Alpha Spec**
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F01AA METAL: **XX**

SMP#: 5 CLIENT ID: TSB-HR-04-0' DATE SAMPLED: 20080124 MATRIX: A **SOLID**
SAMPLE COMMENTS:

METHOD: **T9** NONE Gamma by GER 1 **Gamma by HPGE 10 day ingrowth**
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F11AC METAL: **XX**

METHOD: **S1** NONE Thlso by ALP **Thorium-228,230,232 by Alpha Spec**
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F11AD METAL: **XX**

METHOD: **SR** NONE Uiso by ALP **Uranium-234,235,238 by Alpha Spec**
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F11AA METAL: **XX**

SMP#: 6 CLIENT ID: TSB-HJ-04-10' DATE SAMPLED: 20080124 MATRIX: A **SOLID**
SAMPLE COMMENTS:

METHOD: **T9** NONE Gamma by GER 1 **Gamma by HPGE 10 day ingrowth**
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F31AC METAL: **XX**

METHOD: **S1** NONE Thlso by ALP **Thorium-228,230,232 by Alpha Spec**
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F31AD METAL: **XX**

METHOD: **SR** NONE Uiso by ALP **Uranium-234,235,238 by Alpha Spec**
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F31AA METAL: **XX**

SMP#: 7 CLIENT ID: TSB-HR-07-0' DATE SAMPLED: 20080124 MATRIX: A **SOLID**
SAMPLE COMMENTS:

METHOD: **T9** NONE Gamma by GER 1 **Gamma by HPGE 10 day ingrowth**
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F41AC METAL: **XX**

METHOD: **S1** NONE Thlso by ALP **Thorium-228,230,232 by Alpha Spec**
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F41AD METAL: **XX**

METHOD: **SR** NONE Uiso by ALP **Uranium-234,235,238 by Alpha Spec**

COMMENTS:

Project Manager:

Project:

Report Type:

Client:

LANDWELL - Tronox Parc

W

1418995 - Landwell Company

Date Received: 2008-01-25

Analytical Due Date: 2008-02-05

Report Due Date: 2008-02-11

EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F41AA

METAL: XX

SMP#: 8 CLIENT ID: TSB-HR-07-10' DATE SAMPLED: 20080124 MATRIX: A SOLID

SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth

EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F71AC

METAL: XX

METHOD: S1 NONE Thlso by ALP Thorium-228,230,232 by Alpha Spec

EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F71AD

METAL: XX

METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec

EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F71AA

METAL: XX

SMP#: 9 CLIENT ID: TSB-HR-06-0' DATE SAMPLED: 20080124 MATRIX: A SOLID

SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth

EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F81AC

METAL: XX

METHOD: S1 NONE Thlso by ALP Thorium-228,230,232 by Alpha Spec

EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F81AD

METAL: XX

METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec

EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F81AA

METAL: XX

SMP#: 10 CLIENT ID: TSB-HR-06-10' DATE SAMPLED: 20080124 MATRIX: A SOLID

SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth

EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F91AC

METAL: XX

METHOD: S1 NONE Thlso by ALP Thorium-228,230,232 by Alpha Spec

EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F91AD

METAL: XX

METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec

EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039 QC TYPE: 01 STANDARD TEST SET

WORKORDER KF5F91AA

METAL: XX

SMP#: 11 CLIENT ID: TSB-HJ-07-0' DATE SAMPLED: 20080124 MATRIX: A SOLID

SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth

COMMENTS:

Project Manager:
Project: LANDWELL - Tronox Parc
Report Type: W
Client: 1418995 - Landwell Company

Date Received: 2008-01-25
Analytical Due Date: 2008-02-05
Report Due Date: 2008-02-11

EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GC1AC METAL: XX
METHOD: S1 NONE Thlso by ALP Thorium-228,230,232 by Alpha Spec
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GC1AD METAL: XX
METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GC1AA METAL: XX

SMP#: 12 CLIENT ID: TSB-HJ-07-0'-FD DATE SAMPLED: 20080124 MATRIX: A SOLID
SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GF1AC METAL: XX
METHOD: S1 NONE Thlso by ALP Thorium-228,230,232 by Alpha Spec
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GF1AD METAL: XX
METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GF1AA METAL: XX

SMP#: 13 CLIENT ID: TSB-HJ-07-10' DATE SAMPLED: 20080124 MATRIX: A SOLID
SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GG1AC METAL: XX
METHOD: S1 NONE Thlso by ALP Thorium-228,230,232 by Alpha Spec
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GG1AD METAL: XX
METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GG1AA METAL: XX

SMP#: 14 CLIENT ID: TSB-HJ-08-0' DATE SAMPLED: 20080124 MATRIX: A SOLID
SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GJ1AC METAL: XX
WORKORDER KF5GJ1AF S METAL: XX
WORKORDER KF5GJ1AJ X METAL: XX
METHOD: S1 NONE Thlso by ALP Thorium-228,230,232 by Alpha Spec

COMMENTS:

Project Manager:
Project: LANDWELL - Tronox Parc
Report Type: W
Client: 1418995 - Landwell Company

Date Received: 2008-01-25
Analytical Due Date: 2008-02-05
Report Due Date: 2008-02-11

EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GJ1AD METAL: XX
WORKORDER KF5GJ1AG S METAL: XX
WORKORDER KF5GJ1AK X METAL: XX
METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GJ1AA METAL: XX
WORKORDER KF5GJ1AE S METAL: XX
WORKORDER KF5GJ1AH X METAL: XX

SMP#: 15 CLIENT ID: TSB-HR-08-10 DATE SAMPLED: 20080124 MATRIX: A SOLID
SAMPLE COMMENTS:

METHOD: T9 NONE Gamma by GER 1 Gamma by HPGE 10 day ingrowth
EXTRACTION: AX Gamma PrpRC5013/5017 QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GL1AC METAL: XX
METHOD: S1 NONE Thlso by ALP Thorium-228,230,232 by Alpha Spec
EXTRACTION: D2 Th PrpRC5013/5032, SepRC5084(5003) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GL1AD METAL: XX
METHOD: SR NONE Uiso by ALP Uranium-234,235,238 by Alpha Spec
EXTRACTION: KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) QC TYPE: 01 STANDARD TEST SET
WORKORDER KF5GL1AA METAL: XX

The sample(s) listed on this form are being sent to your location for the specified analysis. If you have any questions, please contact the Project Manager listed above. PLEASE RETURN THE ORIGINAL SIGNED FORM WITH THE REPORT AT THE COMPLETION OF ANALYSIS.

Thank You

STL- St. Louis
Sample Receiving

RELINQUISHED BY: [Signature] DATE: 1/25/08 17:30
RECEIVED FOR LAB BY: [Signature] DATE: 1-28-08 1000



Sample Check-in List

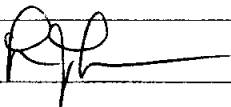
Date/Time Received: 1-28-08 1000 GM Screen Result 0.11K

Client: TA-STL SDG #: _____ NA [] SAF #: _____ NA

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

Shipping Container ID: _____ Air Bill # _____

- 1. Custody Seals on shipping container intact? NA Yes [] No []
- 2. Custody Seals dated and signed? NA Yes [] No []
- 3. Chain of Custody record present? NA [] Yes No []
- 4. Cooler Temperature: _____ NA 5. Vermiculite/packing materials is NA Wet [] Dry []
- 6. Number of samples in shipping container: 15
- 7. Sample holding times exceeded? NA Yes [] No []
- 8. Samples have:
 - _____ Tape _____ Hazard Lables
 - _____ Custody Seals Appropriate Sample Lables
- 9. Samples are:
 - In Good Condition _____ Leaking
 - _____ Broken _____ Have Air Bubbles
 (Only for samples requiring no head space.)
- 10. Sample pH taken? NA pH<2 [] pH>2 [] pH>9 [] Amount HNO₃ Added _____
- 11. Sample Location, Sample Collector Listed? *
*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:  Date: 1-28-08

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

THORIUM
SAMPLE AND QC DATA

Lot No., Due Date: **F8A250205; 02/28/2008**
 Client, Site: **1418995; LANDWELL - Tronox Parcel H**
 QC Batch No., Method Test: **8030203; RTHISO Thlso by ALP**
 SDG, Matrix: *******; *******

1.0 COC

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

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

Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

Yes No N/A

5.4 Was transcription checked? Yes No N/A

Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

Yes No N/A

6.0 Comments on any No response:

Please see NCM # 10-11876

First Level Review *[Signature]*

Date 2-21-8

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 8030203

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?	✓		
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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 Num

Second Level Review: Erika J. [Signature] Date: 2/21/18

Clouseau Nonconformance Memo

NCM #: 10-11876	Classification: Anomaly
NCM Initiated By: John Norton	Status: GLREVIEW
Date Opened: 02/21/2008	Production Area: Environmental - Sep
Date Closed:	Tests: ThIso by ALP
Nonconformance: FWHM and/or Centroid out of limits	Lot #'s (Sample #'s): J8A300000 (203),
Subcategory: Other (explanation required)	QC Batches: 8030203,

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
John Norton	02/21/2008	Sample F8A250205-14 showed a slightly elevated FWHM.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
John Norton	02/21/2008	The FWHM for this sample was 103, this is only slightly above accepted practice, the peak was hand edited for best result, Th-iso peaks tend to be wider by their very nature, the data can be accepted.

Client Notification Summary

<u>Client</u>	<u>Project Manager</u>	<u>Notified</u>	<u>Response</u>	<u>How Notified</u>	<u>Note</u>
	<u>Response</u>	<u>Response Note</u>			

Quality Assurance Verification

<u>Verified By</u>	<u>Due Date</u>	<u>Status</u>	<u>Notes</u>
		This section not yet completed by QA.	

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
----------------------	--------------------	-----------------

2/12/2008 7:54:29 AM **Sample Preparation/Analysis** Balance Id: 1120373922
 1418995, Landwell Company Pipet #:
 Landwell Company
 D2 Th PrRC5013/5032, SepRC5084(5003) Sep1 DT/Tm Tech:
 S1 Thorium-228,230,232 by Alpha Spec Sep2 DT/Tm Tech:
 01 STANDARD TEST SET 01 STANDARD TEST SET Prep Tech: Barcotl

Analyte Due Date: 02/05/2008
Batch: 8030203 PM, Quote: JAE, 78254
 SEQ Batch, Test: None All Tests: 8030200 KWSR, 8030203 D2S1, 8030206 AXT9, 8042378 D9TE, 8042380 D9TF, 8042381 D9TE, 8042382 D9TF.

Work Order Lot, Sample Date/Time	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 KF5A2-1-AD F8A250205-1-SAMP 01/24/2008 10:15		1.02g.in AmtRec: SL	THTC12085 11/30/07.pd 11/29/07			600		Alpha: 1.04E+02pCig		Beta: 2.65E+01pCig
2 KF5FV-1-AD F8A250205-2-SAMP 01/24/2008 09:55		1.03g.in AmtRec: SL	THTC12086 11/30/07.pd 11/29/07							
3 KF5FX-1-AD F8A250205-3-SAMP 01/24/2008 11:00		1.01g.in AmtRec: SL	THTC12087 11/30/07.pd 11/29/07					Alpha: 1.01E+02pCig		Beta: 2.39E+01pCig
4 KF5F0-1-AD F8A250205-4-SAMP 01/24/2008 11:30		1.01g.in AmtRec: SL	THTC12088 11/30/07.pd 11/29/07							
5 KF5F1-1-AD F8A250205-5-SAMP 01/24/2008 10:45		1.00g.in AmtRec: SL	THTC12089 11/30/07.pd 11/29/07							
6 KF5F3-1-AD F8A250205-6-SAMP 01/24/2008 11:55		1.03g.in AmtRec: SL	THTC12090 11/30/07.pd 11/29/07							
7 KF5F4-1-AD F8A250205-7-SAMP 01/24/2008 12:30		1.01g.in AmtRec: SL	THTC12091 11/30/07.pd 11/29/07							

2/12/2008 7:54:30 AM
1418995, Landwell Company
Landwell Company

Sample Preparation/Analysis

Balance Id:1120373922

D2 Th PrRC5013/5032, SepRC5084/5003
S1 Thorium-228.230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:

AnalyDueDate: 02/05/2008

PM, Quote: JAE, 78254

Prep Tech: ,Barcoti

pCi/g

Batch: 8030203
SEO Batch, Test: None

Work Order, Lot, Sample Date/Time	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 KF5F7-1-AD F8A250205-8-SAMP 01/24/2008 12:45		1.00g.in THTC12092 11/30/07.pd #Containers: 1								Beta:
9 KF5F8-1-AD F8A250205-9-SAMP 01/24/2008 13:00		1.02g.in THTC12093 11/30/07.pd #Containers: 1								Beta:
10KF5F9-1-AD F8A250205-10-SAMP 01/24/2008 13:10		1.03g.in THTC12094 11/30/07.pd #Containers: 1								Beta:
11KF5GC-1-AD F8A250205-11-SAMP 01/24/2008 08:05		1.02g.in THTC12095 11/30/07.pd #Containers: 1								Beta:
12KF5GF-1-AD F8A250205-12-SAMP 01/24/2008 08:05		1.03g.in THTC12096 11/30/07.pd #Containers: 1								Beta:
13KF5GG-1-AD F8A250205-13-SAMP 01/24/2008 08:40		1.01g.in THTC12097 11/30/07.pd #Containers: 1								Beta:
14KF5GJ-1-AD F8A250205-14-SAMP 01/24/2008 09:00		1.02g.in THTC12098 11/30/07.pd #Containers: 2								Beta:

2/12/2008 7:54:31 AM **Sample Preparation/Analysis** Balance Id:1120373922
 1418995, Landwell Company D2 Th PrpRC5013/5032, SepRC5084(5003) Pipet #:
 Landwell Company S1 Thorium-228,230,232 by Alpha Spec
AnalyteDate: 02/05/2008 01 STANDARD TEST SET Sep1 DT/Tm Tech:
 PM, Quote: JAE, 78254 Sep2 DT/Tm Tech:

Batch: 8030203 pCi/g **Prep Tech: ,Barcotl**
 SEQ Batch, Test: None

Work Order, Lot, Sample Date Time	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:
15 KF5GJ-1-AG-S		1.01g.in	THSI1149 02/06/08,pd 11/29/07			200				
F8A250205-14-MS										
01/24/2008 09:00										
16 KF5GJ-1-AK-X		1.00g.in	THIC12099 11/30/07,pd 11/29/07							
F8A250205-14-DUP										
01/24/2008 09:00										
17 KF5GL-1-AD		1.00g.in	THIC12100 11/30/07,pd 11/29/07							
F8A250205-15-SAMP										
01/24/2008 09:30										
18 KGAEJ-1-AA-B		1.02g.in	THIC12101 11/30/07,pd 11/29/07							
J8A300000-203-BLK										
01/24/2008 10:15										
19 KGAEJ-1-AC-C		1.01g.in	THSI1148 02/06/08,pd 11/29/07							
J8A300000-203-LCS										
01/24/2008 10:15										

Comments:

All Clients for Batch:
 1418995, Landwell Company Landwell Company , JAE, 78254

KF5A21AD-SAMP Constituent List:

TAL Richland Key: in - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3
 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added ISV - Insufficient Volume for Analysis
 WO Cnt: 19
 Prep SamplePrep v4.8.32

Sample Preparation/Analysis

Balance Id:1120373922

D2 Th PrpRC5013/5032, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #:

AnalyteDueDate: 02/05/2008

Sep1 DT/Tm Tech:

Batch: 8030203

pCi/g

Sep2 DT/Tm Tech:

SEO Batch, Test: None

Prep Tech: ,Barcotl



Work Order, Lot, Sample Date/Time	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:
KF5GJ1AG-MS:										
KGAEJ1AA-BLK:										
Th-228	RDL:1.00E-01	pCi/g	UCL:	RPD:	Th-230	RDL:1.00E-01	PCI/g	LCL:	UCL:	RPD:
Th-232	RDL:1.00E-01	pCi/g	UCL:	RPD:	Th-234	RDL:	PCI/g	LCL:20	UCL:115	RPD:35
KGAEJ1AC-LCS:										
Th-230	RDL:0.1	pCi/g	UCL:130	RPD:35	Th-234	RDL:	PCI/g	LCL:20	UCL:115	RPD:35
KF5A21AD-SAMP Calc Info:										
Uncert Level (#s): 4 Decay to Sadt: N Blk Subt.: N Sci.Not.: N ODRs: B										
KF5GJ1AG-MS:										
Uncert Level (#s): 4 Decay to Sadt: N Blk Subt.: N Sci.Not.: N ODRs: B										
KGAEJ1AA-BLK:										
Uncert Level (#s): 4 Decay to Sadt: N Blk Subt.: N Sci.Not.: N ODRs: B										
KGAEJ1AC-LCS:										
Uncert Level (#s): 4 Decay to Sadt: N Blk Subt.: N Sci.Not.: N ODRs: B										

Approved By

Date:

ICOC Fraction Transfer/Status Report

ByDate: 2/21/2007, 2/26/2008, Batch: '8030203', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8030203				
AC	Rev1C	Barcotl	2/12/2008 8:04:52	
SC		wagarr	IsBatched	1/30/2008 12:05:38 PM
SC		Barcotl	InPrep	2/12/2008 8:04:52 AM
SC		Barcotl	Prep1C	2/12/2008 8:05:13 AM
SC		AshworthA	Sep1C	2/13/2008 2:52:03 PM
SC		AshworthA	Sep2C	2/19/2008 5:01:36 PM
SC		BlackCL	InCnt1	2/20/2008 4:37:31 AM
SC		DAWKINSO	CalcC	2/20/2008 8:48:51 PM
SC		nortonj	Rev1C	2/21/2008 1:15:24 PM
AC		Barcotl	2/12/2008 8:05:13	ICOC_RADCALC v4.8.32
AC		AshworthA	2/13/2008 2:52:03 PM	RICH-RC-5032 REVISION 3
AC		AshworthA	2/19/2008 5:01:36 PM	RICH-RC-5032 REVISION 3
AC		BlackCL	2/20/2008 4:37:31	RICH-RC-5087 REV1
AC		DAWKINSO	2/20/2008 8:48:51 PM	RICH-RC-5003 REVISION 6
AC		nortonj	2/21/2008 1:15:24 PM	RICH-RD-0008 REVISION 4
				RICH-RD-0008 REVISION 4
				RICH-RC-0002 REV 8

AC: Accepting Entry; SC: Status Change

Rpt DB Transfer log (Batch Results)

SDG or Batch	Rpt Db Id	LotSample	Client Id	Matrix	Received Date	Sample Date				
Isotope	Method	RTst Qc	Analysis Date	Result	Cnt Uncert	Tot uncer	mda	Unirs	Expected Yield	Volumes
8030200	9KF5A210	F8A2502051	TSB-HJ-05-10'	SOLID	1/25/2008 9:15:00	1/24/2008 10:15:00 AM				
TH-228	D2S1	0	2/20/2008 9:00:41 AM	1.5189E+00	1.182E-01	1.753E-01	5.183E-02	pCi/g	0.961	1.02E+0
TH-230	D2S1	0	2/20/2008 9:00:41 AM	1.1431E+00	1.011E-01	1.404E-01	4.277E-02	pCi/g	0.961	1.02E+0
TH-232	D2S1	0	2/20/2008 9:00:41 AM	1.6146E+00	1.202E-01	1.827E-01	4.277E-02	pCi/g	0.961	1.02E+0
U-234	KWSR	0	2/20/2008 6:21:01 PM	1.5582E+00	9.691E-02	1.619E-01	2.884E-02	PCI/G	0.952	1.03E+0
U-235	KWSR	0	2/20/2008 6:21:01 PM	6.021E-02	1.908E-02	1.972E-02	2.884E-02	PCI/G	0.952	1.03E+0
U-238	KWSR	0	2/20/2008 6:21:01 PM	1.2487E+00	8.686E-02	1.354E-01	3.801E-02	PCI/G	0.952	1.03E+0
8030200	9KF5F010	F8A2502054	TSB-HJ-04-0'	SOLID	1/25/2008 9:15:00	1/24/2008 11:30:00 AM				
TH-228	D2S1	0	2/20/2008 9:00:41 AM	1.6135E+00	1.421E-01	1.977E-01	5.991E-02	pCi/g	0.967	1.01E+0
TH-230	D2S1	0	2/20/2008 9:00:41 AM	8.4032E-01	1.012E-01	1.24E-01	5.833E-02	pCi/g	0.967	1.01E+0
TH-232	D2S1	0	2/20/2008 9:00:41 AM	1.1691E+00	1.194E-01	1.555E-01	5.833E-02	pCi/g	0.967	1.01E+0
U-234	KWSR	0	2/20/2008 6:22:21 PM	9.7921E-01	7.962E-02	1.142E-01	4.42E-02	PCI/G	0.931	1.0E+0
U-235	KWSR	0	2/20/2008 6:22:21 PM	5.6617E-02	1.934E-02	1.992E-02	3.082E-02	PCI/G	0.931	1.0E+0
U-238	KWSR	0	2/20/2008 6:22:21 PM	8.8014E-01	7.532E-02	1.053E-01	3.082E-02	PCI/G	0.931	1.0E+0
8030200	9KF5F110	F8A2502055	TSB-HR-04-0'	SOLID	1/25/2008 9:15:00	1/24/2008 10:45:00 AM				
TH-228	D2S1	0	2/20/2008 9:00:41 AM	2.0841E+00	1.669E-01	2.444E-01	6.399E-02	pCi/g	0.915	1.0E+0
TH-230	D2S1	0	2/20/2008 9:00:41 AM	1.2357E+00	1.268E-01	1.652E-01	6.23E-02	pCi/g	0.915	1.0E+0
TH-232	D2S1	0	2/20/2008 9:00:41 AM	2.1593E+00	1.676E-01	2.496E-01	6.23E-02	pCi/g	0.915	1.0E+0
U-234	KWSR	0	2/20/2008 6:22:34 PM	9.3659E-01	1.166E-01	1.46E-01	6.923E-02	PCI/G	0.373	1.01E+0
U-235	KWSR	0	2/20/2008 6:22:34 PM	4.047E-02	2.52E-02	2.548E-02	6.923E-02	PCI/G	0.373	1.01E+0
U-238	KWSR	0	2/20/2008 6:22:34 PM	1.2025E+00	1.326E-01	1.741E-01	9.928E-02	PCI/G	0.373	1.01E+0
8030200	9KF5F310	F8A2502056	TSB-HJ-04-10'	SOLID	1/25/2008 9:15:00	1/24/2008 11:55:00 AM				
TH-228	D2S1	0	2/20/2008 9:00:41 AM	1.7155E+00	1.284E-01	1.954E-01	4.595E-02	pCi/g	0.883	1.03E+0
TH-230	D2S1	0	2/20/2008 9:00:41 AM	1.5097E+00	1.189E-01	1.76E-01	5.279E-02	pCi/g	0.883	1.03E+0
TH-232	D2S1	0	2/20/2008 9:00:41 AM	1.5396E+00	1.2E-01	1.786E-01	4.474E-02	pCi/g	0.883	1.03E+0
U-234	KWSR	0	2/20/2008 6:23:05 PM	1.9621E+00	1.09E-01	1.962E-01	2.901E-02	PCI/G	0.962	1.01E+0
U-235	KWSR	0	2/20/2008 6:23:05 PM	5.9349E-02	1.919E-02	1.981E-02	2.901E-02	PCI/G	0.962	1.01E+0
U-238	KWSR	0	2/20/2008 6:23:05 PM	1.5976E+00	9.841E-02	1.653E-01	2.901E-02	PCI/G	0.962	1.01E+0
8030200	9KF5F410	F8A2502057	TSB-HR-07-0'	SOLID	1/25/2008 9:15:00	1/24/2008 12:30:00 PM				
TH-228	D2S1	0	2/20/2008 9:00:41 AM	2.4887E+00	1.744E-01	2.755E-01	5.849E-02	pCi/g	0.89	1.01E+0
TH-230	D2S1	0	2/20/2008 9:00:41 AM	1.258E+00	1.224E-01	1.631E-01	5.695E-02	pCi/g	0.89	1.01E+0
TH-232	D2S1	0	2/20/2008 9:00:41 AM	1.9738E+00	1.532E-01	2.282E-01	5.695E-02	pCi/g	0.89	1.01E+0
U-234	KWSR	0	2/20/2008 6:23:16 PM	1.1044E+00	8.432E-02	1.251E-01	3.079E-02	PCI/G	0.938	1.0E+0
U-235	KWSR	0	2/20/2008 6:23:16 PM	6.2997E-02	2.037E-02	2.104E-02	3.079E-02	PCI/G	0.938	1.0E+0
U-238	KWSR	0	2/20/2008 6:23:16 PM	1.1044E+00	8.432E-02	1.251E-01	3.079E-02	PCI/G	0.938	1.0E+0
8030200	9KF5F710	F8A2502058	TSB-HR-07-10'	SOLID	1/25/2008 9:15:00	1/24/2008 12:45:00 PM				
TH-228	D2S1	0	2/20/2008 9:00:41 AM	1.9502E+00	1.324E-01	2.128E-01	4.304E-02	pCi/g	0.934	1.0E+0
TH-230	D2S1	0	2/20/2008 9:00:41 AM	1.899E+00	1.289E-01	2.072E-01	4.191E-02	pCi/g	0.934	1.0E+0
TH-232	D2S1	0	2/20/2008 9:00:41 AM	1.4072E+00	1.111E-01	1.636E-01	4.191E-02	pCi/g	0.934	1.0E+0
U-234	KWSR	0	2/20/2008 6:23:36 PM	2.3884E+00	1.315E-01	2.414E-01	3.467E-02	PCI/G	0.794	1.01E+0
U-235	KWSR	0	2/20/2008 6:23:36 PM	5.7901E-02	2.052E-02	2.11E-02	3.467E-02	PCI/G	0.794	1.01E+0
U-238	KWSR	0	2/20/2008 6:23:36 PM	1.6719E+00	1.1E-01	1.794E-01	3.467E-02	PCI/G	0.794	1.01E+0
8030200	9KF5F810	F8A2502059	TSB-HR-06-0'	SOLID	1/25/2008 9:15:00	1/24/2008 1:00:00 PM				
TH-228	D2S1	0	2/20/2008 9:47:01 AM	2.2944E+00	1.392E-01	2.402E-01	4.043E-02	pCi/g	0.949	1.02E+0
TH-230	D2S1	0	2/20/2008 9:47:01 AM	1.0603E+00	9.337E-02	1.3E-01	3.937E-02	pCi/g	0.949	1.02E+0
TH-232	D2S1	0	2/20/2008 9:47:01 AM	2.096E+00	1.313E-01	2.218E-01	3.937E-02	pCi/g	0.949	1.02E+0
U-234	KWSR	0	2/20/2008 6:24:00 PM	9.6179E-01	8.248E-02	1.158E-01	3.388E-02	PCI/G	0.833	1.01E+0
U-235	KWSR	0	2/20/2008 6:24:00 PM	4.9504E-02	1.876E-02	1.922E-02	3.387E-02	PCI/G	0.833	1.01E+0
U-238	KWSR	0	2/20/2008 6:24:00 PM	1.1315E+00	8.947E-02	1.31E-01	3.387E-02	PCI/G	0.833	1.01E+0
8030200	9KF5F910	F8A25020510	TSB-HR-06-10'	SOLID	1/25/2008 9:15:00	1/24/2008 1:10:00 PM				
TH-228	D2S1	0	2/20/2008 9:47:13 AM	1.7162E+00	1.36E-01	1.999E-01	6.077E-02	pCi/g	0.955	1.03E+0
TH-230	D2S1	0	2/20/2008 9:47:13 AM	1.3193E+00	1.175E-01	1.628E-01	5.016E-02	pCi/g	0.955	1.03E+0

8030203, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 53 | 0 | 0 | 0.
 **Diff RptDb | Qtims => .

SDG or Batch	Rpt Db Id	LotSample	Client Id	Matrix	Received Date	Sample Date	Isotope	Method	RTst Qc	Analysis Date	Result	Cnt Uncert	Tot Uncert	maa	Units	Expected	Yield	Volumes
TH-232	D2S1	0	2/20/2008 9:47:13 AM	1.5391E+00	1.27E-01	1.827E-01	5.016E-02	pCi/g								0.955		1.03E+0
U-234	KWSR	0	2/20/2008 6:24:11 PM	1.671E+00	1.041E-01	1.744E-01	3.105E-02	PCI/G								0.955		1.01E+0
U-235	KWSR	0	2/20/2008 6:24:11 PM	6.4819E-02	2.054E-02	2.124E-02	3.105E-02	PCI/G								0.955		1.01E+0
U-238	KWSR	0	2/20/2008 6:24:11 PM	1.3067E+00	9.214E-02	1.43E-01	3.663E-02	PCI/G								0.955		1.01E+0
8030200	9KF5FV10	F8A2502052	TSB-HJ-05-0'	SOLID	1/25/2008 9:15:00	1/24/2008 9:55:00 AM												
TH-228	D2S1	0	2/20/2008 9:00:41 AM	1.8444E+00	1.393E-01	2.111E-01	7.19E-02	pCi/g								0.86		1.03E+0
TH-230	D2S1	0	2/20/2008 9:00:41 AM	1.4064E+00	1.202E-01	1.705E-01	7.501E-02	pCi/g								0.86		1.03E+0
TH-232	D2S1	0	2/20/2008 9:00:41 AM	1.9527E+00	1.412E-01	2.194E-01	5.759E-02	pCi/g								0.86		1.03E+0
U-234	KWSR	0	2/20/2008 6:21:10 PM	1.0856E+00	8.478E-02	1.245E-01	3.171E-02	PCI/G								0.936		1.01E+0
U-235	KWSR	0	2/20/2008 6:21:10 PM	4.5013E-02	1.756E-02	1.797E-02	3.171E-02	PCI/G								0.936		1.01E+0
U-238	KWSR	0	2/20/2008 6:21:10 PM	1.0062E+00	8.162E-02	1.174E-01	3.171E-02	PCI/G								0.936		1.01E+0
8030200	9KF5FX10	F8A2502053	TSB-HR-04-10'	SOLID	1/25/2008 9:15:00	1/24/2008 11:00:00 AM												
TH-228	D2S1	0	2/20/2008 9:00:41 AM	1.6652E+00	1.446E-01	2.024E-01	6.006E-02	pCi/g								0.985		1.01E+0
TH-230	D2S1	0	2/20/2008 9:00:41 AM	1.1476E+00	1.184E-01	1.534E-01	5.847E-02	pCi/g								0.985		1.01E+0
TH-232	D2S1	0	2/20/2008 9:00:41 AM	1.111E+00	1.165E-01	1.5E-01	5.847E-02	pCi/g								0.985		1.01E+0
U-234	KWSR	0	2/20/2008 6:21:18 PM	1.4299E+00	9.632E-02	1.536E-01	5.032E-02	PCI/G								0.929		1.0E+0
U-235	KWSR	0	2/20/2008 6:21:18 PM	7.0913E-02	2.142E-02	2.223E-02	3.088E-02	PCI/G								0.929		1.0E+0
U-238	KWSR	0	2/20/2008 6:21:18 PM	1.1681E+00	8.701E-02	1.308E-01	4.429E-02	PCI/G								0.929		1.0E+0
8030200	9KF5GC10	F8A25020511	TSB-HJ-07-0'	SOLID	1/25/2008 9:15:00	1/24/2008 8:05:00 AM												
TH-228	D2S1	0	2/20/2008 9:47:16 AM	2.2451E+00	1.213E-01	2.265E-01	3.137E-02	pCi/g								0.959		1.02E+0
TH-230	D2S1	0	2/20/2008 9:47:16 AM	1.0635E+00	8.24E-02	1.225E-01	3.054E-02	pCi/g								0.959		1.02E+0
TH-232	D2S1	0	2/20/2008 9:47:16 AM	1.9319E+00	1.11E-01	1.985E-01	3.054E-02	pCi/g								0.959		1.02E+0
U-234	KWSR	0	2/20/2008 6:24:29 PM	1.0703E+00	8.046E-02	1.2E-01	2.896E-02	PCI/G								0.904		1.01E+0
U-235	KWSR	0	2/20/2008 6:24:29 PM	5.2004E-02	1.822E-02	1.873E-02	3.417E-02	PCI/G								0.904		1.01E+0
U-238	KWSR	0	2/20/2008 6:24:29 PM	1.1054E+00	8.181E-02	1.23E-01	2.896E-02	PCI/G								0.904		1.01E+0
8030200	9KF5GF10	F8A25020512	TSB-HJ-07-0'-FD	SOLID	1/25/2008 9:15:00	1/24/2008 8:05:00 AM												
TH-228	D2S1	0	2/20/2008 9:47:18 AM	2.6221E+00	1.36E-01	2.626E-01	4.444E-02	pCi/g								0.898		1.03E+0
TH-230	D2S1	0	2/20/2008 9:47:18 AM	1.3092E+00	9.474E-02	1.468E-01	3.283E-02	pCi/g								0.898		1.03E+0
TH-232	D2S1	0	2/20/2008 9:47:18 AM	2.5499E+00	1.322E-01	2.553E-01	3.283E-02	pCi/g								0.898		1.03E+0
U-234	KWSR	0	2/20/2008 6:24:37 PM	1.1138E+00	8.469E-02	1.259E-01	3.084E-02	PCI/G								0.903		1.01E+0
U-235	KWSR	0	2/20/2008 6:24:37 PM	4.5067E-02	1.708E-02	1.749E-02	3.084E-02	PCI/G								0.903		1.01E+0
U-238	KWSR	0	2/20/2008 6:24:37 PM	1.2104E+00	8.828E-02	1.343E-01	3.084E-02	PCI/G								0.903		1.01E+0
8030200	9KF5GG10	F8A25020513	TSB-HJ-07-10'	SOLID	1/25/2008 9:15:00	1/24/2008 8:40:00 AM												
TH-228	D2S1	0	2/20/2008 9:47:29 AM	1.7082E+00	1.443E-01	2.06E-01	6.866E-02	pCi/g								0.846		1.01E+0
TH-230	D2S1	0	2/20/2008 9:47:29 AM	1.6086E+00	1.38E-01	1.954E-01	5.666E-02	pCi/g								0.846		1.01E+0
TH-232	D2S1	0	2/20/2008 9:47:29 AM	1.1591E+00	1.171E-01	1.538E-01	5.666E-02	pCi/g								0.846		1.01E+0
U-234	KWSR	0	2/20/2008 6:25:07 PM	1.7882E+00	2.179E-01	2.905E-01	1.411E-01	PCI/G								0.233		1.01E+0
U-235	KWSR	0	2/20/2008 6:25:07 PM	5.0729E-02	3.743E-02	3.782E-02	1.064E-01	PCI/G								0.233		1.01E+0
U-238	KWSR	0	2/20/2008 6:25:07 PM	1.3126E+00	1.869E-01	2.341E-01	1.411E-01	PCI/G								0.233		1.01E+0
8030200	9KF5GJ10	F8A25020514	TSB-HR-08-0'	SOLID	1/25/2008 9:15:00	1/24/2008 9:00:00 AM												
TH-228	D2S1	0	2/20/2008 9:47:31 AM	2.0355E+00	1.538E-01	2.322E-01	7.936E-02	pCi/g								0.923		1.02E+0
TH-230	D2S1	0	2/20/2008 9:47:31 AM	1.0009E+00	1.061E-01	1.363E-01	5.387E-02	pCi/g								0.923		1.02E+0
TH-232	D2S1	0	2/20/2008 9:47:31 AM	1.9681E+00	1.488E-01	2.246E-01	5.387E-02	pCi/g								0.923		1.02E+0
U-234	KWSR	0	2/20/2008 6:25:20 PM	1.1667E+00	9.728E-02	1.398E-01	3.264E-02	PCI/G								0.814		1.03E+0
U-235	KWSR	0	2/20/2008 6:25:20 PM	4.8641E-02	1.987E-02	2.03E-02	3.264E-02	PCI/G								0.814		1.03E+0
U-238	KWSR	0	2/20/2008 6:25:20 PM	1.3856E+00	1.06E-01	1.595E-01	3.264E-02	PCI/G								0.814		1.03E+0
8030200	9KF5GL10	F8A25020515	TSB-HR-08-10'	SOLID	1/25/2008 9:15:00	1/24/2008 9:30:00 AM												
TH-228	D2S1	0	2/20/2008 12:48:03 PM	2.3821E+00	1.819E-01	2.733E-01	6.641E-02	pCi/g								0.9		1.0E+0
TH-230	D2S1	0	2/20/2008 12:48:03 PM	1.5522E+00	1.448E-01	1.966E-01	6.465E-02	pCi/g								0.9		1.0E+0
TH-232	D2S1	0	2/20/2008 12:48:03 PM	2.227E+00	1.734E-01	2.578E-01	6.465E-02	pCi/g								0.9		1.0E+0
U-234	KWSR	0	2/21/2008 6:26:27 AM	1.605E+00	1.007E-01	1.676E-01	4.32E-02	PCI/G								0.953		1.0E+0
U-235	KWSR	0	2/21/2008 6:26:27 AM	6.1636E-02	1.993E-02	2.058E-02	3.012E-02	PCI/G								0.953		1.0E+0
U-238	KWSR	0	2/21/2008 6:26:27 AM	1.3925E+00	9.373E-02	1.493E-01	3.97E-02	PCI/G								0.953		1.0E+0
8030200	KF5GJ1GW	F8A25020514	TSB-HR-08-0'	SOLID	1/25/2008 9:15:00	1/24/2008 9:00:00 AM												

8030203, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 53 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

SDG or Batch Isotope	Rpt Db Id Method	RTst	Qc	LotSample Analysis Date	Client Id Result	Matrix	Received Date	Sample Date	Units	Expected	Yield	Volumes
TH-230	D2S1	0	W	2/20/2008 12:48:03 PM	2.218E+00				pCi/g	2.207E+00	0.883	1.01E+0
8030200	KF5GJ1KR			F8A25020514	TSB-HR-08-0'	SOLID	1/25/2008 9:15:00	1/24/2008 9:00:00 AM				
TH-228	D2S1	0	R	2/20/2008 12:48:03 PM	1.9722E+00				pCi/g	1.044		1.0E+0
TH-230	D2S1	0	R	2/20/2008 12:48:03 PM	1.0637E+00				pCi/g	1.044		1.0E+0
TH-232	D2S1	0	R	2/20/2008 12:48:03 PM	2.0281E+00				pCi/g	1.044		1.0E+0
8030200	KGAEJ1AB			J8A300000203	INTRA-LAB BLANK	SOLID	1/25/2008 9:15:00	1/24/2008 10:15:00 AM				
TH-228	D2S1	0	B	2/20/2008 12:48:03 PM	0.0E+00				pCi/g	0.884		1.02E+0
TH-230	D2S1	0	B	2/20/2008 12:48:03 PM	0.0E+00				pCi/g	0.884		1.02E+0
TH-232	D2S1	0	B	2/20/2008 12:48:03 PM	1.3191E-02				pCi/g	0.884		1.02E+0
8030200	KGAEJ1CS			J8A300000203	INTRA-LAB CHECK	SOLID	1/25/2008 9:15:00	1/24/2008 10:15:00 AM				
TH-230	D2S1	0	S	2/20/2008 12:48:03 PM	2.605E+00				pCi/g	2.2296E+00	0.828	1.01E+0

8030203, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 15,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 53 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc	Yld	LCS Yld
Thlso by ALP														
Richland Standard Alplso Wo Blk Subt. *CntU: 0+1, + *SystU, `MDCConst:2.71														
Calc	S1	SOLID	KF5A21AD	TH-228	1.52E+00	(1.75E-01)		pCi/g	R	1.35E-02	5.18E-02		96%	
Calc	S1	SOLID	KF5A21AD	TH-230	1.14E+00	(1.40E-01)		pCi/g	R	9.29E-03	4.28E-02		96%	
Calc	S1	SOLID	KF5A21AD	TH-232	1.61E+00	(1.83E-01)		pCi/g	R	9.29E-03	4.28E-02		96%	
Calc	S1	SOLID	KF5FV1AD	TH-228	1.84E+00	(2.11E-01)		pCi/g	R	2.18E-02	7.19E-02		86%	
Calc	S1	SOLID	KF5FV1AD	TH-230	1.41E+00	(1.71E-01)		pCi/g	R	2.37E-02	7.50E-02		86%	
Calc	S1	SOLID	KF5FV1AD	TH-232	1.95E+00	(2.19E-01)		pCi/g	R	1.50E-02	5.76E-02		86%	
Calc	S1	SOLID	KF5FX1AD	TH-228	1.67E+00	(2.02E-01)		pCi/g	R	1.30E-02	6.01E-02		99%	
Calc	S1	SOLID	KF5FX1AD	TH-230	1.15E+00	(1.53E-01)		pCi/g	R	1.27E-02	5.85E-02		99%	
Calc	S1	SOLID	KF5FX1AD	TH-232	1.11E+00	(1.50E-01)		pCi/g	R	1.27E-02	5.85E-02		99%	
Calc	S1	SOLID	KF5F01AD	TH-228	1.61E+00	(1.98E-01)		pCi/g	R	1.30E-02	5.99E-02		97%	
Calc	S1	SOLID	KF5F01AD	TH-230	8.40E-01	(1.24E-01)		pCi/g	R	1.27E-02	5.83E-02		97%	
Calc	S1	SOLID	KF5F01AD	TH-232	1.17E+00	(1.55E-01)		pCi/g	R	1.27E-02	5.83E-02		97%	
Calc	S1	SOLID	KF5F11AD	TH-228	2.08E+00	(2.44E-01)		pCi/g	R	1.39E-02	6.40E-02		92%	
Calc	S1	SOLID	KF5F11AD	TH-230	1.24E+00	(1.65E-01)		pCi/g	R	1.35E-02	6.23E-02		92%	
Calc	S1	SOLID	KF5F11AD	TH-232	2.16E+00	(2.50E-01)		pCi/g	R	1.35E-02	6.23E-02		92%	
Calc	S1	SOLID	KF5F31AD	TH-228	1.72E+00	(1.95E-01)		pCi/g	R	9.98E-03	4.60E-02		88%	
Calc	S1	SOLID	KF5F31AD	TH-230	1.51E+00	(1.76E-01)		pCi/g	R	1.37E-02	5.28E-02		88%	
Calc	S1	SOLID	KF5F31AD	TH-232	1.54E+00	(1.79E-01)		pCi/g	R	9.72E-03	4.47E-02		88%	
Calc	S1	SOLID	KF5F41AD	TH-228	2.49E+00	(2.76E-01)		pCi/g	R	1.27E-02	5.85E-02		89%	
Calc	S1	SOLID	KF5F41AD	TH-230	1.26E+00	(1.63E-01)		pCi/g	R	1.24E-02	5.69E-02		89%	
Calc	S1	SOLID	KF5F41AD	TH-232	1.97E+00	(2.28E-01)		pCi/g	R	1.24E-02	5.69E-02		89%	
Calc	S1	SOLID	KF5F71AD	TH-228	1.95E+00	(2.13E-01)		pCi/g	R	9.35E-03	4.30E-02		93%	
Calc	S1	SOLID	KF5F71AD	TH-230	1.90E+00	(2.07E-01)		pCi/g	R	9.10E-03	4.19E-02		93%	
Calc	S1	SOLID	KF5F71AD	TH-232	1.41E+00	(1.64E-01)		pCi/g	R	9.10E-03	4.19E-02		93%	
Calc	S1	SOLID	KF5F81AD	TH-228	2.29E+00	(2.40E-01)		pCi/g	R	8.78E-03	4.04E-02		95%	
Calc	S1	SOLID	KF5F81AD	TH-230	1.06E+00	(1.30E-01)		pCi/g	R	8.55E-03	3.94E-02		95%	
Calc	S1	SOLID	KF5F81AD	TH-232	2.10E+00	(2.22E-01)		pCi/g	R	8.55E-03	3.94E-02		95%	
Calc	S1	SOLID	KF5F91AD	TH-228	1.72E+00	(2.00E-01)		pCi/g	R	1.58E-02	6.08E-02		95%	
Calc	S1	SOLID	KF5F91AD	TH-230	1.32E+00	(1.63E-01)		pCi/g	R	1.09E-02	5.02E-02		95%	
Calc	S1	SOLID	KF5F91AD	TH-232	1.54E+00	(1.83E-01)		pCi/g	R	1.09E-02	5.02E-02		95%	
Calc	S1	SOLID	KF5GC1AD	TH-228	2.25E+00	(2.26E-01)		pCi/g	R	6.82E-03	3.14E-02		96%	
Calc	S1	SOLID	KF5GC1AD	TH-230	1.06E+00	(1.22E-01)		pCi/g	R	6.63E-03	3.05E-02		96%	
Calc	S1	SOLID	KF5GC1AD	TH-232	1.93E+00	(1.99E-01)		pCi/g	R	6.63E-03	3.05E-02		96%	
Calc	S1	SOLID	KF5GF1AD	TH-228	2.62E+00	(2.63E-01)		pCi/g	R	1.27E-02	4.44E-02		90%	
Calc	S1	SOLID	KF5GF1AD	TH-230	1.31E+00	(1.47E-01)		pCi/g	R	7.13E-03	3.28E-02		90%	

() - (1s Uncertainties)
 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

Alpha Spec, Thiso by ALP , Results

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Calc	S1	SOLID	KF5GF1AD	TH-232	2.55E+00	(2.55E-01)		pCi/g	R	7.13E-03	3.28E-02			90%		
Calc	S1	SOLID	KF5GG1AD	TH-228	1.71E+00	(2.06E-01)		pCi/g	R	1.79E-02	6.87E-02			85%		
Calc	S1	SOLID	KF5GG1AD	TH-230	1.61E+00	(1.95E-01)		pCi/g	R	1.23E-02	5.67E-02			85%		
Calc	S1	SOLID	KF5GG1AD	TH-232	1.16E+00	(1.54E-01)		pCi/g	R	1.23E-02	5.67E-02			85%		
Calc	S1	SOLID	KF5GJ1AD	TH-228	2.04E+00	(2.32E-01)		pCi/g	R	2.40E-02	7.94E-02			92%		
Calc	S1	SOLID	KF5GJ1AD	TH-230	1.00E+00	(1.36E-01)		pCi/g	R	1.17E-02	5.39E-02			92%		
Calc	S1	SOLID	KF5GJ1AD	TH-232	1.97E+00	(2.25E-01)		pCi/g	R	1.17E-02	5.39E-02			92%		
Calc	S1	SOLID	KF5GJ1AG	TH-228	2.61E+00	(2.64E-01)		pCi/g	R	1.48E-02	5.70E-02	W		88%	115%	
Calc	S1	SOLID	KF5GJ1AG	TH-228	5.72E-01	(3.51E-01)	U4	pCi/g	RN	1.48E-02	5.70E-02	W		88%	25%	
Calc	S1	SOLID	KF5GJ1AG	TH-230	3.22E+00	(3.12E-01)		pCi/g	R	1.02E-02	4.70E-02	W		88%	146%	
Calc	S1	SOLID	KF5GJ1AG	TH-230	2.22E+00	(3.41E-01)		pCi/g	RN	1.02E-02	4.70E-02	W		88%	100%	
Calc	S1	SOLID	KF5GJ1AG	TH-232	2.42E+00	(2.47E-01)		pCi/g	R	1.02E-02	4.70E-02	W		88%	110%	
Calc	S1	SOLID	KF5GJ1AG	TH-232	4.54E-01	(3.34E-01)	U4	pCi/g	RN	1.02E-02	4.70E-02	W		88%	21%	
Calc	S1	SOLID	KF5GJ1AK	TH-228	1.97E+00	(2.15E-01)		pCi/g	R	1.36E-02	5.24E-02	R		104%		
Calc	S1	SOLID	KF5GJ1AK	TH-230	1.06E+00	(1.34E-01)		pCi/g	R	2.30E-02	7.05E-02	R		104%		
Calc	S1	SOLID	KF5GJ1AK	TH-232	2.03E+00	(2.19E-01)		pCi/g	R	1.33E-02	5.10E-02	R		104%		
Calc	S1	SOLID	KF5GL1AD	TH-228	2.38E+00	(2.73E-01)		pCi/g	R	1.44E-02	6.64E-02			90%		
Calc	S1	SOLID	KF5GL1AD	TH-230	1.55E+00	(1.97E-01)		pCi/g	R	1.40E-02	6.46E-02			90%		
Calc	S1	SOLID	KF5GL1AD	TH-232	2.23E+00	(2.58E-01)		pCi/g	R	1.40E-02	6.46E-02			90%		
Calc	S1	SOLID	KGAEJ1AA	TH-228	0.00E+00	(1.38E-02)	U4	pCi/g	R	1.41E-02	6.49E-02	B		88%		
Calc	S1	SOLID	KGAEJ1AA	TH-230	0.00E+00	(1.35E-02)	U4	pCi/g	R	1.37E-02	6.32E-02	B		88%		
Calc	S1	SOLID	KGAEJ1AA	TH-232	1.32E-02	(1.35E-02)	U4	pCi/g	R	1.37E-02	6.32E-02	B		88%		
Calc	S1	SOLID	KGAEJ1AC	TH-228	0.00E+00	(1.49E-02)	U4	pCi/g	R	1.52E-02	7.00E-02	S		83%		
Calc	S1	SOLID	KGAEJ1AC	TH-230	2.61E+00	(2.83E-01)		pCi/g	R	1.48E-02	6.82E-02	S		83%	117%	
Calc	S1	SOLID	KGAEJ1AC	TH-232	4.27E-02	(2.51E-02)		pCi/g	R	1.48E-02	6.82E-02	S		83%	2%	

() - (1s Uncertainties)
 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 Regardless of Significant
 Date/Time - mm/dd/yy hh:mm, 24hr Time

Alpha Spec, ThIsso by ALP, Calculated Results 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	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
1	Calc	S1	SOLID	*STLE	AlpIsoWoBS	KF5A21AD	pCi/g		01/24/08 10:15	02/20/08 09:00		111.05	Alq	1	9		
1418995	TSB-HJ-05-10						SOLID								1.02	g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	02/20/08 07:20	TH-228	166	2	ALP171	COP	N	N	2.5767E-01		N	96%	N	1.0000E+00	4.5045E-01	1.0271E+00	
			199.7833333	998.95			Y		(7.730E-03)			6%		(0.0000E+00)	0.980392		
1	02/20/08 07:20	TH-230	128	0	ALP171	COP	N	N	2.5767E-01		N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			199.7833333	998.95			Y		(7.730E-03)			6%		(0.0000E+00)	0.980392		
2	02/20/08 07:20	TH-232	181	1	ALP171	COP	N	N	2.5767E-01		N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			199.7833333	998.95			Y		(7.730E-03)			6%		(0.0000E+00)	0.980392		
3	02/20/08 06:31	Th-234	981	666	GPC30A	COP	Y	N	4.4730E-01		N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(1.789E-02)					(0.0000E+00)	0.980392		
Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EntFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC		
02/20/08	TH-228	R	1.518933	8.28898E-01	3.348755	3.348755	1.02 G	3.348755	3.348755	1.02 G	96%	0.051831	0.051831				
4.904E+01			(0.175322)	(6.4506E-02)	(0.343707)	(0.343707)		(0.343707)	(0.343707)								
02/20/08	TH-230	R	1.143088	6.40694E-01	2.588409	2.588409	1.02 G	2.588409	2.588409	1.02 G	96%	0.042772	0.042772				
4.904E+01			(0.140379)	(5.6639E-02)	(0.286989)	(0.286989)		(0.286989)	(0.286989)								
02/20/08	TH-232	R	1.614611	9.04980E-01	3.656129	3.656129	1.02 G	3.656129	3.656129	1.02 G	96%	0.042772	0.042772				
4.904E+01			(0.182707)	(6.7349E-02)	(0.365915)	(0.365915)		(0.365915)	(0.365915)								
02/20/08	Th-234	R	47.111437	4.77180E+01	106.679246	106.679246	1.02 G	106.679246	106.679246	1.02 G	96%	0.009291	0.009291				
4.904E+01			(3.48325)	(1.5669E+00)	(5.520835)	(5.520835)		(5.520835)	(5.520835)								

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
2	Calc	S1	SOLID	*STLE	AlpIsoWoBS	KF5FV1AD	pCi/g		01/24/08 09:55	02/20/08 09:00		112.45	Alq	1	9		
1418995	TSB-HJ-05-0						SOLID								1.03	g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	02/20/08 07:20	TH-228	177	4	ALP172	COP	N	N	2.4969E-01		N	86%	N	1.0000E+00	4.5045E-01	1.0271E+00	
			199.7833333	998.95			Y		(7.491E-03)			5%		(0.0000E+00)	0.970874		
1	02/20/08 07:20	TH-230	139	5	ALP172	COP	N	N	2.4969E-01		N	86%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			199.7833333	998.95			Y		(7.491E-03)			5%		(0.0000E+00)	0.970874		
2	02/20/08 07:20	TH-232	192	2	ALP172	COP	N	N	2.4969E-01		N	86%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			199.7833333	998.95			Y		(7.491E-03)			5%		(0.0000E+00)	0.970874		
3	02/20/08 06:31	Th-234	885	748	GPC30B	COP	Y	N	4.4197E-01		N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(1.768E-02)					(0.0000E+00)	0.970874		

Alpha Spec, Thlso by ALP, Calculated Results

Batch Nbr: 8030203

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	Trc Yld,EnFct	LCS Yld,EFctU	iDC/iLcC	BkLcC/MDC	StdDvMdc/LcC
02/20/08	TH-228	R	1.844394	8.81956E-01	4.106098	4.106098	1.03 G	86%	0.071902					
4.918E+01			(0.211109)	(6.6623E-02)	(0.417094)	(0.417094)	(0.017321)		0.02178					
02/20/08	TH-230	R	1.406411	6.90748E-01	3.2159	3.2159	1.03 G	86%	0.075008					
4.918E+01			(0.170543)	(5.9055E-02)	(0.351129)	(0.351129)	(0.017321)		0.023709					
02/20/08	TH-232	R	1.952667	9.59039E-01	4.464974	4.464974	1.03 G	86%	0.05759					
4.918E+01			(0.219422)	(6.9372E-02)	(0.443008)	(0.443008)	(0.017321)		0.014995					
02/20/08	Th-234	R	42.304708	4.27540E+01	96.734042	96.734042	1.03 G	86%						
4.918E+01			(3.164329)	(1.4885E+00)	(5.129677)	(5.129677)	(0.017321)							

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	S1	SOLID	*STLE	AlpIsoWoBS	KF5FX1AD	pCi/g	SOLID	01/24/08 11:00	02/20/08 09:00	111.66	Alq	1.01	g	
0	02/20/08 07:20	TH-228	133	1	ALP173	COP	N	N	1.8556E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0271E+00
1	02/20/08 07:20	TH-230	94	0	ALP173	COP	N	N	1.8556E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00
2	02/20/08 07:20	TH-232	91	0	ALP173	COP	N	N	1.8556E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00
3	02/20/08 06:31	Th-234	1021	675	GPC30C	COP	Y	N	4.5171E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	Trc Yld,EnFct	LCS Yld,EFctU	iDC/iLcC	BkLcC/MDC	StdDvMdc/LcC
02/20/08	TH-228	R	1.665219	6.64720E-01	3.635388	3.635388	1.01 G	99%	0.060057					
4.980E+01			(0.202393)	(5.7734E-02)	(0.397875)	(0.397875)	(0.017321)		0.013046					
02/20/08	TH-230	R	1.147641	4.70510E-01	2.573241	2.573241	1.01 G	99%	0.058475					
4.980E+01			(0.153421)	(4.8540E-02)	(0.315967)	(0.315967)	(0.017321)		0.012702					
02/20/08	TH-232	R	1.111013	4.55493E-01	2.491117	2.491117	1.01 G	99%	0.058475					
4.980E+01			(0.149976)	(4.7759E-02)	(0.309423)	(0.309423)	(0.017321)		0.012702					
02/20/08	Th-234	R	49.070345	4.97000E+01	110.025639	110.025639	1.01 G	99%						
4.980E+01			(3.615437)	(1.5985E+00)	(5.647281)	(5.647281)	(0.017321)							

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	S1	SOLID	*STLE	AlpIsoWoBS	KF5F01AD	pCi/g	SOLID	01/24/08 11:30	02/20/08 09:00	111.22	Alq	1.01	g	
0	02/20/08 07:20	TH-228	129	0	ALP174	COP	N	N	1.8950E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0270E+00
199.7833333			998.95	Y	(5.685E-03)										

RecCnt:4 RADCALC v4.8.29 TA Richland

Alpha Spec, Thiso by ALP, Calculated Results

2/20/2008 7:57:16 PM

Batch Nbr: 8030203	TH-230	TH-232	TH-234
1	02/20/08 07:20	02/20/08 07:20	02/20/08 06:31
2	02/20/08 07:20	02/20/08 07:20	02/20/08 06:31
3	02/20/08 06:31	02/20/08 06:31	02/20/08 06:31

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
0	02/20/08 07:20	TH-228	R	1.613514	6.45700E-01	3.522581	3.522581	(0.389487)	1.01 G	97%	0.059906	0.013013	4.5045E-01	1.0000E+00
1	02/20/08 07:20	TH-230	R	0.840322	3.45374E-01	1.884171	1.884171	(0.259525)	1.01 G	97%	0.058329	0.01267	4.5045E-01	1.0000E+00
2	02/20/08 07:20	TH-232	R	1.169143	4.80521E-01	2.621455	2.621455	(0.319905)	1.01 G	97%	0.058329	0.01267	4.5045E-01	1.0000E+00
3	02/20/08 06:54	Th-234	R	47.980493	4.78740E+01	107.581968	107.581968	(5.560114)	1.01 G	97%	0.058329	0.01267	4.5045E-01	1.0000E+00

QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol
 110.70 Alq 1 9
 1.00 g
 01/24/08 10:45 02/20/08 09:00
 *STLE AlplsoWoBS KF5F11AD pCi/g SOLID
 ,FBA250205-5
 141895,TSB-HR-04-0
 Sample Cnt Bkgrnd Cnt Instr Geom Trc/Av Ent Efficiency1 Efficiency2 Ent Trc Yld Fct Ent Trc Yld Fct Ent Trc Yld Fct Ent Trc Yld Fct Ent Trc Yld Fct
 156 0 ALP175 COP N N 1.8939E-01 (5.682E-03) N N 92% 6% 1.0000E+00 4.5045E-01 1.0271E+00
 199.7833333 998.95 ALP175 COP N N 1.8939E-01 (5.682E-03) N N 92% 6% 1.0000E+00 4.5045E-01 1.0000E+00
 166 0 ALP175 COP N N 1.8939E-01 (5.682E-03) N N 92% 6% 1.0000E+00 4.5045E-01 1.0000E+00
 199.7833333 998.95 GPC30A COP Y N 4.4730E-01 (1.789E-02) N N 100% 1.00 1.0000E+00 4.5045E-01 1.0000E+00
 20 500
 Avg Sa Act, Total U Q Net Cnt Rt Dpm Wo Blk Dpm-Blk Vol Used TrcYld,EnFct LCSYld,EFctU IDC/ILcC BikLcC/MDC StdDvMdc/LcC
 R 2.084131 7.80846E-01 4.50483 4.50483 1.00 G 92% 0.063987
 (0.244377) (6.2526E-02) (0.471373) (0.471373)
 R 1.235732 4.75515E-01 2.743326 2.743326 1.00 G 92% 0.062301
 (0.165181) (4.8797E-02) (0.336746) (0.336746)
 R 2.159278 8.30900E-01 4.793602 4.793602 1.00 G 92% 0.0623
 (0.249605) (6.4498E-02) (0.49266) (0.49266)
 R 45.636784 4.53180E+01 101.313761 101.313761 1.00 G 92% 0.013533
 (3.395892) (1.5281E+00) (5.300405) (5.300405)

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EntFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC
02/20/08	4.968E+01	TH-228	R	2.488685		1.02011E+00	5.433456	5.433456	1.01 G	89%	0.058487	0.058487		
02/20/08	4.968E+01	TH-230	R	1.258007		5.29574E-01	2.820705	2.820705	1.01 G	89%	0.056949	0.056949		
02/20/08	4.968E+01	TH-232	R	1.97381		8.30900E-01	4.42568	4.42568	1.01 G	89%	0.01237	0.01237		
02/20/08	4.968E+01	Th-234	R	44.232424		4.48000E+01	99.178041	99.178041	1.01 G	89%	0.056949	0.056949		
02/20/08	4.968E+01		R	3.293797		1.5199E+00	5.201932	5.201932	1.01 G	89%	0.01237	0.01237		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
8	Calc	S1	SOLID	*STLE	AlpIsoWoBS	KF5F71AD		pCi/g		01/24/08 12:45	02/20/08 09:00		112.63	Alq	1	g	1.00 g	
							F8A250205-8	SOLID										

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 07:20	TH-228	217	0	ALP178	COP	N	N	2.7579E-01		N	93%	N	1.0000E+00	4.5045E-01	1.0270E+00	
			199.7833333	998.95			Y		(8.274E-03)			6%		(0.000E+00)	1.00		
1	02/20/08 07:20	TH-230	217	0	ALP178	COP	N	N	2.7579E-01		N	93%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			199.7833333	998.95			Y		(8.274E-03)			6%		(0.000E+00)	1.00		
2	02/20/08 07:20	TH-232	161	1	ALP178	COP	N	N	2.7579E-01		N	93%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			199.7833333	998.95			Y		(8.274E-03)			6%		(0.000E+00)	1.00		
3	02/20/08 06:54	Th-234	960	588	GPC30D	COP	Y	N	4.4500E-01		N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(1.780E-02)					(0.000E+00)	1.00		

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EntFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC
02/20/08	5.073E+01	TH-228	R	1.950225		1.08618E+00	4.215743	4.215743	1.00 G	93%	0.043044	0.043044		
02/20/08	5.073E+01	TH-230	R	1.898982		1.08618E+00	4.215743	4.215743	1.00 G	93%	0.041913	0.041913		
02/20/08	5.073E+01	TH-232	R	1.407171		8.04872E-01	3.123924	3.123924	1.00 G	93%	0.009104	0.009104		
02/20/08	5.073E+01	Th-234	R	47.397439		4.68240E+01	105.222419	105.222419	1.00 G	93%	0.041913	0.041913		
02/20/08	5.073E+01		R	3.51372		1.5500E+00	5.463182	5.463182	1.00 G	93%	0.009104	0.009104		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
9	Calc	S1	SOLID	*STLE	AlpIsoWoBS	KF5F81AD		pCi/g		01/24/08 13:00	02/20/08 09:47		111.40	Alq	1	g	1.02 g	
							F8A250205-9	SOLID										

02/20/08 08:06 TH-228 272 1 ALP113 COP N N 2.8313E-01 89% N 1.0000E+00 4.5045E-01 1.0270E+00
 200.05 1000.1666 Y (8.494E-03) 6% (0.000E+00) 0.980392

Alpha Spec, Thlso by ALP , Calculated Results

2/20/2008 7:57:16 PM

Batch Nbr: 8030203

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC
1	02/20/08 08:06	TH-230	129	0	ALP113 COP	N	2.8313E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1666		Y	(8.494E-03)		(0.017321)		(0.000E+00)	0.980392		
2	02/20/08 08:06	TH-232	255	0	ALP113 COP	N	2.8313E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1666		Y	(8.494E-03)		(0.017321)		(0.000E+00)	0.980392		
3	02/20/08 07:43	Th-234	972	666	GPC30A COP	Y	4.4730E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			20	500		Y	(1.789E-02)		(0.017321)		(0.000E+00)	0.980392		

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC
0	02/20/08 08:07	TH-228	160	2	ALP116 COP	N	2.1858E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0270E+00	
			200.1666666	1000.15		Y	(6.557E-03)		(0.017321)		(0.000E+00)	0.970874		
1	02/20/08 08:07	TH-230	126	0	ALP116 COP	N	2.1858E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.15		Y	(6.557E-03)		(0.017321)		(0.000E+00)	0.970874		
2	02/20/08 08:07	TH-232	147	0	ALP116 COP	N	2.1858E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.15		Y	(6.557E-03)		(0.017321)		(0.000E+00)	0.970874		
3	02/20/08 07:43	Th-234	970	748	GPC30B COP	Y	4.4197E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			20	500		Y	(1.768E-02)		(0.017321)		(0.000E+00)	0.970874		

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC
0	02/20/08 08:07	TH-228	160	2	ALP116 COP	N	2.1858E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0270E+00	
			200.1666666	1000.15		Y	(6.557E-03)		(0.017321)		(0.000E+00)	0.970874		
1	02/20/08 08:07	TH-230	126	0	ALP116 COP	N	2.1858E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.15		Y	(6.557E-03)		(0.017321)		(0.000E+00)	0.970874		
2	02/20/08 08:07	TH-232	147	0	ALP116 COP	N	2.1858E-01	N	95%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.15		Y	(6.557E-03)		(0.017321)		(0.000E+00)	0.970874		
3	02/20/08 07:43	Th-234	970	748	GPC30B COP	Y	4.4197E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			20	500		Y	(1.768E-02)		(0.017321)		(0.000E+00)	0.970874		

10 Calc S1 SOLID *STLE AlplsoWoBS KF5F91AD pCi/g 01/24/08 13:10 02/20/08 09:47 1 9
 1418995,TSB-HR-06-10 F8A250205-10 SOLID 111.40 Alq 1.03 g

QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol
 AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

RecCnt:11 RADCALC v4.8.29
 TA Richland

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	Calc	S1	SOLID	STLE	AlpIsoWoBS	KF5GCIAD	pCi/g	Units/Matrix	QC/BB	Sa/On Date	01/24/08 08:05	02/20/08 09:47	111.13	Alq	g	1.02	g		
Sq	Method	Matrix	Equation Set	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 08:07	TH-228	343	1000.0666	ALP117	COP	N	N	3.6088E-01	N	N	96%	N	96%	N	1.0000E+00	4.5045E-01	1.0272E+00	
			200.1				Y		(1.083E-02)			6%				(0.000E+00)	0.980392		
1	02/20/08 08:07	TH-230	167	1000.0666	ALP117	COP	N	N	3.6088E-01	N	N	96%	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200.1				Y		(1.083E-02)			6%				(0.000E+00)	0.980392		
2	02/20/08 08:07	TH-232	303	1000.0666	ALP117	COP	N	N	3.6088E-01	N	N	96%	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200.1				Y		(1.083E-02)			6%				(0.000E+00)	0.980392		
3	02/20/08 07:17	Th-234	990	675	GPC30C	COP	Y	N	4.5171E-01	N	N	100%	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(1.807E-02)							(0.000E+00)	0.980392		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm	Wo Blk	Dpm-Blk	Vol Used	TrcYld,EntFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDv/MdC/LcC				
	02/20/08	TH-228	R	2.245101		1.71314E+00	4.949116	4.949116	4.949116	1.02 G	96%		0.031371						
	4.908E+01			(0.22648)		(9.2560E-02)	(0.425391)	(0.425391)	(0.425391)	(0.017321)			0.006815						
	02/20/08	TH-230	R	1.06348		8.33583E-01	2.408146	2.408146	2.408146	1.02 G	96%		0.03054						
	4.908E+01			(0.122466)		(6.4590E-02)	(0.246439)	(0.246439)	(0.246439)	(0.017321)			0.006635						
	02/20/08	TH-232	R	1.931862		1.51424E+00	4.374512	4.374512	4.374512	1.02 G	96%		0.03054						
	4.908E+01			(0.198501)		(8.6997E-02)	(0.385589)	(0.385589)	(0.385589)	(0.017321)			0.006635						
	02/20/08	Th-234	R	47.073904		4.81500E+01	106.594256	106.594256	106.594256	1.02 G	96%		0.03054						
	4.908E+01			(3.477437)		(1.5741E+00)	(5.506603)	(5.506603)	(5.506603)	(0.017321)			0.006635						
Sq	Status Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol					
12	Calc	S1	SOLID	STLE	AlpIsoWoBS	KF5GFIAD	pCi/g	Units/Matrix	QC/BB	Sa/On Date	01/24/08 08:05	02/20/08 09:47	111.13	Alq	g	1.03	g		
	1418995,TSB-HJ-07-0'						SOLID												
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 08:07	TH-228	373	1000.0166	ALP118	COP	N	N	3.5511E-01	N	N	90%	N	90%	N	1.0000E+00	4.5045E-01	1.0272E+00	
			200				Y		(1.065E-02)			5%				(0.000E+00)	0.970874		
1	02/20/08 08:07	TH-230	191	1000.0166	ALP118	COP	N	N	3.5511E-01	N	N	90%	N	90%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200				Y		(1.065E-02)			5%				(0.000E+00)	0.970874		
2	02/20/08 08:07	TH-232	372	1000.0166	ALP118	COP	N	N	3.5511E-01	N	N	90%	N	90%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			200				Y		(1.065E-02)			5%				(0.000E+00)	0.970874		
3	02/20/08 07:17	Th-234	912	588	GPC30D	COP	Y	N	4.4500E-01	N	N	100%	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
			20	500			Y		(1.780E-02)							(0.000E+00)	0.970874		

Alpha Spec, Thiso by ALP, Calculated Results

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	iDC/iLcC	BlkLcC/MDC	StdDvMidC/LcC
02/20/08	4.860E+01	TH-228	R	2.622149	1.86200E+00	5.836953	(0.496895)	5.836953	(0.496895)	1.03 G	90%	0.044443	0.012688		
02/20/08	4.860E+01	TH-230	R	1.309241	9.55000E-01	2.993711	(0.296259)	2.993711	(0.296259)	1.03 G	90%	0.032831	0.007131		
02/20/08	4.860E+01	TH-232	R	2.549933	1.86000E+00	5.830684	(0.496292)	5.830684	(0.496292)	1.03 G	90%	0.032831	0.007131		
02/20/08	4.860E+01	Th-234	R	43.658298	4.44240E+01	99.829163	(5.241273)	99.829163	(5.241273)	1.03 G	90%				

Sq	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	S1	SOLID	*STLE	AlpIsoWoBS	KF5GGIAD	pCi/g		01/24/08 08:40	02/20/08 09:47		111.40	Alq	1	9
							SOLID								1.01 g

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LOSyld,EFctU	iDC/iLcC	BlkLcC/MDC	StdDvMidC/LcC
02/20/08	4.968E+01	TH-228	R	1.708216	7.02531E-01	3.728776	(0.404199)	3.728776	(0.404199)	1.01 G	85%	0.068664	0.01788		
02/20/08	4.968E+01	TH-230	R	1.608592	6.79547E-01	3.606787	(0.394592)	3.606787	(0.394592)	1.01 G	85%	0.056656	0.012308		
02/20/08	4.968E+01	TH-232	R	1.159132	4.89674E-01	2.599008	(0.316419)	2.599008	(0.316419)	1.01 G	85%	0.056656	0.012308		
02/20/08	4.968E+01	Th-234	R	42.01093	4.25500E+01	94.197001	(4.99676)	94.197001	(4.99676)	1.01 G	85%				

Sq	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	S1	SOLID	*STLE	AlpIsoWoBS	KF5GGIAD	pCi/g		01/24/08 09:00	02/20/08 09:47		112.19	Alq	1	9
							SOLID								1.02 g

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 iDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC
1	02/20/08 08:07	TH-230	89	0	ALP120 COP	N N	2.1268E-01 (6.380E-03)	N	92%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.980392	1.0000E+00	1.0000E+00
			200.06666666	1000.1833										
2	02/20/08 08:07	TH-232	175	0	ALP120 COP	N N	2.1268E-01 (6.380E-03)	N	92%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.980392	1.0000E+00	1.0000E+00
			200.06666666	1000.1833										
3	02/20/08 07:43	Th-234	945	588	GPC30D COP	Y N	4.4500E-01 (1.780E-02)	N	100%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.980392	1.0000E+00	1.0000E+00
			20	500										

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk 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	SOLID	*STLE	AlpIsoWoBS	KF5GJ1AG	W	01/24/08 09:00	02/20/08 12:48	4.9486	1	9	780.14	Alq	1.01g		

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 11:08	TH-228	259	2	ALP171	COP	N	N	2.5767E-01 (7.730E-03)	88%	N	88%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.990099	1.0273E+00		
			199.7833333	998.95														
1	02/20/08 11:08	TH-230	328	0	ALP171	COP	N	N	2.5767E-01 (7.730E-03)	5%	N	5%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.990099	1.0000E+00		
			199.7833333	998.95														
2	02/20/08 11:08	TH-232	247	1	ALP171	COP	N	N	2.5767E-01 (7.730E-03)	88%	N	88%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.990099	1.0000E+00		
			199.7833333	998.95														
3	02/20/08 08:16	Th-234	6188	666	GPC30A	COP	Y	N	4.4730E-01 (1.789E-02)	100%	N	100%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.990099	1.0000E+00		
			20	500														

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC
02/20/08	TH-228	R	2.607149	0.263712	1.29440E+00	5.690379	5.690379	1.01G	88%	115%	0.056971			
3.479E+02					(8.0567E-02)	(0.490733)	(0.490733)	(0.017321)			0.014833			
02/20/08	TH-228	RN	0.571683	0.351341	1.29440E+00	5.690379	5.690379	1.01G	88%	25%	0.056971			
					(8.0567E-02)	(0.490733)	(0.490733)	(0.017321)			0.014833			
02/20/08	TH-230	R	3.218933	0.312191	1.64178E+00	7.217495	7.217495	1.01G	88%	146%	0.047003			
3.479E+02					(9.0658E-02)	(0.586893)	(0.586893)	(0.017321)			0.01021			
02/20/08	TH-230	RN	2.218005	0.340648	1.64178E+00	7.217495	7.217495	1.01G	88%	100%	0.047003			
					(9.0658E-02)	(0.586893)	(0.586893)	(0.017321)			0.01021			

Alpha Spec, Thiso by ALP , Calculated Results

Batch Nbr: 8030203

Calc	S1	SOLID	STLE AlpIsoWoBS	KF5GJ1AK	pCi/g	R	01/24/08 09:00	02/20/08 12:48	111.05 Aliq	1	9
02/20/08	TH-232	R	2.42205	1.23534E+00	5.430725	5.430725	1.01 G	86%	110%	0.047003	
3.479E+02			(0.247155)	(7.8673E-02)	(0.474026)	(0.474026)	(0.017321)			0.01021	
02/20/08	TH-232	U4	0.453933	1.23534E+00	5.430725	5.430725	1.01 G	88%	21%	0.047003	
			(0.333932)	(7.8673E-02)	(0.474026)	(0.474026)	(0.017321)			0.01021	
02/20/08	Th-234	R	307.16343	3.08068E+02	688.722532	688.722532	1.01 G	88%			
3.479E+02			(20.735512)	(3.9335E+00)	(28.918406)	(28.918406)	(0.017321)				

Sq Status Method Matrix Protocol Equation Set Wk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	S1	SOLID	STLE AlpIsoWoBS	KF5GJ1AK	pCi/g	R	01/24/08 09:00	02/20/08 12:48	111.05 Aliq	1	9			
0	02/20/08 11:08	TH-228	213	199.7833333	998.95	ALP172 COP	N	N	2.4969E-01	N	104%	N	1.0000E+00	4.5045E-01	1.0273E+00
							Y	(7.491E-03)			6%		(0.000E+00)	1.00	
1	02/20/08 11:08	TH-230	119	199.7833333	998.95	ALP172 COP	N	N	2.4969E-01	N	104%	N	1.0000E+00	4.5045E-01	1.0000E+00
							Y	(7.491E-03)			6%		(0.000E+00)	1.00	
2	02/20/08 11:08	TH-232	225	199.7833333	998.95	ALP172 COP	N	N	2.4969E-01	N	104%	N	1.0000E+00	4.5045E-01	1.0000E+00
							Y	(7.491E-03)			6%		(0.000E+00)	1.00	
3	02/20/08 08:16	Th-234	1055	748	500	GPC30B COP	Y	N	4.4197E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
							Y	(1.768E-02)					(0.000E+00)	1.00	

Sq CalcDate,TrcAct Parameter Avg Sa Act, Total U Q Net Cnt Rt Dpm Wo Blk Dpm-Blk Vol Used TrcYld,EnFct LCSYld,EFctU IDC/LcC BIKLcC/MDC StdDvMidC/LcC

Sq	Calc	S1	SOLID	STLE AlpIsoWoBS	KF5GJ1AD	pCi/g	R	01/24/08 09:30	02/20/08 12:48	111.40 Aliq	1	9			
0	02/20/08 11:08	TH-228	172	199.7833333	998.95	ALP173 COP	N	N	1.8556E-01	N	90%	N	1.0000E+00	4.5045E-01	1.0273E+00
							Y	(5.567E-03)			5%		(0.000E+00)	1.00	
1	02/20/08 11:08	TH-230	115	199.7833333	998.95	ALP173 COP	N	N	1.8556E-01	N	90%	N	1.0000E+00	4.5045E-01	1.0000E+00
							Y	(5.567E-03)			5%		(0.000E+00)	1.00	

Sq Status Method Matrix Protocol Equation Set Wk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/Lc/MDC	StdDvMdc/LcC
2	02/20/08 11:08	TH-232	165	0	ALP173 COP	N N	1.8556E-01 (5.567E-03)	5.147799 (0.524136)	1.00 G (0.017321)	90%	1.0000E+00 (0.0000E+00)	1.00	4.5045E-01	1.0000E+00
3	02/20/08 08:16	Th-234	933	675	GPC30C COP	Y N	4.5171E-01 (1.807E-02)	3.445849 (0.396447)	1.00 G (0.017321)	100%	1.0000E+00 (0.0000E+00)	1.00	4.5045E-01	1.0000E+00

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/Lc/MDC	StdDvMdc/LcC
0	02/20/08 11:08	TH-228	0	0	ALP173 COP	N N	1.8556E-01 (5.567E-03)	5.147799 (0.524136)	1.00 G (0.017321)	90%	1.0000E+00 (0.0000E+00)	1.00	4.5045E-01	1.0000E+00
1	02/20/08 11:08	TH-230	0	0	ALP174 COP	N N	1.8950E-01 (5.685E-03)	3.445849 (0.396447)	1.00 G (0.017321)	90%	1.0000E+00 (0.0000E+00)	1.00	4.5045E-01	1.0000E+00
2	02/20/08 11:08	TH-232	1	0	ALP174 COP	N N	1.8950E-01 (5.685E-03)	4.944044 (0.509021)	1.00 G (0.017321)	90%	1.0000E+00 (0.0000E+00)	1.00	4.5045E-01	1.0000E+00
3	02/20/08 08:16	Th-234	901	588	GPC30D COP	Y N	4.5000E-01 (1.780E-02)	4.53000E+01 (5.247463)	1.00 G (0.017321)	100%	1.0000E+00 (0.0000E+00)	1.00	4.5045E-01	1.0000E+00

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/Lc/MDC	StdDvMdc/LcC
0	02/20/08 11:08	TH-228	0	0	ALP174 COP	N N	1.8950E-01 (5.685E-03)	5.147799 (0.524136)	1.02 G (0.017321)	88%	1.0000E+00 (0.0000E+00)	1.02 g	4.5045E-01	1.0273E+00
1	02/20/08 11:08	TH-230	0	0	ALP174 COP	N N	1.8950E-01 (5.685E-03)	3.445849 (0.396447)	1.02 G (0.017321)	5%	1.0000E+00 (0.0000E+00)	0.980392	4.5045E-01	0.980392
2	02/20/08 11:08	TH-232	1	0	ALP174 COP	N N	1.8950E-01 (5.685E-03)	4.944044 (0.509021)	1.02 G (0.017321)	88%	1.0000E+00 (0.0000E+00)	0.980392	4.5045E-01	1.0000E+00
3	02/20/08 08:16	Th-234	901	588	GPC30D COP	Y N	4.5000E-01 (1.780E-02)	4.53000E+01 (5.247463)	1.02 G (0.017321)	100%	1.0000E+00 (0.0000E+00)	0.980392	4.5045E-01	1.0000E+00

Sq	Calc	S1	SOLID	STLE	AlpIsoWoBS	KGAEUJAC	pCi/g	S	01/24/08	10:15	02/20/08	12:48	4.9992	1	9	782.77	Alq	1.01	g
Sq	CalcDate	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn	
Sq	CalcDate	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld, Ent Fct	LCS Yld, EFctU	IDC/ILcC	BIK/LcC/MDC	StdD/MdC/LcC					
0	02/20/08 11:08	TH-228	0	0	ALP175	COP	N	N	1.8939E-01	N	N	83%	N	1.0000E+00	4.5045E-01	1.0273E+00			
			199.7833333	998.95			Y	(5.682E-03)				4%		(0.000E+00)	0.990099				
1	02/20/08 11:08	TH-230	183	0	ALP175	COP	N	N	1.8939E-01	N	N	83%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			199.7833333	998.95			Y	(5.682E-03)				4%		(0.000E+00)	0.990099				
2	02/20/08 11:08	TH-232	3	0	ALP175	COP	N	N	1.8939E-01	N	N	83%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			199.7833333	998.95			Y	(5.682E-03)				4%		(0.000E+00)	0.990099				
3	02/20/08 08:41	Th-234	5825	666	GPC30A	COP	Y	N	4.4730E-01	N	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00			
			20	500			Y	(1.789E-02)						(0.000E+00)	0.990099				
Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld, Ent Fct	LCS Yld, EFctU	IDC/ILcC	BIK/LcC/MDC	StdD/MdC/LcC				
	02/20/08	TH-228	R	0.00E00	U4	0.0000E+00	0.00E00	0.00E00	0.00E00	1.01 G	83%	0.070037							
	3.491E+02			(0.014913)		(5.1045E-03)	(0.03255)	(0.03255)		(0.017321)		0.015213							
	02/20/08	TH-230	R	2.605029		9.15992E-01	5.840998	5.840998	5.840998	1.01 G	83%	0.068179							
	3.491E+02			(0.283375)		(6.7720E-02)	(0.555324)	(0.555324)		(0.017321)	117%	0.01481							
	02/20/08	TH-232	R	0.042705		1.50163E-02	0.095754	0.095754	0.095754	1.01 G	83%	0.068179							
	3.491E+02			(0.025053)		(8.7272E-03)	(0.055945)	(0.055945)		(0.017321)	2%	0.01481							
	02/20/08	Th-234	R	289.066724		2.89918E+02	648.146056	648.146056	648.146056	1.01 G	83%								
	3.491E+02			(19.535811)		(3.8164E+00)	(27.293696)	(27.293696)		(0.017321)									

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:08:01.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
CAL6537	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 06:08:01.00	8845	20.00	666	500.00	30A

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
4	14	662	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:08:01.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
CAL6538	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 06:08:01.00	9140	20.00	748	500.00	30B

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
3	12	662	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report
20-FEB-2008 06:08:01.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
CAL6539	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
20-FEB-2008 06:08:01.00	9260	20.00	675	500.00	30C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
1	16	662	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:08:01.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
CAL6540	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
20-FEB-2008 06:08:01.00	8748	20.00	588	500.00	30D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
1	10	662	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:31:20.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5A21AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 06:31:20.00	981	20.00	666	500.00	30A

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
20	14	658	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:31:20.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5FV1AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 06:31:20.00	885	20.00	748	500.00	30B

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
5	12	658	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:31:20.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5FX1AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 06:31:20.00	1021	20.00	675	500.00	30C

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
12	16	658	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:31:20.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5F01AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 06:31:20.00	981	20.00	588	500.00	30D

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
7	10	658	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:54:49.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5F11AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 06:54:49.00	933	20.00	666	500.00	30A

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
12	14	660	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:54:49.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
KF5F31AD	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
20-FEB-2008 06:54:49.00	897	20.00	748	500.00	30B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
4	12	660	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:54:49.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5F41AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 06:54:49.00	923	20.00	675	500.00	30C

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
3	16	660	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 06:54:49.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5F71AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 06:54:49.00	960	20.00	588	500.00	30D

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
5	10	660	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report
20-FEB-2008 07:43:07.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5F81AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 07:43:07.00	972	20.00	666	500.00	30A

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
11	14	653	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 07:43:07.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
KF5F91AD	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
20-FEB-2008 07:43:07.00	970	20.00	748	500.00	30B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
9	12	653	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report
20-FEB-2008 07:17:03.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
KF5GC1AD	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
20-FEB-2008 07:17:03.00	990	20.00	675	500.00	30C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
8	16	658	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 07:17:03.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5GF1AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 07:17:03.00	912	20.00	588	500.00	30D

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
4	10	658	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report
20-FEB-2008 07:43:07.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
KF5GG1AD	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
20-FEB-2008 07:43:07.00	878	20.00	675	500.00	30C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
16	16	653	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 07:43:07.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5GJ1AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 07:43:07.00	945	20.00	588	500.00	30D

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
4	10	653	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 08:16:46.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
KF5GJ1AG	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
20-FEB-2008 08:16:46.00	6188	20.00	666	500.00	30A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
6	14	654	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 08:16:46.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5GJ1AK	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 08:16:46.00	1055	20.00	748	500.00	30B

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
19	12	654	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 08:16:46.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KF5GL1AD	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 08:16:46.00	933	20.00	675	500.00	30C

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
12	16	654	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 08:16:46.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KGAEJ1AA	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 08:16:46.00	901	20.00	588	500.00	30D

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
0	10	654	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

20-FEB-2008 08:41:32.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
KGAEJ1AC	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
20-FEB-2008 08:41:32.00	5825	20.00	666	500.00	30A

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
3	14	655	1492	20-FEB-2008 01:01:08.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

THORIUM ISOTOPICT COUNTING REQUEST

1846

C.R. Technician BS af201 af201 af201
 Date Counted _____
 C.R. Analyst BS af201
 Date Analyzed _____

Counting Time 200 Minutes
 Sample _____
 SOP's _____
 Operating: RICHRD008
 Background See Alpha Analysis Report
 Review: 1/24/02 8030203

WorkOrder #	Th-229 (4845 KeV) Tracer				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
KFS A21AD		10		0	(6)	(8)	(9)	171	
KFS FV1AD		10		0	See Alpha Analysis Report for ROI Information				
KFS FX1AD		10		0	See Alpha Analysis Report for ROI Information				
KFS FO1AD		10		0	See Alpha Analysis Report for ROI Information				
KFS FI1AD		10		0	See Alpha Analysis Report for ROI Information				
KFS F31AD		10		0	See Alpha Analysis Report for ROI Information				
KFS F41AD		10		0	See Alpha Analysis Report for ROI Information				
KFS F71AD		10		0	See Alpha Analysis Report for ROI Information				

Comments:

Approved by: BS Date: 1/24/02

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: KF5A21AD

Detector: ALP171 1

Report Date: 20-Feb-08 10:52 AM

Acquire Date: 20-FEB-2008 07:20:47.98

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

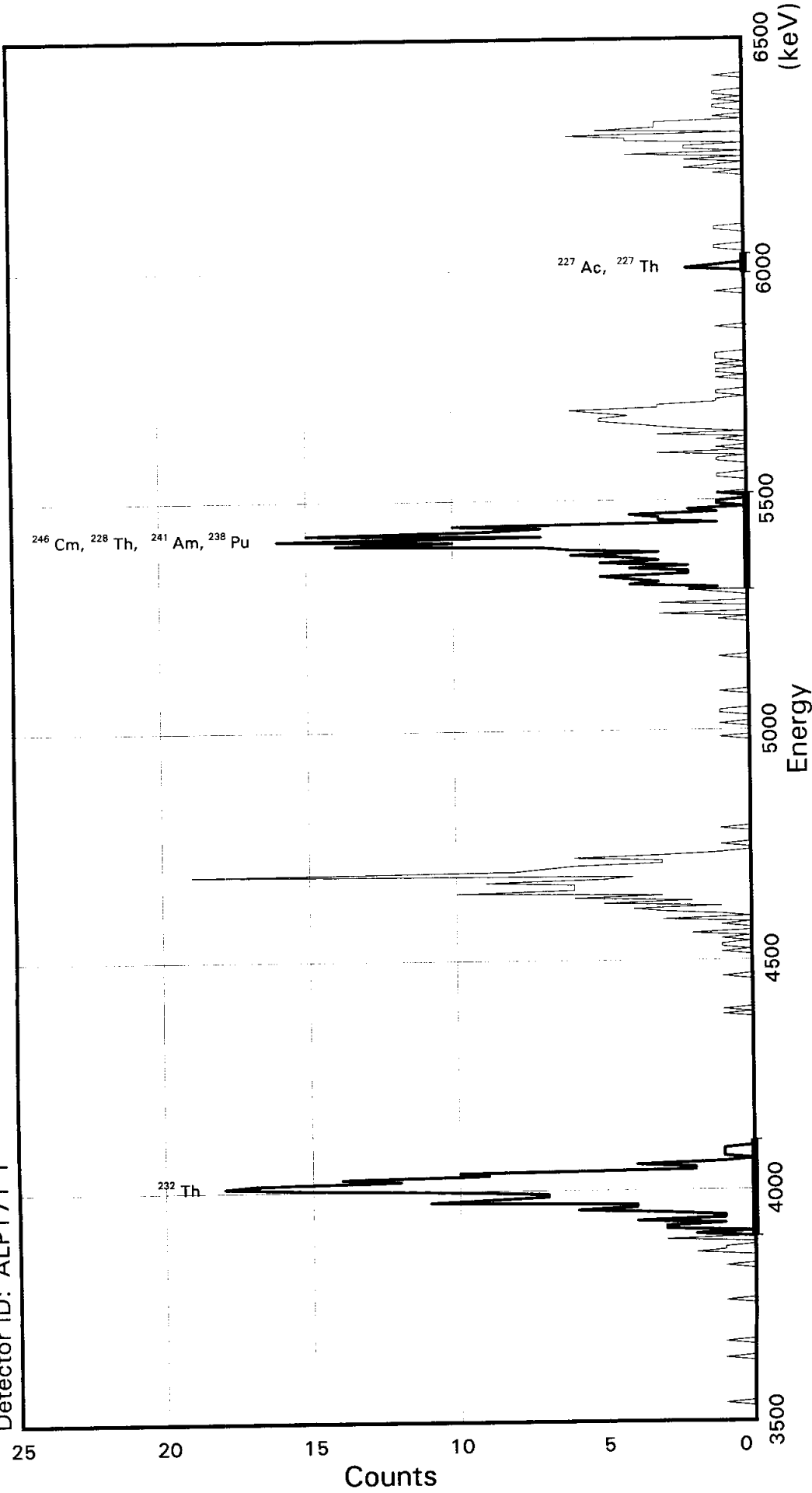
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	166	2	0.829	5423.2	186.5	310	342
TH-230	128	0	0.641	4687.7	157.0	190	217
TH-232	181	1	0.905	4013.0	174.0	69	99

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5A21AD
Detector ID: ALP171 1



Energy Coefficients:
Offset: 3.49866E + 03
Slope: 5.79205E + 00
Quadrature: 5.30073E-05

Acquisition Start: 20-FEB-2008 07:20:47.98
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

SAMPLE IDENTIITY: KF5A21AD

TITLE : TH BRCO

DETECTOR : ALP171 1
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5A21AD_200280720A.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 07:20:47 CALIB DATE : 09-FEB-2008 06:26:03

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3498.66 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 5.79205 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 5.300730E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1 Apr 07)

Sample Identity: KF5A21AD

Flags Key

Detector: ALP171 1

Report Date: 20 Feb-08 10:41 AM

Intersect Region: @

Acquire Date: 20 FEB-2008 07:20:47.98

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

0 50 1 100 0 150 6 200 0 250 1 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 10:41:02

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5A21AD_200280720A.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 07:20:47
Sample ID         : KF5A21AD           Sample quantity  : 0.000000E+00 LITER
Sample type       : disk               Sample geometry   :
Detector name     : ALP171 1          Detector geometry:
Elapsed live time : 0 03:19:47.00     Elapsed real time: 0 03:19:47.00   0.0%
Start energy      : 3516.03 keV        End energy        : 6478.08 keV
Sensitivity       : 3.00                Sum Sensitivity   : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4010.02	186	0	52.13	88.22	69	36	1.55E-02	7.3	
2	0	5420.37	168	0	52.13	330.78	311	36	1.40E-02	7.7	
3	0	6007.80	4	0	23.17	431.50	429	7	3.34E-04	50.0	

Error Report (Date: 20-Feb-08 10:41 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: 1-Apr-07)

Sample Identity: KF5FV1AD

Detector: ALP171 2

Report Date: 20-Feb-08 10:52 AM

Acquire Date: 20-FEB-2008 07:20:47.98

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

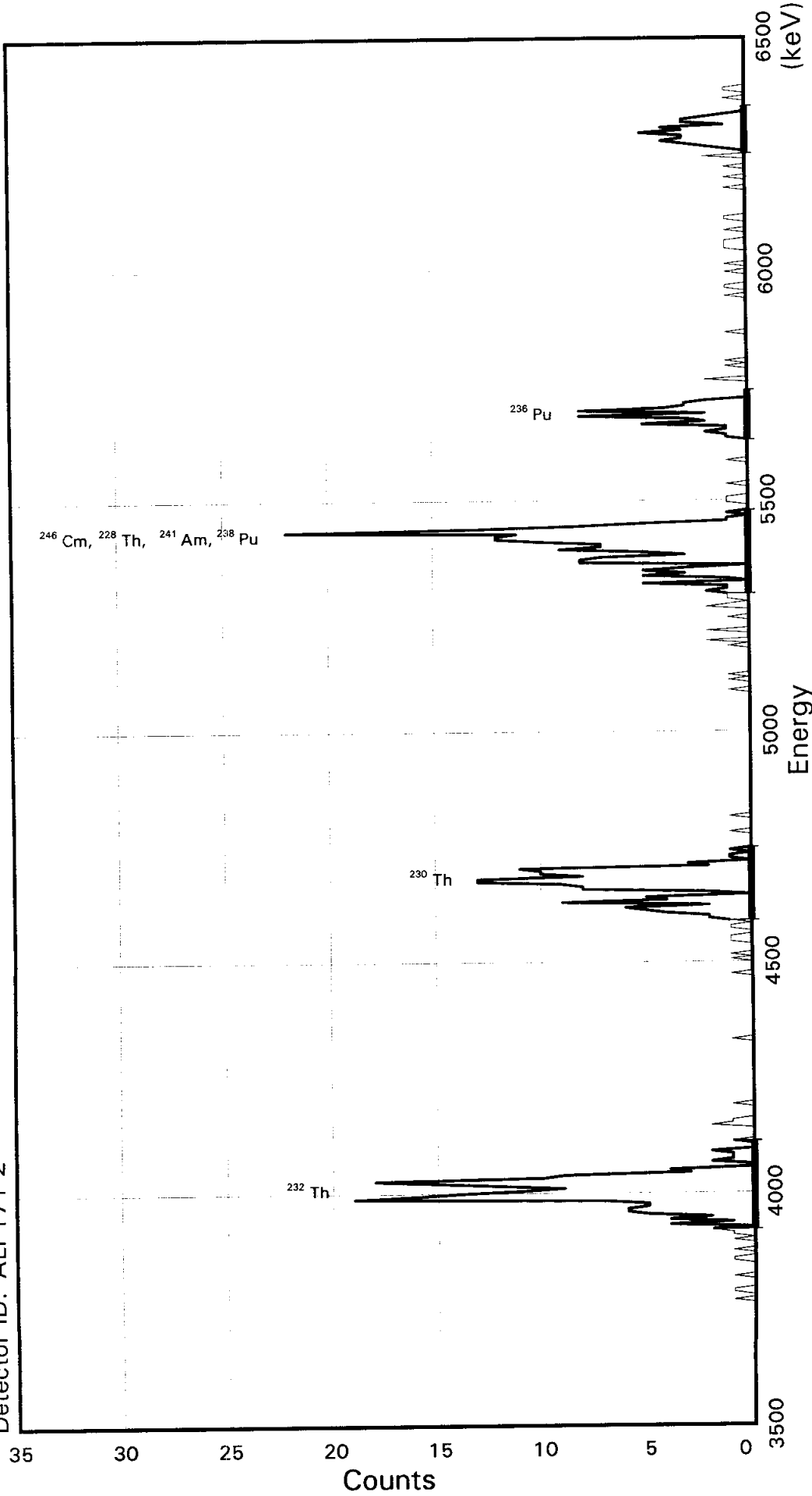
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Rght Chnl
TH-228	177	4	0.882	5423.2	175.5	313	344
TH-230	139	5	0.691	4687.7	146.8	188	214
TH-232	192	2	0.959	4013.0	168.9	70	100

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5FV1AD
Detector ID: ALP171 2



Energy Coefficients:
Offset: 3.53220E + 03
Slope: 5.62160E + 00
Quadrature: 5.87552E-05

Acquisition Start: 20-FEB-2008 07:20:47.98
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

SAMPLE IDENTIITY: KF5FV1AD

TITLE : TH BRCO

DETECTOR : ALP171 2
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5FV1AD_200280720B.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 07:20:47 CALIB DATE : 09-FEB-2008 06:31:06

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3532.20 keV CONSTANT FWHM : 9.66667 Channels
SLOPE : 5.62160 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 5.875520E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: KF5FV1AD

Flags Key

Detector: ALP171 2

Report Date: 20 Feb 08 10:41 AM

Intersect Region: @

Acquire Date: 20 FEB 2008 07:20:47.98

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

0 50 0 100 0 150 8 200 0 250 0 300 1 350 1 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 10:41:08

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5FV1AD_200280720B.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 07:20:47
Sample ID         : KF5FV1AD           Sample quantity  : 0.000000E+00 LITER
Sample type       : disk               Sample geometry   :
Detector name     : ALP171 1          Detector geometry :
Elapsed live time : 0 03:19:47.00     Elapsed real time: 0 03:19:47.00   0.0%
Start energy      : 3549.07 keV        End energy        : 6425.86 keV
Sensitivity       : 3.00               Sum Sensitivity   : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4007.95	194	0	67.46	84.55	69	34	1.62E-02	7.2	
2	0	4683.88	138	0	44.97	204.43	188	28	1.15E-02	8.5	
3	0	5426.04	179	0	44.97	335.71	313	32	1.49E-02	7.5	
4	0	5688.54	45	0	50.59	382.06	372	19	3.75E-03	14.9	
5	0	6292.91	39	0	56.22	488.59	481	18	3.25E-03	16.0	

Error Report (Date: 20-Feb-08 10:41 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: 1-Apr-07)

Sample Identity: KF5FX1AD

Detector: ALP171 3

Report Date: 20-Feb-08 10:53 AM

Acquire Date: 20-FEB-2008 07:20:47.98

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

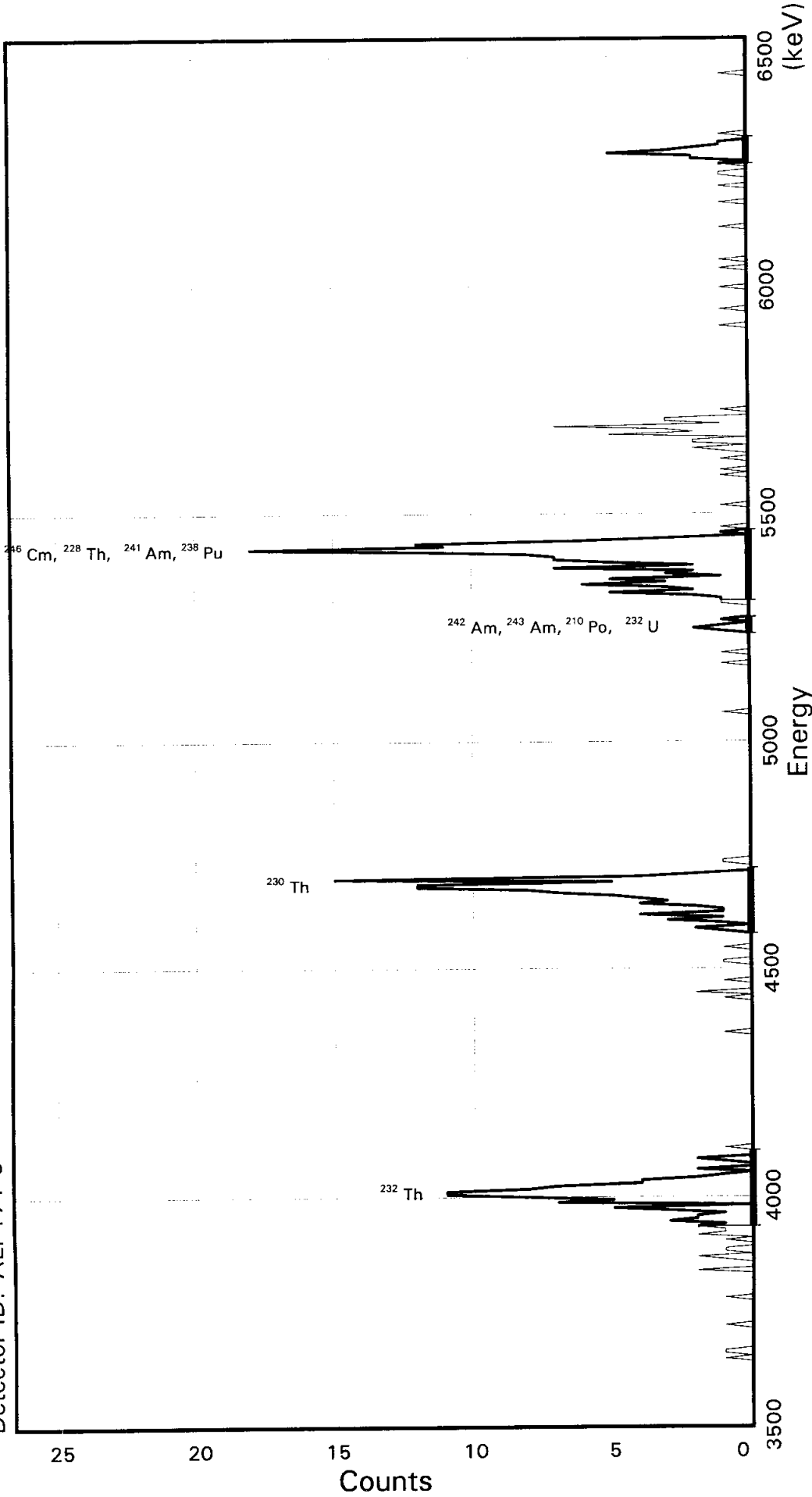
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	133	1	0.665	5423.2	155.5	304	330
TH-230	94	0	0.471	4687.7	119.6	187	207
TH-232	91	0	0.455	4013.0	143.5	74	98

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5FX1AD
Detector ID: ALP171 3



Energy Coefficients:
Offset: 3.47964E + 03
Slope: 5.97692E + 00
Quadrature: 5.57270E-06

Acquisition Start: 20-FEB-2008 07:20:47.98
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

SAMPLE IDENTIITY: KF5FX1AD

TITLE : TH BRCO

DETECTOR : ALP171 3
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5FX1AD_200280720C.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 07:20:47 CALIB DATE : 09-FEB-2008 06:26:32

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3479.64 keV CONSTANT FWHM : 7.33333 Channels
SLOPE : 5.97692 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 5.572700E-06 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: KP5FX1AD
Detector: ALP171 3
Report Date: 20 Feb-08 10:41 AM
Acquire Date: 20 FEB-2008 07:20:47.98

Flags Key

Intersect Region: *

Non-Intersect Region: +, -

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

1 50 1 100 0 150 8 200 0 250 0 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 10:41:15

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5FX1AD_200280720C.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 07:20:47
Sample ID        : KF5FX1AD           Sample quantity  : 0.000000E+00 LITER
Sample type      : disk               Sample geometry   :
Detector name    : ALP171 1          Detector geometry:
Elapsed live time: 0 03:19:47.00     Elapsed real time: 0 03:19:47.00   0.0%
Start energy     : 3497.57 keV       End energy        : 6541.28 keV
Sensitivity      : 3.00              Sum Sensitivity   : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4008.93	92	0	35.86	88.55	76	28	7.67E-03	10.4	
2	0	4686.63	100	0	41.84	201.90	184	24	8.34E-03	10.0	
3	0	5252.28	4	0	23.91	296.50	294	6	3.34E-04	50.0	
4	0	5421.23	133	0	35.86	324.75	306	26	1.11E-02	8.7	
5	0	6288.03	17	0	23.91	469.67	466	10	1.42E-03	24.3	

Error Report (Date: 20-Feb-08 10:41 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: 1-Apr-07)

Sample Identity: KF5F01AD

Detector: ALP171 4

Report Date: 20-Feb-08 10:53 AM

Acquire Date: 20-FEB-2008 07:20:47.98

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

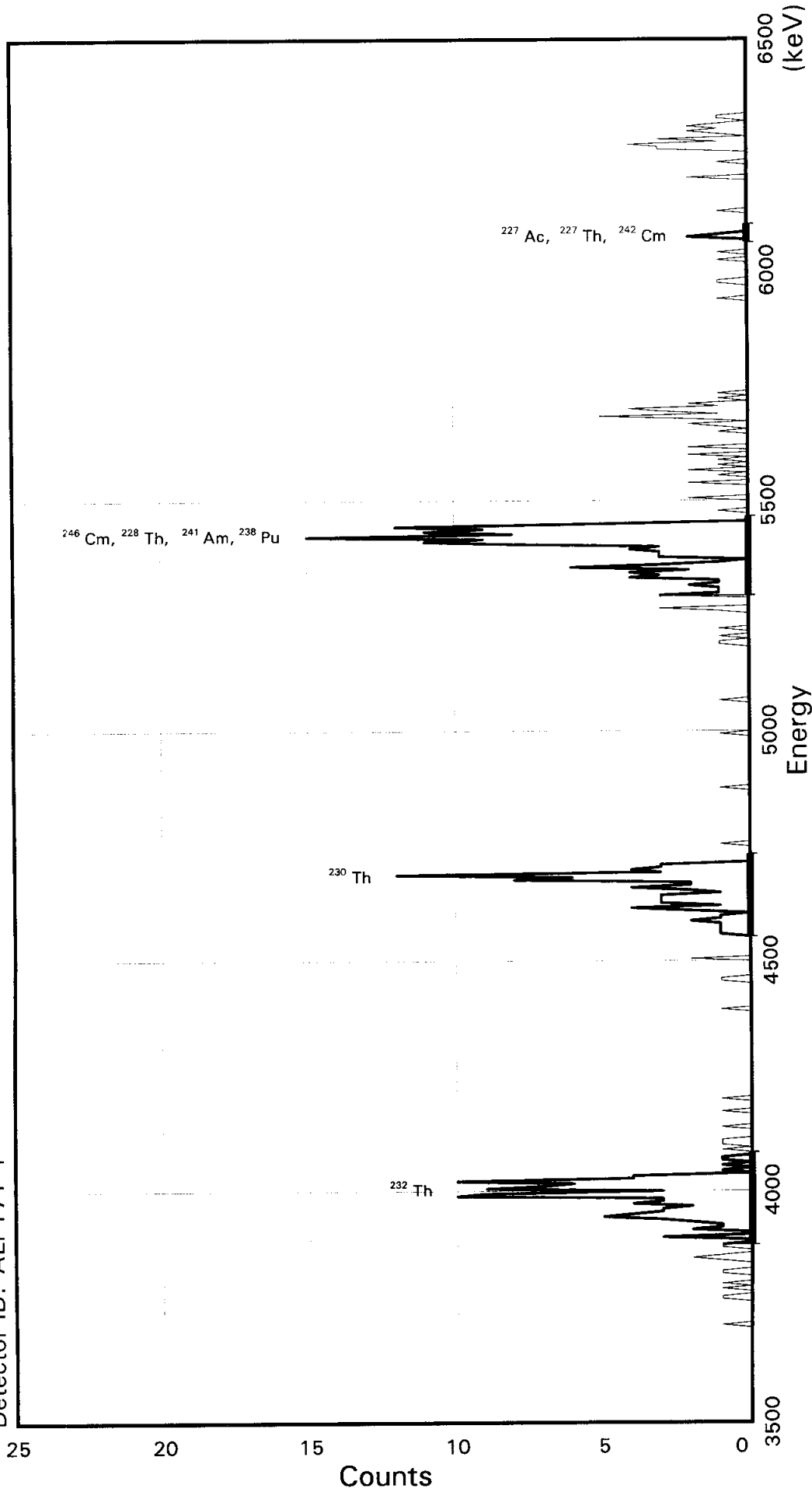
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	129	0	0.646	5423.2	150.2	308	335
TH-230	69	0	0.345	4687.7	111.1	179	199
TH-232	96	0	0.481	4013.0	116.6	56	77

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5F01AD
Detector ID: ALP171 4



Energy Coefficients:
Offset: 3.61090E + 03
Slope: 5.54825E + 00
Quadrature: 2.13419E-05

Acquisition Start: 20-FEB-2008 07:20:47.98
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

SAMPLE IDENTIITY: KF5F01AD

TITLE : TH BRCO

DETECTOR : ALP171 4
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5F01AD_200280720D.CN
F;1

ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 07:20:47 CALIB DATE : 09-FEB-2008 06:26:58

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3610.90 keV CONSTANT FWHM : 8.33333 Channels
SLOPE : 5.54825 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 2.134190E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr 07)

Sample Identity: KF5FCIAD

Flags Key

Detector: ALP171 4

Report Date: 20 Feb 08 10:41 AM

Intersect Region: @

Acquire Date: 20 FEB 2008 07:20:47.98

Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn						
		1	0		51	1		101	0		151	0		201	0		251	0		301	0		351	0		401	0		451	0		501
		2	3		52	0		102	1		152	0		202	0		252	0		302	2		352	0		402	0		452	0		502
0		3	0		53	0		103	1		153	0		203	0		253	3		303	0		353	0		403	1		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	1		304	1		354	0		404	0		454	0		504
0		5	2		55	0		105	0		155	0		205	0		255	1		305	0		355	0		405	0		455	0		505
0		6	1		56	1		106	0		156	1		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	2		307	0		357	0		407	0		457	0		507
0		8	2		58	0		108	0		158	0		208	0		258	1		308	2		358	0		408	0		458	0		508
0		9	3		59	0		109	0		159	0		209	0		259	1		309	0		359	0		409	0		459	0		509
0		10	5		60	0		110	0		160	0		210	0		260	4		310	0		360	0		410	0		460	0		510
0		11	4		61	0		111	2		161	0		211	0		261	3		311	2		361	0		411	0		461	0		511
0		12	3		62	0		112	0		162	0		212	1		262	4		312	0		362	0		412	0		462	0		512
0		13	3		63	0		113	0		163	0		213	0		263	2		313	0		363	0		413	0		463			
0		14	2		64	0		114	0		164	0		214	0		264	6		314	0		364	0		414	0		464			
0		15	4		65	0		115	0		165	0		215	0		265	3		315	0		365	0		415	0		465			
0		16	3		66	0		116	0		166	0		216	0		266	1		316	0		366	0		416	2		466			
0		17	3		67	0		117	0		167	0		217	0		267	0		317	1		367	0		417	0		467			
1		18	10		68	0		118	0		168	0		218	0		268	3		318	0		368	0		418	0		468			
0		19	9		69	0		119	0		169	0		219	0		269	3		319	1		369	1		419	0		469			
0		20	3		70	0		120	0		170	0		220	0		270	3		320	2		370	0		420	0		470			
0		21	9		71	0		121	1		171	0		221	0		271	4		321	0		371	0		421	0		471			
0		22	7		72	0		122	1		172	0		222	0		272	3		322	2		372	0		422	1		472			
0		23	6		73	0		123	1		173	0		223	0		273	8		323	5		373	0		423	0		473			
0		24	10		74	0		124	1		174	0		224	0		274	11		324	1		374	0		424	0		474			
0		25	4		75	0		125	1		175	0		225	0		275	9		325	3		375	1		425	0		475			
0		26	4		76	0		126	2		176	0		226	0		276	15		326	4		376	1		426	0		476			
0		27	0		77	0		127	1		177	0		227	0		277	8		327	1		377	0		427	3		477			
1		28	1		78	0		128	1		178	1		228	0		278	11		328	2		378	0		428	3		478			
1		29	0		79	0		129	0		179	0		229	0		279	9		329	0		379	0		429	4		479			
0		30	1		80	0		130	2		180	0		230	0		280	12		330	1		380	0		430	1		480			
0		31	0		81	0		131	4		181	0		231	0		281	5		331	0		381	0		431	3		481			
1		32	1		82	0		132	1		182	0		232	0		282	0		332	1		382	0		432	0		482			
0		33	1		83	0		133	3		183	0		233	0		283	0		333	0		383	0		433	1		483			
1		34	0		84	0		134	3		184	0		234	1		284	0		334	0		384	1		434	2		484			
0		35	0		85	0		135	3		185	0		235	1		285	0		335	0		385	0		435	1		485			
0		36	1		86	0		136	3		186	0		236	0		286	1		336	0		386	0		436	2		486			
0		37	0		87	0		137	1		187	0		237	1		287	0		337	0		387	1		437	1		487			
1		38	1		88	0		138	2		188	0		238	0		288	0		338	0		388	0		438	0		488			
1		39	1		89	0		139	4		189	0		239	0		289	0		339	0		389	0		439	1		489			
0		40	1		90	0		140	2		190	0		240	1		290	0		340	0		390	0		440	1		490			
0		41	0		91	1		141	2		191	0		241	0		291	2		341	0		391	0		441	0		491			
0		42	0		92	0		142	8		192	0		242	0		292	0		342	0		392	0		442	0		492			
1		43	0		93	0		143	6		193	0		243	0		293	0		343	0		393	2		443	0		493			
2		44	0		94	0		144	12		194	0		244	0		294	0		344	0		394	1		444	0		494			
1		45	1		95	0		145	3		195	0		245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	4		196	0		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	3		197	0		247	1		297	2		347	0		397	0		447	0		497			
1		48	0		98	0		148	3		198	0		248	3		298	0		348	0		398	0		448	0		498			
1		49	0		99	0		149	0		199	1		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 20-FEB-2008 10:41:19

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5F01AD_200280720D.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 07:20:47
Sample ID        : KF5F01AD           Sample quantity  : 0.000000E+00 LITER
Sample type      : disk              Sample geometry   :
Detector name    : ALP171 1         Detector geometry:
Elapsed live time: 0 03:19:47.00    Elapsed real time: 0 03:19:47.00    0.0%
Start energy     : 3627.54 keV      End energy        : 6457.20 keV
Sensitivity      : 3.00             Sum Sensitivity   : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4003.20	105	0	55.48	70.69	49	36	8.76E-03	9.8	
2	0	4685.66	78	0	33.29	193.57	170	32	6.51E-03	11.3	
3	0	5425.14	136	0	44.39	326.58	303	31	1.13E-02	8.6	
4	0	6075.75	4	0	22.19	443.50	441	7	3.34E-04	50.0	

Error Report (Date: 20-Feb-08 10:41 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: 1-Apr-07)

Sample Identity: KF5F11AD

Detector: ALP171 5

Report Date: 20-Feb-08 10:53 AM

Acquire Date: 20-FEB-2008 07:20:47.98

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

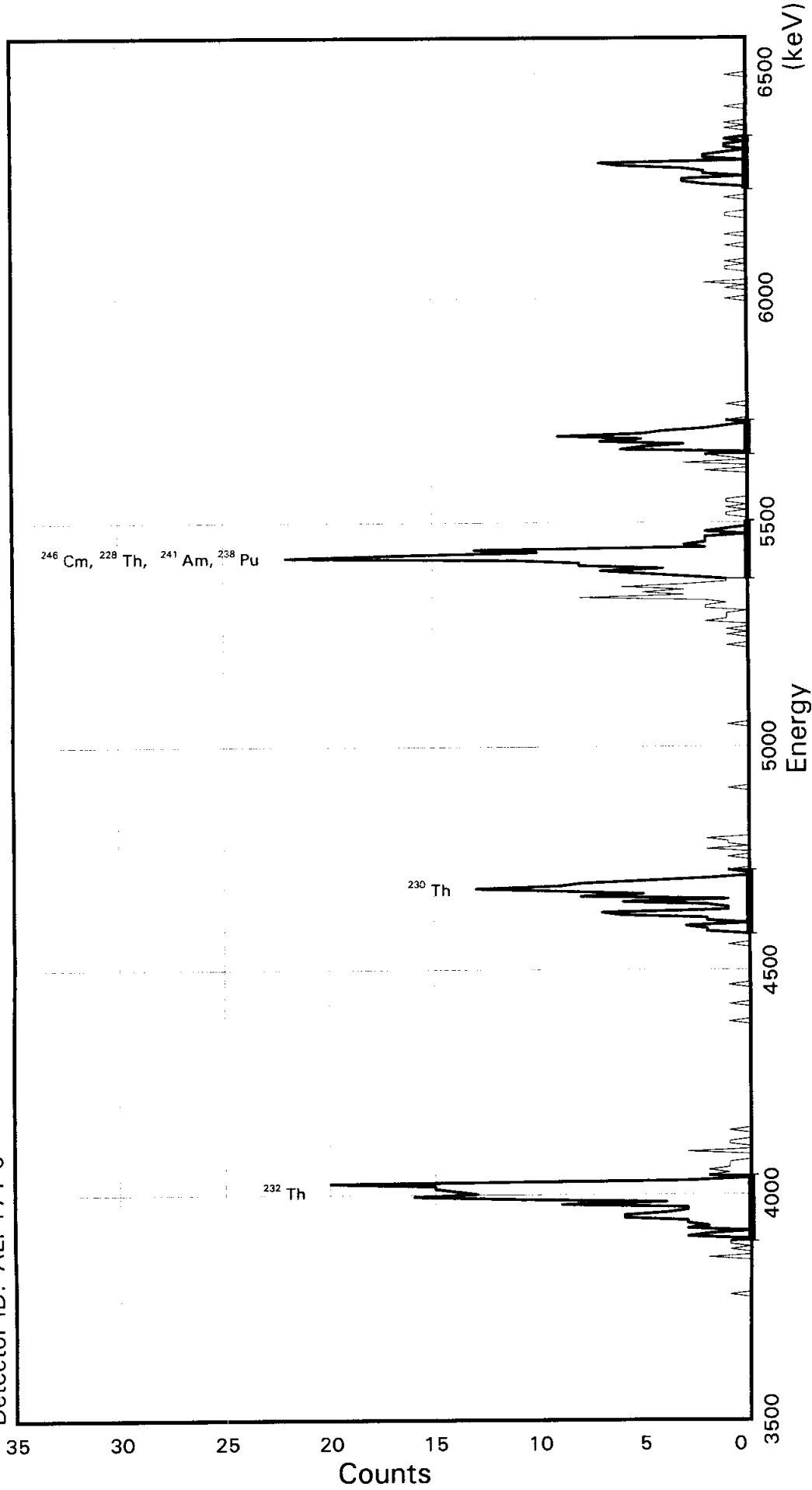
Nuclide	Smpl	Bkg	Count	Centrd	Region		
Name	Count	Count	Rate	Energy	Width	Left	Rght
			C/Min	keV	keV	Chnl	Chnl
TH-228	156	0	0.781	5423.2	171.1	296	325
TH-230	95	0	0.476	4687.7	164.9	169	197
TH-232	166	0	0.831	4013.0	176.5	58	88

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5F11AD
Detector ID: ALP171 5



Energy Coefficients:
Offset: 3.56014E + 03
Slope: 5.87973E + 00
Quadrature: 3.04036E-05

Acquisition Start: 20-FEB-2008 07:20:47.98
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

SAMPLE IDENTIITY: KF5F11AD

TITLE : TH BRCO

DETECTOR : ALP171 5
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5F11AD_200280720E.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 07:20:47 CALIB DATE : 08-FEB-2008 22:00:18

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3560.14 keV CONSTANT FWHM : 7.33333 Channels
SLOPE : 5.87973 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 3.040360E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1 Apr 07)

Sample Identity: KF5F11AD

Flags Key

Detector: ALP171 5

Report Date: 20 Feb 08 10:41 AM

Intersect Region: @

Acquire Date: 20 FEB 2008 07:20:47.96

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

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

VMS Peak Search Report V1.9 Generated 20-FEB-2008 10:41:23

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5F11AD_200280720E.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 07:20:47
Sample ID         : KF5F11AD           Sample quantity  : 0.00000E+00 LITER
Sample type       : disk               Sample geometry   :
Detector name     : ALP171 1          Detector geometry :
Elapsed live time : 0 03:19:47.00     Elapsed real time: 0 03:19:47.00   0.0%
Start energy      : 3577.78 keV        End energy        : 6578.53 keV
Sensitivity       : 3.00                Sum Sensitivity   : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4006.04	161	0	47.04	75.81	57	25	1.34E-02	7.9	
2	0	4682.74	96	0	35.28	190.74	174	24	8.01E-03	10.2	
3	0	5422.08	121	0	29.40	316.15	308	22	1.01E-02	9.1	
4	0	5686.68	50	0	41.16	361.00	355	13	4.17E-03	14.1	
5	0	6296.62	36	0	23.52	464.29	455	20	3.00E-03	16.7	

Error Report (Date: 20-Feb-08 10:41 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: 1-Apr-07)

Sample Identity: KF5F31AD

Detector: ALP171 6

Report Date: 20-Feb-08 10:54 AM

Acquire Date: 20-FEB-2008 07:20:47.98

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

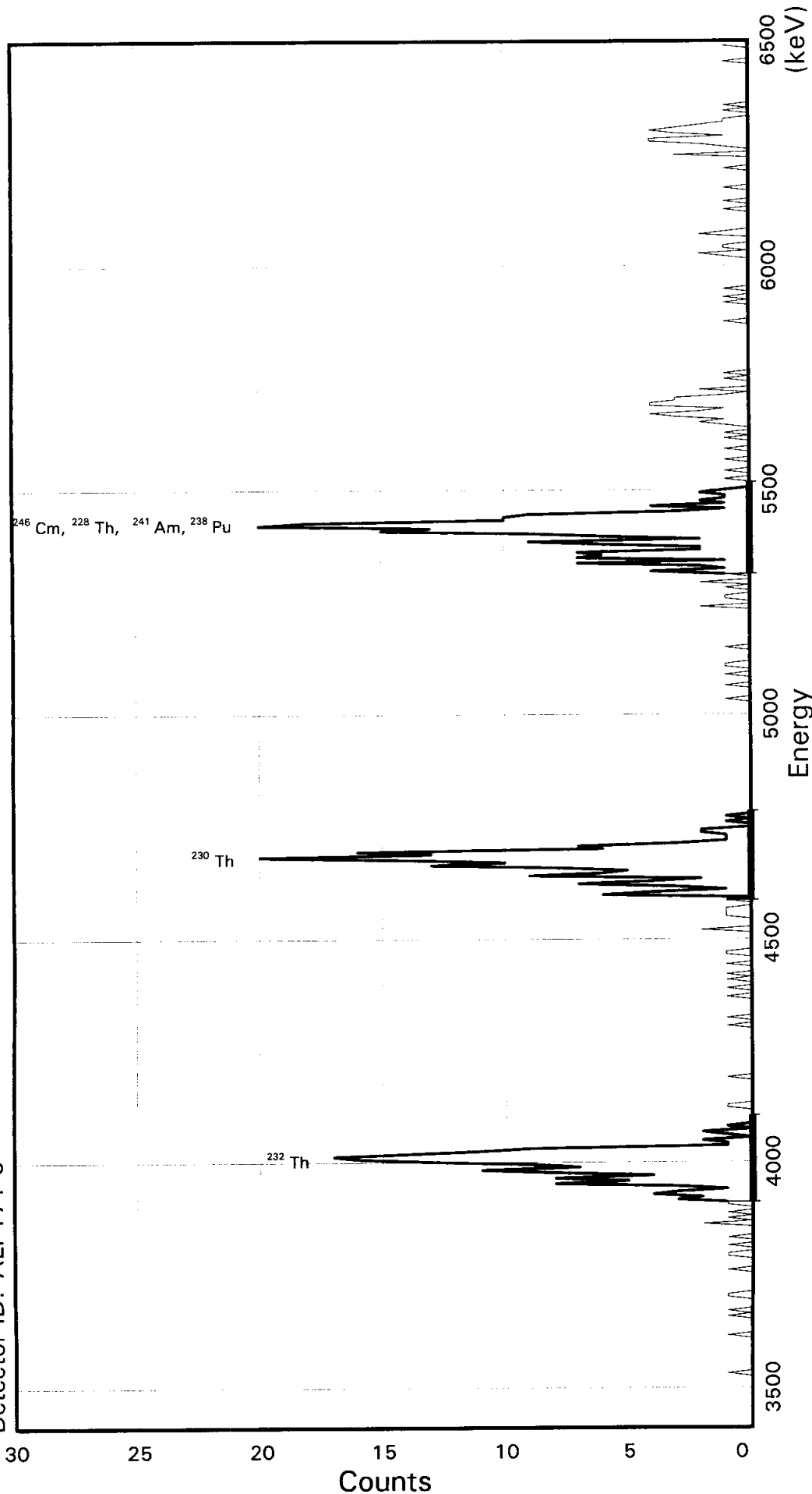
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Rght Chnl
TH-228	179	1	0.895	5423.2	181.7	316	346
TH-230	162	2	0.809	4687.7	163.1	193	220
TH-232	165	1	0.825	4013.0	180.8	83	113

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5F31AD
Detector ID: ALP171 6



Acquisition Start: 20-FEB-2008 07:20:47.98
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

Energy Coefficients:
Offset: 3.39346E+03
Slope: 6.01107E+00
Quadrature: 7.10616E-05

SAMPLE IDENTIITY: KF5F31AD

TITLE : TH BRCO

DETECTOR : ALP171 6
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5F31AD_200280720F.CN
F;1

ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 07:20:47 CALIB DATE : 09-FEB-2008 06:25:37

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3393.46 keV CONSTANT FWHM : 8.00000 Channels
SLOPE : 6.01107 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 7.106160E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: KF5F31AD

Flags Key

Detector: ALP171 6

Report Date: 20-Feb-08 10:44 AM

Intersect Region: §

Acquire Date: 20-FEB-2008 07:20:47.96

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

0 50 9 100 0 150 6 200 0 250 0 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 10:44:16

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5F31AD_200280720F.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 07:20:47
Sample ID         : KF5F31AD           Sample quantity  : 0.00000E+00 LITER
Sample type       : disk               Sample geometry   :
Detector name     : ALP171 1          Detector geometry:
Elapsed live time : 0 03:19:47.00     Elapsed real time: 0 03:19:47.00   0.0%
Start energy      : 3411.49 keV        End energy        : 6489.75 keV
Sensitivity       : 3.00                Sum Sensitivity   : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4004.28	165	0	54.10	101.50	86	32	1.38E-02	7.8	
2	0	4678.94	168	0	54.10	213.31	198	33	1.40E-02	7.7	
3	0	5423.36	182	0	36.07	336.36	318	34	1.52E-02	7.4	

Error Report (Date: 20-Feb-08 10:44 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: 1-Apr-07)

Sample Identity: KF5F41AD

Detector: ALP171 7

Report Date: 20-Feb-08 10:54 AM

Acquire Date: 20-FEB-2008 07:20:47.98

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

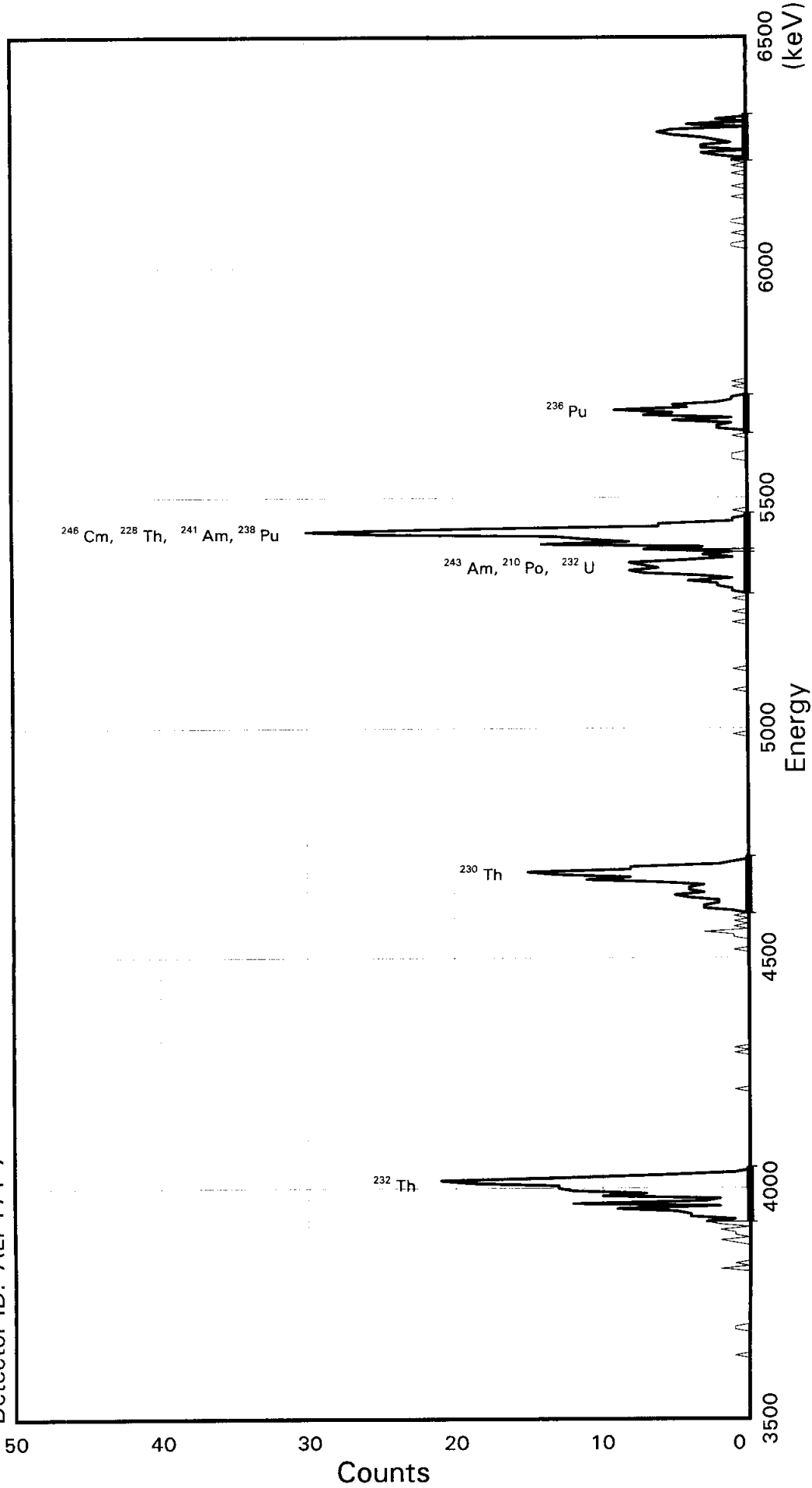
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	204	1	1.020	5423.2	152.2	303	330
TH-230	106	1	0.530	4687.7	112.9	180	200
TH-232	166	0	0.831	4013.0	146.9	54	80

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5F41AD
Detector ID: ALP171 7



Acquisition Start: 20-FEB-2008 07:20:47.98
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

Energy Coefficients:
Offset: 3.58678E + 03
Slope: 5.65524E + 00
Quadrature: -3.13946E-05

SAMPLE IDENTIITY: KF5F41AD

TITLE : TH BRCO

DETECTOR : ALP171 7
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5F41AD_200280720G.CN
F;1

ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 07:20:47 CALIB DATE : 09-FEB-2008 06:32:02

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3586.78 keV CONSTANT FWHM : 6.66667 Channels
SLOPE : 5.65524 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.313946E-04 keV/C² SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: KF5F41AD

Flags Key

Detector: ALP171 7

Report Date: 20-Feb-08 10:41 AM

Intersect Region: 0

Acquire Date: 20 FEB-2008 07:20:47.98

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

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

VMS Peak Search Report V1.9 Generated 20-FEB-2008 10:41:28

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5F41AD_200280720G.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 07:20:47
Sample ID        : KF5F41AD Sample quantity : 0.000000E+00 LITER
Sample type      : disk Sample geometry :
Detector name    : ALP171 1 Detector geometry:
Elapsed live time: 0 03:19:47.00 Elapsed real time: 0 03:19:47.00 0.0%
Start energy     : 3603.75 keV End energy : 6474.04 keV
Sensitivity      : 3.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4007.12	162	0	39.59	74.36	60	21	1.35E-02	7.9	
2	0	4683.56	107	0	39.59	194.15	179	22	8.93E-03	9.7	
3	0	5348.83	59	0	39.59	312.12	302	17	4.92E-03	13.0	
4	0	5422.76	145	0	28.28	325.24	318	15	1.21E-02	8.3	
5	0	5689.09	46	0	33.93	372.52	364	15	3.84E-03	14.7	
6	0	6293.79	38	0	28.28	479.95	469	18	3.17E-03	16.2	

Error Report (Date: 20-Feb-08 10:41 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: 1-Apr-07)

Sample Identity: KF5F71AD

Detector: ALP171 8

Report Date: 20-Feb-08 10:55 AM

Acquire Date: 20-FEB-2008 07:20:47.98

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

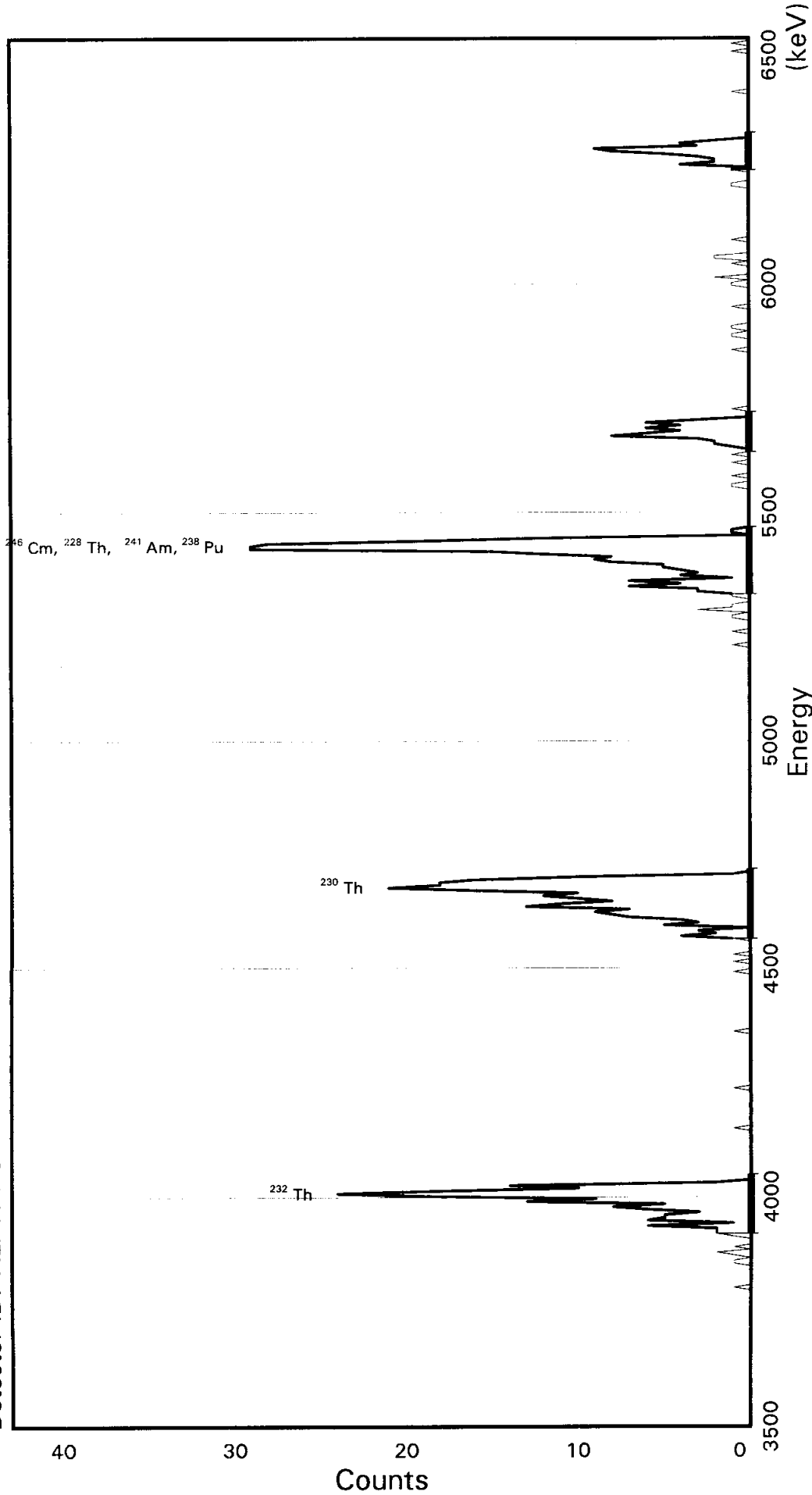
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	217	0	1.086	5423.2	147.0	302	327
TH-230	217	0	1.086	4687.7	158.8	175	202
TH-232	161	1	0.805	4013.0	129.5	66	88

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5F71AD
Detector ID: ALP171 8



Acquisition Start: 20-FEB-2008 07:20:47.98
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

Energy Coefficients:
Offset: 3.52587E + 03
Slope: 5.88729E + 00
Quadrature: -1.05536E - 05

SAMPLE IDENTIITY: KF5F71AD

TITLE : TH BRCO

DETECTOR : ALP171 8
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5F71AD_200280720H.CN
F;1

ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 07:20:47 CALIB DATE : 08-FEB-2008 22:00:28

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3525.87 keV CONSTANT FWHM : 6.66667 Channels
SLOPE : 5.88729 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.105536E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
 for Spectra Not Processed by Alp_rgn_cnts
 (Version: 1-Apr-07)

Sample Identity: KF5F71AD
 Detector: ALP171 8
 Report Date: 20 Feb 08 10:41 AM
 Acquire Date: 20-FEB-2008 07:20:47.98

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

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

0 50 0 100 0 150 10 200 0 250 1 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 10:41:33

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5F71AD_200280720H.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 07:20:47
Sample ID        : KF5F71AD           Sample quantity  : 0.000000E+00 LITER
Sample type      : disk              Sample geometry   :
Detector name    : ALP171 1         Detector geometry:
Elapsed live time: 0 03:19:47.00    Elapsed real time: 0 03:19:47.00    0.0%
Start energy     : 3543.53 keV      End energy       : 6537.39 keV
Sensitivity      : 3.00             Sum Sensitivity  : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4008.55	161	0	29.44	82.00	67	22	1.34E-02	7.9	
2	0	4680.87	217	0	41.21	196.25	177	26	1.81E-02	6.8	
3	0	5426.56	218	0	29.44	323.03	305	25	1.82E-02	6.8	
4	0	5676.79	46	0	47.10	365.59	358	15	3.84E-03	14.7	
5	0	6293.50	44	0	23.55	470.50	463	14	3.67E-03	15.1	

Error Report (Date: 20-Feb-08 10:41 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

THORIUM ISOTOPIIC COUNTING REQUEST

1127

C.R. Technician CS
Date Counted 8/28/02

Counting Time 200 Minutes
Sample 200

SOP's RICHRD008
Operating: RICHRD008

C.R. Analyst CS
Date Analyzed 8/28/02

Background See Alpha Analysis Report
Review: BLW 1/2/02 8030202

WorkOrder #	Th-229 (4845 KeV) Tracer			TOTAL COUNTS			Det #	Comment	
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV)	Th-230 (4688 KeV)			Th-232 (4010 KeV)
KFSF81AD		10		0	(6)	(8)	(9)	113	See Alpha Analysis Report for ROI Information
KFSF91AD		10		0				110	See Alpha Analysis Report for ROI Information
KFS661AD		10		0				117	See Alpha Analysis Report for ROI Information
KFS671AD		10		0				118	See Alpha Analysis Report for ROI Information
KFS681AD		10		0				119	See Alpha Analysis Report for ROI Information
KFS691AD		10		0				120	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:

Approved by: CS Date: 8/28/02

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: KF5F81AD

Detector: ALP113 1
Report Date: 20-Feb-08 11:34 AM
Acquire Date: 20-FEB-2008 08:06:59.92
Tracer Nuclide: TH-229
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

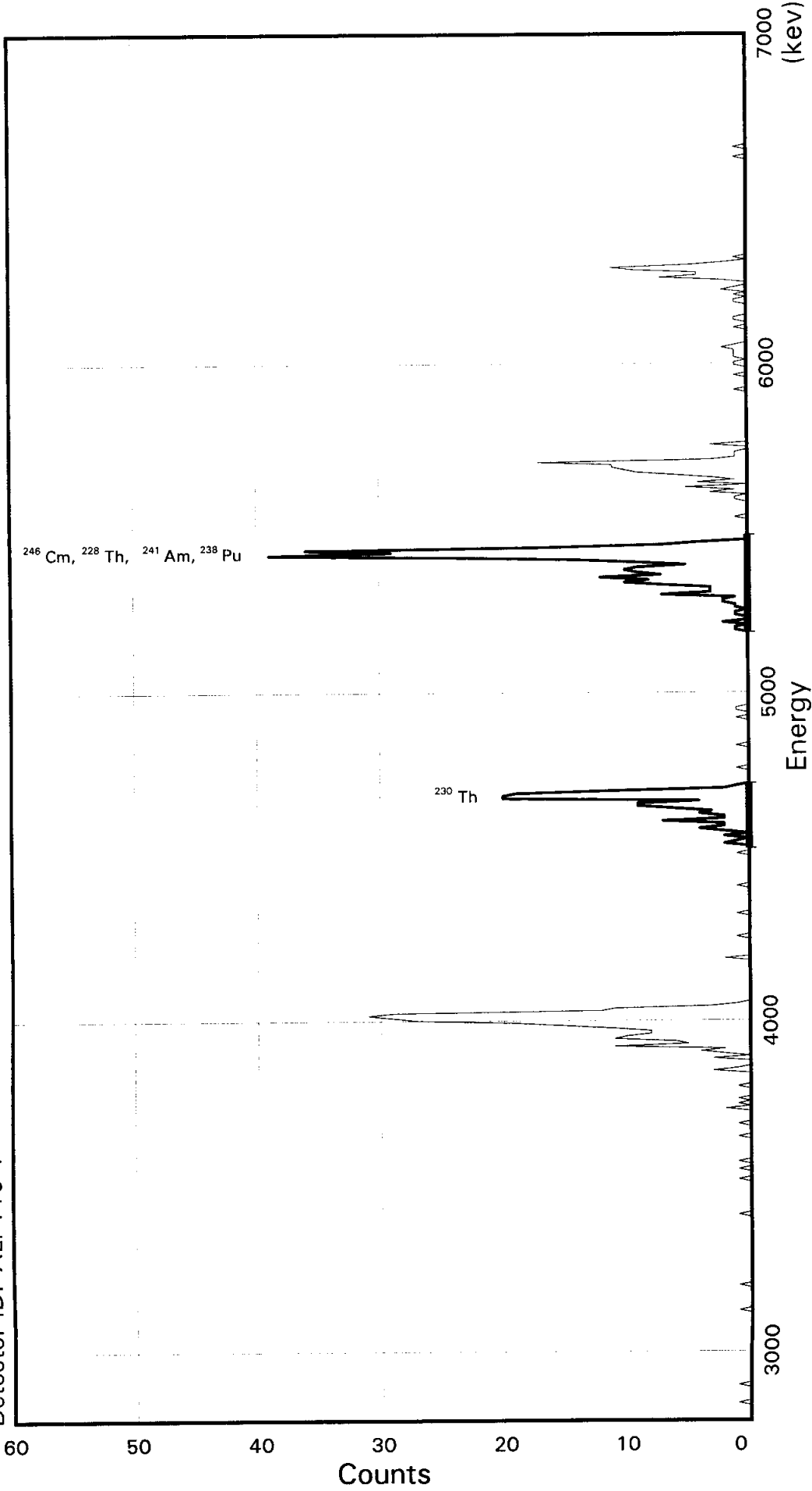
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	272	1	1.359	5423.2	174.9	330	353
TH-230	129	0	0.645	4687.7	152.5	236	256
TH-232	255	0	1.275	4013.0	160.4	147	168

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5F81AD
Detector ID: ALP113 1



Energy Coefficients:
Offset: 2.76885E + 03
Slope: 7.66851E + 00
Quadrature: -9.16186E-05

Acquisition Start: 20-FEB-2008 08:06:59.92
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

SAMPLE IDENTIITY: KF5F81AD

TITLE : TH BRCO

DETECTOR : ALP113 1
CONFIGURATION NAME : RDND06\$DKA100:[ALP113.SAMPLE]KF5F81AD_200280
806.CNF;1
ACQUIRE DATE of BACKGROUND: 11-FEB-2008 06:14:12

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 08:06:59 CALIB DATE : 11-FEB-2008 02:49:33

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

OFFSET : 2768.85 keV CONSTANT FWHM : 5.50000 Channels
SLOPE : 7.66851 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.916186E-04 keV/C^2 SUM SENSITIVITY: 0.10000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: KF5F81AD

Flags Key

Detector: ALP113 1

Report Date: 20-Feb 08 11:27 AM

Intersect Region: 0

Acquire Date: 20-FEB 2008 08:06:59.92

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

0 50 0 100 2 150 0 200 20 250 0 300 16 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 11:27:04

Configuration : RDND06\$DKA100:[ALP113.SAMPLE]KF5F81AD_200280806.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : TH BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 08:06:59
 Sample ID : KF5F81AD Sample quantity : 0.000000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP113 Detector geometry:
 Elapsed live time: 0 03:20:03.00 Elapsed real time: 0 03:20:03.00 0.0%
 Start energy : 2791.85 kev End energy : 6671.11 kev
 Sensitivity : 6.00 Sum Sensitivity : 0.10

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4688.15	135	0	23.01	251.04	230	26	1.12E-02	8.6	
2	0	5425.45	286	0	38.34	347.88	316	39	2.38E-02	5.9	

Error Report (Date: 20-Feb-08 11:27 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: 1-Apr-07)

Sample Identity: KF5F91AD

Detector: ALP116 1

Report Date: 20-Feb-08 11:35 AM

Acquire Date: 20-FEB-2008 08:07:08.19

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgnd Live Time: 1000 minutes

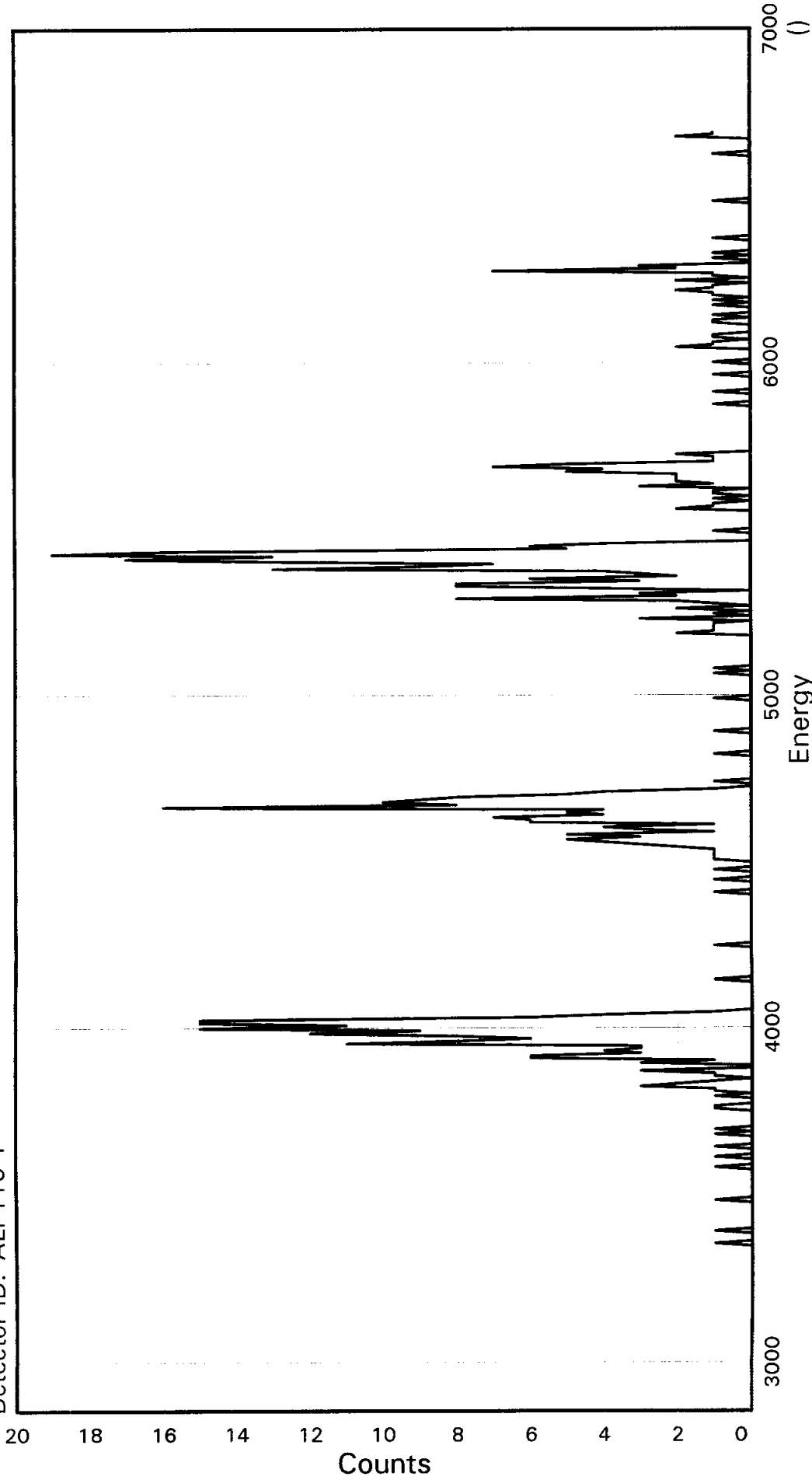
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	160	2	0.797	5423.2	150.0	327	347
TH-230	126	0	0.629	4687.7	196.3	223	249
TH-232	147	0	0.734	4013.0	151.9	140	160

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5F91AD
Detector ID: ALP116 1



Energy Coefficients:
Offset: 2.83183E +03
Slope: 7.67107E +00
Quadrature: -2.55555E-04

Acquisition Start: 20-FEB-2008 08:07:08.19
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:10.00

SAMPLE IDENTIITY: KF5F91AD

TITLE : TH BRCO

DETECTOR : ALP116 1
CONFIGURATION NAME : RDND06\$DKA100: [ALP116.SAMPLE] KF5F91AD_200280
807.CNF;1
ACQUIRE DATE of BACKGROUND: 11-FEB-2008 06:14:14

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 08:07:08 CALIB DATE : 11-FEB-2008 02:49:29

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

OFFSET : 2831.83 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.67107 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.255555E-03 keV/C^2 SUM SENSITIVITY: 0.10000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: KF5F91AD

Flags Key

Detector: ALP116 1

Report Date: 20-Feb 08 11:27 AM

Intersect Region: @

Acquire Date: 20-FEB-2008 08:07:08.19

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

0 50 0 100 8 150 0 200 0 250 0 300 0 350 0 400 1 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 11:27:27

Configuration : RDND06\$DKA100: [ALP116.SAMPLE]KF5F91AD_200280807.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRCO
Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 08:07:08
Sample ID : KF5F91AD Sample quantity : 0.00000E+00 LITER
Sample type : disk Sample geometry :
Detector name : ALP116 Detector geometry:
Elapsed live time: 0 03:20:10.00 Elapsed real time: 0 03:20:10.00 0.0%
Start energy : 2854.84 End energy : 6692.43
Sensitivity : 6.00 Sum Sensitivity : 0.10
No peaks were found

Error Report (Date: 20-Feb-08 11:27 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: 1-Apr-07)

Sample Identity: KF5GC1AD

Detector: ALP117 1

Report Date: 20-Feb-08 11:35 AM

Acquire Date: 20-FEB-2008 08:07:12.82

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 1000 minutes

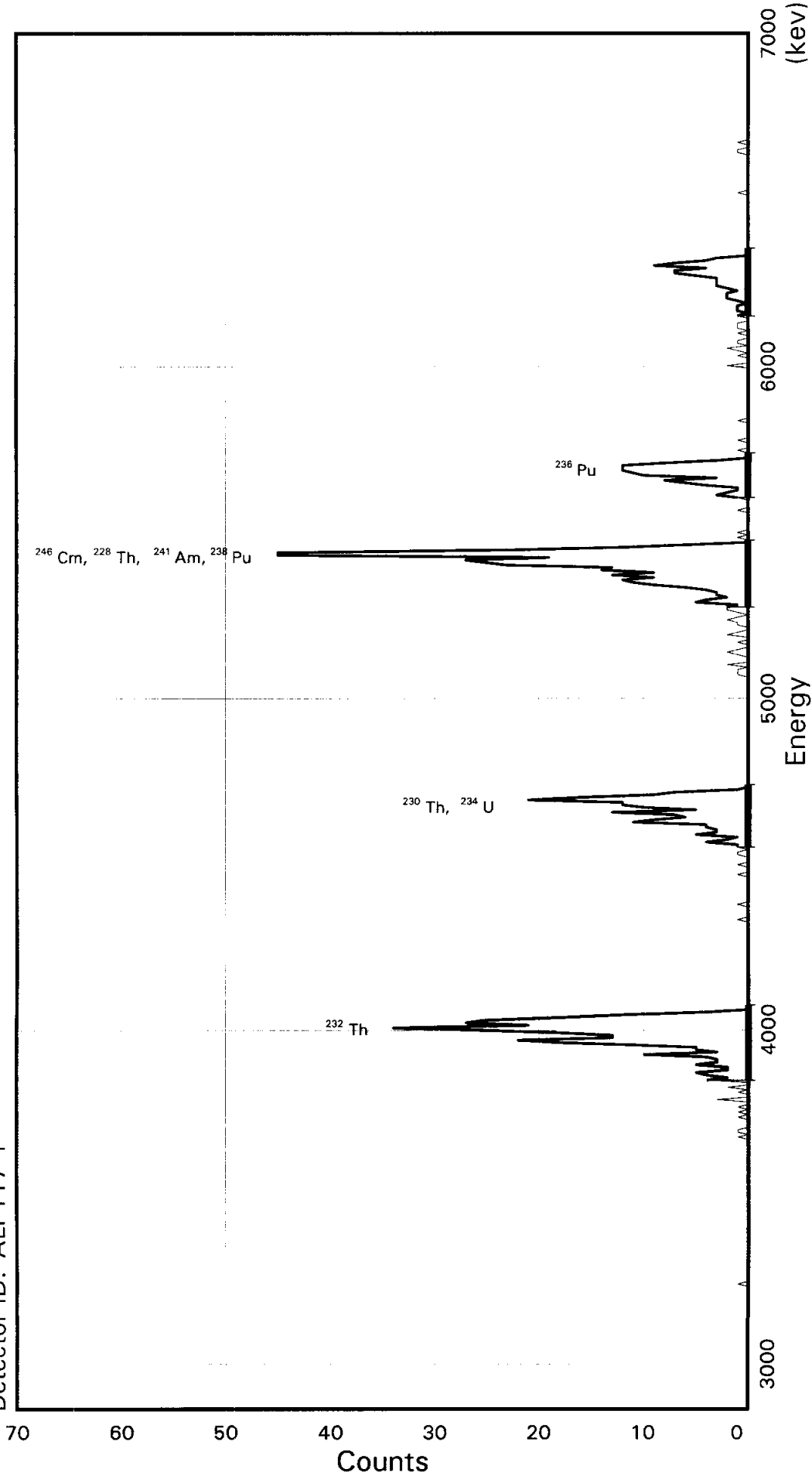
Nuclide	Smpl	Bkg	Count	Centrd	Region		
Name	Count	Count	Rate	Energy	Width	Left	Right
			C/Min	keV	keV	Chnl	Chnl
TH-228	343	1	1.713	5423.2	187.7	326	351
TH-230	167	1	0.834	4687.7	172.3	229	252
TH-232	303	0	1.514	4013.0	187.0	139	164

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5GC1AD
Detector ID: ALP117 1



Acquisition Start: 20-FEB-2008 08:07:12.82
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:
Offset: 2.84243E + 03
Slope: 7.45584E + 00
Quadrature: 7.76019E-05

SAMPLE IDENTIITY: KF5GC1AD

TITLE : TH BRCO

DETECTOR : ALP117 1
CONFIGURATION NAME : RDND06\$DKA100:[ALP117.SAMPLE]KF5GC1AD_200280
807.CNF;1
ACQUIRE DATE of BACKGROUND: 11-FEB-2008 06:14:18

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 08:07:12 CALIB DATE : 11-FEB-2008 02:49:42

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

OFFSET : 2842.43 keV CONSTANT FWHM : 8.00000 Channels
SLOPE : 7.45584 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 7.760190E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr 07)

Sample Identity: KFSGCIAD

Flags Key

Detector: ALP117 1

Report Date: 20 Feb-08 11:27 AM

Intersect Region: ⊗

Acquire Date: 20 FEB 2008 08:07:12.82

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

0 50 0 100 18 150 1 200 9 250 1 300 6 350 1 400 2 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 11:27:24

```

Configuration      : RDND06$DKA100:[ALP117.SAMPLE]KF5GC1AD_200280807.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 08:07:12
Sample ID        : KF5GC1AD           Sample quantity  : 0.000000E+00 LITER
Sample type      : disk              Sample geometry   :
Detector name    : ALP117           Detector geometry :
Elapsed live time: 0 03:20:06.00     Elapsed real time: 0 03:20:06.00   0.0%
Start energy     : 2864.79 keV       End energy        : 6680.16 keV
Sensitivity      : 3.00              Sum Sensitivity   : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4003.18	315	0	82.01	155.43	135	30	2.62E-02	5.6	
2	0	4675.97	166	0	89.47	245.29	229	25	1.38E-02	7.8	
3	0	5426.13	346	0	52.19	345.29	325	27	2.88E-02	5.4	
4	0	5688.05	98	0	52.19	380.16	369	18	8.16E-03	10.1	
5	0	6293.50	75	0	59.65	460.66	442	27	6.25E-03	11.5	

Error Report (Date: 20-Feb-08 11:27 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: 1-Apr-07)

Sample Identity: KF5GF1AD

Detector: ALP118 1

Report Date: 20-Feb-08 11:36 AM

Acquire Date: 20-FEB-2008 08:07:18.19

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgnd Live Time: 1000 minutes

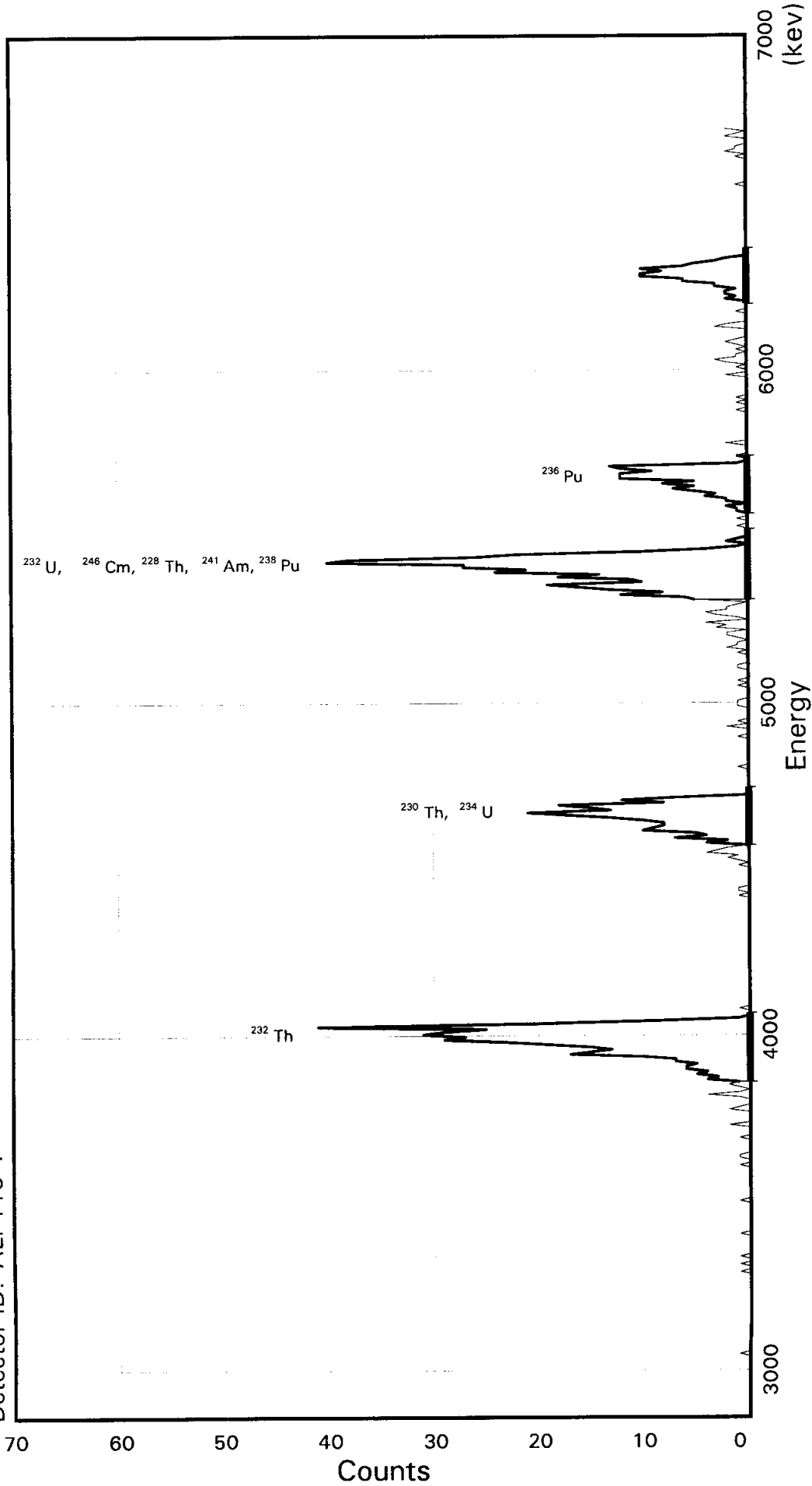
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	373	3	1.862	5423.2	182.2	324	348
TH-230	191	0	0.955	4687.7	151.7	229	249
TH-232	372	0	1.860	4013.0	189.5	135	160

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5GF1AD
Detector ID: ALP118 1



Acquisition Start: 20-FEB-2008 08:07:18.19
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:00.00

Energy Coefficients:
Offset: 2.83734E + 03
Slope: 7.57265E + 00
Quadrature: 2.67660E-05

SAMPLE IDENTIITY: KF5GF1AD

TITLE : TH BRCO

DETECTOR : ALP118 1
CONFIGURATION NAME : RDND06\$DKA100: [ALP118.SAMPLE] KF5GF1AD_200280
807.CNF;1
ACQUIRE DATE of BACKGROUND: 11-FEB-2008 06:14:22

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 08:07:18 CALIB DATE : 11-FEB-2008 02:49:46

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

OFFSET : 2837.34 keV CONSTANT FWHM : 7.66667 Channels
SLOPE : 7.57265 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 2.676600E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr 07)

Sample Identity: KF5GF1AD

Flags Key

Detector: ALP118 1

Report Date: 20-Feb-08 11:27 AM

Intersect Region: @

Acquire Date: 20-FEB-2008 08:07:18.19

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

0 50 0 100 19 150 0 200 0 250 1 300 1 350 0 400 3 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 11:27:20

Configuration : RDND06\$DKA100:[ALP118.SAMPLE]KF5GF1AD_200280807.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : TH BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 08:07:18
 Sample ID : KF5GF1AD Sample quantity : 0.000000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP118 Detector geometry:
 Elapsed live time: 0 03:20:00.00 Elapsed real time: 0 03:20:00.00 0.0%
 Start energy : 2860.06 kev End energy : 6721.55 kev
 Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4005.49	374	0	68.15	154.18	135	27	3.12E-02	5.2	
2	0	4675.74	191	0	60.58	242.56	229	23	1.59E-02	7.2	
3	0	5417.32	377	0	68.15	340.29	326	28	3.14E-02	5.2	
4	0	5680.85	117	0	75.73	375.00	360	23	9.75E-03	9.2	
5	0	6289.66	83	0	53.01	455.16	443	22	6.92E-03	11.0	

Error Report (Date: 20-Feb-08 11:27 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: 1-Apr-07)

Sample Identity: KF5GG1AD

Detector: ALP119 1

Report Date: 20-Feb-08 11:36 AM

Acquire Date: 20-FEB-2008 08:07:24.54

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 1000 minutes

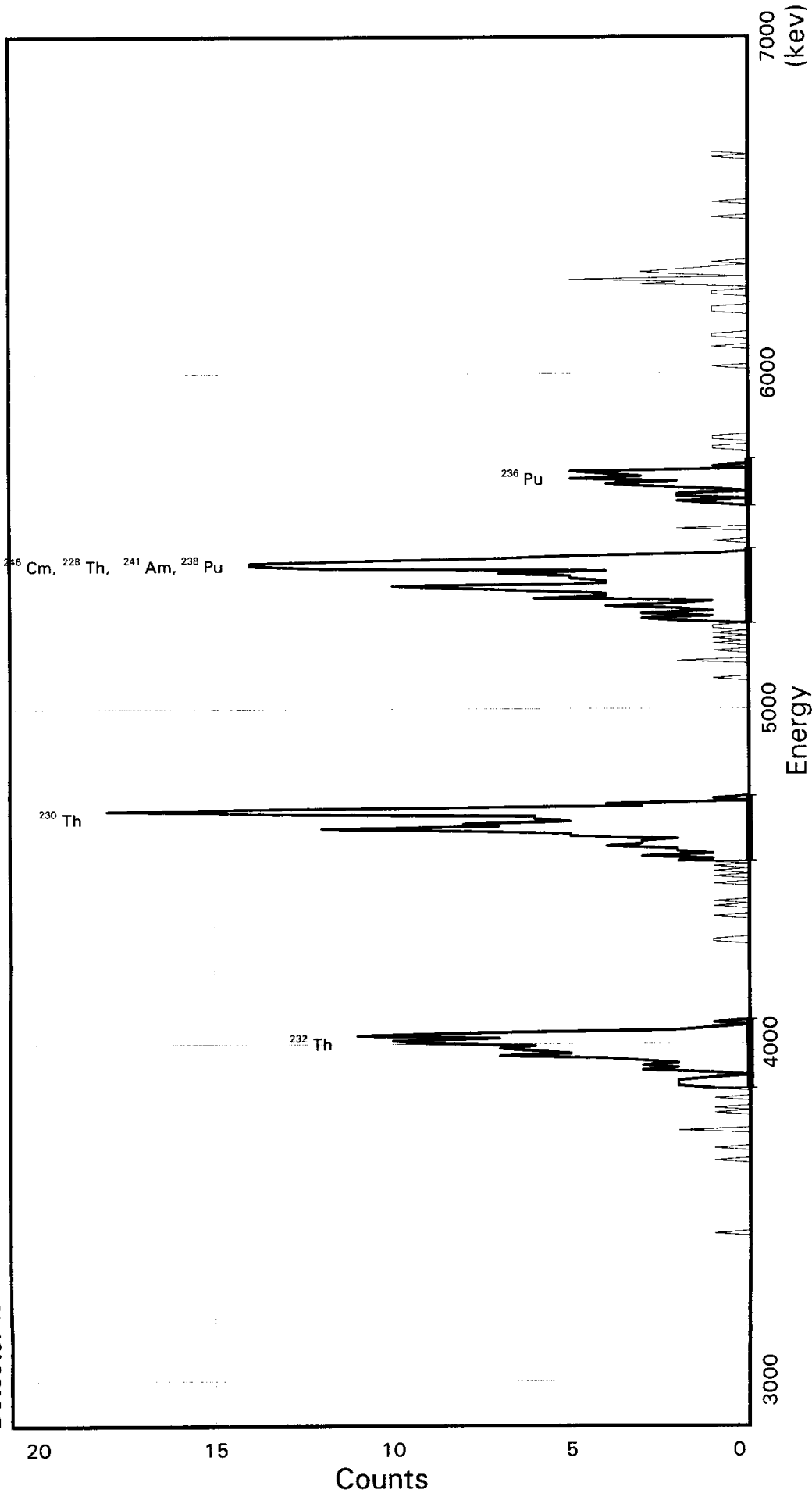
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	141	2	0.703	5423.2	171.1	328	351
TH-230	136	0	0.680	4687.7	186.3	227	252
TH-232	98	0	0.490	4013.0	149.3	141	161

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5GG1AD
Detector ID: ALP119 1



Acquisition Start: 20-FEB-2008 08:07:24.54
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:08.00

Energy Coefficients:
Offset: 2.84343E + 03
Slope: 7.48673E + 00
Quadrature: -7.11708E-05

SAMPLE IDENTIITY: KF5GG1AD

TITLE : TH BRCO

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06\$DKA100: [ALP119.SAMPLE] KF5GG1AD_200280
807.CNF;1
ACQUIRE DATE of BACKGROUND: 11-FEB-2008 06:14:25

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 08:07:24 CALIB DATE : 11-FEB-2008 02:49:55

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

OFFSET : 2843.43 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 7.48673 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.711708E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: KP5GG1AD
Detector: ALP119 1

Flags Key

Report Date: 20-Feb-08 11:27 AM

Intersect Region: 0

Acquire Date: 20 FEB-2008 08:07:24.54

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

0 50 0 100 7 150 0 200 3 250 0 300 5 350 0 400 1 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 11:27:38

```

Configuration      : RDND06$DKA100:[ALP119.SAMPLE]KF5GG1AD_200280807.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 08:07:24
Sample ID        : KF5GG1AD Sample quantity : 0.000000E+00 LITER
Sample type      : disk Sample geometry :
Detector name    : ALP119 Detector geometry:
Elapsed live time: 0 03:20:08.00 Elapsed real time: 0 03:20:08.00 0.0%
Start energy     : 2865.89 kev End energy : 6657.98 kev
Sensitivity      : 3.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4000.80	102	0	74.87	154.82	137	27	8.49E-03	9.9	
2	0	4673.26	137	0	89.84	244.98	228	26	1.14E-02	8.5	
3	0	5426.74	150	0	52.41	346.19	323	30	1.25E-02	8.2	
4	0	5684.95	34	0	59.89	380.92	370	19	2.83E-03	17.1	

Error Report (Date: 20-Feb-08 11:27 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: 1-Apr-07)

Sample Identity: KF5GJ1AD

Detector: ALP120 1

Report Date: 20-Feb-08 11:36 AM

Acquire Date: 20-FEB-2008 08:07:29.05

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 1000 minutes

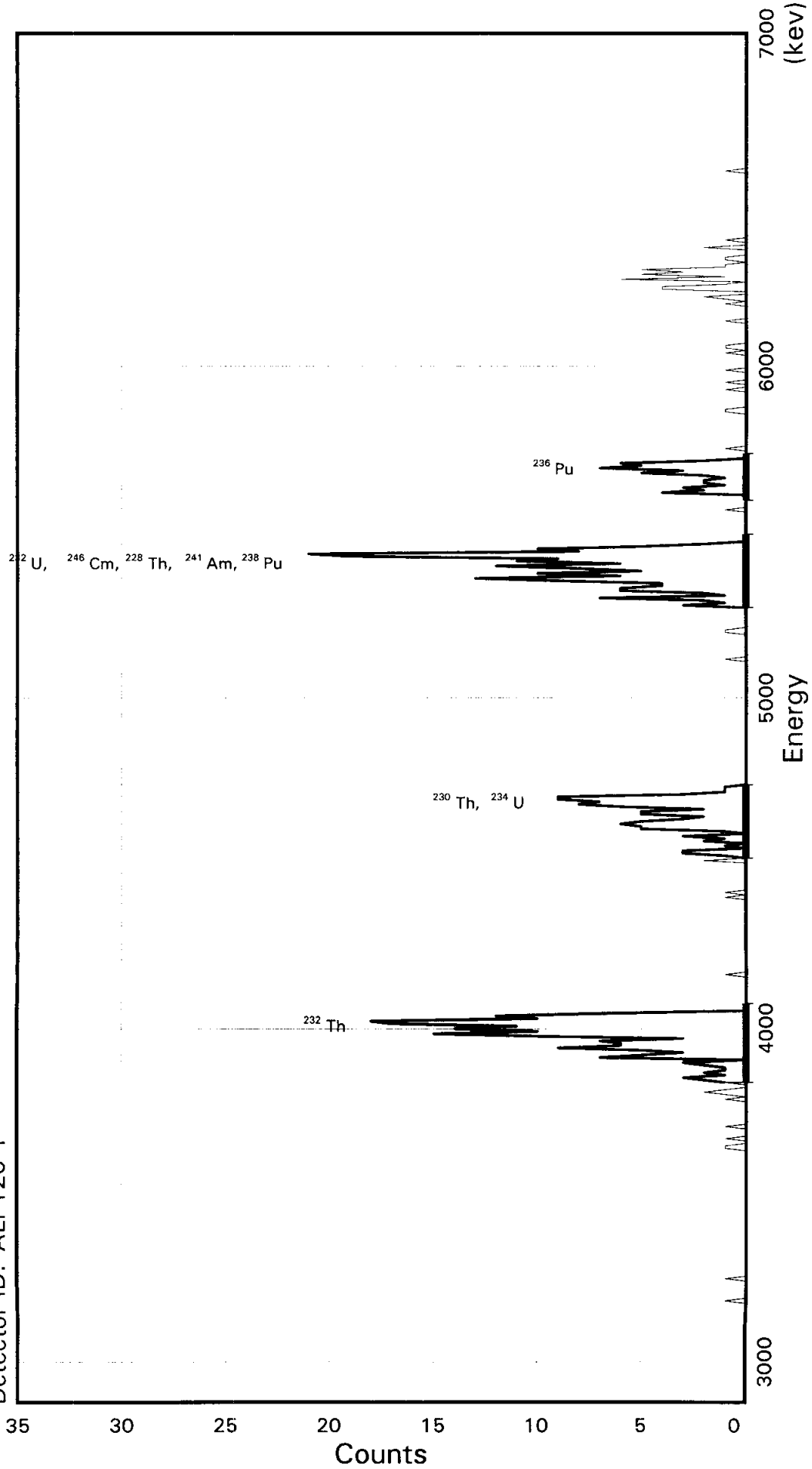
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	177	4	0.881	5423.2	169.9	332	355
TH-230	89	0	0.445	4687.7	162.5	231	253
TH-232	175	0	0.875	4013.0	147.7	142	162

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5GJ1AD
Detector ID: ALP120 1



Acquisition Start: 20-FEB-2008 08:07:29.05
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:
Offset: 2.85646E +03
Slope: 7.38113E +00
Quadrature: 1.04953E-05

SAMPLE IDENTIITY: KF5GJ1AD

TITLE : TH BRCO

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06\$DKA100: [ALP120.SAMPLE]KF5GJ1AD_200280
807.CNF;1
ACQUIRE DATE of BACKGROUND: 11-FEB-2008 06:14:27

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 08:07:29 CALIB DATE : 11-FEB-2008 02:50:06

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

OFFSET : 2856.46 keV CONSTANT FWHM : 9.50000 Channels
SLOPE : 7.38113 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 1.049530E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1 Apr 07)

Sample Identity: KF5GJIAD
Detector: ALP120 1
Report Date: 20-Feb 08 11:27 AM
Acquire Date: 20-FEB 2008 08:07:29.05

Flags Key

Intersect Region: S

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

0 50 0 100 7 150 0 200 9 250 0 300 8 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 11:27:34

```

Configuration      : RDND06$DKA100: [ALP120.SAMPLE]KF5GJ1AD_200280807.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 08:07:29
Sample ID         : KF5GJ1AD           Sample quantity  : 0.00000E+00 LITER
Sample type       : disk               Sample geometry   :
Detector name     : ALP120            Detector geometry:
Elapsed live time: 0 03:20:04.00      Elapsed real time: 0 03:20:04.00   0.0%
Start energy      : 2878.60 keV        End energy        : 6638.35 keV
Sensitivity       : 3.00                Sum Sensitivity   : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4009.49	191	0	66.43	156.18	133	32	1.59E-02	7.2	
2	0	4685.36	101	0	59.05	247.69	225	30	8.41E-03	10.0	
3	0	5405.85	189	0	103.34	345.22	327	30	1.57E-02	7.3	
4	0	5690.37	46	0	44.29	383.73	371	19	3.83E-03	14.7	

Error Report (Date: 20-Feb-08 11:27 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

THORIUM ISOTOPICT COUNTING REQUEST

C.R. Technician JD
 Date Counted 7/10/08
 C.R. Analyst ef
 Date Analyzed 2/20/08

Counting Time _____ SOP's _____
 Sample 200 Minutes _____ Operating: RICHRD008
 Background See Alpha Analysis Report Review: 1/24
6660 803V203

WorkOrder #	Th-229 (4845 KeV) Tracer			TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV) (6)	Th-230 (4688 KeV) (8)		
<u>KF5L501A6</u>		10		0	See Alpha Analysis Report for ROI Information		<u>171</u>	
<u>KF5G1IAK</u>		10		0	See Alpha Analysis Report for ROI Information		<u>172</u>	
<u>KF5G1IAD</u>		10		0	See Alpha Analysis Report for ROI Information		<u>173</u>	
<u>KGAEJIAA</u>		10		0	See Alpha Analysis Report for ROI Information		<u>174</u>	
<u>KGAEJIAE</u>		10		0	See Alpha Analysis Report for ROI Information		<u>175</u>	
		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:

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: KF5GJ1AG

Detector: ALP171 1

Report Date: 20-Feb-08 05:04 PM

Acquire Date: 20-FEB-2008 11:08:09.00

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

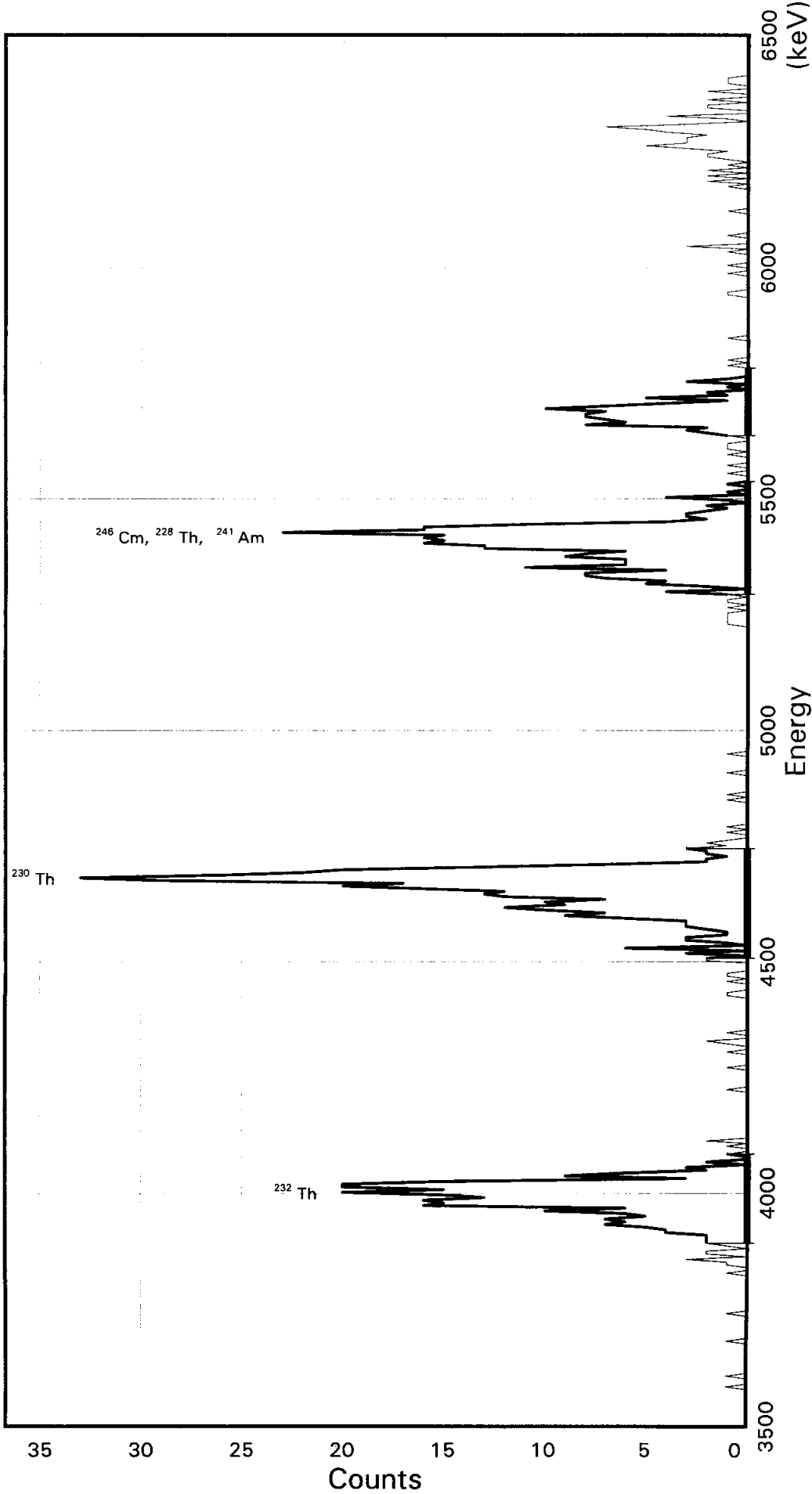
Nuclide	Smpl	Bkg	Count	Centrd	Region		
Name	Count	Count	Rate	Energy	Width	Left	Right
			C/Min	keV	keV	Chnl	Chnl
TH-228	259	2	1.294	5423.2	169.0	312	341
TH-230	328	0	1.642	4687.7	168.6	183	212
TH-232	247	1	1.235	4013.0	139.2	71	95

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Sample ID: KF5GJ1AG
Detector ID: ALP171 1

Batch ID: 8030203



Acquisition Start: 20-FEB-2008 11:08:09.00
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

Energy Coefficients:
Offset: 3.49866E + 03
Slope: 5.79205E + 00
Quadrature: 5.30073E - 05

SAMPLE IDENTIITY: KF5GJ1AG

TITLE : TH BRCO

DETECTOR : ALP171 1
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5GJ1AG_200281108A.CN

F;2
ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 11:08:09 CALIB DATE : 09-FEB-2008 06:26:03

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3498.66 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 5.79205 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 5.300730E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
 for Spectra Not Processed by Alp_rgn_cnts
 (Version: 1-Apr-07)

Sample Identity: KF5G31AG

Flags Key

Detector: ALP171 1

Report Date: 20 Feb 08 07:29 PM

Intersect Region: 3

Acquire Date: 20 FEB 2008 11:08:09.00

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

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

VMS Peak Search Report V1.9 Generated 20-FEB-2008 19:29:54

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5GJ1AG_200281108A.CNF;2
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 11:08:09
Sample ID        : KF5GJ1AG           Sample quantity  : 0.000000E+00 LITER
Sample type      : disk               Sample geometry   :
Detector name    : ALP171 1          Detector geometry:
Elapsed live time: 0 03:19:47.00     Elapsed real time: 0 03:19:47.00   0.0%
Start energy     : 3516.03 keV        End energy       : 6478.08 keV
Sensitivity      : 3.00               Sum Sensitivity  : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4000.52	258	0	69.50	86.58	68	33	2.15E-02	6.2	
2	0	4680.58	345	0	46.34	203.68	174	41	2.88E-02	5.4	
3	0	5417.06	270	0	63.71	330.22	309	42	2.25E-02	6.1	
4	0	5683.77	87	0	52.13	375.97	368	25	7.26E-03	10.7	

Error Report (Date: 20-Feb-08 07:29 PM)

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

System Status Message:

%NONAME-W-NOMSG, Message number 00000000

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: KF5GJ1AK

Detector: ALP171 2

Report Date: 20-Feb-08 04:51 PM

Acquire Date: 20-FEB-2008 11:08:09.00

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgnd Live Time: 999 minutes

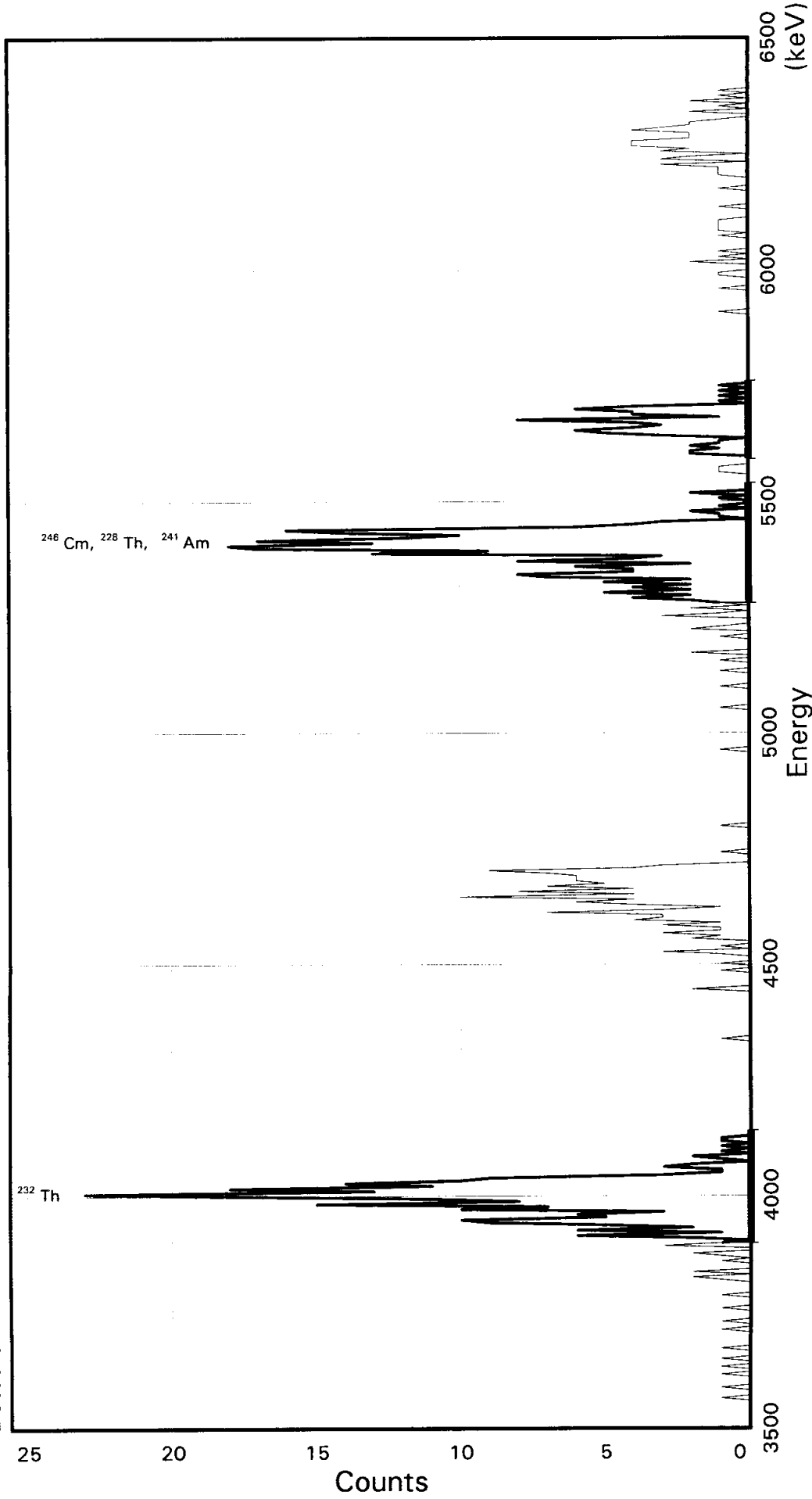
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	213	2	1.064	5423.2	152.8	315	342
TH-230	119	6	0.590	4687.7	141.1	186	211
TH-232	225	2	1.124	4013.0	146.4	66	92

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5GJ1AK
Detector ID: ALP171 2



Energy Coefficients:
Offset: 3.53220E+03
Slope: 5.62160E+00
Quadrature: 5.87552E-05

Acquisition Start: 20-FEB-2008 11:08:09.00
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

SAMPLE IDENTIITY: KF5GJ1AK

TITLE : TH BRCO

DETECTOR : ALP171 2
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE]KF5GJ1AK_200281108B.CN
F;1

ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 11:08:09 CALIB DATE : 09-FEB-2008 06:31:06

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3532.20 keV CONSTANT FWHM : 9.66667 Channels
SLOPE : 5.62160 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 5.875520E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr 07)

Sample Identity: KF5GJ1AK

Flags Key

Detector: ALP171 2

Report Date: 20 Feb 08 02:28 PM

Intersect Region: @

Acquire Date: 20-FEB 2008 11:08:09.00

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

0 50 1 100 0 150 8 200 0 250 2 300 1 350 0 400 1 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 14:28:25

Configuration : \$DISK1:[ALP171.SAMPLE]KF5GJ1AK_200281108B.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : TH BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 11:08:09
 Sample ID : KF5GJ1AK Sample quantity : 0.000000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP171 1 Detector geometry:
 Elapsed live time: 0 03:19:47.00 Elapsed real time: 0 03:19:47.00 0.0%
 Start energy : 3549.07 keV End energy : 6425.86 keV
 Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4005.83	242	0	61.84	84.18	65	43	2.02E-02	6.4	
2	0	5415.33	237	0	61.84	333.82	310	46	1.98E-02	6.5	
3	0	5671.91	65	0	73.08	379.12	365	30	5.42E-03	12.4	

Error Report (Date: 20-Feb-08 02:28 PM)

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

System Status Message:

%NONAME-W-NOMSG, Message number 00000000

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: KF5GL1AD

Detector: ALP171 3

Report Date: 20-Feb-08 04:53 PM

Acquire Date: 20-FEB-2008 11:08:09.00

Tracer Nuclide: TH-229

Sample Live Time: 200 minutes

Bkgrnd Live Time: 999 minutes

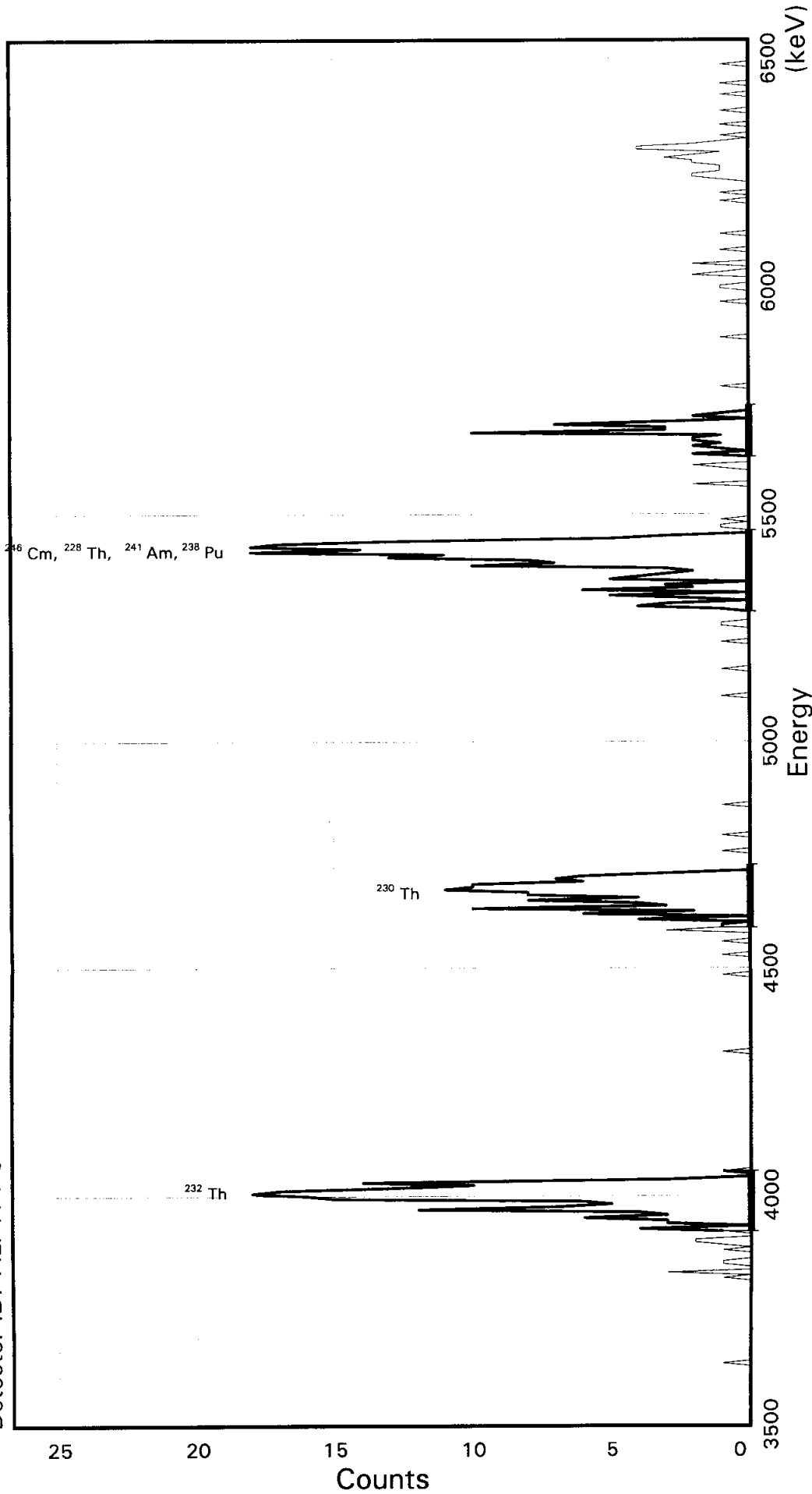
Nuclide	Smpl	Bkg	Count	Centrd	Region		
Name	Count	Count	Rate	Energy	Width	Left	Right
			C/Min	keV	keV	Chnl	Chnl
TH-228	172	1	0.860	5423.2	149.5	306	331
TH-230	115	0	0.576	4687.7	143.5	183	207
TH-232	165	0	0.826	4013.0	149.4	69	94

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KF5GL1AD
Detector ID: ALP171 3



Energy Coefficients:
Offset: 3.47964E + 03
Slope: 5.97692E + 00
Quadrature: 5.57270E - 06

Acquisition Start: 20-FEB-2008 11:08:09.00
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

SAMPLE IDENTIITY: KF5GL1AD

TITLE : TH BRCO

DETECTOR : ALP171 3
CONFIGURATION NAME : \$DISK1: [ALP171.SAMPLE]KF5GL1AD_200281108C.CN
F;1

ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 11:08:09 CALIB DATE : 09-FEB-2008 06:26:32

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3479.64 keV CONSTANT FWHM : 7.33333 Channels
SLOPE : 5.97692 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 5.572700E-06 keV/C² SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
 for Spectra Not Processed by Alp_rgn_cnts
 (Version: 1 Apr-07)

Sample Identity: KF5GL1AD

Flags Key

Detector: ALP171 3

Report Date: 20 Feb-08 02:28 PM

Intersect Region: *

Acquire Date: 20 FEB 2008 11:08:09.00

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

0 50 0 100 0 150 11 200 0 250 0 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 14:28:31

```

Configuration      : $DISK1:[ALP171.SAMPLE]KF5GL1AD_200281108C.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 11:08:09
Sample ID        : KF5GL1AD Sample quantity : 0.000000E+00 LITER
Sample type      : disk Sample geometry :
Detector name    : ALP171 1 Detector geometry:
Elapsed live time: 0 03:19:47.00 Elapsed real time: 0 03:19:47.00 0.0%
Start energy     : 3497.57 keV End energy : 6541.28 keV
Sensitivity      : 3.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4008.43	160	0	35.86	88.47	74	22	1.33E-02	7.9	
2	0	4667.69	112	0	77.70	198.74	186	23	9.34E-03	9.4	
3	0	5419.13	180	0	53.79	324.40	302	30	1.50E-02	7.5	
4	0	5681.80	40	0	29.88	368.32	359	19	3.34E-03	15.8	

Error Report (Date: 20-Feb-08 02:28 PM)

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

System Status Message:

%NONAME-W-NOMSG, Message number 00000000

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: KGAEJ1AA

Detector: ALP171 4
Report Date: 20-Feb-08 05:05 PM
Acquire Date: 20-FEB-2008 11:08:09.00
Tracer Nuclide: TH-229
Sample Live Time: 200 minutes
Bkgrnd Live Time: 999 minutes

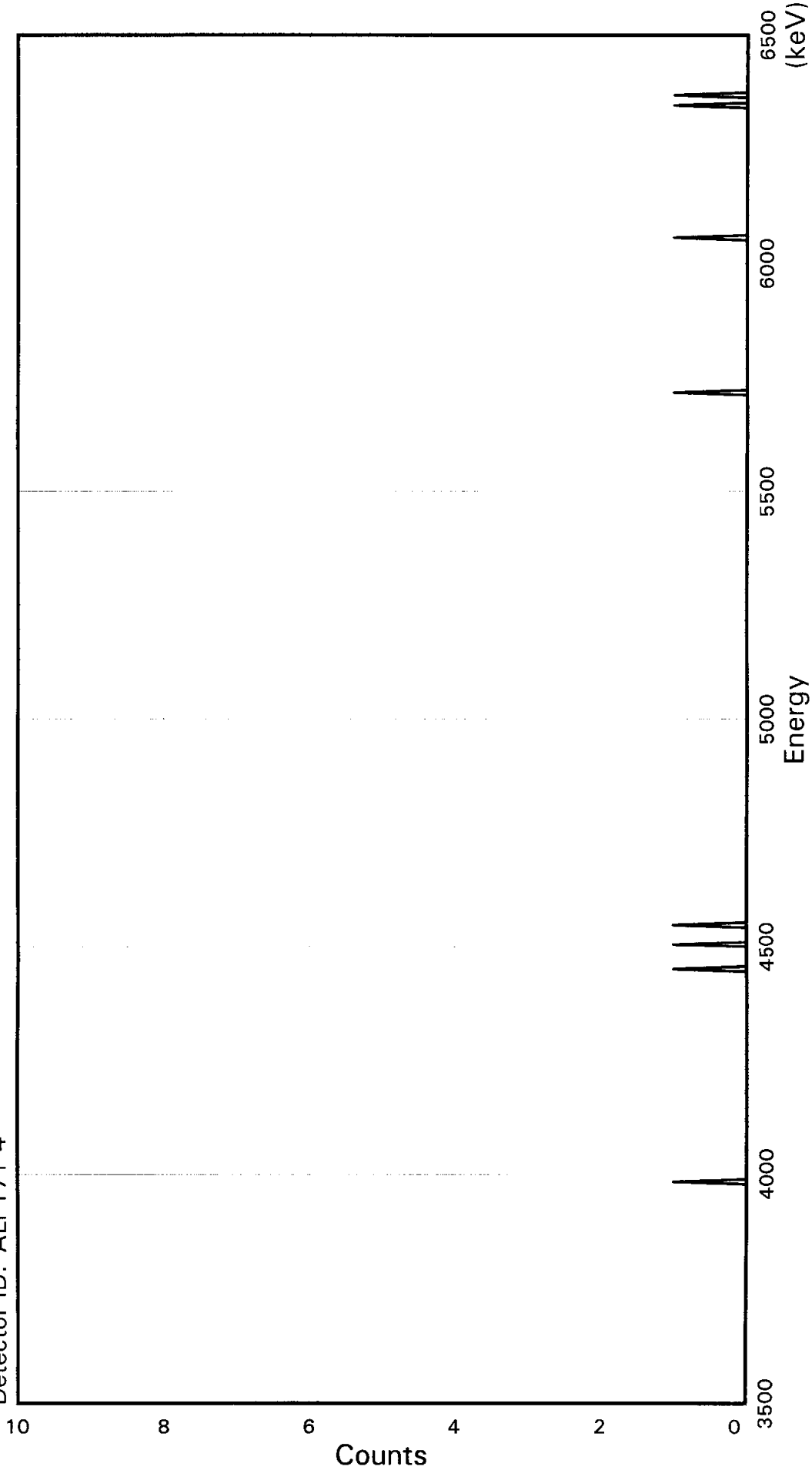
Nuclide	Smpl	Bkg	Count	Centrd	Region		
Name	Count	Count	Rate	Energy	Width	Left	Right
			C/Min	keV	keV	Chnl	Chnl
TH-228	0	0	0.000	5423.2	111.2	311	331
TH-230	0	0	0.000	4687.7	111.1	179	199
TH-232	1	0	0.005	4013.0	111.0	57	77

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Batch ID: 8030203

Sample ID: KGAEJ1AA
Detector ID: ALP171 4



Acquisition Start: 20-FEB-2008 11:08:09.00
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

Energy Coefficients:
Offset: 3.61090E + 03
Slope: 5.54825E + 00
Quadrature: 2.13419E-05

SAMPLE IDENTIITY: KGAEJ1AA

TITLE : TH BRCO

DETECTOR : ALP171 4
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE] KGAEJ1AA_200281108D.CN

F;2
ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 11:08:09 CALIB DATE : 09-FEB-2008 06:26:58

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3610.90 keV CONSTANT FWHM : 8.33333 Channels
SLOPE : 5.54825 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 2.134190E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: KGAEJ1AA

Flags Key

Detector: ALP171 4

Report Date: 20-Feb-08 07:35 PM

Intersect Region: @

Acquire Date: 20-FEB-2008 11:08:09.00

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						
0		1	0		51	0		101	1		151	0		201	0		251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	0		257	0		307	0		357	0		407	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	1		161	0		211	0		261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	0		264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	0		266	0		316	0		366	0		416	0		466			
0		17	1		67	0		117	0		167	0		217	0		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	0		268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	1		169	0		219	0		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	0		270	0		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	0		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	0		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	0		273	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	0		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	0		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	0		276	0		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	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	1		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	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	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	0		338	0		388	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	1		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	0		442	1		492			
0		43	0		93	0		143	0		193	0		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	0		346	0		396	0		446	1		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 c 500

VMS Peak Search Report V1.9 Generated 20-FEB-2008 19:35:55

Configuration : \$DISK1:[ALP171.SAMPLE]KGAEJ1AA_200281108D.CNF;2
Analyses by : ALPHA V1.8
Sample title : TH BRCO
Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 11:08:09
Sample ID : KGAEJ1AA Sample quantity : 0.00000E+00 LITER
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 03:19:47.00 Elapsed real time: 0 03:19:47.00 0.0%
Start energy : 3627.54 keV End energy : 6457.20 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00
No peaks were found

Error Report (Date: 20-Feb-08 07:35 PM)

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

System Status Message:

%NONAME-W-NOMSG, Message number 00000000

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: KGAEJ1AC

Detector: ALP171 5
Report Date: 20-Feb-08 05:02 PM
Acquire Date: 20-FEB-2008 11:08:09.00
Tracer Nuclide: TH-229
Sample Live Time: 200 minutes
Bkgrnd Live Time: 999 minutes

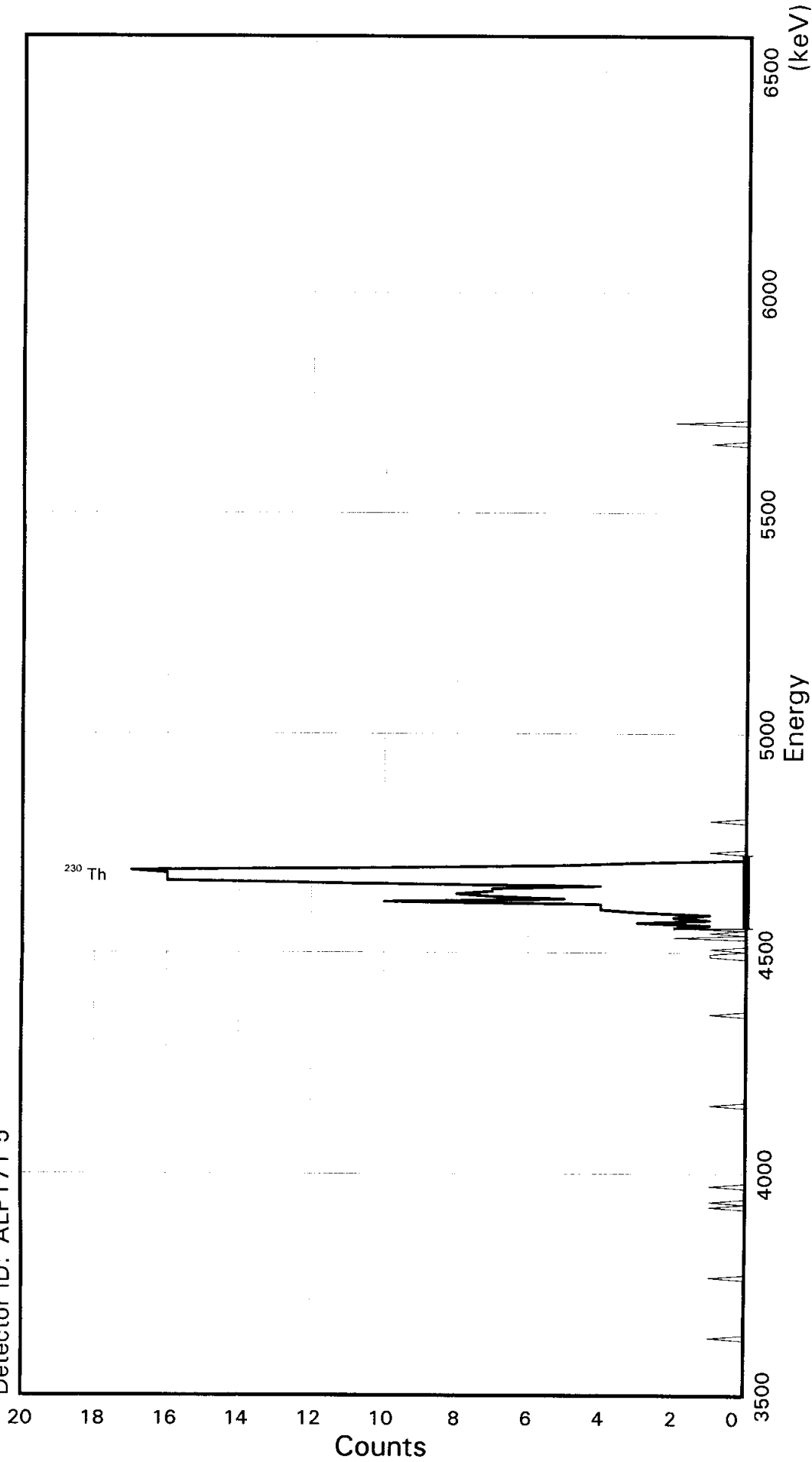
Nuclide	Smpl	Bkg	Count	Centrd	Region		
Name	Count	Count	Rate	Energy	Width	Left	Rght
			C/Min	keV	keV	Chnl	Chnl
TH-228	0	0	0.000	5423.2	118.0	301	321
TH-230	183	0	0.916	4687.7	164.9	169	197
TH-232	3	0	0.015	4013.0	123.6	61	82

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
TH BRCO

Sample ID: KGAEJ1AC
Detector ID: ALP171 5

Batch ID: 8030203



Acquisition Start: 20-FEB-2008 11:08:09.00
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:19:47.00

Energy Coefficients:
Offset: 3.56014E+03
Slope: 5.87973E+00
Quadrature: 3.04036E-05

SAMPLE IDENTIITY: KGAEJ1AC

TITLE : TH BRCO

DETECTOR : ALP171 5
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE] KGAEJ1AC_200281108E.CN
F;1

ACQUIRE DATE of BACKGROUND: 09-FEB-2008 06:41:07

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 11:08:09 CALIB DATE : 08-FEB-2008 22:00:18

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:19:47

OFFSET : 3560.14 keV CONSTANT FWHM : 7.33333 Channels
SLOPE : 5.87973 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 3.040360E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr 07)

Sample Identity: KGAEJ1AC

Flags Key

Detector: ALP171 5

Report Date: 20-Feb-08 02:28 PM

Intersect Region: @

Acquire Date: 20-FEB-2008 11:08:09.00

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			
0		1	0		51	1		101	0		151	0		201	0		251	0		301	0		351	0		401	0		451	0		501
0		2	0		52	0		102	0		152	0		202	0		252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	0		306	1		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	0		257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	1		158	0		208	0		258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	1		159	0		209	0		259	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	1		161	1		211	0		261	0		311	0		361	0		411	0		461	0		511
1		12	1		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	1		64	0		114	0		164	0		214	0		264	0		314	2		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	2		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	1		168	0		218	0		268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0		219	0		269	0		319	0		369	0		419	0		469			
0		20	1		70	0		120	2		170	0		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	0		371	0		421	0		471			
0		22	0		72	0		122	3		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	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	2		174	0		224	0		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	1		175	0		225	0		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	3		176	0		226	0		276	0		326	0		376	0		426	0		476			
0		27	0		77	0		127	4		177	0		227	0		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	4		178	0		228	0		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	4		179	0		229	0		279	0		329	0		379	0		429	0		479			
0		30	0		80	0		130	10		180	0		230	0		280	0		330	0		380	0		430	0		480			
0		31	0		81	0		131	5		181	0		231	0		281	0		331	0		381	0		431	0		481			
0		32	0		82	0		132	7		182	0		232	0		282	0		332	0		382	0		432	0		482			
0		33	0		83	0		133	8		183	0		233	0		283	0		333	0		383	0		433	0		483			
0		34	0		84	0		134	7		184	0		234	0		284	0		334	0		384	0		434	0		484			
1		35	0		85	0		135	7		185	0		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	1		136	4		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	11		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	16		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	16		189	0		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	16		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	16		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	17		192	0		242	0		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	10		193	0		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	5		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	3		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	1		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 20-FEB-2008 14:28:37

Configuration : \$DISK1:[ALP171.SAMPLE]KGAEJ1AC_200281108E.CNF;1
Analyses by : ALPHA V1.3
Sample title : TH BRCO
Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 11:08:09
Sample ID : KGAEJ1AC Sample quantity : 0.00000E+00 LITER
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 03:19:47.00 Elapsed real time: 0 03:19:47.00 0.0%
Start energy : 3577.78 keV End energy : 6578.53 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4678.56	182	0	41.16	190.03	170	28	1.52E-02	7.4	

Error Report (Date: 20-Feb-08 02:28 PM)

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

System Status Message:

%NONAME-W-NOMSG, Message number 00000000

THORIUM
STANDARDS AND TRACEABILITY

Standard Material Fractions (Vials)

Vial Prep: 2/19/07 to 2/21/08, SMFractionIdentifier Like: THSI1149%, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep, Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23003A150		Ref: 7/16/2003	5.0653E+01	± 1.679E+00	DPM/G	
THSI1149	Th-230	4.9486E+00 ± 1.642E-01 DPM	0.0977 g	2/6/2008 2/6/2008	Armstron	5.0651E+01 ± 1.679E+00 DPM/G

4.9486E+000 ± 4.949E+000 (1)

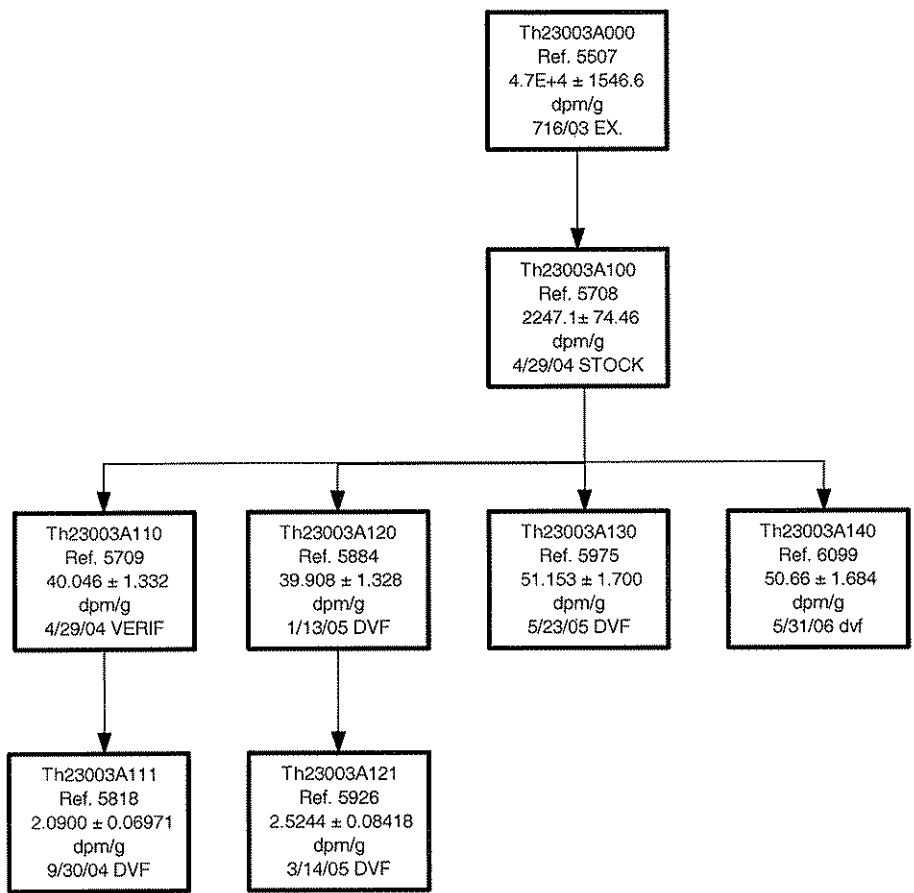
4.9486E+000 , 4.9486E+000

Standard Material Fractions (Vials)

Vial Prep: 2/19/07 to 2/21/08, SMFractionIdentifier Like: THSI1148%, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep, Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23003A150		Ref: 7/16/2003	5.0653E+01	± 1.679E+00	DPM/G	
THSI1148	Th-230	4.9992E+00 ± 1.659E-01 DPM	0.0987 g	2/6/2008 2/6/2008	Armstron	5.0651E+01 ± 1.679E+00 DPM/G
		4.9992E+000 ± 4.999E+000 (1)	4.9992E+000 , 4.9992E+000			

Th23003A



ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>5/31/2006</u>
3) Source Identification Number / Ref. Number	<u>TH23003A100</u>	<u>5708</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.2471E+03</u>	±	<u>7.446E+01</u>
5) Percent error of Source Activity	<u>3.314</u>		%
6) Weight of Source Material used (g)	<u>3.1975</u>		
7) (% Error) of Weight of Source Material used	<u>0.1501</u>		%
8) Diluent	<u>2M HNO3</u>		
9) Total Weight of the Dilution (g)	<u>141.81</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2116</u>		%
11) Specific Activity of Diluted Solution dpm/g	<u>5.0667E+01</u>	±	<u>1.684E+00</u>
12) Total Uncertainty	<u>3.324</u>		%
13) Dilution Identification Number / Ref. Number	<u>TH23003A140</u>	<u>6099</u>	
14) Calibration Reference Date	<u>5/31/2006</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>5/31/2006</u>
16) Reviewed by/date	<u>JC</u>		<u>9/21/2006</u>
17) Location	<u>qclab</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>5/23/2005</u>
3) Source Identification Number / Ref. Number	<u>TH23003A100</u>	<u>5708</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.2471E+03</u>	±	<u>7.446E+01</u>
5) Percent error of Source Activity	<u>3.314</u>	%	
6) Weight of Source Material used (g)	<u>3.1833</u>		
7) (% Error) of Weight of Source Material used	<u>0.1508</u>	%	
8) Diluent	<u>2M HNO3-P0500135</u>		
9) Total Weight of the Dilution (g)	<u>139.84</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2145</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.1153E+01</u>	±	<u>1.700E+00</u>
12) Total Uncertainty	<u>3.324</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH23003A130</u>	<u>5975</u>	
14) Calibration Reference Date	<u>5/23/2005</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>5/23/2005</u>
16) Reviewed by/date	<u>sew</u>		<u>5/25/2005</u>
17) Location <u>QCLAB/STWT1161</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>3/14/2005</u>
3) Source Identification Number / Ref. Number	<u>TH23003A120</u>	<u>5884</u>	
4) Source Activity (dpm ± dpm/g)	<u>3.9908E+01</u>	±	<u>1.328E+00</u>
5) Percent error of Source Activity	<u>3.327</u>	%	
6) Weight of Source Material used (g)	<u>8.5965</u>		
7) (% Error) of Weight of Source Material used	<u>0.0558</u>	%	
8) Diluent	<u>2M HNO3-P0500135</u>		
9) Total Weight of the Dilution (g)	<u>135.9</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2208</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.5244E+00</u>	±	<u>8.418E-02</u>
12) Total Uncertainty	<u>3.335</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH23003A121</u>	<u>5926</u>	
14) Calibration Reference Date	<u>3/14/2005</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>3/14/2005</u>	
16) Reviewed by/date	<u>SEW</u>	<u>3/14/2005</u>	
17) Location <u>QCLAB/STWT1125</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>1/13/2005</u>
3) Source Identification Number / Ref. Number	<u>TH23003A100</u>	<u>5708</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.2471E+03</u>	±	<u>7.446E+01</u>
5) Percent error of Source Activity	<u>3.314</u>	%	
6) Weight of Source Material used (g)	<u>2.4647</u>		
7) (% Error) of Weight of Source Material used	<u>0.1947</u>	%	
8) Diluent	<u>2M HNO3-P0400766</u>		
9) Total Weight of the Dilution (g)	<u>138.78</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2162</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>3.9908E+01</u>	±	<u>1.328E+00</u>
12) Total Uncertainty	<u>3.327</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH23003A120</u>	<u>5884</u>	
14) Calibration Reference Date	<u>1/13/2005</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>1/13/2005</u>
16) Reviewed by/date	<u>SEW</u>		<u>1/14/2005</u>
17) Location <u>QCLAB/STWT1105</u>	18) Exhausted		<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>9/30/2004</u>
3) Source Identification Number / Ref. Number	<u>TH23003A110</u>	<u>5709</u>	
4) Source Activity (dpm ± dpm/g)	<u>4.0046E+01</u>	±	<u>1.332E+00</u>
5) Percent error of Source Activity	<u>3.327</u>	%	
6) Weight of Source Material used (g)	<u>6.9826</u>		
7) (% Error) of Weight of Source Material used	<u>0.0687</u>	%	
8) Diluent	<u>2M HNO3-P0400528</u>		
9) Total Weight of the Dilution (g)	<u>133.79</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2242</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.0900E+00</u>	±	<u>6.971E-02</u>
12) Total Uncertainty	<u>3.335</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH23003A111</u>	<u>5818</u>	
14) Calibration Reference Date	<u>9/30/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>9/30/2004</u>
16) Reviewed by/date	<u>SEW</u>		<u>10/6/2004</u>
17) Location <u>QCLAB/STWT1059</u>	18) Exhausted		<u></u>

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity}^2 + \% \text{ error of Wt. Used}^2 + \% \text{ error of Dilution Wt.}^2)}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>4/29/2004</u>
3) Source Identification Number / Ref. Number	<u>TH23003A100</u>	<u>5708</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.2471E+03</u>	±	<u>7.446E+01</u>
5) Percent error of Source Activity	<u>3.314</u>	%	
6) Weight of Source Material used (g)	<u>2.4577</u>		
7) (% Error) of Weight of Source Material used	<u>0.1953</u>	%	
8) Diluent	<u>2M HNO3-P0400176</u>		
9) Total Weight of the Dilution (g)	<u>137.91</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2175</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>4.0046E+01</u>	±	<u>1.332E+00</u>
12) Total Uncertainty	<u>3.327</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH23003A110</u>	<u>5709</u>	
14) Calibration Reference Date	<u>4/29/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>4/29/2004</u>
16) Reviewed by/date	<u>D.M.</u>		<u>6/2/2004</u>
17) Location <u>QCLAB/STWT0990</u>	18) Exhausted		<u></u>

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity}^2 + \% \text{ error of Wt. Used}^2 + \% \text{ error of Dilution Wt.}^2)}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>4/29/2004</u>
3) Source Identification Number / Ref. Number	<u>TH23003A000</u>	<u>5507</u>	
4) Source Activity (dpm ± dpm/g)	<u>4.6866E+04</u>	±	<u>1.547E+03</u>
5) Percent error of Source Activity	<u>3.3</u>	%	
6) Weight of Source Material used (g)	<u>5.0580</u>		
7) (% Error) of Weight of Source Material used	<u>0.0949</u>	%	
8) Diluent	<u>2M HNO3-P0400176</u>		
9) Total Weight of the Dilution (g)	<u>105.49</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2844</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.2471E+03</u>	±	<u>7.446E+01</u>
12) Total Uncertainty	<u>3.314</u>	%	
13) Dilution Identification Number / Ref. Number	<u>TH23003A100</u>	<u>5708</u>	
14) Calibration Reference Date	<u>4/29/2004</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>4/29/2004</u>
16) Reviewed by/date	<u>D.M.</u>		<u>6/2/2004</u>
17) Location <u>QCLAB/STWT0989</u>	18) Exhausted		<u></u>

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity}^2 + \% \text{ error of Wt. Used}^2 + \% \text{ error of Dilution Wt.}^2)}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE RECORD FORM

1) Isotope TH230 2) Reference Number 5507
 3) Half Life 7.54E4 yrs 4) Storage Location Std Lab
 5) Source Identification Number TH23003A000

CALIBRATION DATA

6) Activity as Received Units 3.979E+03 dps
 7) Overall Uncertainty Percent 3.30%
 8) Reference Date / Time 7/16/2003 12:00 EST (9:00AM)
 9) Activity dpm/g 4.6866E+04 ± 1546.59 (3.3%) dpm/g
 10) Volume or Mass (ml/g) 5.09407g
 11) Calibrated by ANALY
 12) Certificate Solution Number 66538-310

SURVEY DATA

13) Date Received 7/18/2003
 14) Surveyed by W.G
 15) Survey Reading (Beta/Gamma) cpm <100 CPM
 16) Survey Reading (Alpha) cpm <100 CPM

17) Activity Conversion 3979.0 dps x60sm/5.09407g=4.7E+04± 1546.6 (3.3%)dpm/g

18) Remarks USED ALL TO MAKE FIRST DILUTION 4/29/4 WG

19) Isotope File Updated by W.G 7/29/03

20) QC Approved SEW 8/1/03

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

66538-310

Th-230 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting.

Radionuclide purity and calibration were checked by germanium gamma-ray spectrometry and liquid scintillation counting. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Th-230
ACTIVITY (dps):	3.979 E3
HALF-LIFE:	7.538 E4 years
CALIBRATION DATE:	July 16, 2003 12:00 EST
RELATIVE EXPANDED UNCERTAINTY (k=2):	3.3%

Impurities: γ -impurities <0.1%, α -impurities <0.23%

5.09407 grams 0.5M HNO₃ solution.

Master Solution ID#: P86V105

P O NUMBER 1875386-000 OP, Item 1

SOURCE PREPARED BY: M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED:

J.M. Mory 7-16-03

Standard Material Fractions (Vials)

Vial Prep: 2/19/07 to 2/21/08, SMFractionIdentifier Between THTC12085 and THTC12101, Order by

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23407B300		Ref: 11/29/2007	4.1439E+03	± 2.999E+02	CPM/G	
THTC12085	Th-234	5.0485E+02 ± 3.655E+01 CPM	0.1266 g	11/30/2007 11/30/2007	Armstron	3.9878E+03 ± 2.886E+02 CPM/G
THTC12086	Th-234	5.1123E+02 ± 3.701E+01 CPM	0.1282 g	11/30/2007 11/30/2007	Armstron	3.9877E+03 ± 2.886E+02 CPM/G
THTC12087	Th-234	5.0764E+02 ± 3.675E+01 CPM	0.1273 g	11/30/2007 11/30/2007	Armstron	3.9877E+03 ± 2.886E+02 CPM/G
THTC12088	Th-234	5.0564E+02 ± 3.660E+01 CPM	0.1268 g	11/30/2007 11/30/2007	Armstron	3.9877E+03 ± 2.886E+02 CPM/G
THTC12089	Th-234	5.0325E+02 ± 3.643E+01 CPM	0.1262 g	11/30/2007 11/30/2007	Armstron	3.9877E+03 ± 2.886E+02 CPM/G
THTC12090	Th-234	5.0524E+02 ± 3.657E+01 CPM	0.1267 g	11/30/2007 11/30/2007	Armstron	3.9877E+03 ± 2.886E+02 CPM/G
THTC12091	Th-234	5.0644E+02 ± 3.666E+01 CPM	0.127 g	11/30/2007 11/30/2007	Armstron	3.9877E+03 ± 2.886E+02 CPM/G
THTC12092	Th-234	5.1201E+02 ± 3.706E+01 CPM	0.1284 g	11/30/2007 11/30/2007	Armstron	3.9876E+03 ± 2.886E+02 CPM/G
THTC12093	Th-234	5.0643E+02 ± 3.666E+01 CPM	0.127 g	11/30/2007 11/30/2007	Armstron	3.9876E+03 ± 2.886E+02 CPM/G
THTC12094	Th-234	5.0643E+02 ± 3.666E+01 CPM	0.127 g	11/30/2007 11/30/2007	Armstron	3.9876E+03 ± 2.886E+02 CPM/G
THTC12095	Th-234	5.0523E+02 ± 3.657E+01 CPM	0.1267 g	11/30/2007 11/30/2007	Armstron	3.9876E+03 ± 2.886E+02 CPM/G
THTC12096	Th-234	5.0523E+02 ± 3.657E+01 CPM	0.1267 g	11/30/2007 11/30/2007	Armstron	3.9876E+03 ± 2.886E+02 CPM/G
THTC12097	Th-234	5.0642E+02 ± 3.666E+01 CPM	0.127 g	11/30/2007 11/30/2007	Armstron	3.9876E+03 ± 2.886E+02 CPM/G
THTC12098	Th-234	5.1000E+02 ± 3.692E+01 CPM	0.1279 g	11/30/2007 11/30/2007	Armstron	3.9875E+03 ± 2.886E+02 CPM/G
THTC12099	Th-234	5.0482E+02 ± 3.654E+01 CPM	0.1266 g	11/30/2007 11/30/2007	Armstron	3.9875E+03 ± 2.886E+02 CPM/G
THTC12100	Th-234	5.0641E+02 ± 3.666E+01 CPM	0.127 g	11/30/2007 11/30/2007	Armstron	3.9875E+03 ± 2.886E+02 CPM/G
THTC12101	Th-234	5.0681E+02 ± 3.669E+01 CPM	0.1271 g	11/30/2007 11/30/2007	Armstron	3.9875E+03 ± 2.886E+02 CPM/G

5.0671E+002 ± 2.336E+000 (17) 0.461% 5.0325E+002 , 5.1201E+002

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23407B300		Ref: 11/29/2007	4.1439E+03	± 2.999E+02	CPM/G	
THSI1149	Th-234	5.0110E+02 ± 3.627E+01 CPM	0.8894 g	2/6/2008 2/6/2008	Armstron	5.6341E+02 ± 4.078E+01 CPM/G
		5.0110E+002 ± 5.011E+002 (1)	5.0110E+002 , 5.0110E+002			

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23407B300		Ref: 11/29/2007	4.1439E+03	± 2.999E+02	CPM/G	
THSI1148	Th-234	5.0279E+02 ± 3.639E+01 CPM	0.8924 g	2/6/2008 2/6/2008	Armstron	5.6341E+02 ± 4.078E+01 CPM/G
		5.0279E+002 ± 5.028E+002 (1)	5.0279E+002 , 5.0279E+002			

Memorandum

Date: 30 November 2007
To: Count Room & Team Leaders
From: Tim Armstrong
Subject: New Th-234 Source {Th23407B300 #6265}

There is a new Th-234 source Th23407B300 #6265

With a reference date of **29 Nov 2007**

CAL ID	GRAMS FOUND	REFERENCE DATE
CAL6537	1.1493	29 November 2007
CAL6538	1.1715	29 November 2007
CAL6539	1.2217	29 November 2007
CAL6540	1.0488	29 November 2007

TH-234 CALIBRATION CALCULATIONS

Std ID: TH23407B300 #6265
 Date: 30-Nov-07

Tracer Yield Calculations

Vial	Th-230		Background		Expected		
	Counts	Min	Counts	Min	Net cpm	Det. Eff	Yield
CAL6537	6616	999	5	999	6.618	0.2847	0.9229
CAL6538	6728	999	3	999	6.732	0.2878	0.9347
CAL6539	7153	999	3	999	7.157	0.2926	0.9795
CAL6540	5502	999	1	999	5.507	0.2616	0.8438

29-Nov-07 = Source Reference Date 12:25 = Source Reference Time

SET 30A-30D Reference Data

Thorium Beta Data

Date	Time	Th-234	Background		Net cpm	Decay	Th234 wt. grams	Th230 Yield	Th234 cpm/g	Vial
			Cts	Min						
29-Nov-07	12:25	95877	20	675	500	4792.50	1.2454	0.9229	4169.80	CAL6537
29-Nov-07	12:25	96274	20	726	500	4812.25	1.2533	0.9347	4107.84	CAL6538
29-Nov-07	12:25	95463	20	566	500	4772.02	1.2472	0.9795	3906.19	CAL6539
29-Nov-07	12:25	92146	20	675	500	4605.95	1.2429	0.8438	4391.83	CAL6540

Th234 YIELD CORRECTION FOR DATA HANDLERS

Th234 wt. g * Th230 YIELD

CAL6537 1.1493
 CAL6538 1.1715
 CAL6539 1.2217
 CAL6540 1.0488

4143.92	Average
4.83%	%RSD
-5.74%	Min Bias
5.98%	Max Bias

4.1439E+03	= Rad Calc. expected value, cpm/g
2.9993E+02	= Total Error of Rad Calc. expected value
29-Nov-07	= Reference Date of Rad Calc. expected value
12:25	= Reference Time of Rad Calc. expected value

Type of count: Alpha: _____ count time: _____ units: _____
 Beta: _____ count time: _____ units: _____
 Gamma: _____ count time: _____ units: _____
 Alpha Spec: X count time: 1000 units: dpm/Sa Geom.: _____

Requested by: TDA

Date submitted: 11/28/07 ^{TDA} 11/29/07

Sample ID	Isotopes of interest	Sample Date
CAL6537	Th 234076300 #6265	
CAL6538	Th 230023160 #6031	
CAL6539	...	
CAL6540		
CAL6541	Th 234 only	
CAL6542	Purity check	

ADDITIONAL INSTRUCTIONS:

#1070177 COPRECIPITATE PLEASE

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23407B300		Ref: 11/28/2007	4.2146E+03	± 3.660E+02	CPM/G	
CAL6537	Th-234	5.0652E+03 ± 4.399E+02 CPM	1.2454 g	11/29/2007 11/29/2007	Armstron	4.0671E+03 ± 3.532E+02 CPM/G
CAL6538	Th-234	5.0972E+03 ± 4.427E+02 CPM	1.2533 g	11/29/2007 11/29/2007	Armstron	4.0670E+03 ± 3.532E+02 CPM/G
CAL6539	Th-234	5.0723E+03 ± 4.405E+02 CPM	1.2472 g	11/29/2007 11/29/2007	Armstron	4.0670E+03 ± 3.532E+02 CPM/G
CAL6540	Th-234	5.0547E+03 ± 4.390E+02 CPM	1.2429 g	11/29/2007 11/29/2007	Armstron	4.0669E+03 ± 3.532E+02 CPM/G
CAL6541	Th-234	5.0917E+03 ± 4.422E+02 CPM	1.252 g	11/29/2007 11/29/2007	Armstron	4.0668E+03 ± 3.532E+02 CPM/G
CAL6542	Th-234	5.0696E+03 ± 4.403E+02 CPM	1.2466 g	11/29/2007 11/29/2007	Armstron	4.0668E+03 ± 3.532E+02 CPM/G

5.0751E+003 ± 1.621E+001 (6) 0.319% 5.0547E+003 , 5.0972E+003

Standard Material Fractions (Vials)

Vial Prep:11/28/06 to 11/30/07,SMFractionIdentifier Between cal6537 and cal6542, Order by SMIdentifier,ConstituentCode,SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: TH23002B160			Ref: 5/31/2002	4.2976E+01 ± 1.503E+00	DPM/G	
CAL6537	TH-230	2.5187E+01 ± 8.809E-01 DPM	0.5861 g	11/29/2007 11/29/2007	Armstron	4.2974E+01 ± 1.503E+00 DPM/G
CAL6538	TH-230	2.5024E+01 ± 8.752E-01 DPM	0.5823 g	11/29/2007 11/29/2007	Armstron	4.2974E+01 ± 1.503E+00 DPM/G
CAL6539	TH-230	2.4972E+01 ± 8.734E-01 DPM	0.5811 g	11/29/2007 11/29/2007	Armstron	4.2974E+01 ± 1.503E+00 DPM/G
CAL6540	TH-230	2.4946E+01 ± 8.725E-01 DPM	0.5805 g	11/29/2007 11/29/2007	Armstron	4.2974E+01 ± 1.503E+00 DPM/G
CAL6541	TH-230	0.0000E+00 ± 6.077E-03 DPM	0 g	11/29/2007 11/29/2007	Armstron	4.2974E+01 ± 1.503E+00 DPM/G
CAL6542	TH-230	0.0000E+00 ± 6.077E-03 DPM	0 g	11/29/2007 11/29/2007	Armstron	4.2974E+01 ± 1.503E+00 DPM/G

1.6688E+001 ± 1.293E+001 (6) 77.461% 0.0000E+000 , 2.5187E+001

* - Isotope is an Impurity

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

29-NOV-2007 09:19:17.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
CAL6452	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
29-NOV-2007 09:19:17.00	15129	20.00	675	500.00	30A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
6	24	662	1492	29-NOV-2007 06:23:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

29-NOV-2007 09:19:17.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
CAL6453	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
29-NOV-2007 09:19:17.00	14518	20.00	726	500.00	30B

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
3	18	662	1492	29-NOV-2007 06:23:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

29-NOV-2007 09:19:17.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
CAL6455	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
29-NOV-2007 09:19:17.00	14681	20.00	566	500.00	30D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
4	14	662	1492	29-NOV-2007 06:23:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

29-NOV-2007 12:25:10.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
CAL6537	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
29-NOV-2007 12:25:10.00	95877	20.00	675	500.00	30A

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
5	24	665	1492	29-NOV-2007 06:23:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

29-NOV-2007 12:25:10.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
CAL6538	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
29-NOV-2007 12:25:10.00	96274	20.00	726	500.00	30B

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
6	18	665	1492	29-NOV-2007 06:23:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

29-NOV-2007 12:25:10.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
CAL6539	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
29-NOV-2007 12:25:10.00	95463	20.00	566	500.00	30D

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
2	14	665	1492	29-NOV-2007 06:23:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

29-NOV-2007 12:51:12.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
CAL6540	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
29-NOV-2007 12:51:12.00	92146	20.00	675	500.00	30A

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
4	24	671	1492	29-NOV-2007 06:23:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

29-NOV-2007 12:51:12.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
CAL6541	COP	COP

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
29-NOV-2007 12:51:12.00	100128	20.00	726	500.00	30B

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
4	18	671	1492	29-NOV-2007 06:23:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

29-NOV-2007 12:51:12.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
CAL6542	COP	COP

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
29-NOV-2007 12:51:12.00	95561	20.00	566	500.00	30D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
2	14	671	1492	29-NOV-2007 06:23:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

THORIUM ISOTOPIC COUNTING REQUEST

11/30
0607

C.R. Technician CS
Date Counted 11/29/07
C.R. Analyst CS
Date Analyzed 11/29/07

Counting Time 1000 Minutes
Sample 1000
SOP's Operating: RICHRD0008
Background See Alpha Analysis Report
Review: 11/29 T070177

WorkOrder #	Th-229 (4845 KeV) Tracer		TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV) (6)		
<u>Cal 6537</u>		10		0			171 3.513
<u>Cal 6538</u>		10		0			172 3.475
<u>Cal 6539</u>		10		0			176 3.418
<u>Cal 6540</u>		10		0			177 3.022
<u>Cal 6541</u>		10		0			119
<u>Cal 6542</u>		10		0			170
		10		0			
		10		0			
		10		0			

Comments:

Approved by: S Date: 11/30/07

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: CAL6537

Detector: ALP171 1

Report Date: 30-Nov-07 06:16 AM

Acquire Date: 29-NOV-2007 13:26:32.73

Tracer Nuclide: TH-229

Sample Live Time: 999 minutes

Bkgrnd Live Time: 999 minutes

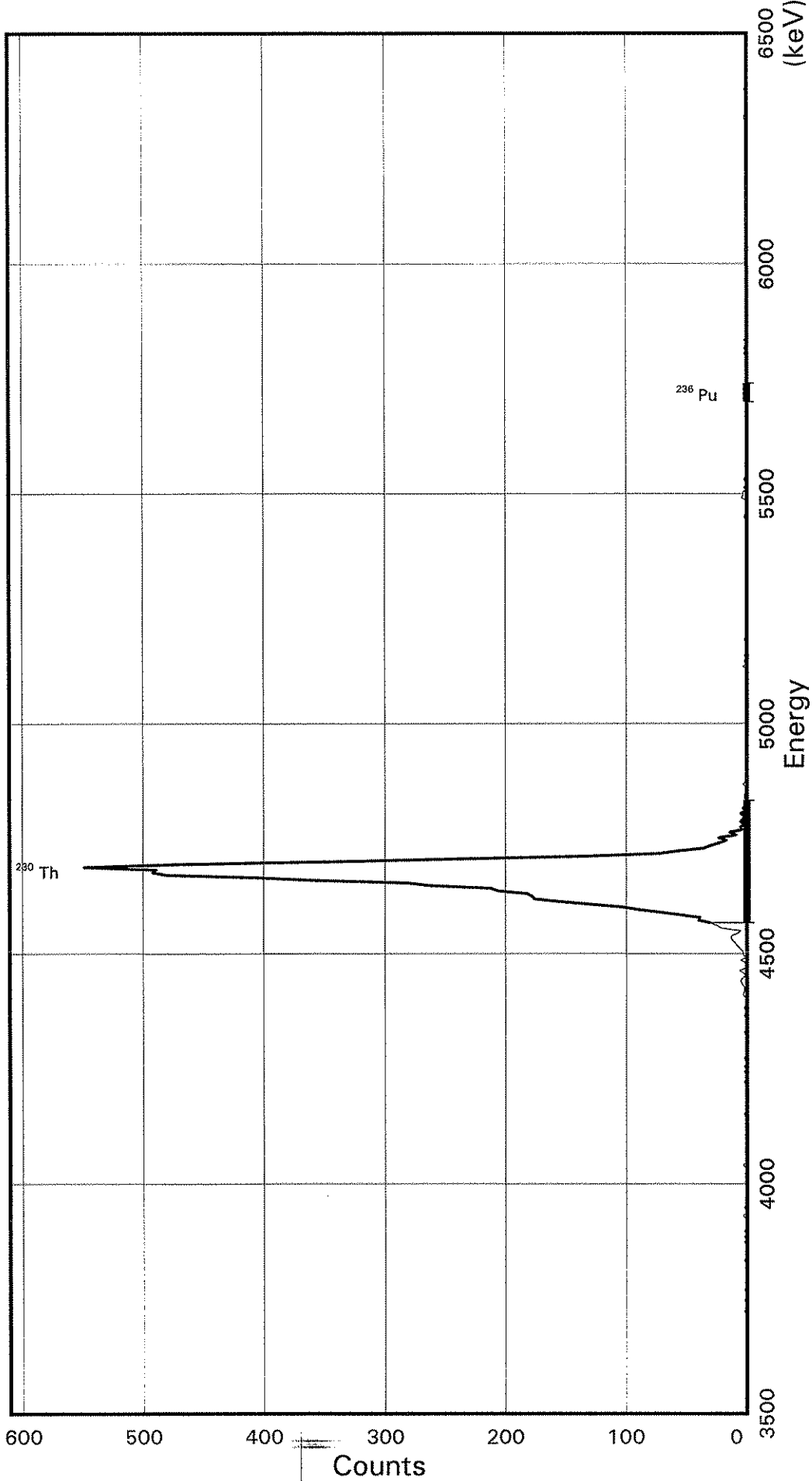
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	5	1	0.004	5423.2	116.4	316	336
TH-230	6616	5	6.618	4687.7	336.2	171	229
TH-232	18	0	0.018	4013.0	115.5	73	93

End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.
TH STL

Batch ID: T070177

Sample ID: CAL6537
Detector ID: ALP171 1



Acquisition Start: 29-NOV-2007 13:26:32.73
Preset Live Time: 0 16:40:00.00
Elapsed Live Time: 0 16:38:57.00

Energy Coefficients:
Offset: 3.50436E + 03
Slope: 5.75779E + 00
Quadrature: 9.77860E-05

SAMPLE IDENTITY: CAL6537

TITLE : TH STL

DETECTOR : ALP171 1
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE] CAL6537_291171326A.CNF
;1

ACQUIRE DATE of BACKGROUND: 19-NOV-2007 05:26:52

REPORT DATE : 30-Nov-07 SAMPLE DATE: 29-NOV-2007 12:00:00
ACQUIRE DATE: 29-NOV-2007 13:26:32 CALIB DATE : 18-NOV-2007 05:35:02

PRESET LIVE TIME: 0 16:40:00 ELAPSED LIVE TIME: 0 16:38:57

OFFSET : 3504.36 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 5.75779 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 9.778600E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: CAL6537

Flags Key

Detector: ALP171 1

Report Date: 30-Nov-07 06:07 AM

Intersect Region: @

Acquire Date: 29-NOV-2007 13:26:32.73

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
0	1	0	51	1	101	1	151	406	201	0	251	0	301	1	351	0	401	0	451	0	501		
	2	1	52	1	102	2	152	480	202	0	252	0	302	0	352	2	402	0	452	1	502		
0	3	1	53	1	103	1	153	492	203	1	253	0	303	0	353	0	403	1	453	0	503		
0	4	0	54	0	104	1	154	489	204	0	254	0	304	0	354	0	404	1	454	1	504		
0	5	1	55	0	105	1	155	549	205	0	255	0	305	0	355	1	405	0	455	0	505		
0	6	0	56	1	106	1	156	474	206	0	256	0	306	0	356	1	406	0	456	0	506		
0	7	2	57	0	107	3	157	339	207	0	257	0	307	0	357	0	407	0	457	0	507		
0	8	1	58	0	108	2	158	242	208	0	258	0	308	0	358	1	408	0	458	0	508		
0	9	1	59	0	109	2	159	136	209	0	259	0	309	0	359	0	409	0	459	0	509		
0	10	0	60	0	110	2	160	73	210	0	260	0	310	0	360	0	410	0	460	0	510		
0	11	0	61	0	111	4	161	57	211	0	261	0	311	0	361	0	411	0	461	0	511		
0	12	0	62	2	112	5	162	36	212	0	262	0	312	0	362	0	412	1	462	0	512		
0	13	0	63	1	113	4	163	30	213	0	263	0	313	0	363	0	413	0	463				
0	14	2	64	1	114	1	164	23	214	0	264	0	314	0	364	0	414	0	464				
0	15	0	65	0	115	2	165	17	215	0	265	0	315	0	365	0	415	0	465				
0	16	2	66	0	116	6	166	23	216	0	266	0	316	0	366	0	416	0	466				
0	17	0	67	1	117	1	167	9	217	0	267	1	317	0	367	0	417	0	467				
1	18	2	68	1	118	1	168	14	218	0	268	0	318	0	368	1	418	0	468				
0	19	1	69	0	119	1	169	4	219	0	269	0	319	0	369	0	419	1	469				
1	20	0	70	0	120	5	170	5	220	0	270	0	320	0	370	0	420	0	470				
0	21	0	71	1	121	0	171	2	221	0	271	0	321	0	371	0	421	0	471				
0	22	1	72	1	122	3	172	5	222	0	272	0	322	0	372	0	422	1	472				
0	23	1	73	0	123	3	173	3	223	0	273	0	323	0	373	0	423	0	473				
0	24	3	74	2	124	5	174	1	224	0	274	0	324	0	374	0	424	0	474				
1	25	0	75	1	125	7	175	5	225	0	275	0	325	0	375	0	425	0	475				
0	26	1	76	1	126	9	176	1	226	0	276	0	326	1	376	0	426	0	476				
0	27	2	77	0	127	11	177	3	227	1	277	0	327	0	377	1	427	0	477				
0	28	1	78	2	128	13	178	0	228	0	278	0	328	0	378	0	428	0	478				
0	29	1	79	0	129	13	179	1	229	0	279	0	329	0	379	0	429	0	479				
1	30	0	80	2	130	8	180	1	230	3	280	0	330	1	380	0	430	1	480				
1	31	0	81	0	131	5	181	2	231	0	281	0	331	0	381	0	431	0	481				
0	32	0	82	1	132	21	182	2	232	2	282	0	332	2	382	0	432	1	482				
0	33	1	83	2	133	25	183	0	233	0	283	1	333	0	383	0	433	0	483				
0	34	1	84	1	134	30	184	1	234	2	284	0	334	0	384	0	434	2	484				
0	35	1	85	1	135	40	185	0	235	0	285	1	335	0	385	0	435	2	485				
0	36	0	86	0	136	39	186	3	236	0	286	2	336	0	386	0	436	1	486				
1	37	0	87	1	137	55	187	1	237	0	287	1	337	0	387	0	437	1	487				
2	38	0	88	1	138	73	188	0	238	1	288	1	338	0	388	0	438	1	488				
0	39	1	89	1	139	91	189	1	239	0	289	1	339	0	389	0	439	0	489				
0	40	1	90	1	140	104	190	1	240	2	290	1	340	0	390	1	440	1	490				
0	41	0	91	1	141	130	191	0	241	1	291	0	341	0	391	0	441	1	491				
2	42	1	92	1	142	155	192	0	242	0	292	0	342	1	392	0	442	1	492				
0	43	3	93	2	143	176	193	0	243	0	293	4	343	0	393	0	443	0	493				
0	44	0	94	0	144	178	194	0	244	0	294	3	344	0	394	0	444	0	494				
0	45	1	95	0	145	182	195	0	245	0	295	3	345	1	395	0	445	2	495				
2	46	0	96	1	146	206	196	0	246	0	296	1	346	0	396	0	446	1	496				
0	47	0	97	0	147	212	197	0	247	0	297	2	347	2	397	0	447	0	497				
1	48	0	98	0	148	262	198	0	248	0	298	0	348	1	398	0	448	0	498				
0	49	1	99	2	149	281	199	0	249	1	299	1	349	2	399	0	449	0	499				

0 50 0 100 1 150 360 200 0 250 1 300 2 350 1 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 30-NOV-2007 06:07:36

Configuration : \$DISK1:[ALP171.SAMPLE]CAL6537_291171326A.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : TH STL
 Sample date : 29-NOV-2007 12:00:00 Acquisition date : 29-NOV-2007 13:26:32
 Sample ID : CAL6537 Sample quantity : 1.0000 SAMPLE
 Sample type : disk Sample geometry :
 Detector name : ALP171 1 Detector geometry:
 Elapsed live time: 0 16:38:57.00 Elapsed real time: 0 16:38:57.00 0.0%
 Start energy : 3521.63 keV End energy : 6477.98 keV
 Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4678.28	6497	0	51.82	203.18	184	46	1.08E-01	1.2	
2	0	5715.19	4	0	23.03	381.50	379	7	6.67E-05	50.0	

Error Report (Date: 30-Nov-07 06:07 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: 1-Apr-07)

Sample Identity: CAL6538

Detector: ALP171 2

Report Date: 30-Nov-07 06:16 AM

Acquire Date: 29-NOV-2007 13:26:32.73

Tracer Nuclide: TH-229

Sample Live Time: 999 minutes

Bkgrnd Live Time: 999 minutes

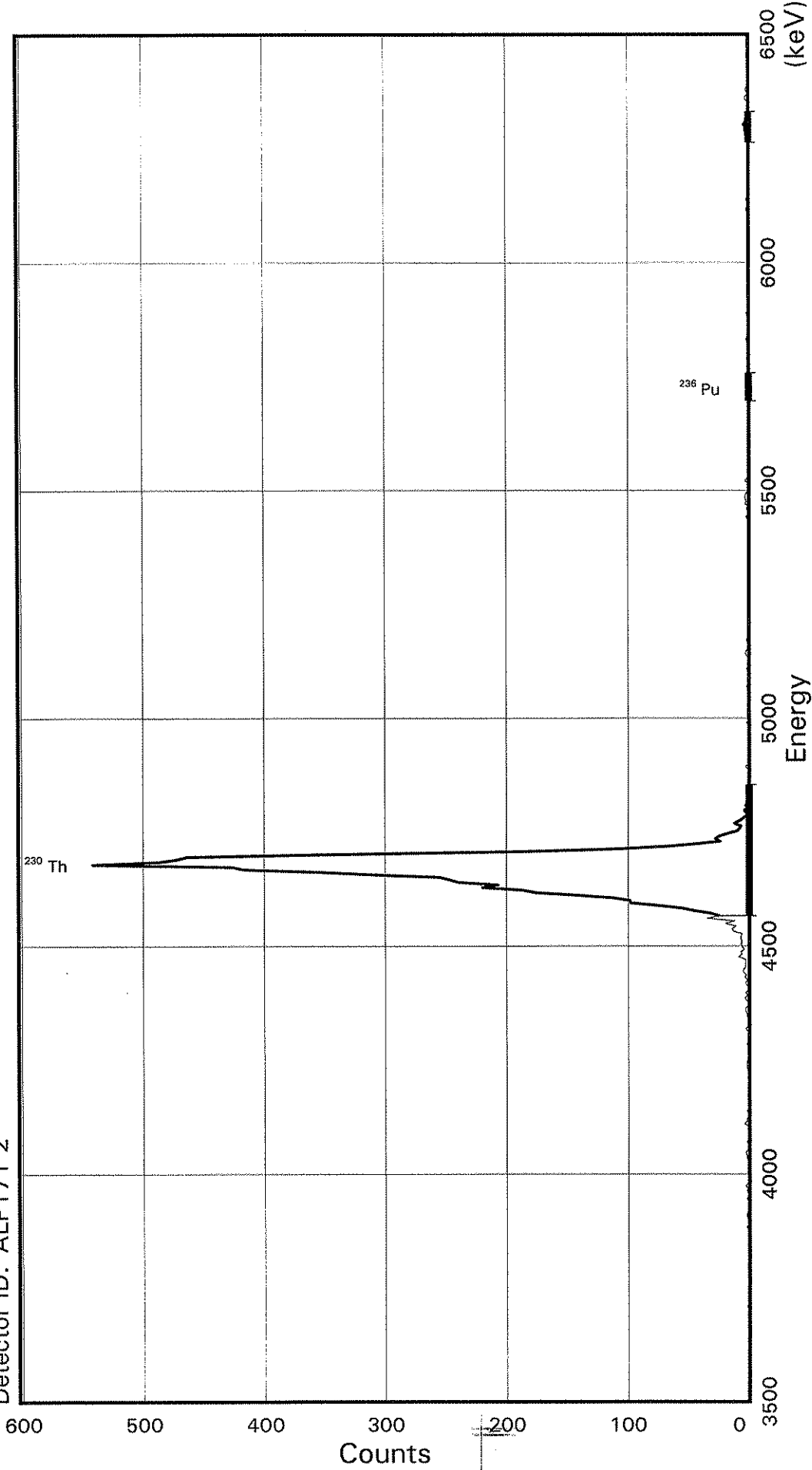
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	4	2	0.002	5423.2	113.1	321	341
TH-230	6728	3	6.732	4687.7	327.5	172	230
TH-232	18	0	0.018	4013.0	112.8	71	91

End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.
TH STL

Batch ID: T070177

Sample ID: CAL6538
Detector ID: ALP171 2



Acquisition Start: 29-NOV-2007 13:26:32.73
Preset Live Time: 0 16:40:00.00
Elapsed Live Time: 0 16:38:57.00

Energy Coefficients:
Offset: 3.52884E + 03
Slope: 5.63462E + 00
Quadrature: 3.05042E-05

SAMPLE IDENTIITY: CAL6538

TITLE : TH STL

DETECTOR : ALP171 2
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE] CAL6538_291171326B.CNF

;1
ACQUIRE DATE of BACKGROUND: 19-NOV-2007 05:26:52

REPORT DATE : 30-Nov-07 SAMPLE DATE: 29-NOV-2007 12:00:00
ACQUIRE DATE: 29-NOV-2007 13:26:32 CALIB DATE : 18-NOV-2007 09:07:45

PRESET LIVE TIME: 0 16:40:00 ELAPSED LIVE TIME: 0 16:38:57

OFFSET : 3528.84 keV CONSTANT FWHM : 9.50000 Channels
SLOPE : 5.63462 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 3.050420E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
 for Spectra Not Processed by Alp_rgn_cnts
 (Version: 1-Apr-07)

Sample Identity: CAL6538

Flags Key

Detector: ALP171 2

Report Date: 30-Nov-07 06:07 AM

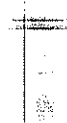
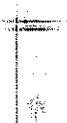
Intersect Region: @

Acquire Date: 29-NOV-2007 13:26:32.73

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									
0		1	0		51	1		101	2		151	354		201	0		251	0		301	0		351	0		401	0		451	3		501
		2	0		52	0		102	4		152	416		202	0		252	0		302	0		352	1		402	0		452	2		502
0		3	0		53	4		103	1		153	426		203	0		253	0		303	3		353	0		403	0		453	0		503
0		4	0		54	2		104	3		154	542		204	0		254	1		304	1		354	0		404	0		454	2		504
0		5	0		55	2		105	1		155	487		205	0		255	0		305	0		355	0		405	0		455	2		505
0		6	0		56	0		106	1		156	472		206	0		256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	2		157	463		207	0		257	0		307	0		357	1		407	0		457	0		507
1		8	0		58	2		108	3		158	333		208	0		258	1		308	0		358	2		408	2		458	0		508
0		9	0		59	0		109	1		159	185		209	2		259	0		309	0		359	1		409	1		459	0		509
1		10	1		60	0		110	4		160	109		210	0		260	0		310	0		360	1		410	1		460	0		510
0		11	0		61	1		111	2		161	68		211	0		261	0		311	0		361	1		411	0		461	0		511
0		12	0		62	0		112	5		162	44		212	0		262	0		312	0		362	1		412	2		462	0		512
0		13	2		63	0		113	5		163	24		213	1		263	0		313	0		363	0		413	0		463			
0		14	1		64	0		114	3		164	28		214	0		264	0		314	0		364	1		414	0		464			
0		15	1		65	0		115	3		165	25		215	0		265	0		315	0		365	0		415	1		465			
0		16	0		66	1		116	3		166	18		216	0		266	0		316	0		366	0		416	0		466			
0		17	2		67	1		117	3		167	10		217	0		267	0		317	0		367	0		417	0		467			
0		18	2		68	0		118	9		168	8		218	0		268	0		318	0		368	2		418	0		468			
1		19	1		69	1		119	6		169	7		219	0		269	0		319	0		369	0		419	0		469			
0		20	1		70	0		120	7		170	12		220	0		270	1		320	0		370	0		420	0		470			
0		21	0		71	1		121	4		171	8		221	0		271	0		321	0		371	0		421	0		471			
0		22	1		72	0		122	6		172	5		222	0		272	0		322	0		372	0		422	0		472			
0		23	0		73	1		123	7		173	2		223	2		273	0		323	0		373	0		423	0		473			
0		24	2		74	1		124	6		174	2		224	0		274	0		324	0		374	0		424	0		474			
0		25	1		75	2		125	7		175	4		225	0		275	0		325	0		375	0		425	0		475			
0		26	0		76	2		126	7		176	1		226	1		276	0		326	0		376	0		426	0		476			
0		27	2		77	2		127	6		177	3		227	1		277	0		327	0		377	0		427	0		477			
0		28	1		78	1		128	13		178	0		228	1		278	0		328	0		378	0		428	0		478			
0		29	3		79	1		129	14		179	1		229	0		279	0		329	0		379	0		429	0		479			
0		30	1		80	1		130	11		180	0		230	2		280	0		330	0		380	0		430	1		480			
0		31	0		81	0		131	20		181	1		231	0		281	0		331	0		381	0		431	0		481			
2		32	0		82	1		132	12		182	1		232	1		282	0		332	0		382	0		432	1		482			
0		33	1		83	0		133	35		183	0		233	0		283	0		333	0		383	0		433	0		483			
0		34	0		84	2		134	25		184	0		234	0		284	0		334	0		384	0		434	0		484			
0		35	0		85	1		135	32		185	1		235	2		285	0		335	1		385	0		435	1		485			
0		36	0		86	0		136	46		186	0		236	3		286	0		336	0		386	0		436	0		486			
0		37	0		87	1		137	56		187	0		237	2		287	1		337	2		387	0		437	2		487			
0		38	1		88	0		138	76		188	0		238	1		288	1		338	0		388	0		438	2		488			
0		39	1		89	1		139	98		189	0		239	0		289	2		339	1		389	0		439	3		489			
0		40	2		90	3		140	99		190	0		240	1		290	0		340	2		390	0		440	2		490			
0		41	2		91	1		141	113		191	0		241	2		291	0		341	1		391	0		441	4		491			
0		42	3		92	0		142	142		192	3		242	1		292	2		342	0		392	0		442	2		492			
0		43	1		93	1		143	176		193	0		243	1		293	0		343	0		393	1		443	2		493			
0		44	1		94	0		144	187		194	0		244	1		294	3		344	0		394	0		444	1		494			
0		45	0		95	2		145	220		195	0		245	1		295	2		345	0		395	0		445	0		495			
0		46	2		96	2		146	207		196	1		246	0		296	3		346	1		396	0		446	0		496			
1		47	0		97	3		147	239		197	0		247	0		297	3		347	1		397	1		447	1		497			
0		48	1		98	3		148	247		198	0		248	0		298	2		348	0		398	0		448	0		498			
0		49	0		99	1		149	255		199	0		249	0		299	1		349	0		399	1		449	1		499			

0 50 1 100 1 150 309 200 0 250 0 300 0 350 0 400 0 450 1 500



VMS Peak Search Report V1.9 Generated 30-NOV-2007 06:07:43

```

Configuration      : $DISK1:[ALP171.SAMPLE]CAL6538_291171326B.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH STL
Sample date       : 29-NOV-2007 12:00:00 Acquisition date : 29-NOV-2007 13:26:32
Sample ID        : CAL6538 Sample quantity : 1.0000 SAMPLE
Sample type      : disk Sample geometry :
Detector name    : ALP171 1 Detector geometry:
Elapsed live time: 0 16:38:57.00 Elapsed real time: 0 16:38:57.00 0.0%
Start energy     : 3545.75 keV End energy : 6421.76 keV
Sensitivity      : 3.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4678.21	6594	0	56.35	203.76	184	51	1.10E-01	1.2	
2	0	5722.49	8	0	45.08	388.50	384	11	1.33E-04	35.4	
3	0	6299.39	19	0	33.81	490.40	484	12	3.17E-04	22.9	

Error Report (Date: 30-Nov-07 06:07 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: 1-Apr-07)

Sample Identity: CAL6539

Detector: ALP171 6

Report Date: 30-Nov-07 06:17 AM

Acquire Date: 29-NOV-2007 13:26:32.73

Tracer Nuclide: TH-229

Sample Live Time: 999 minutes

Bkgrnd Live Time: 999 minutes

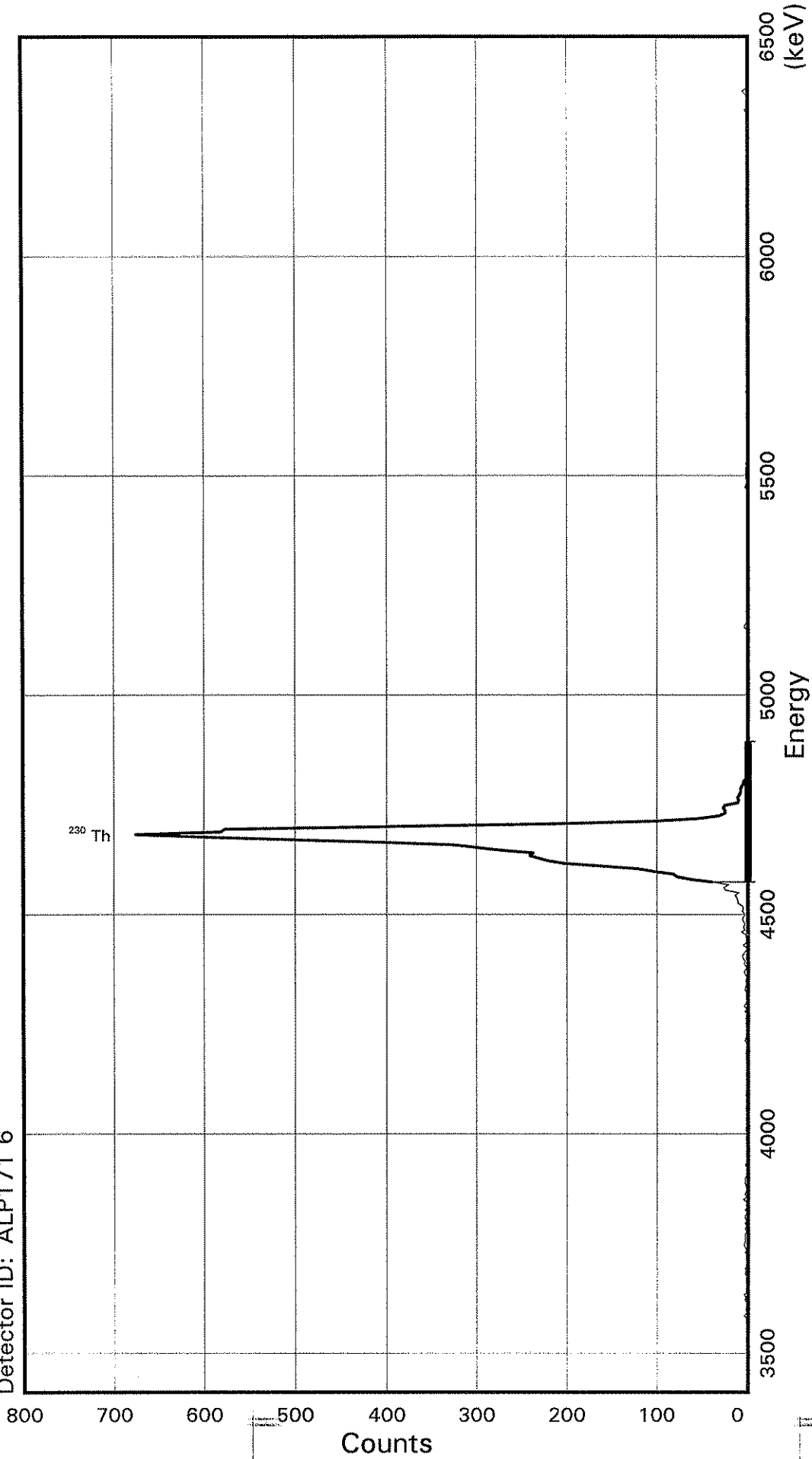
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	4	3	0.001	5423.2	120.9	322	342
TH-230	7153	3	7.158	4687.7	331.9	180	235
TH-232	15	1	0.014	4013.0	120.5	88	108

End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.
TH STL

Sample ID: CAL6539
Detector ID: ALP171 6

Batch ID: T070177



Acquisition Start: 29-NOV-2007 13:26:32.73
Preset Live Time: 0 16:40:00.00
Elapsed Live Time: 0 16:38:57.00

Energy Coefficients:
Offset: 3.39284E + 03
Slope: 6.01709E + 00
Quadrature: 4.34440E-05

SAMPLE IDENTITY: CAL6539

TITLE : TH STL

DETECTOR : ALP171 6
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE] CAL6539_291171326F.CNF
;1

ACQUIRE DATE of BACKGROUND: 20-NOV-2007 12:43:22

REPORT DATE : 30-Nov-07 SAMPLE DATE: 29-NOV-2007 12:00:00
ACQUIRE DATE: 29-NOV-2007 13:26:32 CALIB DATE : 18-NOV-2007 05:35:32

PRESET LIVE TIME: 0 16:40:00 ELAPSED LIVE TIME: 0 16:38:57

OFFSET : 3392.84 keV CONSTANT FWHM : 8.16667 Channels
SLOPE : 6.01709 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 4.344400E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: CAL6539
Detector: ALP171 6
Report Date: 30-Nov-07 06:12 AM
Acquire Date: 29-NOV-2007 13:26:32.73

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
0	1	0	51	0	101	1	151	121	201	0	251	0	301	2	351	0	401	2	451	0	501					
0	2	1	52	2	102	0	152	160	202	0	252	0	302	2	352	0	402	0	452	0	502					
0	3	1	53	2	103	2	153	202	203	1	253	1	303	1	353	0	403	1	453	0	503					
0	4	2	54	0	104	1	154	220	204	0	254	1	304	2	354	0	404	1	454	0	504					
0	5	1	55	0	105	3	155	231	205	0	255	0	305	0	355	1	405	0	455	0	505					
1	6	3	56	2	106	3	156	241	206	0	256	0	306	0	356	1	406	0	456	0	506					
0	7	1	57	0	107	1	157	237	207	0	257	0	307	0	357	0	407	0	457	0	507					
0	8	3	58	0	108	2	158	272	208	0	258	0	308	0	358	2	408	0	458	1	508					
0	9	4	59	1	109	2	159	298	209	0	259	0	309	0	359	2	409	0	459	0	509					
0	10	3	60	2	110	1	160	325	210	0	260	0	310	0	360	1	410	0	460	0	510					
0	11	3	61	2	111	3	161	404	211	0	261	0	311	0	361	0	411	0	461	0	511					
0	12	3	62	1	112	4	162	502	212	0	262	0	312	0	362	0	412	0	462	0	512					
0	13	3	63	2	113	2	163	595	213	0	263	0	313	0	363	0	413	0	463							
0	14	1	64	0	114	2	164	676	214	0	264	0	314	0	364	0	414	0	464							
0	15	3	65	2	115	4	165	582	215	0	265	0	315	0	365	0	415	1	465							
2	16	1	66	2	116	3	166	577	216	0	266	0	316	0	366	1	416	0	466							
0	17	3	67	0	117	5	167	394	217	0	267	0	317	1	367	0	417	2	467							
0	18	1	68	0	118	6	168	215	218	0	268	0	318	0	368	0	418	0	468							
0	19	3	69	2	119	4	169	102	219	0	269	1	319	0	369	0	419	0	469							
1	20	3	70	0	120	2	170	55	220	0	270	0	320	0	370	0	420	0	470							
1	21	0	71	0	121	0	171	32	221	0	271	0	321	0	371	0	421	0	471							
0	22	3	72	0	122	5	172	25	222	0	272	0	322	0	372	0	422	0	472							
1	23	1	73	2	123	2	173	25	223	0	273	0	323	0	373	0	423	0	473							
0	24	1	74	1	124	1	174	27	224	1	274	1	324	0	374	0	424	0	474							
0	25	0	75	1	125	2	175	25	225	0	275	0	325	0	375	0	425	1	475							
0	26	5	76	0	126	2	176	11	226	0	276	0	326	0	376	0	426	0	476							
0	27	1	77	1	127	7	177	10	227	0	277	0	327	0	377	0	427	2	477							
0	28	3	78	1	128	3	178	11	228	1	278	0	328	0	378	0	428	0	478							
1	29	2	79	0	129	5	179	9	229	0	279	0	329	0	379	0	429	1	479							
2	30	1	80	1	130	3	180	8	230	0	280	0	330	0	380	0	430	0	480							
1	31	2	81	2	131	5	181	8	231	1	281	0	331	2	381	1	431	0	481							
4	32	3	82	2	132	6	182	7	232	0	282	0	332	0	382	0	432	2	482							
1	33	3	83	1	133	4	183	5	233	0	283	1	333	1	383	0	433	0	483							
2	34	3	84	0	134	4	184	5	234	0	284	0	334	0	384	0	434	0	484							
2	35	1	85	1	135	6	185	1	235	1	285	0	335	0	385	0	435	0	485							
1	36	0	86	3	136	5	186	2	236	1	286	0	336	1	386	0	436	2	486							
1	37	0	87	2	137	6	187	0	237	0	287	0	337	0	387	0	437	3	487							
3	38	0	88	1	138	11	188	2	238	1	288	0	338	0	388	0	438	0	488							
2	39	3	89	0	139	11	189	2	239	2	289	0	339	0	389	0	439	1	489							
4	40	0	90	1	140	12	190	0	240	1	290	1	340	0	390	0	440	1	490							
0	41	1	91	1	141	14	191	0	241	0	291	1	341	0	391	0	441	1	491							
1	42	0	92	2	142	10	192	2	242	4	292	0	342	0	392	0	442	1	492							
1	43	0	93	2	143	25	193	0	243	3	293	1	343	0	393	0	443	3	493							
1	44	1	94	2	144	26	194	0	244	1	294	1	344	1	394	2	444	6	494							
1	45	0	95	2	145	21	195	1	245	0	295	3	345	0	395	0	445	1	495							
1	46	0	96	0	146	39	196	0	246	0	296	2	346	0	396	0	446	1	496							
1	47	1	97	3	147	63	197	1	247	1	297	1	347	0	397	0	447	1	497							
3	48	1	98	1	148	78	198	0	248	2	298	2	348	0	398	1	448	0	498							
2	49	2	99	4	149	82	199	0	249	0	299	2	349	0	399	0	449	2	499							

3 50 0 100 2 150 104 200 0 250 0 300 2 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 30-NOV-2007 06:12:40

Configuration : \$DISK1:[ALP171.SAMPLE]CAL6539_291171326F.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH STL
Sample date : 29-NOV-2007 12:00:00 Acquisition date : 29-NOV-2007 13:26:32
Sample ID : CAL6539 Sample quantity : 1.0000 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 16:38:57.00 Elapsed real time: 0 16:38:57.00 0.0%
Start energy : 3410.89 keV End energy : 6484.98 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4680.46	6989	0	48.14	213.67	196	53	1.17E-01	1.2	

Error Report (Date: 30-Nov-07 06:12 AM)

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

System Status Message:

%NONAME-W-NOMSG, Message number 00000000

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: CAL6540

Detector: ALP171 7

Report Date: 30-Nov-07 06:17 AM

Acquire Date: 29-NOV-2007 13:26:32.73

Tracer Nuclide: TH-229

Sample Live Time: 999 minutes

Bkgrnd Live Time: 999 minutes

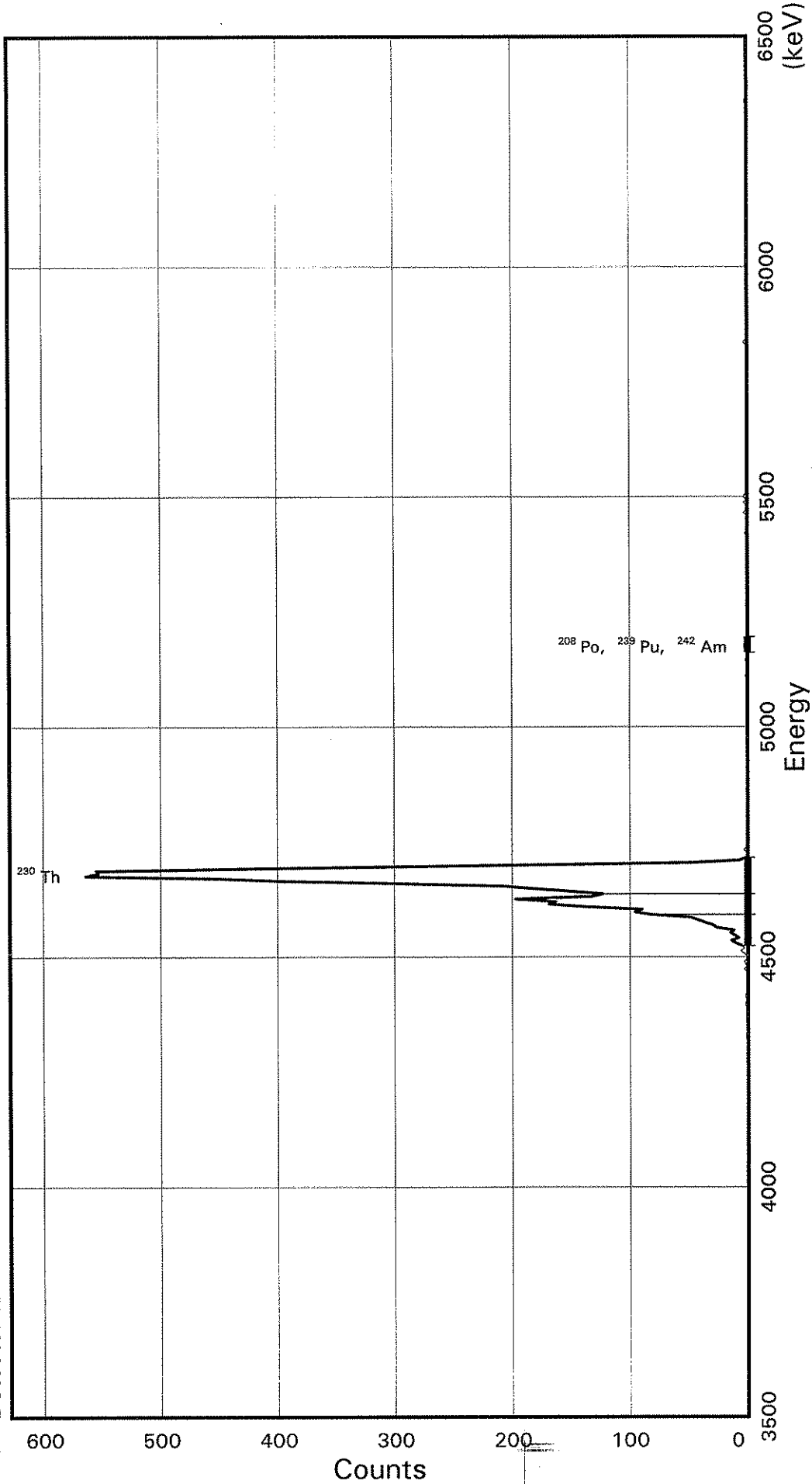
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	7	0	0.007	5423.2	112.6	311	331
TH-230	5502	1	5.507	4687.7	282.2	155	205
TH-232	2	0	0.002	4013.0	113.1	61	81

End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.
TH STL

Batch ID: T070177

Sample ID: CAL6540
Detector ID: ALP171 7



Energy Coefficients:
Offset: 3.58570E + 03
Slope: 5.66286E + 00
Quadrature: -5.48754E-05

Acquisition Start: 29-NOV-2007 13:26:32.73
Preset Live Time: 0 16:40:00.00
Elapsed Live Time: 0 16:38:57.00

SAMPLE IDENTITY: CAL6540

TITLE : TH STL

DETECTOR : ALP171 7
CONFIGURATION NAME : \$DISK1:[ALP171.SAMPLE] CAL6540_291171326G.CNF
;1

ACQUIRE DATE of BACKGROUND: 19-NOV-2007 05:26:52

REPORT DATE : 30-Nov-07 SAMPLE DATE: 29-NOV-2007 12:00:00
ACQUIRE DATE: 29-NOV-2007 13:26:32 CALIB DATE : 18-NOV-2007 05:35:40

PRESET LIVE TIME: 0 16:40:00 ELAPSED LIVE TIME: 0 16:38:57

OFFSET : 3585.70 keV CONSTANT FWHM : 5.33333 Channels
SLOPE : 5.66286 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.548754E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: CAL6540

Flags Key

Detector: ALP171 7

Report Date: 30-Nov-07 06:14 AM

Intersect Region: @

Acquire Date: 29-NOV-2007 13:26:32.73

Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn												
0		1	0		51	0		101	0		151	0		201	0		251	0		301	0		351	0		401	0		451	0		501
0		2	0		52	0		102	0		152	1		202	0		252	0		302	0		352	1		402	0		452	0		502
0		3	0		53	0		103	1		153	3		203	0		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	1		104	0		154	1		204	0		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	1		205	0		255	0		305	1		355	1		405	0		455	0		505
0		6	1		56	0		106	1		156	1		206	0		256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	3		157	0		207	0		257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	1		158	0		208	0		258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	2		159	1		209	0		259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	3		160	1		210	0		260	0		310	0		360	0		410	0		460	0		510
1		11	0		61	0		111	0		161	1		211	0		261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	1		162	0		212	0		262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	3		163	0		213	0		263	0		313	0		363	0		413	0		463			
0		14	0		64	1		114	6		164	0		214	0		264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	3		165	0		215	0		265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	5		166	1		216	0		266	0		316	0		366	0		416	0		466			
0		17	0		67	1		117	10		167	0		217	1		267	1		317	0		367	0		417	0		467			
0		18	0		68	1		118	14		168	0		218	0		268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	8		169	0		219	0		269	1		319	1		369	0		419	0		469			
0		20	0		70	1		120	11		170	0		220	2		270	0		320	0		370	0		420	0		470			
0		21	0		71	0		121	15		171	0		221	0		271	0		321	0		371	0		421	0		471			
0		22	1		72	0		122	12		172	0		222	0		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	27		173	0		223	0		273	0		323	1		373	0		423	0		473			
0		24	0		74	1		124	30		174	0		224	0		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	37		175	0		225	0		275	2		325	1		375	0		425	1		475			
0		26	0		76	0		126	43		176	0		226	2		276	0		326	1		376	1		426	0		476			
0		27	0		77	0		127	49		177	0		227	1		277	1		327	1		377	0		427	0		477			
0		28	1		78	1		128	83		178	0		228	0		278	1		328	0		378	0		428	0		478			
0		29	0		79	0		129	96		179	0		229	0		279	0		329	0		379	0		429	0		479			
0		30	0		80	0		130	90		180	0		230	1		280	0		330	1		380	0		430	0		480			
0		31	0		81	0		131	137		181	0		231	2		281	1		331	0		381	0		431	1		481			
0		32	0		82	1		132	169		182	0		232	2		282	0		332	0		382	0		432	0		482			
0		33	0		83	0		133	163		183	0		233	0		283	3		333	0		383	0		433	1		483			
0		34	1		84	1		134	197		184	0		234	0		284	1		334	0		384	0		434	0		484			
0		35	0		85	0		135	133		185	0		235	0		285	1		335	0		385	0		435	0		485			
0		36	0		86	0		136	123		186	0		236	0		286	0		336	1		386	0		436	0		486			
0		37	0		87	0		137	150		187	0		237	0		287	3		337	0		387	0		437	0		487			
0		38	0		88	1		138	180		188	0		238	0		288	0		338	0		388	0		438	0		488			
0		39	1		89	0		139	207		189	0		239	0		289	3		339	0		389	0		439	0		489			
0		40	0		90	0		140	292		190	0		240	0		290	2		340	0		390	0		440	0		490			
0		41	0		91	0		141	394		191	0		241	0		291	0		341	0		391	0		441	1		491			
0		42	0		92	1		142	452		192	0		242	0		292	0		342	0		392	0		442	2		492			
0		43	0		93	2		143	564		193	0		243	0		293	0		343	0		393	0		443	1		493			
0		44	0		94	2		144	553		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	555		195	0		245	0		295	0		345	1		395	0		445	0		495			
1		46	0		96	2		146	401		196	0		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	2		147	216		197	0		247	0		297	0		347	1		397	0		447	0		497			
0		48	0		98	0		148	49		198	0		248	0		298	0		348	1		398	0		448	0		498			
0		49	1		99	1		149	7		199	0		249	0		299	0		349	3		399	0		449	0		499			

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

VMS Peak Search Report V1.9 Generated 30-NOV-2007 06:14:54

```

Configuration      : $DISK1:[ALP171.SAMPLE]CAL6540_291171326G.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH STL
Sample date       : 29-NOV-2007 12:00:00 Acquisition date : 29-NOV-2007 13:26:32
Sample ID        : CAL6540           Sample quantity  : 1.0000 SAMPLE
Sample type      : disk             Sample geometry   :
Detector name    : ALP171 1        Detector geometry:
Elapsed live time: 0 16:38:57.00   Elapsed real time: 0 16:38:57.00   0.0%
Start energy     : 3602.69 keV      End energy        : 6470.70 keV
Sensitivity      : 3.00             Sum Sensitivity   : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4608.72	939	0	45.30	180.97	166	20	1.57E-02	3.3	
2	0	4677.90	4545	0	39.64	193.23	178	22	7.58E-02	1.5	
3	0	5173.76	6	0	16.99	281.20	279	6	1.00E-04	40.8	

Error Report (Date: 30-Nov-07 06:14 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: 1-Apr-07)

Sample Identity: CAL6541

Detector: ALP119 1

Report Date: 30-Nov-07 06:17 AM

Acquire Date: 29-NOV-2007 13:27:03.47

Tracer Nuclide: TH-229

Sample Live Time: 1000 minutes

Bkgrnd Live Time: 1000 minutes

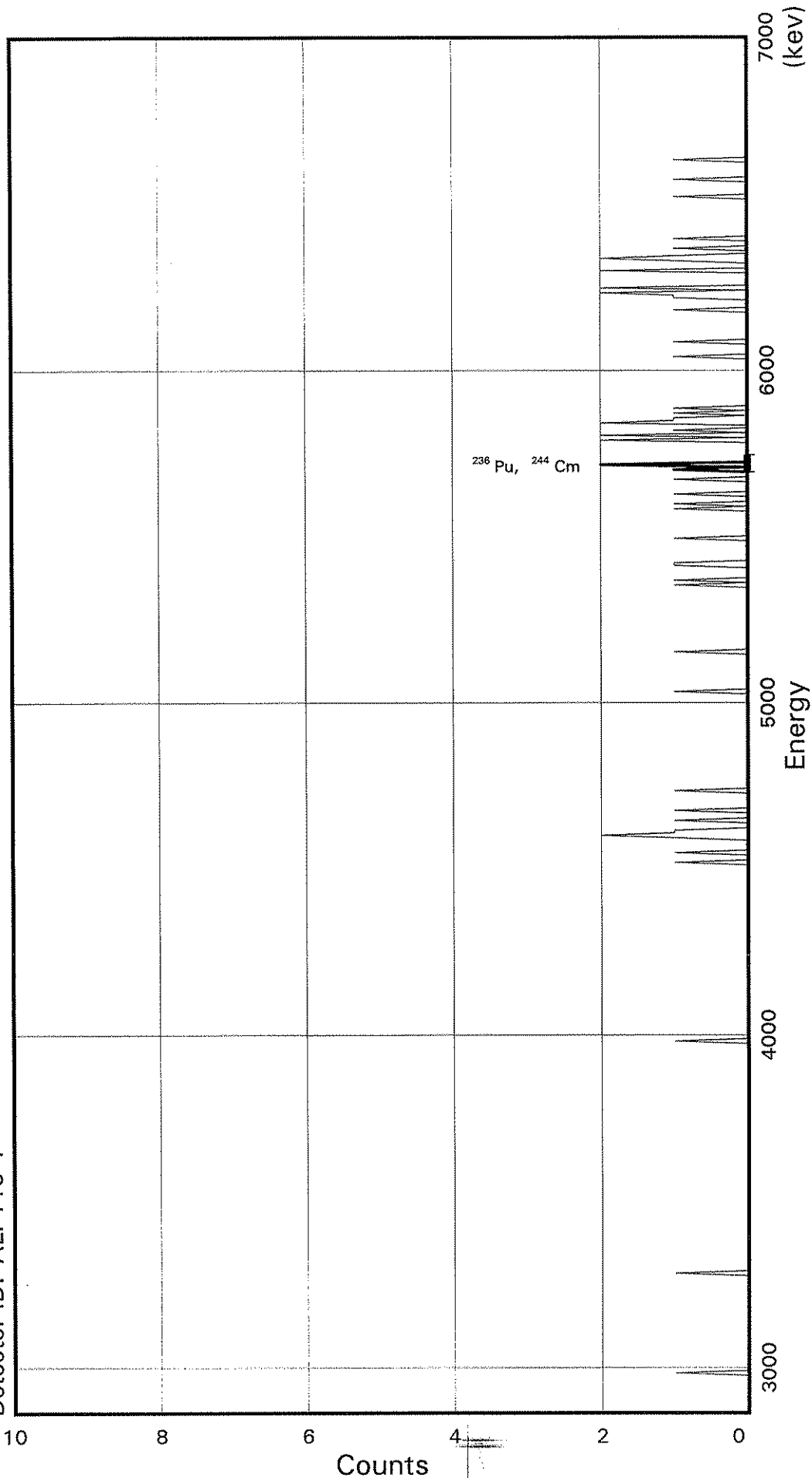
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	4	3	0.001	5423.2	148.4	331	351
TH-230	7	0	0.007	4687.7	149.0	232	252
TH-232	1	0	0.001	4013.0	149.6	141	161

End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.
TH STL

Batch ID: T070177

Sample ID: CAL6541
Detector ID: ALP119 1



Acquisition Start: 29-NOV-2007 13:27:03.47
Preset Live Time: 0 16:40:00.00
Elapsed Live Time: 0 16:40:02.00

Energy Coefficients:
Offset: 2.84119E + 03
Slope: 7.52687E + 00
Quadrature: -1.56041E-04

SAMPLE IDENTIITY: CAL6541

TITLE : TH STL

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06\$DKA100: [ALP119.SAMPLE] CAL6541_2911713
27.CNF;1
ACQUIRE DATE of BACKGROUND: 18-NOV-2007 10:10:46

REPORT DATE : 30-Nov-07 SAMPLE DATE: 29-NOV-2007 12:00:00
ACQUIRE DATE: 29-NOV-2007 13:27:03 CALIB DATE : 18-NOV-2007 06:25:01

PRESET LIVE TIME: 0 16:40:00 ELAPSED LIVE TIME: 0 16:40:02

OFFSET : 2841.19 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 7.52687 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.156041E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 1-Apr-07)

Sample Identity: CAL6541
Detector: ALP119 1

Flags Key

Report Date: 30-Nov-07 06:08 AM

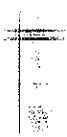
Intersect Region: @

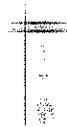
Acquire Date: 29-NOV-2007 13:27:03.47

Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn												
0		1	0		51	0		101	0		151	0		201	0		251	0		301	0		351	0		401	0		451	1		501
		2	0		52	0		102	1		152	0		202	0		252	0		302	0		352	2		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	1		253	0		303	0		353	1		403	1		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	0		354	1		404	1		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	0		305	1		355	0		405	2		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	0		306	0		356	1		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	0		257	0		307	0		357	0		407	2		457	0		507
0		8	0		58	0		108	0		158	0		208	0		258	0		308	0		358	1		408	0		458	0		508
0		9	1		59	0		109	0		159	0		209	0		259	1		309	0		359	0		409	0		459	1		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	2		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	1		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			
1		19	0		69	0		119	0		169	0		219	0		269	0		319	1		369	0		419	2		469			
0		20	0		70	0		120	0		170	0		220	0		270	0		320	0		370	0		420	1		470			
0		21	0		71	0		121	0		171	0		221	0		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	0		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	0		273	0		323	1		373	0		423	1		473			
0		24	0		74	0		124	0		174	1		224	0		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	0		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	0		276	0		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	0		327	0		377	0		427	1		477			
0		28	0		78	0		128	0		178	1		228	0		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	0		279	0		329	1		379	1		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	0		282	0		332	0		382	0		432	0		482			
0		33	0		83	0		133	0		183	0		233	0		283	0		333	1		383	0		433	0		483			
0		34	0		84	0		134	0		184	1		234	0		284	0		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	2		235	0		285	0		335	2		385	1		435	0		485			
0		36	0		86	0		136	0		186	1		236	0		286	1		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	1		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	1		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	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	1		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	1		344	0		394	0		444	1		494			
0		45	0		95	0		145	0		195	1		245	0		295	1		345	2		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	2		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	1		399	0		449	0		499			

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





VMS Peak Search Report V1.9 Generated 30-NOV-2007 06:08:35

Configuration : RDND06\$DKA100:[ALP119.SAMPLE]CAL6541_291171327.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH STL
Sample date : 29-NOV-2007 12:00:00 Acquisition date : 29-NOV-2007 13:27:03
Sample ID : CAL6541 Sample quantity : 1.0000 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP119 Detector geometry:
Elapsed live time: 0 16:40:02.00 Elapsed real time: 0 16:40:03.00 0.0%
Start energy : 2863.77 kev End energy : 6654.05 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5712.21	4	0	30.11	384.50	382	7	6.67E-05	50.0	

Error Report (Date: 30-Nov-07 06:08 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: 1-Apr-07)

Sample Identity: CAL6542

Detector: ALP120 1

Report Date: 30-Nov-07 06:18 AM

Acquire Date: 29-NOV-2007 13:27:11.25

Tracer Nuclide: TH-229

Sample Live Time: 1000 minutes

Bkgrnd Live Time: 1000 minutes

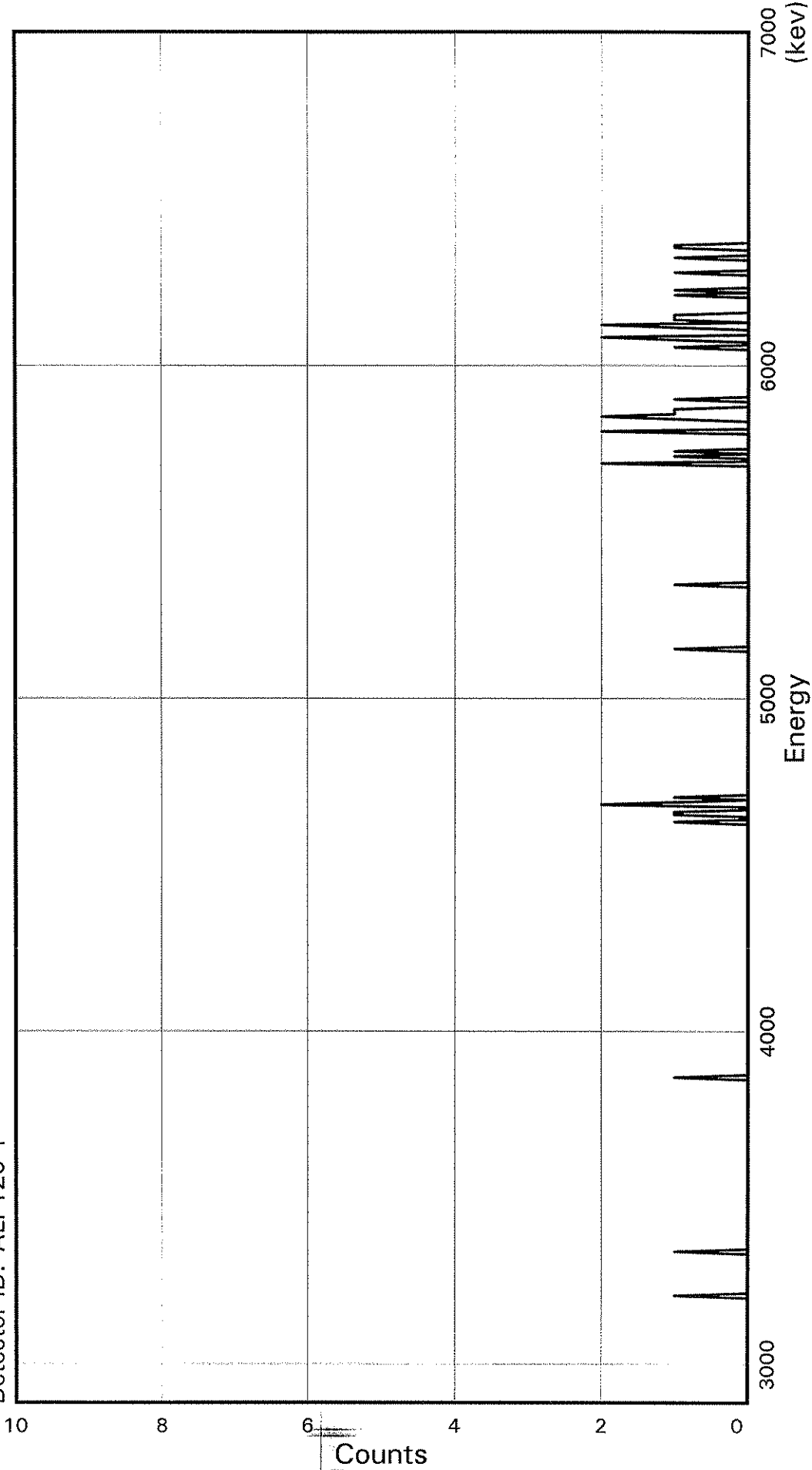
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
TH-228	1	2	-0.001	5423.2	148.6	332	352
TH-230	7	1	0.006	4687.7	148.0	233	253
TH-232	0	0	0.000	4013.0	147.4	142	162

End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.
TH STL

Batch ID: T070177

Sample ID: CAL6542
Detector ID: ALP120 1



Acquisition Start: 29-NOV-2007 13:27:11.25
Preset Live Time: 0 16:40:00.00
Elapsed Live Time: 0 16:40:03.00

Energy Coefficients:
Offset: 2.86282E+03
Slope: 7.32573E+00
Quadrature: 1.49287E-04

SAMPLE IDENTIITY: CAL6542

TITLE : TH STL

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06\$DKA100: [ALP120.SAMPLE] CAL6542_2911713
27.CNF;1
ACQUIRE DATE of BACKGROUND: 18-NOV-2007 10:10:51

REPORT DATE : 30-Nov-07 SAMPLE DATE: 29-NOV-2007 12:00:00
ACQUIRE DATE: 29-NOV-2007 13:27:11 CALIB DATE : 18-NOV-2007 06:25:06

PRESET LIVE TIME: 0 16:40:00 ELAPSED LIVE TIME: 0 16:40:03

OFFSET : 2862.82 keV CONSTANT FWHM : 9.33333 Channels
SLOPE : 7.32573 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 1.492870E-04 keV/C² SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
 for Spectra Not Processed by Alp_rgn_cnts
 (Version: 1-Apr-07)

Sample Identity: CAL6542

Flags Key

Detector: ALP120 1

Report Date: 30-Nov-07 06:08 AM

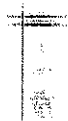
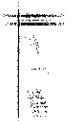
Intersect Region: @

Acquire Date: 29-NOV-2007 13:27:11.25

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	1		403	1		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	0		354	2		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	0		305	0		355	1		405	1		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	0		306	0		356	1		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	0		257	0		307	0		357	1		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	0		258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	0		259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	0		260	1		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	0		311	0		361	1		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	0		312	0		362	0		412	1		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	0		264	0		314	0		364	0		414	0		464			
0		15	1		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	1		468			
0		19	0		69	0		119	0		169	0		219	0		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	0		270	0		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	0		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	0		272	0		322	0		372	0		422	1		472			
0		23	0		73	0		123	0		173	0		223	0		273	0		323	0		373	0		423	1		473			
0		24	0		74	0		124	0		174	0		224	0		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	0		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	0		276	0		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	0		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	0		279	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	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	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	2		385	1		435	0		485			
0		36	0		86	1		136	0		186	0		236	0		286	1		336	0		386	2		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	1		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	1		240	0		290	0		340	1		390	1		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	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	1		243	0		293	0		343	0		393	1		443	0		493			
0		44	0		94	0		144	0		194	1		244	0		294	0		344	0		394	1		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	0		345	0		395	1		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	0		346	0		396	0		446	0		496			
1		47	0		97	0		147	0		197	2		247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	1		248	0		298	0		348	2		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	0		349	0		399	0		449	0		499			

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





VMS Peak Search Report V1.9 Generated 30-NOV-2007 06:08:51

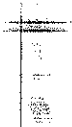
Configuration : RDND06\$DKA100:[ALP120.SAMPLE]CAL6542_291171327.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH STL
Sample date : 29-NOV-2007 12:00:00 Acquisition date : 29-NOV-2007 13:27:11
Sample ID : CAL6542 Sample quantity : 1.0000 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP120 Detector geometry:
Elapsed live time: 0 16:40:03.00 Elapsed real time: 0 16:40:03.00 0.0%
Start energy : 2884.80 kev End energy : 6652.73 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00
No peaks were found

Error Report (Date: 30-Nov-07 06:08 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



Th23407B300 #6265

28-Nov-07 = Source Reference Date

7:35 = Source Reference Time

26A-26D

Thorium Beta Data

Date	Time	Th-234		Background		Min	Net cpm	Decay	Th234 wt. grams	Th234 cpm/g
		Cts	Min	Cts	Min					
39414.00	7:35	9995	20	630	500	498.49	1.0000	0.1128	4419.24	
39414.00	7:35	10100	20	557	500	503.89	1.0000	0.1160	4343.84	
39414.00	7:35	9004	20	542	500	449.12	1.0000	0.1161	3868.35	
39414.00	7:35	9903	20	503	500	494.14	1.0000	0.1169	4227.07	

Average	486.41	Average	4214.63
%RSD	5.79%	Min Bias	-8.22%
Min Bias	-8.22%	Max Bias	4.85%

4.2146E+03	= VAX expected value, cpm/g (entered as dpm in Vax)
3.6601E+02	= Total Error of VAX expected value
28-Nov-07	= Reference Date of VAX expected value
7:35	= Reference Time of VAX expected value

TH-234 INITIAL DILUTION CALCULATION

{A} INITIAL BETA COUNT ACTIVITY	4214.63	cpm/g
{B} INITIAL VOLUME	<u>500.00</u>	mL
{C} INITIAL ACTIVITY DESIRED	5000	cpm/g
{D} PROPOSED TOTAL VOLUME	421.46	mL
{E} PROPOSED VOLUME TO ADD NOT NECESSARY TO BE EXACT	-78.54	mL
{F} ACTUAL VOLUME ADDED	<u>0.00</u>	mL
{G} ACTIVITY	4214.63	cpm/g

$A \cdot B / C = D$ $D - B = E$

$B / (B + F) \cdot A = G$

TO CALCULATE THE NET CPM BETA AND ALPHA FOR TH234 EVALUATION

Th234 Std. ID: TH23407B300 #6265

DATE: 11/28/2007


SAMPLE ID	total		Bkg. Cts.		beta Bkg.		total cts.		alpha		alpha Bkg.		Net beta		Net Alpha		1% net	
	cts.	Beta	beta	ct. time	beta	ct. time	beta	ct. time	alpha	ct. time	alpha	ct. time	CPM	CPM	CPM	CPM	beta	beta
RDQC9008	9995		20	20	630	500	4	50	19	500	498.49	0.042	4.98					
RDQC9009	10100		20	20	557	500	1	50	13	500	503.886	-0.006	5.04					
RDQC9010	9004		20	20	542	500	3	50	15	500	449.116	0.03	4.49					
RDQC9011	9903		20	20	503	500	5	50	15	500	494.144	0.07	4.94					

ALPHA/BETA COUNT SHEET

Sa Num	Aliq.	Ppt. Wt.	Date	Time	Counts	Count time	Bkgd.	Bkgd. Time	Set	Initials
22029008	0.128	0	11/28/07	1918		50M			10A	AR
22029009	0.1166		11/28/07	1918					10A	AD
22029010	0.1161		11/28/07	1918					10C	AD
22029011	0.1169		11/28/07	1918					10D	AD

Client: TAR Date: 11/28/07
 Analyst: TOA Comments: TN 234075300 #6265
 Requested Count Time: 50MIN BATCH # TD70176
 FORM NO.: RC-76, 8/00, Rev. 1

THORIUM BETA DATA FORM

		BATCH # T070176 TH234078300 # 6265			Requested by: TDA 11/28/07		BETA	
Sample ID	Vial Code	TH-234 WT.	Date-time Counted	Lab Tech:	Gross Counts	Counting Time	Bkg. Counts	Count Room Tech
RDEC9008		0.1128	11/28/07 075	JLA		20 min		1/28/07
RDEC9009		0.1166		JBS				
RDEC9010		0.1161		JLC				
RDEC9011		0.1169		JGD				

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

28-NOV-2007 07:38:32.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
RDQC9008	111	15

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
28-NOV-2007 07:38:32.00	9995	20.00	630	500.00	26A

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
10	28	653	1500	28-NOV-2007 05:39:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

28-NOV-2007 07:38:32.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
RDQC9009	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
28-NOV-2007 07:38:32.00	10100	20.00	557	500.00	26B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
5	28	653	1500	28-NOV-2007 05:39:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

28-NOV-2007 07:38:32.00

LBPRINT - Rev#: 2.5

<u>Sample ID</u>	<u>Isotope</u>	<u>Geometry</u>
RDQC9010	111	15

<u>Sample Count Date/Time</u>	<u>Beta Counts</u>	<u>Count Duration*</u>	<u>Beta Bkg Counts</u>	<u>Bkg Count Duration*</u>	<u>Instr ID</u>
28-NOV-2007 07:38:32.00	9004	20.00	542	500.00	26C

<u>Alpha Counts</u>	<u>Alpha Bkg Counts</u>	<u>Guard Counts</u>	<u>HV</u>	<u>Bkg Count Date/Time</u>
0	17	653	1500	28-NOV-2007 05:39:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

TESTAMERICA LABORATORIES, INC.
Richland, WA

GPC Report

28-NOV-2007 07:38:32.00

LBPRINT - Rev#: 2.5

Sample ID	Isotope	Geometry
RDQC9011	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
28-NOV-2007 07:38:32.00	9903	20.00	503	500.00	26D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
0	23	653	1500	28-NOV-2007 05:39:55.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

UST Number: RDQC9008 Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]RDQC9008.112
Dish Size: 15 Bkg File: \$DISK1:[QUAD10.BKGRND]CURRENT.A_15;4787

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00004	00000	0050	00000	1000	28-NOV-2007 19:18:03.93

Bkg File: [quad10.bkgrnd]2007-11-28_0639.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	28-NOV-2007 06:39:39.65

UST Number: RDQC9009 Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]RDQC9009.112
Dish Size: 15 Bkg File: \$DISK1:[QUAD10.BKGRND]CURRENT.B_15;4782

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00001	00000	0050	00000	1000	28-NOV-2007 19:18:03.93

Bkg File: [quad10.bkgrnd]2007-11-28_0639.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00013	0500	0.03	00000	1000	28-NOV-2007 06:39:39.65

UST Number: RDQC9010 Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]RDQC9010.112
Dish Size: 15 Bkg File: \$DISK1:[QUAD10.BKGRND]CURRENT.C_15;4796

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00003	00000	0050	00000	1000	28-NOV-2007 19:18:03.93

Bkg File: [quad10.bkgrnd]2007-11-28_0639.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00015	0500	0.03	00000	1000	28-NOV-2007 06:39:39.65

UST Number: RDQC9011 Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]RDQC9011.112
Dish Size: 15 Bkg File: \$DISK1:[QUAD10.BKGRND]CURRENT.D_15;4786

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00005	00000	0050	00000	1000	28-NOV-2007 19:18:03.93

Bkg File: [quad10.bkgrnd]2007-11-28_0639.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00015	0500	0.03	00000	1000	28-NOV-2007 06:39:39.65

THORIUM
CONTINUING CALIBRATION

Quality Assurance Report. Generated 26-MAR-2008 11:42:42.70

QA Filename : \$DISK1:[ALP171.QA]GROUP_7_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.267342 Std Deviation : 0.004154

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		0.2671		
8-FEB-2008 05:19	chk		0.2662		
4-MAR-2008 08:00	chk		0.2676		

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 5.974886 Std Deviation : 0.409825

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		5.6667		
8-FEB-2008 05:19	chk		6.6667		
4-MAR-2008 08:00	chk		6.6667		

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 337.635986 Std Deviation : 2.760271

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		337.4637		
8-FEB-2008 05:19	chk		337.4242		
4-MAR-2008 08:00	chk		337.4474		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.268086 Std Deviation : 0.002913

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued) Page : 2					
3-FEB-2008 11:02	chk		0.2692		
8-FEB-2008 05:19	chk		0.2714		
4-MAR-2008 08:00	chk		0.2705		

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 5.649118 Std Deviation : 0.022375

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		5.6376	
8-FEB-2008 05:19	chk		5.6552	
4-MAR-2008 08:00	chk		5.6575	

Quality Assurance Report. Generated 26-MAR-2008 11:42:43.40

QA Filename : \$DISK1:[ALP171.QA]GROUP_7_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000288 Std Deviation : 0.000548

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
28-FEB-2008 05:10	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000230 Std Deviation : 0.000522

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
28-FEB-2008 05:10	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000219 Std Deviation : 0.000443

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0000	
28-FEB-2008 05:10	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000334 Std Deviation : 0.000604

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0000		
28-FEB-2008 05:10	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0000		
28-FEB-2008 05:10	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000265 Std Deviation : 0.000539

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0010		
28-FEB-2008 05:10	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0010		
28-FEB-2008 05:10	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000219 Std Deviation : 0.000469

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0010	
28-FEB-2008 05:10	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000230 Std Deviation : 0.000450

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0020	Ac
28-FEB-2008 05:10	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000253 Std Deviation : 0.000488

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0020	Ac	
28-FEB-2008 05:10	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000299 Std Deviation : 0.000531

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued)					Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0020	Ac	
28-FEB-2008 05:10	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000518 Std Deviation : 0.000901

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0020		
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0000		
28-FEB-2008 05:10	bkg		0.0020		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000276 Std Deviation : 0.000605

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0010		
28-FEB-2008 05:10	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000345 Std Deviation : 0.000697

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0020	In	
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0010		
28-FEB-2008 05:10	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000345 Std Deviation : 0.000745

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0010		
28-FEB-2008 05:10	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000311 Std Deviation : 0.000635

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0010	
28-FEB-2008 05:10	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000656 Std Deviation : 0.000888

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0020	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0000	
28-FEB-2008 05:10	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000667 Std Deviation : 0.000937

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0020		
23-FEB-2008 11:07	bkg		0.0030	In	
27-FEB-2008 10:00	bkg		0.0000		
28-FEB-2008 05:10	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004303 Std Deviation : 0.007407

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0070		
27-FEB-2008 10:00	bkg		0.0020		
28-FEB-2008 05:10	bkg		0.0020		
5-MAR-2008 07:46	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.006087 Std Deviation : 0.011125

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 7

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0030	
27-FEB-2008 10:00	bkg		0.0000	
28-FEB-2008 05:10	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001323 Std Deviation : 0.002597

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0000	
28-FEB-2008 05:10	bkg		0.0030	
5-MAR-2008 07:46	bkg		0.0000	

Quality Assurance Report. Generated 26-MAR-2008 11:42:39.11

QA Filename : \$DISK1:[ALP171.QA]GROUP_6_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
 Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.295455 Std Deviation : 0.016426

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		0.2870	
8-FEB-2008 05:19	chk		0.2746	
4-MAR-2008 08:00	chk		0.2902	

-- Multi-Test Full Report --

Description : Constant FWHM
 Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.328889 Std Deviation : 0.580575

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		7.5000	
8-FEB-2008 05:19	chk		8.0000	
4-MAR-2008 08:00	chk		8.1667	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 348.500214 Std Deviation : 2.758969

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		347.5314		
8-FEB-2008 05:19	chk		347.5456		
4-MAR-2008 08:00	chk		347.5714		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.298287 Std Deviation : 0.016131

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		0.2948		
8-FEB-2008 05:19	chk		0.2795		
4-MAR-2008 08:00	chk		0.2940		

Quality Assurance Multi-Test Full Report (continued) Page : 2

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 6.039288 Std Deviation : 0.022915

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		6.0366		
8-FEB-2008 05:19	chk		6.0111		
4-MAR-2008 08:00	chk		6.0401		

3-FEB-2008 11:02	chk		6.0366		
8-FEB-2008 05:19	chk		6.0111		
4-MAR-2008 08:00	chk		6.0401		

Quality Assurance Report. Generated 26-MAR-2008 11:42:39.80

QA Filename : \$DISK1:[ALP171.QA]GROUP_6_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000534 Std Deviation : 0.000759

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0010		

4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000462 Std Deviation : 0.000706

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	In
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000485 Std Deviation : 0.000774

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0010	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000736 Std Deviation : 0.000937

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000564 Std Deviation : 0.000771

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0040	Ac
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000548 Std Deviation : 0.000764

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14 bkg 0.0000 | | |

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0040	Ac
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

9-FEB-2008 06:41 bkg 0.0000 | | |

23-FEB-2008 11:07 bkg 0.0040 |Ac| |

27-FEB-2008 10:00 bkg 0.0000 | | |

5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000521 Std Deviation : 0.000729

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0030	Ac
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

4-FEB-2008 06:14 bkg 0.0000 | | |

9-FEB-2008 06:41 bkg 0.0000 | | |

23-FEB-2008 11:07 bkg 0.0030 |Ac| |

27-FEB-2008 10:00 bkg 0.0000 | | |

5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.000491 Std Deviation : 0.000776

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:14	bkg		0.0000	

4-FEB-2008 06:14 bkg 0.0000 | | |

9-FEB-2008 06:41 bkg	0.0000	
23-FEB-2008 11:07 bkg	0.0010	
27-FEB-2008 10:00 bkg	0.0010	
5-MAR-2008 07:46 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000450 Std Deviation : 0.000752

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg	0.0000	
9-FEB-2008 06:41 bkg	0.0000	
23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0010	
5-MAR-2008 07:46 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000809 Std Deviation : 0.000967

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg	0.0000	
9-FEB-2008 06:41 bkg	0.0000	

23-FEB-2008 11:07 bkg 0.0000 | | |
 27-FEB-2008 10:00 bkg 0.0020 | | |
 5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000826 Std Deviation : 0.000858

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000946 Std Deviation : 0.000853

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0030	In

Quality Assurance Multi-Test Full Report (continued) Page : 5

27-FEB-2008 10:00 bkg 0.0010 | | |
 5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001021 Std Deviation : 0.000969

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0030	In
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001754 Std Deviation : 0.001730

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0040	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0040	
27-FEB-2008 10:00	bkg		0.0040	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001969 Std Deviation : 0.001921

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0020		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0050		
27-FEB-2008 10:00	bkg		0.0030		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001947 Std Deviation : 0.002063

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0020		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0050		
27-FEB-2008 10:00	bkg		0.0020		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.007897 Std Deviation : 0.015019

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0080		
27-FEB-2008 10:00	bkg		0.0040		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.009398 Std Deviation : 0.018221

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 7

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0030		
27-FEB-2008 10:00	bkg		0.0040		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.002082 Std Deviation : 0.003862

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0030		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0020		
27-FEB-2008 10:00	bkg		0.0020		
5-MAR-2008 07:46	bkg		0.0030		

Quality Assurance Report. Generated 26-MAR-2008 11:42:36.15

QA Filename : \$DISK1:[ALP171.QA]GROUP_5_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.240651 Std Deviation : 0.008714

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		0.2345	
8-FEB-2008 05:19	chk		0.2321	
4-MAR-2008 08:00	chk		0.2196	In

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.190476 Std Deviation : 0.194553

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		7.0000	
8-FEB-2008 05:19	chk		7.3333	
4-MAR-2008 08:00	chk		7.1667	

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 327.556061 Std Deviation : 0.189696

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		327.5735	
8-FEB-2008 05:19	chk		327.9419	In
4-MAR-2008 08:00	chk		327.9133	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.241619 Std Deviation : 0.008098

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		0.2314	
8-FEB-2008 05:19	chk		0.2307	
4-MAR-2008 08:00	chk		0.2297	

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 5.907343 Std Deviation : 0.015297

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		5.9174	
8-FEB-2008 05:19	chk		5.8797	
4-MAR-2008 08:00	chk		5.9106	

Quality Assurance Report. Generated 26-MAR-2008 11:42:36.78

QA Filename : \$DISK1:[ALP171.QA]GROUP_5_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000188 Std Deviation : 0.000404

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0010	In
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000313 Std Deviation : 0.000603

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0020	In

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000125 Std Deviation : 0.000342

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000125 Std Deviation : 0.000501

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000063 Std Deviation : 0.000250

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14 bkg 0.0000 | | |

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000125 Std Deviation : 0.000342

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000125 Std Deviation : 0.000342

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	

9-FEB-2008 06:41 bkg	0.0000	
23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0000	
5-MAR-2008 07:46 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000125 Std Deviation : 0.000342

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg	0.0000	
9-FEB-2008 06:41 bkg	0.0000	
23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0000	
5-MAR-2008 07:46 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000063 Std Deviation : 0.000250

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg	0.0000	
9-FEB-2008 06:41 bkg	0.0000	

23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0000	
5-MAR-2008 07:46 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000188 Std Deviation : 0.000404

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14 bkg			0.0000	
9-FEB-2008 06:41 bkg			0.0010	In
23-FEB-2008 11:07 bkg			0.0000	
27-FEB-2008 10:00 bkg			0.0000	
5-MAR-2008 07:46 bkg			0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000375 Std Deviation : 0.000720

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14 bkg			0.0020	In
9-FEB-2008 06:41 bkg			0.0010	
23-FEB-2008 11:07 bkg			0.0000	

Quality Assurance Multi-Test Full Report (continued) Page : 5

27-FEB-2008 10:00 bkg 0.0000 | | |
 5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000375 Std Deviation : 0.000720

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0020	In
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000250 Std Deviation : 0.000578

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	Ac
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000188 Std Deviation : 0.000544

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0020	Ac	
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000188 Std Deviation : 0.000544

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0020	Ac	
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001502 Std Deviation : 0.003166

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0100	In	
27-FEB-2008 10:00	bkg		0.0070		
5-MAR-2008 07:46	bkg		0.0060		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001001 Std Deviation : 0.001968

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0060	In	
27-FEB-2008 10:00	bkg		0.0050	In	
5-MAR-2008 07:46	bkg		0.0030		

Quality Assurance Multi-Test Full Report (continued) Page : 7

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0060	In	
27-FEB-2008 10:00	bkg		0.0050	In	
5-MAR-2008 07:46	bkg		0.0030		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001126 Std Deviation : 0.001545

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0040		
27-FEB-2008 10:00	bkg		0.0050	In	
5-MAR-2008 07:46	bkg		0.0010		

Quality Assurance Report. Generated 26-MAR-2008 11:42:33.41

QA Filename : \$DISK1:[ALP171.QA]GROUP_4_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
 Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.233491 Std Deviation : 0.010680

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		0.2188		
8-FEB-2008 05:19	chk		0.2292		
4-MAR-2008 08:00	chk		0.2187		

-- Multi-Test Full Report --

Description : Constant FWHM
 Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.619048 Std Deviation : 0.499695

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		7.6667		
8-FEB-2008 05:19	chk		8.3333		
4-MAR-2008 08:00	chk		8.1667		

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 338.212585 Std Deviation : 0.193253

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		338.5123	
8-FEB-2008 05:19	chk		338.5093	
4-MAR-2008 08:00	chk		338.1666	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.237368 Std Deviation : 0.010060

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2
3-FEB-2008 11:02	chk		0.2255	
8-FEB-2008 05:19	chk		0.2245	
4-MAR-2008 08:00	chk		0.2238	

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 5.558932 Std Deviation : 0.012208

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		5.5502	
8-FEB-2008 05:19	chk		5.5483	
4-MAR-2008 08:00	chk		5.5707	

Quality Assurance Report. Generated 26-MAR-2008 11:42:33.99

QA Filename : \$DISK1:[ALP171.QA]GROUP_4_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000501 Std Deviation : 0.000633

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000313 Std Deviation : 0.000479

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000063 Std Deviation : 0.000250

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000501 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000313 Std Deviation : 0.000603

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0020	In

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000375 Std Deviation : 0.000620

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14 bkg 0.0010 | | |

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0020	In

9-FEB-2008 06:41 bkg 0.0000 | | |

23-FEB-2008 11:07 bkg 0.0000 | | |

27-FEB-2008 10:00 bkg 0.0000 | | |

5-MAR-2008 07:46 bkg 0.0020 |In| |

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000438 Std Deviation : 0.000728

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0020	In
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	

4-FEB-2008 06:14 bkg 0.0020 |In| |

9-FEB-2008 06:41 bkg 0.0000 | | |

23-FEB-2008 11:07 bkg 0.0000 | | |

27-FEB-2008 10:00 bkg 0.0000 | | |

5-MAR-2008 07:46 bkg 0.0010 | | |

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000375 Std Deviation : 0.000620

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	

4-FEB-2008 06:14 bkg 0.0010 | | |

9-FEB-2008 06:41 bkg	0.0000	
23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0000	
5-MAR-2008 07:46 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000313 Std Deviation : 0.000603

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg			0.0010		
9-FEB-2008 06:41 bkg			0.0000		
23-FEB-2008 11:07 bkg			0.0000		
27-FEB-2008 10:00 bkg			0.0000		
5-MAR-2008 07:46 bkg			0.0000		

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000313 Std Deviation : 0.000705

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg			0.0000		
9-FEB-2008 06:41 bkg			0.0000		

23-FEB-2008 11:07 bkg 0.0000 | | |
 27-FEB-2008 10:00 bkg 0.0000 | | |
 5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000188 Std Deviation : 0.000544

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0020	Ac
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000125 Std Deviation : 0.000342

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	

27-FEB-2008 10:00 bkg 0.0010 |In| |
 5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000188 Std Deviation : 0.000404

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0010	In
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000125 Std Deviation : 0.000342

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000188 Std Deviation : 0.000404

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0010	In	
27-FEB-2008 10:00	bkg		0.0010	In	
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000188 Std Deviation : 0.000404

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0010	In	
27-FEB-2008 10:00	bkg		0.0010	In	
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000813 Std Deviation : 0.001278

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0040	In
27-FEB-2008 10:00	bkg		0.0030	
5-MAR-2008 07:46	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000438 Std Deviation : 0.000630

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	

Quality Assurance Multi-Test Full Report (continued) Page : 7

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001376 Std Deviation : 0.001410

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0020		
9-FEB-2008 06:41	bkg		0.0020		
23-FEB-2008 11:07	bkg		0.0030		
27-FEB-2008 10:00	bkg		0.0030		
5-MAR-2008 07:46	bkg		0.0010		

Quality Assurance Report. Generated 26-MAR-2008 11:42:30.52

QA Filename : \$DISK1:[ALP171.QA]GROUP_3_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
 Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.232895 Std Deviation : 0.007881

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		0.2227		
8-FEB-2008 05:19	chk		0.2236		
4-MAR-2008 08:00	chk		0.2245		

-- Multi-Test Full Report --

Description : Constant FWHM
 Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.277778 Std Deviation : 0.215166

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		7.0000		
8-FEB-2008 05:19	chk		7.3333		
4-MAR-2008 08:00	chk		7.3333		

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 336.399139 Std Deviation : 0.175974

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		336.5040		
8-FEB-2008 05:19	chk		336.2021		
4-MAR-2008 08:00	chk		336.1889		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.234489 Std Deviation : 0.006830

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued)					
					Page : 2
3-FEB-2008 11:02	chk		0.2257		
8-FEB-2008 05:19	chk		0.2252		
4-MAR-2008 08:00	chk		0.2256		

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 5.970840 Std Deviation : 0.014716

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		5.9667	
8-FEB-2008 05:19	chk		5.9769	
4-MAR-2008 08:00	chk		5.9791	

Quality Assurance Report. Generated 26-MAR-2008 11:42:31.14

QA Filename : \$DISK1:[ALP171.QA]GROUP_3_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000250 Std Deviation : 0.000578

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000188 Std Deviation : 0.000404

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	In

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000063 Std Deviation : 0.000250

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000563 Std Deviation : 0.000630

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0020	In
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000125 Std Deviation : 0.000342

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	In

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000125 Std Deviation : 0.000342

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14 bkg 0.0000 | | |

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	In

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000250 Std Deviation : 0.000448

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000313 Std Deviation : 0.000479

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	

9-FEB-2008 06:41 bkg	0.0000	
23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0000	
5-MAR-2008 07:46 bkg	0.0010	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000313 Std Deviation : 0.000479

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg	0.0000	
9-FEB-2008 06:41 bkg	0.0000	
23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0000	
5-MAR-2008 07:46 bkg	0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000250 Std Deviation : 0.000448

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg	0.0000	
9-FEB-2008 06:41 bkg	0.0000	

23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0000	
5-MAR-2008 07:46 bkg	0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000501 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14 bkg			0.0000	
9-FEB-2008 06:41 bkg			0.0000	
23-FEB-2008 11:07 bkg			0.0010	
27-FEB-2008 10:00 bkg			0.0010	
5-MAR-2008 07:46 bkg			0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000501 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14 bkg			0.0000	
9-FEB-2008 06:41 bkg			0.0010	
23-FEB-2008 11:07 bkg			0.0010	

Quality Assurance Multi-Test Full Report (continued) Page : 5

27-FEB-2008 10:00 bkg 0.0010 | | |
 5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000501 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000563 Std Deviation : 0.000630

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0020	In	
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000751 Std Deviation : 0.000775

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0030	In	
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000688 Std Deviation : 0.000603

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0020	In	
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001064 Std Deviation : 0.001916

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0050	In	
27-FEB-2008 10:00	bkg		0.0060	In	
5-MAR-2008 07:46	bkg		0.0030		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000501 Std Deviation : 0.000895

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0030	In	
5-MAR-2008 07:46	bkg		0.0020		

Quality Assurance Multi-Test Full Report (continued) Page : 7

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0030	In	
5-MAR-2008 07:46	bkg		0.0020		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-JUL-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000876 Std Deviation : 0.000886

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0020		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0020		
27-FEB-2008 10:00	bkg		0.0030	In	
5-MAR-2008 07:46	bkg		0.0000		

Quality Assurance Report. Generated 26-MAR-2008 11:42:27.24

QA Filename : \$DISK1:[ALP171.QA]GROUP_2_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
 Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.296247 Std Deviation : 0.021146

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		0.2857		
8-FEB-2008 05:19	chk		0.2850		
4-MAR-2008 08:00	chk		0.2812		

-- Multi-Test Full Report --

Description : Constant FWHM
 Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 9.485916 Std Deviation : 0.670079

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		9.5000		
8-FEB-2008 05:19	chk		9.6667		
4-MAR-2008 08:00	chk		9.6667		

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 347.958679 Std Deviation : 5.170007

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		347.4862		
8-FEB-2008 05:19	chk		347.5727		
4-MAR-2008 08:00	chk		346.7501		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.296203 Std Deviation : 0.023559

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		0.2908		
8-FEB-2008 05:19	chk		0.2784		
4-MAR-2008 08:00	chk		0.2805		

Quality Assurance Multi-Test Full Report (continued) Page : 2

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 5.623811 Std Deviation : 0.098989

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		5.6227		
8-FEB-2008 05:19	chk		5.6216		
4-MAR-2008 08:00	chk		5.6762		

3-FEB-2008 11:02	chk		5.6227		
8-FEB-2008 05:19	chk		5.6216		
4-MAR-2008 08:00	chk		5.6762		

Quality Assurance Report. Generated 26-MAR-2008 11:42:27.95

QA Filename : \$DISK1:[ALP171.QA]GROUP_2_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.001749 Std Deviation : 0.010615

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0010		

4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.061611 Std Deviation : 0.639806

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0030	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.003094 Std Deviation : 0.025658

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0010	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.009654 Std Deviation : 0.090297

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0040	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.060462 Std Deviation : 0.624986

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0030	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.059622 Std Deviation : 0.616495

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14 bkg 0.0000 | | |

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0020	

9-FEB-2008 06:41 bkg 0.0010 | | |

23-FEB-2008 11:07 bkg 0.0010 | | |

27-FEB-2008 10:00 bkg 0.0000 | | |

5-MAR-2008 07:46 bkg 0.0020 | | |

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.038451 Std Deviation : 0.394780

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0000	

4-FEB-2008 06:14 bkg 0.0010 | | |

9-FEB-2008 06:41 bkg 0.0000 | | |

23-FEB-2008 11:07 bkg 0.0010 | | |

27-FEB-2008 10:00 bkg 0.0010 | | |

5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.004601 Std Deviation : 0.038484

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	

4-FEB-2008 06:14 bkg 0.0010 | | |

9-FEB-2008 06:41 bkg	0.0010	
23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0010	
5-MAR-2008 07:46 bkg	0.0030	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.002137 Std Deviation : 0.012742

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg	0.0010	
9-FEB-2008 06:41 bkg	0.0010	
23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0010	
5-MAR-2008 07:46 bkg	0.0030	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.062652 Std Deviation : 0.642788

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg	0.0010	
9-FEB-2008 06:41 bkg	0.0010	

23-FEB-2008 11:07 bkg	0.0010	
27-FEB-2008 10:00 bkg	0.0030	
5-MAR-2008 07:46 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.003809 Std Deviation : 0.027133

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14 bkg			0.0020	
9-FEB-2008 06:41 bkg			0.0030	
23-FEB-2008 11:07 bkg			0.0010	
27-FEB-2008 10:00 bkg			0.0010	
5-MAR-2008 07:46 bkg			0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002601 Std Deviation : 0.012680

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14 bkg			0.0020	
9-FEB-2008 06:41 bkg			0.0030	
23-FEB-2008 11:07 bkg			0.0010	

Quality Assurance Multi-Test Full Report (continued) Page : 5

27-FEB-2008 10:00 bkg 0.0010 | | |
 5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002719 Std Deviation : 0.013608

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0030	
9-FEB-2008 06:41	bkg		0.0030	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.011024 Std Deviation : 0.095469

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0030	
9-FEB-2008 06:41	bkg		0.0020	
23-FEB-2008 11:07	bkg		0.0040	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.055164 Std Deviation : 0.554895

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0020		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0050		
27-FEB-2008 10:00	bkg		0.0020		
5-MAR-2008 07:46	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.060701 Std Deviation : 0.613888

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0040		
27-FEB-2008 10:00	bkg		0.0020		
5-MAR-2008 07:46	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.056766 Std Deviation : 0.520841

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0030		
9-FEB-2008 06:41	bkg		0.0040		
23-FEB-2008 11:07	bkg		0.0120		
27-FEB-2008 10:00	bkg		0.0120		
5-MAR-2008 07:46	bkg		0.0050		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.100731 Std Deviation : 0.976318

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 7

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0050		
9-FEB-2008 06:41	bkg		0.0040		
23-FEB-2008 11:07	bkg		0.0050		
27-FEB-2008 10:00	bkg		0.0070		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
Mean : 0.063928 Std Deviation : 0.637962

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0020		
9-FEB-2008 06:41	bkg		0.0050		
23-FEB-2008 11:07	bkg		0.0100		
27-FEB-2008 10:00	bkg		0.0120		
5-MAR-2008 07:46	bkg		0.0040		

Quality Assurance Report. Generated 26-MAR-2008 11:42:23.56

QA Filename : \$DISK1:[ALP171.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.295301 Std Deviation : 0.036212

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		0.2840		
8-FEB-2008 05:19	chk		0.2855		
4-MAR-2008 08:00	chk		0.2748		

3-FEB-2008 11:02	chk		0.2840		
8-FEB-2008 05:19	chk		0.2855		
4-MAR-2008 08:00	chk		0.2748		

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.448357 Std Deviation : 0.578443

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		9.1667		
8-FEB-2008 05:19	chk		9.0000		
4-MAR-2008 08:00	chk		9.1667		

3-FEB-2008 11:02	chk		9.1667		
8-FEB-2008 05:19	chk		9.0000		
4-MAR-2008 08:00	chk		9.1667		

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 344.991302 Std Deviation : 8.328177

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		343.4147	
8-FEB-2008 05:19	chk		343.3893	
4-MAR-2008 08:00	chk		343.4551	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.297777 Std Deviation : 0.018455

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		0.2863	
8-FEB-2008 05:19	chk		0.2838	
4-MAR-2008 08:00	chk		0.2840	

Quality Assurance Multi-Test Full Report (continued) Page : 2

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 5.756739 Std Deviation : 0.220183

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 11:02	chk		5.7570	
8-FEB-2008 05:19	chk		5.7921	
4-MAR-2008 08:00	chk		5.7541	

Quality Assurance Report. Generated 26-MAR-2008 11:42:24.47

QA Filename : \$DISK1:[ALP171.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000586 Std Deviation : 0.000838

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0010	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000687 Std Deviation : 0.001182

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000524 Std Deviation : 0.000838

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0010	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000882 Std Deviation : 0.001366

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0020	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000705 Std Deviation : 0.000934

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000688 Std Deviation : 0.000892

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000807 Std Deviation : 0.001142

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.000956 Std Deviation : 0.001201

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	

5-MAR-2008 07:46 bkg 0.0000 | | |

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001056 Std Deviation : 0.001248

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001415 Std Deviation : 0.001580

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0020		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001234 Std Deviation : 0.001405

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0020		
27-FEB-2008 10:00	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0040		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001398 Std Deviation : 0.001577

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0020		
27-FEB-2008 10:00	bkg		0.0010		
5-MAR-2008 07:46	bkg		0.0040		

Quality Assurance Multi-Test Full Report (continued) Page : 5

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001367 Std Deviation : 0.001669

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0020	
5-MAR-2008 07:46	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.001813 Std Deviation : 0.001771

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002583 Std Deviation : 0.002319

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0020		
23-FEB-2008 11:07	bkg		0.0040		
27-FEB-2008 10:00	bkg		0.0020		
5-MAR-2008 07:46	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.002503 Std Deviation : 0.002199

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0010		
9-FEB-2008 06:41	bkg		0.0020		
23-FEB-2008 11:07	bkg		0.0030		
27-FEB-2008 10:00	bkg		0.0020		
5-MAR-2008 07:46	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.010300 Std Deviation : 0.017605

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0060	
27-FEB-2008 10:00	bkg		0.0040	
5-MAR-2008 07:46	bkg		0.0080	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----
 Mean : 0.010217 Std Deviation : 0.017598

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 7

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0040	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2002 00:00 End Date : -----

Mean : 0.002444 Std Deviation : 0.004131

Measurement Time Sample ID Sample Analyst Value LU|SD|UD|BS Rej

4-FEB-2008 06:14	bkg		0.0020	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0080	
27-FEB-2008 10:00	bkg		0.0030	
5-MAR-2008 07:46	bkg		0.0030	

Quality Assurance Report.

Generated 25-MAR-2008 18:53:03.64

QA Filename : RDND06::RDND06\$DKA100:[ALP120.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		0.2512		
12-MAR-2008 06:19	chk		0.2539		
13-MAR-2008 08:36	chk		0.2602		

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		9.5000		
12-MAR-2008 06:19	chk		9.8333		
13-MAR-2008 08:36	chk		9.8333		

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		357.0647		
12-MAR-2008 06:19	chk		357.0597		
13-MAR-2008 08:36	chk		357.0412		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-DEC-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.245304 Std Deviation : 0.004842

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		0.2565	In	
12-MAR-2008 06:19	chk		0.2543		
13-MAR-2008 08:36	chk		0.2560	In	

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		7.3811		
12-MAR-2008 06:19	chk		7.0208		
13-MAR-2008 08:36	chk		7.1450		

Quality Assurance Report. Generated 25-MAR-2008 18:53:05.10

QA Filename : RDND06::RDND06\$DKA100:[ALP120.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0000		
14-MAR-2008 05:15	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
14-MAR-2008 05:15	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
14-MAR-2008 05:15	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
14-MAR-2008 05:15	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
14-MAR-2008 05:15	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14	bkg		0.0000	
14-MAR-2008 05:15	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14	bkg		0.0000	
14-MAR-2008 05:15	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14	bkg		0.0010	
14-MAR-2008 05:15	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14	bkg		0.0010	
14-MAR-2008 05:15	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
14-MAR-2008 05:15	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0030	
14-MAR-2008 05:15	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0050	
14-MAR-2008 05:15	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0040	
14-MAR-2008 05:15	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0040		
14-MAR-2008 05:15	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0030		
14-MAR-2008 05:15	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0030		
14-MAR-2008 05:15	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0100		
14-MAR-2008 05:15	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14	bkg		0.0090	
14-MAR-2008 05:15	bkg		0.0010	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14	bkg		0.0040	
14-MAR-2008 05:15	bkg		0.0010	

Quality Assurance Report.

Generated 25-MAR-2008 18:51:06.51

QA Filename : RDND06::RDND06\$DKA100:[ALP119.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		0.2466		
12-MAR-2008 06:19	chk		0.2450		

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		8.5000		
12-MAR-2008 06:19	chk		9.3333		

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		355.1470		
12-MAR-2008 06:19	chk		355.0778		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 10-DEC-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.259987 Std Deviation : 0.004522

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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10-FEB-2008 10:09	chk		0.2541		
12-MAR-2008 06:19	chk		0.2576		

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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10-FEB-2008 10:09	chk		7.4867		
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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12-MAR-2008 06:19	chk		7.2333		
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Quality Assurance Report. Generated 25-MAR-2008 18:51:07.90

QA Filename : RDND06::RDND06\$DKA100:[ALP119.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:14	bkg		0.0000		
13-MAR-2008 08:36	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:36	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:36	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:36	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:36	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:36	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:36	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:36	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:36	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14 bkg	0.0030	
13-MAR-2008 08:36 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14 bkg			0.0020	
13-MAR-2008 08:36 bkg			0.0010	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)				Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14 bkg			0.0020	
13-MAR-2008 08:36 bkg			0.0010	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14 bkg			0.0000	
13-MAR-2008 08:36 bkg			0.0010	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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```
-----
11-FEB-2008 06:14 bkg          0.0020  | | |
13-MAR-2008 08:36 bkg          0.0000  | | |
```

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

```
Measurement Time    Sample ID    Sample Analyst    Value    LU|SD|UD|BS Rej
-----
```

```
11-FEB-2008 06:14 bkg          0.0030  | | |
13-MAR-2008 08:36 bkg          0.0000  | | |
```

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

```
Measurement Time    Sample ID    Sample Analyst    Value    LU|SD|UD|BS Rej
-----
```

```
11-FEB-2008 06:14 bkg          0.0020  | | |
13-MAR-2008 08:36 bkg          0.0000  | | |
```

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

```
Measurement Time    Sample ID    Sample Analyst    Value    LU|SD|UD|BS Rej
-----
```

```
11-FEB-2008 06:14 bkg          0.0080  | | |
13-MAR-2008 08:36 bkg          0.0030  | | |
```

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

```
Measurement Time    Sample ID    Sample Analyst    Value    LU|SD|UD|BS Rej
-----
```

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0130	
13-MAR-2008 08:36	bkg		0.0030	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:36	bkg		0.0010	

Quality Assurance Report.

Generated 26-MAR-2008 14:01:16.32

QA Filename : RDND06::RDND06\$DKA100:[ALP118.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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10-FEB-2008 10:09	chk		0.3430		
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12-MAR-2008 06:19	chk		0.3452		
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-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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10-FEB-2008 10:09	chk		7.6667		
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12-MAR-2008 06:19	chk		7.5000		
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-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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10-FEB-2008 10:09	chk		350.4190		
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12-MAR-2008 06:19	chk		350.6029		
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-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-NOV-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.353515 Std Deviation : 0.003043

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		0.3493		
12-MAR-2008 06:19	chk		0.3527		

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		7.5726		

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
12-MAR-2008 06:19	chk		7.5445		

Quality Assurance Report. Generated 26-MAR-2008 14:01:17.31

QA Filename : RDND06::RDND06\$DKA100:[ALP118.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0000		
13-MAR-2008 10:55	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 10:55	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0020	
13-MAR-2008 10:55	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 10:55	bkg		0.0030	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
13-MAR-2008 10:55	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
13-MAR-2008 10:55	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0020	
13-MAR-2008 10:55	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0040	
13-MAR-2008 10:55	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0050	
13-MAR-2008 10:55	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14 bkg	0.0000	
13-MAR-2008 10:55 bkg	0.0020	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14 bkg			0.0020	
13-MAR-2008 10:55 bkg			0.0020	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)				Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14 bkg			0.0020	
13-MAR-2008 10:55 bkg			0.0020	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14 bkg			0.0020	
13-MAR-2008 10:55 bkg			0.0020	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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```
-----
11-FEB-2008 06:14 bkg          0.0020  | | |
13-MAR-2008 10:55 bkg          0.0030  | | |
```

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
11-FEB-2008 06:14 bkg          0.0020  | | |
13-MAR-2008 10:55 bkg          0.0050  | | |
```

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
11-FEB-2008 06:14 bkg          0.0020  | | |
13-MAR-2008 10:55 bkg          0.0050  | | |
```

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
11-FEB-2008 06:14 bkg          0.0010  | | |
13-MAR-2008 10:55 bkg          0.0010  | | |
```

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0020	
13-MAR-2008 10:55	bkg		0.0010	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 10:55	bkg		0.0000	

Quality Assurance Report.

Generated 25-MAR-2008 18:48:44.57

QA Filename : RDND06::RDND06\$DKA100:[ALP117.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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10-FEB-2008 10:09	chk		0.3610		
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12-MAR-2008 06:19	chk		0.3556		
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-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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10-FEB-2008 10:09	chk		8.0000		
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12-MAR-2008 06:19	chk		8.3333		
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-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

10-FEB-2008 10:09	chk		353.8010		
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12-MAR-2008 06:19	chk		353.7530		
-------------------	-----	--	----------	--	--

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-NOV-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.363342 Std Deviation : 0.002291

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		0.3589		
12-MAR-2008 06:19	chk		0.3612		

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		7.4558		

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
12-MAR-2008 06:19	chk		7.2866		

Quality Assurance Report. Generated 25-MAR-2008 18:48:45.50

QA Filename : RDND06::RDND06\$DKA100:[ALP117.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0000		
13-MAR-2008 08:35	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0020	
13-MAR-2008 08:35	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0020	
13-MAR-2008 08:35	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
13-MAR-2008 08:35	bkg		0.0000	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
13-MAR-2008 08:35	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14 bkg	0.0000	
13-MAR-2008 08:35 bkg	0.0010	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14 bkg			0.0010	
13-MAR-2008 08:35 bkg			0.0010	

Quality Assurance Report.

Generated 25-MAR-2008 18:47:19.17

QA Filename : RDND06::RDND06\$DKA100:[ALP116.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : U-238 Centroid

Parameter Units : channel Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 10:09	chk		179.1732	
12-MAR-2008 06:18	chk		177.8667	
13-MAR-2008 08:35	chk		177.8813	
14-MAR-2008 05:58	chk		178.7130	

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 10:09	chk		9.0000	
12-MAR-2008 06:18	chk		9.0000	
13-MAR-2008 08:35	chk		9.1667	
14-MAR-2008 05:58	chk		9.0000	

-- Multi-Test Full Report --

Description : Cf-252 Centroid

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 10:09	chk		434.7047	
12-MAR-2008 06:18	chk		433.1610	
13-MAR-2008 08:35	chk		No Value	
14-MAR-2008 05:58	chk		434.0824	

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : counts/decay Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 10:09	chk		0.1656	
12-MAR-2008 06:18	chk		0.2188	
13-MAR-2008 08:35	chk		0.1692	
14-MAR-2008 05:58	chk		0.1688	

-- Multi-Test Full Report --

Description : Am-241 Efficiency

Parameter Units : counts/decay Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 10:09	chk		0.1611	
12-MAR-2008 06:18	chk		0.2567	
13-MAR-2008 08:35	chk		0.1677	
14-MAR-2008 05:58	chk		0.1611	

Quality Assurance Report. Generated 25-MAR-2008 18:47:20.16

QA Filename : RDND06::RDND06\$DKA100:[ALP116.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0010	
15-MAR-2008 16:24	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0000		
23-FEB-2008 11:06	bkg		0.0000		
27-FEB-2008 10:32	bkg		0.0000		
15-MAR-2008 16:24	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0000		
23-FEB-2008 11:06	bkg		0.0000		
27-FEB-2008 10:32	bkg		0.0000		
15-MAR-2008 16:24	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0000		
23-FEB-2008 11:06	bkg		0.0000		
27-FEB-2008 10:32	bkg		0.0000		
15-MAR-2008 16:24	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0000	
15-MAR-2008 16:24	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0000	
15-MAR-2008 16:24	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0000	
15-MAR-2008 16:24	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
23-FEB-2008 11:06	bkg		0.0000	

27-FEB-2008 10:32 bkg	0.0000	
15-MAR-2008 16:24 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0000	
15-MAR-2008 16:24	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0020	
27-FEB-2008 10:32	bkg		0.0000	
15-MAR-2008 16:24	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0020	
23-FEB-2008 11:06	bkg		0.0030	
27-FEB-2008 10:32	bkg		0.0030	
15-MAR-2008 16:24	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0020		
23-FEB-2008 11:06	bkg		0.0020		
27-FEB-2008 10:32	bkg		0.0040		
15-MAR-2008 16:24	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0020		
23-FEB-2008 11:06	bkg		0.0020		
27-FEB-2008 10:32	bkg		0.0050		
15-MAR-2008 16:24	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0020		
23-FEB-2008 11:06	bkg		0.0020		
27-FEB-2008 10:32	bkg		0.0050		
15-MAR-2008 16:24	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0040		
23-FEB-2008 11:06	bkg		0.0030		
27-FEB-2008 10:32	bkg		0.0020		
15-MAR-2008 16:24	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0040		
23-FEB-2008 11:06	bkg		0.0030		
27-FEB-2008 10:32	bkg		0.0020		
15-MAR-2008 16:24	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0050		
23-FEB-2008 11:06	bkg		0.0080		
27-FEB-2008 10:32	bkg		0.0090		
15-MAR-2008 16:24	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0090		
23-FEB-2008 11:06	bkg		0.0070		
27-FEB-2008 10:32	bkg		0.0070		

15-MAR-2008 16:24 bkg 0.0020 | | |

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0010		
23-FEB-2008 11:06	bkg		0.0020		
27-FEB-2008 10:32	bkg		0.0030		
15-MAR-2008 16:24	bkg		0.0000		

Quality Assurance Report.

Generated 26-MAR-2008 16:37:54.10

QA Filename : RDND06::RDND06\$DKA100:[ALP113.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		0.3328		
12-MAR-2008 06:18	chk		0.3349		

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		5.5000		
12-MAR-2008 06:18	chk		5.3333		

-- Multi-Test Full Report --

Description : Centroid, Pu-239

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:09	chk		312.1530		
12-MAR-2008 06:18	chk		312.1513		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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10-FEB-2008 10:09	chk	0.3434	
12-MAR-2008 06:18	chk	0.3425	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 10:09	chk		7.6685	
12-MAR-2008 06:18	chk		7.6247	

-- Multi-Test Full Report --

Description : Efficiency, Am-241
 Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 10:09	chk		0.3328	
12-MAR-2008 06:18	chk		0.3349	

-- Multi-Test Full Report --

Description : Centroid, Am-241
 Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 10:09	chk		356.5219	
12-MAR-2008 06:18	chk		356.4680	

Quality Assurance Report. Generated 26-MAR-2008 16:37:55.26

QA Filename : RDND06::RDND06\$DKA100:[ALP113.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0010	
13-MAR-2008 08:35	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	

23-FEB-2008 11:06 bkg	0.0000	
27-FEB-2008 10:32 bkg	0.0000	
13-MAR-2008 08:35 bkg	0.0010	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14 bkg	0.0000	
23-FEB-2008 11:06 bkg	0.0000	
27-FEB-2008 10:32 bkg	0.0000	
13-MAR-2008 08:35 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14 bkg	0.0000	
23-FEB-2008 11:06 bkg	0.0000	
27-FEB-2008 10:32 bkg	0.0000	
13-MAR-2008 08:35 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14 bkg	0.0000	
23-FEB-2008 11:06 bkg	0.0000	
27-FEB-2008 10:32 bkg	0.0000	
13-MAR-2008 08:35 bkg	0.0020	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0040	
23-FEB-2008 11:06	bkg		0.0010	
27-FEB-2008 10:32	bkg		0.0010	
13-MAR-2008 08:35	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0010	
13-MAR-2008 08:35	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0000	
27-FEB-2008 10:32	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0010	
27-FEB-2008 10:32	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
23-FEB-2008 11:06	bkg		0.0020	

27-FEB-2008 10:32 bkg	0.0030	
13-MAR-2008 08:35 bkg	0.0030	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14 bkg	0.0010	
23-FEB-2008 11:06 bkg	0.0010	
27-FEB-2008 10:32 bkg	0.0040	
13-MAR-2008 08:35 bkg	0.0020	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14 bkg	0.0010	
23-FEB-2008 11:06 bkg	0.0010	
27-FEB-2008 10:32 bkg	0.0040	
13-MAR-2008 08:35 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14 bkg	0.0010	
23-FEB-2008 11:06 bkg	0.0060	
27-FEB-2008 10:32 bkg	0.0050	
13-MAR-2008 08:35 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0010	
23-FEB-2008 11:06	bkg		0.0030	
27-FEB-2008 10:32	bkg		0.0050	
13-MAR-2008 08:35	bkg		0.0000	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0000	
23-FEB-2008 11:06	bkg		0.0020	
27-FEB-2008 10:32	bkg		0.0000	
13-MAR-2008 08:35	bkg		0.0020	

Quality Assurance Report. Generated 26-MAR-2008 11:42:46.14

QA Filename : \$DISK1:[ALP171.QA]GROUP_8_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Pu-239
Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 17-DEC-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.301804 Std Deviation : 0.002894

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		0.3017		
8-FEB-2008 05:19	chk		0.2983		
4-MAR-2008 08:00	chk		0.3054		

3-FEB-2008 11:02	chk		0.3017		
8-FEB-2008 05:19	chk		0.2983		
4-MAR-2008 08:00	chk		0.3054		

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 17-DEC-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 6.583333 Std Deviation : 0.166666

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		6.3333		
8-FEB-2008 05:19	chk		6.6667		
4-MAR-2008 08:00	chk		6.6667		

3-FEB-2008 11:02	chk		6.3333		
8-FEB-2008 05:19	chk		6.6667		
4-MAR-2008 08:00	chk		6.6667		

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 17-DEC-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 333.977142 Std Deviation : 0.040062

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		334.0240		
8-FEB-2008 05:19	chk		333.9694		
4-MAR-2008 08:00	chk		333.9876		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 17-DEC-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.305983 Std Deviation : 0.001357

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued)					Page : 2
3-FEB-2008 11:02	chk		0.3052		
8-FEB-2008 05:19	chk		0.3046		
4-MAR-2008 08:00	chk		0.3066		

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 17-DEC-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 5.886219 Std Deviation : 0.003213

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 11:02	chk		5.8814		
8-FEB-2008 05:19	chk		5.8873		
4-MAR-2008 08:00	chk		5.8879		

3-FEB-2008 11:02	chk		5.8814		
8-FEB-2008 05:19	chk		5.8873		
4-MAR-2008 08:00	chk		5.8879		

Quality Assurance Report. Generated 26-MAR-2008 11:42:46.76

QA Filename : \$DISK1:[ALP171.QA]GROUP_8_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000167 Std Deviation : 0.000409

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010	In	
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010	In	
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14 bkg	0.0000	
9-FEB-2008 06:41 bkg	0.0020	
23-FEB-2008 11:07 bkg	0.0000	
27-FEB-2008 10:00 bkg	0.0000	
5-MAR-2008 07:46 bkg	0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000334 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14 bkg			0.0000	
9-FEB-2008 06:41 bkg			0.0000	
23-FEB-2008 11:07 bkg			0.0010	
27-FEB-2008 10:00 bkg			0.0000	
5-MAR-2008 07:46 bkg			0.0000	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000834 Std Deviation : 0.000754

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:14 bkg			0.0010	

9-FEB-2008 06:41 bkg	0.0000	
23-FEB-2008 11:07 bkg	0.0010	
27-FEB-2008 10:00 bkg	0.0020	
5-MAR-2008 07:46 bkg	0.0010	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000334 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14 bkg			0.0010	
9-FEB-2008 06:41 bkg			0.0000	
23-FEB-2008 11:07 bkg			0.0010	
27-FEB-2008 10:00 bkg			0.0000	
5-MAR-2008 07:46 bkg			0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000167 Std Deviation : 0.000409

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:14 bkg			0.0000	
9-FEB-2008 06:41 bkg			0.0000	
23-FEB-2008 11:07 bkg			0.0010	In
27-FEB-2008 10:00 bkg			0.0000	
5-MAR-2008 07:46 bkg			0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000167 Std Deviation : 0.000409

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010	In	
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000334 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0010		
23-FEB-2008 11:07	bkg		0.0000		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000501 Std Deviation : 0.000548

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000167 Std Deviation : 0.000409

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0000	
27-FEB-2008 10:00	bkg		0.0000	
5-MAR-2008 07:46	bkg		0.0010	In

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000334 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000334 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000334 Std Deviation : 0.000517

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0010		
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000167 Std Deviation : 0.000409

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:14	bkg		0.0000		
9-FEB-2008 06:41	bkg		0.0000		
23-FEB-2008 11:07	bkg		0.0010	In	
27-FEB-2008 10:00	bkg		0.0000		
5-MAR-2008 07:46	bkg		0.0000		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001168 Std Deviation : 0.000984

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0020	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001168 Std Deviation : 0.000984

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0020	
27-FEB-2008 10:00	bkg		0.0020	
5-MAR-2008 07:46	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002669 Std Deviation : 0.003886

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0100	
27-FEB-2008 10:00	bkg		0.0010	
5-MAR-2008 07:46	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001668 Std Deviation : 0.001864

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0010	
9-FEB-2008 06:41	bkg		0.0000	
23-FEB-2008 11:07	bkg		0.0050	
27-FEB-2008 10:00	bkg		0.0020	
5-MAR-2008 07:46	bkg		0.0020	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 14-DEC-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001001 Std Deviation : 0.001266

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				

Page : 7

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:14	bkg		0.0000	
9-FEB-2008 06:41	bkg		0.0010	
23-FEB-2008 11:07	bkg		0.0030	
27-FEB-2008 10:00	bkg		0.0020	
5-MAR-2008 07:46	bkg		0.0000	

URANIUM ISOTOPIC
SAMPLE AND QC DATA

Lot No., Due Date: **F8A250205; 02/28/2008**
 Client, Site: **1418995; LANDWELL - Tronox Parcel H**
 QC Batch No., Method Test: **8030200; RUIISO Uiso by ALP**
 SDG, Matrix: **.....;**

- | | Yes | No | N/A |
|---|-------------------------------------|--------------------------|-------------------------------------|
| 1.0 COC | | | |
| 1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.0 QC Batch | | | |
| 2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.2 Are the QC appropriate for the analysis included in the batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.4 Does the Worksheets include a Tracer Vial label for each sample? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.0 QC & Samples | | | |
| 3.1 Is the blank results, yield, and MDA within contract limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.2 Is the LCS result, yield, and MDA within contract limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.3 Are the MS/MSD results, yields, and MDA within contract limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.4 Are the duplicate result, yields, and MDAs within contract limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.5 Are the sample yields and MDAs within contract limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.0 Raw Data | | | |
| 4.1 Were results calculated in the correct units? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.2 Were analysis volumes entered correctly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.3 Were Yields entered correctly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.4 Were spectra reviewed/meet contractual requirements? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.5 Were raw counts reviewed for anomalies? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.0 Other | | | |
| 5.1 Are all nonconformances included and noted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5.2 Are all required forms filled out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.3 Was the correct methodology used? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.4 Was transcription checked? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.5 Were all calculations checked at a minimum frequency? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5.6 Are worksheet entries complete and correct? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6.0 Comments on any No response: | | | |

First Level Review *John North*

Date 2-21-8

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 8030200

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?	✓		
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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: Erika J. [Signature] Date: 2/2/18

Batch: 8030200 PM, Quote: JAE, 78254
 SEQ Batch, Test: None D9TF, 8042382
 All Tests: 8030200 KWSR, 8030203 D2S1, 8030206 AXTF, 8042378 D9TE, 8042380 D9TF, 8042381 D9TE, 8042382 D9TF

Work Order Lot, Sample Date Time	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 KF5A2-1-AA	1.03g.in	UITC19425	01:24:08.pd	06:15:01	UITC19425	01:24:08.pd	06:15:01	Alpha: 1.04E+02pCt/g	Beta: 2.65E+01pCt/g	
F8A250205-1-SAMP	Amt/Rec: SL	#Containers: 1								
2 KF5FV-1-AA	1.01g.in	UITC19426	01:24:08.pd	06:15:01	UITC19426	01:24:08.pd	06:15:01			
F8A250205-2-SAMP	Amt/Rec: SL	#Containers: 1								
3 KF5FX-1-AA	1.00g.in	UITC19427	01:24:08.pd	06:15:01	UITC19427	01:24:08.pd	06:15:01	Alpha: 1.01E+02pCt/g	Beta: 2.39E+01pCt/g	
F8A250205-3-SAMP	Amt/Rec: SL	#Containers: 1								
4 KF5F0-1-AA	1.00g.in	UITC19428	01:24:08.pd	06:15:01	UITC19428	01:24:08.pd	06:15:01			
F8A250205-4-SAMP	Amt/Rec: SL	#Containers: 1								
5 KF5F1-1-AA	1.01g.in	UITC19429	01:24:08.pd	06:15:01	UITC19429	01:24:08.pd	06:15:01			
F8A250205-5-SAMP	Amt/Rec: SL	#Containers: 1								
6 KF5F3-1-AA	1.01g.in	UITC19430	01:24:08.pd	06:15:01	UITC19430	01:24:08.pd	06:15:01			
F8A250205-6-SAMP	Amt/Rec: SL	#Containers: 1								
7 KF5F4-1-AA	1.00g.in	UITC19431	01:24:08.pd	06:15:01	UITC19431	01:24:08.pd	06:15:01			
F8A250205-7-SAMP	Amt/Rec: SL	#Containers: 1								

2/13/2008 8:52:00 AM
 1418995, Landwell Company
 Landwell Company

Sample Preparation/Analysis
 KW Uiso PrpRC5013/5032/5086 SepRC5067(5039)
 SR Uranium-234,235,238 by Alpha Spec
 01 STANDARD TEST SET

Balance Id:1120373922
 Pipet #:
 Sep1 DT/Tm Tech:
 Sep2 DT/Tm Tech:

AnalyDueDate: 02/22/2008
 Batch: 8030200
 SEO Batch, Test: None

PM, Quote: JAE, 78254
 Prep Tech: ,Barcoli

pCi/L

Work Order Lot, Sample Date/Time	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 KF5F7-1-AA F8A250205-8-SAMP 01/24/2008 12:45		1.01g.in	UITC19432 01/24/08.pd			200				
9 KF5F8-1-AA F8A250205-9-SAMP 01/24/2008 13:00		1.01g.in	UITC19433 01/24/08.pd							
10 KF5F9-1-AA F8A250205-10-SAMP 01/24/2008 13:10		1.01g.in	UITC19434 01/24/08.pd							
11 KF5GC-1-AA F8A250205-11-SAMP 01/24/2008 08:05		1.01g.in	UITC19435 01/24/08.pd							
12 KF5GF-1-AA F8A250205-12-SAMP 01/24/2008 08:05		1.01g.in	UITC19436 01/24/08.pd							
13 KF5GG-1-AA F8A250205-13-SAMP 01/24/2008 08:40		1.01g.in	UITC19437 01/24/08.pd							
14 KF5GJ-1-AA F8A250205-14-SAMP 01/24/2008 09:00		1.03g.in	UITC19438 01/24/08.pd							

2/13/2008 8:52:00 AM **Sample Preparation/Analysis** Balance Id:1120373922
 1418995, Landwell Company KW Uiso PrpRC5013/5032/5086 SepRC5067(5039) Pipet #:
 Landwell Company SR Uranium-234,235,238 by Alpha Spec
AnalyteDueDate: 02/22/2008 01 STANDARD TEST SET Sep1 DT/Tm Tech:
 PM, Quote: JAE, 78254 Sep2 DT/Tm Tech:

Batch: 8030200 pC/L
 SE0 Batch, Test: None

Prep Tech: ,Barcolt

Work Order, Lot, Sample Date/Time	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:
15 KF5GJ-1-AE-S		1.03g.in	UISG1600							
F8A250205-14-MS			01:24:08,pd							
01/24/2008 09:00			06:15:01							
16 KF5GJ-1-AH-X		1.02g.in	UITC19439							
F8A250205-14-DUP			01:24:08,pd							
01/24/2008 09:00			06:15:01							
17 KF5GL-1-AA		1.00g.in	UITC19440							
F8A250205-15-SAMP			01:24:08,pd							
01/24/2008 09:30			06:15:01							
18 KGAD6-1-AA-B		1.02g.in	UITC19441							
J8A300000-200-BLK			01:24:08,pd							
01/24/2008 10:15			06:15:01							
19 KGAD6-1-AC-C		1.01g.in	UISG1601							
J8A300000-200-LCS			01:24:08,pd							
01/24/2008 10:15			06:15:01							

Comments:

All Clients for Batch:
 1418995, Landwell Company
 Landwell Company, JAE, 78254

Key In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3
 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 19
 Prep_SamplePrep v4.8.32

Sample Preparation/Analysis

Balance Id:1120373922

KW Uiso PrpRC5013/5032/5086 SepRC5067(5039)
 SR Uranium-234,235,238 by Alpha Spec
 01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8030200

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,Barcott



Work Order, Lot, Sample Date/Time	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:
KF5GJ1AE-MS:										
KGAD61AA-BLK:										
U-232	RDL:	pCi/L	UCL:115	RPD:35	U-234	RDL:1.00E+00	pCi/L	LCL:70	UCL:130	RPD:
U-235	RDL:1.00E+00	LCL:20	UCL:	RPD:	U-238	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
KGAD61AC-LCS:										
U-232	RDL:	pCi/L	UCL:115	RPD:35	Uranium	RDL:	pCi/L	LCL:70	UCL:130	RPD:35
KF5A21AA-SAMP Calc Info:										
Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B										
KF5GJ1AE-MS:										
Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B										
KGAD61AA-BLK:										
Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B										
KGAD61AC-LCS:										
Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B										

Approved By

Date:

ICOC Fraction Transfer/Status Report

ByDate: 2/21/2007, 2/26/2008, Batch: '8030200', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
	8030200				
AC		Rev1C	Barcotl	2/13/2008 9:57:15	
SC			wagarr	IsBatched	1/30/2008 12:05:38 PM
SC			Barcotl	InPrep	2/13/2008 9:57:15 AM
SC			Barcotl	Prep1C	2/13/2008 9:57:36 AM
SC			Barcotl	InPrep2	2/13/2008 9:58:22 AM
SC			Barcotl	Prep2C	2/13/2008 9:58:36 AM
SC			AshworthA	Sep1C	2/20/2008 8:32:27 AM
SC			HoganS	Sep2C	2/20/2008 3:40:04 PM
SC			DAWKINSO	InCnt1	2/20/2008 4:10:01 PM
SC			BlackCL	CalcC	2/21/2008 8:40:38 AM
SC			nortonj	Rev1C	2/21/2008 12:33:40 PM
AC			Barcotl	2/13/2008 9:57:36	
AC			Barcotl	2/13/2008 9:58:22	
AC			Barcotl	2/13/2008 9:58:36	
AC			AshworthA	2/20/2008 8:32:27	
AC			HoganS	2/20/2008 3:40:04 PM	
AC			DAWKINSO	2/20/2008 4:10:01 PM	
AC			BlackCL	2/21/2008 8:40:38	
AC			nortonj	2/21/2008 12:33:40	

AC: Accepting Entry; SC: Status Change

Rpt DB Transfer log (Batch Results)

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix	Received Date	Sample Date	Units	Expected Yield	Volumes
8030200	9KF5A210		F8A2502051	TSB-HJ-05-10'	SOLID	1/25/2008 9:15:00	1/24/2008 10:15:00 AM			
U-234	KWSR	0	2/20/2008 6:21:01 PM	1.5582E+00	9.691E-02	1.619E-01	2.884E-02	PCI/G	0.952	1.03E+0
U-235	KWSR	0	2/20/2008 6:21:01 PM	6.021E-02	1.908E-02	1.972E-02	2.884E-02	PCI/G	0.952	1.03E+0
U-238	KWSR	0	2/20/2008 6:21:01 PM	1.2487E+00	8.686E-02	1.354E-01	3.801E-02	PCI/G	0.952	1.03E+0
8030200	9KF5F010		F8A2502054	TSB-HJ-04-0'	SOLID	1/25/2008 9:15:00	1/24/2008 11:30:00 AM			
U-234	KWSR	0	2/20/2008 6:22:21 PM	9.7921E-01	7.962E-02	1.142E-01	4.42E-02	PCI/G	0.931	1.0E+0
U-235	KWSR	0	2/20/2008 6:22:21 PM	5.6617E-02	1.934E-02	1.992E-02	3.082E-02	PCI/G	0.931	1.0E+0
U-238	KWSR	0	2/20/2008 6:22:21 PM	8.8014E-01	7.532E-02	1.053E-01	3.082E-02	PCI/G	0.931	1.0E+0
8030200	9KF5F110		F8A2502055	TSB-HR-04-0'	SOLID	1/25/2008 9:15:00	1/24/2008 10:45:00 AM			
U-234	KWSR	0	2/20/2008 6:22:34 PM	9.3659E-01	1.166E-01	1.46E-01	6.923E-02	PCI/G	0.373	1.01E+0
U-235	KWSR	0	2/20/2008 6:22:34 PM	4.047E-02	2.52E-02	2.548E-02	6.923E-02	PCI/G	0.373	1.01E+0
U-238	KWSR	0	2/20/2008 6:22:34 PM	1.2025E+00	1.326E-01	1.741E-01	9.928E-02	PCI/G	0.373	1.01E+0
8030200	9KF5F310		F8A2502056	TSB-HJ-04-10'	SOLID	1/25/2008 9:15:00	1/24/2008 11:55:00 AM			
U-234	KWSR	0	2/20/2008 6:23:05 PM	1.9621E+00	1.09E-01	1.962E-01	2.901E-02	PCI/G	0.962	1.01E+0
U-235	KWSR	0	2/20/2008 6:23:05 PM	5.9349E-02	1.919E-02	1.981E-02	2.901E-02	PCI/G	0.962	1.01E+0
U-238	KWSR	0	2/20/2008 6:23:05 PM	1.5976E+00	9.841E-02	1.653E-01	2.901E-02	PCI/G	0.962	1.01E+0
8030200	9KF5F410		F8A2502057	TSB-HR-07-0'	SOLID	1/25/2008 9:15:00	1/24/2008 12:30:00 PM			
U-234	KWSR	0	2/20/2008 6:23:16 PM	1.1044E+00	8.432E-02	1.251E-01	3.079E-02	PCI/G	0.938	1.0E+0
U-235	KWSR	0	2/20/2008 6:23:16 PM	6.2997E-02	2.037E-02	2.104E-02	3.079E-02	PCI/G	0.938	1.0E+0
U-238	KWSR	0	2/20/2008 6:23:16 PM	1.1044E+00	8.432E-02	1.251E-01	3.079E-02	PCI/G	0.938	1.0E+0
8030200	9KF5F710		F8A2502058	TSB-HR-07-10'	SOLID	1/25/2008 9:15:00	1/24/2008 12:45:00 PM			
U-234	KWSR	0	2/20/2008 6:23:36 PM	2.3884E+00	1.315E-01	2.414E-01	3.467E-02	PCI/G	0.794	1.01E+0
U-235	KWSR	0	2/20/2008 6:23:36 PM	5.7901E-02	2.052E-02	2.11E-02	3.467E-02	PCI/G	0.794	1.01E+0
U-238	KWSR	0	2/20/2008 6:23:36 PM	1.6719E+00	1.1E-01	1.794E-01	3.467E-02	PCI/G	0.794	1.01E+0
8030200	9KF5F810		F8A2502059	TSB-HR-06-0'	SOLID	1/25/2008 9:15:00	1/24/2008 1:00:00 PM			
U-234	KWSR	0	2/20/2008 6:24:00 PM	9.6179E-01	8.248E-02	1.158E-01	3.388E-02	PCI/G	0.833	1.01E+0
U-235	KWSR	0	2/20/2008 6:24:00 PM	4.9504E-02	1.876E-02	1.922E-02	3.387E-02	PCI/G	0.833	1.01E+0
U-238	KWSR	0	2/20/2008 6:24:00 PM	1.1315E+00	8.947E-02	1.31E-01	3.387E-02	PCI/G	0.833	1.01E+0
8030200	9KF5F910		F8A25020510	TSB-HR-06-10'	SOLID	1/25/2008 9:15:00	1/24/2008 1:10:00 PM			
U-234	KWSR	0	2/20/2008 6:24:11 PM	1.671E+00	1.041E-01	1.744E-01	3.105E-02	PCI/G	0.955	1.01E+0
U-235	KWSR	0	2/20/2008 6:24:11 PM	6.4819E-02	2.054E-02	2.124E-02	3.105E-02	PCI/G	0.955	1.01E+0
U-238	KWSR	0	2/20/2008 6:24:11 PM	1.3067E+00	9.214E-02	1.43E-01	3.663E-02	PCI/G	0.955	1.01E+0
8030200	9KF5FV10		F8A2502052	TSB-HJ-05-0'	SOLID	1/25/2008 9:15:00	1/24/2008 9:55:00 AM			
U-234	KWSR	0	2/20/2008 6:21:10 PM	1.0856E+00	8.478E-02	1.245E-01	3.171E-02	PCI/G	0.936	1.01E+0
U-235	KWSR	0	2/20/2008 6:21:10 PM	4.5013E-02	1.756E-02	1.797E-02	3.171E-02	PCI/G	0.936	1.01E+0
U-238	KWSR	0	2/20/2008 6:21:10 PM	1.0062E+00	8.162E-02	1.174E-01	3.171E-02	PCI/G	0.936	1.01E+0
8030200	9KF5FX10		F8A2502053	TSB-HR-04-10'	SOLID	1/25/2008 9:15:00	1/24/2008 11:00:00 AM			
U-234	KWSR	0	2/20/2008 6:21:18 PM	1.4299E+00	9.632E-02	1.536E-01	5.032E-02	PCI/G	0.929	1.0E+0
U-235	KWSR	0	2/20/2008 6:21:18 PM	7.0913E-02	2.142E-02	2.223E-02	3.088E-02	PCI/G	0.929	1.0E+0
U-238	KWSR	0	2/20/2008 6:21:18 PM	1.1681E+00	8.701E-02	1.308E-01	4.429E-02	PCI/G	0.929	1.0E+0
8030200	9KF5GC10		F8A25020511	TSB-HJ-07-0'	SOLID	1/25/2008 9:15:00	1/24/2008 8:05:00 AM			
U-234	KWSR	0	2/20/2008 6:24:29 PM	1.0703E+00	8.046E-02	1.2E-01	2.896E-02	PCI/G	0.904	1.01E+0
U-235	KWSR	0	2/20/2008 6:24:29 PM	5.2004E-02	1.822E-02	1.873E-02	3.417E-02	PCI/G	0.904	1.01E+0
U-238	KWSR	0	2/20/2008 6:24:29 PM	1.1054E+00	8.181E-02	1.23E-01	2.896E-02	PCI/G	0.904	1.01E+0
8030200	9KF5GF10		F8A25020512	TSB-HJ-07-0'-FD	SOLID	1/25/2008 9:15:00	1/24/2008 8:05:00 AM			
U-234	KWSR	0	2/20/2008 6:24:37 PM	1.1138E+00	8.469E-02	1.259E-01	3.084E-02	PCI/G	0.903	1.01E+0
U-235	KWSR	0	2/20/2008 6:24:37 PM	4.5067E-02	1.708E-02	1.749E-02	3.084E-02	PCI/G	0.903	1.01E+0
U-238	KWSR	0	2/20/2008 6:24:37 PM	1.2104E+00	8.828E-02	1.343E-01	3.084E-02	PCI/G	0.903	1.01E+0
8030200	9KF5GG10		F8A25020513	TSB-HJ-07-10'	SOLID	1/25/2008 9:15:00	1/24/2008 8:40:00 AM			
U-234	KWSR	0	2/20/2008 6:25:07 PM	1.7882E+00	2.179E-01	2.905E-01	1.411E-01	PCI/G	0.233	1.01E+0
U-235	KWSR	0	2/20/2008 6:25:07 PM	5.0729E-02	3.743E-02	3.782E-02	1.064E-01	PCI/G	0.233	1.01E+0
U-238	KWSR	0	2/20/2008 6:25:07 PM	1.3126E+00	1.869E-01	2.341E-01	1.411E-01	PCI/G	0.233	1.01E+0

8030200, **Samples Inserted | Updated | NotUpdated => 19 | 0 | 0,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 55 | 0 | 0 | 0.
 **Diff RptDb | Qtims => *wo:KF5A21AA=> , unt:PCI/G | pCi/L *wo:KF5A21AA=> , unt:PCI/G | pCi/L *wo:KF5F01AA=> , unt:PCI/G | pCi/L *wo:KF5F11AA=> , unt:PCI/G | pCi/L *wo:KF5F31AA=> , unt:PCI/G | pCi/L

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix	Received Date	Sample Date	Units	Expected Yield	Volumes
8030200	9KF5GJ10		F8A25020514	TSB-HR-08-0'	SOLID	1/25/2008 9:15:00	1/24/2008 9:00:00 AM			
U-234	KWSR	0	2/20/2008 6:25:20 PM	1.1667E+00	9.728E-02	1.398E-01	3.264E-02	PCI/G	0.814	1.03E+0
U-235	KWSR	0	2/20/2008 6:25:20 PM	4.8641E-02	1.987E-02	2.03E-02	3.264E-02	PCI/G	0.814	1.03E+0
U-238	KWSR	0	2/20/2008 6:25:20 PM	1.3856E+00	1.06E-01	1.595E-01	3.264E-02	PCI/G	0.814	1.03E+0
8030200	9KF5GL10		F8A25020515	TSB-HR-08-10'	SOLID	1/25/2008 9:15:00	1/24/2008 9:30:00 AM			
U-234	KWSR	0	2/21/2008 6:26:27 AM	1.605E+00	1.007E-01	1.676E-01	4.32E-02	PCI/G	0.953	1.0E+0
U-235	KWSR	0	2/21/2008 6:26:27 AM	6.1636E-02	1.993E-02	2.058E-02	3.012E-02	PCI/G	0.953	1.0E+0
U-238	KWSR	0	2/21/2008 6:26:27 AM	1.3925E+00	9.373E-02	1.493E-01	3.97E-02	PCI/G	0.953	1.0E+0
8030200	KF5GJ1EW		F8A25020514	TSB-HR-08-0'	SOLID	1/25/2008 9:15:00	1/24/2008 9:00:00 AM			
U-234	KWSR	0 W	2/20/2008 6:25:37 PM	1.4685E+00	1.639E-01	3.394E-01	5.394E-02	PCI/G	1.6774E+00 0.89	1.03E+0
U-238	KWSR	0 W	2/20/2008 6:25:37 PM	1.263E+00	1.666E-01	3.613E-01	3.842E-02	PCI/G	1.7568E+00 0.89	1.03E+0
8030200	KF5GJ1HR		F8A25020514	TSB-HR-08-0'	SOLID	1/25/2008 9:15:00	1/24/2008 9:00:00 AM			
U-234	KWSR	0 R	2/20/2008 6:25:44 PM	1.1348E+00	9.058E-02	1.322E-01	3.462E-02	PCI/G	0.892	1.02E+0
U-235	KWSR	0 R	2/20/2008 6:25:44 PM	4.1923E-02	1.776E-02	1.812E-02	3.462E-02	PCI/G	0.892	1.02E+0
U-238	KWSR	0 R	2/20/2008 6:25:44 PM	9.0208E-01	8.083E-02	1.113E-01	3.462E-02	PCI/G	0.892	1.02E+0
8030200	KGAD61AB		J8A300000200	INTRA-LAB BLANK	SOLID	1/25/2008 9:15:00	1/24/2008 10:15:00 AM			
U-234	KWSR	0 B	2/20/2008 10:11:26 PM	1.6802E-02	1.134E-02	1.143E-02	3.652E-02	PCI/G	0.896	1.02E+0
U-235	KWSR	0 B	2/20/2008 10:11:26 PM	0.0E+00	0.0E+00	6.591E-03	3.095E-02	PCI/G	0.896	1.02E+0
U-238	KWSR	0 B	2/20/2008 10:11:26 PM	1.1632E-02	9.23E-03	9.282E-03	3.095E-02	PCI/G	0.896	1.02E+0
8030200	KGAD61CS		J8A300000200	INTRA-LAB CHECK	SOLID	1/25/2008 9:15:00	1/24/2008 10:15:00 AM			
U-234	KWSR	0 S	2/20/2008 10:11:38 PM	2.1195E+00	1.831E-01	2.731E-01	7.576E-02	PCI/G	1.7181E+00 0.392	1.01E+0
U-238	KWSR	0 S	2/20/2008 10:11:38 PM	2.0087E+00	1.783E-01	2.62E-01	7.576E-02	PCI/G	1.7994E+00 0.392	1.01E+0

8030200, **Samples Inserted | Updated | NotUpdated => 19 | 0 | 0,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 55 | 0 | 0 | 0.
 **Diff RptDb | Qtims => *wo:KF5A21AA=> , unt:PCI/G | pCi/L *wo:KF5A21AA=> , unt:PCI/G | pCi/L *wo:KF5F01AA=> , unt:PCI/G | pCi/L
 *wo:KF5F01AA=> , unt:PCI/G | pCi/L *wo:KF5F11AA=> , unt:PCI/G | pCi/L *wo:KF5F11AA=> , unt:PCI/G | pCi/L *wo:KF5F31AA=> , unt:PCI/G |

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	*MLcC	MDC	QC	Trc	Yld	LCS	Yld
Ulso by ALP																
Richland Standard Alplso Wo Blk Subt. *CntU: 0+1, + *SystU, `MDCConst:2.71																
Calc	SR	SOLID	KF5A21AA	U-234	1.56E+00	(1.62E-01)		PCI/G	R	6.27E-03	2.88E-02			95%		
Calc	SR	SOLID	KF5A21AA	U-235	6.02E-02	(1.97E-02)		PCI/G	R	6.27E-03	2.88E-02			95%		
Calc	SR	SOLID	KF5A21AA	U-238	1.25E+00	(1.35E-01)		PCI/G	R	1.09E-02	3.80E-02			95%		
Calc	SR	SOLID	KF5FV1AA	U-234	1.09E+00	(1.24E-01)		PCI/G	R	6.89E-03	3.17E-02			94%		
Calc	SR	SOLID	KF5FV1AA	U-235	4.50E-02	(1.80E-02)		PCI/G	R	6.89E-03	3.17E-02			94%		
Calc	SR	SOLID	KF5FV1AA	U-238	1.01E+00	(1.17E-01)		PCI/G	R	6.89E-03	3.17E-02			94%		
Calc	SR	SOLID	KF5FX1AA	U-234	1.43E+00	(1.54E-01)		PCI/G	R	1.64E-02	5.03E-02			93%		
Calc	SR	SOLID	KF5FX1AA	U-235	7.09E-02	(2.22E-02)		PCI/G	R	6.71E-03	3.09E-02			93%		
Calc	SR	SOLID	KF5FX1AA	U-238	1.17E+00	(1.31E-01)		PCI/G	R	1.34E-02	4.43E-02			93%		
Calc	SR	SOLID	KF5F01AA	U-234	9.79E-01	(1.14E-01)		PCI/G	R	1.34E-02	4.42E-02			93%		
Calc	SR	SOLID	KF5F01AA	U-235	5.66E-02	(1.99E-02)		PCI/G	R	6.69E-03	3.08E-02			93%		
Calc	SR	SOLID	KF5F01AA	U-238	8.80E-01	(1.05E-01)		PCI/G	R	6.69E-03	3.08E-02			93%		
Calc	SR	SOLID	KF5F11AA	U-234	9.37E-01	(1.46E-01)		PCI/G	R	1.50E-02	6.92E-02			37%		
Calc	SR	SOLID	KF5F11AA	U-235	4.05E-02	(2.55E-02)	U4	PCI/G	R	1.50E-02	6.92E-02			37%		
Calc	SR	SOLID	KF5F11AA	U-238	1.20E+00	(1.74E-01)		PCI/G	R	3.01E-02	9.93E-02			37%		
Calc	SR	SOLID	KF5F31AA	U-234	1.96E+00	(1.96E-01)		PCI/G	R	6.30E-03	2.90E-02			96%		
Calc	SR	SOLID	KF5F31AA	U-235	5.93E-02	(1.98E-02)		PCI/G	R	6.30E-03	2.90E-02			96%		
Calc	SR	SOLID	KF5F31AA	U-238	1.60E+00	(1.65E-01)		PCI/G	R	6.30E-03	2.90E-02			96%		
Calc	SR	SOLID	KF5F41AA	U-234	1.10E+00	(1.25E-01)		PCI/G	R	6.69E-03	3.08E-02			94%		
Calc	SR	SOLID	KF5F41AA	U-235	6.30E-02	(2.10E-02)		PCI/G	R	6.69E-03	3.08E-02			94%		
Calc	SR	SOLID	KF5F41AA	U-238	1.10E+00	(1.25E-01)		PCI/G	R	6.69E-03	3.08E-02			94%		
Calc	SR	SOLID	KF5F71AA	U-234	2.39E+00	(2.41E-01)		PCI/G	R	7.53E-03	3.47E-02			79%		
Calc	SR	SOLID	KF5F71AA	U-235	5.79E-02	(2.11E-02)		PCI/G	R	7.53E-03	3.47E-02			79%		
Calc	SR	SOLID	KF5F71AA	U-238	1.67E+00	(1.79E-01)		PCI/G	R	7.53E-03	3.47E-02			79%		
Calc	SR	SOLID	KF5F81AA	U-234	9.62E-01	(1.16E-01)		PCI/G	R	7.36E-03	3.39E-02			83%		
Calc	SR	SOLID	KF5F81AA	U-235	4.95E-02	(1.92E-02)		PCI/G	R	7.36E-03	3.39E-02			83%		
Calc	SR	SOLID	KF5F81AA	U-238	1.13E+00	(1.31E-01)		PCI/G	R	7.36E-03	3.39E-02			83%		
Calc	SR	SOLID	KF5F91AA	U-234	1.67E+00	(1.74E-01)		PCI/G	R	6.74E-03	3.10E-02			96%		
Calc	SR	SOLID	KF5F91AA	U-235	6.48E-02	(2.12E-02)		PCI/G	R	6.74E-03	3.10E-02			96%		
Calc	SR	SOLID	KF5F91AA	U-238	1.31E+00	(1.43E-01)		PCI/G	R	9.54E-03	3.66E-02			96%		
Calc	SR	SOLID	KF5GC1AA	U-234	1.07E+00	(1.20E-01)		PCI/G	R	6.29E-03	2.90E-02			90%		
Calc	SR	SOLID	KF5GC1AA	U-235	5.20E-02	(1.87E-02)		PCI/G	R	8.90E-03	3.42E-02			90%		
Calc	SR	SOLID	KF5GC1AA	U-238	1.11E+00	(1.23E-01)		PCI/G	R	6.29E-03	2.90E-02			90%		
Calc	SR	SOLID	KF5GF1AA	U-234	1.11E+00	(1.26E-01)		PCI/G	R	6.70E-03	3.08E-02			90%		
Calc	SR	SOLID	KF5GF1AA	U-235	4.51E-02	(1.75E-02)		PCI/G	R	6.70E-03	3.08E-02			90%		

() - (1s Uncertainties)
 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

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc Yld	LCS Yld
Calc	SR	SOLID	KF5GF1AA	U-238	1.21E+00	(1.34E-01)		PCI/G	R	6.70E-03	3.08E-02		90%	
Calc	SR	SOLID	KF5GG1AA	U-234	1.79E+00	(2.91E-01)		PCI/G	R	3.48E-02	1.41E-01		23%	
Calc	SR	SOLID	KF5GG1AA	U-235	5.07E-02	(3.78E-02)	U4	PCI/G	R	1.74E-02	1.06E-01		23%	
Calc	SR	SOLID	KF5GG1AA	U-238	1.31E+00	(2.34E-01)		PCI/G	R	3.48E-02	1.41E-01		23%	
Calc	SR	SOLID	KF5GJ1AA	U-234	1.17E+00	(1.40E-01)		PCI/G	R	5.34E-03	3.26E-02		81%	
Calc	SR	SOLID	KF5GJ1AA	U-235	4.86E-02	(2.03E-02)		PCI/G	R	5.34E-03	3.26E-02		81%	
Calc	SR	SOLID	KF5GJ1AA	U-238	1.39E+00	(1.60E-01)		PCI/G	R	5.34E-03	3.26E-02		81%	
Calc	SR	SOLID	KF5GJ1AE	U-234	2.81E+00	(2.97E-01)		PCI/G	R	1.40E-02	5.39E-02	W	89%	168%
Calc	SR	SOLID	KF5GJ1AE	U-234	1.47E+00	(3.39E-01)		PCI/G	RN	1.40E-02	5.39E-02	W	89%	88%
Calc	SR	SOLID	KF5GJ1AE	U-235	1.14E-01	(3.45E-02)		PCI/G	R	6.28E-03	3.84E-02	W	89%	149%
Calc	SR	SOLID	KF5GJ1AE	U-235	5.49E-02	(4.24E-02)	U4	PCI/G	RN	6.28E-03	3.84E-02	W	89%	72%
Calc	SR	SOLID	KF5GJ1AE	U-238	2.91E+00	(3.05E-01)		PCI/G	R	6.28E-03	3.84E-02	W	89%	166%
Calc	SR	SOLID	KF5GJ1AE	U-238	1.26E+00	(3.61E-01)		PCI/G	RN	6.28E-03	3.84E-02	W	89%	72%
Calc	SR	SOLID	KF5GJ1AH	U-234	1.13E+00	(1.32E-01)		PCI/G	R	7.52E-03	3.46E-02	R	89%	
Calc	SR	SOLID	KF5GJ1AH	U-235	4.19E-02	(1.81E-02)		PCI/G	R	7.52E-03	3.46E-02	R	89%	
Calc	SR	SOLID	KF5GJ1AH	U-238	9.02E-01	(1.11E-01)		PCI/G	R	7.52E-03	3.46E-02	R	89%	
Calc	SR	SOLID	KF5GL1AA	U-234	1.61E+00	(1.68E-01)		PCI/G	R	1.31E-02	4.32E-02		95%	
Calc	SR	SOLID	KF5GL1AA	U-235	6.16E-02	(2.06E-02)		PCI/G	R	6.54E-03	3.01E-02		95%	
Calc	SR	SOLID	KF5GL1AA	U-238	1.39E+00	(1.49E-01)		PCI/G	R	1.13E-02	3.97E-02		95%	
Calc	SR	SOLID	KGAD61AA	U-234	1.68E-02	(1.14E-02)	U4	PCI/G	R	9.51E-03	3.65E-02	B	90%	
Calc	SR	SOLID	KGAD61AA	U-235	0.00E+00	(6.59E-03)	U4	PCI/G	R	6.72E-03	3.10E-02	B	90%	
Calc	SR	SOLID	KGAD61AA	U-238	1.16E-02	(9.28E-03)	U4	PCI/G	R	6.72E-03	3.10E-02	B	90%	
Calc	SR	SOLID	KGAD61AC	U-234	2.12E+00	(2.73E-01)		PCI/G	R	1.65E-02	7.58E-02	S	39%	123%
Calc	SR	SOLID	KGAD61AC	U-235	7.59E-02	(3.62E-02)		PCI/G	R	1.65E-02	7.58E-02	S	39%	97%
Calc	SR	SOLID	KGAD61AC	U-238	2.01E+00	(2.62E-01)		PCI/G	R	1.65E-02	7.58E-02	S	39%	112%

REF=0, 2
 CRDL
 REF=2.5

() - (1s Uncertainties)
 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 Regardless of Significants
 Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 8030200

Alpha Spec, Uliso by ALP , Calculated Results Detailed Report

2/21/2008 11:25:48 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol	
1	Calc	SR	SOLID	*STLE	AlpisoWoBS	KF5A21AA	PC1/G		01/24/08 10:15	02/20/08 18:21			1	9			
							SOLID						UJTC19425	Alq	1.03 g		
0	02/20/08	16:40	U-232	734	12	ALP1	ED	Y	N	3.8124E-01	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	Abn	
				200.13333333	1000.1833			Y		(1.144E-02)			(0.000E+00)	0.970874			
1	02/20/08	16:40	U-234	259	1	ALP1	ED	N	N	3.8124E-01	95%	N	1.0000E+00	4.5045E-01	1.0000E+00	Abn	
				200.13333333	1000.1833			Y		(1.144E-02)	5%		(0.000E+00)	0.970874			
2	02/20/08	16:40	U-235	10	0	ALP1	ED	N	N	3.8124E-01	95%	N	1.0000E+00	4.5045E-01	1.0000E+00	Abn	
				200.13333333	1000.1833			Y		(1.144E-02)	5%		(0.000E+00)	0.970874			
3	02/20/08	16:40	U-238	208	3	ALP1	ED	N	N	3.8124E-01	95%	N	1.0000E+00	4.5045E-01	1.0000E+00	Abn	
				200.13333333	1000.1833			Y		(1.144E-02)	5%		(0.000E+00)	0.970874			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total	U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld Fct	Ent	Trc Yld,EnFct	LCSYld,EFctU	IDC/LcC	BKlCc/MDC	StdDvMidC/LcC
02/21/08	4.405E+00	U-232	R	4.193351			3.65556E+00	9.588526	(0.457067)	1.03 G	95%						
				(0.298142)			(1.3542E-01)	(0.457067)		(0.017321)							
02/21/08	4.405E+00	U-234	R	1.558226			1.29314E+00	3.563042	(0.318849)	1.03 G	95%						
				(0.161867)			(8.0420E-02)	(0.318849)		(0.017321)							
02/21/08	4.405E+00	U-235	R	0.06021			4.99667E-02	0.137676	(0.044514)	1.03 G	95%						
				(0.019725)			(1.5832E-02)	(0.044514)		(0.017321)							
02/21/08	4.405E+00	U-238	R	1.248747			1.03631E+00	2.855387	(0.270567)	1.03 G	95%						
				(0.135428)			(7.2084E-02)	(0.270567)		(0.017321)							
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol	
2	Calc	SR	SOLID	*STLE	AlpisoWoBS	KF5FV1AA	PC1/G		01/24/08 09:55	02/20/08 18:21			1	9			
							SOLID						UJTC19426	Alq	1.01 g		
0	02/20/08	16:41	U-232	680	12	ALP2	ED	Y	N	3.5984E-01	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	Abn	
				200.08333333	1000.1166			Y		(1.080E-02)			(0.000E+00)	0.990099			
1	02/20/08	16:41	U-234	164	0	ALP2	ED	N	N	3.5984E-01	94%	N	1.0000E+00	4.5045E-01	1.0000E+00	Abn	
				200.08333333	1000.1166			Y		(1.080E-02)	5%		(0.000E+00)	0.990099			
2	02/20/08	16:41	U-235	7	1	ALP2	ED	N	N	3.5984E-01	94%	N	1.0000E+00	4.5045E-01	1.0000E+00	Abn	
				200.08333333	1000.1166			Y		(1.080E-02)	5%		(0.000E+00)	0.990099			
3	02/20/08	16:41	U-238	152	0	ALP2	ED	N	N	3.5984E-01	94%	N	1.0000E+00	4.5045E-01	1.0000E+00	Abn	
				200.08333333	1000.1166			Y		(1.080E-02)	5%		(0.000E+00)	0.990099			

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

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 TA Richland

Batch Nbr: 8030200

Alpha Spec, Uiso by ALP

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Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCS Yld,EFctU	iDC/iLcC	BklcC/MDC	StdDvMdc/LcC
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCS Yld,EFctU	iDC/iLcC	BklcC/MDC	StdDvMdc/LcC
02/21/08	U-232	R	4.197356	3.38659E+00	9.411321	9.411321	(0.459334)	1.01 G	94%					
4.485E+00			(0.301981)	(1.3038E-01)	(0.459334)	(0.459334)		(0.017321)		0.031707				
02/21/08	U-234	R	1.085622	8.19658E-01	2.434184	2.434184	(0.247634)	1.01 G	94%					
4.485E+00			(0.124461)	(6.4012E-02)	(0.247634)	(0.247634)		(0.017321)		0.006888				
02/21/08	U-235	R	0.045013	3.39855E-02	0.100929	0.100929	(0.039928)	1.01 G	94%					
4.485E+00			(0.017966)	(1.3261E-02)	(0.039928)	(0.039928)		(0.017321)		0.006888				
02/21/08	U-238	R	1.006186	7.59683E-01	2.256073	2.256073	(0.234794)	1.01 G	94%					
4.485E+00			(0.117449)	(6.1627E-02)	(0.234794)	(0.234794)		(0.017321)		0.031707				
										0.006888				
Sq Status Method Matrix Protocol Equation Set Wrk 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	SOLID	*STLE	AlpIsoWoBS	KF5FX1AA	PCI/G							
	1418995,TSB-HR-04-10'				F8A250205-3		SOLID		01/24/08 11:00	02/20/08 18:21		1	9	
									UITS19427 Alq				1.00 g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value
0	02/20/08 16:41	U-232	703	10	ALP3	ED	Y	N	3.7580E-01		N	100%	N	1.0000E+00
							Y		(1.127E-02)					(0.0000E+00)
1	02/20/08 16:41	U-234	223	6	ALP3	ED	N	N	3.7580E-01		N	93%	N	1.0000E+00
							Y		(1.127E-02)					(0.0000E+00)
2	02/20/08 16:41	U-235	11	0	ALP3	ED	N	N	3.7580E-01		N	93%	N	1.0000E+00
							Y		(1.127E-02)					(0.0000E+00)
3	02/20/08 16:41	U-238	182	4	ALP3	ED	N	N	3.7580E-01		N	93%	N	1.0000E+00
							Y		(1.127E-02)					(0.0000E+00)
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCS Yld,EFctU	iDC/iLcC	BklcC/MDC	StdDvMdc/LcC
02/21/08	U-232	R	4.199155	3.50324E+00	9.322132	9.322132	(0.450117)	1.00 G	93%					
4.519E+00			(0.300802)	(1.3254E-01)	(0.450117)	(0.450117)		(0.017321)		0.050315				
02/21/08	U-234	R	1.429852	1.10844E+00	3.174274	3.174274	(0.296714)	1.00 G	93%					
4.519E+00			(0.153585)	(7.4669E-02)	(0.296714)	(0.296714)		(0.017321)		0.016432				
02/21/08	U-235	R	0.070913	5.49725E-02	0.157426	0.157426	(0.048634)	1.00 G	93%					
4.519E+00			(0.022226)	(1.6605E-02)	(0.048634)	(0.048634)		(0.017321)		0.006708				
02/21/08	U-238	R	1.168121	9.05545E-01	2.593231	2.593231	(0.256031)	1.00 G	93%					
4.519E+00			(0.130849)	(6.7450E-02)	(0.256031)	(0.256031)		(0.017321)		0.042288				
										0.013417				
Sq Status Method Matrix Protocol Equation Set Wrk 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	SOLID	*STLE	AlpIsoWoBS	KF5F01AA	PCI/G							
	1418995,TSB-HJ-04-01'				F8A250205-4		SOLID		01/24/08 11:30	02/20/08 18:22		1	9	
									UITS19428 Alq				1.00 g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value
0	02/20/08 16:42	U-232	704	8	ALP4	ED	Y	N	3.7608E-01		N	100%	N	1.0000E+00
							Y		(1.128E-02)					(0.0000E+00)

0 - (1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time
 RecCnt:4 RADCALC v4.8.29
 TA Richland

Alpha Spec, Uiso by ALP, Calculated Results

2/21/2008 11:25:48 AM

Batch Nbr: 8030200

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
1	02/20/08 16:42	U-234	153	4	ALP4	ED	N	N	3.7608E-01	N	93%	N	4.5045E-01	1.0000E+00
			200.0666666	1000.2333			Y	(1.128E-02)	(0.017321)	5%			1.00	(0.000E+00)
2	02/20/08 16:42	U-235	9	1	ALP4	ED	N	N	3.7608E-01	N	93%	N	4.5045E-01	1.0000E+00
			200.0666666	1000.2333			Y	(1.128E-02)	(0.017321)	5%			1.00	(0.000E+00)
3	02/20/08 16:42	U-238	137	1	ALP4	ED	N	N	3.7608E-01	N	93%	N	4.5045E-01	1.0000E+00
			200.0666666	1000.2333			Y	(1.128E-02)	(0.017321)	5%			1.00	(0.000E+00)

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
	02/21/08	U-232	R	4.205083		3.51083E+00	9.335294	9.335294	1.00 G	93%				
				(0.301114)		(1.3265E-01)	(0.450382)	(0.450382)	(0.017321)					
	02/21/08	U-234	R	0.979215		7.60746E-01	2.173859	2.173859	1.00 G	93%				
				(0.114227)		(6.1858E-02)	(0.225993)	(0.225993)	(0.017321)					
	02/21/08	U-235	R	0.056617		4.39852E-02	0.125689	0.125689	1.00 G	93%				
				(0.019915)		(1.5028E-02)	(0.043709)	(0.043709)	(0.017321)					
	02/21/08	U-238	R	0.880136		6.83772E-01	1.953903	1.953903	1.00 G	93%				
				(0.105317)		(5.8513E-02)	(0.209702)	(0.209702)	(0.017321)					

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	SR	SOLID	*STLE	AlpIsoWoBS	KF5F11AA	PCI/G	SOLID	1418995,TSB-HR-04'	UITS19429	Alq	9	1.01 g		
0	02/20/08 16:42	U-232	312	6	ALP5	ED	Y	N	4.1305E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0333333	1000.2			Y	(1.239E-02)	(0.000E+00)	0.990099					
1	02/20/08 16:42	U-234	65	1	ALP5	ED	N	N	4.1305E-01	N	37%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0333333	1000.2			Y	(1.239E-02)	(0.000E+00)	0.990099					
2	02/20/08 16:42	U-235	3	1	ALP5	ED	N	N	4.1305E-01	N	37%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0333333	1000.2			Y	(1.239E-02)	(0.000E+00)	0.990099					
3	02/20/08 16:42	U-238	84	4	ALP5	ED	N	N	4.1305E-01	N	37%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.0333333	1000.2			Y	(1.239E-02)	(0.000E+00)	0.990099					

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
	02/21/08	U-232	R	1.67764		1.55374E+00	3.761608	3.761608	1.01 G	37%				
				(0.139623)		(8.8337E-02)	(0.241811)	(0.241811)	(0.017321)					
	02/21/08	U-234	R	0.936589		3.23946E-01	2.100022	2.100022	1.01 G	37%				
				(0.145952)		(4.0317E-02)	(0.307851)	(0.307851)	(0.017321)					
	02/21/08	U-235	R	0.04047	U4	1.39977E-02	0.090742	0.090742	1.01 G	37%				
				(0.025485)		(8.7163E-03)	(0.05694)	(0.05694)	(0.017321)					
	02/21/08	U-238	R	1.202534		4.15931E-01	2.696325	2.696325	1.01 G	37%				
				(0.174067)		(4.5862E-02)	(0.36334)	(0.36334)	(0.017321)					

RecCnt:6 RADCALC v4.8.29
 TA Richland
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 (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Alpha Spec, Uiso by ALP , Calculated Results

2/21/2008 11:25:49 AM

Batch Nbr: 8030200

Sq	Calc	SR	SOLID	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
6	Calc	SR	SOLID	*STLE	AlpIsoWoBS	KF5F31AA	PCI/G		01/24/08 11:55	02/20/08 18:23		UITS	19430	Alq	1.01 g		
1418995,TSB-HJ-04-10' ,F8A250205-6 SOLID																	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 16:43	U-232	742	3	ALP6	ED	Y	N	3.8270E-01		N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
200.03333333 1000.1833 (1.148E-02)																	
1	02/20/08 16:43	U-234	324	0	ALP6	ED	N	N	3.8270E-01		N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00	
200.03333333 1000.1833 (1.148E-02)																	
2	02/20/08 16:43	U-235	10	1	ALP6	ED	N	N	3.8270E-01		N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00	
200.03333333 1000.1833 (1.148E-02)																	
3	02/20/08 16:43	U-238	264	1	ALP6	ED	N	N	3.8270E-01		N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00	
200.03333333 1000.1833 (1.148E-02)																	
Sq	CalcDate,TrcAct	Parameter	Avg Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BlkLc/MDC	StdDwMdc/LcC				
02/21/08	U-232	R	4.319315		3.70638E+00	9.684777	9.684777	1.01 G	96%								
(0.306769) (1.3619E-01) (0.4594) (0.4594)																	
02/21/08	U-234	R	1.962149		1.61973E+00	4.399533	4.399533	1.01 G	96%								
4.490E+00 (0.196207) (8.9991E-02) (0.373446) (0.373446)																	
02/21/08	U-235	R	0.059349		4.89919E-02	0.133072	0.133072	1.01 G	96%								
4.490E+00 (0.019813) (1.5840E-02) (0.043865) (0.043865)																	
02/21/08	U-238	R	1.597576		1.31878E+00	3.582089	3.582089	1.01 G	96%								
4.490E+00 (0.165306) (8.1233E-02) (0.318636) (0.318636)																	

Sq	Calc	SR	SOLID	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
7	Calc	SR	SOLID	*STLE	AlpIsoWoBS	KF5F41AA	PCI/G		01/24/08 12:30	02/20/08 18:23		UITS	19431	Alq	1.00 g		
1418995,TSB-HR-07-0' ,F8A250205-7 SOLID																	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 16:43	U-232	705	10	ALP7	ED	Y	N	3.7341E-01		N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00	
200.05 200.1 (1.120E-02)																	
1	02/20/08 16:43	U-234	172	1	ALP7	ED	N	N	3.7341E-01		N	94%	N	1.0000E+00	4.5045E-01	1.0000E+00	
200.05 1000.1 (1.120E-02)																	
2	02/20/08 16:43	U-235	10	1	ALP7	ED	N	N	3.7341E-01		N	94%	N	1.0000E+00	4.5045E-01	1.0000E+00	
200.05 1000.1 (1.120E-02)																	
3	02/20/08 16:43	U-238	172	1	ALP7	ED	N	N	3.7341E-01		N	94%	N	1.0000E+00	4.5045E-01	1.0000E+00	
200.05 1000.1 (1.120E-02)																	

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

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RecCnt:7 RADCALC v4.8.29 TA Richland

Alpha Spec, Uiso by ALP, Calculated Results

Batch Nbr: 8030200

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	iDC/iLcC	BiLcC/iMDC	StdDvMdc/LcC
0	02/21/08	U-232	R	4.239101		3.51412E+00	9.410813	9.410813	1.00 G	94%				
	4.519E+00			(0.303542)		(1.3276E-01)	(0.454001)	(0.454001)	(0.017321)			0.030789		
0	02/21/08	U-234	R	1.104373		8.58785E-01	2.451711	2.451711	1.00 G	94%				
	4.519E+00			(0.125065)		(6.5566E-02)	(0.24547)	(0.24547)	(0.017321)			0.006688		
0	02/21/08	U-235	R	0.062997		4.89876E-02	0.139853	0.139853	1.00 G	94%				
	4.519E+00			(0.021039)		(1.5839E-02)	(0.046117)	(0.046117)	(0.017321)			0.006688		
0	02/21/08	U-238	R	1.104373		8.58785E-01	2.451711	2.451711	1.00 G	94%				
	4.519E+00			(0.125065)		(6.5566E-02)	(0.24547)	(0.24547)	(0.017321)			0.030789		
												0.006688		
Protocol Equation Set: Wk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol														
8	Calc SR	SOLID	*STLE	AlpIsoWoBS	KF5F71AA	PCI/G	01/24/08 12:45	02/20/08 18:23						
	1418995,TSB-HR-07-10'			.F8A250205-8		SOLID								
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value
0	02/20/08 16:43	U-232	621	14	ALP8	ED	Y	N	3.8820E-01		N	100%	N	1.0000E+00
			200.0166666	1000.0333			Y		(1.165E-02)					(0.000E+00)
1	02/20/08 16:43	U-234	330	0	ALP8	ED	N	N	3.8820E-01		N	79%	N	1.0000E+00
			200.0166666	1000.0333			Y		(1.165E-02)					(0.000E+00)
2	02/20/08 16:43	U-235	8	0	ALP8	ED	N	N	3.8820E-01		N	79%	N	1.0000E+00
			200.0166666	1000.0333			Y		(1.165E-02)					(0.000E+00)
3	02/20/08 16:43	U-238	231	0	ALP8	ED	N	N	3.8820E-01		N	79%	N	1.0000E+00
			200.0166666	1000.0333			Y		(1.165E-02)					(0.000E+00)
Protocol Equation Set: Wk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol														
9	Calc SR	SOLID	*STLE	AlpIsoWoBS	KF5F81AA	PCI/G	01/24/08 13:00	02/20/08 18:23						
	1418995,TSB-HR-06-0'			.F8A250205-9		SOLID								
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value
0	02/20/08 16:43	U-232	634	5	ALP9	ED	Y	N	3.7821E-01		N	100%	N	1.0000E+00
			200.1	1000.0166			Y		(1.135E-02)					(0.000E+00)
Protocol Equation Set: Wk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol														
9	Calc SR	SOLID	*STLE	AlpIsoWoBS	KF5F81AA	PCI/G	01/24/08 13:00	02/20/08 18:23						
	1418995,TSB-HR-06-0'			.F8A250205-9		SOLID								
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value
0	02/21/08	U-232	621	14	ALP8	ED	Y	N	3.8820E-01		N	100%	N	1.0000E+00
	4.474E+00		200.0166666	1000.0333			Y		(1.165E-02)					(0.000E+00)
0	02/21/08	U-234	330	0	ALP8	ED	N	N	3.8820E-01		N	79%	N	1.0000E+00
	4.474E+00		200.0166666	1000.0333			Y		(1.165E-02)					(0.000E+00)
0	02/21/08	U-235	8	0	ALP8	ED	N	N	3.8820E-01		N	79%	N	1.0000E+00
	4.474E+00		200.0166666	1000.0333			Y		(1.165E-02)					(0.000E+00)
0	02/21/08	U-238	231	0	ALP8	ED	N	N	3.8820E-01		N	79%	N	1.0000E+00
	4.474E+00		200.0166666	1000.0333			Y		(1.165E-02)					(0.000E+00)

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 iDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Alpha Spec, Uiso by ALP, Calculated Results

Batch Nbr: 8030200

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BkLcC/MDC	StdDvMdc/LcC
1	02/20/08 16:43	U-234	136	0	ALP9	ED	N	N	3.7821E-01	N	83%	N	4.5045E-01	1.0000E+00
			200.1	1000.0166			Y	(1.135E-02)	(0.017321)		5%		0.990099	0.0000E+00
2	02/20/08 16:43	U-235	7	0	ALP9	ED	N	N	3.7821E-01	N	83%	N	4.5045E-01	1.0000E+00
			200.1	1000.0166			Y	(1.135E-02)	(0.017321)		5%		0.990099	0.0000E+00
3	02/20/08 16:43	U-238	160	0	ALP9	ED	N	N	3.7821E-01	N	83%	N	4.5045E-01	1.0000E+00
			200.1	1000.0166			Y	(1.135E-02)	(0.017321)		5%		0.990099	0.0000E+00

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PtWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
10	Calc	SR	SOLID	*STLE	AlpIsoWoBS	KF5F91AA	PCI/G		01/24/08 13:10	02/20/08 18:24						9	
							SOLID										1.01 g
																	UJTC19434 Alq

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Bik Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 16:44	U-232	692	0	ALP10	ED	Y	N	3.5997E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1833			Y		(1.080E-02)						(0.000E+00)	0.990099		
1	02/20/08 16:44	U-234	258	1	ALP10	ED	N	N	3.5997E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1833			Y		(1.080E-02)		5%				(0.000E+00)	0.990099		
2	02/20/08 16:44	U-235	10	0	ALP10	ED	N	N	3.5997E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1833			Y		(1.080E-02)		5%				(0.000E+00)	0.990099		
3	02/20/08 16:44	U-238	202	2	ALP10	ED	N	N	3.5997E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	1000.1833			Y		(1.080E-02)		5%				(0.000E+00)	0.990099		

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BkLcC/MDC	StdDvMdc/LcC
02/21/08	U-232	R	4.285732	3.45914E+00		9.609478	9.609478	1.01 G	96%					
	4.485E+00		(0.307238)	(1.3150E-01)		(0.465358)	(0.465358)	(0.017321)						
02/21/08	U-234	R	1.671031	1.28868E+00		3.746789	3.746789	1.01 G	96%					
	4.485E+00		(0.174381)	(8.0298E-02)		(0.337128)	(0.337128)	(0.017321)						
02/21/08	U-235	R	0.064819	4.99875E-02		0.145337	0.145337	1.01 G	96%					
	4.485E+00		(0.021243)	(1.5839E-02)		(0.047008)	(0.047008)	(0.017321)						
02/21/08	U-238	R	1.306749	1.00775E+00		2.929995	2.929995	1.01 G	96%					
	4.485E+00		(0.143026)	(7.1060E-02)		(0.280814)	(0.280814)	(0.017321)						

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 Page 6
 () - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh.mm, 24hr Time

Batch Nbr: 8030200

Alpha Spec, Uiso by ALP, Calculated Results

2/21/2008 11:25:49 AM

Sq	Calc	SR	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol							
11	1418995	TSB-HJ-07-0	SOLID	*STLE	AlpIsoWoBS	KF5GCI1A	PCI/G			SOLID		01/24/08	08:05	02/20/08	18:24			UITS19435	Alq	1.01	g									
Sq	CalcDate	TrcAct	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/VolAdj	Decay	Abn				
0	02/20/08	16:44	U-232	746	12	ALP11	ED	Y	N	4.0783E-01	N	100%	N	N	1.0000E+00	4.5045E-01	1.0000E+00	(0.0000E+00)	0.990099											
1	02/20/08	16:44	U-234	177	0	ALP11	ED	N	N	4.0783E-01	N	90%	N	N	1.0000E+00	4.5045E-01	1.0000E+00	(0.0000E+00)	0.990099											
2	02/20/08	16:44	U-235	9	2	ALP11	ED	N	N	4.0783E-01	N	5%	N	N	1.0000E+00	4.5045E-01	1.0000E+00	(0.0000E+00)	0.990099											
3	02/20/08	16:44	U-238	183	1	ALP11	ED	N	N	4.0783E-01	N	5%	N	N	1.0000E+00	4.5045E-01	1.0000E+00	(0.0000E+00)	0.990099											
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wt	Blk	Dpm	Blk	Vol	Used	Trc	Yld, Ent	Fct	LCS	Yld, Fct	IDC/ILcC	BIK	LcC/MDC	Std	DvMdc/LcC		
	02/21/08	4.497E+00	U-232	R	4.064187	(0.288646)			3.71645E+00	9.11273	9.11273	1.01	G	90%																
	02/21/08	4.497E+00	U-234	R	1.070337	(0.11997)			8.84631E-01	2.399912	2.399912	1.01	G	90%																
	02/21/08	4.497E+00	U-235	R	0.052004	(0.018728)			4.29815E-02	0.116604	0.116604	1.01	G	90%																
	02/21/08	4.497E+00	U-238	R	1.10541	(0.123044)			9.13619E-01	2.478552	2.478552	1.01	G	90%																
Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol								
12	1418995	TSB-HJ-07-0	FD	SOLID	*STLE	AlpIsoWoBS	KF5GF1A	PCI/G		SOLID		01/24/08	08:05	02/20/08	18:24			UITS19435	Alq	1.01	g									
Sq	CalcDate	TrcAct	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/VolAdj	Decay	Abn				
0	02/20/08	16:44	U-232	698	3	ALP12	ED	Y	N	3.8329E-01	N	100%	N	N	1.0000E+00	4.5045E-01	1.0000E+00	(0.0000E+00)	0.990099											
1	02/20/08	16:44	U-234	173	0	ALP12	ED	N	N	3.8329E-01	N	90%	N	N	1.0000E+00	4.5045E-01	1.0000E+00	(0.0000E+00)	0.990099											
2	02/20/08	16:44	U-235	7	0	ALP12	ED	N	N	3.8329E-01	N	5%	N	N	1.0000E+00	4.5045E-01	1.0000E+00	(0.0000E+00)	0.990099											
3	02/20/08	16:44	U-238	188	0	ALP12	ED	N	N	3.8329E-01	N	5%	N	N	1.0000E+00	4.5045E-01	1.0000E+00	(0.0000E+00)	0.990099											

Alpha Spec, Uiso by ALP , Calculated Results

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	iDC/iLcC	BiK/LcC/MDC	StdDvMdc/LcC
0	02/21/08	U-232	R	4.056079 (0.290498)		3.48584E+00 (1.3207E-01)	9.09455 (0.439501)	9.09455 (0.439501)	1.01 G (0.017321)	90%		0.030837		
0	02/21/08	U-234	R	1.113791 (0.12591)		8.64712E-01 (6.5750E-02)	2.497344 (0.249551)	2.497344 (0.249551)	1.01 G (0.017321)	90%		0.006699		
0	02/21/08	U-235	R	0.045067 (0.017493)		3.49883E-02 (1.3262E-02)	0.101049 (0.038858)	0.101049 (0.038858)	1.01 G (0.017321)	90%		0.030837		
0	02/21/08	U-238	R	1.210362 (0.134334)		9.39687E-01 (6.8541E-02)	2.713877 (0.264849)	2.713877 (0.264849)	1.01 G (0.017321)	90%		0.006699		

Sq	Calc	SR	SOLID	*STLE	AlpIsoWoBS	KF5GG1AA	PCI/G	Wk 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	1418995	TSB-HJ-07-10'	SOLID				SOLID				01/24/08 08:40	02/20/08 18:25		UIC:19437 Alq	1	9	1.01 g

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 16:45	U-232	172	29	ALP71	ED	Y	N	3.6258E-01 (1.088E-02)		N	100%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.990099	1.0000E+00		
1	02/20/08 16:45	U-234	68	4	ALP71	ED	N	N	3.6258E-01 (1.088E-02)		N	23%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.990099	1.0000E+00		
2	02/20/08 16:45	U-235	2	1	ALP71	ED	N	N	3.6258E-01 (1.088E-02)		N	23%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.990099	1.0000E+00		
3	02/20/08 16:45	U-238	50	4	ALP71	ED	N	N	3.6258E-01 (1.088E-02)		N	23%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.990099	1.0000E+00		

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	iDC/iLcC	BiK/LcC/MDC	StdDvMdc/LcC
0	02/21/08	U-232	R	1.042774 (0.102567)		8.47756E-01 (6.5561E-02)	2.33811 (0.193945)	2.33811 (0.193945)	1.01 G (0.017321)	23%		0.14113		
0	02/21/08	U-234	R	1.788234 (0.29052)		3.38145E-01 (4.1208E-02)	4.009581 (0.615961)	4.009581 (0.615961)	1.01 G (0.017321)	23%		0.034784		
0	02/21/08	U-235	R	0.050729 (0.037821)		9.59251E-03 (7.0771E-03)	0.113744 (0.084589)	0.113744 (0.084589)	1.01 G (0.017321)	23%		0.106367		
0	02/21/08	U-238	R	1.312638 (0.234121)		2.48213E-01 (3.5338E-02)	2.943199 (0.501363)	2.943199 (0.501363)	1.01 G (0.017321)	23%		0.017392		

Sq	Calc	SR	SOLID	*STLE	AlpIsoWoBS	KF5GG1AA	PCI/G	Wk 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	1418995	TSB-HR-08-0'	SOLID				SOLID				01/24/08 09:00	02/20/08 18:25		UIC:19438 Alq	1	9	1.03 g

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 16:45	U-232	542	10	ALP84	ED	Y	N	3.3113E-01 (9.934E-03)		N	100%	N	1.0000E+00 (0.000E+00)	4.5045E-01 0.970874	1.0000E+00		
			200.2333333	2500.0166														

{} - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:14 RADCALC v4.8.29 TA Richland

Alpha Spec, Uiso by ALP, Calculated Results

2/21/2008 11:25:49 AM

Batch Nbr: 8030200

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
1	02/20/08 16:45	U-234	144	1	ALP84 ED	N N	3.3113E-01 (9.934E-03)	N	81%	N	1.0000E+00 (0.0000E+00)	4.5045E-01 0.970874	1.0000E+00	1.0000E+00
2	02/20/08 16:45	U-235	6	0	ALP84 ED	N N	3.3113E-01 (9.934E-03)	N	81%	N	1.0000E+00 (0.0000E+00)	4.5045E-01 0.970874	1.0000E+00	1.0000E+00
3	02/20/08 16:45	U-238	171	1	ALP84 ED	N N	3.3113E-01 (9.934E-03)	N	81%	N	1.0000E+00 (0.0000E+00)	4.5045E-01 0.970874	1.0000E+00	1.0000E+00

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
02/21/08	U-232	R	3.569743	2.70284E+00 (1.1628E-01)	0.265544	8.162583 (0.428104)	8.162583 (0.428104)	1.03 G (0.017321)	81%	N	1.03 G (0.017321)	0.032638	0.032638	0.005337
02/21/08	U-234	R	1.166741	7.18761E-01 (5.9931E-02)	0.139786	2.667873 (0.286985)	2.667873 (0.286985)	1.03 G (0.017321)	81%	N	1.03 G (0.017321)	0.032638	0.032638	0.005337
02/21/08	U-235	R	0.048641	2.99650E-02 (1.2240E-02)	0.020304	0.111223 (0.046056)	0.111223 (0.046056)	1.03 G (0.017321)	81%	N	1.03 G (0.017321)	0.032638	0.032638	0.005337
02/21/08	U-238	R	1.385627	8.53604E-01 (6.5309E-02)	0.15953	3.168378 (0.324238)	3.168378 (0.324238)	1.03 G (0.017321)	81%	N	1.03 G (0.017321)	0.032638	0.032638	0.005337

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	SR	SOLID	*STLE	AlpIsoWoBS	KF5GJIAE	PCI/G	W	01/24/08 09:00	02/20/08 18:25	UISG1600	1	g
1418995	TSB-HR-0'						SOLID				UISG1600	Alq	1.03 g

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Bk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 16:45	U-232	464	41	ALP85	ED	Y N	N	2.5700E-01 (7.710E-03)	N	100%	N	N	1.0000E+00 (0.0000E+00)	4.5045E-01 0.970874	1.0000E+00	1.0000E+00	
1	02/20/08 16:45	U-234	295	5	ALP85	ED	N N	N	2.5700E-01 (7.710E-03)	N	89%	N	N	1.0000E+00 (0.0000E+00)	4.5045E-01 0.970874	1.0000E+00	1.0000E+00	
2	02/20/08 16:45	U-235	200.3	2500.1	ALP85	ED	Y N	N	2.5700E-01 (7.710E-03)	N	89%	N	N	1.0000E+00 (0.0000E+00)	4.5045E-01 0.970874	1.0000E+00	1.0000E+00	
3	02/20/08 16:45	U-238	305	1	ALP85	ED	N N	N	2.5700E-01 (7.710E-03)	N	89%	N	N	1.0000E+00 (0.0000E+00)	4.5045E-01 0.970874	1.0000E+00	1.0000E+00	

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
02/21/08	U-232	R	3.914012	2.30013E+00 (1.0757E-01)	0.299877	8.94979 (0.497278)	8.94979 (0.497278)	1.03 G (0.017321)	89%	N	1.03 G (0.017321)	0.053942	0.053942	0.01405
02/21/08	U-234	R	2.811093	1.47079E+00 (8.5754E-02)	0.29667	6.427851 (0.587539)	6.427851 (0.587539)	1.03 G (0.017321)	89%	N	1.03 G (0.017321)	0.053942	0.053942	0.01405
02/21/08	U-234	FIN	1.468504	1.47079E+00 (8.5754E-02)	0.33945	6.427851 (0.587539)	6.427851 (0.587539)	1.03 G (0.017321)	89%	N	1.03 G (0.017321)	0.038418	0.038418	0.006283
02/21/08	U-235	R	0.113741	5.95102E-02 (1.7299E-02)	0.034544	0.260079 (0.077789)	0.260079 (0.077789)	1.03 G (0.017321)	89%	N	1.03 G (0.017321)	0.006283	0.006283	

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() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	Calc	SR	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol	
02/21/08	U-235	RIN	0.054907	U4	5.95102E-02	0.260079	0.260079	0.077789	0.077789	1.03 G	89%	72%	0.038418											
02/21/08	U-238	R	2.909571	(0.305418)	1.52232E+00	6.653032	6.653032	0.603778	0.603778	1.03 G	89%	166%	0.038418											
02/21/08	U-238	RIN	1.263007	(0.361319)	1.52232E+00	6.653032	6.653032	0.603778	0.603778	1.03 G	89%	72%	0.038418											

Sq	Status	Method	Matrix	Matrix	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol	
16	Calc	SR	SOLID	*STLE	AlpIsoWoBS	KF5GJIAH	PC1/G	R	01/24/08	09:00	02/20/08	18:25	02/20/08	18:25	g	U1TC19439	Alq	1	1.02 g				

Sq	Calc	SR	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol
0	02/20/08	16:45	U-232	611	1	ALP88	ED	Y	N	3.4235E-01	(1.027E-02)	89%	100%	N	N	N	1.0000E+00	4.5045E-01	0.980392	1.0000E+00			
1	02/20/08	16:45	U-234	157	0	ALP88	ED	N	N	3.4235E-01	(1.027E-02)	89%	5%	N	N	N	1.0000E+00	4.5045E-01	0.980392	1.0000E+00			
2	02/20/08	16:45	U-235	6	1	ALP88	ED	N	N	3.4235E-01	(1.027E-02)	89%	5%	N	N	N	1.0000E+00	4.5045E-01	0.980392	1.0000E+00			
3	02/20/08	16:45	U-238	125	1	ALP88	ED	N	N	3.4235E-01	(1.027E-02)	89%	5%	N	N	N	1.0000E+00	4.5045E-01	0.980392	1.0000E+00			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Bik	Dpm-Bik	Vol	Used	TrcYld,EnFct	LCSYld,EFCtU	IDC/ILcC	BikLcC/MDC	StdVdMdc/LcC
02/21/08	4.415E+00	U-232	R	3.93824	(0.287416)	3.05298E+00	8.917761	8.917761	0.44925	(0.44925)	1.02 G	89%	1.02 G	89%	(0.017321)	0.034622	0.007521				
02/21/08	4.415E+00	U-234	R	1.134829	(0.132175)	7.84738E-01	2.569708	2.569708	0.266769	(0.266769)	1.02 G	89%	1.02 G	89%	(0.017321)	0.034622	0.007521				
02/21/08	4.415E+00	U-235	R	0.041923	(0.018117)	2.89900E-02	0.094931	0.094931	0.040716	(0.040716)	1.02 G	89%	1.02 G	89%	(0.017321)	0.034622	0.007521				
02/21/08	4.415E+00	U-238	R	0.90208	(0.111299)	6.23792E-01	2.042672	2.042672	0.227777	(0.227777)	1.02 G	89%	1.02 G	89%	(0.017321)	0.034622	0.007521				

Sq	Status	Method	Matrix	Matrix	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol
17	Calc	SR	SOLID	*STLE	AlpIsoWoBS	KF5GLIAA	PC1/G	R	01/24/08	09:30	02/21/08	06:26	02/21/08	06:26	g	U1TC19440	Alq	1	1.00 g			

Sq	Calc	SR	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol
0	02/21/08	04:46	U-232	720	11	ALP3	ED	Y	N	3.7580E-01	(1.127E-02)	100%	N	N	N	N	1.0000E+00	4.5045E-01	1.0000E+00				
1	02/21/08	04:46	U-234	256	4	ALP3	ED	N	N	3.7580E-01	(1.127E-02)	95%	N	N	N	N	1.0000E+00	4.5045E-01	1.0000E+00				

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yyyy hh:mm, 24hr Time

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 TA Richland

Alpha Spec, Uiso by ALP, Calculated Results

Batch Nbr: 8030200

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIkLcC/MDC	StdDvMdc/LcC
2	02/21/08 04:46	U-235	10	1000.0666		3.58900E+00	9.550331	9.550331	1.00 G	95%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
			200			(1.3421E-01)	(0.457845)	(0.457845)	(0.017321)	5%	(0.0000E+00)	1.00	(0.0000E+00)	1.0000E+00
3	02/21/08 04:46	U-238	222	1000.0666		1.27600E+00	3.563193	3.563193	1.00 G	95%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
			200			(8.0025E-02)	(0.320682)	(0.320682)	(0.017321)	5%	(0.0000E+00)	1.00	(0.0000E+00)	1.0000E+00

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIkLcC/MDC	StdDvMdc/LcC
	02/21/08	U-232	R	4.301947		3.58900E+00	9.550331	9.550331	1.00 G	95%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
				(0.307168)		(1.3421E-01)	(0.457845)	(0.457845)	(0.017321)					
	02/21/08	U-234	R	1.605041		1.27600E+00	3.563193	3.563193	1.00 G	95%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
				(0.167569)		(8.0025E-02)	(0.320682)	(0.320682)	(0.017321)					
	02/21/08	U-235	R	0.061636		4.90001E-02	0.136831	0.136831	1.00 G	95%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
				(0.020582)		(1.5843E-02)	(0.045114)	(0.045114)	(0.017321)					
	02/21/08	U-238	R	1.39246		1.10700E+00	3.091265	3.091265	1.00 G	95%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
				(0.149311)		(7.4518E-02)	(0.288299)	(0.288299)	(0.017321)					

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

18 Calc SR SOLID *STLE AlplsoWoBS KGAD61AA PCI/G B 01/24/08 10:15 02/20/08 22:11 1 9
 0,INTRA-LAB BLANK ,JBA300000-200 SOLID UJTC19441 Alq 1.02 g

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	02/20/08 20:31	U-232	690	12	ALP1	ED	Y	N	3.8124E-01		N	100%	N	1.0000E+00	1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1833			Y		(1.144E-02)					(0.0000E+00)	0.980392			
1	02/20/08 20:31	U-234	3	2	ALP1	ED	N	N	3.8124E-01		N	90%	N	1.0000E+00	1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1833			Y		(1.144E-02)		5%			(0.0000E+00)	0.980392			
2	02/20/08 20:31	U-235	0	0	ALP1	ED	N	N	3.8124E-01		N	90%	N	1.0000E+00	1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1833			Y		(1.144E-02)		5%			(0.0000E+00)	0.980392			
3	02/20/08 20:31	U-238	2	1	ALP1	ED	N	N	3.8124E-01		N	90%	N	1.0000E+00	1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1833			Y		(1.144E-02)		5%			(0.0000E+00)	0.980392			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIkLcC/MDC	StdDvMdc/LcC
	02/21/08	U-232	R	3.981123		3.43685E+00	9.014864	9.014864	1.02 G	90%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
				(0.285665)		(1.3134E-01)	(0.43798)	(0.43798)	(0.017321)					
	02/21/08	U-234	R	0.016802	U4	1.29954E-02	0.038047	0.038047	1.02 G	90%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
				(0.011429)		(8.7721E-03)	(0.025801)	(0.025801)	(0.017321)					
	02/21/08	U-235	R	0.00E00	U4	0.00000E+00	0.00E00	0.00E00	1.02 G	90%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
				(0.006591)		(5.0973E-03)	(0.014924)	(0.014924)	(0.017321)					
	02/21/08	U-238	R	0.011632	U4	8.99685E-03	0.026341	0.026341	1.02 G	90%	1.0000E+00	4.5045E-01	1.0000E+00	1.0000E+00
				(0.009282)		(7.1391E-03)	(0.020972)	(0.020972)	(0.017321)					

Batch Nbr: 8030200

Alpha Spec, Uiso by ALP, Calculated Results

2/21/2008 11:25:50 AM

Sq	Calc	SR	SOLID	STLE	Alpiso	WoBS	KGAD61AC	PCI/G	SOLID	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
19	02/20/08 20:31	U-232	285	12	ALP2	ED	Y	N	3.5984E-01	Y	(1.080E-02)	02/20/08 10:15	02/20/08 22:11	UISG1601	1	UISG1601	Alq	1.01g		
0	02/20/08 20:31	U-232	200.05	1000.1166																
1	02/20/08 20:31	U-234	134	0	ALP2	ED	N	N	3.5984E-01	Y	(1.080E-02)									
2	02/20/08 20:31	U-235	200.05	1000.1166																
3	02/20/08 20:31	U-238	127	0	ALP2	ED	N	N	3.5984E-01	Y	(1.080E-02)									
	02/20/08 20:31	U-238	200.05	1000.1166																
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIkLcC/MDC	StdDvMdc/LcC						
	02/21/08 4:470E+00	U-232	R	1.750842		1.41265E+00	3.925741	3.925741	1.01 G	39%										
				(0.149271)		(8.4460E-02)	(0.262604)	(0.262604)	(0.017321)											
	02/21/08 4:470E+00	U-234	R	2.119457		6.69833E-01	4.752251	4.752251	1.01 G	39%	123%	0.075758	0.016457							
				(0.273089)		(5.7873E-02)	(0.558421)	(0.558421)	(0.017321)											
	02/21/08 4:470E+00	U-235	R	0.07592		2.39939E-02	0.170229	0.170229	1.01 G	39%	97%	0.075758	0.016457							
				(0.036243)		(1.1222E-02)	(0.080764)	(0.080764)	(0.017321)											
	02/21/08 4:470E+00	U-238	R	2.008739		6.34841E-01	4.503999	4.503999	1.01 G	39%	112%	0.075758	0.016457							
				(0.262011)		(5.6342E-02)	(0.53708)	(0.53708)	(0.017321)											

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
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RecCnt:19 RADCALC v4.8.29 TA Richland

URANIUM ISOTOPIC COUNTING REQUEST

2005

C.R. Technician OTD

Counting Time 200 Minutes

SOP's
Operating: RICHRD008
Review: RICHRD0016

Date Counted 2/20/08

Sample 3RC0
Background See Alpha Regions Report
12/1/08

8030200

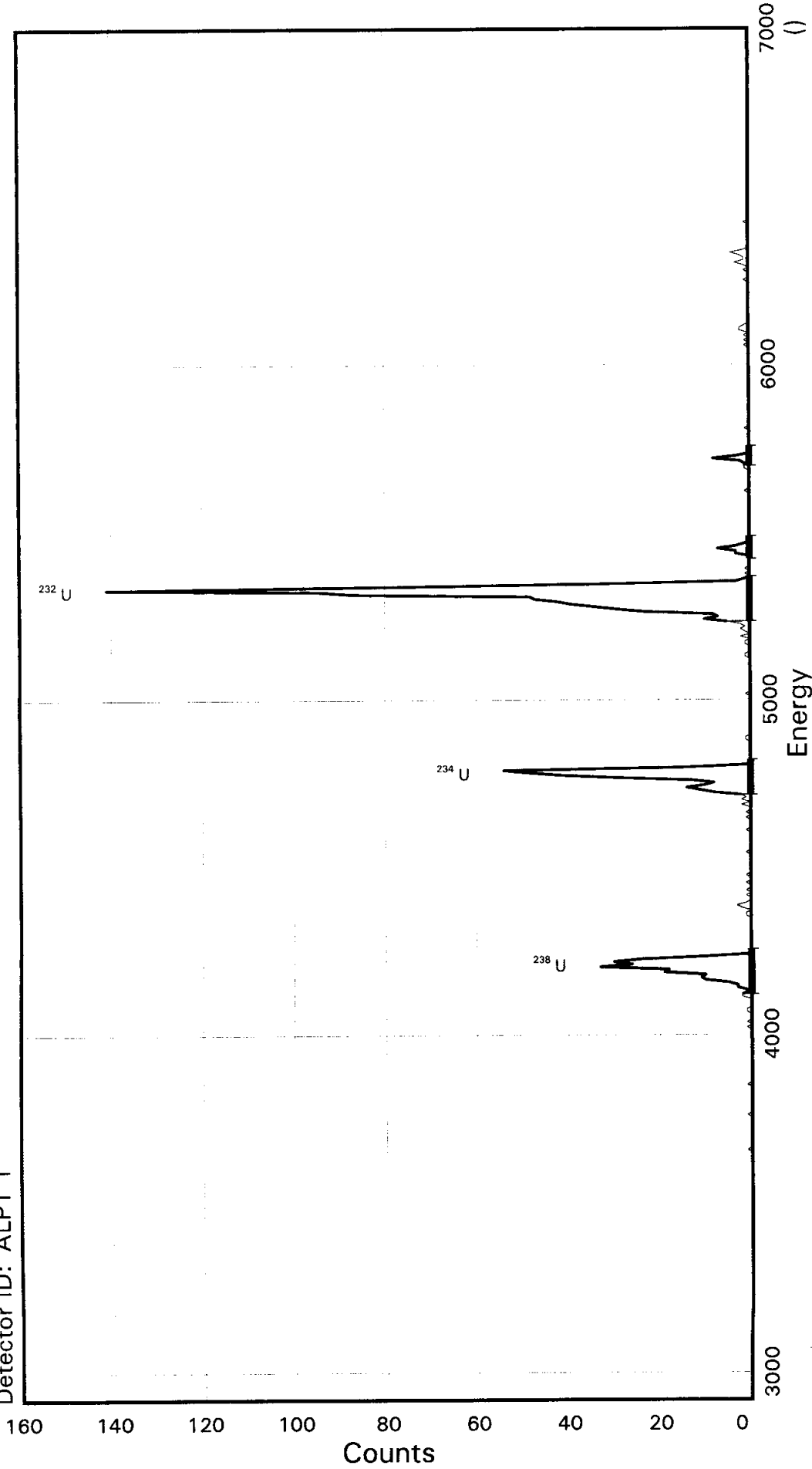
WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS		Det #	Comments/Edits
		U-238 (4196 KeV)	U-235 (4396 KeV)		
<u>KE5A21AA</u>	See Counting Room Printout for ROI information			<u>1</u>	
<u>KE5E V 1AA</u>	See Counting Room Printout for ROI information			<u>2</u>	
<u>KE5FX1AA</u>	See Counting Room Printout for ROI information			<u>3</u>	
<u>KE5FO1AA</u>	See Counting Room Printout for ROI information			<u>4</u>	
<u>KE5F11AA</u>	See Counting Room Printout for ROI information			<u>5</u>	
<u>KE5F31AA</u>	See Counting Room Printout for ROI information			<u>6</u>	
<u>KE5F41AA</u>	See Counting Room Printout for ROI information			<u>7</u>	
<u>KE5F71AA</u>	See Counting Room Printout for ROI information			<u>8</u>	
<u>KE5F81AA</u>	See Counting Room Printout for ROI information			<u>9</u>	
Comments:					

Approved by: RA Date: 2/20/08

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5A21AA
Detector ID: ALP1 1



Acquisition Start: 20-FEB-2008 16:40:56.68
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:08.00

Energy Coefficients:
Offset: 2.89653E + 03
Slope: 7.45256E + 00
Quadrature: 4.73726E - 05

SAMPLE IDENTIITY: KF5A21AA

TITLE : U BRCO

DETECTOR : ALP1 1
CONFIGURATION NAME : \$DISK1:[ALP1.SAMPLE]KF5A21AA_200281640.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:30

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:40:56 CALIB DATE : 04-FEB-2008 03:38:52

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

OFFSET : 2896.53 keV CONSTANT FWHM : 8.00000 Channels
SLOPE : 7.45256 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 4.737260E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5A21AA

Flags Key

Detector: ALP1 1	P: Peak Identified
Report Date: 20-Feb-08 08:01 PM	I: Peak Intersect
Acquire Date: 20-FEB-2008 16:40:56.68	S: Single Non-peak Intersect
Tracer Nuclide: U-232	M: Multiple Non-peak Intersect
High Counts Limit: 36	H: High Non-peak Sample Count
Sample Live Time: 200 minutes	A: Altered via ALP-RGN-EDIT
Bkgrnd Live Time: 1000 minutes	

Nuclide Name	Smpl Count	Bkg Count	Intrscnt Count	Count Rate C/Min	Centrd Region			Left		Right		Flags
					Energy keV	Width keV	Chnl	Chnl	Wdth Mult	Wdth Mult		
U-232	734	12	0	3.656	5324.9	134.7	313	331	0.00	0.00	P	
U-234	259	1	0	1.293	4779.3	104.7	244	258	0.00	0.00	P	
U-235	10	0	0	0.050	4402.5	134.5	190	208	0.00	0.00		
U-238	208	3	0	1.036	4202.7	134.4	164	182	0.00	0.00	P	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:01:19

```

Configuration      : $DISK1:[ALP1.SAMPLE]KF5A21AA_200281640.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:40:56
Sample ID         : KF5A21AA Sample quantity : 0.000000E+00 LITER
Sample type       : disk Sample geometry :
Detector name     : ALP1 Detector geometry:
Elapsed live time : 0 03:20:08.00 Elapsed real time: 0 03:20:08.00 0.0%
Start energy      : 2918.88 End energy : 6724.65
Sensitivity       : 4.00 Sum Sensitivity : 1.00
  
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4206.91	208	0	44.72	175.63	164	18	1.73E-02	6.9	
2	0	4782.29	259	0	29.81	252.63	244	14	2.16E-02	6.2	
3	0	5324.87	734	0	37.26	325.17	313	18	6.11E-02	3.7	
4	0	5447.35	18	0	29.81	341.53	338	9	1.50E-03	23.6	
5	0	5717.48	15	0	29.81	377.62	375	8	1.25E-03	25.8	

Alpha Spectrum Listing

(Version: 1 Apr 07)

Sample Identity: KP5A21AA

Flags Key

Detector: ALP1 1

Report Date: 20 Feb-08 08:01 PM

Intersect Region: @

Acquire Date: 20 FEB-2008 16:40:56.63

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

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

Configuration: \$DISK1:[ALP1.SAMPLE]KF5A21AA_200281640.CNF;1

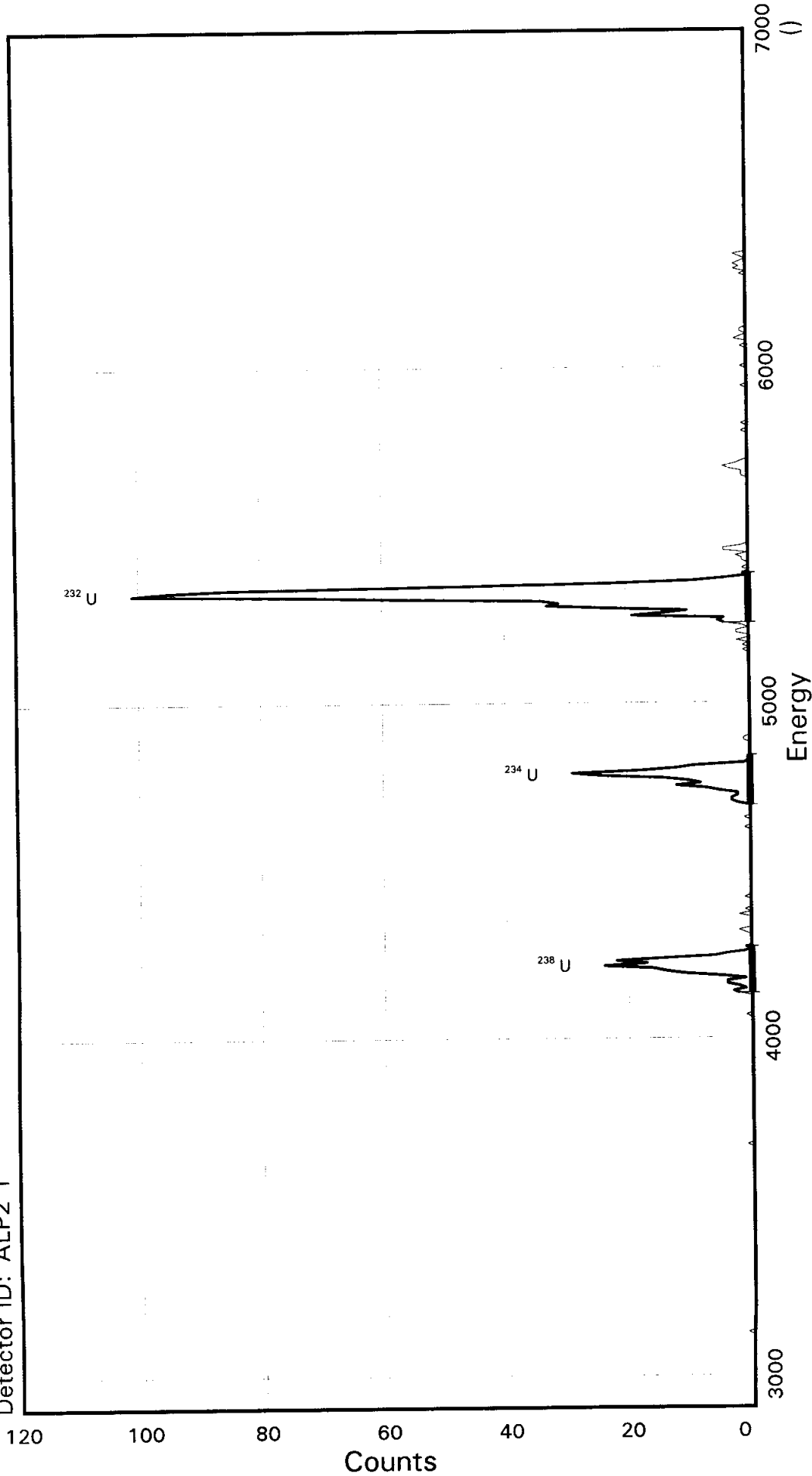
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4206.91	164	182	208	206	0.14		
4782.29	244	258	259	254	0.31		
5324.86	313	331	734	731	0.11		
5447.34	338	347	18	17	0.24		
5717.48	375	383	15	15	0.00		

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5FV1AA
Detector ID: ALP2 1



Energy Coefficients:
Offset: 2.88374E + 03
Slope: 7.38355E + 00
Quadrature: 4.94405E-05

Acquisition Start: 20-FEB-2008 16:41:07.35
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:05.00

SAMPLE IDENTIITY: KF5FV1AA

TITLE : U BRCO

DETECTOR : ALP2 1
CONFIGURATION NAME : \$DISK1:[ALP2.SAMPLE]KF5FV1AA_200281641.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:36

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:41:07 CALIB DATE : 04-FEB-2008 03:39:03

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

OFFSET : 2883.74 keV CONSTANT FWHM : 9.33333 Channels
SLOPE : 7.38355 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 4.944050E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5FV1AA

Flags Key

Detector: ALP2 1	P: Peak Identified
Report Date: 20-Feb-08 08:01 PM	I: Peak Intersect
Acquire Date: 20-FEB-2008 16:41:07.35	S: Single Non-peak Intersect
Tracer Nuclide: U-232	M: Multiple Non-peak Intersect
High Counts Limit: 36	H: High Non-peak Sample Count
Sample Live Time: 200 minutes	A: Altered via ALP-RGN-EDIT
Bkgrnd Live Time: 1000 minutes	

Nuclide Name	Smpl Count	Bkg Count	Intrscnt Count	Count Rate C/Min	Centrd Region		Left Chnl	Rght Chnl	Left	Rght	Flags
					Energy keV	Width keV			Wdth Mult	Wdth Mult	
U-232	680	12	0	3.387	5326.9	148.3	318	338	0.00	0.00	P
U-234	164	0	0	0.820	4781.3	148.2	245	265	0.00	0.00	P
U-235	7	1	0	0.034	4404.5	148.1	194	214	0.00	0.00	
U-238	152	0	0	0.760	4204.7	140.6	169	188	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:01:30

Configuration : \$DISK1:[ALP2.SAMPLE]KF5FV1AA_200281641.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : U BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:41:07
 Sample ID : KF5FV1AA Sample quantity : 0.00000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP2 Detector geometry:
 Elapsed live time: 0 03:20:05.00 Elapsed real time: 0 03:20:05.00 0.0%
 Start energy : 2905.89 End energy : 6677.08
 Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4215.81	152	0	51.68	180.19	169	19	1.27E-02	8.1	
2	0	4788.72	164	0	44.30	257.56	245	20	1.37E-02	7.8	
3	0	5326.89	680	0	51.68	330.16	318	20	5.66E-02	3.8	

Alpha Spectrum Listing

(Version: 1-Apr 07)

Sample Identity: KF5FV1AA

Flags Key

Detector: ALP2 1

Report Date: 20-Feb 08 08:01 PM

Intersect Region: 3

Acquire Date: 20 FEB-2008 16:41:07.35

Non-Intersect Region: +,

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

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

Configuration: \$DISK1:[ALP2.SAMPLE]KF5FV1AA_200281641.CNF;1

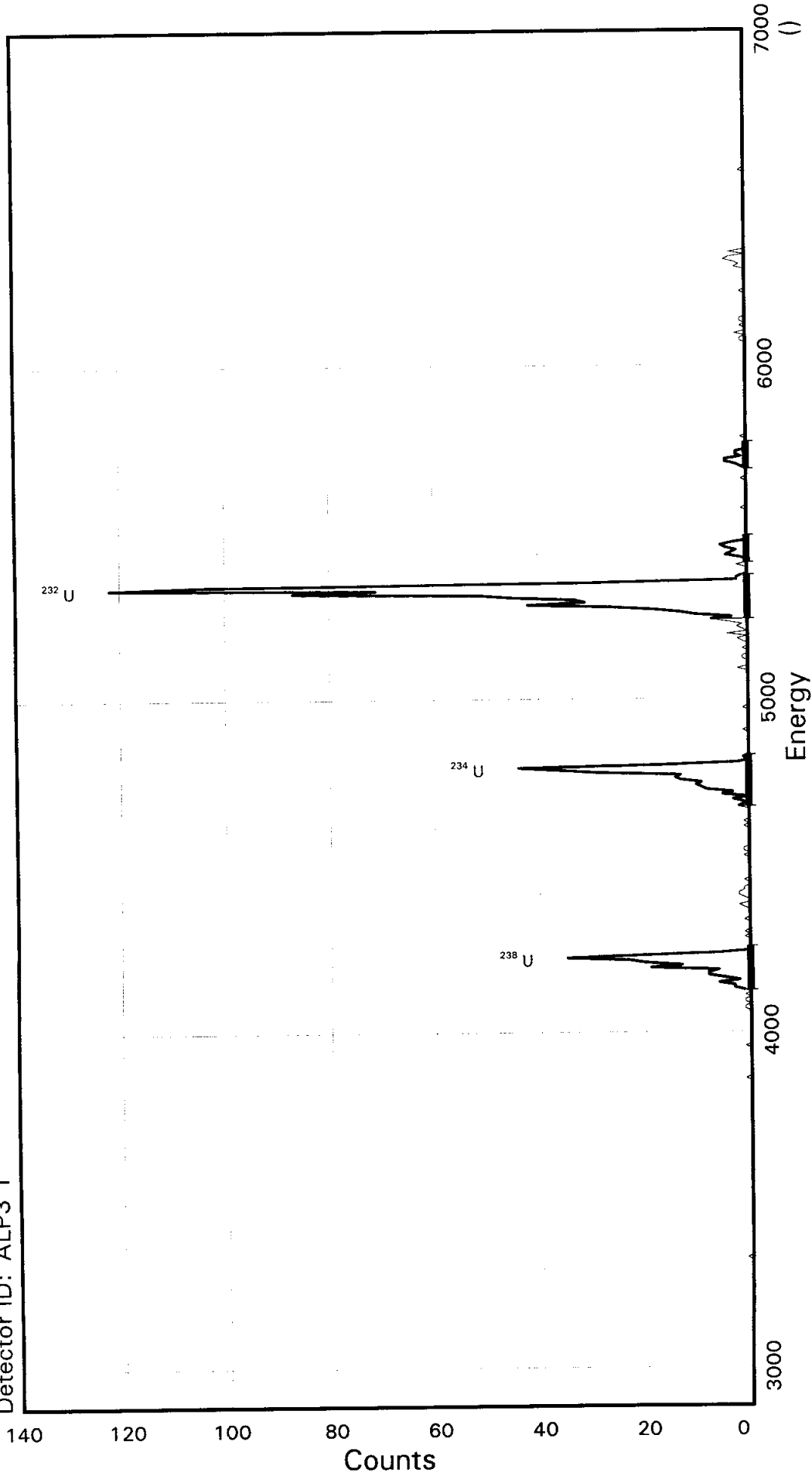
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4215.80	169	188	152	152	0.00		
4788.72	245	265	164	161	0.23		
5326.89	318	338	680	680	0.00		

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5FX1AA
Detector ID: ALP3 1



Energy Coefficients:
Offset: 2.86333E + 03
Slope: 7.32666E + 00
Quadrature: 7.05255E-05

Acquisition Start: 20-FEB-2008 16:41:15.08
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:06.00

SAMPLE IDENTIITY: KF5FX1AA

TITLE : U BRCO

DETECTOR : ALP3 1
CONFIGURATION NAME : \$DISK1:[ALP3.SAMPLE]KF5FX1AA_200281641.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:39

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:41:15 CALIB DATE : 04-FEB-2008 03:39:11

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

OFFSET : 2863.33 keV CONSTANT FWHM : 7.83333 Channels
SLOPE : 7.32666 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 7.052550E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5FX1AA

Flags Key

Detector: ALP3 1	P: Peak Identified
Report Date: 20-Feb-08 08:01 PM	I: Peak Intersect
Acquire Date: 20-FEB-2008 16:41:15.08	S: Single Non-peak Intersect
Tracer Nuclide: U-232	M: Multiple Non-peak Intersect
High Counts Limit: 36	H: High Non-peak Sample Count
Sample Live Time: 200 minutes	A: Altered via ALP-RGN-EDIT
Bkgrnd Live Time: 1000 minutes	

Nuclide Name	Smpl Count	Bkg Count	Intrscnt Count	Count Rate C/Min	Centrd Region		Left Chnl	Rght Chnl	Left Wdth	Rght Wdth	Flags
					Energy keV	Width keV					
U-232	703	10	0	3.503	5327.1	132.7	323	341	0.00	0.00	P
U-234	223	6	0	1.108	4781.5	154.6	247	268	0.00	0.00	P
U-235	11	0	0	0.055	4404.7	132.4	198	216	0.00	0.00	
U-238	182	4	0	0.906	4204.9	132.3	172	190	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:01:38

```

Configuration      : $DISK1:[ALP3.SAMPLE]KF5FX1AA_200281641.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:41:15
Sample ID         : KF5FX1AA Sample quantity : 0.00000E+00 LITER
Sample type       : disk Sample geometry :
Detector name     : ALP3 Detector geometry:
Elapsed live time : 0 03:20:06.00 Elapsed real time: 0 03:20:06.00 0.0%
Start energy      : 2885.31 End energy : 6633.07
Sensitivity       : 4.00 Sum Sensitivity : 1.00
  
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4214.69	182	0	36.63	184.12	172	18	1.52E-02	7.4	
2	0	4788.19	223	0	36.63	262.06	247	21	1.86E-02	6.7	
3	0	5327.07	703	0	36.63	335.19	323	18	5.86E-02	3.8	
4	0	5446.36	24	0	51.29	351.36	346	11	2.00E-03	20.4	
5	0	5715.64	17	0	36.63	387.86	384	11	1.42E-03	24.3	

Alpha Spectrum Listing

(Version: 1 Apr-07)

Sample Identity: KP5FX1AA

Flags Key

Detector: ALP3 1

Report Date: 20 Feb 08 08:01 PM

Intersect Region: #

Acquire Date: 20 FEB 2008 16:41:15.08

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

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

Configuration: \$DISK1:[ALP3.SAMPLE]KF5FX1AA_200281641.CNF;1

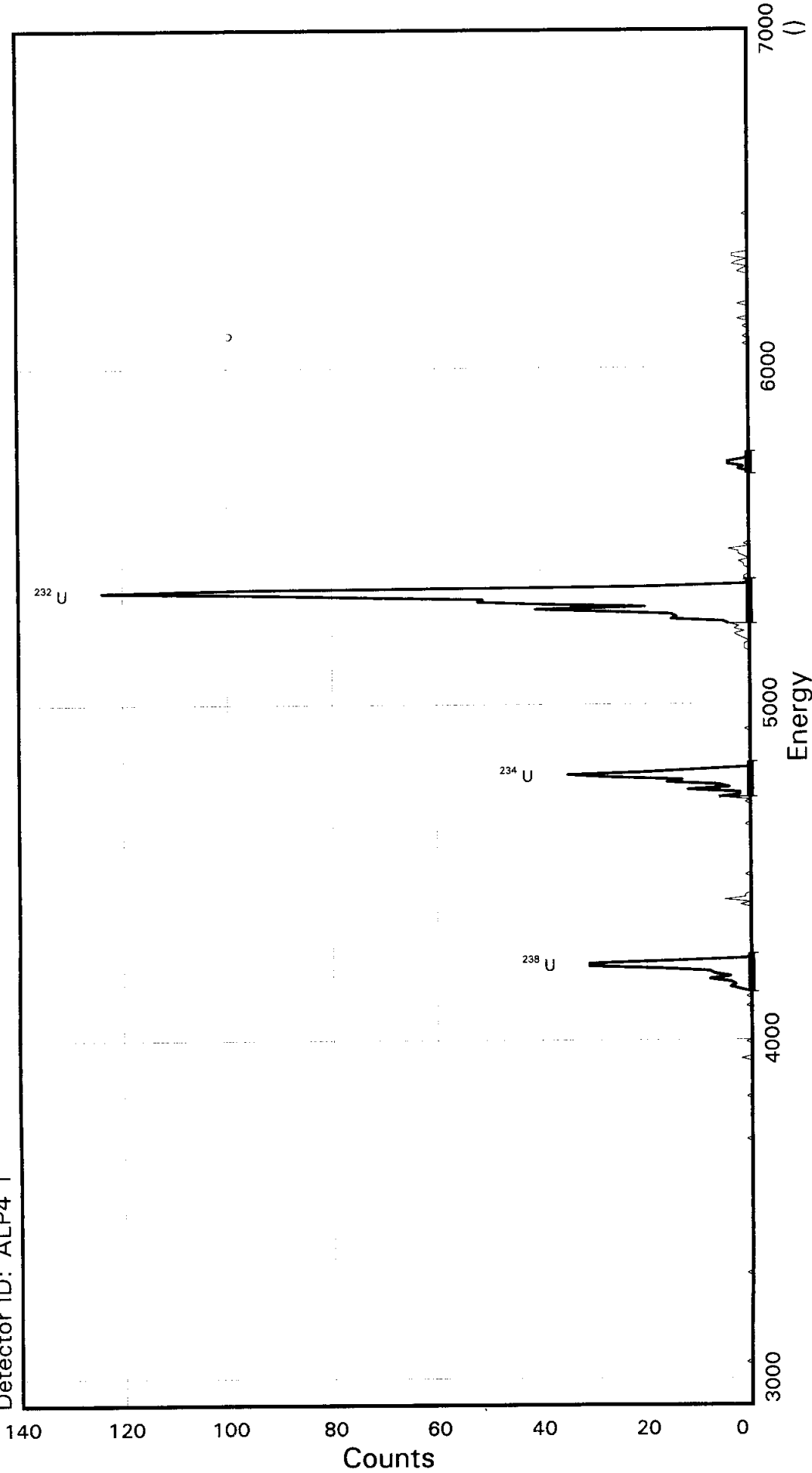
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4214.68	172	190	182	179	0.22		
4788.18	247	268	223	220	0.20		
5327.07	323	341	703	699	0.15		
5446.36	346	357	24	22	0.41		
5715.63	384	395	17	16	0.24		

End of Report

TAL Richland WA.
U BRCO

Sample ID: KF5F01AA
Detector ID: ALP4 1

Batch ID: 8030200



Energy Coefficients:
Offset: 2.89851E + 03
Slope: 7.46541E + 00
Quadrature: -5.32157E-05

Acquisition Start: 20-FEB-2008 16:42:19.17
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

SAMPLE IDENTIITY: KF5F01AA

TITLE : U BRCO

DETECTOR : ALP4 1
CONFIGURATION NAME : \$DISK1:[ALP4.SAMPLE]KF5F01AA_200281642.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:43

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:42:19 CALIB DATE : 04-FEB-2008 03:39:19

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

OFFSET : 2898.51 keV CONSTANT FWHM : 7.50000 Channels
SLOPE : 7.46541 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.532157E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5F01AA

Flags Key

Detector: ALP4 1 Report Date: 20-Feb-08 08:02 PM Acquire Date: 20-FEB-2008 16:42:19.17 Tracer Nuclide: U-232 High Counts Limit: 36 Sample Live Time: 200 minutes Bkgrnd Live Time: 1000 minutes	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	Intrscnt Count	Count Rate C/Min	Centrd Region			Left	Right	Left	Right	Flags
					Energy keV	Width keV	Chnl	Chnl	Mult	Mult		
U-232	704	8	0	3.511	5327.8	133.8	314	332	0.00	0.00	P	
U-234	153	4	0	0.761	4782.3	104.1	245	259	0.00	0.00	P	
U-235	9	1	0	0.044	4405.5	134.0	190	208	0.00	0.00		
U-238	137	1	0	0.684	4205.7	111.7	167	182	0.00	0.00	P	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:02:39

```

Configuration      : $DISK1: [ALP4.SAMPLE]KF5F01AA_200281642.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:42:19
Sample ID         : KF5F01AA Sample quantity : 0.000000E+00 LITER
Sample type       : disk Sample geometry :
Detector name     : ALP4 Detector geometry:
Elapsed live time : 0 03:20:04.00 Elapsed real time: 0 03:20:04.00 0.0%
Start energy      : 2920.91 End energy : 6706.85
Sensitivity       : 4.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4221.49	137	0	29.86	177.44	167	15	1.14E-02	8.5	
2	0	4787.85	153	0	29.86	253.54	245	14	1.27E-02	8.1	
3	0	5327.83	704	0	37.33	326.17	314	18	5.86E-02	3.8	
4	0	5715.54	12	0	29.86	378.36	374	9	1.00E-03	28.9	

Alpha Spectrum Listing

{Version: 1 Apr-07}

Sample Identity: KF5PG1AA

Detector: ALP4 1

Report Date: 20-Feb 08 08:02 PM

Acquire Date: 20-FEB-2008 16:42:19.17

Flags Key

Intersect Region: \$

Non-Intersect Region: +, ,

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

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

Configuration: \$DISK1:[ALP4.SAMPLE]KF5F01AA_200281642.CNF;1

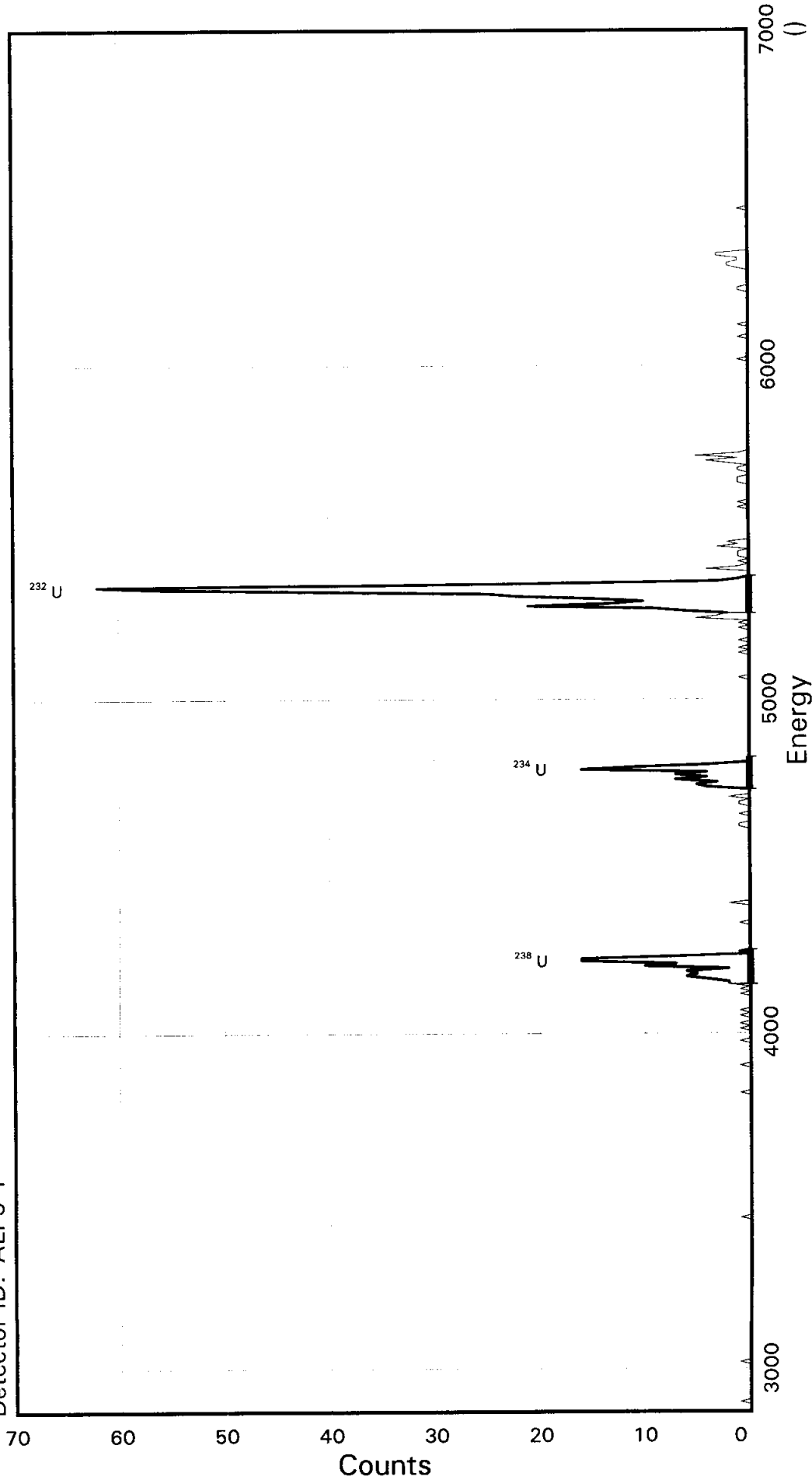
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4221.48	167	182	137	135	0.17		
4787.84	245	259	153	153	0.00		
5327.82	314	332	704	696	0.30		
5715.53	374	383	12	12	0.00		

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5F11AA
Detector ID: ALP5 1



Energy Coefficients:
Offset: 2.84934E + 03
Slope: 7.42018E + 00
Quadrature: -4.35080E-05

Acquisition Start: 20-FEB-2008 16:42:33.14
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:02.00

SAMPLE IDENTIITY: KF5F11AA

TITLE : U BRCO

DETECTOR : ALP5 1
CONFIGURATION NAME : \$DISK1:[ALP5.SAMPLE]KF5F11AA_200281642.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:45

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:42:33 CALIB DATE : 04-FEB-2008 03:39:25

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

OFFSET : 2849.34 keV CONSTANT FWHM : 7.50000 Channels
SLOPE : 7.42018 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.435080E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5F11AA

Flags Key

Detector: ALP5 1
 Report Date: 20-Feb-08 08:02 PM
 Acquire Date: 20-FEB-2008 16:42:33.14
 Tracer Nuclide: U-232
 High Counts Limit: 36
 Sample Live Time: 200 minutes
 Bkgrnd Live Time: 1000 minutes

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	Intrscnt Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Right Chnl	Left Wdth	Right Wdth	Flags
U-232	312	6	0	1.554	5330.4	110.9	325	340	0.00	0.00	P
U-234	65	1	0	0.324	4784.9	96.2	254	267	0.00	0.00	P
U-235	3	1	0	0.014	4408.1	111.0	200	215	0.00	0.00	
U-238	84	4	0	0.416	4208.3	103.7	175	189	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:02:52

Configuration : \$DISK1:[ALP5.SAMPLE]KF5F11AA_200281642.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : U BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:42:33
 Sample ID : KF5F11AA Sample quantity : 0.000000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP5 Detector geometry:
 Elapsed live time: 0 03:20:02.00 Elapsed real time: 0 03:20:02.00 0.0%
 Start energy : 2871.60 End energy : 6637.07
 Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4213.88	84	0	37.10	184.09	175	14	7.00E-03	10.9	
2	0	4790.09	65	0	37.10	261.95	254	13	5.42E-03	12.4	
3	0	5330.44	312	0	37.10	335.03	325	15	2.60E-02	5.7	

Alpha Spectrum Listing

(Version: 1-Apr-07)

Sample Identity: KF5F11AA

Flags Key

Detector: ALPS 1

Report Date: 20-Feb-08 08:02 PM

Intersect Region: *

Acquire Date: 20-FEB-2008 16:42:33.14

Non-Intersect Region: +,

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

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

Configuration: \$DISK1:[ALP5.SAMPLE]KF5F11AA_200281642.CNF;1

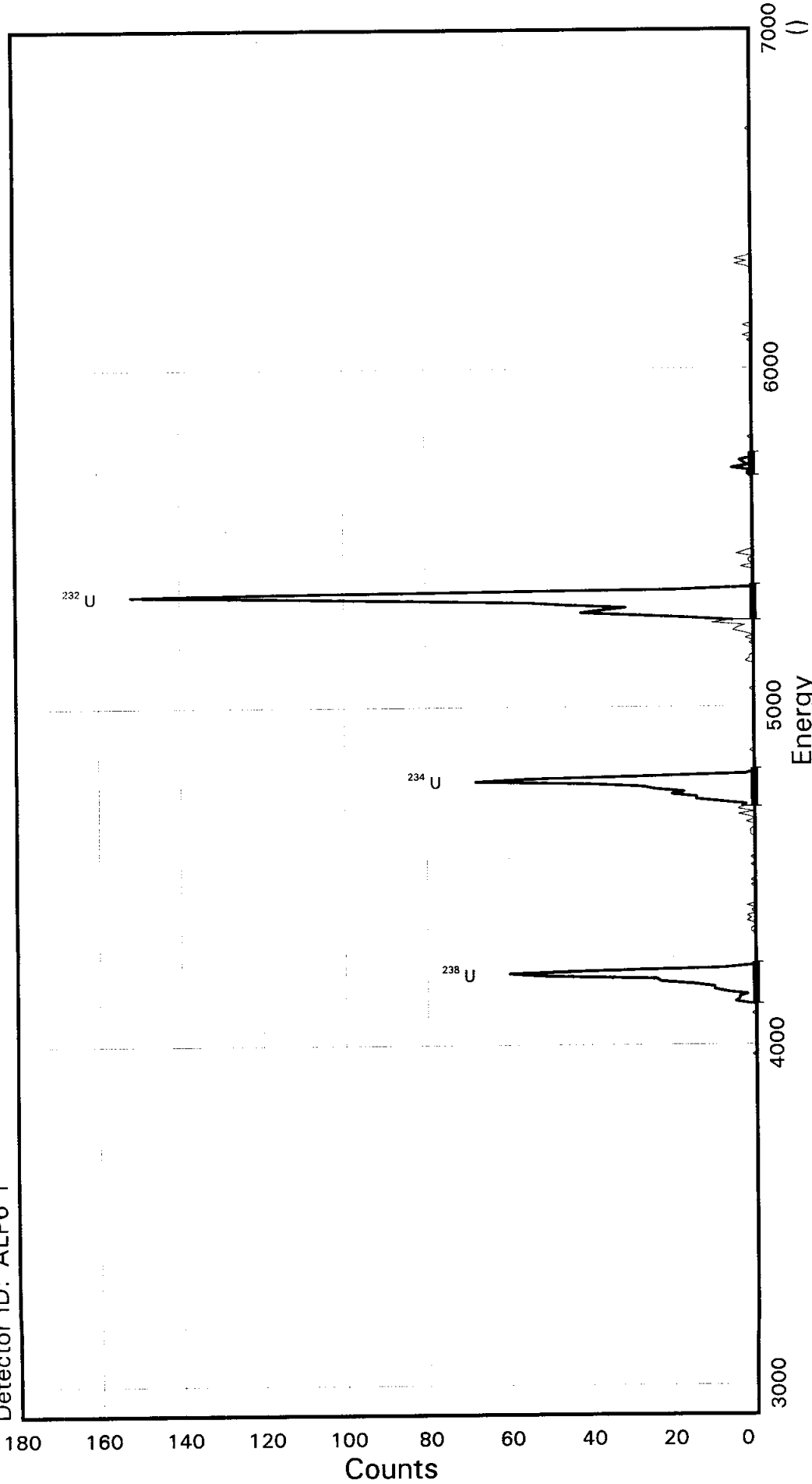
Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4213.87	175	189	84	84	0.00		
4790.08	254	267	65	65	0.00		
5330.43	325	340	312	308	0.23		

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5F31AA
Detector ID: ALP6 1



Energy Coefficients:
Offset: 2.88921E+03
Slope: 7.49841E+00
Quadrature: 3.05801E-05

Acquisition Start: 20-FEB-2008 16:43:03.56
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:02.00

SAMPLE IDENTIITY: KF5F31AA

TITLE : U BRCO

DETECTOR : ALP6 1
CONFIGURATION NAME : \$DISK1: [ALP6.SAMPLE] KF5F31AA_200281643.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:48

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:43:03 CALIB DATE : 04-FEB-2008 03:39:34

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

OFFSET : 2889.21 keV CONSTANT FWHM : 6.66667 Channels
SLOPE : 7.49841 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 3.058010E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5F31AA

Flags Key

Detector: ALP6 1 Report Date: 20-Feb-08 08:03 PM Acquire Date: 20-FEB-2008 16:43:03.56 Tracer Nuclide: U-232 High Counts Limit: 36 Sample Live Time: 200 minutes Bkgrnd Live Time: 1000 minutes	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	Intrstc Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	742	3	0	3.706	5325.6	105.3	315	329	0.00	0.00	P
U-234	324	0	0	1.620	4780.1	112.7	242	257	0.00	0.00	P
U-235	10	1	0	0.049	4403.3	105.1	192	206	0.00	0.00	
U-238	264	1	0	1.319	4203.5	120.1	164	180	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:03:23

```

Configuration      : $DISK1:[ALP6.SAMPLE]KF5F31AA_200281643.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:43:03
Sample ID         : KF5F31AA Sample quantity : 0.00000E+00 LITER
Sample type       : disk Sample geometry :
Detector name     : ALP6 Detector geometry:
Elapsed live time : 0 03:20:02.00 Elapsed real time: 0 03:20:02.00 0.0%
Start energy      : 2911.70 End energy : 6736.41
Sensitivity       : 4.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4206.25	264	0	29.99	175.52	164	16	2.20E-02	6.2	
2	0	4780.71	324	0	37.49	252.00	242	15	2.70E-02	5.6	
3	0	5325.63	742	0	29.99	324.50	315	14	6.18E-02	3.7	
4	0	5710.67	13	0	29.99	375.70	372	9	1.08E-03	27.7	

Alpha Spectrum Listing
(Version: 1-Apr-07)

Sample Identity: KF5F31AA
Detector: ALP6 1
Report Date: 20-Feb 08 08:03 PM
Acquire Date: 20 FEB 2008 16:43:03.56

Flags Key

Intersect Region: 3

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

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

Configuration: \$DISK1:[ALP6.SAMPLE]KF5F31AA_200281643.CNF;1

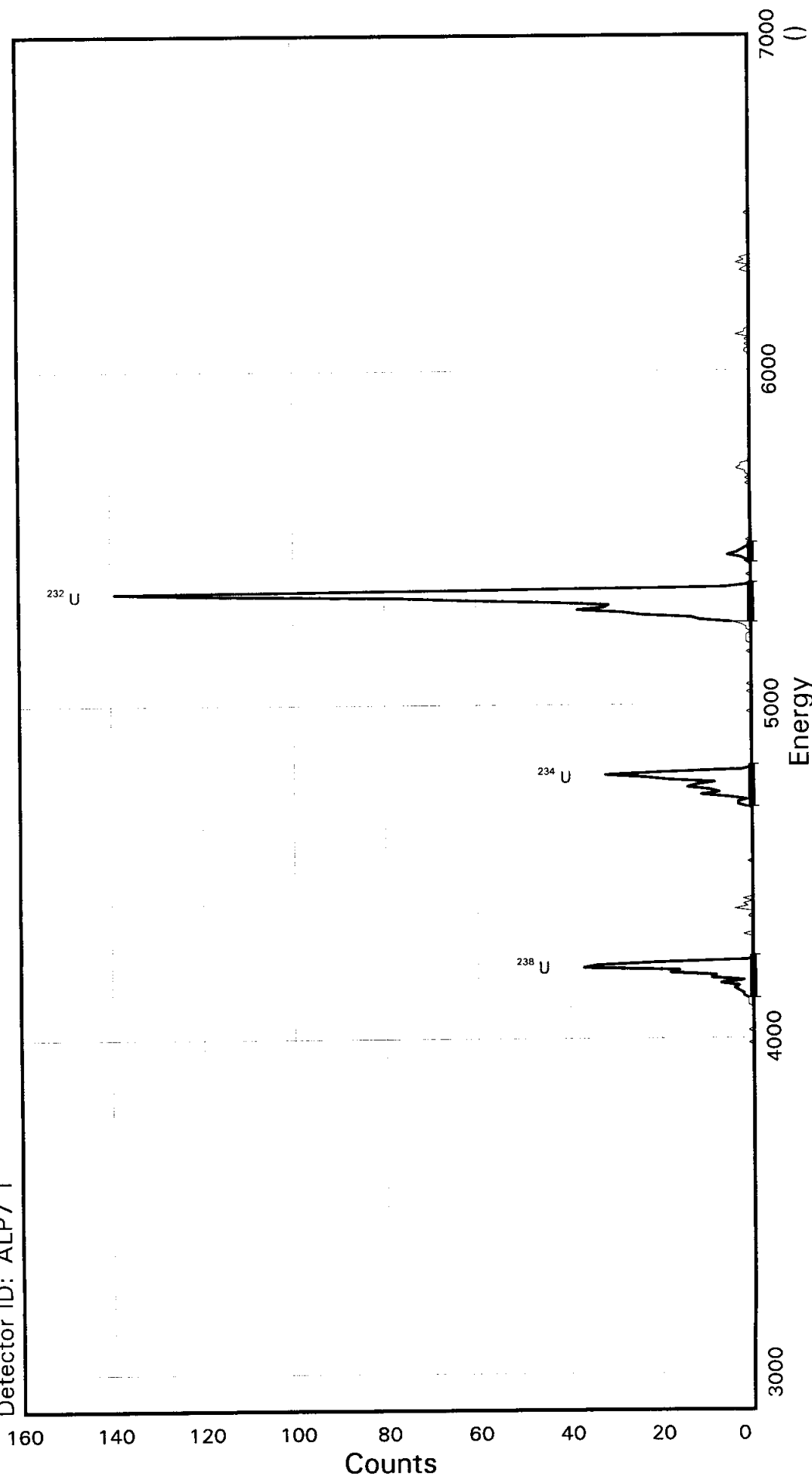
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4206.25	164	180	264	262	0.12		
4780.71	242	257	324	321	0.17		
5325.63	315	329	742	731	0.40		
5710.67	372	381	13	13	0.00		

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5F41AA
Detector ID: ALP7 1



Energy Coefficients:
Offset: 2.86835E + 03
Slope: 7.51668E + 00
Quadrature: -1.30370E-04

Acquisition Start: 20-FEB-2008 16:43:14.85
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

SAMPLE IDENTIITY: KF5F41AA

TITLE : U BRCO

DETECTOR : ALP7 1
CONFIGURATION NAME : \$DISK1: [ALP7.SAMPLE] KF5F41AA_200281643.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:52

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:43:14 CALIB DATE : 04-FEB-2008 03:39:40

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

OFFSET : 2868.35 keV CONSTANT FWHM : 6.66667 Channels
SLOPE : 7.51668 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.130370E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5F41AA

Flags Key

Detector: ALP7 1	P: Peak Identified
Report Date: 20-Feb-08 08:03 PM	I: Peak Intersect
Acquire Date: 20-FEB-2008 16:43:14.85	S: Single Non-peak Intersect
Tracer Nuclide: U-232	M: Multiple Non-peak Intersect
High Counts Limit: 36	H: High Non-peak Sample Count
Sample Live Time: 200 minutes	A: Altered via ALP-RGN-EDIT
Bkgrnd Live Time: 1000 minutes	

Nuclide Name	Smpl Count	Bkg Count	Intrscnt Count	Count Rate C/Min	Centrd Region		Left Chnl	Rght Chnl	Left	Rght	Flags
					Energy keV	Width keV			Wdth Mult	Wdth Mult	
U-232	705	10	0	3.514	5327.9	118.9	318	334	0.00	0.00	P
U-234	172	1	0	0.859	4782.3	126.7	244	261	0.00	0.00	P
U-235	10	1	0	0.049	4405.5	119.4	194	210	0.00	0.00	
U-238	172	1	0	0.859	4205.7	127.0	167	184	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:03:34

```

Configuration      : $DISK1:[ALP7.SAMPLE]KF5F41AA_200281643.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:43:14
Sample ID        : KF5F41AA Sample quantity : 0.000000E+00 LITER
Sample type      : disk Sample geometry :
Detector name    : ALP7 Detector geometry:
Elapsed live time: 0 03:20:03.00 Elapsed real time: 0 03:20:03.00 0.0%
Start energy     : 2890.90 End energy : 6682.72
Sensitivity      : 4.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4210.59	172	0	37.58	179.12	167	17	1.43E-02	7.6	
2	0	4785.36	172	0	37.58	256.17	244	17	1.43E-02	7.6	
3	0	5327.89	705	0	37.58	329.09	318	16	5.87E-02	3.8	
4	0	5446.09	14	0	37.58	345.00	342	8	1.17E-03	26.7	

Alpha Spectrum Listing

(Version: 1-Apr-07)

Sample Identity: KF5F41AA

Flags Key

Detector: ALP7 1

Report Date: 20-Feb-08 08:03 PM

Intersect Region: 3

Acquire Date: 20-FEB-2008 16:43:14.85

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

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

Configuration: \$DISK1:[ALP7.SAMPLE]KF5F41AA_200281643.CNF;1

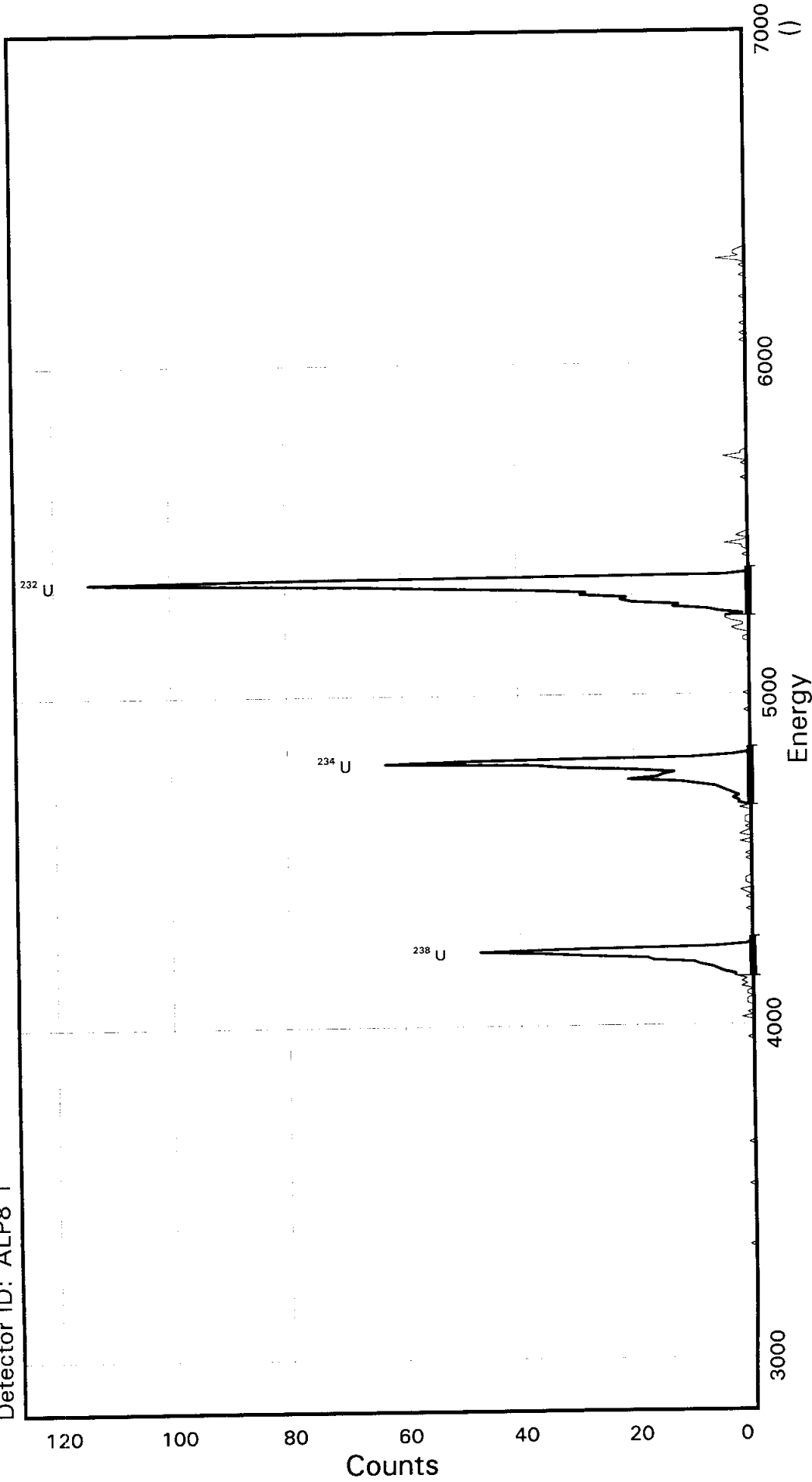
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4210.58	167	184	172	168	0.30		
4785.35	244	261	172	169	0.23		
5327.88	318	334	705	700	0.19		
5446.08	342	350	14	15	-0.27		

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5F71AA
Detector ID: ALP8 1



Energy Coefficients:
Offset: 2.81988E + 03
Slope: 7.38161E + 00
Quadrature: -1.21988E-04

Acquisition Start: 20-FEB-2008 16:43:35.51
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:01.00

SAMPLE IDENTIITY: KF5F71AA

TITLE : U BRCO

DETECTOR : ALP8 1
CONFIGURATION NAME : \$DISK1:[ALP8.SAMPLE]KF5F71AA_200281643.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:56

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:43:35 CALIB DATE : 04-FEB-2008 03:39:47

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

OFFSET : 2819.88 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 7.38161 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.121988E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5F71AA

Flags Key

Detector: ALP8 1	P: Peak Identified
Report Date: 20-Feb-08 08:03 PM	I: Peak Intersect
Acquire Date: 20-FEB-2008 16:43:35.51	S: Single Non-peak Intersect
Tracer Nuclide: U-232	M: Multiple Non-peak Intersect
High Counts Limit: 36	H: High Non-peak Sample Count
Sample Live Time: 200 minutes	A: Altered via ALP-RGN-EDIT
Bkgnd Live Time: 1000 minutes	

Nuclide Name	Smpl Count	Bkg Count	Intrscnt Count	Count Rate C/Min	Centrd Region		Left Chnl	Rght Chnl	Left Wdth	Rght Wdth	Flags
					Energy keV	Width keV					
U-232	621	14	0	3.091	5337.6	146.0	329	349	0.00	0.00	P
U-234	330	0	0	1.650	4792.0	175.6	251	275	0.00	0.00	P
U-235	8	0	0	0.040	4415.2	146.6	203	223	0.00	0.00	
U-238	231	0	0	1.155	4215.4	124.7	180	197	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:03:52

Configuration : \$DISK1:[ALP8.SAMPLE]KF5F71AA_200281643.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRCO
Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:43:35
Sample ID : KF5F71AA Sample quantity : 0.00000E+00 LITER
Sample type : disk Sample geometry :
Detector name : ALP8 Detector geometry:
Elapsed live time: 0 03:20:01.00 Elapsed real time: 0 03:20:01.00 0.0%
Start energy : 2842.02 End energy : 6567.29
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4218.48	231	0	36.91	190.07	180	17	1.92E-02	6.6	
2	0	4793.14	330	0	44.29	268.51	251	24	2.75E-02	5.5	
3	0	5337.60	621	0	36.91	343.02	329	20	5.17E-02	4.0	

Alpha Spectrum Listing

(Version: 1-Apr 07)

Sample Identity: KF5F71AA

Detector: ALP8 1

Report Date: 20-Feb-08 08:03 PM

Acquire Date: 20-FEB-2008 16:43:35.51

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

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

Configuration: \$DISK1:[ALP8.SAMPLE]KF5F71AA_200281643.CNF;1

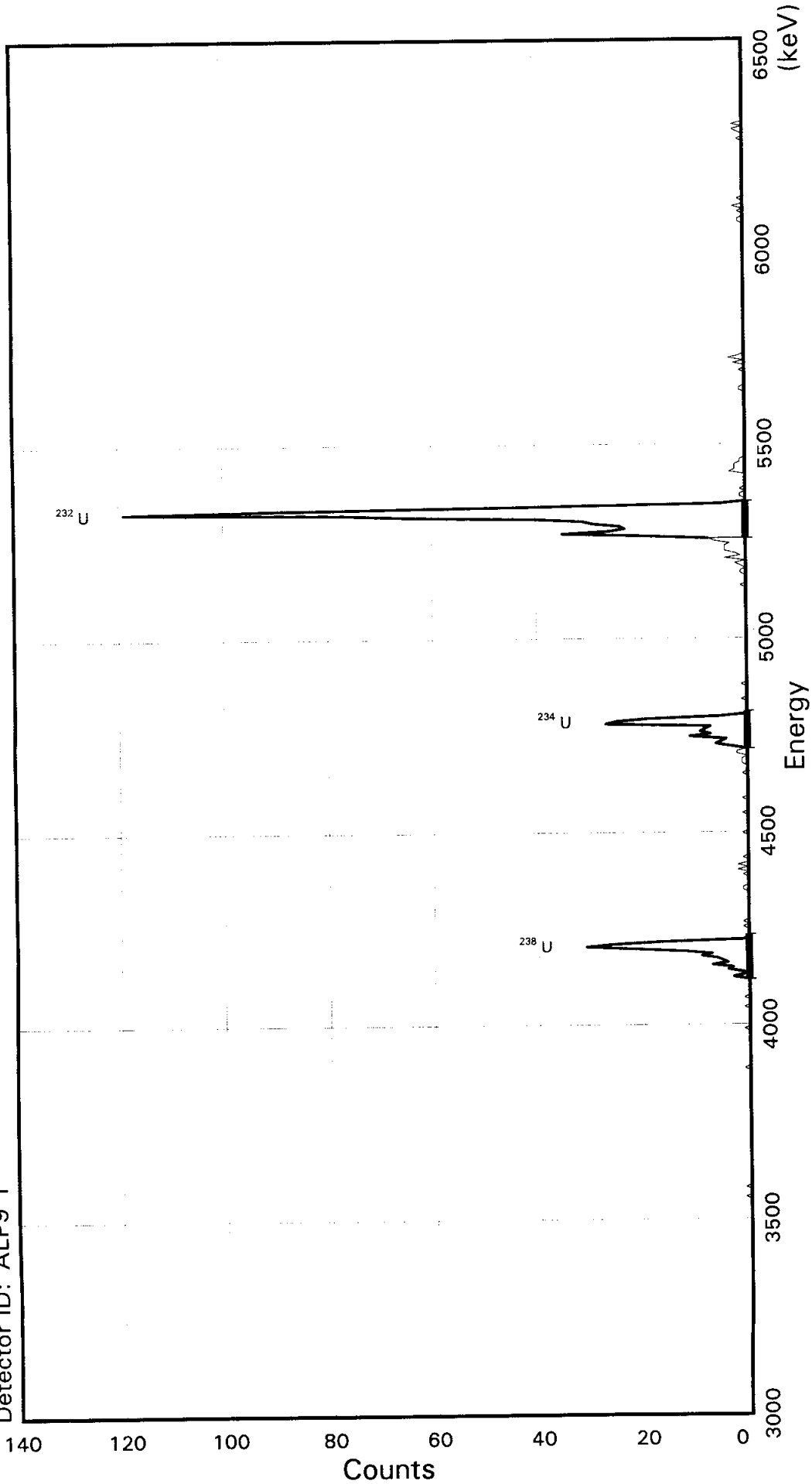
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4218.47	180	197	231	228	0.20		
4793.13	251	275	330	326	0.22		
5337.60	329	349	621	608	0.52		

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5F81AA
Detector ID: ALP9 1



Energy Coefficients:
Offset: 3.27772E + 03
Slope: 6.34407E + 00
Quadrature: 6.17500E-05

Acquisition Start: 20-FEB-2008 16:43:56.83
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:06.00

SAMPLE IDENTIITY: KF5F81AA

TITLE : U BRCO

DETECTOR : ALP9 1
CONFIGURATION NAME : \$DISK1: [ALP9.SAMPLE] KF5F81AA_200281643.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:07:00

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:43:56 CALIB DATE : 04-FEB-2008 03:39:54

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

OFFSET : 3277.72 keV CONSTANT FWHM : 5.66667 Channels
SLOPE : 6.34407 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 6.175000E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5F81AA

Flags Key

Detector: ALP9 1 Report Date: 20-Feb-08 08:04 PM Acquire Date: 20-FEB-2008 16:43:56.83 Tracer Nuclide: U-232 High Counts Limit: 36 Sample Live Time: 200 minutes Bkgnd Live Time: 1000 minutes	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	Intrscnt Count	Count Rate C/Min	Centrd Region		Left Chnl	Rght Chnl	Left Wdth	Rght Wdth	Flags
					Energy keV	Width keV					
U-232	634	5	0	3.163	5324.8	95.8	311	326	0.00	0.00	P
U-234	136	0	0	0.680	4779.2	95.6	226	241	0.00	0.00	P
U-235	7	0	0	0.035	4402.4	95.5	166	181	0.00	0.00	
U-238	160	0	0	0.800	4202.6	120.9	132	151	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:04:19

```

Configuration      : $DISK1:[ALP9.SAMPLE]KF5F81AA_200281643.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:43:56
Sample ID         : KF5F81AA Sample quantity : 0.000000E+00 LITER
Sample type       : disk Sample geometry :
Detector name     : ALP9 Detector geometry:
Elapsed live time : 0 03:20:06.00 Elapsed real time: 0 03:20:06.00 0.0%
Start energy      : 3296.76 keV End energy : 6542.08 keV
Sensitivity       : 4.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4207.67	160	0	25.38	146.38	132	19	1.33E-02	7.9	
2	0	4784.25	136	0	19.03	236.92	226	15	1.13E-02	8.6	
3	0	5324.80	634	0	25.38	321.67	311	15	5.28E-02	4.0	

Alpha Spectrum Listing
(Version: 1-Apr-07)

Sample Identity: KF5F61AA

Flags Key

Detector: ALP9 1

Report Date: 20-Feb-08 08:04 PM

Intersect Region: D

Acquire Date: 20-FEB-2008 16:43:56.83

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

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

Configuration: \$DISK1:[ALP9.SAMPLE]KF5F81AA_200281643.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4207.66	132	151	160	158	0.16		
4784.25	226	241	136	136	0.00		
5324.80	311	326	634	629	0.20		

End of Report

URANIUM ISOTOPIC COUNTING REQUEST

2005

C.R. Technician AD

Counting Time 200 Minutes

SOP's
Operating: RICHRD008
Review: RICHRD0016
#8030200

Date Counted 2/20/08

Background See Alpha Regions Report
BRO 1/24/08

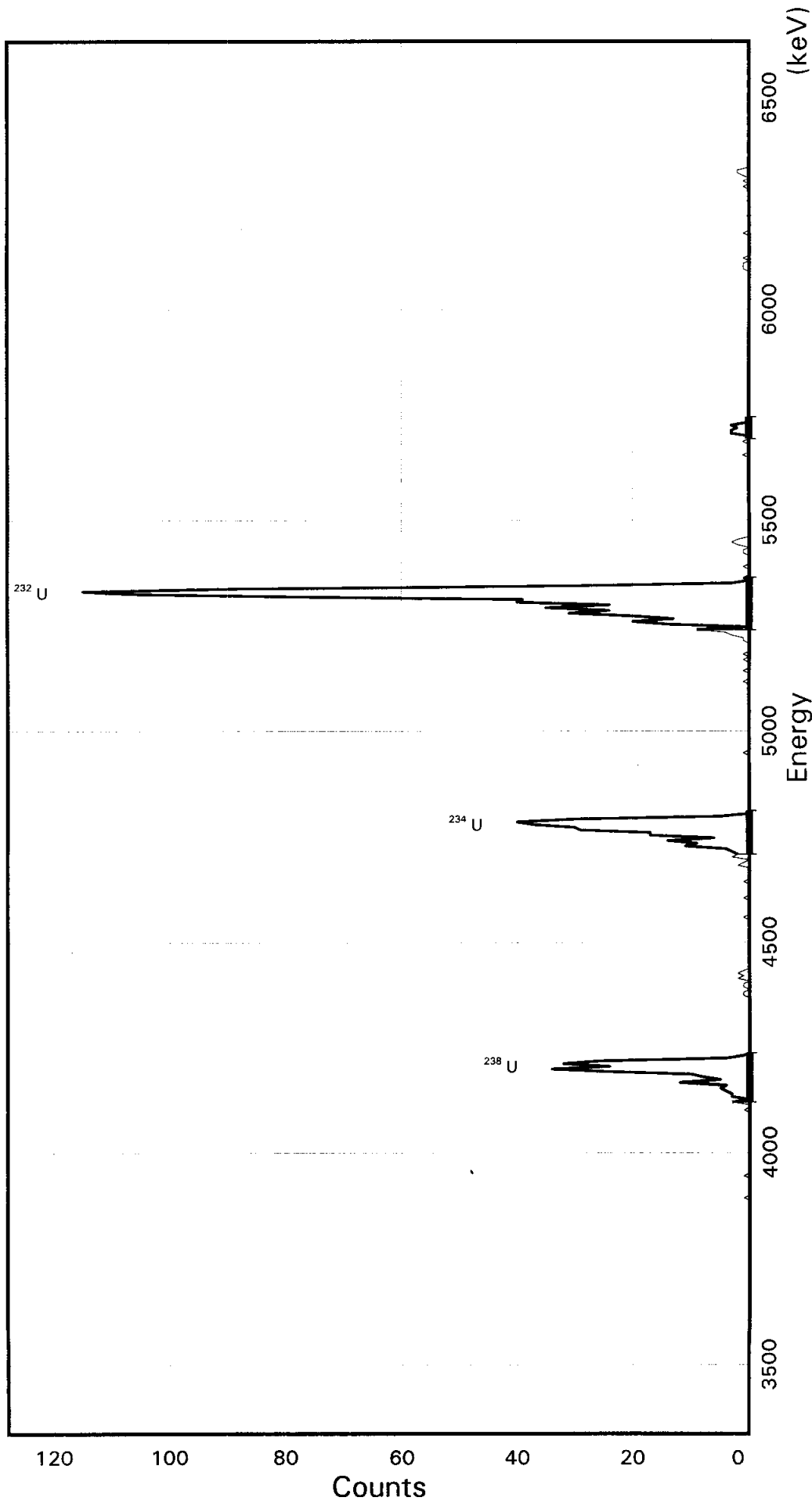
WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS			Det #	Comments/Edits
		U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)		
<u>KF5F91AA</u>	See Counting Room Printout for ROI information				<u>10</u>	
<u>KF5GC1AA</u>	See Counting Room Printout for ROI information				<u>11</u>	
<u>KF5GF1AA</u>	See Counting Room Printout for ROI information				<u>12</u>	
<u>KF5GG1AA</u>	See Counting Room Printout for ROI information				<u>71</u>	
<u>KF5GJ1AA</u>	See Counting Room Printout for ROI information				<u>84</u>	<u>ANAL</u>
<u>KF5GJ1AE</u>	See Counting Room Printout for ROI information				<u>85</u>	
<u>KF5GJ1AH</u>	See Counting Room Printout for ROI information				<u>88</u>	
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					

Comments:

TAL Richland WA.
U BRCO

Sample ID: KF5F91AA
Detector ID: ALP10 1

Batch ID: 8030200



Acquisition Start: 20-FEB-2008 16:44:09.85
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 3.31729E + 03
Slope: 6.46731E + 00
Quadrature: 1.89948E - 05

SAMPLE IDENTIITY: KF5F91AA

TITLE : U BRCO

DETECTOR : ALP10 1
CONFIGURATION NAME : \$DISK1:[ALP10.SAMPLE]KF5F91AA_200281644.CNF;
1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:07:03

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:44:09 CALIB DATE : 04-FEB-2008 03:39:59

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

OFFSET : 3317.29 keV CONSTANT FWHM : 6.66667 Channels
SLOPE : 6.46731 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 1.899480E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5F91AA

Flags Key

Detector: ALP10 1	
Report Date: 20-Feb-08 08:04 PM	P: Peak Identified
Acquire Date: 20-FEB-2008 16:44:09.85	I: Peak Intersect
Tracer Nuclide: U-232	S: Single Non-peak Intersect
High Counts Limit: 36	M: Multiple Non-peak Intersect
Sample Live Time: 200 minutes	H: High Non-peak Sample Count
Bkgrnd Live Time: 1000 minutes	A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrscnt Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Right Chnl	Left Wdth	Right Wdth	Flags
U-232	692	0	0	3.459	5327.3	123.1	297	316	0.00	0.00	P
U-234	258	1	0	1.289	4781.7	103.6	215	231	0.00	0.00	P
U-235	10	0	0	0.050	4404.9	123.0	155	174	0.00	0.00	
U-238	202	2	0	1.008	4205.1	116.5	124	142	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:04:30

Configuration : \$DISK1:[ALP10.SAMPLE]KF5F91AA_200281644.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRCO
Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:44:09
Sample ID : KF5F91AA Sample quantity : 0.000000E+00 LITER
Sample type : disk Sample geometry :
Detector name : ALP10 Detector geometry:
Elapsed live time: 0 03:20:03.00 Elapsed real time: 0 03:20:03.00 0.0%
Start energy : 3336.69 keV End energy : 6633.53 keV
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4203.37	202	0	32.34	136.95	124	18	1.68E-02	7.0	
2	0	4779.87	258	0	32.34	226.00	215	16	2.15E-02	6.2	
3	0	5327.28	692	0	25.87	310.51	297	19	5.77E-02	3.8	
4	0	5716.04	12	0	25.87	370.50	367	8	1.00E-03	28.9	

Alpha Spectrum Listing
 (Version: 1-Apr-07)

Sample Identity: KF5FS1AA

Flags Key

Detector: ALP1C 1

Report Date: 20-Feb-08 08:04 PM

Intersect Region: @

Acquire Date: 20-FEB-2008 16:44:09.85

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

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

Configuration: \$DISK1:[ALP10.SAMPLE]KF5F91AA_200281644.CNF;1

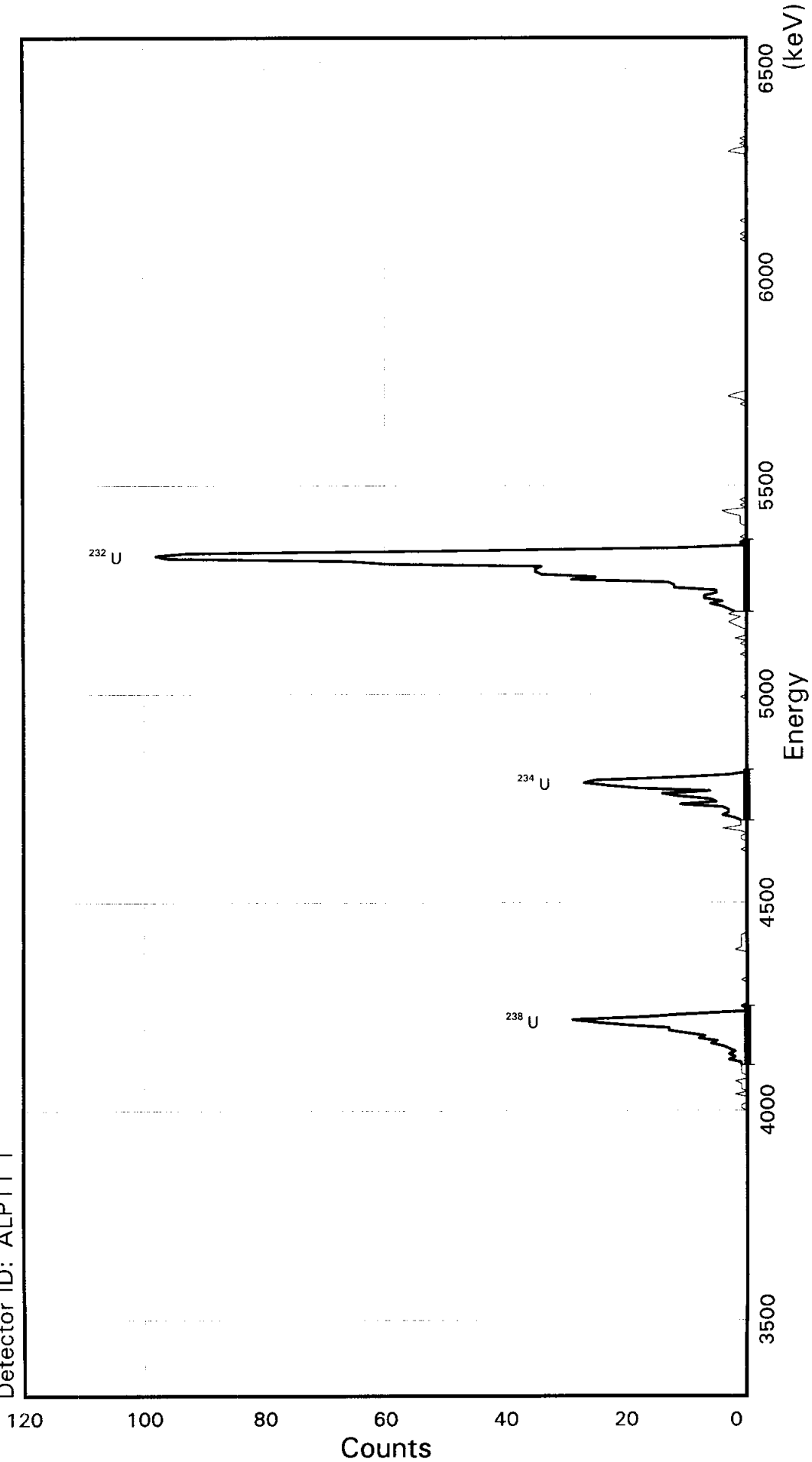
Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4203.36	124	142	202	202	0.00		
4779.87	215	231	258	254	0.25		
5327.28	297	316	692	688	0.15		
5716.03	367	375	12	11	0.29		

End of Report

TAL Richland WA.
U BRCO

Sample ID: KF5GC1AA
Detector ID: ALP11 1

Batch ID: 8030200



Acquisition Start: 20-FEB-2008 16:44:26.14
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:05.00

Energy Coefficients:
Offset: 3.29908E + 03
Slope: 6.43439E + 00
Quadrature: -7.02757E-05

SAMPLE IDENTIITY: KF5GC1AA

TITLE : U BRCO

DETECTOR : ALP11 1

CONFIGURATION NAME : \$DISK1:[ALP11.SAMPLE]KF5GC1AA_200281644.CNF;
1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:07:08

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00

ACQUIRE DATE: 20-FEB-2008 16:44:26 CALIB DATE : 04-FEB-2008 03:40:05

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

OFFSET : 3299.08 keV CONSTANT FWHM : 8.00000 Channels

SLOPE : 6.43439 keV/C SENSITIVITY : 4.00000 Std Dev's

QUAD COEFF : -.702757E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5GC1AA

Flags Key

Detector: ALP11 1
 Report Date: 20-Feb-08 08:04 PM
 Acquire Date: 20-FEB-2008 16:44:26.14
 Tracer Nuclide: U-232
 High Counts Limit: 36
 Sample Live Time: 200 minutes
 Bkgrnd Live Time: 1000 minutes

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	Intrscnt Count	Count Rate C/Min	Centrd Region			Left		Right		Flags
					Energy keV	Width keV	Chnl	Chnl	Wdth Mult	Wdth Mult		
U-232	746	12	0	3.716	5328.5	172.6	296	323	0.00	0.00	P	
U-234	177	0	0	0.885	4782.9	121.6	218	237	0.00	0.00	P	
U-235	9	2	0	0.043	4406.1	173.1	152	179	0.00	0.00		
U-238	183	1	0	0.914	4206.3	141.1	126	148	0.00	0.00	P	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:04:45

Configuration : \$DISK1:[ALP11.SAMPLE]KF5GC1AA_200281644.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : U BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:44:26
 Sample ID : KF5GC1AA Sample quantity : 0.000000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP11 Detector geometry:
 Elapsed live time: 0 03:20:05.00 Elapsed real time: 0 03:20:05.00 0.0%
 Start energy : 3318.38 keV End energy : 6575.06 keV
 Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4211.97	183	0	32.17	142.10	126	22	1.52E-02	7.4	
2	0	4785.47	177	0	38.61	231.59	218	19	1.47E-02	7.5	
3	0	5328.50	746	0	38.61	316.50	296	27	6.21E-02	3.7	

Alpha Spectrum Listing
 (Version: 1 Apr 07)

Sample Identity: KF5GC1AA

Flags Key

Detector: ALP11 1

Report Date: 20 Feb 08 08:04 PM

Intersect Region: *

Acquire Date: 20 Feb 2008 16:44:26.14

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

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

Configuration: \$DISK1:[ALP11.SAMPLE]KF5GC1AA_200281644.CNF;1

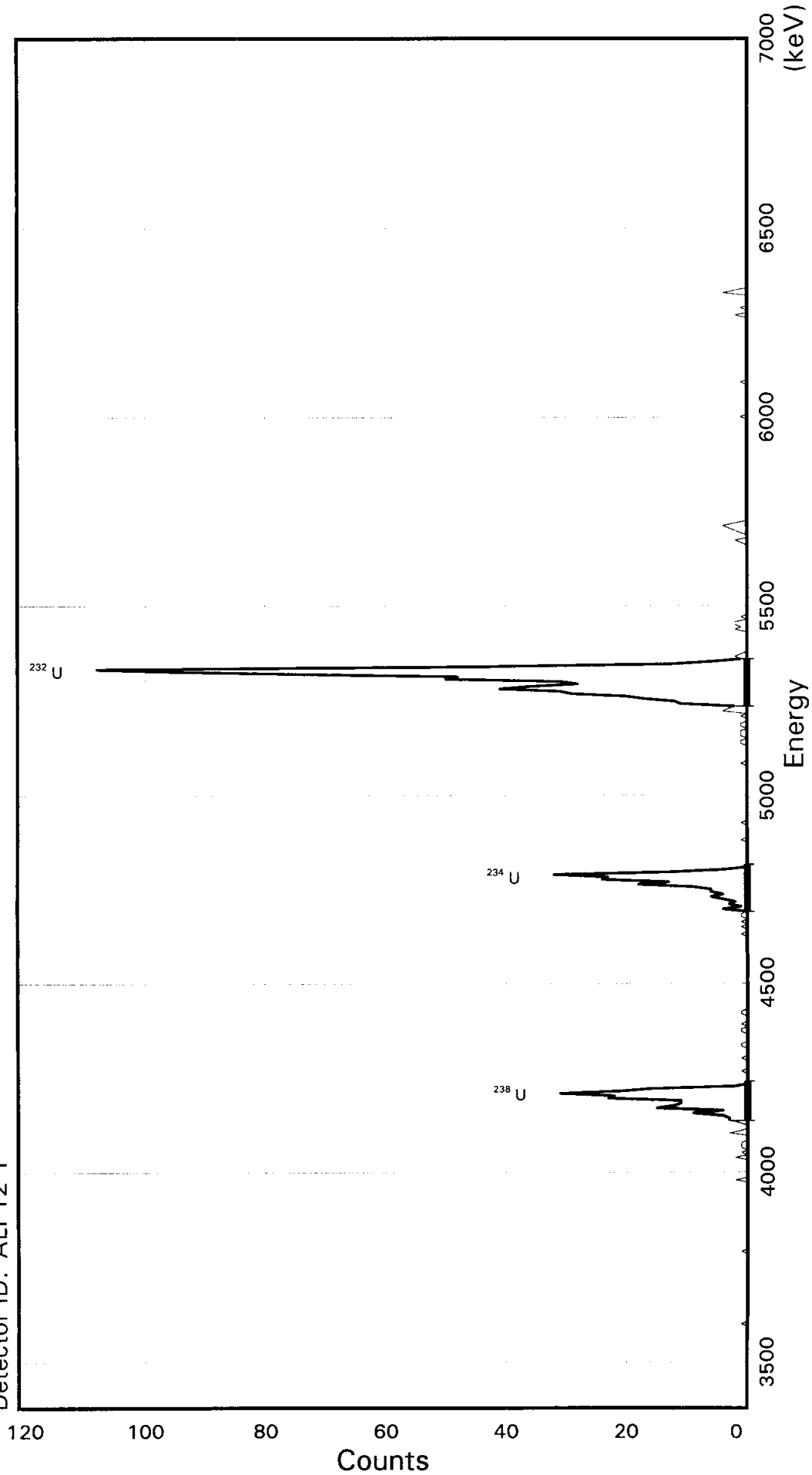
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4211.96	126	148	183	183	0.00		
4785.46	218	237	177	178	-0.08		
5328.50	296	323	746	742	0.15		

End of Report

TAL Richland WA.
U BRCO

Sample ID: KF5GF1AA
Detector ID: ALP12 1

Batch ID: 8030200



Acquisition Start: 20-FEB-2008 16:44:34.90
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:
Offset: 3.35913E+03
Slope: 6.52757E+00
Quadrature: 2.98539E-05

SAMPLE IDENTITY: KF5GF1AA

TITLE : U BRCO

DETECTOR : ALP12 1
CONFIGURATION NAME : \$DISK1:[ALP12.SAMPLE]KF5GF1AA_200281644.CNF;

1
ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:07:15

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:44:34 CALIB DATE : 04-FEB-2008 03:40:10

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

OFFSET : 3359.13 keV CONSTANT FWHM : 6.50000 Channels
SLOPE : 6.52757 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 2.985390E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5GF1AA

Flags Key

Detector: ALP12 1 Report Date: 20-Feb-08 08:04 PM Acquire Date: 20-FEB-2008 16:44:34.90 Tracer Nuclide: U-232 High Counts Limit: 36 Sample Live Time: 200 minutes Bkgrnd Live Time: 1000 minutes	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 Region			Left		Right		Flags
					Energy keV	Width keV	Chnl	Chnl	Mult	Mult		
U-232	698	3	0	3.486	5326.7	124.4	287	306	0.00	0.00	P	
U-234	173	0	0	0.865	4781.1	124.3	204	223	0.00	0.00	P	
U-235	7	0	0	0.035	4404.3	124.2	146	165	0.00	0.00		
U-238	188	0	0	0.940	4204.5	104.6	119	135	0.00	0.00	P	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:04:54

```

Configuration      : $DISK1:[ALP12.SAMPLE]KF5GF1AA_200281644.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:44:34
Sample ID         : KF5GF1AA Sample quantity : 0.00000E+00 LITER
Sample type       : disk Sample geometry :
Detector name     : ALP12 Detector geometry:
Elapsed live time : 0 03:20:04.00 Elapsed real time: 0 03:20:04.00 0.0%
Start energy      : 3378.72 keV End energy : 6709.07 keV
Sensitivity       : 4.00 Sum Sensitivity : 1.00
  
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4205.17	188	0	39.17	129.53	119	16	1.57E-02	7.3	
2	0	4781.20	173	0	39.17	217.64	204	19	1.44E-02	7.6	
3	0	5326.71	698	0	32.64	301.01	287	19	5.81E-02	3.8	

Alpha Spectrum Listing

{Version: 1-Apr-07}

Sample Identity: KFSGF1AA

Flags Key

Detector: ALP12 1

Report Date: 20 Feb 08 08:04 PM

Intersect Region: #

Acquire Date: 20 FEB 2008 16:44:34.90

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

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

Configuration: \$DISK1:[ALP12.SAMPLE]KF5GF1AA_200281644.CNF;1

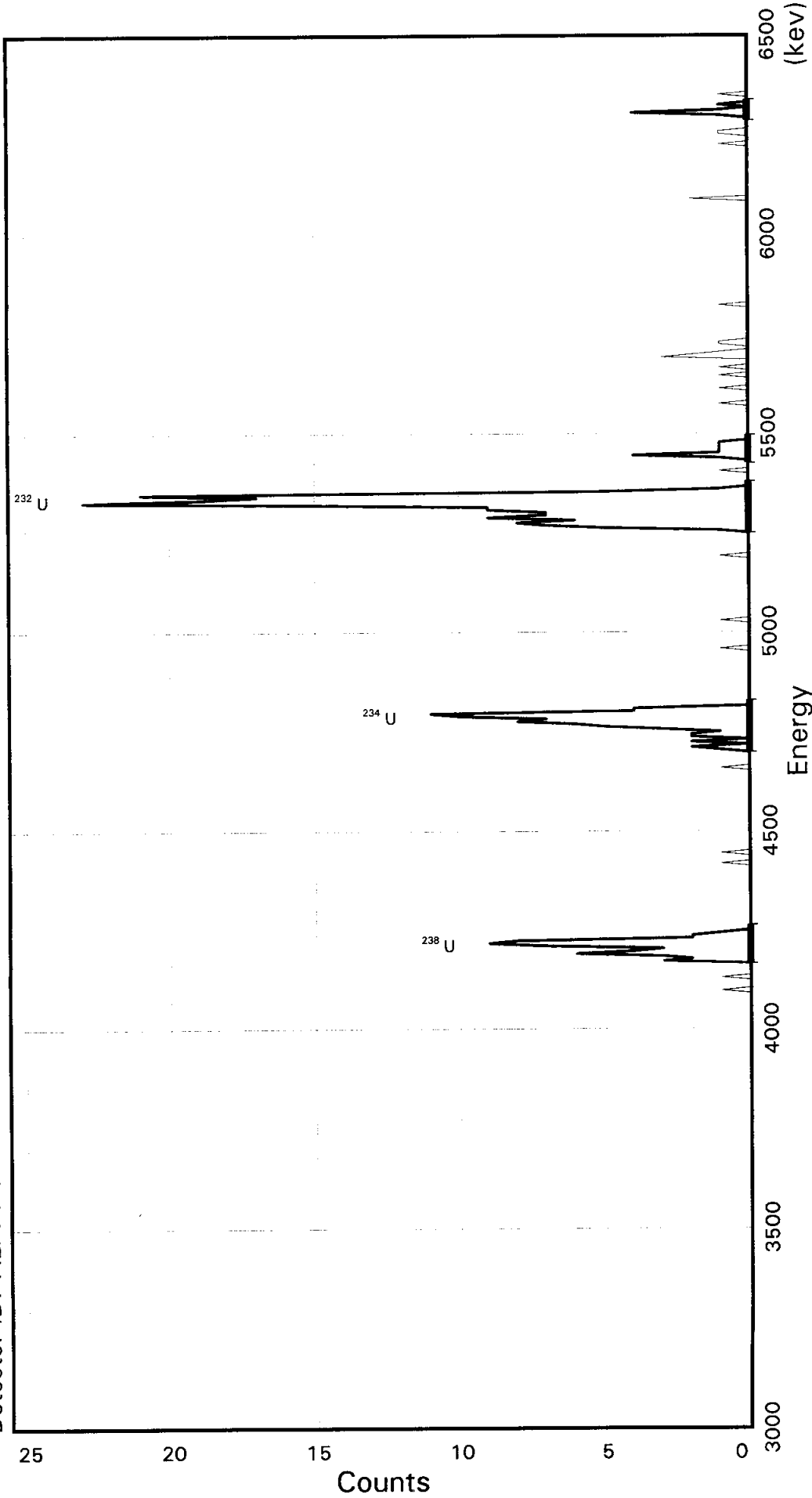
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4205.16	119	135	188	187	0.07		
4781.19	204	223	173	172	0.08		
5326.70	287	306	698	698	0.00		

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5GG1AA
Detector ID: ALP71 1



Acquisition Start: 20-FEB-2008 16:45:02.37
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:09.00

Energy Coefficients:
Offset: 3.15399E+03
Slope: 6.43853E+00
Quadrature: 9.36697E-05

SAMPLE IDENTIITY: KF5GG1AA

TITLE : U BRCO

DETECTOR : ALP71 1

CONFIGURATION NAME : RDND06\$DKA100: [ALP71.SAMPLE] KF5GG1AA_2002816
45.CNF;1

ACQUIRE DATE of BACKGROUND: 11-FEB-2008 06:14:49

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00

ACQUIRE DATE: 20-FEB-2008 16:45:02 CALIB DATE : 11-FEB-2008 02:51:25

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

OFFSET : 3153.99 keV CONSTANT FWHM : 9.00000 Channels

SLOPE : 6.43853 keV/C SENSITIVITY : 3.00000 Std Dev's

QUAD COEFF : 9.366970E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5GG1AA

Flags Key

Detector: ALP71 1	P: Peak Identified
Report Date: 20-Feb-08 08:05 PM	I: Peak Intersect
Acquire Date: 20-FEB-2008 16:45:02.37	S: Single Non-peak Intersect
Tracer Nuclide: U-232	M: Multiple Non-peak Intersect
High Counts Limit: 36	H: High Non-peak Sample Count
Sample Live Time: 200 minutes	A: Altered via ALP-RGN-EDIT
Bkgrnd Live Time: 2500 minutes	

Nuclide Name	Smpl Count	Bkg Count	Intrsrct Count	Count Rate C/Min	Centrd Region		Left Chnl	Rght Chnl	Left	Rght	Flags
					Energy keV	Width keV			Wdth Mult	Wdth Mult	
U-232	172	29	0	0.848	5331.9	130.0	324	344	0.00	0.00	P
U-234	68	4	0	0.338	4786.3	129.7	239	259	0.00	0.00	P
U-235	2	1	0	0.010	4409.5	129.5	182	202	0.00	0.00	
U-238	50	4	0	0.248	4209.7	97.0	157	172	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:05:27

```

Configuration      : RDND06$DKA100: [ALP71.SAMPLE] KF5GG1AA_200281645.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:45:02
Sample ID         : KF5GG1AA Sample quantity : 0.00000E+00 LITER
Sample type       : disk Sample geometry :
Detector name     : ALP71 Detector geometry:
Elapsed live time : 0 03:20:09.00 Elapsed real time: 0 03:20:09.00 0.0%
Start energy      : 3173.30 keV End energy : 6475.07 keV
Sensitivity       : 3.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4213.62	50	0	45.07	164.18	157	15	4.16E-03	14.1	
2	0	4785.69	68	0	38.63	252.50	239	20	5.66E-03	12.1	
3	0	5331.91	172	0	38.63	336.62	324	20	1.43E-02	7.6	
4	0	5447.40	11	0	32.19	354.38	351	11	9.16E-04	30.2	
5	0	6304.15	7	0	25.75	485.83	483	8	5.83E-04	37.8	

Alpha Spectrum Listing

(Version: 1-Apr-07)

Sample Identity: KF5GG1AA

Detector: ALP71 1

Report Date: 20-Feb-08 08:05 PM

Acquire Date: 20-FEB-2008 16:45:02.37

Flags Key

Intersect Region: Ⓢ

Non Intersect Region: +,

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

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

Configuration: RDND06\$DKA100:[ALP71.SAMPLE]KF5GG1AA_200281645.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4213.61	157	172	50	50	0.00		
4785.68	239	259	68	68	0.00		
5331.91	324	344	172	169	0.23		
5447.40	351	362	11	10	0.30		
6304.14	483	491	7	7	0.00		

End of Report

Alpha Analysis Report
(Version: 1-Apr-07)

Sample Identity: KF5GJ1AA

Detector: ALP84 1

Report Date: 20-Feb-08 08:25 PM

Acquire Date: 20-FEB-2008 16:45:13.29

Tracer Nuclide: U-232

Sample Live Time: 200 minutes

Bkgrnd Live Time: 2500 minutes

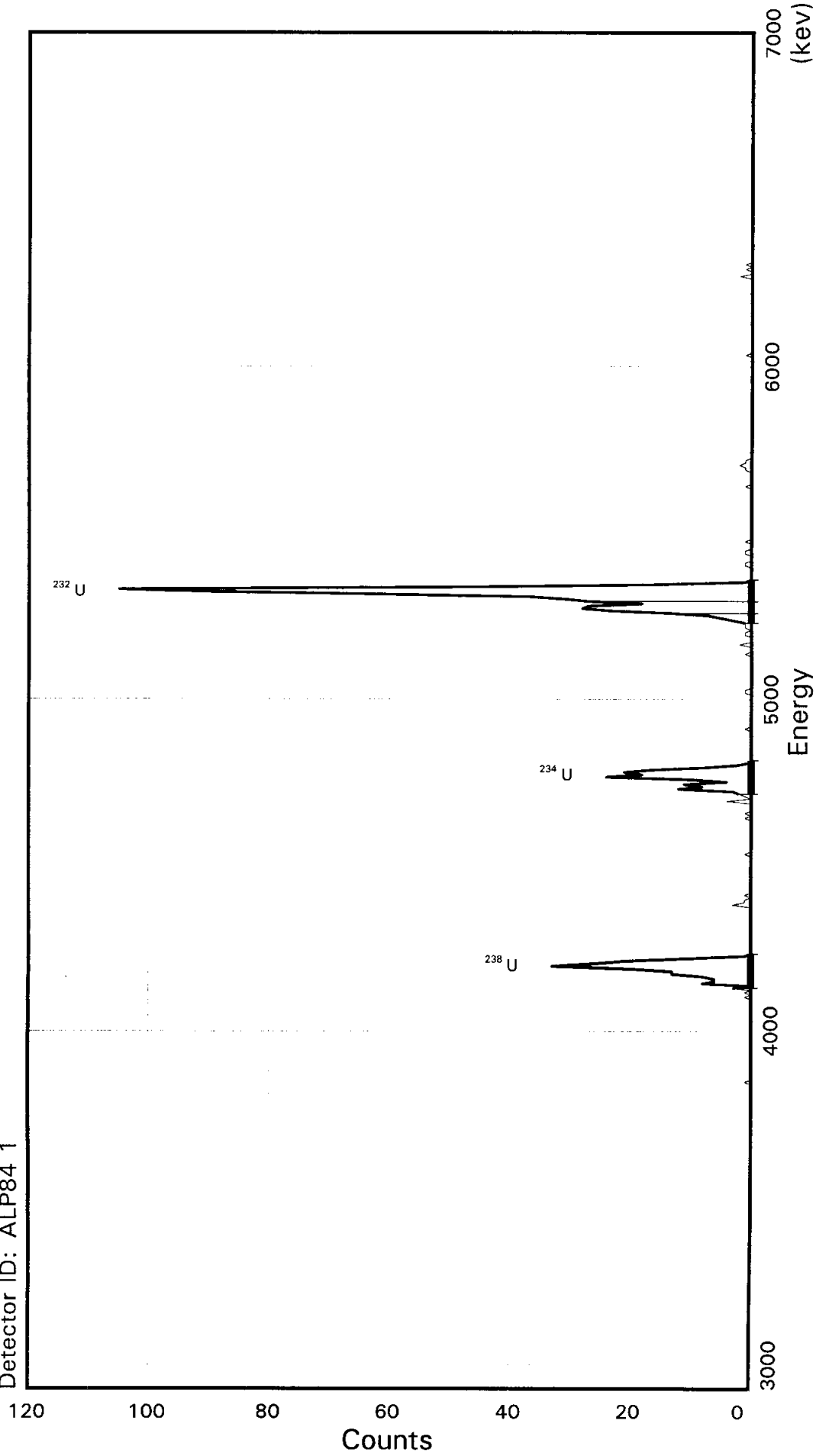
Nuclide Name	Smpl Count	Bkg Count	Count	Centrd	Region		
			Rate C/Min	Energy keV	Width keV	Left Chnl	Right Chnl
U-232	542	10	2.703	5320.2	151.4	317	338
U-234	144	1	0.719	4774.6	159.1	240	262
U-235	6	0	0.030	4397.8	144.9	190	210
U-238	171	1	0.854	4198.0	159.6	162	184

End of Alpha Region Report
(Produced by ANAL Report)

TAL Richland WA.
U BRCO

Sample ID: KF5GJ1AA
Detector ID: ALP84 1

Batch ID: 8030200



Acquisition Start: 20-FEB-2008 16:45:13.29
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:14.00

Energy Coefficients:
Offset: 2.90644E + 03
Slope: 7.30399E + 00
Quadrature: -1.47278E-04

SAMPLE IDENTIITY: KF5GJ1AA

TITLE : U BRCO

DETECTOR : ALP84 1
CONFIGURATION NAME : RDND06\$DKA100: [ALP84.SAMPLE] KF5GJ1AA_2002816
45.CNF;1
ACQUIRE DATE of BACKGROUND: 02-FEB-2008 06:19:45

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 16:45:13 CALIB DATE : 02-FEB-2008 03:12:14

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

OFFSET : 2906.44 keV CONSTANT FWHM : 4.50000 Channels
SLOPE : 7.30399 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.147278E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5GJ1AA

Flags Key

Detector: ALP84 1	P: Peak Identified
Report Date: 20-Feb-08 08:05 PM	I: Peak Intersect
Acquire Date: 20-FEB-2008 16:45:13.29	S: Single Non-peak Intersect
Tracer Nuclide: U-232	M: Multiple Non-peak Intersect
High Counts Limit: 36	H: High Non-peak Sample Count
Sample Live Time: 200 minutes	A: Altered via ALP-RGN-EDIT
Bkgrnd Live Time: 2500 minutes	

Nuclide Name	Smpl Count	Bkg Count	Intrscnt Count	Count Rate C/Min	Centrd Region		Left Chnl	Rght Chnl	Left Wdth	Rght Wdth	Flags
					Energy keV	Width keV					
U-232	448	7	0	2.235	5325.7	100.9	324	338	0.00	0.00	P
U-234	137	1	0	0.684	4780.1	101.2	249	263	0.00	0.00	P
U-235	6	0	0	0.030	4403.3	101.4	196	210	0.00	0.00	
U-238	168	1	0	0.839	4203.5	101.5	168	182	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:05:32

```

Configuration      : RDND06$DKA100: [ALP84.SAMPLE] KF5GJ1AA_200281645.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:45:13
Sample ID         : KF5GJ1AA Sample quantity : 0.00000E+00 LITER
Sample type       : disk Sample geometry :
Detector name     : ALP84 Detector geometry:
Elapsed live time : 0 03:20:14.00 Elapsed real time: 0 03:20:14.00 0.0%
Start energy      : 2928.35 kev End energy : 6607.48 kev
Sensitivity       : 3.00 Sum Sensitivity : 1.00
  
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4198.01	168	0	29.22	177.46	168	14	1.40E-02	7.7	
2	0	4774.50	137	0	36.52	257.09	249	14	1.14E-02	8.5	
3	0	5268.53	93	0	29.22	325.53	320	9	7.74E-03	10.4	
4	0	5325.69	448	0	29.22	333.47	324	14	3.73E-02	4.7	

Alpha Spectrum Listing

(Version: 1 Apr 07)

Sample Identity: KF5GJ1AA

Detector: ALP84 1

Report Date: 20 Feb-08 08:05 PM

Acquire Date: 20 FEB 2008 16:45:13.29

Flags Key

Intersect Region: #

Non Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn										
		1	0		51	0		101	0		151	0+		201	12+		251	0		301	0		351	0		401	0		451	0		501	
		2	0		52	0		102	0		152	0+		202	8+		252	0		302	0		352	0		402	0		452	0		502	
		3	0		53	0		103	0		153	3+		203	11+		253	0		303	0		353	0		403	0		453	0		503	
0		4	0		54	0		104	0		154	1+		204	4+		254	0		304	1		354	0		404	0		454	0		504	
0		5	0		55	0		105	0		155	1+		205	10+		255	0		305	0		355	0		405	0		455	0		505	
0		6	0		56	0		106	0		156	0+		206	24+		256	0		306	0		356	0		406	0		456	0		506	
0		7	0		57	0		107	0		157	1+		207	18+		257	1		307	0		357	0		407	0		457	0		507	
0		8	0		58	0		108	0		158	0+		208	21+		258	0		308	0		358	0		408	0		458	0		508	
0		9	0		59	0		109	0		159	0+		209	16+		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	2+		261	2		311	0		361	0		411	0		461	0		511	
0		12	0		62	0		112	0		162	0		212	0+		262	0		312	0		362	0		412	0		462	0		512	
0		13	0		63	0		113	0		163	0		213	0		263	0		313	0		363	0		413	0		463				
0		14	0		64	0		114	1		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	1		315	0		365	0		415	2		465				
0		16	0		66	0		116	1		166	0		216	0		266	1		316	0		366	0		416	0		466				
0		17	0		67	0		117	0		167	0		217	0		267	0		317	0		367	0		417	0		467				
0		18	0		68	0		118	3+		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	1		319	0		369	0		419	0		469				
0		20	0		70	0		120	8+		170	0		220	0		270	1		320	0		370	0		420	1		470				
0		21	0		71	0		121	6+		171	0		221	0		271	3		321	0		371	0		421	0		471				
0		22	0		72	0		122	6+		172	0		222	0		272	5		322	0		372	0		422	0		472				
0		23	0		73	0		123	8+		173	0		223	0		273	7		323	0		373	0		423	0		473				
0		24	0		74	0		124	13+		174	1		224	0		274	13+		324	0		374	0		424	0		474				
0		25	0		75	0		125	13+		175	0		225	0		275	23+		325	0		375	0		425	0		475				
0		26	0		76	0		126	20+		176	0		226	1		276	28+		326	0		376	0		426	0		476				
0		27	0		77	0		127	33+		177	0		227	0		277	27+		327	1		377	0		427	0		477				
0		28	0		78	0		128	26+		178	0		228	0		278	18+		328	0		378	0		428	0		478				
0		29	0		79	1		129	21+		179	0		229	0		279	27+		329	0		379	0		429	0		479				
0		30	0		80	0		130	11+		180	0		230	0		280	31+		330	0		380	0		430	0		480				
0		31	0		81	0		131	1+		181	0		231	0		281	37+		331	0		381	0		431	0		481				
0		32	0		82	0		132	0		182	0		232	0		282	62+		332	0		382	1		432	0		482				
0		33	0		83	0		133	0		183	0		233	0		283	90+		333	0		383	0		433	0		483				
0		34	0		84	0		134	0		184	0		234	0		284	105+		334	1		384	0		434	0		484				
0		35	0		85	0		135	0		185	0		235	0		285	46+		335	1		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	1		387	0		437	0		487				
0		38	0		88	0		138	0		188	0		238	0		288	0		338	1		388	0		438	0		488				
0		39	0		89	0		139	0		189	1		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	1		241	1		291	0		341	0		391	0		441	0		491				
0		42	0		92	0		142	0		192	0		242	1		292	0		342	0		392	0		442	0		492				
0		43	0		93	0		143	0		193	0		243	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	1		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	0+		197	0		247	0		297	0		347	0		397	0		447	0		497				
0		48	0		98	0		148	0+		198	1		248	0		298	0		348	0		398	0		448	0		498				
0		49	0		99	0		149	0+		199	2+		249	0		299	1		349	0		399	0		449	0		499				
0		50	0		100	0		150	0+		200	3+		250	0		300	1		350	0		400	0		450	0		500				

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

Configuration: RDND06\$DKA100:[ALP84.SAMPLE]KF5GJ1AA_200281645.CNF;1

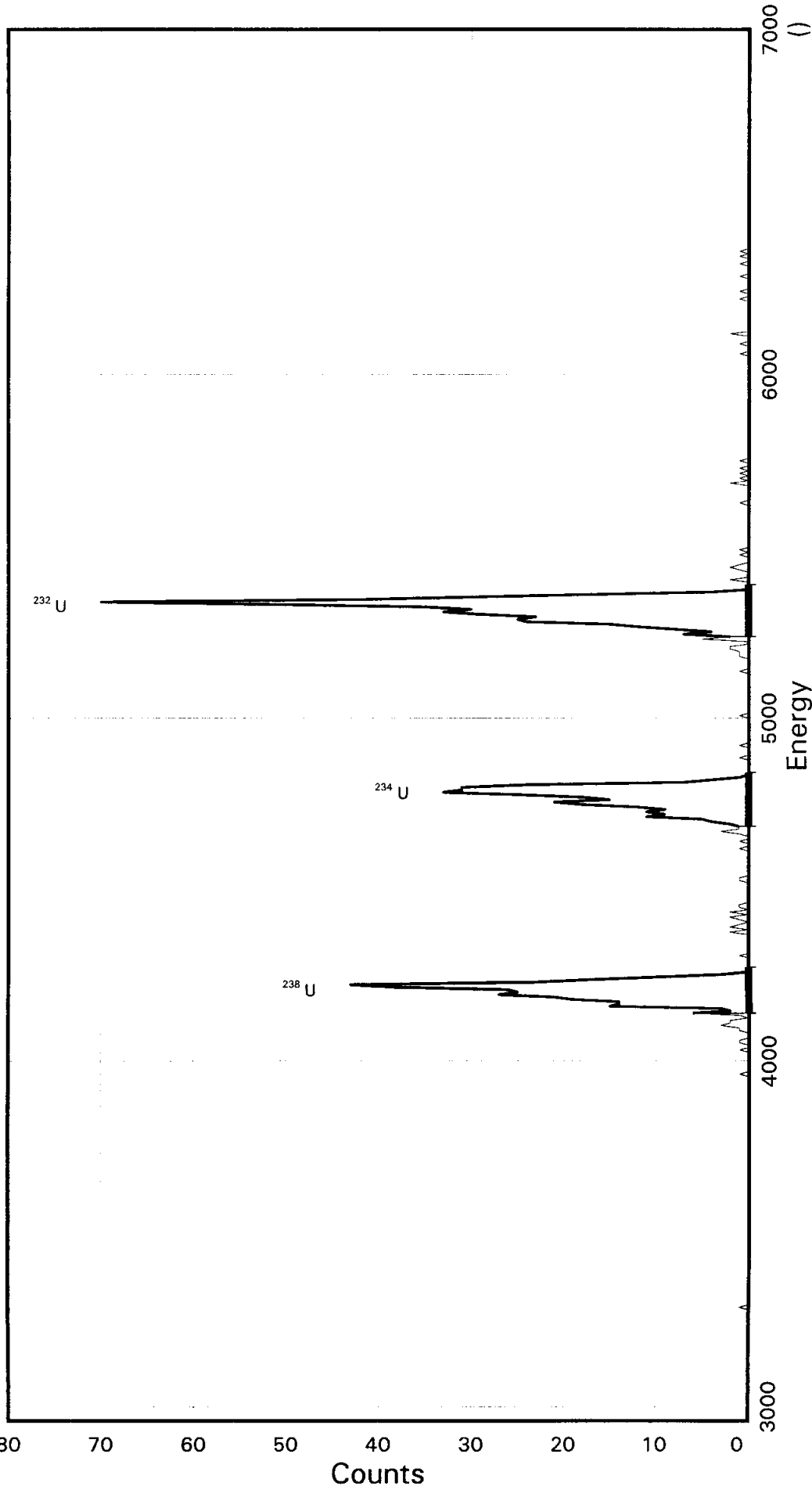
Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4198.00	168	182	168	169	-0.08		
4774.49	249	263	137	138	-0.09		
5268.52	320	329	93	152	-6.12		
5325.69	324	338	448	524	-3.59	136	0.04

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5GJ1AE
Detector ID: ALP85 1



Acquisition Start: 20-FEB-2008 16:45:27.89
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:18.00

Energy Coefficients:
Offset: 2.93848E + 03
Slope: 6.96123E + 00
Quadrature: 3.38872E-04

SAMPLE IDENTIITY: KF5GJ1AE

TITLE : U BRCO

DETECTOR : ALP85 1

CONFIGURATION NAME : RDND06\$DKA100: [ALP85.SAMPLE] KF5GJ1AE_2002816
45.CNF;1

ACQUIRE DATE of BACKGROUND: 02-FEB-2008 06:19:47

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00

ACQUIRE DATE: 20-FEB-2008 16:45:27 CALIB DATE : 02-FEB-2008 03:12:20

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:18

OFFSET : 2938.48 keV CONSTANT FWHM : 10.50000 Channels

SLOPE : 6.96123 keV/C SENSITIVITY : 3.00000 Std Dev's

QUAD COEFF : 3.388720E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5GJ1AE

Flags Key

Detector: ALP85 1 Report Date: 20-Feb-08 08:05 PM Acquire Date: 20-FEB-2008 16:45:27.89 Tracer Nuclide: U-232 High Counts Limit: 36 Sample Live Time: 200 minutes Bkcrnd Live Time: 2500 minutes	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	Intrsrct Count	Count Rate C/Min	Centrd Region		Left Chnl	Rght Chnl	Left Wdth	Rght Wdth	Flags
					Energy keV	Width keV					
U-232	464	41	0	2.300	5325.8	151.0	325	346	0.00	0.00	P
U-234	295	5	0	1.471	4780.2	157.0	248	270	0.00	0.00	P
U-235	12	1	0	0.060	4403.4	149.1	196	217	0.00	0.00	
U-238	305	1	0	1.522	4203.6	134.6	171	190	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:05:48

```

Configuration      : RDND06$DKA100: [ALP85.SAMPLE] KF5GJ1AE_200281645.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRCO
Sample date       : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:45:27
Sample ID        : KF5GJ1AE Sample quantity : 0.000000E+00 LITER
Sample type      : disk Sample geometry :
Detector name    : ALP85 Detector geometry:
Elapsed live time: 0 03:20:18.00 Elapsed real time: 0 03:20:18.00 0.0%
Start energy     : 2959.36 End energy : 6591.46
Sensitivity      : 3.00 Sum Sensitivity : 1.00
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4208.42	305	0	69.61	180.84	171	19	2.54E-02	5.7	
2	0	4784.09	295	0	55.69	261.79	248	22	2.45E-02	5.8	
3	0	5325.80	464	0	62.65	337.40	325	21	3.86E-02	4.6	

Alpha Spectrum Listing
(Version: 1-Apr-07)

Sample Identity: KFSGJ1AE
Detector: ALP85 1

Report Date: 20 Feb 08 08:05 PM

Acquire Date: 20 FEB 2008 16:45:27.89

Flags Key

Intersect Region: X

Non-Intersect Region: +,

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

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

Configuration: RDND06\$DKA100:[ALP85.SAMPLE]KF5GJ1AE_200281645.CNF;1

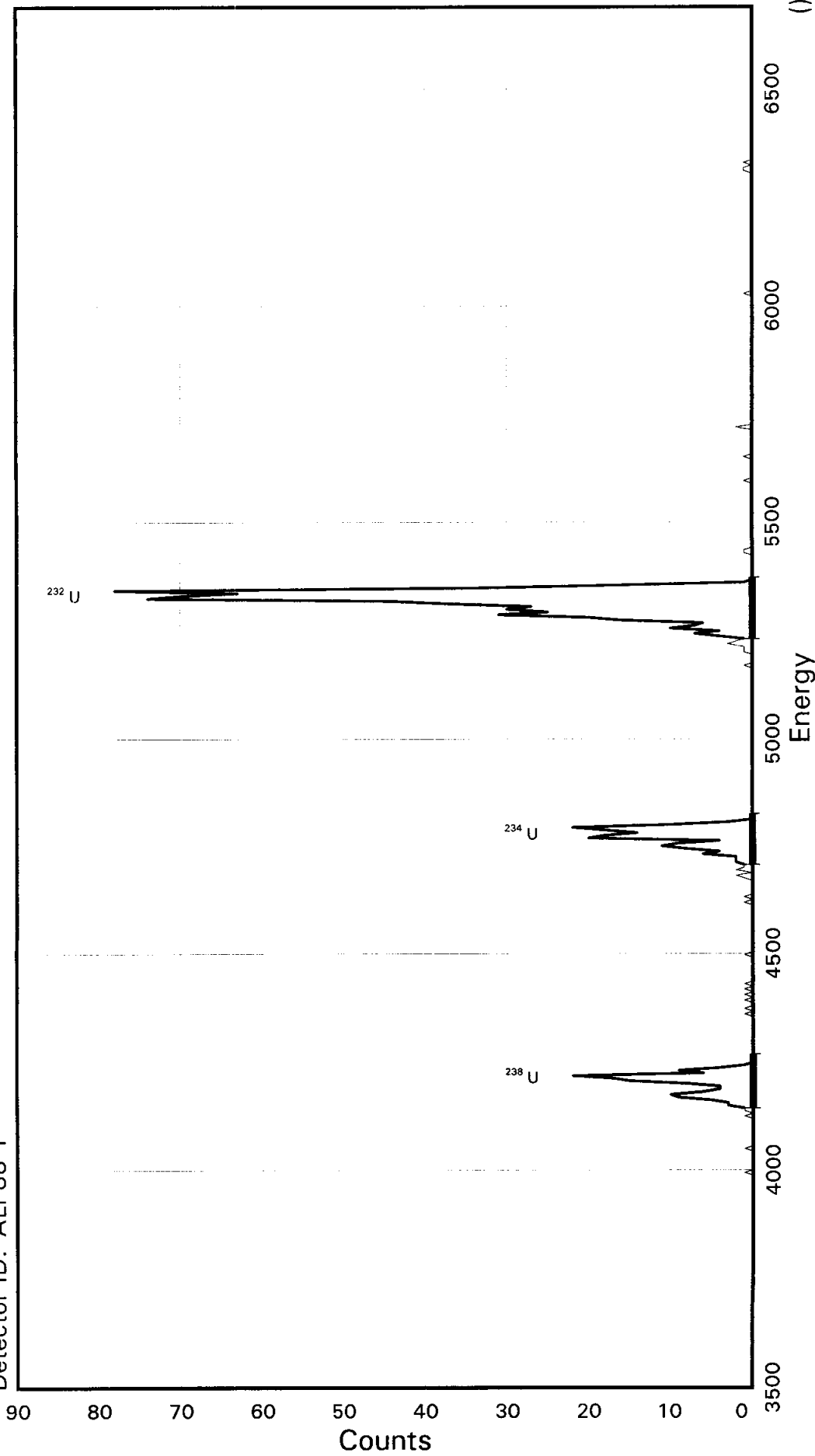
Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4208.42	171	190	305	306	-0.06		
4784.09	248	270	295	292	0.17		
5325.79	325	346	464	461	0.14		

End of Report

TAL Richland WA.
U BRCO

Batch ID: 8030200

Sample ID: KF5GJ1AH
Detector ID: ALP88 1



Acquisition Start: 20-FEB-2008 16:45:41.99
Preset Live Time: 03:20:00.00
Elapsed Live Time: 03:20:04.00

Energy Coefficients:
Offset: 3.51427E +03
Slope: 6.23467E +00
Quadrature: -6.75282E-05

SAMPLE IDENTITY: KF5GJ1AH

TITLE : U BRCO

DETECTOR : ALP88 1

CONFIGURATION NAME : RDND06\$DKA100: [ALP88.SAMPLE] KF5GJ1AH_2002816
45.CNF;1

ACQUIRE DATE of BACKGROUND: 02-FEB-2008 06:19:49

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00

ACQUIRE DATE: 20-FEB-2008 16:45:41 CALIB DATE : 02-FEB-2008 03:12:26

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

OFFSET : 3514.27 keV CONSTANT FWHM : 9.16667 Channels

SLOPE : 6.23467 keV/C SENSITIVITY : 4.00000 Std Dev's

QUAD COEFF : -.675282E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5GJ1AH

Flags Key

Detector: ALP88 1
 Report Date: 20-Feb-08 08:05 PM
 Acquire Date: 20-FEB-2008 16:45:41.99
 Tracer Nuclide: U-232
 High Counts Limit: 36
 Sample Live Time: 200 minutes
 Bkcrnd Live Time: 1000 minutes

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	Intrscnt Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Right Chnl	Left Wdth	Right Wdth	Flags
U-232	611	1	0	3.053	5329.3	142.5	276	299	0.00	0.00	P
U-234	157	0	0	0.785	4783.7	117.9	192	211	0.00	0.00	P
U-235	6	1	0	0.029	4406.9	143.0	127	150	0.00	0.00	
U-238	125	1	0	0.624	4207.1	124.4	101	121	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 20:05:52

Configuration : RDND06\$DKA100: [ALP88.SAMPLE] KF5GJ1AH_200281645.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : U BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 16:45:41
 Sample ID : KF5GJ1AH Sample quantity : 0.00000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP88 Detector geometry:
 Elapsed live time: 0 03:20:04.00 Elapsed real time: 0 03:20:04.00 0.0%
 Start energy : 3532.97 End energy : 6688.72
 Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4214.39	125	0	37.41	112.43	101	20	1.04E-02	8.9	
2	0	4781.26	157	0	49.88	203.67	192	19	1.31E-02	8.0	
3	0	5329.26	611	0	43.64	292.04	276	23	5.09E-02	4.0	

Alpha Spectrum Listing

(Version: 1-Apr 07)

Sample Identity: KFSGJ1AH

Flags Key

Detector: ALP88 1

Report Date: 20-Feb-08 08:05 PM

Intersect Region: ☒

Acquire Date: 20 FEB-2008 16:45:41.99

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

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

Configuration: RDND06\$DKA100:[ALP88.SAMPLE]KF5GJ1AH_200281645.CNF;1

Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4214.39	101	121	125	127	-0.18		
4781.26	192	211	157	154	0.24		
5329.25	276	299	611	604	0.28		

End of Report

URANIUM ISOTOPIC COUNTING REQUEST

0804

C.R. Technician *S*
Date Counted *2/2/08*

Counting Time 200 Minutes
Sample BR00
Background See Alpha Regions Report
 1/24/08

SOP's RICHRD008
Operating: RICHRD0016
Review: 8030200

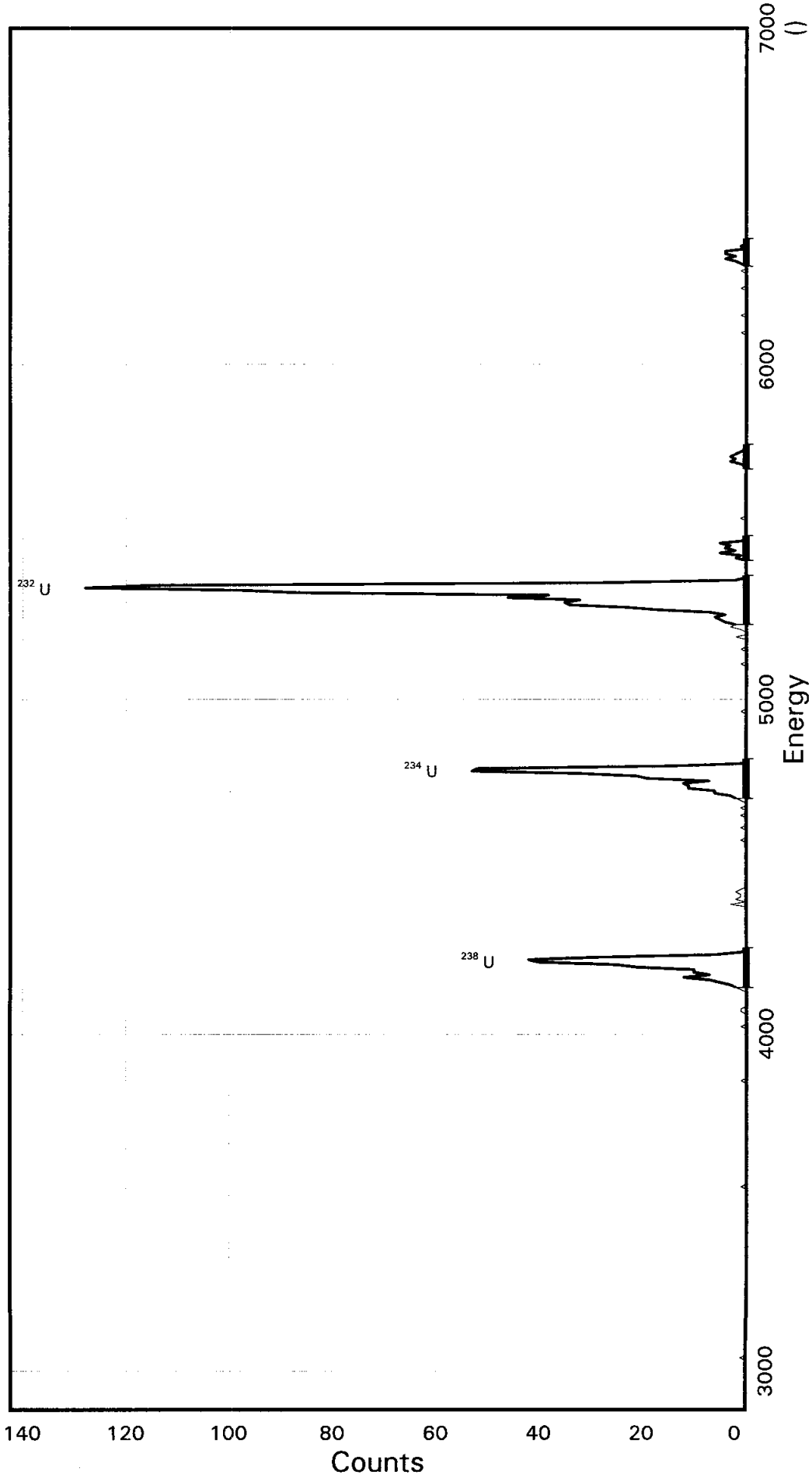
WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS			Det #	Comments/Edits
		U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)		
<i>KF5 GL/AA</i>	See Counting Room Printout for ROI information				<i>3</i>	
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
Comments:						

Approved by: *S* Date: *2/2/08*

TAL Richland WA.
U BRCO

Sample ID: KF5GL1AA
Detector ID: ALP3 1

Batch ID: 8030200



Acquisition Start: 21-FEB-2008 04:46:27.29
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:00.00

Energy Coefficients:
Offset: 2.86333E + 03
Slope: 7.32666E + 00
Quadrature: 7.05255E-05

SAMPLE IDENTIITY: KF5GL1AA

TITLE : U BRCO

DETECTOR : ALP3 1
CONFIGURATION NAME : \$DISK1:[ALP3.SAMPLE]KF5GL1AA_210280446.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:39

REPORT DATE : 21-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 21-FEB-2008 04:46:27 CALIB DATE : 04-FEB-2008 03:39:11

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

OFFSET : 2863.33 keV CONSTANT FWHM : 7.83333 Channels
SLOPE : 7.32666 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 7.052550E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KF5GL1AA

Flags Key

Detector: ALP3 1
 Report Date: 21-Feb-08 08:06 AM P: Peak Identified
 Acquire Date: 21-FEB-2008 04:46:27.29 I: Peak Intersect
 Tracer Nuclide: U-232 S: Single Non-peak Intersect
 High Counts Limit: 36 M: Multiple Non-peak Intersect
 Sample Live Time: 200 minutes H: High Non-peak Sample Count
 Bkgrnd Live Time: 1000 minutes A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsrct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Right Chnl	Left Wdth	Right Wdth	Flags
U-232	720	11	0	3.589	5329.7	147.5	321	341	0.00	0.00	P
U-234	256	4	0	1.276	4784.2	117.8	251	267	0.00	0.00	P
U-235	10	1	0	0.049	4407.4	147.1	196	216	0.00	0.00	
U-238	222	3	0	1.107	4207.6	117.6	174	190	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 21-FEB-2008 08:06:45

Configuration : \$DISK1:[ALP3.SAMPLE]KF5GL1AA_210280446.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : U BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 21-FEB-2008 04:46:27
 Sample ID : KF5GL1AA Sample quantity : 0.00000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP3 Detector geometry:
 Elapsed live time: 0 03:20:00.00 Elapsed real time: 0 03:20:00.00 0.0%
 Start energy : 2885.31 End energy : 6633.07
 Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4214.90	222	0	36.63	184.15	174	16	1.85E-02	6.7	
2	0	4787.80	256	0	36.63	262.01	251	16	2.13E-02	6.3	
3	0	5329.74	720	0	29.31	335.55	321	20	6.00E-02	3.7	
4	0	5448.60	20	0	43.96	351.67	347	10	1.67E-03	22.4	
5	0	5720.38	13	0	29.31	388.50	384	10	1.08E-03	27.7	
6	0	6323.43	19	0	36.63	470.13	466	11	1.58E-03	22.9	

Alpha Spectrum Listing

(Version: 1-Apr-07)

Sample Identity: KFSGL1AA

Flags Key

Detector: ALP3 1

Report Date: 21 Feb 08 08:06 AM

Intersect Region: @

Acquire Date: 21 FEB 2008 04:46:27.29

Non-Intersect Region: +, -

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

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

Configuration: \$DISK1:[ALP3.SAMPLE]KF5GL1AA_210280446.CNF;1

Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4214.90	174	190	222	219	0.20		
4787.80	251	267	256	251	0.31		
5329.74	321	341	720	710	0.37		
5448.59	347	357	20	22	-0.45		
5720.38	384	394	13	12	0.28		
6323.42	466	477	19	18	0.23		

End of Report

URANIUM ISOTOPIC COUNTING REQUEST

2351

C.R. Technician OD

Counting Time

200 Minutes

SOP's

Operating: RICHRD008

Review: RICHRD0016

Date Counted 2/20/08

Sample

Background See Alpha Regions Report

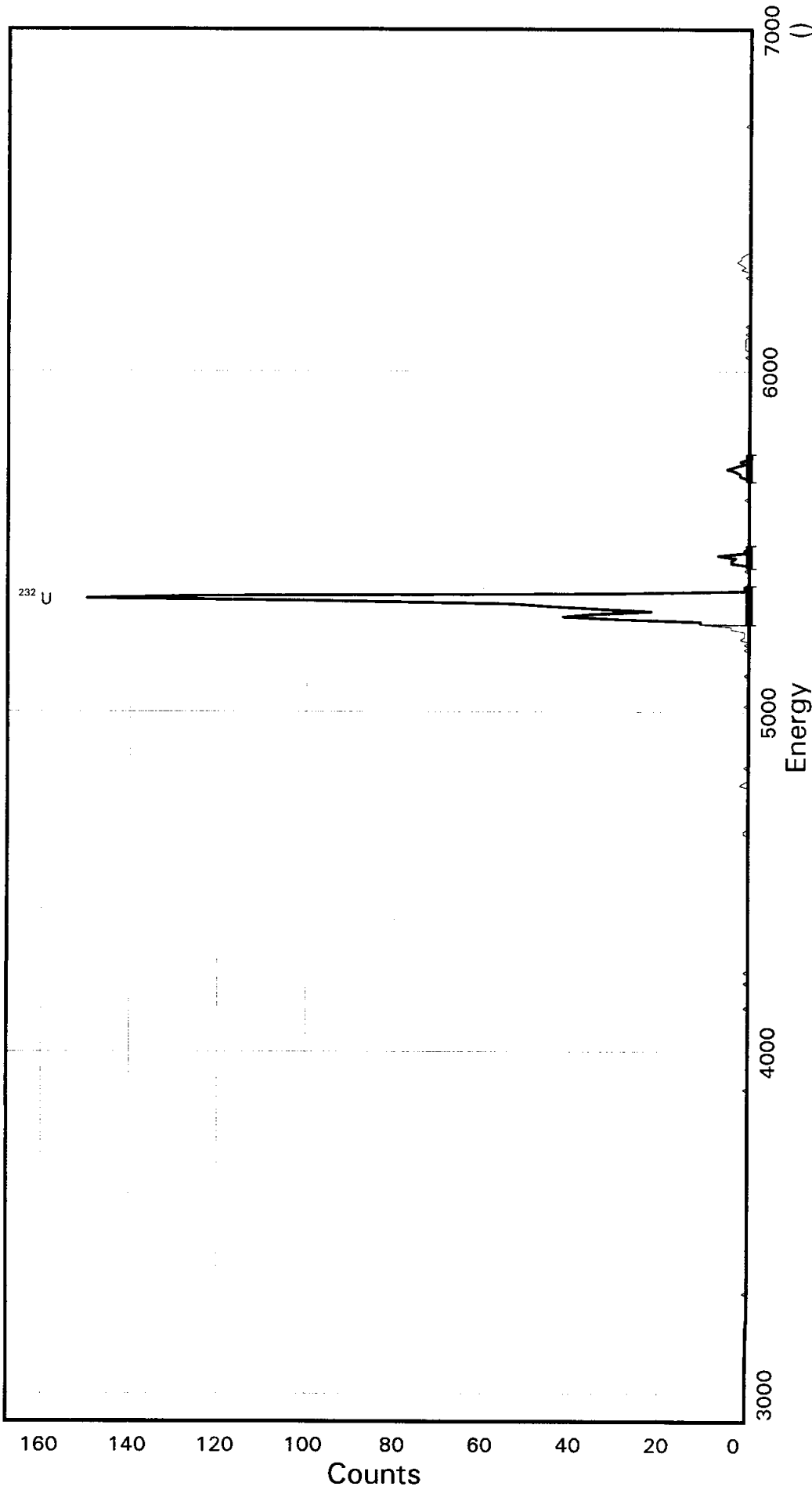
BRLO 1/24/08 8030200

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS			Det #	Comments/Edits
		U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)		
<u>KGAD61AA</u>	See Counting Room Printout for ROI information				<u>1</u>	
<u>KGAD61AC</u>	See Counting Room Printout for ROI information				<u>2</u>	
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
	See Counting Room Printout for ROI information					
Comments:						

TAL Richland WA.
U BRCO

Sample ID: KGAD61AA
Detector ID: ALP1 1

Batch ID: 8030200



Acquisition Start: 20-FEB-2008 20:31:24.09
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:
Offset: 2.89653E+03
Slope: 7.45256E+00
Quadrature: 4.73726E-05

SAMPLE IDENTIITY: KGAD61AA

TITLE : U BRCO

DETECTOR : ALP1 1
CONFIGURATION NAME : \$DISK1:[ALP1.SAMPLE]KGAD61AA_200282031.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:30

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00
ACQUIRE DATE: 20-FEB-2008 20:31:24 CALIB DATE : 04-FEB-2008 03:38:52

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

OFFSET : 2896.53 keV CONSTANT FWHM : 8.00000 Channels
SLOPE : 7.45256 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 4.737260E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KGAD61AA

Flags Key

Detector: ALP1 1
 Report Date: 20-Feb-08 11:51 PM P: Peak Identified
 Acquire Date: 20-FEB-2008 20:31:24.09 I: Peak Intersect
 Tracer Nuclide: U-232 S: Single Non-peak Intersect
 High Counts Limit: 36 M: Multiple Non-peak Intersect
 Sample Live Time: 200 minutes H: High Non-peak Sample Count
 Bkgrnd Live Time: 1000 minutes A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrstct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth	Rght Wdth	Flags
U-232	690	12	0	3.437	5328.3	112.2	316	331	0.00	0.00	P
U-234	3	2	0	0.013	4782.8	112.1	243	258	0.00	0.00	
U-235	0	0	0	0.000	4406.0	112.1	193	208	0.00	0.00	
U-238	2	1	0	0.009	4206.2	112.0	166	181	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 23:51:44

Configuration : \$DISK1:[ALP1.SAMPLE]KGAD61AA_200282031.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : U BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 20:31:24
 Sample ID : KGAD61AA Sample quantity : 0.00000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP1 Detector geometry:
 Elapsed live time: 0 03:20:04.00 Elapsed real time: 0 03:20:04.00 0.0%
 Start energy : 2918.88 End energy : 6724.65
 Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5328.34	690	0	29.81	325.63	316	15	5.75E-02	3.8	
2	0	5453.65	21	0	29.81	342.37	338	9	1.75E-03	21.8	
3	0	5708.84	18	0	29.81	376.46	372	11	1.50E-03	23.6	

Alpha Spectrum Listing

(Version: 1-Apr 07)

Sample Identity: KGAD61AA

Flags Key

Detector: ALP1 1

Report Date: 20 Feb 08 11:51 PM

Intersect Region: 0

Acquire Date: 20-FEB-2008 20:31:24.09

Non Intersect Region: +, -

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

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

Configuration: \$DISK1:[ALP1.SAMPLE]KGAD61AA_200282031.CNF;1

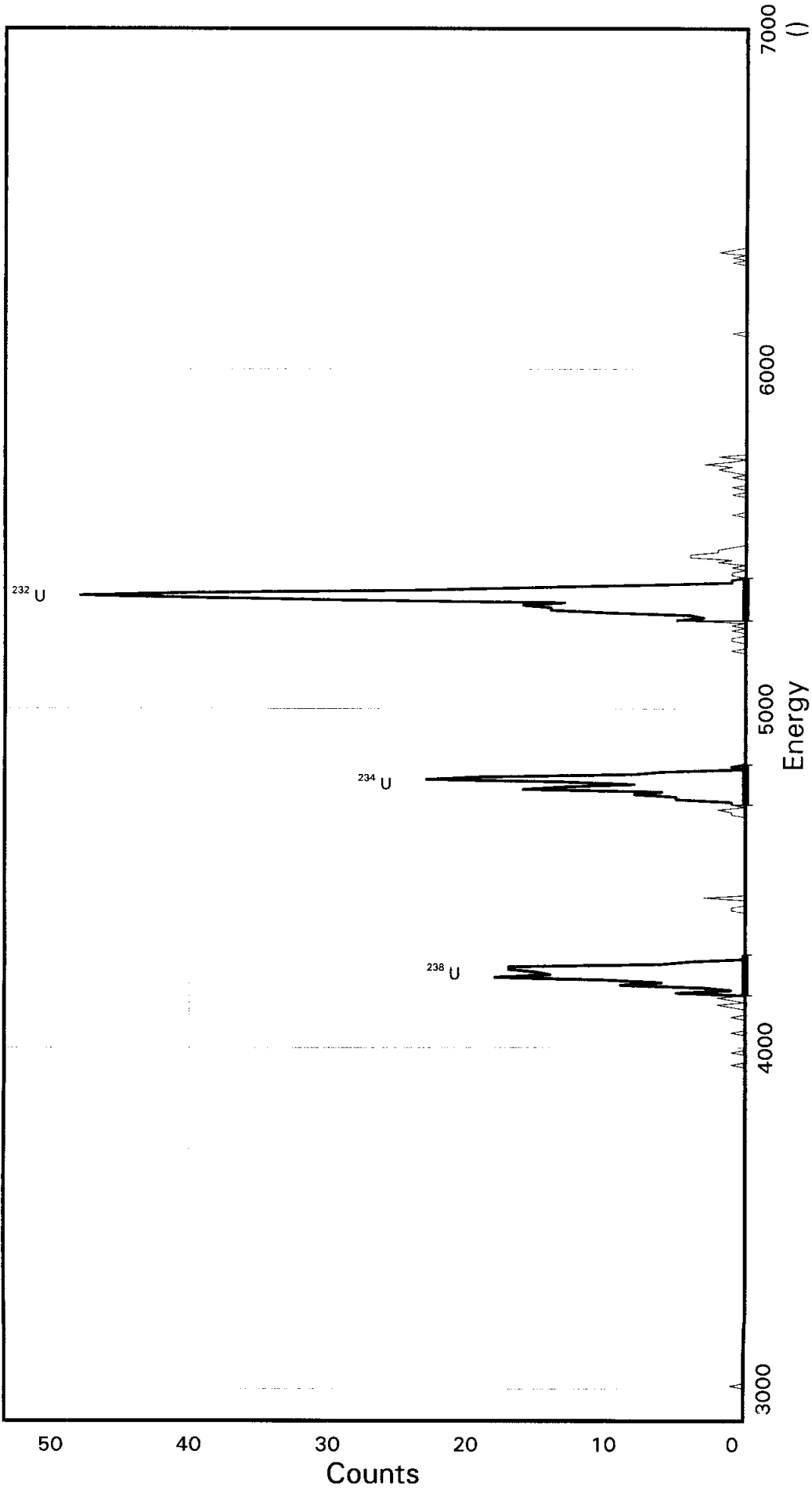
Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
5328.34	316	331	690	682	0.30		
5453.64	338	347	21	20	0.22		
5708.84	372	383	18	18	0.00		

End of Report

TAL Richland WA.
U BRCO

Sample ID: KGAD61AC
Detector ID: ALP2 1

Batch ID: 8030200



Acquisition Start: 20-FEB-2008 20:31:36.70
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 2.88374E + 03
Slope: 7.38355E + 00
Quadrature: 4.94405E-05

SAMPLE IDENTIITY: KGAD61AC

TITLE : U BRCO

DETECTOR : ALP2 1

CONFIGURATION NAME : \$DISK1:[ALP2.SAMPLE] KGAD61AC_200282031.CNF;1

ACQUIRE DATE of BACKGROUND: 04-FEB-2008 06:06:36

REPORT DATE : 20-Feb-08 SAMPLE DATE: 24-JAN-2008 12:00:00

ACQUIRE DATE: 20-FEB-2008 20:31:36 CALIB DATE : 04-FEB-2008 03:39:03

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

OFFSET : 2883.74 keV CONSTANT FWHM : 9.33333 Channels

SLOPE : 7.38355 keV/C SENSITIVITY : 4.00000 Std Dev's

QUAD COEFF : 4.944050E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 1-Apr-07)

Sample Identity: KGAD61AC

Flags Key

Detector: ALP2 1
 Report Date: 20-Feb-08 11:51 PM P: Peak Identified
 Acquire Date: 20-FEB-2008 20:31:36.70 I: Peak Intersect
 Tracer Nuclide: U-232 S: Single Non-peak Intersect
 High Counts Limit: 36 M: Multiple Non-peak Intersect
 Sample Live Time: 200 minutes H: High Non-peak Sample Count
 Bkgrnd Live Time: 1000 minutes A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrscnt Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Right Chnl	Left Wdth	Right Wdth	Flags
U-232	285	12	0	1.413	5330.4	126.1	321	338	0.00	0.00	P
U-234	134	0	0	0.670	4784.9	118.5	248	264	0.00	0.00	P
U-235	5	1	0	0.024	4408.1	125.9	197	214	0.00	0.00	
U-238	127	0	0	0.635	4208.3	118.4	172	188	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

VMS Peak Search Report V1.9 Generated 20-FEB-2008 23:51:56

Configuration : \$DISK1:[ALP2.SAMPLE]KGAD61AC_200282031.CNF;1
 Analyses by : ALPHA V1.8
 Sample title : U BRCO
 Sample date : 24-JAN-2008 12:00:00 Acquisition date : 20-FEB-2008 20:31:36
 Sample ID : KGAD61AC Sample quantity : 0.00000E+00 LITER
 Sample type : disk Sample geometry :
 Detector name : ALP2 Detector geometry:
 Elapsed live time: 0 03:20:03.00 Elapsed real time: 0 03:20:03.00 0.0%
 Start energy : 2905.89 End energy : 6677.08
 Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4218.33	127	0	59.07	180.53	172	16	1.06E-02	8.9	
2	0	4780.22	134	0	66.45	256.41	248	16	1.12E-02	8.6	
3	0	5330.45	285	0	44.30	330.64	321	17	2.37E-02	5.9	

Alpha Spectrum Listing

(Version: 1-Apr-07)

Sample Identity: KGAD61AC

Flags Key

Detector: ALP2 1

Report Date: 20-Feb-08 11:51 PM

Intersect Region: @

Acquire Date: 20-FEB 2008 20:31:36.70

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

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

Configuration: \$DISK1:[ALP2.SAMPLE]KGAD61AC_200282031.CNF;1

Peak Energy	Left Chan	Right Chan	Peak Area	Total Counts	Diff/StDev	Overlap Counts	Multiplet Diff/StDev
4218.32	172	188	127	125	0.18		
4780.22	248	264	134	133	0.09		
5330.44	321	338	285	284	0.06		

End of Report

URANIUM ISOTOPIC
STANDARDS AND TRACEABILITY

Standard Material Fractions (Vials)

Vial Prep: 3/30/07 to 3/31/08, SMFractionIdentifier Between UITC19425 and UITC19441, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep, Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: U23201A131		Ref: 6/15/2001	5.3490E+01	± 1.664E+00	DPM/G	
UITC19425	U-232	1.0080E+01 ± 3.137E-01 DPM	0.2014 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19426	U-232	1.0065E+01 ± 3.132E-01 DPM	0.2011 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19427	U-232	1.0040E+01 ± 3.124E-01 DPM	0.2006 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19428	U-232	1.0040E+01 ± 3.124E-01 DPM	0.2006 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19429	U-232	1.0080E+01 ± 3.137E-01 DPM	0.2014 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19430	U-232	1.0075E+01 ± 3.135E-01 DPM	0.2013 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19431	U-232	1.0040E+01 ± 3.124E-01 DPM	0.2006 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19432	U-232	1.0040E+01 ± 3.124E-01 DPM	0.2006 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19433	U-232	1.0045E+01 ± 3.126E-01 DPM	0.2007 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19434	U-232	1.0065E+01 ± 3.132E-01 DPM	0.2011 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19435	U-232	1.0090E+01 ± 3.140E-01 DPM	0.2016 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19436	U-232	1.0075E+01 ± 3.135E-01 DPM	0.2013 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19437	U-232	1.0060E+01 ± 3.130E-01 DPM	0.201 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19438	U-232	1.0040E+01 ± 3.124E-01 DPM	0.2006 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19439	U-232	1.0005E+01 ± 3.113E-01 DPM	0.1999 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19440	U-232	1.0030E+01 ± 3.121E-01 DPM	0.2004 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UITC19441	U-232	1.0070E+01 ± 3.133E-01 DPM	0.2012 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G

1.0055E+001 ± 2.249E-002 (17) 0.224% 1.0005E+001 , 1.0090E+001

Standard Material Fractions (Vials)

Vial Prep: 3/30/07 to 3/31/08, SMFractionIdentifier Between UISG1600 and UISG1601, Order by SMIdentifier, ConstituentCode, SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: U23201A131		Ref: 6/15/2001	5.3490E+01	± 1.664E+00	DPM/G	
UISG1600	U-232	1.0060E+01 ± 3.130E-01 DPM	0.201 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
UISG1601	U-232	1.0030E+01 ± 3.121E-01 DPM	0.2004 g	1/24/2008 1/24/2008	Armstron	5.0049E+01 ± 1.557E+00 DPM/G
		1.0045E+001 ± 2.123E-002 (2)	0.211%	1.0030E+001 , 1.0060E+001		

U23201A

U23201A000 #4911
4.8E+7 ± 1.5E+6
dpm/g
6/1/01 REF



U23201A100 #4920
1.896E+6 ± 5.9E+4
dpm/g
6/15/01 PREP



U23201A130 #6281
1.33E+4 ± 4.1E+2
dpm/g
1/10/08 PREP



U23201A131 #6282
53.49 ± 1.66
dpm/g
1/10/08 PREP

ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>1/10/2008</u>
3) Source Identification Number / Ref. Number	<u>U23201A130</u>	<u>6281</u>	
4) Source Activity (dpm ± dpm/g)	<u>1.3382E+04</u>	±	<u>4.162E+02</u>
5) Percent error of Source Activity	<u>3.11</u>	%	
6) Weight of Source Material used (g)	<u>1.0212</u>		
7) (% Error) of Weight of Source Material used	<u>0.0294</u>	%	
8) Diluent	<u>2 M HNO3</u>		
9) Total Weight of the Dilution (g)	<u>255.48</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.0068</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>5.3490E+01</u>	±	<u>1.664E+00</u>
12) Total Uncertainty	<u>3.110</u>	%	
13) Dilution Identification Number / Ref. Number	<u>U23201A131</u>	<u>6282</u>	
14) Calibration Reference Date	<u>6/15/2001</u>		
15) Isotope Inventory File update by/date	<u>tda</u>	<u>1/10/2008</u>	
16) Reviewed by/date	<u></u>	<u></u>	
17) Location	<u>Lab 134A</u>	18) Exhausted	<u></u>

CALCULATIONS

5) Cert value at 99.7% (K=3) level / 3 OR Cert Value 95% (K=2) level/2 = 1 sigma uncertainty for propagation

7) % error of wt. used = (0.0003 / weight of source material used * 100)
wt uncert (4 place balance) = Sqrt(0.0002² + 0.0002² + 0.00001²) = 0.0003 g

10) % error of dilution wt. = (0.0173 / total weight of dilution * 100)
wt uncert (0.1 place balance) = Sqrt(0.1² + 0.1² + 0.1²) = 0.178 g

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>1/10/2008</u>
3) Source Identification Number / Ref. Number	<u>U23201A100</u>	<u>4920</u>	
4) Source Activity (dpm ± dpm/g)	<u>1.8963E+06</u>	±	<u>5.897E+04</u>
5) Percent error of Source Activity	<u>3.11</u>	%	
6) Weight of Source Material used (g)	<u>1.7787</u>		
7) (% Error) of Weight of Source Material used	<u>0.0169</u>	%	
8) Diluent	<u>2 M HNO3</u>		
9) Total Weight of the Dilution (g)	<u>252.06</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.0069</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>1.3382E+04</u>	±	<u>4.162E+02</u>
12) Total Uncertainty	<u>3.110</u>	%	
13) Dilution Identification Number / Ref. Number	<u>U23201A130</u>	<u>6281</u>	
14) Calibration Reference Date	<u>6/15/2001</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>1/10/2008</u>
16) Reviewed by/date	<u></u>		<u></u>
17) Location	<u>Lab 134A</u>	18) Exhausted	<u></u>

CALCULATIONS

5) Cert value at 99.7% (K=3) level / 3 OR Cert Value 95% (K=2) level/2 = 1 sigma uncertainty for propagation

7) % error of wt. used = (0.0003 / weight of source material used * 100)

$$\text{wt uncert (4 place balance)} = \text{Sqrt}(0.0002^2 + 0.0002^2 + 0.00001^2) = 0.0003 \text{ g}$$

10) % error of dilution wt. = (0.0173 / total weight of dilution * 100)

$$\text{wt uncert (0.1 place balance)} = \text{Sqrt}(0.1^2 + 0.1^2 + 0.1^2) = 0.178 \text{ g}$$

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

$$12) \% \text{ Total Uncertainty} = \sqrt{(\% \text{ error of Source Activity}^2 + \% \text{ error of Wt. Used}^2 + \% \text{ error of Dilution Wt.}^2)}$$

ISOTOPE DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>6/15/2001</u>
3) Source Identification Number / Ref. Number	<u>U23201A000</u>	<u>4911</u>	
4) Source Activity (dpm ± dpm/g)	<u>4.8289E+07</u>	±	<u>1.497E+06</u>
5) Percent error of Source Activity	<u>3.1</u>	%	
6) Weight of Source Material used (g)	<u>5.1444</u>		
7) (% Error) of Weight of Source Material used	<u>0.0933</u>	%	
8) Diluent	<u>2M HNO3-P0100281</u>		
9) Total Weight of the Dilution (g)	<u>131</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2290</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>1.8963E+06</u>	±	<u>5.897E+04</u>
12) Total Uncertainty	<u>3.110</u>	%	
13) Dilution Identification Number / Ref. Number	<u>U23201A100</u>	<u>4920</u>	
14) Calibration Reference Date	<u>6/15/2001</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>	<u>6/15/2001</u>	
16) Reviewed by/date	<u>rross</u>	<u>6/20/2001</u>	
17) Location <u>QCLABSTWT0413</u>	18) Exhausted		

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity } ^2 + \% \text{ error of Wt. Used } ^2 + \% \text{ error of Dilution Wt. } ^2)}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE RECORD FORM

1) Isotope U-232 2) Reference Number 4911
3) Half Life 69.9 yrs 4) Storage Location STDLAB

5) Source Identification Number U23201A000

CALIBRATION DATA

6) Activity as Received Units 21.76 uCi/g

7) Overall Uncertainty Percent 3.1%

8) Reference Date / Time 6/1/01 12:00 PST (12:00 PM)

9) Activity dpm/g 4.8307E+07 ± 1.4975E+06 dpm

10) Volume or Mass (ml/g) 5.18455g

11) Calibrated by IPL

12) Certificate Solution Number 763-34-3

SURVEY DATA

13) Date Received 6/4/2001

14) Surveyed by W.G

15) Survey Reading (Beta/Gamma) cpm <1k

16) Survey Reading (Alpha) cpm <100 cpm

17) Activity Conversion _____

21.76 uCi/g x 2.22E+6dpm/uCi= 4.831E+7 ± 1.498E+6 (3.1%) dpm/g

18) Remarks _____

19) Isotope File Updated by 6/4/01 W.G

20) QC Approved rross 6/20/01

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: U3O808A100		Ref: 8/1/1957	1.1369E+01 ± 3.506E-01	UG/G		
UISG1600	U	5.2195E+00 ± 1.610E-01 UG	0.4591 g	1/24/2008 1/24/2008	Armstron	1.1369E+01 ± 3.506E-01 UG/G
UISG1601	U	5.2422E+00 ± 1.617E-01 UG	0.4611 g	1/24/2008 1/24/2008	Armstron	1.1369E+01 ± 3.506E-01 UG/G

5.2309E+000 ± 1.608E-002 (2) 0.307% 5.2195E+000 , 5.2422E+000

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: U3O808A100		Ref: 8/1/1957	1.7485E+01	± 5.390E-01	DPM/G	
UISG1600	Uiso	8.0276E+00 ± 2.475E-01 DPM	0.4591 g	1/24/2008 1/24/2008	Armstron	1.7485E+01 ± 5.390E-01 DPM/G
UISG1601	Uiso	8.0626E+00 ± 2.485E-01 DPM	0.4611 g	1/24/2008 1/24/2008	Armstron	1.7485E+01 ± 5.390E-01 DPM/G

8.0451E+000 ± 2.473E-002 (2) 0.307% 8.0276E+000 , 8.0626E+000

U3O808A

U3O808A100 #6283
17.855 ± 0.539
dpm/g
8/1/57 REF

ISOTOPE DILUTION RECORD

1) Prepared by tda 2) Date Prepared 8/12/2004

3) Source Identification Number / Ref. Number U23801ALA2

4) Source Activity (dpm ± dpm/g) 1.7486E+01 ± 5.390E-01

5) Source Activity (ug ± ug/g) 1.1369E+01 3.5046E-01

6) Percent error of Source Activity 3.083 %

7) Weight of Source Material used (g) 500

8) (% Error) of Weight of Source Material used 0.0000 %

9) Diluent 1 M HNO3

10) Total Weight of the Dilution (g) 500

11) (% Error) of Total Weight of the Dilution 0.0036 %

12) Specific Activity of Diluted Solution dpm/g 1.7486E+01 ± 5.392E-01

13) Specific Activity of Diluted Solution ug/g 1.1369E+01 ± 3.506E-01

14) Specific Activity of Diluted Solution ug/ml 1.2120E+01 3.737E-01

15) Total Uncertainty 3.084 %

16) Dilution Identification Number / Ref. Number U3O808A100 6283

17) Calibration Reference Date 8/1/1957

18) Isotope Inventory File update by/date tda 1/14/2008

19) Reviewed by/date _____

20) Location 134A 21) Exhausted _____

CALCULATIONS

5) Cert value at 99.7% (K=3) level / 3 OR Cert Value 95% (K=2) level/2 = 1 sigma uncertainty for propagation

7) % error of wt. used = (0.0003 / weight of source material used * 100)
 wt uncert (4 place balance) = $\text{Sqrt}(0.0002^2 + 0.0002^2 + 0.00001^2) = 0.0003 \text{ g}$

10) % error of dilution wt. = (0.0173 / total weight of dilution * 100)
 wt uncert (0.1 place balance) = $\text{Sqrt}(0.1^2 + 0.1^2 + 0.1^2) = 0.178 \text{ g}$

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity}^2 + \% \text{ error of Wt. Used}^2 + \% \text{ error of Dilution Wt.}^2)}$

ISOTOPE RECORD FORM

1) Isotope U-NAT 2) Reference Number 6283

3) Half Life Neglible Decay 4) Storage Location Standards Lab 134A

5) Source Identification Number U3O808A100 #6283

CALIBRATION DATA

6) Activity as Received Units 7.9 pCi/mL

7) Overall Uncertainty Percent 3.1%

8) Reference Date / Time 8/1/1957

9) Activity dpm/g 17.4855 ± 0.539 dpm/g

10) Volume or Mass (ml/g) 500 g

11) Calibrated by North American Scientific

12) Certificate Solution Number 9059

SURVEY DATA

13) Date Received 1/14/2008

14) Surveyed by tda

15) Survey Reading (Beta/Gamma) cpm < BKGD

16) Survey Reading (Alpha) cpm <BKGD

17) Activity Conversion 7.9 pCi/mL * 2.22 dpm/pCi / 1.003 g/mL

17.4855 ± 0.539 dpm/g

18) Remarks From STL DENVER

19) Isotope File Updated by tda 1/14/2008

20) QC Approved _____

URANIUM ISOTOPIC
CONTINUING CALIBRATION

Quality Assurance Report.

Generated 25-MAR-2008 18:43:16.07

QA Filename : RDND06::RDND06\$DKA100:[ALP85.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Centroid, U-238

Parameter Units : channel Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 178.987595 Std Deviation : 0.554493

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-FEB-2008 10:32	chk		179.4652		
4-MAR-2008 08:01	chk		179.7725		
5-MAR-2008 07:45	chk		179.7853		

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 10.002033 Std Deviation : 0.411983

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-FEB-2008 10:32	chk		10.5000		
4-MAR-2008 08:01	chk		10.6667		
5-MAR-2008 07:45	chk		10.5000		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.259756 Std Deviation : 0.020648

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-FEB-2008 10:32	chk		0.2574	
4-MAR-2008 08:01	chk		0.2561	
5-MAR-2008 07:45	chk		0.2557	

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.248831 Std Deviation : 0.020014

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-FEB-2008 10:32	chk		0.2465	
4-MAR-2008 08:01	chk		0.2485	
5-MAR-2008 07:45	chk		0.2483	

Quality Assurance Multi-Test Full Report (continued) Page : 2

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.156329 Std Deviation : 0.084460

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-FEB-2008 10:32	chk		6.9612	In
4-MAR-2008 08:01	chk		6.8716	Ac
5-MAR-2008 07:45	chk		6.9269	In

Quality Assurance Report. Generated 25-MAR-2008 18:43:20.80

QA Filename : RDND06::RDND06\$DKA100:[ALP85.QA]GROUP_1_BKG.QAF;2

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001909 Std Deviation : 0.001043

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0016	
6-MAR-2008 05:52	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004704 Std Deviation : 0.002121

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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2-FEB-2008 06:19 bkg 0.0048 | | |
 6-MAR-2008 05:52 bkg 0.0024 | | |

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.010453 Std Deviation : 0.004196

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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2-FEB-2008 06:19 bkg			0.0104	
6-MAR-2008 05:52 bkg			0.0072	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.054230 Std Deviation : 0.019659

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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2-FEB-2008 06:19 bkg			0.0500	
6-MAR-2008 05:52 bkg			0.0464	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.050381 Std Deviation : 0.018250

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
2-FEB-2008 06:19	bkg		0.0496		
6-MAR-2008 05:52	bkg		0.0432		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.043959 Std Deviation : 0.016428

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
2-FEB-2008 06:19	bkg		0.0404		
6-MAR-2008 05:52	bkg		0.0388		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.032458 Std Deviation : 0.012600

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
2-FEB-2008 06:19	bkg		0.0304		
6-MAR-2008 05:52	bkg		0.0272		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.016708 Std Deviation : 0.006728

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-FEB-2008 06:19	bkg		0.0112		
6-MAR-2008 05:52	bkg		0.0132		

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000613 Std Deviation : 0.000671

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-FEB-2008 06:19	bkg		0.0004		
6-MAR-2008 05:52	bkg		0.0004		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001278 Std Deviation : 0.001092

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0016	
6-MAR-2008 05:52	bkg		0.0008	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001736 Std Deviation : 0.001085

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0020	
6-MAR-2008 05:52	bkg		0.0016	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.059025 Std Deviation : 0.021147

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

2-FEB-2008 06:19 bkg 0.0524 | | |
 6-MAR-2008 05:52 bkg 0.0484 | | |

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000787 Std Deviation : 0.000849

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0008	
6-MAR-2008 05:52	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000773 Std Deviation : 0.000733

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0004	
6-MAR-2008 05:52	bkg		0.0008	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001478 Std Deviation : 0.000904

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0020	
6-MAR-2008 05:52	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.016593 Std Deviation : 0.006347

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0144	
6-MAR-2008 05:52	bkg		0.0140	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001565 Std Deviation : 0.000986

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0020	
6-MAR-2008 05:52	bkg		0.0016	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001871 Std Deviation : 0.001031

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
2-FEB-2008 06:19	bkg		0.0012		
6-MAR-2008 05:52	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cpm Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 5-APR-1996 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.013716 Std Deviation : 0.005278

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
2-FEB-2008 06:19	bkg		0.0112		
6-MAR-2008 05:52	bkg		0.0112		

Quality Assurance Report.

Generated 25-MAR-2008 18:41:45.81

QA Filename : RDND06::RDND06\$DKA100:[ALP84.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Centroid, U-238

Parameter Units : channel Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-FEB-2008 10:32	chk		177.2343		
4-MAR-2008 08:01	chk		177.1821		

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-FEB-2008 10:32	chk		4.5000		
4-MAR-2008 08:01	chk		4.5000		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-FEB-2008 10:32	chk		0.3019		
4-MAR-2008 08:01	chk		0.3057		

-- Multi-Test Full Report --

Description : Efficiency, Po-210

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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1-FEB-2008 10:32	chk	0.3281	
4-MAR-2008 08:01	chk	0.3347	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-FEB-2008 10:32	chk		7.3040	
4-MAR-2008 08:01	chk		7.2901	

Quality Assurance Report. Generated 25-MAR-2008 18:41:46.93

QA Filename : RDND06::RDND06\$DKA100:[ALP84.QA]GROUP_1_BKG.QAF;2

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0012	
5-MAR-2008 07:45	bkg		0.0008	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0004	
5-MAR-2008 07:45	bkg		0.0004	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0324	
5-MAR-2008 07:45	bkg		0.0348	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0304	
5-MAR-2008 07:45	bkg		0.0256	

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0012	
5-MAR-2008 07:45	bkg		0.0012	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0004	
5-MAR-2008 07:45	bkg		0.0016	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0012	
5-MAR-2008 07:45	bkg		0.0008	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0400	
5-MAR-2008 07:45	bkg		0.0432	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0004	
5-MAR-2008 07:45	bkg		0.0008	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0000	
5-MAR-2008 07:45	bkg		0.0004	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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2-FEB-2008 06:19 bkg	0.0004	
5-MAR-2008 07:45 bkg	0.0008	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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2-FEB-2008 06:19 bkg	0.0036	
5-MAR-2008 07:45 bkg	0.0088	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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2-FEB-2008 06:19 bkg	0.0004	
5-MAR-2008 07:45 bkg	0.0008	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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2-FEB-2008 06:19 bkg	0.0012	
5-MAR-2008 07:45 bkg	0.0012	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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2-FEB-2008 06:19 bkg

0.0024 | | |

5-MAR-2008 07:45 bkg

0.0060 | | |

Quality Assurance Report.

Generated 25-MAR-2008 18:39:58.35

QA Filename : RDND06::RDND06\$DKA100:[ALP71.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Efficiency, Pu-239

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.367835 Std Deviation : 0.042305

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:10	chk		0.3692		
12-MAR-2008 06:18	chk		0.3660		

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.643366 Std Deviation : 0.481167

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:10	chk		9.0000		
12-MAR-2008 06:18	chk		9.5000		

-- Multi-Test Full Report --

Description : Centroid, Pu-239

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
Mean : 309.565918 Std Deviation : 0.444359

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:10	chk		309.1642		
12-MAR-2008 06:18	chk		309.1970		

10-FEB-2008 10:10	chk		309.1642		
12-MAR-2008 06:18	chk		309.1970		

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.350297 Std Deviation : 0.039993

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:10	chk		0.3525		
12-MAR-2008 06:18	chk		0.3532		

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 10:10	chk		0.3525		
12-MAR-2008 06:18	chk		0.3532		

10-FEB-2008 10:10	chk		0.3525		
12-MAR-2008 06:18	chk		0.3532		

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 10.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00

Mean : 6.503654 Std Deviation : 0.036767

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 10:10	chk		6.4385	
12-MAR-2008 06:18	chk		6.4935	

Quality Assurance Report. Generated 25-MAR-2008 18:40:01.65

QA Filename : RDND06::RDND06\$DKA100:[ALP71.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001237 Std Deviation : 0.004562

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0008	
13-MAR-2008 08:35	bkg		0.0024	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001755 Std Deviation : 0.004494

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0008	
13-MAR-2008 08:35	bkg		0.0012	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000631 Std Deviation : 0.001187

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0004		
13-MAR-2008 08:35	bkg		0.0004		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001173 Std Deviation : 0.001900

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0004		
13-MAR-2008 08:35	bkg		0.0000		

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0004		
13-MAR-2008 08:35	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001546 Std Deviation : 0.001743

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0020		
13-MAR-2008 08:35	bkg		0.0008		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001515 Std Deviation : 0.001627

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0016		
13-MAR-2008 08:35	bkg		0.0012		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001133 Std Deviation : 0.000987

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0016		
13-MAR-2008 08:35	bkg		0.0012		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000945 Std Deviation : 0.000862

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

Quality Assurance Multi-Test Full Report (continued)				Page : 3	

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

11-FEB-2008 06:14	bkg		0.0012		
13-MAR-2008 08:35	bkg		0.0012		

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000860 Std Deviation : 0.000850

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

11-FEB-2008 06:14	bkg		0.0008		
13-MAR-2008 08:35	bkg		0.0008		

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001521 Std Deviation : 0.000781

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0032	In
13-MAR-2008 08:35	bkg		0.0008	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002475 Std Deviation : 0.001494

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0032	
13-MAR-2008 08:35	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003365 Std Deviation : 0.001981

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-FEB-2008 06:14	bkg		0.0048	
13-MAR-2008 08:35	bkg		0.0056	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004239 Std Deviation : 0.002493

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0088		
13-MAR-2008 08:35	bkg		0.0080		

 11-FEB-2008 06:14 bkg 0.0088 |||
 13-MAR-2008 08:35 bkg 0.0080 |||

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.032858 Std Deviation : 0.016149

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:14	bkg		0.0528		
13-MAR-2008 08:35	bkg		0.0588		

 11-FEB-2008 06:14 bkg 0.0528 |||
 13-MAR-2008 08:35 bkg 0.0588 |||

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.033497 Std Deviation : 0.016117

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14	bkg		0.0512	
13-MAR-2008 08:35	bkg		0.0544	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.032111 Std Deviation : 0.015416

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14	bkg		0.0496	
13-MAR-2008 08:35	bkg		0.0512	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.029023 Std Deviation : 0.013599

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 06:14	bkg		0.0460	
13-MAR-2008 08:35	bkg		0.0416	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.019285 Std Deviation : 0.009057

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

11-FEB-2008 06:14	bkg		0.0340		
13-MAR-2008 08:35	bkg		0.0252		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 27-NOV-2000 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.009300 Std Deviation : 0.004580

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

11-FEB-2008 06:14	bkg		0.0188	In	
13-MAR-2008 08:35	bkg		0.0156		

Quality Assurance Report.

Generated 25-MAR-2008 18:34:49.56

QA Filename : \$DISK1:[ALP12.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241

Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.472897 Std Deviation : 0.026710

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		0.4765		
1-MAR-2008 05:27	chk		0.4797		

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 6.415493 Std Deviation : 0.757436

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		6.5000		
1-MAR-2008 05:27	chk		7.0000		

-- Multi-Test Full Report --

Description : Centroid, Am-241

Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 325.843781 Std Deviation : 2.487901

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		326.1103		
1-MAR-2008 05:27	chk		326.5788		

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.365750 Std Deviation : 0.021007

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		0.3700		
1-MAR-2008 05:27	chk		0.3761		

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		0.3700		
1-MAR-2008 05:27	chk		0.3761		

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 6.563601 Std Deviation : 0.046939Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 6.563601 Std Deviation : 0.046939

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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3-FEB-2008 10:58  chk                6.5276  | | |
1-MAR-2008 05:27  chk                6.5515  | | |

```

Quality Assurance Report. Generated 25-MAR-2008 18:34:50.24

QA Filename : \$DISK1:[ALP12.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000474 Std Deviation : 0.000697

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```

-----
4-FEB-2008 06:07  bkg                0.0000  | | |
2-MAR-2008 06:38  bkg                0.0000  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000628 Std Deviation : 0.000807

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```

-----
4-FEB-2008 06:07  bkg                0.0000  | | |
2-MAR-2008 06:38  bkg                0.0010  | | |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000359 Std Deviation : 0.000558

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000602 Std Deviation : 0.000795

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0020		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000769 Std Deviation : 0.001018

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000756 Std Deviation : 0.001047

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000641 Std Deviation : 0.000867

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000474 Std Deviation : 0.000678

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:07	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000500 Std Deviation : 0.000734

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:07	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001128 Std Deviation : 0.001097

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0020	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002538 Std Deviation : 0.002160

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003333 Std Deviation : 0.002399

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0030	
2-MAR-2008 06:38	bkg		0.0080	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004487 Std Deviation : 0.003238

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0030		
2-MAR-2008 06:38	bkg		0.0100		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.038316 Std Deviation : 0.025075

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0880		
2-MAR-2008 06:38	bkg		0.0720		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.037431 Std Deviation : 0.024601

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg 0.0900 |In| |
 2-MAR-2008 06:38 bkg 0.0640 | | |

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.035816 Std Deviation : 0.023511

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg			0.0850	In	
2-MAR-2008 06:38 bkg			0.0630		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.031483 Std Deviation : 0.020756

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg			0.0450		
2-MAR-2008 06:38 bkg			0.0490		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.020280 Std Deviation : 0.014349

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0350		
2-MAR-2008 06:38	bkg		0.0350		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-MAY-2003 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.009319 Std Deviation : 0.006282

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0150		
2-MAR-2008 06:38	bkg		0.0170		

Quality Assurance Report. Generated 25-MAR-2008 18:32:38.70

QA Filename : \$DISK1:[ALP11.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.426378 Std Deviation : 0.004584

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.4213	
1-MAR-2008 05:27	chk		0.4262	

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 8.180556 Std Deviation : 0.289357

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		8.0000	
1-MAR-2008 05:27	chk		8.3333	

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 341.434998 Std Deviation : 1.133752

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		342.0939	
1-MAR-2008 05:27	chk		342.1916	

3-FEB-2008 10:58	chk		342.0939	
1-MAR-2008 05:27	chk		342.1916	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.429114 Std Deviation : 0.002704

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.4312	
1-MAR-2008 05:27	chk		0.4293	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.4312	
1-MAR-2008 05:27	chk		0.4293	

3-FEB-2008 10:58	chk		0.4312	
1-MAR-2008 05:27	chk		0.4293	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 6.419388 Std Deviation : 0.043074

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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-----
3-FEB-2008 10:58  chk          6.4344  | | |
1-MAR-2008 05:27  chk          6.4528  | | |
```

Quality Assurance Report. Generated 25-MAR-2008 18:32:39.34

QA Filename : \$DISK1:[ALP11.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000849 Std Deviation : 0.000949

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
4-FEB-2008 06:07  bkg          0.0000  | | |
2-MAR-2008 06:38  bkg          0.0020  | | |
```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001302 Std Deviation : 0.001119

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
4-FEB-2008 06:07  bkg          0.0010  | | |
2-MAR-2008 06:38  bkg          0.0020  | | |
```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000623 Std Deviation : 0.000790

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001132 Std Deviation : 0.001092

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0020		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001377 Std Deviation : 0.001417

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001358 Std Deviation : 0.001415

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001283 Std Deviation : 0.001321

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001207 Std Deviation : 0.001349

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)				Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:07	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001019 Std Deviation : 0.001248

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:07 bkg				0.0010
2-MAR-2008 06:38 bkg				0.0020

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002075 Std Deviation : 0.001651

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0030	
2-MAR-2008 06:38	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004999 Std Deviation : 0.003345

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0050	
2-MAR-2008 06:38	bkg		0.0070	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.005999 Std Deviation : 0.003857

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0060	
2-MAR-2008 06:38	bkg		0.0060	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.006716 Std Deviation : 0.004129

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0090		
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2-MAR-2008 06:38	bkg		0.0070		
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-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.032939 Std Deviation : 0.021276

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0590		
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2-MAR-2008 06:38	bkg		0.0500		
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-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.032921 Std Deviation : 0.021390

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg 0.0610 | | |
 2-MAR-2008 06:38 bkg 0.0560 | | |

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.031506 Std Deviation : 0.020583

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg			0.0590		
2-MAR-2008 06:38 bkg			0.0550		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.026751 Std Deviation : 0.017883

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg			0.0440		
2-MAR-2008 06:38 bkg			0.0560		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.018036 Std Deviation : 0.011937

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0300		
2-MAR-2008 06:38	bkg		0.0300		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.009452 Std Deviation : 0.006921

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0100		
2-MAR-2008 06:38	bkg		0.0200		

Quality Assurance Report. Generated 25-MAR-2008 18:29:41.97

QA Filename : \$DISK1:[ALP10.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.309514 Std Deviation : 0.004136

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.3113	
1-MAR-2008 05:27	chk		0.3124	

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 6.871528 Std Deviation : 0.277697

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		6.6667	
1-MAR-2008 05:27	chk		6.6667	

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 336.913025 Std Deviation : 0.884855

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		335.9507	
1-MAR-2008 05:27	chk		336.0268	

3-FEB-2008 10:58	chk		335.9507	
1-MAR-2008 05:27	chk		336.0268	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.393942 Std Deviation : 0.003594

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.3966	
1-MAR-2008 05:27	chk		0.3933	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.3966	
1-MAR-2008 05:27	chk		0.3933	

3-FEB-2008 10:58	chk		0.3966	
1-MAR-2008 05:27	chk		0.3933	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 6.460815 Std Deviation : 0.032956

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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3-FEB-2008 10:58  chk                6.4673  | | |
1-MAR-2008 05:27  chk                6.4832  | | |

```

Quality Assurance Report. Generated 25-MAR-2008 18:29:42.62

QA Filename : \$DISK1:[ALP10.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000720 Std Deviation : 0.000834

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```

-----
4-FEB-2008 06:07  bkg                0.0000  | | |
2-MAR-2008 06:38  bkg                0.0010  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001100 Std Deviation : 0.001054

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```

-----
4-FEB-2008 06:07  bkg                0.0020  | | |
2-MAR-2008 06:38  bkg                0.0010  | | |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000480 Std Deviation : 0.000931

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000980 Std Deviation : 0.001134

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001360 Std Deviation : 0.001258

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001280 Std Deviation : 0.001125

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000860 Std Deviation : 0.000904

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:07	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000700 Std Deviation : 0.000974

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:07	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000600 Std Deviation : 0.000833

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:07	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001500 Std Deviation : 0.001182

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002480 Std Deviation : 0.001865

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003160 Std Deviation : 0.002262

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003799 Std Deviation : 0.002618

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0040		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.030576 Std Deviation : 0.020744

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0590		
2-MAR-2008 06:38	bkg		0.0510		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.028916 Std Deviation : 0.020062

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg 0.0630 | | |
 2-MAR-2008 06:38 bkg 0.0570 | | |

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.027536 Std Deviation : 0.019106

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:07 bkg			0.0590		
2-MAR-2008 06:38 bkg			0.0540		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.026496 Std Deviation : 0.020217

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg			0.0620		
2-MAR-2008 06:38 bkg			0.0600		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.017718 Std Deviation : 0.014607

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0480	In	
2-MAR-2008 06:38	bkg		0.0470	In	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 31-JAN-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.007619 Std Deviation : 0.005882

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0130		
2-MAR-2008 06:38	bkg		0.0080		

Quality Assurance Report. Generated 25-MAR-2008 18:24:43.12

QA Filename : \$DISK1:[ALP9.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
 Parameter Units : % Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.375765 Std Deviation : 0.004805

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.3781	
1-MAR-2008 05:27	chk		0.3821	

-- Multi-Test Full Report --

Description : Constant FWHM
 Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 5.978633 Std Deviation : 0.327090

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		5.6667	
1-MAR-2008 05:27	chk		5.3333	

-- Multi-Test Full Report --

Description : Centroid, Am-241
 Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 348.659424 Std Deviation : 1.265148

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		347.5289		
1-MAR-2008 05:27	chk		347.6479		

3-FEB-2008 10:58	chk		347.5289		
1-MAR-2008 05:27	chk		347.6479		

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.399313 Std Deviation : 0.002771

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		0.4041		
1-MAR-2008 05:27	chk		0.4030		

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		0.4041		
1-MAR-2008 05:27	chk		0.4030		

3-FEB-2008 10:58	chk		0.4041		
1-MAR-2008 05:27	chk		0.4030		

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 6.388854 Std Deviation : 0.034148

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
3-FEB-2008 10:58  chk          6.3441  | | |
1-MAR-2008 05:27  chk          6.4185  | | |
```

Quality Assurance Report. Generated 25-MAR-2008 18:24:43.75

QA Filename : \$DISK1:[ALP9.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000900 Std Deviation : 0.001033

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
4-FEB-2008 06:07  bkg          0.0030  |In| |
2-MAR-2008 06:38  bkg          0.0000  | | |
```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001025 Std Deviation : 0.000891

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
4-FEB-2008 06:07  bkg          0.0000  | | |
2-MAR-2008 06:38  bkg          0.0010  | | |
```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000425 Std Deviation : 0.000594

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001375 Std Deviation : 0.001191

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001300 Std Deviation : 0.001159

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001300 Std Deviation : 0.001202

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001125 Std Deviation : 0.001244

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001325 Std Deviation : 0.001268

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:07	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001225 Std Deviation : 0.001229

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:07	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000525 Std Deviation : 0.000987

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001800 Std Deviation : 0.001667

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0060	In
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002350 Std Deviation : 0.001791

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:07	bkg		0.0060	In
2-MAR-2008 06:38	bkg		0.0040	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.002650 Std Deviation : 0.002007

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:07	bkg		0.0060		
2-MAR-2008 06:38	bkg		0.0040		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.028122 Std Deviation : 0.018926

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07	bkg		0.0500		
2-MAR-2008 06:38	bkg		0.0440		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.026872 Std Deviation : 0.018140

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg 0.0480 | | |
 2-MAR-2008 06:38 bkg 0.0500 | | |

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.025647 Std Deviation : 0.017446

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg			0.0440		
2-MAR-2008 06:38 bkg			0.0490		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.024822 Std Deviation : 0.017017

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:07 bkg			0.0420		
2-MAR-2008 06:38 bkg			0.0460		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.015073 Std Deviation : 0.011386

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0300		
2-MAR-2008 06:38	bkg		0.0330		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 26-AUG-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.007749 Std Deviation : 0.006041

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:07	bkg		0.0110		
2-MAR-2008 06:38	bkg		0.0160		

Quality Assurance Report. Generated 25-MAR-2008 18:22:41.11

QA Filename : \$DISK1:[ALP8.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.375300 Std Deviation : 0.005814

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		0.3760		
1-MAR-2008 05:27	chk		0.3705		

3-FEB-2008 10:58	chk		0.3760		
1-MAR-2008 05:27	chk		0.3705		

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 8.564816 Std Deviation : 0.215774

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		8.5000		
1-MAR-2008 05:27	chk		8.8333		

3-FEB-2008 10:58	chk		8.5000		
1-MAR-2008 05:27	chk		8.8333		

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 363.823730 Std Deviation : 1.395498

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		364.5159		
1-MAR-2008 05:27	chk		364.9947		

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.388212 Std Deviation : 0.003624

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		0.3892		
1-MAR-2008 05:27	chk		0.3879		

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		0.3892		
1-MAR-2008 05:27	chk		0.3879		

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 7.337713 Std Deviation : 0.059876

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```

-----
3-FEB-2008 10:58  chk          7.3816  | | |
1-MAR-2008 05:27  chk          7.3840  | | |

```

Quality Assurance Report. Generated 25-MAR-2008 18:22:41.82

QA Filename : \$DISK1:[ALP8.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000273 Std Deviation : 0.000489

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```

-----
4-FEB-2008 06:06  bkg          0.0010  | | |
2-MAR-2008 06:38  bkg          0.0010  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000618 Std Deviation : 0.000850

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

```

-----
4-FEB-2008 06:06  bkg          0.0010  | | |
2-MAR-2008 06:38  bkg          0.0030  |In| |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000273 Std Deviation : 0.000489

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:06	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000582 Std Deviation : 0.000738

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:06	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000727 Std Deviation : 0.000912

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:06	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0030	In	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000745 Std Deviation : 0.000907

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:06	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0030	In	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000600 Std Deviation : 0.000894

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0030	In	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000509 Std Deviation : 0.000814

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)				Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0020	

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0020	

4-FEB-2008 06:06 bkg 0.0000 | | |

2-MAR-2008 06:38 bkg 0.0020 | | |

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000491 Std Deviation : 0.000717

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0020	In

4-FEB-2008 06:06 bkg 0.0000 | | |

2-MAR-2008 06:38 bkg 0.0020 |In| |

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000945 Std Deviation : 0.001079

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002018 Std Deviation : 0.001810

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0040	
2-MAR-2008 06:38	bkg		0.0060	In

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002381 Std Deviation : 0.002095

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0040	
2-MAR-2008 06:38	bkg		0.0060	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003054 Std Deviation : 0.002669

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0080		
2-MAR-2008 06:38	bkg		0.0090	In	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.029142 Std Deviation : 0.020744

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0620		
2-MAR-2008 06:38	bkg		0.0590		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.034432 Std Deviation : 0.024465

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:06 bkg 0.0690 | | |
 2-MAR-2008 06:38 bkg 0.0630 | | |

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.032850 Std Deviation : 0.023341

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

4-FEB-2008 06:06 bkg			0.0650	
2-MAR-2008 06:38 bkg			0.0550	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.028323 Std Deviation : 0.021259

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06 bkg			0.0460	
2-MAR-2008 06:38 bkg			0.0570	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.025924 Std Deviation : 0.019373

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0420		
2-MAR-2008 06:38	bkg		0.0520		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 13-SEP-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.008490 Std Deviation : 0.006154

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0110		
2-MAR-2008 06:38	bkg		0.0180		

Quality Assurance Report. Generated 25-MAR-2008 18:13:08.41

QA Filename : \$DISK1:[ALP7.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.352356 Std Deviation : 0.005641

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		0.3558		
1-MAR-2008 05:27	chk		0.3460		

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 6.811476 Std Deviation : 0.287833

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:58	chk		6.6667		
1-MAR-2008 05:27	chk		6.8333		

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 352.506622 Std Deviation : 1.223419

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		351.1161	
1-MAR-2008 05:27	chk		351.5854	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.366566 Std Deviation : 0.003389

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.3682	
1-MAR-2008 05:27	chk		0.3647	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.3682	
1-MAR-2008 05:27	chk		0.3647	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 7.468111 Std Deviation : 0.055237

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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```
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3-FEB-2008 10:58  chk          7.5167  | | |
1-MAR-2008 05:27  chk          7.3664  | | |
```

Quality Assurance Report. Generated 25-MAR-2008 18:13:09.11

QA Filename : \$DISK1:[ALP7.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000806 Std Deviation : 0.000973

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
4-FEB-2008 06:06  bkg          0.0000  | | |
2-MAR-2008 06:38  bkg          0.0020  | | |
```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001761 Std Deviation : 0.001915

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
4-FEB-2008 06:06  bkg          0.0010  | | |
2-MAR-2008 06:38  bkg          0.0010  | | |
```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000343 Std Deviation : 0.000565

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001806 Std Deviation : 0.002039

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001776 Std Deviation : 0.002288

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.001552 Std Deviation : 0.002203

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000925 Std Deviation : 0.001049

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000746 Std Deviation : 0.000893

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000582 Std Deviation : 0.000819

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000985 Std Deviation : 0.001174

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002134 Std Deviation : 0.002102

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0030	
2-MAR-2008 06:38	bkg		0.0060	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002850 Std Deviation : 0.002606

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0070	
2-MAR-2008 06:38	bkg		0.0110	Ac

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004373 Std Deviation : 0.003646

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0110		
2-MAR-2008 06:38	bkg		0.0140	In	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.031652 Std Deviation : 0.023391

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0630		
2-MAR-2008 06:38	bkg		0.0670		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.031160 Std Deviation : 0.023231

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06 bkg	0.0600	
2-MAR-2008 06:38 bkg	0.0650	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.029414 Std Deviation : 0.022060

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06 bkg	0.0560	
2-MAR-2008 06:38 bkg	0.0620	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.029832 Std Deviation : 0.024627

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06 bkg	0.0460	
2-MAR-2008 06:38 bkg	0.0680	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.026534 Std Deviation : 0.022488

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0430		
2-MAR-2008 06:38	bkg		0.0640		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.009193 Std Deviation : 0.007069

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0180		
2-MAR-2008 06:38	bkg		0.0190		

Quality Assurance Report. Generated 25-MAR-2008 18:10:12.93

QA Filename : \$DISK1:[ALP6.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.325596 Std Deviation : 0.006286

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.3269	
1-MAR-2008 05:27	chk		0.3273	

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 6.668651 Std Deviation : 0.443225

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		6.6667	
1-MAR-2008 05:27	chk		6.5000	

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 347.786224 Std Deviation : 1.373586

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		346.2343	
1-MAR-2008 05:27	chk		346.6425	

3-FEB-2008 10:58	chk		346.2343	
1-MAR-2008 05:27	chk		346.6425	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.332977 Std Deviation : 0.003597

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.3294	
1-MAR-2008 05:27	chk		0.3344	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:58	chk		0.3294	
1-MAR-2008 05:27	chk		0.3344	

3-FEB-2008 10:58	chk		0.3294	
1-MAR-2008 05:27	chk		0.3344	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 7.488939 Std Deviation : 0.067328

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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-----
3-FEB-2008 10:58  chk          7.4984  | | |
1-MAR-2008 05:27  chk          7.5890  | | |
```

Quality Assurance Report. Generated 25-MAR-2008 18:10:13.64

QA Filename : \$DISK1:[ALP6.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.000725 Std Deviation : 0.000978

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
4-FEB-2008 06:06  bkg          0.0000  | | |
2-MAR-2008 06:38  bkg          0.0000  | | |
```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.001143 Std Deviation : 0.001070

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```
-----
4-FEB-2008 06:06  bkg          0.0010  | | |
2-MAR-2008 06:38  bkg          0.0010  | | |
```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000560 Std Deviation : 0.000819

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0010		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000989 Std Deviation : 0.001049

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0020		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000967 Std Deviation : 0.001016

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000978 Std Deviation : 0.001022

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.000736 Std Deviation : 0.000905

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000604 Std Deviation : 0.000842

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06	bkg		0.0020	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000527 Std Deviation : 0.000779

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06	bkg		0.0020	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001253 Std Deviation : 0.001296

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0040	In
2-MAR-2008 06:38	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002318 Std Deviation : 0.002361

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0030	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003164 Std Deviation : 0.003066

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0030	
2-MAR-2008 06:38	bkg		0.0060	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004571 Std Deviation : 0.004484

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0050		
2-MAR-2008 06:38	bkg		0.0090		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.044476 Std Deviation : 0.021869

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0780		
2-MAR-2008 06:38	bkg		0.0750		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.044268 Std Deviation : 0.021668

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06 bkg 0.0810 | | |
 2-MAR-2008 06:38 bkg 0.0700 | | |

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.041719 Std Deviation : 0.020522

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06 bkg			0.0780		
2-MAR-2008 06:38 bkg			0.0640		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.037829 Std Deviation : 0.022874

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06 bkg			0.0750		
2-MAR-2008 06:38 bkg			0.0690		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0700	
2-MAR-2008 06:38	bkg		0.0570	

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.011570 Std Deviation : 0.007071

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0170	
2-MAR-2008 06:38	bkg		0.0220	

Quality Assurance Report. Generated 25-MAR-2008 17:57:21.61

QA Filename : \$DISK1:[ALP5.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.387492 Std Deviation : 0.005712

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:57	chk		0.3891		
1-MAR-2008 05:27	chk		0.3950		

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.312500 Std Deviation : 0.242195

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:57	chk		7.5000		
1-MAR-2008 05:27	chk		7.0000		

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 357.539337 Std Deviation : 1.944102

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		357.0847	
1-MAR-2008 05:27	chk		357.2202	

3-FEB-2008 10:57	chk		357.0847	
1-MAR-2008 05:27	chk		357.2202	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.397028 Std Deviation : 0.002308

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		0.3969	
1-MAR-2008 05:27	chk		0.4009	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		0.3969	
1-MAR-2008 05:27	chk		0.4009	

3-FEB-2008 10:57	chk		0.3969	
1-MAR-2008 05:27	chk		0.4009	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 7.408459 Std Deviation : 0.062026

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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3-FEB-2008 10:57  chk          7.4202  | | |
1-MAR-2008 05:27  chk          7.5694  |In| |

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Quality Assurance Report. Generated 25-MAR-2008 17:57:22.26

QA Filename : \$DISK1:[ALP5.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.006499 Std Deviation : 0.003092

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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```

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4-FEB-2008 06:06  bkg          0.0000  |In| |
2-MAR-2008 06:38  bkg          0.0050  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.010798 Std Deviation : 0.004793

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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```

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4-FEB-2008 06:06  bkg          0.0060  | | |
2-MAR-2008 06:38  bkg          0.0040  | | |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002080 Std Deviation : 0.001536

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.009919 Std Deviation : 0.003629

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0040		
2-MAR-2008 06:38	bkg		0.0070		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.009979 Std Deviation : 0.003966

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0040	
2-MAR-2008 06:38	bkg		0.0080	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.009099 Std Deviation : 0.003676

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0040	
2-MAR-2008 06:38	bkg		0.0070	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004679 Std Deviation : 0.002853

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0050	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002020 Std Deviation : 0.001463

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0050	In

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06	bkg		0.0030	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06 bkg 0.0040 | | |
 2-MAR-2008 06:38 bkg 0.0020 | | |

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004119 Std Deviation : 0.002479

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0060	
2-MAR-2008 06:38	bkg		0.0030	

4-FEB-2008 06:06 bkg 0.0060 | | |
 2-MAR-2008 06:38 bkg 0.0030 | | |

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.005419 Std Deviation : 0.003104

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0060	
2-MAR-2008 06:38	bkg		0.0060	

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0060	
2-MAR-2008 06:38	bkg		0.0060	

4-FEB-2008 06:06 bkg 0.0060 | | |
 2-MAR-2008 06:38 bkg 0.0060 | | |

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.040874 Std Deviation : 0.028236

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0860		
2-MAR-2008 06:38	bkg		0.0880		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.039935 Std Deviation : 0.027586

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0870		
2-MAR-2008 06:38	bkg		0.0830		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.038055 Std Deviation : 0.026500

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0850		
2-MAR-2008 06:38	bkg		0.0780		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.037695 Std Deviation : 0.025607

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0660		
2-MAR-2008 06:38	bkg		0.0650		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.033595 Std Deviation : 0.023088

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0580		
2-MAR-2008 06:38	bkg		0.0600		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 7-FEB-2005 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.011118 Std Deviation : 0.008548

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0180		
2-MAR-2008 06:38	bkg		0.0250		

Quality Assurance Report. Generated 25-MAR-2008 17:55:30.58

QA Filename : \$DISK1:[ALP4.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.236798 Std Deviation : 0.004342

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:57	chk		0.2383		
1-MAR-2008 05:27	chk		0.2326		

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.481482 Std Deviation : 0.232719

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:57	chk		7.5000		
1-MAR-2008 05:27	chk		7.3333		

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 348.353210 Std Deviation : 0.928021

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:57	chk		348.1969		
1-MAR-2008 05:27	chk		348.6509		

3-FEB-2008 10:57	chk		348.1969		
1-MAR-2008 05:27	chk		348.6509		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.296245 Std Deviation : 0.002702

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:57	chk		0.2985		
1-MAR-2008 05:27	chk		0.2952		

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:57	chk		0.2985		
1-MAR-2008 05:27	chk		0.2952		

3-FEB-2008 10:57	chk		0.2985		
1-MAR-2008 05:27	chk		0.2952		

-- Multi-Test Full Report --

Description : Energy Calibration Slope

Parameter Units : keV/chan Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 10.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.457886 Std Deviation : 0.051992

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		7.4654	
1-MAR-2008 05:27	chk		7.4649	

Quality Assurance Report. Generated 25-MAR-2008 17:55:31.18

QA Filename : \$DISK1:[ALP4.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004206 Std Deviation : 0.003640

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0050	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.008068 Std Deviation : 0.010388

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0050	
2-MAR-2008 06:38	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002293 Std Deviation : 0.002255

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0030		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.007430 Std Deviation : 0.007597

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued)					Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0040		
2-MAR-2008 06:38	bkg		0.0080		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.007688 Std Deviation : 0.008986

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0060	
2-MAR-2008 06:38	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.007188 Std Deviation : 0.008627

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0060	
2-MAR-2008 06:38	bkg		0.0050	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004275 Std Deviation : 0.004936

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0050	
2-MAR-2008 06:38	bkg		0.0050	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002327 Std Deviation : 0.002319

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

Quality Assurance Multi-Test Full Report (continued)					Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

4-FEB-2008 06:06	bkg		0.0040		
2-MAR-2008 06:38	bkg		0.0030		

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001569 Std Deviation : 0.001500

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

Quality Assurance Multi-Test Full Report (continued)					Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

4-FEB-2008 06:06	bkg		0.0030		
2-MAR-2008 06:38	bkg		0.0030		

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002396 Std Deviation : 0.002331

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0050	
2-MAR-2008 06:38	bkg		0.0050	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003034 Std Deviation : 0.002391

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0060	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003655 Std Deviation : 0.002819

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0050	
2-MAR-2008 06:38	bkg		0.0050	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004413 Std Deviation : 0.003356

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0080		
2-MAR-2008 06:38	bkg		0.0060		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.039926 Std Deviation : 0.030129

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0860		
2-MAR-2008 06:38	bkg		0.0770		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.041874 Std Deviation : 0.031571

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0910	
2-MAR-2008 06:38	bkg		0.0800	

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.039702 Std Deviation : 0.030126

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0880	
2-MAR-2008 06:38	bkg		0.0790	

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.037530 Std Deviation : 0.031848

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0550	
2-MAR-2008 06:38	bkg		0.0720	

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.033840 Std Deviation : 0.029068

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0540		
2-MAR-2008 06:38	bkg		0.0620		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.011757 Std Deviation : 0.010401

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0140		
2-MAR-2008 06:38	bkg		0.0200		

Quality Assurance Report. Generated 25-MAR-2008 17:54:00.37

QA Filename : \$DISK1:[ALP3.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.365901 Std Deviation : 0.005153

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:57	chk		0.3638		
1-MAR-2008 05:27	chk		0.3674		

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 7.987422 Std Deviation : 0.223724

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-FEB-2008 10:57	chk		7.8333		
1-MAR-2008 05:27	chk		8.1667		

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 357.495911 Std Deviation : 0.983872

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		357.5582	
1-MAR-2008 05:27	chk		357.6862	

3-FEB-2008 10:57	chk		357.5582	
1-MAR-2008 05:27	chk		357.6862	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : % Parameter Type :

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.371693 Std Deviation : 0.002561

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		0.3697	
1-MAR-2008 05:27	chk		0.3753	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		0.3697	
1-MAR-2008 05:27	chk		0.3753	

3-FEB-2008 10:57	chk		0.3697	
1-MAR-2008 05:27	chk		0.3753	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 7.393487 Std Deviation : 0.059003

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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3-FEB-2008 10:57  chk          7.3267  | | |
1-MAR-2008 05:27  chk          7.4302  | | |

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Quality Assurance Report. Generated 25-MAR-2008 17:54:01.09

QA Filename : \$DISK1:[ALP3.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.005403 Std Deviation : 0.003802

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06  bkg          0.0070  | | |
2-MAR-2008 06:38  bkg          0.0050  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.007017 Std Deviation : 0.004900

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06  bkg          0.0060  | | |
2-MAR-2008 06:38  bkg          0.0090  | | |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002438 Std Deviation : 0.001861

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.007420 Std Deviation : 0.004935

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0080		
2-MAR-2008 06:38	bkg		0.0070		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.006596 Std Deviation : 0.003977

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0080	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.005876 Std Deviation : 0.003630

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0060	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.003543 Std Deviation : 0.002673

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0030	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002614 Std Deviation : 0.002320

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0020		
2-MAR-2008 06:38	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002035 Std Deviation : 0.001927

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0010		
2-MAR-2008 06:38	bkg		0.0020		

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002859 Std Deviation : 0.002271

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0050	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004789 Std Deviation : 0.003405

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0070	
2-MAR-2008 06:38	bkg		0.0070	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.005491 Std Deviation : 0.003727

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0100	
2-MAR-2008 06:38	bkg		0.0080	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.006315 Std Deviation : 0.004136

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0100		
2-MAR-2008 06:38	bkg		0.0120		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.042065 Std Deviation : 0.030112

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0750		
2-MAR-2008 06:38	bkg		0.0880		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.043942 Std Deviation : 0.031876

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06 bkg 0.0900 | | |
 2-MAR-2008 06:38 bkg 0.0830 | | |

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.041399 Std Deviation : 0.029875

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06 bkg			0.0850		
2-MAR-2008 06:38 bkg			0.0770		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.038065 Std Deviation : 0.030459

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06 bkg			0.0810		
2-MAR-2008 06:38 bkg			0.0730		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.034189 Std Deviation : 0.027389

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0770		
2-MAR-2008 06:38	bkg		0.0650		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 9-AUG-2004 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.011262 Std Deviation : 0.008557

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0200		
2-MAR-2008 06:38	bkg		0.0240		

Quality Assurance Report. Generated 25-MAR-2008 17:52:32.86

QA Filename : \$DISK1:[ALP2.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
 Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.171595 Std Deviation : 0.003015

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		0.1663	
1-MAR-2008 05:27	chk		0.1744	

-- Multi-Test Full Report --

Description : Constant FWHM
 Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 9.561905 Std Deviation : 0.274729

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		9.3333	
1-MAR-2008 05:27	chk		9.3333	

-- Multi-Test Full Report --

Description : Centroid, Am-241
 Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 353.147064 Std Deviation : 0.881260

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		352.6472	
1-MAR-2008 05:27	chk		353.0833	

3-FEB-2008 10:57	chk		352.6472	
1-MAR-2008 05:27	chk		353.0833	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 0.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.175214 Std Deviation : 0.001472

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued) Page : 2				
3-FEB-2008 10:57	chk		0.1710	In
1-MAR-2008 05:27	chk		0.1752	

Quality Assurance Multi-Test Full Report (continued) Page : 2				
3-FEB-2008 10:57	chk		0.1710	In
1-MAR-2008 05:27	chk		0.1752	

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		0.1710	In
1-MAR-2008 05:27	chk		0.1752	

3-FEB-2008 10:57	chk		0.1710	In
1-MAR-2008 05:27	chk		0.1752	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 10.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 7.271707 Std Deviation : 0.187083

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		7.3835	
1-MAR-2008 05:27	chk		7.2254	

Quality Assurance Report. Generated 25-MAR-2008 17:52:33.54

QA Filename : \$DISK1:[ALP2.QA]GROUP_1_BKG.QAF;1

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003200 Std Deviation : 0.001936

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0020	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.008349 Std Deviation : 0.004331

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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-----
4-FEB-2008 06:06 bkg          0.0030  | | |
2-MAR-2008 06:38 bkg          0.0030  | | |
```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001900 Std Deviation : 0.001518

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0020	
2-MAR-2008 06:38	bkg		0.0030	

```
-----
4-FEB-2008 06:06 bkg          0.0020  | | |
2-MAR-2008 06:38 bkg          0.0030  | | |
```

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.005599 Std Deviation : 0.002927

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0080	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0010	
2-MAR-2008 06:38	bkg		0.0080	

```
-----
4-FEB-2008 06:06 bkg          0.0010  | | |
2-MAR-2008 06:38 bkg          0.0080  | | |
```

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.007099 Std Deviation : 0.004127

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0050	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.006749 Std Deviation : 0.003998

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0040	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.004199 Std Deviation : 0.002764

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0000	

2-MAR-2008 06:38 bkg 0.0010 | | |

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002600 Std Deviation : 0.001667

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06 bkg			0.0000	
2-MAR-2008 06:38 bkg			0.0010	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001950 Std Deviation : 0.001356

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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4-FEB-2008 06:06 bkg			0.0000	
2-MAR-2008 06:38 bkg			0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.004299 Std Deviation : 0.002637

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0020		
2-MAR-2008 06:38	bkg		0.0010		

4-FEB-2008 06:06	bkg		0.0020		
2-MAR-2008 06:38	bkg		0.0010		

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.005199 Std Deviation : 0.002966

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0020		
2-MAR-2008 06:38	bkg		0.0080		

4-FEB-2008 06:06	bkg		0.0020		
2-MAR-2008 06:38	bkg		0.0080		

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.006149 Std Deviation : 0.002519

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06 bkg          0.0040  | | |
2-MAR-2008 06:38 bkg          0.0090  | | |
```

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.008199 Std Deviation : 0.002628

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0050	
2-MAR-2008 06:38	bkg		0.0130	

```
-----
4-FEB-2008 06:06 bkg          0.0050  | | |
2-MAR-2008 06:38 bkg          0.0130  | | |
```

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.065842 Std Deviation : 0.009288

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0720	
2-MAR-2008 06:38	bkg		0.0700	

```
-----
4-FEB-2008 06:06 bkg          0.0720  | | |
2-MAR-2008 06:38 bkg          0.0700  | | |
```

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.074041 Std Deviation : 0.008795

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0830		
2-MAR-2008 06:38	bkg		0.0740		

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.070741 Std Deviation : 0.008480

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued) Page : 5					
4-FEB-2008 06:06	bkg		0.0780		
2-MAR-2008 06:38	bkg		0.0690		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.061242 Std Deviation : 0.008916

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0650		

2-MAR-2008 06:38 bkg 0.0640 | | |

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.054793 Std Deviation : 0.008652

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0550		
2-MAR-2008 06:38	bkg		0.0610		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)

Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 8-JAN-2007 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.017998 Std Deviation : 0.004701

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0240		
2-MAR-2008 06:38	bkg		0.0090		

Quality Assurance Report. Generated 25-MAR-2008 17:48:59.06

QA Filename : \$DISK1:[ALP1.QA]GROUP_1_CHK.QAF;1

-- Multi-Test Full Report --

Description : Efficiency, Am-241
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.209973 Std Deviation : 0.003743

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		0.2108	
1-MAR-2008 05:27	chk		0.2105	

-- Multi-Test Full Report --

Description : Constant FWHM
Parameter Units : channels Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 8.085318 Std Deviation : 0.364501

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		8.0000	
1-MAR-2008 05:27	chk		8.8333	In

-- Multi-Test Full Report --

Description : Centroid, Am-241
Parameter Units : channels Parameter Type : Peak

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 347.785919 Std Deviation : 0.827112

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		347.2517	
1-MAR-2008 05:27	chk		347.6919	

3-FEB-2008 10:57	chk		347.2517	
1-MAR-2008 05:27	chk		347.6919	

-- Multi-Test Full Report --

Description : Average Efficiency
Parameter Units : Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.178120 Std Deviation : 0.002073

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		0.1768	
1-MAR-2008 05:27	chk		0.1772	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-FEB-2008 10:57	chk		0.1768	
1-MAR-2008 05:27	chk		0.1772	

3-FEB-2008 10:57	chk		0.1768	
1-MAR-2008 05:27	chk		0.1772	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
Parameter Units : keV/chan Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 7.470274 Std Deviation : 0.075398

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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3-FEB-2008 10:57  chk          7.4526  | | |
1-MAR-2008 05:27  chk          7.2761  |In| |

```

Quality Assurance Report. Generated 25-MAR-2008 17:48:59.73

QA Filename : \$DISK1:[ALP1.QA]GROUP_1_BKG.QAF;4

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.004193 Std Deviation : 0.003317

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```

-----
4-FEB-2008 06:06  bkg          0.0040  | | |
2-MAR-2008 06:38  bkg          0.0010  | | |

```

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
Mean : 0.005231 Std Deviation : 0.004339

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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```

-----
4-FEB-2008 06:06  bkg          0.0030  | | |
2-MAR-2008 06:38  bkg          0.0050  | | |

```

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002007 Std Deviation : 0.001930

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0000		
2-MAR-2008 06:38	bkg		0.0000		

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.005781 Std Deviation : 0.004661

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
Quality Assurance Multi-Test Full Report (continued)					
					Page : 2
4-FEB-2008 06:06	bkg		0.0040		
2-MAR-2008 06:38	bkg		0.0020		

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00

Mean : 0.005366 Std Deviation : 0.004078

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0020	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.004927 Std Deviation : 0.003625

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0020	
2-MAR-2008 06:38	bkg		0.0030	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.002782 Std Deviation : 0.002133

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001276 Std Deviation : 0.001235

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

Quality Assurance Multi-Test Full Report (continued)				Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0020	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.000939 Std Deviation : 0.001081

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

4-FEB-2008 06:06	bkg		0.0000	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.001651 Std Deviation : 0.001560

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0020	
2-MAR-2008 06:38	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003089 Std Deviation : 0.002401

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0070	
2-MAR-2008 06:38	bkg		0.0050	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide
 Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.003808 Std Deviation : 0.002803

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
Quality Assurance Multi-Test Full Report (continued)				Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
4-FEB-2008 06:06	bkg		0.0060	
2-MAR-2008 06:38	bkg		0.0080	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.005583 Std Deviation : 0.003924

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.0120		
2-MAR-2008 06:38	bkg		0.0130		

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.057361 Std Deviation : 0.033696

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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4-FEB-2008 06:06	bkg		0.1230		
2-MAR-2008 06:38	bkg		0.0940		

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.057357 Std Deviation : 0.033500

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:06 bkg 0.1210 | | |
 2-MAR-2008 06:38 bkg 0.0850 | | |

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.054167 Std Deviation : 0.031411

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:06 bkg			0.1150		
2-MAR-2008 06:38 bkg			0.0820		

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.048145 Std Deviation : 0.029931

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

4-FEB-2008 06:06 bkg			0.0890		
2-MAR-2008 06:38 bkg			0.0920		

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.043625 Std Deviation : 0.027278

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0850		
2-MAR-2008 06:38	bkg		0.0870		

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type : Nuclide

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 3-SEP-2002 00:00 End Date : 30-MAY-2030 00:00
 Mean : 0.014975 Std Deviation : 0.009436

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
4-FEB-2008 06:06	bkg		0.0200		
2-MAR-2008 06:38	bkg		0.0230		

Quality Assurance Report.

Generated 25-MAR-2008 18:45:13.46

QA Filename : RDND06::RDND06\$DKA100:[ALP88.QA]GROUP_1_CHK.QAF;2

-- Multi-Test Full Report --

Description : Centroid, U-238

Parameter Units : channel Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-FEB-2008 10:32	chk		109.7808		
4-MAR-2008 08:01	chk		109.7521		

-- Multi-Test Full Report --

Description : Constant FWHM

Parameter Units : channels Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-FEB-2008 10:32	chk		9.1667		
4-MAR-2008 08:01	chk		9.0000		

-- Multi-Test Full Report --

Description : Average Efficiency

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-FEB-2008 10:32	chk		0.3526		
4-MAR-2008 08:01	chk		0.3519		

-- Multi-Test Full Report --

Description : Efficiency, U-234

Parameter Units : % Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
------------------	-----------	----------------	-------	-------------	-----

1-FEB-2008 10:32	chk	0.3474	
4-MAR-2008 08:01	chk	0.3563	

-- Multi-Test Full Report --

Description : Energy Calibration Slope
 Parameter Units : keV/chan Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-FEB-2008 10:32	chk		6.2347	
4-MAR-2008 08:01	chk		6.2635	

Quality Assurance Report. Generated 25-MAR-2008 18:45:14.37

QA Filename : RDND06::RDND06\$DKA100:[ALP88.QA]GROUP_1_BKG.QAF;3

-- Multi-Test Full Report --

Description : 4010, Th-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0010	
5-MAR-2008 07:45	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4196, U-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0000	
5-MAR-2008 07:45	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4396, U-235 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0010	
5-MAR-2008 07:45	bkg		0.0010	

-- Multi-Test Full Report --

Description : 4688, Th-230 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0000	
5-MAR-2008 07:45	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4776, U-234 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0000	
5-MAR-2008 07:45	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4788, Np-237 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0000	
5-MAR-2008 07:45	bkg		0.0000	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0000	
5-MAR-2008 07:45	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4845, Th-229 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0000	
5-MAR-2008 07:45	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4882, Po-209 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0000	
5-MAR-2008 07:45	bkg		0.0000	

-- Multi-Test Full Report --

Description : 4901, Pu-242 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0000	
5-MAR-2008 07:45	bkg		0.0000	

-- Multi-Test Full Report --

Description : 5155, Pu-239 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0010	
5-MAR-2008 07:45	bkg		0.0010	

-- Multi-Test Full Report --

Description : 5275, Am-243 bkg (cnts/min)
Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

2-FEB-2008 06:19 bkg	0.0000	
5-MAR-2008 07:45 bkg	0.0010	

-- Multi-Test Full Report --

Description : 5305, Po-210 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

 Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

2-FEB-2008 06:19 bkg	0.0000	
5-MAR-2008 07:45 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5320, U-232 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

2-FEB-2008 06:19 bkg	0.0000	
5-MAR-2008 07:45 bkg	0.0000	

-- Multi-Test Full Report --

Description : 5423, Th-228 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

2-FEB-2008 06:19 bkg	0.0170	
5-MAR-2008 07:45 bkg	0.0140	

-- Multi-Test Full Report --

Description : 5486, Am-241 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
------------------	-----------	----------------	-------	-----------------

```
-----
2-FEB-2008 06:19 bkg          0.0230 | | |
5-MAR-2008 07:45 bkg          0.0170 | | |
```

-- Multi-Test Full Report --

Description : 5499, Pu-238 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

```
-----
Measurement Time    Sample ID    Sample Analyst    Value    LU|SD|UD|BS Rej
```

```
-----
2-FEB-2008 06:19 bkg          0.0210 | | |
5-MAR-2008 07:45 bkg          0.0180 | | |
```

-- Multi-Test Full Report --

Description : 5770, Pu-236 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

```
-----
Measurement Time    Sample ID    Sample Analyst    Value    LU|SD|UD|BS Rej
```

```
-----
2-FEB-2008 06:19 bkg          0.0150 | | |
5-MAR-2008 07:45 bkg          0.0080 | | |
```

-- Multi-Test Full Report --

Description : 5805, Cm-244 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

```
-----
Measurement Time    Sample ID    Sample Analyst    Value    LU|SD|UD|BS Rej
```

Quality Assurance Multi-Test Full Report (continued) Page : 4

```
-----
Measurement Time    Sample ID    Sample Analyst    Value    LU|SD|UD|BS Rej
```

```
-----
2-FEB-2008 06:19 bkg          0.0110 | | |
5-MAR-2008 07:45 bkg          0.0050 | | |
```

-- Multi-Test Full Report --

Description : 6113, Cm-242 bkg (cnts/min)
 Parameter Units : cnts/min Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-FEB-2008 06:19	bkg		0.0030	
5-MAR-2008 07:45	bkg		0.0040	

RADIUM 228
SAMPLE AND QC DATA

Lot No., Due Date: F8A250205,F8A260145; 02/28/2008,02/25/2008
Client, Site: 1418995; LANDWELL - Tronox Parcel H
QC Batch No., Method Test: 8042382; RRA228 Ra-228 by GPC
SDG, Matrix: ;

- 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 Thomas DME **Date** 3/5/08

Data Review Checklist RADIOCHEMISTRY Second Level Review

Batch Number: 804 2382

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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: *Erika Jod* Date: 3/6/18

2/21/2008 1:39:10 PM

1418995, Landwell Company
Landwell Company

AnalyteDueDate: 02/22/2008

Batch: 8042382
SEO Batch, Test: 8042381, D9TE

Sample Preparation/Analysis

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

PM, Quote: JAE, 78254

pCi/g

Balance Id:11

Pipet #:

Sep1 DT/Tm Tech: 2/25/08 14:55 DL

Sep2 DT/Tm Tech: 3/4/08 11:35 TDM

Prep Tech: ,Barcoti

Work Order, Lot, Sample Date Time	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 KF5GG-1-AF F8A250205-13-SAMP 1.03g.in RATA30224 02:07:08 ✓ .9625		1.03g.in	02:07:08	11		3x50	7C	1711	7/4/08/ML	
01/24/2008 08:40 2 KF5GL-1-AF F8A250205-15-SAMP 1.03g.in RATA30225 02:07:08 ✓ .9282	AmtRec: SL #Containers: 1	1.03g.in	02:07:08				1A	1711	7/4/08/ML	
01/24/2008 09:30 3 KF6EM-1-AF F8A260145-1-SAMP 1.01g.in RATA30226 02:07:08 ✓ 1.0000	AmtRec: 500SL #Containers: 1	1.01g.in	02:07:08				1B	1711	7/4/08/ML	
01/25/2008 12:10 4 KF6EP-1-AF F8A260145-2-SAMP 1.01g.in RATA30227 02:07:08 ✓ 1.9453	AmtRec: 500SL #Containers: 1	1.01g.in	02:07:08				1C	1711	7/4/08/ML	
01/25/2008 12:50	AmtRec: 500SL #Containers: 1						1D	6557	3/1/08	

31.4

31.2

31.5

31.2

2/21/2008 1:39:11 PM

Sample Preparation/Analysis

Balance Id:11

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

Analyte Due Date: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8042382
SEQ Batch, Test: 8042381, D9TE

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech:

Prep Tech: ,Barcotl

pCi/g

Work Order, Lot, Sample Date/Time	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:
5 KF6EQ-1-AF F8A260145-3-SAMP 1.00g.in RATA30228 02/07/08 1.9499		1.00g.in	02/07/08	1"	3x50	3x50	1D	1711	JAE	3/4/08 RC
6 KF6ER-1-AF F8A260145-4-SAMP 1.00g.in RATA30229 02/07/08 1.9386		1.00g.in	02/07/08				1A	1711	JAE	3/5/08
7 KF6ET-1-AF F8A260145-5-SAMP 1.00g.in RATA30230 02/07/08 1.9478		1.00g.in	02/07/08				1C	1711	JAE	3/5/08
8 KF6EV-1-AF F8A260145-6-SAMP 1.00g.in RATA30231 02/07/08 1.9416		1.00g.in	02/07/08				1D	1711	JAE	3/5/08

TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2

Richland Wa pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 8
Prep_SamplePrep v4.8.32

2/21/2008 1:39:11 PM Balance Id:11
 1418995, Landwell Company Pipet #:
 Landwell Company
 D9 Ra-226/228 PrpRC5013/5032, SepRC5005
 TF Radium-228 by GPC
 01 STANDARD TEST SET
 AnalyDueDate: 02/22/2008
 PM, Quote: JAE, 78254
 pCi/g
 Batch: 8042382
 SEQ Batch, Test: 8042381, D9TE
 Prep Tech: ,Barcoti

Work Order, Lot, Sample Date/Time	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:	
9 KF6EW-1-AF F8A260145-7-SAMP		1.01g.in	RATA30232 02/07/08	1		3 x 50	7D	1711	3/14/08 MC		
	✓ 1.0000								35	3/14/08 MC	
01/25/2008 08:05		AmtRec: 500SL	#Containers: 1						Scr:	Alpha:	Beta:
10 KF6E0-1-AF F8A260145-8-SAMP		1.01g.in	RATA30233 02/07/08				4A	1711	3/14/08 MC		
	✓ .9941								36	3/14/08 MC	
01/25/2008 08:20		AmtRec: 500SL	#Containers: 1						Scr:	Alpha:	Beta:
11 KF6E1-1-AF F8A260145-9-SAMP		1.01g.in	RATA30234 02/07/08				4B	1711	3/14/08 MC		
	✓ 1.0000								3D	3/14/08 MC	
01/25/2008 08:40		AmtRec: 500SL	#Containers: 1						Scr:	Alpha:	Beta:
12 KF6E2-1-AJ F8A260145-10-SAMP		1.01g.in	RATA30235 02/07/08				4C	1711	3/14/08 MC		
	✓ 1.9743								4A	3/14/08 MC	
01/25/2008 08:55		AmtRec: 2X500SL	#Containers: 2						Scr:	Alpha:	Beta:

2/21/2008 1:39:11 PM

Sample Preparation/Analysis

Balance Id:11

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

AnalyteDueDate: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8042382

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech:

SEQ Batch, Test: 8042381, D9TE 8042381, D9TE

pCi/g

1.00g.in

Prep Tech: ,Barcoti

Work Order, Lot, Sample Date Time	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:
13 KF6E2-1-AL-X	1.00g.in	1.00g.in	RATA30236 02/07/08	1.5"	SA	3x50	SC	1711	3/14/08	
F8A260145-10-DUP	✓ 1.0000									
01/25/2008 08:55		AmtRec: 2X500SL	#Containers: 2							
14 KF6E2-1-AN-X	1.00g.in	1.00g.in	RATA30237 02/07/08		SC	0557	SD	1711	3/14/08	
F8A260145-10-DUP	✓ 1.0000									
01/25/2008 08:55		AmtRec: 2X500SL	#Containers: 2							
15 KF6E5-1-AF	1.00g.in	1.00g.in	RATA30238 02/07/08		SA	0557	SD	1711	3/14/08	
F8A260145-11-SAMP	✓ 1.0000									
01/25/2008 09:45		AmtRec: 500SL	#Containers: 1							
16 KGXJE-1-AA-B	1.00g.in	1.00g.in	RATA30239 02/07/08		SA	0557	SC	1711	3/14/08	
J8B110000-382-BLK	✓ 9674									
01/24/2008 08:40		AmtRec:	#Containers: 1							

2/21/2008 1:39:11 PM

Sample Preparation/Analysis

Balance Id:11

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Batch: 8042382

SEQ Batch, Test: None

Work Order, Lot, Sample Date/Time

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:

17KGXJE-1-AC-C

RASC4699

1.5"

3x50

1711

3/4/08/RC

J8B110000-382-LCS

01/21/08

31.0

6C

0057

3/6/08

✓, 9134

01/24/2008 08:40

Amt/Rec:

#Containers: 1

Scr.

Alpha:

Beta:

Comments:

All Clients for Batch:

1418995, Landwell Company

Landwell Company

JAE, 78254

KF5GG1AF-SAMP Constituent List:

KGXJE1AA-BLK:

Ba-133 RDL:

RA-228DA RDL:2

KGXJE1AC-LCS:

Ba-133 RDL:

RA-228 RDL:2

KF5GG1AF-SAMP Calc Info:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

KGXJE1AA-BLK:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

KGXJE1AC-LCS:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

RPD:

UCL:

pCi/g

RDL:2

RA-228

RPD:35

UCL:115

LCL:20

pCi/g

RDL:

KGXJE1AA-BLK:

RA-228DA

Ba-133

RDL:

KGXJE1AC-LCS:

RA-228

Ba-133

RDL:2

KGXJE1AC-LCS:

RDL:

KGXJE1AC-LCS:

RA-228

Ba-133

RDL:2

KGXJE1AC-LCS:

RDL:

KGXJE1AC-LCS:

RA-228

Ba-133

RDL:2

KGXJE1AC-LCS:

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RDL:2

KGXJE1AC-LCS:

RDL:

KGXJE1AC-LCS:

RA-228

Ba-133

RDL:2

KGXJE1AC-LCS:

Approved By _____ Date: _____

ICOC Fraction Transfer/Status Report

ByDate: 3/6/2007, 3/10/2008, Batch: '8042382', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8042382				
AC	Rev1C	Barcotl	2/21/2008 1:42:55 PM	
SC		wagarr	IsBatched	2/12/2008 7:52:00 AM
SC		Barcotl	InPrep	2/21/2008 1:42:55 PM
SC		Barcotl	Prep1C	2/21/2008 1:43:15 PM
SC		LucasD	Sep1C	2/25/2008 3:04:58 PM
SC		McGinnisT	Sep2C	3/4/2008 1:05:42 PM
SC		ClarkR	InCnt1	3/4/2008 2:33:01 PM
SC		BlackCL	CalcC	3/5/2008 7:30:13 AM
SC		mcginnist	Rev1C	3/5/2008 2:51:07 PM
AC		Barcotl	2/21/2008 1:43:15 PM	
AC		LucasD	2/25/2008 3:04:58 PM	
AC		McGinnisT	3/4/2008 1:05:42 PM	
AC		ClarkR	3/4/2008 2:33:01 PM	
AC		BlackCL	3/5/2008 7:30:13 AM	
AC		mcginnist	3/5/2008 2:51:07 PM	

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 7

ICOCFractions v4.8.32

Rpt DB Transfer log (Batch Results)

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
8030200	9KF5GG10		F8A25020513	TSB-HJ-07-10'	SOLID	1/25/2008 9:15:00	1/24/2008 8:40:00 AM			
RA-226	D9TE	0	3/3/2008 1:33:00 PM	1.4051E+00	9.76E-02	1.743E-01	1.435E-01	pCi/g	0.963	1.03E+0
RA-226	TBD	0	3/3/2008 1:33:00 PM	1.4051E+00	9.76E-02	1.743E-01	1.435E-01	pCi/g	0.963	1.03E+0
RA-228	D9TF	0	3/5/2008 6:02:30 AM	1.3321E+00	1.79E-01	1.95E-01	6.343E-01	pCi/g	0.879	1.03E+0
TH-228	D2S1	0	2/20/2008 9:47:29 AM	1.7082E+00	1.443E-01	2.06E-01	6.866E-02	pCi/g	0.846	1.01E+0
TH-230	D2S1	0	2/20/2008 9:47:29 AM	1.6086E+00	1.38E-01	1.954E-01	5.666E-02	pCi/g	0.846	1.01E+0
TH-232	D2S1	0	2/20/2008 9:47:29 AM	1.1591E+00	1.171E-01	1.538E-01	5.666E-02	pCi/g	0.846	1.01E+0
U-234	KWSR	0	2/20/2008 6:25:07 PM	1.7882E+00	2.179E-01	2.905E-01	1.411E-01	PCI/G	0.233	1.01E+0
U-235	KWSR	0	2/20/2008 6:25:07 PM	5.0729E-02	3.743E-02	3.782E-02	1.064E-01	PCI/G	0.233	1.01E+0
U-238	KWSR	0	2/20/2008 6:25:07 PM	1.3126E+00	1.869E-01	2.341E-01	1.411E-01	PCI/G	0.233	1.01E+0
8030200	9KF5GL10		F8A25020515	TSB-HR-08-10'	SOLID	1/25/2008 9:15:00	1/24/2008 9:30:00 AM			
RA-226	D9TE	0	3/3/2008 1:42:00 PM	1.5878E+00	1.029E-01	1.881E-01	1.05E-01	pCi/g	0.928	1.03E+0
RA-226	TBD	0	3/3/2008 1:42:00 PM	1.5878E+00	1.029E-01	1.881E-01	1.05E-01	pCi/g	0.928	1.03E+0
RA-228	D9TF	0	3/5/2008 6:02:30 AM	1.405E+00	1.722E-01	1.92E-01	5.93E-01	pCi/g	0.842	1.03E+0
TH-228	D2S1	0	2/20/2008 12:48:03 PM	2.3821E+00	1.819E-01	2.733E-01	6.641E-02	pCi/g	0.9	1.0E+0
TH-230	D2S1	0	2/20/2008 12:48:03 PM	1.5522E+00	1.448E-01	1.966E-01	6.465E-02	pCi/g	0.9	1.0E+0
TH-232	D2S1	0	2/20/2008 12:48:03 PM	2.227E+00	1.734E-01	2.578E-01	6.465E-02	pCi/g	0.9	1.0E+0
U-234	KWSR	0	2/21/2008 6:26:27 AM	1.605E+00	1.007E-01	1.676E-01	4.32E-02	PCI/G	0.953	1.0E+0
U-235	KWSR	0	2/21/2008 6:26:27 AM	6.1636E-02	1.993E-02	2.058E-02	3.012E-02	PCI/G	0.953	1.0E+0
U-238	KWSR	0	2/21/2008 6:26:27 AM	1.3925E+00	9.373E-02	1.493E-01	3.97E-02	PCI/G	0.953	1.0E+0
8030213	9KF6E010		F8A2601458	TSB-HR-03-10'	SOLID	1/26/2008 10:15:00	1/25/2008 8:20:00 AM			
RA-226	D9TE	0	3/3/2008 2:35:00 PM	2.0933E+00	1.211E-01	2.478E-01	1.154E-01	pCi/g	0.994	1.01E+0
RA-226	TBD	0	3/3/2008 2:35:00 PM	2.0933E+00	1.211E-01	2.478E-01	1.154E-01	pCi/g	0.994	1.01E+0
RA-228	D9TF	0	3/5/2008 6:56:09 AM	1.2065E+00	1.375E-01	1.579E-01	3.788E-01	pCi/g	0.905	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.0177E+00	1.543E-01	2.234E-01	5.651E-02	pCi/g	0.705	1.01E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	3.0318E+00	1.866E-01	3.062E-01	5.5E-02	pCi/g	0.705	1.01E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.9155E+00	1.484E-01	2.134E-01	5.5E-02	pCi/g	0.705	1.01E+0
U-234	KWSR	0	2/22/2008 2:21:12 PM	3.3576E+00	1.395E-01	3.106E-01	2.778E-02	PCI/G	1.025	1.0E+0
U-235	KWSR	0	2/22/2008 2:21:12 PM	6.9587E-02	2.012E-02	2.093E-02	2.778E-02	PCI/G	1.025	1.0E+0
U-238	KWSR	0	2/22/2008 2:21:12 PM	2.6037E+00	1.229E-01	2.478E-01	2.778E-02	PCI/G	1.025	1.0E+0
8030213	9KF6E110		F8A2601459	TSB-HJ-02-0'	SOLID	1/26/2008 10:15:00	1/25/2008 8:40:00 AM			
RA-226	D9TE	0	3/3/2008 2:39:00 PM	8.2963E-01	9.527E-02	1.294E-01	1.622E-01	pCi/g	1.0	1.01E+0
RA-226	TBD	0	3/3/2008 2:39:00 PM	8.2963E-01	9.527E-02	1.294E-01	1.622E-01	pCi/g	1.0	1.01E+0
RA-228	D9TF	0	3/5/2008 6:56:09 AM	1.5439E+00	1.639E-01	1.904E-01	4.605E-01	pCi/g	0.892	1.01E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	1.8774E+00	1.475E-01	2.104E-01	6.525E-02	pCi/g	0.764	1.02E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.2916E+00	1.205E-01	1.586E-01	5.379E-02	pCi/g	0.764	1.02E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	1.7611E+00	1.407E-01	1.99E-01	5.379E-02	pCi/g	0.764	1.02E+0
U-234	KWSR	0	2/22/2008 2:21:29 PM	9.8107E-01	7.856E-02	1.135E-01	3.012E-02	PCI/G	0.928	1.02E+0
U-235	KWSR	0	2/22/2008 2:21:29 PM	3.7734E-02	1.546E-02	1.577E-02	3.012E-02	PCI/G	0.928	1.02E+0
U-238	KWSR	0	2/22/2008 2:21:29 PM	1.1131E+00	8.368E-02	1.251E-01	3.012E-02	PCI/G	0.928	1.02E+0
8030213	9KF6E210		F8A26014510	TSB-HJ-02-10'	SOLID	1/26/2008 10:15:00	1/25/2008 8:55:00 AM			
RA-226	D9TE	0	3/3/2008 2:34:00 PM	1.579E+00	9.616E-02	1.792E-01	8.26E-02	pCi/g	0.974	1.01E+0
RA-226	TBD	0	3/3/2008 2:34:00 PM	1.579E+00	9.616E-02	1.792E-01	8.26E-02	pCi/g	0.974	1.01E+0
RA-228	D9TF	0	3/5/2008 6:56:15 AM	1.4547E+00	1.601E-01	1.831E-01	4.393E-01	pCi/g	0.855	1.01E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	1.9666E+00	1.437E-01	2.128E-01	7.178E-02	pCi/g	0.871	1.02E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.7869E+00	1.353E-01	1.966E-01	7.932E-02	pCi/g	0.871	1.02E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	1.4901E+00	1.233E-01	1.713E-01	5.744E-02	pCi/g	0.871	1.02E+0
U-234	KWSR	0	2/22/2008 2:21:45 PM	2.1117E+00	1.133E-01	2.091E-01	2.908E-02	PCI/G	1.001	1.03E+0
U-235	KWSR	0	2/22/2008 2:21:45 PM	6.0715E-02	1.924E-02	1.989E-02	2.908E-02	PCI/G	1.001	1.03E+0
U-238	KWSR	0	2/22/2008 2:21:45 PM	1.5519E+00	9.716E-02	1.616E-01	3.431E-02	PCI/G	1.001	1.03E+0
8030213	9KF6E510		F8A26014511	TSB-HR-02-0'	SOLID	1/26/2008 10:15:00	1/25/2008 9:45:00 AM			
RA-226	D9TE	0	3/3/2008 2:33:00 PM	1.2536E+00	8.49E-02	1.476E-01	9.29E-02	pCi/g	1.0	1.0E+0

8042382, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

SDG or Batch	Rpt Db Id	LotSample	Client Id	Matrix	Received Date	Sample Date				
Isotope	Method	Analysis Date	Result	Cnt Uncert	Tot uncert	mqg	Units	Expected	Yield	Volumes
RA-228	D9TF	0	3/5/2008 5:57:38 AM	2.2397E+00	1.856E-01	2.269E-01	5.372E-01	pCi/g	0.881	1.0E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	2.5836E+00	2.076E-01	2.93E-01	7.983E-02	pCi/g	0.727	1.01E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.4074E+00	1.513E-01	1.886E-01	7.766E-02	pCi/g	0.727	1.01E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	2.0754E+00	1.835E-01	2.475E-01	7.766E-02	pCi/g	0.727	1.01E+0
U-234	KWSR	0	2/22/2008 2:22:10 PM	1.105E+00	8.215E-02	1.233E-01	2.924E-02	PCI/G	0.953	1.01E+0
U-235	KWSR	0	2/22/2008 2:22:10 PM	4.2736E-02	1.62E-02	1.658E-02	2.924E-02	PCI/G	0.953	1.01E+0
U-238	KWSR	0	2/22/2008 2:22:10 PM	1.1478E+00	8.372E-02	1.27E-01	2.924E-02	PCI/G	0.953	1.01E+0
8030213	9KF6EM10	F8A2601451	TSB-HJ-01-10'	SOLID		1/26/2008 10:15:00	1/25/2008 12:10:00 PM			
RA-226	D9TE	0	3/3/2008 1:41:00 PM	1.3657E+00	9.376E-02	1.604E-01	1.367E-01	pCi/g	1.0	1.01E+0
RA-228	D9TF	0	3/5/2008 6:02:30 AM	1.4241E+00	1.707E-01	1.898E-01	5.712E-01	pCi/g	0.916	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.8241E+00	1.378E-01	2.095E-01	5.87E-02	pCi/g	0.857	1.01E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.6482E+00	1.291E-01	1.923E-01	4.843E-02	pCi/g	0.857	1.01E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	2.4147E+00	1.563E-01	2.608E-01	4.843E-02	pCi/g	0.857	1.01E+0
U-234	KWSR	0	2/22/2008 2:19:11 PM	1.6921E+00	1.015E-01	1.736E-01	3.432E-02	PCI/G	0.953	1.02E+0
U-235	KWSR	0	2/22/2008 2:19:11 PM	8.5031E-02	2.276E-02	2.383E-02	2.909E-02	PCI/G	0.953	1.02E+0
U-238	KWSR	0	2/22/2008 2:19:11 PM	1.6144E+00	9.907E-02	1.669E-01	2.909E-02	PCI/G	0.953	1.02E+0
8030213	9KF6EP10	F8A2601452	TSB-HJ-09-0'	SOLID		1/26/2008 10:15:00	1/25/2008 12:50:00 PM			
RA-226	D9TE	0	3/3/2008 1:44:00 PM	1.2501E+00	9.548E-02	1.53E-01	1.553E-01	pCi/g	0.945	1.01E+0
RA-228	D9TF	0	3/5/2008 6:02:30 AM	1.5569E+00	1.74E-01	1.96E-01	5.62E-01	pCi/g	0.857	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.0512E+00	1.457E-01	2.291E-01	7.073E-02	pCi/g	0.901	1.0E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	9.4027E-01	9.783E-02	1.27E-01	7.823E-02	pCi/g	0.901	1.0E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.6199E+00	1.276E-01	1.891E-01	5.665E-02	pCi/g	0.901	1.0E+0
U-234	KWSR	0	2/22/2008 2:19:29 PM	1.014E+00	7.967E-02	1.162E-01	2.998E-02	PCI/G	1.008	1.0E+0
U-235	KWSR	0	2/22/2008 2:19:29 PM	1.1266E-02	8.94E-03	8.989E-03	2.998E-02	PCI/G	1.008	1.0E+0
U-238	KWSR	0	2/22/2008 2:19:29 PM	1.0515E+00	8.114E-02	1.194E-01	2.998E-02	PCI/G	1.008	1.0E+0
8030213	9KF6EQ10	F8A2601453	TSB-HJ-09-10'	SOLID		1/26/2008 10:15:00	1/25/2008 1:00:00 PM			
RA-226	D9TE	0	3/3/2008 1:48:00 PM	1.6981E+00	1.121E-01	2.093E-01	1.298E-01	pCi/g	0.95	1.02E+0
RA-228	D9TF	0	3/5/2008 6:55:47 AM	1.6815E+00	1.75E-01	2.008E-01	5.383E-01	pCi/g	0.837	1.02E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.8173E+00	1.533E-01	2.183E-01	6.182E-02	pCi/g	0.948	1.02E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.4952E+00	1.371E-01	1.875E-01	6.018E-02	pCi/g	0.948	1.02E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.3947E+00	1.324E-01	1.782E-01	6.018E-02	pCi/g	0.948	1.02E+0
U-234	KWSR	0	2/22/2008 2:19:42 PM	2.6374E+00	1.285E-01	2.55E-01	4.291E-02	PCI/G	0.94	1.02E+0
U-235	KWSR	0	2/22/2008 2:19:42 PM	9.9949E-02	2.502E-02	2.637E-02	2.992E-02	PCI/G	0.94	1.02E+0
U-238	KWSR	0	2/22/2008 2:19:42 PM	2.3663E+00	1.218E-01	2.321E-01	4.875E-02	PCI/G	0.94	1.02E+0
8030213	9KF6ER10	F8A2601454	TSB-HJ-03-0'	SOLID		1/26/2008 10:15:00	1/25/2008 7:25:00 AM			
RA-226	D9TE	0	3/3/2008 1:47:00 PM	1.1157E+00	9.528E-02	1.428E-01	1.814E-01	pCi/g	0.939	1.0E+0
RA-228	D9TF	0	3/5/2008 6:55:47 AM	1.5538E+00	1.583E-01	1.829E-01	4.134E-01	pCi/g	0.868	1.0E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.582E+00	1.432E-01	1.974E-01	6.21E-02	pCi/g	0.915	1.03E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	9.5912E-01	1.1E-01	1.374E-01	6.044E-02	pCi/g	0.915	1.03E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.7416E+00	1.483E-01	2.106E-01	6.044E-02	pCi/g	0.915	1.03E+0
U-234	KWSR	0	2/22/2008 2:19:58 PM	1.1651E+00	8.547E-02	1.295E-01	4.586E-02	PCI/G	0.951	1.01E+0
U-235	KWSR	0	2/22/2008 2:19:58 PM	2.9906E-02	1.399E-02	1.421E-02	2.984E-02	PCI/G	0.951	1.01E+0
U-238	KWSR	0	2/22/2008 2:19:58 PM	9.7568E-01	7.809E-02	1.128E-01	3.521E-02	PCI/G	0.951	1.01E+0
8030213	9KF6ET10	F8A2601455	TSB-HJ-03-0' FD	SOLID		1/26/2008 10:15:00	1/25/2008 7:25:00 AM			
RA-226	D9TE	0	3/3/2008 1:43:00 PM	1.049E+00	1.002E-01	1.455E-01	2.045E-01	pCi/g	0.948	1.0E+0
RA-228	D9TF	0	3/5/2008 6:55:47 AM	1.5664E+00	1.763E-01	1.977E-01	5.167E-01	pCi/g	0.81	1.0E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.1485E+00	1.624E-01	2.451E-01	5.88E-02	pCi/g	0.977	1.02E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.3741E+00	1.282E-01	1.738E-01	5.723E-02	pCi/g	0.977	1.02E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	2.1269E+00	1.594E-01	2.418E-01	5.723E-02	pCi/g	0.977	1.02E+0
U-234	KWSR	0	2/22/2008 2:20:15 PM	9.8954E-01	7.584E-02	1.117E-01	3.971E-02	PCI/G	0.924	1.02E+0
U-235	KWSR	0	2/22/2008 2:20:15 PM	6.2424E-02	1.92E-02	1.989E-02	2.769E-02	PCI/G	0.924	1.02E+0
U-238	KWSR	0	2/22/2008 2:20:15 PM	1.0635E+00	7.866E-02	1.181E-01	4.255E-02	PCI/G	0.924	1.02E+0
8030213	9KF6EV10	F8A2601456	TSB-HJ-03-10'	SOLID		1/26/2008 10:15:00	1/25/2008 7:45:00 AM			
RA-226	D9TE	0	3/3/2008 2:37:00 PM	1.2479E+00	1.079E-01	1.635E-01	1.674E-01	pCi/g	0.942	1.0E+0

8042382, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

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 Units	Yield	Volumes
RA-228	D9TF	0	3/5/2008 6:56:09 AM	1.5292E+00	1.585E-01	1.804E-01 4.107E-01	pCi/g	0.857	1.0E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.8638E+00	1.357E-01	2.106E-01 4.728E-02	pCi/g	0.884	1.0E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.495E+00	1.2E-01	1.763E-01 5.429E-02	pCi/g	0.884	1.0E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.5737E+00	1.231E-01	1.834E-01 4.602E-02	pCi/g	0.884	1.0E+0
U-234	KWSR	0	2/22/2008 2:20:30 PM	1.5931E+00	1.002E-01	1.665E-01 3.016E-02	PCI/G	0.916	1.02E+0
U-235	KWSR	0	2/22/2008 2:20:30 PM	3.0225E-02	1.414E-02	1.436E-02 3.016E-02	PCI/G	0.916	1.02E+0
U-238	KWSR	0	2/22/2008 2:20:30 PM	1.3274E+00	9.148E-02	1.437E-01 3.016E-02	PCI/G	0.916	1.02E+0
8030213	9KF6EW10		F8A2601457	TSB-HR-03-0'	SOLID	1/26/2008 10:15:00	1/25/2008 8:05:00 AM		
RA-226	D9TE	0	3/3/2008 2:24:00 PM	8.0495E-01	9.936E-02	1.261E-01 1.977E-01	pCi/g	1.0	1.01E+0
RA-228	D9TF	0	3/5/2008 6:56:09 AM	1.0503E+00	1.325E-01	1.461E-01 3.886E-01	pCi/g	0.898	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.2854E+00	2.053E-01	2.754E-01 8.827E-02	pCi/g	0.596	1.0E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.3777E+00	1.574E-01	1.925E-01 8.592E-02	pCi/g	0.596	1.0E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.7759E+00	1.785E-01	2.285E-01 8.592E-02	pCi/g	0.596	1.0E+0
U-234	KWSR	0	2/22/2008 2:20:42 PM	1.0882E+00	8.213E-02	1.223E-01 2.965E-02	PCI/G	0.974	1.0E+0
U-235	KWSR	0	2/22/2008 2:20:42 PM	4.2093E-02	1.642E-02	1.679E-02 2.965E-02	PCI/G	0.974	1.0E+0
U-238	KWSR	0	2/22/2008 2:20:42 PM	9.5824E-01	7.708E-02	1.11E-01 2.965E-02	PCI/G	0.974	1.0E+0
8030213	KF6E21LR		F8A26014510	TSB-HJ-02-10'	DUP SOLID	1/26/2008 10:15:00	1/25/2008 8:55:00 AM		
RA-228	D9TF	0 R	3/5/2008 5:57:38 AM	8.5781E-01	1.255E-01	1.36E-01 4.382E-01	pCi/g	0.913	1.03E+0
8030213	KF6E21NR		F8A26014510	TSB-HJ-02-10'	DUP SOLID	1/26/2008 10:15:00	1/25/2008 8:55:00 AM		
RA-228	D9TF	0 R	3/5/2008 5:57:38 AM	1.7126E+00	1.628E-01	1.906E-01 4.895E-01	pCi/g	0.904	1.0E+0
8030213	KGXJE1AB		J8B110000382	INTRA-LAB BLANK	SOLID	1/25/2008 9:15:00	1/24/2008 8:40:00 AM		
RA-228	D9TF	0 B	3/5/2008 5:57:46 AM	-1.4479E-01	1.009E-01	1.009E-01 5.156E-01	pCi/g	0.877	1.03E+0
8030213	KGXJE1CS		J8B110000382	INTRA-LAB CHECK	SOLID	1/25/2008 9:15:00	1/24/2008 8:40:00 AM		
RA-228	D9TF	0 S	3/5/2008 5:57:46 AM	5.0867E+00	2.615E-01	3.895E-01 5.822E-01	pCi/g	5.0121E+00 0.823	1.0E+0

8042382, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtims => .

Alpha Beta, Ra-228 by GPC , Results

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Ra-228 by GPC Ra-226/Ra-228 Deem With Out Blk Subt. *CntU: 0+1, + *SystU, `MDCConst:2.71																
Calc	TF	SOLID	KF5GG1AF	RA-228	1.20E+00	(3.03E-01)		pCi/g	R	4.54E-01	9.86E-01					88%
Calc	TF	SOLID	KF5GG1AF	RA-228	1.39E+00	(3.41E-01)		pCi/g	R	5.04E-01	1.09E+00					88%
Calc	TF	SOLID	KF5GG1AF	RA-228	1.40E+00	(3.66E-01)		pCi/g	R	5.59E-01	1.21E+00					88%
Calc	TF	SOLID	KF5GG1AF	RA-228	1.33E+00	(1.95E-01)		pCi/g	A	2.92E-01	6.34E-01	✓				88%
Calc	TF	SOLID	KF5GG1AF	RA-228	1.74E+00	(8.16E-01)		pCi/g	R	1.27E+00	2.97E+00					88%
Calc	TF	SOLID	KF5GL1AF	RA-228	1.73E+00	(3.40E-01)		pCi/g	R	4.22E-01	9.22E-01					84%
Calc	TF	SOLID	KF5GL1AF	RA-228	1.30E+00	(3.22E-01)		pCi/g	R	4.68E-01	1.02E+00					84%
Calc	TF	SOLID	KF5GL1AF	RA-228	1.19E+00	(3.35E-01)		pCi/g	R	5.19E-01	1.14E+00					84%
Calc	TF	SOLID	KF5GL1AF	RA-228	1.41E+00	(1.92E-01)		pCi/g	A	2.71E-01	5.93E-01	✓				84%
Calc	TF	SOLID	KF5GL1AF	RA-228	1.77E+00	(9.94E-01)		pCi/g	R	1.71E+00	3.88E+00					84%
Calc	TF	SOLID	KF6EM1AF	RA-228	1.16E+00	(2.81E-01)		pCi/g	R	4.08E-01	8.88E-01					92%
Calc	TF	SOLID	KF6EM1AF	RA-228	1.11E+00	(2.96E-01)		pCi/g	R	4.53E-01	9.86E-01					92%
Calc	TF	SOLID	KF6EM1AF	RA-228	2.00E+00	(3.97E-01)		pCi/g	R	5.02E-01	1.09E+00					92%
Calc	TF	SOLID	KF6EM1AF	RA-228	1.42E+00	(1.90E-01)		pCi/g	A	2.62E-01	5.71E-01	✓				92%
Calc	TF	SOLID	KF6EM1AF	RA-228	1.69E+00	(8.43E-01)		pCi/g	R	1.36E+00	3.15E+00					92%
Calc	TF	SOLID	KF6EP1AF	RA-228	1.61E+00	(3.24E-01)		pCi/g	R	3.97E-01	8.74E-01					86%
Calc	TF	SOLID	KF6EP1AF	RA-228	1.59E+00	(3.42E-01)		pCi/g	R	4.41E-01	9.70E-01					86%
Calc	TF	SOLID	KF6EP1AF	RA-228	1.47E+00	(3.52E-01)		pCi/g	R	4.89E-01	1.08E+00					86%
Calc	TF	SOLID	KF6EP1AF	RA-228	1.56E+00	(1.96E-01)		pCi/g	A	2.55E-01	5.62E-01	✓				86%
Calc	TF	SOLID	KF6EP1AF	RA-228	2.88E+00	(1.05E+00)		pCi/g	R	1.53E+00	3.53E+00					86%
Calc	TF	SOLID	KF6EQ1AF	RA-228	1.47E+00	(3.07E-01)		pCi/g	R	3.79E-01	8.37E-01					84%
Calc	TF	SOLID	KF6EQ1AF	RA-228	1.95E+00	(3.72E-01)		pCi/g	R	4.20E-01	9.29E-01					84%
Calc	TF	SOLID	KF6EQ1AF	RA-228	1.62E+00	(3.61E-01)		pCi/g	R	4.66E-01	1.03E+00					84%
Calc	TF	SOLID	KF6EQ1AF	RA-228	1.68E+00	(2.01E-01)		pCi/g	A	2.44E-01	5.38E-01	✓				84%
Calc	TF	SOLID	KF6EQ1AF	RA-228	4.83E+00	(1.40E+00)		pCi/g	R	2.05E+00	4.55E+00					84%
Calc	TF	SOLID	KF6ER1AF	RA-228	2.08E+00	(3.54E-01)		pCi/g	R	2.76E-01	6.43E-01					87%
Calc	TF	SOLID	KF6ER1AF	RA-228	1.52E+00	(3.12E-01)		pCi/g	R	3.06E-01	7.13E-01					87%
Calc	TF	SOLID	KF6ER1AF	RA-228	1.06E+00	(2.80E-01)		pCi/g	R	3.40E-01	7.92E-01					87%
Calc	TF	SOLID	KF6ER1AF	RA-228	1.55E+00	(1.83E-01)		pCi/g	A	1.77E-01	4.13E-01	✓				87%
Calc	TF	SOLID	KF6ER1AF	RA-228	1.74E+00	(1.14E+00) U4		pCi/g	R	2.11E+00	4.67E+00					87%
Calc	TF	SOLID	KF6ET1AF	RA-228	1.38E+00	(3.04E-01)		pCi/g	R	3.55E-01	8.04E-01					81%
Calc	TF	SOLID	KF6ET1AF	RA-228	1.57E+00	(3.41E-01)		pCi/g	R	3.94E-01	8.92E-01					81%
Calc	TF	SOLID	KF6ET1AF	RA-228	1.74E+00	(3.78E-01)		pCi/g	R	4.37E-01	9.90E-01					81%
Calc	TF	SOLID	KF6ET1AF	RA-228	1.57E+00	(1.98E-01)		pCi/g	A	2.28E-01	5.17E-01	✓				81%
Calc	TF	SOLID	KF6ET1AF	RA-228	1.14E+00	(1.16E+00) U4		pCi/g	R	2.26E+00	5.00E+00					81%
Calc	TF	SOLID	KF6EV1AF	RA-228	1.45E+00	(2.88E-01)		pCi/g	R	2.75E-01	6.39E-01					86%
Calc	TF	SOLID	KF6EV1AF	RA-228	1.47E+00	(3.05E-01)		pCi/g	R	3.05E-01	7.09E-01					86%

() - (1s Uncertainties)
 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

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc	Yld	LCS Yld
Calc	TF	SOLID	KF6EV1AF	RA-228	1.67E+00	(3.42E-01)		pCi/g	R	3.39E-01	7.87E-01		86%	
Calc	TF	SOLID	KF6EV1AF	RA-228	1.53E+00	(1.80E-01)		pCi/g	A	1.77E-01	4.11E-01	✓	86%	
Calc	TF	SOLID	KF6EV1AF	RA-228	9.20E-01	(8.63E-01)	U4	pCi/g	R	1.64E+00	3.80E+00		86%	
Calc	TF	SOLID	KF6EW1AF	RA-228	1.16E+00	(2.50E-01)		pCi/g	R	2.60E-01	6.04E-01		90%	
Calc	TF	SOLID	KF6EW1AF	RA-228	1.15E+00	(2.63E-01)		pCi/g	R	2.89E-01	6.71E-01		90%	
Calc	TF	SOLID	KF6EW1AF	RA-228	8.49E-01	(2.46E-01)		pCi/g	R	3.20E-01	7.44E-01		90%	
Calc	TF	SOLID	KF6EW1AF	RA-228	1.05E+00	(1.46E-01)		pCi/g	A	1.67E-01	3.89E-01	✓	90%	
Calc	TF	SOLID	KF6EW1AF	RA-228	0.00E+00	(8.34E-01)	U4	pCi/g	R	1.83E+00	4.13E+00		90%	
Calc	TF	SOLID	KF6E01AF	RA-228	1.41E+00	(2.81E-01)		pCi/g	R	2.53E-01	5.89E-01		90%	
Calc	TF	SOLID	KF6E01AF	RA-228	9.22E-01	(2.40E-01)		pCi/g	R	2.81E-01	6.54E-01		90%	
Calc	TF	SOLID	KF6E01AF	RA-228	1.29E+00	(2.96E-01)		pCi/g	R	3.12E-01	7.26E-01		90%	
Calc	TF	SOLID	KF6E01AF	RA-228	1.21E+00	(1.58E-01)		pCi/g	A	1.63E-01	3.79E-01	✓	90%	
Calc	TF	SOLID	KF6E01AF	RA-228	1.82E+00	(9.05E-01)		pCi/g	R	1.50E+00	3.48E+00		90%	
Calc	TF	SOLID	KF6E11AF	RA-228	1.32E+00	(2.88E-01)		pCi/g	R	3.15E-01	7.16E-01		89%	
Calc	TF	SOLID	KF6E11AF	RA-228	1.75E+00	(3.51E-01)		pCi/g	R	3.49E-01	7.95E-01		89%	
Calc	TF	SOLID	KF6E11AF	RA-228	1.55E+00	(3.47E-01)		pCi/g	R	3.88E-01	8.82E-01		89%	
Calc	TF	SOLID	KF6E11AF	RA-228	1.54E+00	(1.90E-01)		pCi/g	A	2.02E-01	4.60E-01	✓	89%	
Calc	TF	SOLID	KF6E11AF	RA-228	2.42E+00	(9.99E-01)		pCi/g	R	1.57E+00	3.62E+00		89%	
Calc	TF	SOLID	KF6E21AJ	RA-228	1.36E+00	(2.90E-01)		pCi/g	R	2.96E-01	6.83E-01		86%	
Calc	TF	SOLID	KF6E21AJ	RA-228	1.40E+00	(3.10E-01)		pCi/g	R	3.29E-01	7.58E-01		86%	
Calc	TF	SOLID	KF6E21AJ	RA-228	1.60E+00	(3.48E-01)		pCi/g	R	3.65E-01	8.41E-01		86%	
Calc	TF	SOLID	KF6E21AJ	RA-228	1.45E+00	(1.83E-01)		pCi/g	A	1.90E-01	4.39E-01	✓	86%	
Calc	TF	SOLID	KF6E21AJ	RA-228	2.02E+00	(9.52E-01)		pCi/g	R	1.48E+00	3.46E+00		86%	
Calc	TF	SOLID	KF6E21AL	RA-228	1.00E+00	(2.31E-01)		pCi/g	R	3.08E-01	6.81E-01	R	91%	
Calc	TF	SOLID	KF6E21AL	RA-228	5.19E-01	(2.02E-01)		pCi/g	R	3.42E-01	7.56E-01	R	91%	REC=
Calc	TF	SOLID	KF6E21AL	RA-228	1.05E+00	(2.68E-01)		pCi/g	R	3.79E-01	8.39E-01	R	91%	
Calc	TF	SOLID	KF6E21AL	RA-228	8.58E-01	(1.36E-01)		pCi/g	A	1.98E-01	4.38E-01	✓R	91%	2.60
Calc	TF	SOLID	KF6E21AL	RA-228	6.91E-02	(8.57E-01)	U4	pCi/g	R	1.79E+00	3.92E+00	R	91%	JK
Calc	TF	SOLID	KF6E21AN	RA-228	1.67E+00	(3.08E-01)		pCi/g	R	3.45E-01	7.61E-01	R	90%	
Calc	TF	SOLID	KF6E21AN	RA-228	1.97E+00	(3.53E-01)		pCi/g	R	3.83E-01	8.45E-01	R	90%	REC=
Calc	TF	SOLID	KF6E21AN	RA-228	1.51E+00	(3.28E-01)		pCi/g	R	4.25E-01	9.38E-01	R	90%	
Calc	TF	SOLID	KF6E21AN	RA-228	1.71E+00	(1.91E-01)		pCi/g	A	2.22E-01	4.90E-01	✓R	90%	.98
Calc	TF	SOLID	KF6E21AN	RA-228	2.76E+00	(1.04E+00)		pCi/g	R	1.70E+00	3.74E+00	R	90%	
Calc	TF	SOLID	KF6E51AF	RA-228	2.72E+00	(4.18E-01)		pCi/g	R	3.81E-01	8.35E-01		88%	
Calc	TF	SOLID	KF6E51AF	RA-228	1.72E+00	(3.42E-01)		pCi/g	R	4.23E-01	9.27E-01		88%	
Calc	TF	SOLID	KF6E51AF	RA-228	2.28E+00	(4.14E-01)		pCi/g	R	4.69E-01	1.03E+00		88%	
Calc	TF	SOLID	KF6E51AF	RA-228	2.24E+00	(2.27E-01)		pCi/g	A	2.45E-01	5.37E-01	✓	88%	
Calc	TF	SOLID	KF6E51AF	RA-228	-3.33E-01	(8.84E-01)	U4	pCi/g	R	1.91E+00	4.19E+00		88%	

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Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc	Yld	LCS	Yld
Calc	TF	SOLID	KGXJE1AA	RA-228	5.58E-02	(1.71E-01)	U4	pCi/g	R	3.66E-01	8.02E-01	B	88%		
Calc	TF	SOLID	KGXJE1AA	RA-228	-1.71E-01	(1.72E-01)	U4	pCi/g	R	4.06E-01	8.90E-01	B	88%		
Calc	TF	SOLID	KGXJE1AA	RA-228	-3.19E-01	(1.81E-01)	U4	pCi/g	R	4.50E-01	9.87E-01	B	88%		
Calc	TF	SOLID	KGXJE1AA	RA-228	-1.45E-01	(1.01E-01)	U4	pCi/g	A	2.35E-01	5.16E-01	✓B	88%		
Calc	TF	SOLID	KGXJE1AA	RA-228	2.35E-01	(9.12E-01)	U4	pCi/g	R	1.96E+00	4.28E+00	B	88%		
Calc	TF	SOLID	KGXJE1AC	RA-228	5.35E+00	(6.81E-01)		pCi/g	R	4.14E-01	9.05E-01	S	82%	107%	
Calc	TF	SOLID	KGXJE1AC	RA-228	5.14E+00	(6.79E-01)		pCi/g	R	4.59E-01	1.00E+00	S	82%	102%	
Calc	TF	SOLID	KGXJE1AC	RA-228	4.77E+00	(6.65E-01)		pCi/g	R	5.10E-01	1.12E+00	S	82%	95%	
Calc	TF	SOLID	KGXJE1AC	RA-228	5.09E+00	(3.90E-01)		pCi/g	A	2.66E-01	5.82E-01	✓S	82%	101%	
Calc	TF	SOLID	KGXJE1AC	RA-228	5.11E+00	(1.33E+00)		pCi/g	R	1.92E+00	4.24E+00	S	82%	102%	

JK

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Tom DME  *3/5/08*

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Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol				
1	Calc	TF	SOLID	*STLE	Ra228WoBS	KF5GGL1AFV			pCi/g			01/24/08	08:40	03/05/08	06:02	02/25/08	14:55	RATA30224	1	g						
									SOLID				31.4	03/04/08	11:35			RATA30224	Alq	96%	1.03	g				
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Bk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn
0	86	03/04/08	RA-228	86	359	400	400	GPC7C	1	N	N	5.1702E-01	1.0000E+00	N	88%	N	88%	N			1.4970E+00	(0.000E+00)	4.5045E-01	0.970874	1.0107E+00	
1	50	03/04/08	RA-228	50	359	400	400	GPC7C	1	Y	N	(1.248E-02)	(0.000E+00)	N	7%	N	7%	N			1.6613E+00	(0.000E+00)	4.5045E-01	0.970874	1.0107E+00	
2	50	03/04/08	RA-228	50	359	400	400	GPC7C	1	Y	N	(1.248E-02)	(0.000E+00)	N	7%	N	7%	N			1.8436E+00	(0.000E+00)	4.5045E-01	0.970874	1.0107E+00	
3	50	03/05/08	RA-228	50	359	400	400	GPC7C	1	Y	N	(1.248E-02)	(0.000E+00)	N	7%	N	7%	N			7.6882E+00	(0.000E+00)	4.5045E-01	0.970874	1.0107E+00	
0	23	03/05/08	RA-228	23	60	250	250	GPC4A	1	N	N	4.9045E-01	1.0000E+00	N	88%	N	88%	N			7.6882E+00	(0.000E+00)	4.5045E-01	0.970874	1.0107E+00	
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Bk	Dpm-Bk	Vol	Used	Trc	Yld,EntFct	LCS	Yld,EFctU	IDC	ILcC	BkLcC/MDC	Std	DvMdc/LcC	
03/05/08	RA-228	R	1.198146	0.302514				8.22500E-01	2.710668	2.710668	1.03	88%	0.98648													
03/05/08	RA-228	R	1.394333	0.341303				(1.9143E-01)	(0.670302)	(0.670302)	1.03	88%	0.454033													
03/05/08	RA-228	R	1.403821	0.366399				8.62500E-01	3.154519	3.154519	1.03	88%	1.094767													
03/05/08	RA-228	A	1.3321	0.195007				(1.9350E-01)	(0.75522)	(0.75522)	1.03	88%	0.503872													
03/05/08	RA-228	R	1.735053	0.816411				7.82500E-01	3.175984	3.175984	1.03	88%	1.214903													
03/05/08	RA-228	R	1.735053	0.816411				(1.8932E-01)	(0.812963)	(0.812963)	1.03	88%	0.559166													
03/05/08	RA-228	R	1.735053	0.816411				8.22500E-01	3.013724	3.013724	1.03	88%	0.634344													
03/05/08	RA-228	R	1.735053	0.816411				(1.1052E-01)	(0.432123)	(0.432123)	1.03	88%	0.29196													
03/05/08	RA-228	R	1.735053	0.816411				2.20000E-01	3.925358	3.925358	1.03	88%	2.968214													
03/05/08	RA-228	R	1.735053	0.816411				(1.0080E-01)	(1.836159)	(1.836159)	1.03	88%	1.271135													

Alpha Beta, Ra-228 by GPC, Calculated Results

3/5/2008 7:28:16 AM

Sq	CalcDate,TrcAct Parameter	Avg Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCsYld,EFctU	IDC/ILcC	BIKlC/MDC	StdDvMdc/LcC
3	03/05/08 06:02 RA-228	29 93	N N	4.7330E-01	1.0000E+00	N	84%	84%	7.6882E+00	4.5045E-01	1.0107E+00	
		50 250	N	(2.332E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874		
Sq	CalcDate,TrcAct Parameter	Avg Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCsYld,EFctU	IDC/ILcC	BIKlC/MDC	StdDvMdc/LcC
0	03/05/08 RA-228	R 1.727973		(0.340254)	3.909385	(0.743538)	1.03 G	84%	0.92222			
					(0.743538)	(0.743538)	(0.0103)		0.421591			
1	03/05/08 RA-228	R 1.298794		(0.322006)	2.938406	(0.712937)	1.03 G	84%	1.023454			
					(0.712937)	(0.712937)	(0.0103)		0.46787			
2	03/05/08 RA-228	R 1.188298		(0.335088)	2.688419	(0.745609)	1.03 G	84%	1.135765			
					(0.745609)	(0.745609)	(0.0103)		0.519213			
3	03/05/08 RA-228	A 1.405022		(0.191991)	3.178737	(0.423879)	1.03 G	84%	0.593023			
					(0.423879)	(0.423879)	(0.005947)		0.2711			
3	03/05/08 RA-228	R 1.773952		(0.993957)	4.013409	(2.239408)	1.03 G	84%	3.882974			
					(2.239408)	(2.239408)	(0.0103)		1.711378			

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc TF	SOLID	*STLE Ra228WoBS	KF6EM1AF	pc/g	SOLID	01/25/08 12:10	03/05/08 06:02	02/25/08 14:55	03/04/08 11:35	RATA30226	Alq	100%	1.01 g
0	03/04/08 15:34	RA-228	85	336	GPC1B 1	N N	5.4530E-01	1.0000E+00	N	92%	N	1.4986E+00	4.5045E-01	1.0103E+00
			50	400		Y	(1.339E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099	
1	03/04/08 16:30	RA-228	79	336	GPC1B 1	N N	5.4530E-01	1.0000E+00	N	92%	N	1.6631E+00	4.5045E-01	1.0103E+00
			50	400		Y	(1.339E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099	
2	03/04/08 17:25	RA-228	102	336	GPC1B 1	N N	5.4530E-01	1.0000E+00	N	92%	N	1.8456E+00	4.5045E-01	1.0103E+00
			50	400		Y	(1.339E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099	
3	03/05/08 06:02	RA-228	24	67	GPC4C 1	N N	4.7390E-01	1.0000E+00	N	92%	N	7.6882E+00	4.5045E-01	1.0103E+00
			50	250		N	(2.034E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099	

Sq	CalcDate,TrcAct Parameter	Avg Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCsYld,EFctU	IDC/ILcC	BIKlC/MDC	StdDvMdc/LcC
0	03/05/08 RA-228	R 1.163008		(0.281086)	2.581056	(0.609771)	1.01 G	92%	0.88836			
					(0.609771)	(0.609771)	(0.0101)		0.407774			
1	03/05/08 RA-228	R 1.110579		(0.296224)	2.464702	(0.645284)	1.01 G	92%	0.985877			
					(0.645284)	(0.645284)	(0.0101)		0.452536			
2	03/05/08 RA-228	R 1.998568		(0.396679)	4.435411	(0.8508)	1.01 G	92%	1.094064			
					(0.8508)	(0.8508)	(0.0101)		0.502196			
3	03/05/08 RA-228	A 1.424051		(0.189769)	3.16039	(0.409888)	1.01 G	92%	0.57125			
					(0.409888)	(0.409888)	(0.005831)		0.262214			
3	03/05/08 RA-228	R 1.692393		(0.843304)	3.755919	(1.861716)	1.01 G	92%	3.150373			
					(1.861716)	(1.861716)	(0.0101)		1.359655			

() - (1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4
 RADCALC v4.8.29
 TA Richland

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
4	Calc	TF	SOLID	*STLE	Ra228WoBS	KF6EPIAF	✓	pCi/g	✓	01/25/08 12:50	03/05/08 06:02	02/25/08 14:55	✓	1	g			
1418995	TSB-HJ-09-0			.F8A260145-2				SOLID		31.2	03/04/08 11:35	RATA30227	Alq	95%	✓	1.01 g	✓	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:34	RA-228	87	263	GPC1C	1	N	N	5.2932E-01	1.0000E+00	N	86%	N		1.4986E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.089E-02)	(0.000E+00)		7%			(0.000E+00)	0.990099		
1	03/04/08 16:30	RA-228	81	263	GPC1C	1	N	N	5.2932E-01	1.0000E+00	N	86%	N		1.6631E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.089E-02)	(0.000E+00)		7%			(0.000E+00)	0.990099		
2	03/04/08 17:25	RA-228	73	263	GPC1C	1	N	N	5.2932E-01	1.0000E+00	N	86%	N		1.8456E+00	4.5045E-01	1.0103E+00	
			50	400			Y		(1.089E-02)	(0.000E+00)		7%			(0.000E+00)	0.990099		
3	03/05/08 06:02	RA-228	31	72	GPC4D	1	N	N	4.6642E-01	1.0000E+00	N	86%	N		7.6882E+00	4.5045E-01	1.0103E+00	
			50	250			N		(2.247E-02)	(0.000E+00)		7%			(0.000E+00)	0.990099		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EntFct	LCSYld,EFctU	IDC/ILcC	BIKcC/MDC	StdDvMdc/LcC				
03/05/08	RA-228	R	1.610675			1.08250E+00	3.574596	3.574596	1.01 G	86%		0.874052						
			(0.324238)			(1.9090E-01)	(0.69612)	(0.69612)	(0.0101)			0.396939						
03/05/08	RA-228	R	1.589331			9.62500E-01	3.527227	3.527227	1.01 G	86%		0.969998						
			(0.341509)			(1.8451E-01)	(0.736268)	(0.736268)	(0.0101)			0.440512						
03/05/08	RA-228	R	1.470546			8.02500E-01	3.263605	3.263605	1.01 G	86%		1.076443						
			(0.352063)			(1.7562E-01)	(0.763412)	(0.763412)	(0.0101)			0.488852						
03/05/08	RA-228	A	1.556851			9.49167E-01	3.455143	3.455143	1.01 G	86%		0.562049						
			(0.19599)			(1.0611E-01)	(0.422883)	(0.422883)	(0.005831)			0.255247						
03/05/08	RA-228	R	2.876064			3.32000E-01	6.382893	6.382893	1.01 G	86%		3.526732						
			(1.053876)			(1.1641E-01)	(2.316128)	(2.316128)	(0.0101)			1.529511						

Alpha Beta, Ra-228 by GPC, Calculated Results

3/5/2008 7:28:16 AM

Batch Nbr: 8042382

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	1.466012 (0.307083)	9.92500E-01 (1.8308E-01)	Q	3.285763 (0.66756)	3.285763 (0.66756)	1.02 G (0.0102)	84%	0.837149				
03/05/08	RA-228	R	1.954785 (0.372094)	1.19250E+00 (1.9370E-01)	Q	4.381246 (0.803492)	4.381246 (0.803492)	1.02 G (0.0102)	84%	0.929044				
03/05/08	RA-228	R	1.623561 (0.360922)	8.92500E-01 (1.7754E-01)	Q	3.638878 (0.787365)	3.638878 (0.787365)	1.02 G (0.0102)	84%	1.030995				
03/05/08	RA-228	A	1.681453 (0.200837)	1.02583E+00 (1.0675E-01)	Q	3.768629 (0.43604)	3.768629 (0.43604)	1.02 G (0.005889)	84%	0.538319				
03/05/08	RA-228	R	4.830362 (1.400863)	5.73815E-01 (1.5682E-01)	Q	10.826259 (3.090834)	10.826259 (3.090834)	1.02 G (0.0102)	84%	4.547403				

Sq Status Method Matrix Protocol Equation Set Wk 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	SOLID	STLE	Ra228WoBS	KF6ER1AF	pCi/g	SOLID	F8A260145-4	01/25/08 07:25	03/05/08 06:55	02/25/08 14:55	03/04/08 11:35	RATA30229	Alq	94%	1.00 g	9	
0	03/04/08 15:35	RA-228	74	99	GPCSA	1	N	N	4.6673E-01	1.0000E+00	N	87%	N	1.4998E+00	4.5045E-01	1.0104E+00			
1	03/04/08 16:30	RA-228	53	400	GPCSA	1	Y	Y	4.765E-03	(0.000E+00)	N	7%	N	1.6644E+00	4.5045E-01	1.0104E+00			
2	03/04/08 17:25	RA-228	38	400	GPCSA	1	Y	Y	4.765E-03	(0.000E+00)	N	7%	N	1.8471E+00	4.5045E-01	1.0104E+00			
3	03/05/08 06:55	RA-228	39	143	GPC1C	1	N	N	5.2709E-01	1.0000E+00	N	87%	N	8.5003E+00	4.5045E-01	1.0104E+00			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	2.077511 (0.353771)	1.23250E+00 (1.7384E-01)	Q	4.564662 (0.741633)	4.564662 (0.741633)	1.00 G (0.01)	87%	0.642817				
03/05/08	RA-228	R	1.519847 (0.312051)	8.12500E-01 (1.4771E-01)	Q	3.339374 (0.66415)	3.339374 (0.66415)	1.00 G (0.01)	87%	0.713358				
03/05/08	RA-228	R	1.063908 (0.280134)	5.12500E-01 (1.2577E-01)	Q	2.337594 (0.603852)	2.337594 (0.603852)	1.00 G (0.01)	87%	0.306168				
03/05/08	RA-228	A	1.553755 (0.18288)	8.52500E-01 (8.6831E-02)	Q	3.413877 (0.388123)	3.413877 (0.388123)	1.00 G (0.005774)	87%	0.791665				
03/05/08	RA-228	R	1.740111 (1.14452)	2.05703E-01 (1.3381E-01)	U4	3.823333 (2.507146)	3.823333 (2.507146)	1.00 G (0.01)	87%	0.339777				

0 - (1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:7

Page 4

RADCALC v4.8.29
TA Richland

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	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	SOLID	*STLE	Ra228WoBS	KF6EVIAT	✓		pCi/g		01/25/08	07:25	03/05/08	06:55	02/25/08	14:55	✓	1	g	1.00	g	✓					
1418995	TSB-HJ-03-0'	FD		F8A260145-5				SOLID					29.4	03/04/08	11:35	RATA30230	Alq	95%		1.00	g	✓					
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn	
0	59	03/04/08	RA-228	154	400	GPC3B	1	N	N	4.8476E-01	1.0000E+00	N	81%	N	1.4998E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00								
1	60	03/04/08	RA-228	154	400	GPC3B	1	N	N	4.8476E-01	1.0000E+00	N	81%	N	1.6644E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00								
2	60	03/04/08	RA-228	154	400	GPC3B	1	N	N	4.8476E-01	1.0000E+00	N	81%	N	1.8471E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00								
3	37	03/05/08	RA-228	152	400	GPC1D	1	N	N	5.4218E-01	1.0000E+00	N	81%	N	8.5003E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00								
50	249							N	N	(1.580E-02)	(0.000E+00)		6%														
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm-Blk	Vol	Used	Trc	Yld,EntFctU	LCS	Yld,FCtU	IDC	/ILcC	BIK	LcC/MDC	StdDv	MdC/LcC	
03/05/08	RA-228	R	1.382	7.95000E-01	3.036501	3.036501	1.00 G	81%	0.803535																		
			(0.303792)	(1.5672E-01)	(0.64928)	(0.64928)	(0.01)																				
03/05/08	RA-228	R	1.572239	8.15000E-01	3.454489	3.454489	1.00 G	81%	0.891712																		
			(0.340996)	(1.5800E-01)	(0.728229)	(0.728229)	(0.01)																				
03/05/08	RA-228	R	1.744826	8.15000E-01	3.833694	3.833694	1.00 G	81%	0.989597																		
			(0.378428)	(1.5800E-01)	(0.808167)	(0.808167)	(0.01)																				
03/05/08	RA-228	A	1.566355	8.08333E-01	3.441561	3.441561	1.00 G	81%	0.43704																		
			(0.197702)	(9.0975E-02)	(0.422297)	(0.422297)	(0.005774)																				
03/05/08	RA-228	R	1.141255	1.29558E-01	2.507541	2.507541	1.00 G	81%	5.003369																		
			(1.162528)	(1.3135E-01)	(2.551078)	(2.551078)	(0.01)																				
Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Mult/EntYld	Total/Analy <td>Vol <td>Final/Count <td>Vol </td></td></td>	Vol <td>Final/Count <td>Vol </td></td>	Final/Count <td>Vol </td>	Vol					
8	Calc	TF	SOLID	*STLE	Ra228WoBS	KF6EVIAT	✓		pCi/g		01/25/08	07:45	03/05/08	06:56	02/25/08	14:55	✓	1	g	1.00	g	✓					
1418995	TSB-HJ-03-10'			F8A260145-6				SOLID					31.3	03/04/08	11:35	RATA30231	Alq	94%		1.00	g	✓					
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn	
0	57	03/04/08	RA-228	103	400	GPC3C	1	N	N	4.8385E-01	1.0000E+00	N	86%	N	1.4998E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00								
1	53	03/04/08	RA-228	103	400	GPC3C	1	N	N	4.8385E-01	1.0000E+00	N	86%	N	1.6644E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00								
2	54	03/04/08	RA-228	103	400	GPC3C	1	N	N	4.8385E-01	1.0000E+00	N	86%	N	1.8471E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00								
3	18	03/05/08	RA-228	106	400	GPC3A	1	N	N	4.6658E-01	1.0000E+00	N	86%	N	8.5062E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00								
50	400							N	N	(4.764E-03)	(0.000E+00)		7%														

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcIU	IDC/ILcC	BIK/LcC/MDC	StdvMdc/LcC
03/05/08	RA-228	R	1.453184	8.82500E-01	3.192918	3.192918	3.192918	(0.611884)	1.00 G	86%	0.638743	0.27491		
			(0.288174)	(1.5311E-01)	(0.611884)	(0.611884)	(0.611884)		(0.01)					
03/05/08	RA-228	R	1.466462	8.02500E-01	3.222093	3.222093	3.222093	(0.648765)	1.00 G	86%	0.708836	0.305078		
			(0.304592)	(1.4780E-01)	(0.648765)	(0.648765)	(0.648765)		(0.01)					
03/05/08	RA-228	R	1.667997	8.22500E-01	3.664904	3.664904	3.664904	(0.728415)	1.00 G	86%	0.786646	0.338566		
			(0.342258)	(1.4914E-01)	(0.728415)	(0.728415)	(0.728415)		(0.01)					
03/05/08	RA-228	A	1.529214	8.35833E-01	3.359972	3.359972	3.359972	(0.383824)	1.00 G	86%	0.410732	0.176776		
			(0.18042)	(8.6623E-02)	(0.383824)	(0.383824)	(0.383824)		(0.005774)					
03/05/08	RA-228	R	0.920046	9.50000E-02	2.021514	2.021514	2.021514	(1.893863)	1.00 G	86%	3.803422	1.64023		
			(0.863224)	(8.8671E-02)	(1.893863)	(1.893863)	(1.893863)		(0.01)					

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	TF	SOLID	*STLE Ra228WoBS	KF6EW1AF	PCi/g	SOLID	F8A260145-7	01/25/08 08:05	03/05/08 06:56	02/25/08 14:55	03/04/08 11:35	RATA30232	Alq	100%	1.01 g
0	03/04/08 15:35	RA-228	50	103	GPC3D	1	N	N	4.8299E-01	1.0000E+00	N	90%	N	1.4998E+00	4.5045E-01	1.0104E+00
			50	400			Y	Y	(8.182E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099	
1	03/04/08 16:30	RA-228	46	103	GPC3D	1	N	N	4.8299E-01	1.0000E+00	N	90%	N	1.6644E+00	4.5045E-01	1.0104E+00
			50	400			Y	Y	(8.182E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099	
2	03/04/08 17:25	RA-228	35	103	GPC3D	1	N	N	4.8299E-01	1.0000E+00	N	90%	N	1.8471E+00	4.5045E-01	1.0104E+00
			50	400			Y	Y	(8.182E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099	
3	03/05/08 06:56	RA-228	20	160	GPC3B	1	N	N	4.8561E-01	1.0000E+00	N	90%	N	8.5062E+00	4.5045E-01	1.0104E+00
			50	400			N	N	(1.039E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099	

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcIU	IDC/ILcC	BIK/LcC/MDC	StdvMdc/LcC
03/05/08	RA-228	R	1.156658	7.42500E-01	2.566822	2.566822	2.566822	(0.539229)	1.01 G	90%	0.604267	0.260072		
			(0.250042)	(1.4368E-01)	(0.539229)	(0.539229)	(0.539229)		(0.0101)					
03/05/08	RA-228	R	1.145288	6.62500E-01	2.541588	2.541588	2.541588	(0.568748)	1.01 G	90%	0.670577	0.288611		
			(0.262858)	(1.3800E-01)	(0.568748)	(0.568748)	(0.568748)		(0.0101)					
03/05/08	RA-228	R	0.848937	4.42500E-01	1.883936	1.883936	1.883936	(0.537744)	1.01 G	90%	0.744188	0.320293		
			(0.246154)	(1.2101E-01)	(0.537744)	(0.537744)	(0.537744)		(0.0101)					
03/05/08	RA-228	A	1.050294	6.15833E-01	2.330782	2.330782	2.330782	(0.316826)	1.01 G	90%	0.388563	0.167234		
			(0.146138)	(7.7697E-02)	(0.316826)	(0.316826)	(0.316826)		(0.005831)					
03/05/08	RA-228	R	0.00E00	0.00000E+00	0.00E00	0.00E00	0.00E00	(1.849965)	1.01 G	90%	4.130951	1.828427		
			(0.833629)	(9.4868E-02)	(1.849965)	(1.849965)	(1.849965)		(0.0101)					

0 - (1s Uncertainties), 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
 Si-89 Counts are Derived from the Combination of Each Si-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh.mm, 24hr Time

Sq	Method	Matrix	Protocol	Equation Set	Wrk 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 SOLID	*STLE Ra228WoBS KF6E01AF	✓	1418995,TSB-HR-03-10'	31.3	SOLID	01/25/08 08:20	03/05/08 06:56	02/25/08 14:55	✓	1	99%	1.01 g	✓			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:35	RA-228	59	102	GPC4A	1	N	N	4.9025E-01	1.0000E+00	N	90%	N	1.5008E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(2.446E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/04/08 16:30	RA-228	40	102	GPC4A	1	N	N	4.9025E-01	1.0000E+00	N	90%	N	1.6655E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(2.446E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/04/08 17:26	RA-228	47	102	GPC4A	1	N	N	4.9025E-01	1.0000E+00	N	90%	N	1.8483E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(2.446E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/05/08 06:56	RA-228	24	109	GPC3C	1	N	N	4.8385E-01	1.0000E+00	N	90%	N	8.5062E+00	4.5045E-01	1.0104E+00		
			50	400			N		(7.224E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCS Yld,EFctU	IDC/ILcC	BIK/LcC	BIK/LcC/MDC	StdDvMdc/LcC			
03/05/08	RA-228	R	1.410694	9.25000E-01	3.130582	3.130582	1.01 G	90%	0.589101									
			(0.281494)	(1.5568E-01)	(0.603945)	(0.603945)			0.253371									
03/05/08	RA-228	R	0.922375	5.45000E-01	2.046915	2.046915	1.01 G	90%	0.653747									
			(0.239647)	(1.2899E-01)	(0.521477)	(0.521477)			0.281175									
03/05/08	RA-228	R	1.286576	6.85000E-01	2.85514	2.85514	1.01 G	90%	0.725509									
			(0.295954)	(1.3942E-01)	(0.640435)	(0.640435)			0.31204									
03/05/08	RA-228	A	1.206549	7.18333E-01	2.677546	2.677546	1.01 G	90%	0.37881									
			(0.157853)	(8.1862E-02)	(0.341051)	(0.341051)			0.162926									
03/05/08	RA-228	R	1.81731	2.07500E-01	4.032934	4.032934	1.01 G	90%	3.481197									
			(0.90503)	(1.0140E-01)	(1.997868)	(1.997868)			1.504146									

11 Calc TF SOLID *STLE Ra228WoBS KF6E11AF 1418995,TSB-HJ-02-0' 30.7 01/25/08 08:40 03/05/08 06:56 02/25/08 14:55 03/04/08 11:35 RATA30234 Alq 100% 1.01 g

Sq Cnt Date Parameter Sample Cnt Bkgrnd Cnt Instr Geom Trc/Av Ent Efficiency1 Efficiency2 Ent Trc Yld Fct Ent Blk Value Ingr Fct Conv Fct/VolAdj Decay Abn

0 03/04/08 15:35 RA-228 59 142 GPC4B 1 N N 4.7199E-01 1.0000E+00 N 89% N 1.5008E+00 4.5045E-01 1.0104E+00

50 400 Y (2.326E-02) (0.000E+00) 7%

1 03/04/08 16:30 RA-228 67 142 GPC4B 1 N N 4.7199E-01 1.0000E+00 N 89% N 1.6655E+00 4.5045E-01 1.0104E+00

50 400 Y (2.326E-02) (0.000E+00) 7%

2 03/04/08 17:26 RA-228 57 142 GPC4B 1 N N 4.7199E-01 1.0000E+00 N 89% N 1.8483E+00 4.5045E-01 1.0104E+00

50 400 Y (2.326E-02) (0.000E+00) 7%

3 03/05/08 06:56 RA-228 28 115 GPC3D 1 N N 4.8296E-01 1.0000E+00 N 89% N 8.5062E+00 4.5045E-01 1.0104E+00

50 400 N (8.181E-03) (0.000E+00) 7%

RecCnt: 11 RADCALC v4.8.29 TA Richland

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	1.324523 (0.288389)	8.25000E-01 (1.5648E-01)	Q	2.939365 (0.622191)	2.939365 (0.622191)	1.01 G (0.0101)	89%	0.716071	0.314714			
03/05/08	RA-228	R	1.754938 (0.350837)	9.85000E-01 (1.6640E-01)	Q	3.894536 (0.752822)	3.894536 (0.752822)	1.01 G (0.0101)	89%	0.79465	0.349249			
03/05/08	RA-228	R	1.552132 (0.34661)	7.85000E-01 (1.5391E-01)	Q	3.444473 (0.748872)	3.444473 (0.748872)	1.01 G (0.0101)	89%	0.88188	0.387587			
03/05/08	RA-228	A	1.543864 (0.190436)	8.65000E-01 (9.1810E-02)	Q	3.426125 (0.41024)	3.426125 (0.41024)	1.01 G (0.005831)	89%	0.460456	0.202371			
03/05/08	RA-228	R	2.423339 (0.998567)	2.72500E-01 (1.0917E-01)	Q	5.377846 (2.198976)	5.377846 (2.198976)	1.01 G (0.0101)	89%	3.617701	1.568782			

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc TF	SOLID	*STILE Ra228WoBS KFB21AJ	1418995,TSB-HJ-02-10'	FBA260145-10	SOLID	01/25/08 08:55	03/05/08 06:56	02/25/08 14:55	03/04/08 11:35	RATA30235 Alq	97%	1.01 g		
0	03/04/08 15:35	RA-228	55	115	GPC4C 1	N	N	4.7084E-01	1.0000E+00	N	86%	N	1.5008E+00	4.5045E-01	1.0104E+00
1	03/04/08 16:30	RA-228	50	400	GPC4C 1	Y	Y	(2.021E-02)	(0.000E+00)	N	7%	N	(0.000E+00)	0.990099	
2	03/04/08 17:26	RA-228	50	400	GPC4C 1	N	N	4.7084E-01	1.0000E+00	N	86%	N	1.6655E+00	4.5045E-01	1.0104E+00
3	03/05/08 06:56	RA-228	23	60	GPC4A 1	N	N	4.8719E-01	1.0000E+00	N	86%	N	8.5078E+00	4.5045E-01	1.0104E+00

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	1.364359 (0.29025)	8.12500E-01 (1.5073E-01)	Q	3.027779 (0.625346)	3.027779 (0.625346)	1.01 G (0.0101)	86%	0.683109	0.296224			
03/05/08	RA-228	R	1.40227 (0.309914)	7.52500E-01 (1.4669E-01)	Q	3.111912 (0.669204)	3.111912 (0.669204)	1.01 G (0.0101)	86%	0.758071	0.328731			
03/05/08	RA-228	R	1.59756 (0.348447)	7.72500E-01 (1.4805E-01)	Q	3.545299 (0.751844)	3.545299 (0.751844)	1.01 G (0.0101)	86%	0.841286	0.364816			
03/05/08	RA-228	A	1.45473 (0.183093)	7.79167E-01 (8.5736E-02)	Q	3.22833 (0.394991)	3.22833 (0.394991)	1.01 G (0.005831)	86%	0.439261	0.190481			
03/05/08	RA-228	R	2.023952 (0.952349)	2.20000E-01 (1.0080E-01)	Q	4.491545 (2.101003)	4.491545 (2.101003)	1.01 G (0.0101)	86%	3.462443	1.482788			

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time
 RecCnt:13 RADCALC v4.8.29
 TA Richland

Sq	Status	Method	Matrix	Protocol	Equation Set	Wk 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	SOLID	*STLE	Ra228WoBS	KF6E21AL	✓	pCi/g	03/05/08 05:57	03/05/08 14:55	02/25/08 14:55	✓	1	g				
1418995	TSB-HJ-02-10	DUP						SOLID	31.4		03/04/08 11:35	RATA30236	Alq	100%	1.03 g	✓		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	03/04/08 15:35	RA-228	71	238	GPC5C	1.5	N	N	5.9901E-01	1.0000E+00	N	91%	N	1.5017E+00	1.5017E+00	4.5045E-01	1.0104E+00	
			50	400			Y		(1.374E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	0.970874		
1	03/04/08 16:31	RA-228	49	238	GPC5C	1.5	N	N	5.9901E-01	1.0000E+00	N	91%	N	1.6666E+00	1.6666E+00	4.5045E-01	1.0104E+00	
			50	400			Y		(1.374E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	0.970874		
2	03/04/08 17:26	RA-228	65	238	GPC5C	1.5	N	N	5.9901E-01	1.0000E+00	N	91%	N	1.8495E+00	1.8495E+00	4.5045E-01	1.0104E+00	
			50	400			Y		(1.374E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	0.970874		
3	03/05/08 05:57	RA-228	39	173	GPC5A	1.5	N	N	5.9331E-01	1.0000E+00	N	91%	N	7.6180E+00	7.6180E+00	4.5045E-01	1.0104E+00	
			50	225			N		(1.557E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	0.970874		
Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act	Total U	Q	Net Cnt Rtt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld/EntFct	LCSYld/EFctU	IDC/LcC	BIK/LcC	MDC	StdDvMdc/LcC	
03/05/08	RA-228	R	1.001202	8.25000E-01	2.26586	2.26586	1.03 G	(1.7288E-01)	(0.510888)	(0.510888)	(0.0103)	91%	0.68137	0.68137				
03/05/08	RA-228	R	0.518516	3.85000E-01	1.173474	1.173474	1.03 G	(1.4522E-01)	(0.45326)	(0.45326)	(0.0103)	91%	0.756165	0.756165				
03/05/08	RA-228	R	1.053717	7.05000E-01	2.38471	2.38471	1.03 G	(1.6579E-01)	(0.594888)	(0.594888)	(0.0103)	91%	0.341787	0.341787				
03/05/08	RA-228	A	0.857812	6.38333E-01	1.941348	1.941348	1.03 G	(9.3371E-02)	(0.301909)	(0.301909)	(0.005947)	91%	0.83917	0.83917				
03/05/08	RA-228	R	0.069062	1.11111E-02	0.156296	0.156296	1.03 G	(1.3790E-01)	(1.93988)	(1.93988)	(0.0103)	91%	0.379306	0.379306				
			0.85717										3.920974	3.920974				
													1.79311	1.79311				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wk 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	SOLID	*STLE	Ra228WoBS	KF6E21AN	✓	pCi/g	03/05/08 05:57	03/05/08 14:55	02/25/08 14:55	✓	1	g				
1418995	TSB-HJ-02-10	DUP						SOLID	31.1		03/04/08 11:35	RATA30237	Alq	100%	1.00 g	✓		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	03/04/08 15:35	RA-228	96	258	GPC5D	1.5	N	N	5.7829E-01	1.0000E+00	N	90%	N	1.5017E+00	1.5017E+00	4.5045E-01	1.0104E+00	
			50	400			Y		(1.332E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	1.00		
1	03/04/08 16:31	RA-228	100	258	GPC5D	1.5	N	N	5.7829E-01	1.0000E+00	N	90%	N	1.6666E+00	1.6666E+00	4.5045E-01	1.0104E+00	
			50	400			Y		(1.332E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	1.00		
2	03/04/08 17:26	RA-228	79	258	GPC5D	1.5	N	N	5.7829E-01	1.0000E+00	N	90%	N	1.8495E+00	1.8495E+00	4.5045E-01	1.0104E+00	
			50	400			Y		(1.332E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	1.00		
3	03/05/08 05:57	RA-228	54	146	GPC5C	1.5	N	N	5.9910E-01	1.0000E+00	N	90%	N	7.6180E+00	7.6180E+00	4.5045E-01	1.0104E+00	
			50	225			N		(1.374E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	1.00		

Alpha Beta, Ra-228 by GPC, Calculated Results

Batch Nbr: 8042382

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdC/LcC
03/05/08	RA-228	R	1.666769 (0.307987)	1.27500E+00 (2.0003E-01)	Q	3.662263 (0.650441)	3.662263 (0.650441)	1.00 G (0.01)	90%	0.761273	0.345415			
03/05/08	RA-228	R	1.965794 (0.352721)	1.35500E+00 (2.0399E-01)	Q	4.319289 (0.743054)	4.319289 (0.743054)	1.00 G (0.01)	90%	0.84484	0.383332			
03/05/08	RA-228	R	1.505373 (0.328161)	9.35000E-01 (1.8224E-01)	Q	3.30764 (0.701042)	3.30764 (0.701042)	1.00 G (0.01)	90%	0.937579	0.42541			
03/05/08	RA-228	A	1.712645 (0.190601)	1.18833E+00 (1.1296E-01)	Q	3.763064 (0.403686)	3.763064 (0.403686)	1.00 G (0.005774)	90%	0.489534	0.222118			
03/05/08	RA-228	R	2.759667 (1.037214)	4.31111E-01 (1.5647E-01)	Q	6.063604 (2.25792)	6.063604 (2.25792)	1.00 G (0.01)	90%	3.737893	1.696479			

Sq	Status Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
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15	Calc	TF	SOLID	*STLE	Ra228WoBS	KF6E51AF	pCi/g	SOLID	01/25/08 09:45	03/05/08 06:57	02/25/08 14:55	✓	1	g	
1418995,TSB-HR-02-0										30.3	03/04/08 11:35	RATA30238	Alq	100%	1.00 g

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Bik Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	03/04/08 15:36	RA-228	136	289	GPC6A	1.5	N	N	5.7001E-01	1.0000E+00	N	88%	N	1.5030E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(1.252E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
1	03/04/08 16:31	RA-228	93	289	GPC6A	1.5	N	N	5.7001E-01	1.0000E+00	N	88%	N	1.6680E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(1.252E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
2	03/04/08 17:26	RA-228	104	289	GPC6A	1.5	N	N	5.7001E-01	1.0000E+00	N	88%	N	1.8511E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(1.252E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
3	03/05/08 05:57	RA-228	34	164	GPC5D	1.5	N	N	5.7822E-01	1.0000E+00	N	88%	N	7.6180E+00	4.5045E-01	1.0104E+00		
			50	225			N		(1.332E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdC/LcC
03/05/08	RA-228	R	2.721489 (0.417808)	1.99750E+00 (2.3708E-01)	Q	5.979788 (0.865914)	5.979788 (0.865914)	1.00 G (0.01)	88%	0.835409	0.381009			
03/05/08	RA-228	R	1.719907 (0.34238)	1.13750E+00 (1.9750E-01)	Q	3.779062 (0.727196)	3.779062 (0.727196)	1.00 G (0.01)	88%	0.927113	0.422832			
03/05/08	RA-228	R	2.277788 (0.414011)	1.35750E+00 (2.0834E-01)	Q	5.004866 (0.873154)	5.004866 (0.873154)	1.00 G (0.01)	88%	1.028852	0.469233			
03/05/08	RA-228	A	2.239728 (0.226861)	1.49750E+00 (1.2411E-01)	Q	4.921239 (0.476214)	4.921239 (0.476214)	1.00 G (0.005774)	88%	0.5372	0.245003			
03/05/08	RA-228	R	-0.332811 (0.883986)	-4.88889E-02 (1.2977E-01)	U4	-0.731268 (1.941979)	-0.731268 (1.941979)	1.00 G (0.01)	88%	4.190923	1.912114			

(- 1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16

RADCALC v4.8.29
 TA Richland

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/IBB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
16	Calc	TF	SOLID	*STLE	Ra228WoBS	KGXJEIAA	B	01/24/08 08:40	03/05/08 05:57	02/25/08 14:55	31.2	03/04/08 11:35	RATA30239	Alq	97%	1.03 g		
0	INTRA-LAB	BLANK					J8B110000-382	SOLID										
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:36	RA-228	38	287	GPC6C	1.5	N	N	5.7722E-01	1.0000E+00	N	88%	N	1.5030E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.579E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
1	03/04/08 16:31	RA-228	30	287	GPC6C	1.5	N	N	5.7722E-01	1.0000E+00	N	88%	N	1.6680E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.579E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
2	03/04/08 17:26	RA-228	26	287	GPC6C	1.5	N	N	5.7722E-01	1.0000E+00	N	88%	N	1.8511E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.579E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
3	03/05/08 05:57	RA-228	41	314	GPC6A	1.5	N	N	5.7070E-01	1.0000E+00	N	88%	N	7.6199E+00	4.5045E-01	1.0107E+00		
			50	400			N		(1.253E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EntFct	LCSYld,EFctU	IDC/ILcC	BIKlcC/MDC	StdDvMdc/LcC				
	03/05/08	RA-228	R	0.05575	U4	4.25000E-02	0.126129	0.126129	1.03 G	88%		0.801795						
				(0.171091)		(1.3036E-01)	(0.387021)	(0.387021)	(0.0103)			0.365566						
	03/05/08	RA-228	R	-0.171053	U4	-1.17500E-01	-0.386987	-0.386987	1.03 G	88%		0.88981						
				(0.171807)		(1.1745E-01)	(0.388193)	(0.388193)	(0.0103)			0.405694						
	03/05/08	RA-228	R	-0.319065	U4	-1.97500E-01	-0.721848	-0.721848	1.03 G	88%		0.987454						
				(0.181154)		(1.1043E-01)	(0.408185)	(0.408185)	(0.0103)			0.450214						
	03/05/08	RA-228	A	-0.144789	U4	-9.08335E-02	-0.327569	-0.327569	1.03 G	88%		0.515585						
				(0.100889)		(6.9106E-02)	(0.227814)	(0.227814)	(0.005947)			0.235073						
	03/05/08	RA-228	R	0.235418	U4	3.50000E-02	0.532607	0.532607	1.03 G	88%		4.283561						
				(0.91175)		(1.3551E-01)	(2.06255)	(2.06255)	(0.0103)			1.960664						
Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/IBB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
17	Calc	TF	SOLID	*STLE	Ra228WoBS	KGXJEIAC	S	01/24/08 08:40	03/05/08 05:57	02/25/08 14:55	31.0	03/04/08 11:35	RASC4699	Alq	91%	1.00 g		
0	INTRA-LAB	CHECK					J8B110000-382	SOLID										
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:36	RA-228	223	303	GPC6D	1.5	N	N	5.7529E-01	1.0000E+00	N	82%	N	1.5030E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.350E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
1	03/04/08 16:31	RA-228	198	303	GPC6D	1.5	N	N	5.7529E-01	1.0000E+00	N	82%	N	1.6680E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.350E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
2	03/04/08 17:26	RA-228	172	303	GPC6D	1.5	N	N	5.7529E-01	1.0000E+00	N	82%	N	1.8511E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.350E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
3	03/05/08 05:57	RA-228	67	256	GPC6C	1.5	N	N	5.7740E-01	1.0000E+00	N	82%	N	7.6199E+00	4.5045E-01	1.0107E+00		
			50	400			N		(1.579E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFet	LCSYld,EFctU	IDC/ILcC	BIKlCc/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	5.350339	(0.680891)		3.70250E+00 (3.0182E-01)	11.751971 (1.370273)	11.751971 (1.370273)	1.00 G (0.01)	82%	107%	0.905399 0.413784		
03/05/08	RA-228	R	5.135811	(0.678575)		3.20250E+00 (2.8477E-01)	11.280761 (1.375019)	11.280761 (1.375019)	1.00 G (0.01)	82%	102%	1.004786 0.459206		
03/05/08	RA-228	R	4.773969	(0.664503)		2.68250E+00 (2.6588E-01)	10.485978 (1.358113)	10.485978 (1.358113)	1.00 G (0.01)	82%	95%	1.115048 0.509597		
03/05/08	RA-228	A	5.086706	(0.389535)		3.19583E+00 (1.6428E-01)	11.172903 (0.789711)	11.172903 (0.789711)	1.00 G (0.005774)	82%	101%	0.582206 0.266079		
03/05/08	RA-228	R	5.109515	(1.329527)		7.00000E-01 (1.6852E-01)	11.223003 (2.863674)	11.223003 (2.863674)	1.00 G (0.01)	82%	102%	4.235697 1.921178		

UST Number: KF5GG1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]KF5GG1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD7.BKGRND]CURRENT.C_1;3555

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00086	0050	01171	1700	4-MAR-2008 15:34:17.13
2	00000	00088	0050	01163	1700	4-MAR-2008 16:29:33.12
3	00000	00084	0050	01175	1700	4-MAR-2008 17:24:48.98

Bkg File: [quad7.bkgrnd]2008-03-04_0024.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00359	0400	0.90	09279	1700	4-MAR-2008 00:24:07.14 ✓

UST Number: KF5GG1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF5GG1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00023	0050	01192	1850	5-MAR-2008 06:02:30.87

Bkg File: [quad4.bkgrnd]2008-03-05_0124.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00060	0250	0.24	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF5GL1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF5GL1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3609

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00097	0050	01188	1650	4-MAR-2008 15:34:51.46
2	00000	00078	0050	01178	1650	4-MAR-2008 16:30:07.39
3	00000	00071	0050	01167	1650	4-MAR-2008 17:25:22.98

Bkg File: [quad1.bkgrnd]2008-03-04_0023.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00305	0400	0.76	09423	1650	4-MAR-2008 00:23:28.63 /

UST Number: KF5GL1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]KF5GL1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.B_1;6076

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00029	0050	01192	1850	5-MAR-2008 06:02:30.87

Bkg File: [quad4.bkgrnd]2008-03-05_0124.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00093	0250	0.37	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF6EM1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-B File: [quad1.sample.B]KF6EM1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.B_1;3608

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00085	0050	01188	1650	4-MAR-2008 15:34:51.46
2	00000	00079	0050	01178	1650	4-MAR-2008 16:30:07.39
3	00000	00102	0050	01167	1650	4-MAR-2008 17:25:22.98

Bkg File: [quad1.bkgrnd]2008-03-04_0023.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00336	0400	0.84	09423	1650	4-MAR-2008 00:23:28.63 ✓

UST Number: KF6EM1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]KF6EM1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;6079

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00024	0050	01192	1850	5-MAR-2008 06:02:30.87

Bkg File: [quad4.bkgrnd]2008-03-05_0124.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00067	0250	0.27	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF6EP1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF6EP1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3605

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00087	0050	01188	1650	4-MAR-2008 15:34:51.46
2	00000	00081	0050	01178	1650	4-MAR-2008 16:30:07.39
3	00000	00073	0050	01167	1650	4-MAR-2008 17:25:22.98

Bkg File: [quad1.bkgrnd]2008-03-04_0023.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00263	0400	0.66	09423	1650	4-MAR-2008 00:23:28.63 /

UST Number: KF6EP1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]KF6EP1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.D_1;6093

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00031	0050	01192	1850	5-MAR-2008 06:02:30.87

Bkg File: [quad4.bkgrnd]2008-03-05_0124.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00072	0250	0.29	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF6EQ1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF6EQ1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3608

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00080	0050	01188	1650	4-MAR-2008 15:34:51.46
2	00000	00090	0050	01178	1650	4-MAR-2008 16:30:07.39
3	00000	00075	0050	01167	1650	4-MAR-2008 17:25:22.98

Bkg File: [quad1.bkgrnd]2008-03-04_0023.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00243	0400	0.61	09423	1650	4-MAR-2008 00:23:28.63 ✓

UST Number: KF6EQ1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF6EQ1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3610

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00056	0050	01166	1650	5-MAR-2008 06:55:47.75

Bkg File: [quad1.bkgrnd]2008-03-05_0123.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00136	0249	0.55	05800	1650	5-MAR-2008 01:23:53.39

UST Number: KF6ER1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]KF6ER1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;6063

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00074	0050	01256	1920	4-MAR-2008 15:35:17.14
2	00000	00053	0050	01261	1920	4-MAR-2008 16:30:32.69
3	00000	00038	0050	01245	1920	4-MAR-2008 17:25:48.47

Bkg File: [quad3.bkgrnd]2008-03-04_0244.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00099	0400	0.25	10120	1920	4-MAR-2008 02:44:37.86 ✓

UST Number: KF6ER1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF6ER1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3606

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01166	1650	5-MAR-2008 06:55:47.75

Bkg File: [quad1.bkgrnd]2008-03-05_0123.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00143	0249	0.57	05800	1650	5-MAR-2008 01:23:53.39

UST Number: KF6ET1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]KF6ET1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.B_1;6071

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00059	0050	01256	1920	4-MAR-2008 15:35:17.14
2	00000	00060	0050	01261	1920	4-MAR-2008 16:30:32.69
3	00000	00060	0050	01245	1920	4-MAR-2008 17:25:48.47

Bkg File: [quad3.bkgrnd]2008-03-04_0244.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00154	0400	0.39	10120	1920	4-MAR-2008 02:44:37.86 ✓

UST Number: KF6ET1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF6ET1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3609

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00037	0050	01166	1650	5-MAR-2008 06:55:47.75

Bkg File: [quad1.bkgrnd]2008-03-05_0123.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00152	0249	0.61	05800	1650	5-MAR-2008 01:23:53.39

UST Number: KF6EV1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF6EV1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6076

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00057	0050	01256	1920	4-MAR-2008 15:35:17.14
2	00000	00053	0050	01261	1920	4-MAR-2008 16:30:32.69
3	00000	00054	0050	01245	1920	4-MAR-2008 17:25:48.47

Bkg File: [quad3.bkgrnd]2008-03-04_0244.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00103	0400	0.26	10120	1920	4-MAR-2008 02:44:37.86 ✓

UST Number: KF6EV1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]KF6EV1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;6064

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01249	1920	5-MAR-2008 06:56:09.48

Bkg File: [quad3.bkgrnd]2008-03-05_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0400	0.27	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF6EW1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]KF6EW1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;6061

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00050	0050	01256	1920	4-MAR-2008 15:35:17.14
2	00000	00046	0050	01261	1920	4-MAR-2008 16:30:32.69
3	00000	00035	0050	01245	1920	4-MAR-2008 17:25:48.47

Bkg File: [quad3.bkgrnd]2008-03-04_0244.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00103	0400	0.26	10120	1920	4-MAR-2008 02:44:37.86 ✓

UST Number: KF6EW1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]KF6EW1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.B_1;6072

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01249	1920	5-MAR-2008 06:56:09.48

Bkg File: [quad3.bkgrnd]2008-03-05_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00160	0400	0.40	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF6E01AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF6E01AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6076

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00059	0050	01231	1850	4-MAR-2008 15:35:37.26
2	00000	00040	0050	01230	1850	4-MAR-2008 16:30:52.89
3	00000	00047	0050	01210	1850	4-MAR-2008 17:26:08.63

Bkg File: [quad4.bkgrnd]2008-03-04_0244.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00102	0400	0.26	09801	1850	4-MAR-2008 02:44:33.65 ✓

UST Number: KF6E01AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF6E01AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00024	0050	01249	1920	5-MAR-2008 06:56:09.48

Bkg File: [quad3.bkgrnd]2008-03-05_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00109	0400	0.27	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF6E11AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]KF6E11AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.B_1;6075

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00059	0050	01231	1850	4-MAR-2008 15:35:37.26
2	00000	00067	0050	01230	1850	4-MAR-2008 16:30:52.89
3	00000	00057	0050	01210	1850	4-MAR-2008 17:26:08.63

Bkg File: [quad4.bkgrnd]2008-03-04_0244.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00142	0400	0.36	09801	1850	4-MAR-2008 02:44:33.65 ✓

UST Number: KF6E11AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]KF6E11AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;6062

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01249	1920	5-MAR-2008 06:56:09.48

Bkg File: [quad3.bkgrnd]2008-03-05_0355.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00115	0400	0.29	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF6E21AJ Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]KF6E21AJ.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;6078

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00055	0050	01231	1850	4-MAR-2008 15:35:37.26
2	00000	00052	0050	01230	1850	4-MAR-2008 16:30:52.89
3	00000	00053	0050	01210	1850	4-MAR-2008 17:26:08.63

Bkg File: [quad4.bkgrnd]2008-03-04_0244.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00115	0400	0.29	09801	1850	4-MAR-2008 02:44:33.65 ✓

UST Number: KF6E21AJ Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF6E21AJ.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00023	0050	01221	1850	5-MAR-2008 06:56:15.13

Bkg File: [quad4.bkgrnd]2008-03-05_0124.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00060	0250	0.24	06041	1850	5-MAR-2008 01:24:39.63

US7 Number: KF6E21AL Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-C File: [quad5.sample.C]KF6E21AL.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.C_15;6134

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00071	0050	01311	1800	4-MAR-2008 15:35:57.83
2	00000	00049	0050	01297	1800	4-MAR-2008 16:31:13.55
3	00000	00065	0050	01280	1800	4-MAR-2008 17:26:29.25

Bkg File: [quad5.bkgrnd]2008-03-04_0244.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00238	0400	0.60	10396	1800	4-MAR-2008 02:44:32.13 ✓

UST Number: KF6E21AL Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-A File: [quad5.sample.A]KF6E21AL.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.A_15;6122

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01258	1800	5-MAR-2008 05:57:38.75

Bkg File: [quad5.bkgrnd]2008-03-05_0059.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00173	0225	0.77	05733	1800	5-MAR-2008 00:59:17.96

UST Number: KF6E21AN Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-D File: [quad5.sample.D]KF6E21AN.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.D_15;6187

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00096	0050	01311	1800	4-MAR-2008 15:35:57.83
2	00000	00100	0050	01297	1800	4-MAR-2008 16:31:13.55
3	00000	00079	0050	01280	1800	4-MAR-2008 17:26:29.25

Bkg File: [quad5.bkgrnd]2008-03-04_0244.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00258	0400	0.65	10396	1800	4-MAR-2008 02:44:32.13 ✓

UST Number: KF6E21AN Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-C File: [quad5.sample.C]KF6E21AN.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.C_15;6135

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00054	0050	01258	1800	5-MAR-2008 05:57:38.75

Bkg File: [quad5.bkgrnd]2008-03-05_0059.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00146	0225	0.65	05733	1800	5-MAR-2008 00:59:17.96

UST Number: KF6E51AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 6-A File: [quad6.sample.A]KF6E51AF.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.A_15;6138

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00136	0050	01311	1800	4-MAR-2008 15:36:25.39
2	00000	00093	0050	01289	1800	4-MAR-2008 16:31:41.24
3	00000	00104	0050	01290	1800	4-MAR-2008 17:26:56.96

Bkg File: [quad6.bkgrnd]2008-03-04_0024.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00289	0400	0.72	10497	1800	4-MAR-2008 00:24:01.29 ✓

UST Number: KF6E51AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-D File: [quad5.sample.D]KF6E51AF.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.D_15;6188

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00034	0050	01258	1800	5-MAR-2008 05:57:38.75

Bkg File: [quad5.bkgrnd]2008-03-05_0059.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00164	0225	0.73	05733	1800	5-MAR-2008 00:59:17.96

UST Number: KGXJE1AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 6-C File: [quad6.sample.C]KGXJE1AA.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.C_15;6141

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01311	1800	4-MAR-2008 15:36:25.39
2	00000	00030	0050	01289	1800	4-MAR-2008 16:31:41.24
3	00000	00026	0050	01290	1800	4-MAR-2008 17:26:56.96

Bkg File: [quad6.bkgrnd]2008-03-04_0024.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00287	0400	0.72	10497	1800	4-MAR-2008 00:24:01.29 ✓

UST Number: KGXJE1AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-A File: [quad6.sample.A]KGXJE1AA.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.A_15;6139

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00041	0050	01284	1800	5-MAR-2008 05:57:46.57

Bkg File: [quad6.bkgrnd]2008-03-05_0356.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00314	0400	0.79	10328	1800	5-MAR-2008 03:56:08.51

JST Number: KGXJE1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 6-D File: [quad6.sample.D] KGXJE1AC.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND] CURRENT.D_15;6140

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00223	0050	01311	1800	4-MAR-2008 15:36:25.39
2	00000	00198	0050	01289	1800	4-MAR-2008 16:31:41.24
3	00000	00172	0050	01290	1800	4-MAR-2008 17:26:56.96

Bkg File: [quad6.bkgrnd]2008-03-04_0024.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00303	0400	0.76	10497	1800	4-MAR-2008 00:24:01.29 /

UST Number: KGXJE1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-C File: [quad6.sample.C]KGXJE1AC.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.C_15;6142

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00067	0050	01284	1800	5-MAR-2008 05:57:46.57

Bkg File: [quad6.bkgrnd]2008-03-05_0356.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00256	0400	0.64	10328	1800	5-MAR-2008 03:56:08.51

RADIUM 228

SAMPLE AND QC DATA

Lot No., Due Date: **F8A250205; 02/28/2008**
 Client, Site: **1418995; LANDWELL - Tronox Parcel H**
 QC Batch No., Method Test: **8067203; RRA228 Ra-228 by GPC**
 SDG, Matrix: *******; *******

1.0 COC

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

✓
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

✓
Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

✓
Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

✓
Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

✓
Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

✓
Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

✓
Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

✓
Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

✓
Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

✓
Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

✓
Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

✓
Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

✓
Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

✓
Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

✓
Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

✓
Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

✓
Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

✓
Yes No N/A

5.4 Was transcription checked? Yes No N/A

✓
Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

✓
Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

✓
Yes No N/A

6.0 Comments on any No response:

NCM 10-12038

First Level Review

Thomas D MEG

Date

3/28/08

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 8067203

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?		✓	
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?		✓	
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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 Nav

Second Level Review: Erika Ford Date: 3/30/18

Clouseau Nonconformance Memo

NCM #: 10-12038 NCM Initiated By: Tom McGinnis Date Opened: 03/28/2008 Date Closed:	Classification: Deficiency Status: GLREVIEW Production Area: Environmental - Sep Tests: Ra-228 by GPC Lot #'s (Sample #'s): J8B110000 (380), QC Batches: 8067203,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Tom McGinnis	03/28/2008	Batch 8067203 is re-analysis of batch 8042380 due to multiple QC failures. All QC within acceptable criteria for batch 8067203.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Tom McGinnis	03/28/2008	PM and QA manager notified of original batch deficiencies and aware of re-analysis request.

Client Notification Summary

<u>Client</u>	<u>Project Manager</u>	<u>Notified</u>	<u>Response</u>	<u>How Notified</u>	<u>Note</u>
			<u>Response</u>		<u>Response Note</u>

Quality Assurance Verification

<u>Verified By</u>	<u>Due Date</u>	<u>Status</u>	<u>Notes</u>
		This section not yet completed by QA.	

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>

3/13/2008 11:42:32 AM

141895, Landwell Company
Landwell Company

Analyte Due Date: 02/22/2008

Batch: 8067203

SEQ Batch, Test: 8042378, D9TE 8067181, D9TE

Sample Preparation/Analysis

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

PM, Quote: JAE, 78254

pCi/g

Balance Id: 1120373922

Pipet #:

Sep1 DT/Tm Tech: 3/19/08 13:08 DL

Sep2 DT/Tm Tech: 3/27/08 07:50 TMM

Prep Tech: Barcolt

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	GC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24-hr) Circle	CR Analyst, Init/Date	Comments:
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1 KF5A2-2-AF		1.00g, in	RATA30372 02/21/08	111	3x50	7C	7C	1716	7/27/08	
F8A250205-1-SAMP										
2 KF5FV-2-AF		1.01g, in	RATA30373 02/21/08		31.5	7C	7A	0580	7/28/08	
F8A250205-2-SAMP										
3 KF5FX-2-AF		1.02g, in	RATA30374 02/21/08		31.7	7C	7C	0580	7/28/08	
F8A250205-3-SAMP										
4 KF5F0-2-AF		1.01g, in	RATA30375 02/21/08		30.3	7C	7A	0580	7/28/08	
F8A250205-4-SAMP										
01/24/2008 10:15										
01/24/2008 11:00										
01/24/2008 11:30										

3/13/2008 11:42:33 AM
 1418995, Landwell Company
 Landwell Company
 AnalyzeDate: 02/22/2008
 Balance Id: 1120373922
 Pipet #:
 Sep1 DT/Tm Tech:
 Sep2 DT/Tm Tech:

Sample Preparation/Analysis
 D9 Ra-226/228 PprRC5013/5032, SepRC5005
 TF Radium-228 by GPC
 01 STANDARD TEST SET
 PM, Quote: JAE, 78254

Batch: 8067203
 SEQ Batch, Test: 8042378, D9TE 8067181, D9TE
 pCi/g
 #Containers: 1

Work Order, Lot, Sample Date/Time	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:
5 KF5F1-2-AF F8A250205-5-SAMP	1.01g,in	1.01g,in	RATA30376 02/21/08	1"	3x50	30.0	ZA	1511	7/27/08 MC	
6 KF5F3-2-AF F8A250205-6-SAMP	1.00g,in	1.00g,in	RATA30463 02/28/08			31.3	JC	1711	7/27/08 MC	
7 KF5F4-2-AF F8A250205-7-SAMP	1.01g,in	1.0000	RATA30464 02/28/08			31.3	JD	1711	7/27/08 MC	
8 KF5F7-2-AF F8A250205-8-SAMP	1.01g,in	1.0000	RATA30465 02/28/08			31.5	7A	1711	7/27/08 MC	
01/24/2008 10:45	AmtRec: SL	#Containers: 1								Beta:
01/24/2008 11:55	AmtRec: SL	#Containers: 1								Beta:
01/24/2008 12:30	AmtRec: SL	#Containers: 1								Beta:
01/24/2008 12:45	AmtRec: SL	#Containers: 1								Beta:

3/13/2008 11:42:34 AM

Sample Preparation/Analysis

Balance Id: 1120373922

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PpRC5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

Analyte Due Date: 02/22/2008

01 STANDARD TEST SET

Sep1 DT/Tm Tech: 3/19/08 1308 DC

Batch: 8067203 pCi/g

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech: 3/27/08 1135 10m

SEQ Batch, Test: 8042378, D9TE 8067181, D9TE

Prep Tech: Barcoti

Work Order, Lot, Sample Date Time	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:
9 KF5F8-2-AF F8A250205-9-SAMP	1.01g,in	1.01g,in	RATA30466 02/28/08	1"	3x80	30.5	1C	1636	7/27/08 MC	
01/24/2008 13:00			#Containers: 1							
10 KF5F9-2-AE F8A250205-10-SAMP	1.02g,in	1.02g,in	RATA30467 02/28/08			30.9	1D	0649	7/28/08	
01/24/2008 13:10			#Containers: 1							
11 KF5GC-2-AF F8A250205-11-SAMP	1.02g,in	1.0000	RATA30468 02/28/08			30.6	2A	0737	3/29/08 MC	
01/24/2008 08:05			#Containers: 1							
12 KF5GF-2-AF F8A250205-12-SAMP	1.00g,in	1.9324	RATA30469 02/28/08			31.0	2B	0737	3/29/08 MC	
01/24/2008 08:05			#Containers: 1							

TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 3

WO Cnt: 12

Prep_SamplePrep v4.8.32

3/13/2008 11:42:34 AM

1418995, Landwell Company
Landwell Company

Sample Preparation/Analysis

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TF Radium-228 by GPC

Balance Id: 1120373922

Pipet #: _____

Analyte Date: 02/22/2008

01 STANDARD TEST SET

Sep1 DT/Tm Tech:

Batch: 8067203

PM, Quote: JAE, 78254

SEQ Batch, Test: 8042378, D9TE 8042378, D9TE 8067181, D9TE 8067181, D9TE 8067181, D9TE

Sep2 DT/Tm Tech:

Prep Tech: , Barcolt

Work Order, Lot, Sample Date Time	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:
13 KF5GJ-2-AM		1.01g, in	RATA30470 02/28/08	11		3X50	2A	1676	7/27/09 PC	
F8A250205-14-SAMP		1.00g, in	✓ 1.0000						3K 0737	7/27/09 PC
01/24/2008 09:00			AmtRec: 2XSL	#Containers: 2				Scr:	Alpha:	Beta:
14 KF5GJ-2-AP-S		1.00g, in	RASA0302 02/28/08					9C 1676	7/27/09 PC	
F8A250205-14-MS		1.00g, in	✓ 1.8104					3AS 0737	7/27/09 PC	
01/24/2008 09:00			AmtRec: 2XSL	#Containers: 2				Scr:	Alpha:	Beta:
15 KF5GJ-2-AR-X		1.01g, in	RATA30471 02/28/08					7D 1776	7/27/09 PC	
F8A250205-14-DUP		1.00g, in	✓ 1.9112					3C 0737	7/27/09 PC	
01/24/2008 09:00			AmtRec: 2XSL	#Containers: 2				Scr:	Alpha:	Beta:
16 KGXH2-2-AA-B		1.00g, in	RATA30472 02/28/08					4A 1677	7/27/09 PC	
J8B110000-380-BLK		1.00g, in	✓ 1.0000					3D 0737	7/27/09 PC	
01/24/2008 10:15			AmtRec:	#Containers: 1				Scr:	Alpha:	Beta:

ISV - Insufficient Volume for Analysis

Page 4

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

WO Cnt: 16

Prep SamplePrep v4.8.32

Sample Preparation/Analysis

Balance Id:1120373922

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #: _____
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:

Batch: 8067203

pCi/g

Prep Tech: Barcott

SEQ Batch, Test: None

Work Order, Lot, Sample Date/Time	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:
17 KGXH2-2-AC-C	1.02g, in	RAASC4719	02/27/08	1" ✓	4C	3x50	4C	1636	1/27/08	
J8B110000-380-LCS										
 										
 										
 										
 										
01/24/2008 10:15	Amt/Rec:	#Containers: 1	Scr:	Alpha:	Beta:					

Comments:

All Clients for Batch:

1418995, Landwell Company

Landwell Company

JAE, 78254

KF5A22AF-SAMP Constituent List:

KF5GJ2AP-MS:

KGXH22AA-BLK:

Ba-133 RDL:

RA-228DA RDL:2

Ba-133 RDL:

RA-228 RDL:2

KF5A22AF-SAMP Calc Info:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

KF5GJ2AP-MS:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

KGXH22AA-BLK:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

KGXH22AC-LCS:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

Approved By

Date:

ISV - Insufficient Volume for Analysis

Page 5

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

TAL Richland

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

WO Cnt: 17

Prep. SamplePrep v4.8.32

ICOC Fraction Transfer/Status Report

ByDate: 3/29/2007, 4/2/2008, Batch: '8067203', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8067203				
AC		Rev1C	Barcotl 3/13/2008 11:28:41	
SC		mcginnist	IsBatched 3/7/2008 10:10:16 AM	ICOC_RADCALC v4.8.32
SC		Barcotl	InPrep 3/13/2008 11:28:41 AM	RICH-RC-5032 REVISION 3
SC		Barcotl	Prep1C 3/13/2008 11:29:08 AM	RICH-RC-5032 REVISION 3
SC		LucasD	Sep1C 3/19/2008 1:20:08 PM	RICH-RC-5005 REVISION 6
SC		McGinnisT	Sep2C 3/27/2008 9:12:06 AM	RICH-RC-5005 REVISION 6
SC		ClarkR	InCnt1 3/27/2008 10:36:41 AM	RICH-RD-0003 REVISION 5
SC		ClarkR	InCnt1 3/27/2008 1:59:56 PM	RICH-RD-0003 REVISION 5
SC		ClarkR	CalcC 3/28/2008 9:50:51 AM	RICH-RD-0003 REVISION 5
SC		mcginnist	Rev1C 3/28/2008 12:33:04 PM	RICH-RC-0002 REV 8
AC		Barcotl	3/13/2008 11:29:08	
AC		LucasD	3/19/2008 1:20:08 PM	
AC		McGinnisT	3/27/2008 9:12:06	
AC		ClarkR	3/27/2008 10:36:41	
AC		ClarkR	3/27/2008 1:59:56 PM	
AC		ClarkR	3/28/2008 9:50:51	
AC		mcginnist	3/28/2008 12:33:04	

AC: Accepting Entry; SC: Status Change

Rpt DB Transfer log (Batch Results)

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 Unirs	Yield Expected	Volumes
8067181	9KF5A220		F8A2502051	TSB-HJ-05-0'	SOIL	1/25/2008 9:15:00	1/24/2008 10:15:00 AM		
RA-226	D9TE	1	3/25/2008 1:53:00 PM	1.2498E+00	1.04E-01	1.661E-01 1.777E-01	pCi/g	0.951	1.0E+0
RA-228	D9TF	1	3/28/2008 5:54:37 AM	1.4637E+00	1.923E-01	2.108E-01 6.848E-01	pCi/g	0.871	1.0E+0
8067181	9KF5F020		F8A2502054	TSB-HJ-04-0'	SOIL	1/25/2008 9:15:00	1/24/2008 11:30:00 AM		
RA-226	D9TE	1	3/25/2008 1:50:00 PM	1.1693E+00	1.054E-01	1.571E-01 1.71E-01	pCi/g	0.933	1.01E+0
RA-228	D9TF	1	3/28/2008 5:54:52 AM	2.2213E+00	1.938E-01	2.361E-01 5.674E-01	pCi/g	0.846	1.01E+0
8067181	9KF5F120		F8A2502055	TSB-HR-04-0'	SOIL	1/25/2008 9:15:00	1/24/2008 10:45:00 AM		
RA-226	D9TE	1	3/25/2008 1:51:00 PM	1.3107E+00	1.01E-01	1.609E-01 1.652E-01	pCi/g	0.979	1.01E+0
RA-228	D9TF	1	3/28/2008 5:54:52 AM	1.8709E+00	1.807E-01	2.108E-01 4.725E-01	pCi/g	0.871	1.01E+0
8067181	9KF5F320		F8A2502056	TSB-HJ-04-10'	SOIL	1/25/2008 9:15:00	1/24/2008 11:55:00 AM		
RA-226	D9TE	1	3/25/2008 1:54:00 PM	1.0692E+00	8.594E-02	1.439E-01 9.858E-02	pCi/g	1.0	1.0E+0
RA-228	D9TF	1	3/28/2008 5:54:52 AM	1.3988E+00	1.483E-01	1.685E-01 4.009E-01	pCi/g	0.91	1.0E+0
8067181	9KF5F420		F8A2502057	TSB-HR-07-0'	SOIL	1/25/2008 9:15:00	1/24/2008 12:30:00 PM		
RA-226	D9TE	1	3/25/2008 1:55:00 PM	9.9613E-01	9.742E-02	1.36E-01 2.142E-01	pCi/g	1.0	1.01E+0
RA-228	D9TF	1	3/28/2008 6:54:31 AM	1.3252E+00	1.432E-01	1.623E-01 3.869E-01	pCi/g	0.91	1.01E+0
8067181	9KF5F720		F8A2502058	TSB-HR-07-10'	SOIL	1/25/2008 9:15:00	1/24/2008 12:45:00 PM		
RA-226	D9TE	1	3/25/2008 1:50:01 PM	1.7369E+00	1.094E-01	1.986E-01 1.273E-01	pCi/g	0.991	1.01E+0
RA-228	D9TF	1	3/28/2008 6:54:31 AM	1.5541E+00	1.592E-01	1.876E-01 4.475E-01	pCi/g	0.908	1.01E+0
8067181	9KF5F820		F8A2502059	TSB-HR-06-0'	SOIL	1/25/2008 9:15:00	1/24/2008 1:00:00 PM		
RA-226	D9TE	1	3/25/2008 2:57:00 PM	8.5771E-01	1.003E-01	1.311E-01 2.121E-01	pCi/g	0.992	1.01E+0
RA-228	D9TF	1	3/28/2008 6:54:54 AM	1.6806E+00	1.878E-01	2.118E-01 6.376E-01	pCi/g	0.88	1.01E+0
8067181	9KF5F920		F8A25020510	TSB-HR-06-10'	SOIL	1/25/2008 9:15:00	1/24/2008 1:10:00 PM		
RA-226	D9TE	1	3/25/2008 2:41:00 PM	1.1751E+00	9.743E-02	1.558E-01 1.297E-01	pCi/g	1.0	1.02E+0
RA-228	D9TF	1	3/28/2008 6:54:54 AM	1.4662E+00	1.598E-01	1.807E-01 5.123E-01	pCi/g	0.898	1.02E+0
8067181	9KF5FV20		F8A2502052	TSB-HJ-05-0'	SOIL	1/25/2008 9:15:00	1/24/2008 9:55:00 AM		
RA-226	D9TE	1	3/25/2008 1:42:00 PM	9.0118E-01	8.997E-02	1.276E-01 1.47E-01	pCi/g	1.0	1.01E+0
RA-228	D9TF	1	3/28/2008 5:54:37 AM	1.4513E+00	1.646E-01	1.85E-01 5.307E-01	pCi/g	0.922	1.01E+0
8067181	9KF5FX20		F8A2502053	TSB-HR-04-10'	SOIL	1/25/2008 9:15:00	1/24/2008 11:00:00 AM		
RA-226	D9TE	1	3/25/2008 1:50:03 PM	1.5988E+00	1.23E-01	2.091E-01 2.084E-01	pCi/g	0.867	1.02E+0
RA-228	D9TF	1	3/28/2008 5:54:52 AM	1.3996E+00	1.726E-01	1.912E-01 5.623E-01	pCi/g	0.763	1.02E+0
8067181	9KF5GC20		F8A25020511	TSB-HJ-07-0'	SOIL	1/25/2008 9:15:00	1/24/2008 8:05:00 AM		
RA-226	D9TE	1	3/25/2008 2:49:00 PM	1.2587E+00	9.936E-02	1.659E-01 1.603E-01	pCi/g	0.973	1.02E+0
RA-228	D9TF	1	3/28/2008 7:42:05 AM	2.3187E+00	1.817E-01	2.251E-01 4.743E-01	pCi/g	0.865	1.02E+0
8067181	9KF5GF20		F8A25020512	TSB-HJ-07-0'-FD	SOIL	1/25/2008 9:15:00	1/24/2008 8:05:00 AM		
RA-226	D9TE	1	3/25/2008 2:59:00 PM	1.5171E+00	1.129E-01	1.931E-01 1.211E-01	pCi/g	0.932	1.0E+0
RA-228	D9TF	1	3/28/2008 7:42:05 AM	3.0131E+00	2.106E-01	2.745E-01 5.503E-01	pCi/g	0.84	1.0E+0
8067181	9KF5GJ20		F8A25020514	TSB-HR-08-0'	SOIL	1/25/2008 9:15:00	1/24/2008 9:00:00 AM		
RA-226	D9TE	1	3/25/2008 2:51:00 PM	1.1693E+00	9.413E-02	1.528E-01 1.254E-01	pCi/g	1.0	1.01E+0
RA-228	D9TF	1	3/28/2008 7:37:20 AM	1.8533E+00	1.717E-01	2.033E-01 4.375E-01	pCi/g	0.898	1.01E+0
8067181	KF5GJ2PW		F8A25020514	TSB-HR-08-0'	Unk	1/25/2008 9:15:00	1/24/2008 9:00:00 AM		
RA-228	D9TF	1 W	3/28/2008 7:37:20 AM	9.8007E+00	3.855E-01	7.86E-01 4.311E-01	pCi/g	1.0085E+01 0.802	1.0E+0
8067181	KF5GJ2RR		F8A25020514	TSB-HR-08-0'	Unk	1/25/2008 9:15:00	1/24/2008 9:00:00 AM		
RA-228	D9TF	1 R	3/28/2008 7:37:20 AM	2.0617E+00	1.747E-01	2.114E-01 4.093E-01	pCi/g	0.816	1.01E+0
8067181	KGXH22AB		J8B110000380	INTRA-LAB BLANK	Unk	1/25/2008 9:15:00	1/24/2008 10:15:00 AM		
RA-228	D9TF	1 B	3/28/2008 7:37:20 AM	8.8422E-02	9.567E-02	9.567E-02 4.386E-01	pCi/g	0.89	1.0E+0
8067181	KGXH22CS		J8B110000380	INTRA-LAB CHECK	Unk	1/25/2008 9:15:00	1/24/2008 10:15:00 AM		
RA-228	D9TF	1 S	3/28/2008 7:37:26 AM	4.6083E+00	2.37E-01	3.673E-01 4.056E-01	pCi/g	4.9497E+00 0.907	1.02E+0

8067203, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => *wo:KF5A22AF=>, mat:SOIL | Solid *wo:KF5A22AF=>, mat:SOIL | Solid *wo:KF5A22AF=>, mat:SOIL | Solid
 *wo:KF5A22AF=>, mat:SOIL | Solid *wo:KF5A22AF=>, mat:SOIL | Solid *wo:KF5F02AF=>, mat:SOIL | Solid *wo:KF5F02AF=>, mat:SOIL |

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Ra-228 by GPC Ra-226/Ra-228 Deem With Out Blk Subt. *CntU: 0+1, + *SystU, MDCCConst:2.71																
Calc	TF	Unk	KF5A22AF	RA-228	1.23E+00	(3.19E-01)		pCi/g	R	4.92E-01	1.07E+00					87%
Calc	TF	Unk	KF5A22AF	RA-228	1.73E+00	(3.85E-01)		pCi/g	R	5.46E-01	1.18E+00					87%
Calc	TF	Unk	KF5A22AF	RA-228	1.44E+00	(3.87E-01)		pCi/g	R	6.06E-01	1.31E+00					87%
Calc	TF	Unk	KF5A22AF	RA-228	1.46E+00	(2.11E-01)		pCi/g	A	3.17E-01	6.85E-01		✓			87%
Calc	TF	Unk	KF5A22AF	RA-228	6.67E+00	(2.23E+00)		pCi/g	R	3.80E+00	8.21E+00					87%
Calc	TF	Unk	KF5FV2AF	RA-228	9.58E-01	(2.53E-01)		pCi/g	R	3.76E-01	8.25E-01					92%
Calc	TF	Unk	KF5FV2AF	RA-228	1.81E+00	(3.50E-01)		pCi/g	R	4.17E-01	9.16E-01					92%
Calc	TF	Unk	KF5FV2AF	RA-228	1.58E+00	(3.48E-01)		pCi/g	R	4.63E-01	1.02E+00					92%
Calc	TF	Unk	KF5FV2AF	RA-228	1.45E+00	(1.85E-01)		pCi/g	A	2.42E-01	5.31E-01		✓			92%
Calc	TF	Unk	KF5FV2AF	RA-228	4.86E+00	(2.00E+00)		pCi/g	R	3.60E+00	7.79E+00					92%
Calc	TF	Unk	KF5FX2AF	RA-228	1.40E+00	(3.11E-01)		pCi/g	R	3.93E-01	8.75E-01					76%
Calc	TF	Unk	KF5FX2AF	RA-228	1.52E+00	(3.41E-01)		pCi/g	R	4.37E-01	9.70E-01					76%
Calc	TF	Unk	KF5FX2AF	RA-228	1.28E+00	(3.41E-01)		pCi/g	R	4.84E-01	1.08E+00					76%
Calc	TF	Unk	KF5FX2AF	RA-228	1.40E+00	(1.91E-01)		pCi/g	A	2.53E-01	5.62E-01		✓			76%
Calc	TF	Unk	KF5FX2AF	RA-228	2.72E+00	(1.86E+00)	U4	pCi/g	R	3.60E+00	7.88E+00					76%
Calc	TF	Unk	KF5F02AF	RA-228	1.88E+00	(3.52E-01)		pCi/g	R	4.02E-01	8.82E-01					85%
Calc	TF	Unk	KF5F02AF	RA-228	3.06E+00	(4.84E-01)		pCi/g	R	4.46E-01	9.79E-01					85%
Calc	TF	Unk	KF5F02AF	RA-228	1.73E+00	(3.79E-01)		pCi/g	R	4.95E-01	1.09E+00					85%
Calc	TF	Unk	KF5F02AF	RA-228	2.22E+00	(2.36E-01)		pCi/g	A	2.58E-01	5.67E-01		✓			85%
Calc	TF	Unk	KF5F02AF	RA-228	-6.26E-01	(1.75E+00)	U4	pCi/g	R	3.92E+00	8.45E+00					85%
Calc	TF	Unk	KF5F12AF	RA-228	1.77E+00	(3.37E-01)		pCi/g	R	3.21E-01	7.35E-01					87%
Calc	TF	Unk	KF5F12AF	RA-228	1.96E+00	(3.73E-01)		pCi/g	R	3.56E-01	8.16E-01					87%
Calc	TF	Unk	KF5F12AF	RA-228	1.88E+00	(3.84E-01)		pCi/g	R	3.95E-01	9.05E-01					87%
Calc	TF	Unk	KF5F12AF	RA-228	1.87E+00	(2.11E-01)		pCi/g	A	2.06E-01	4.73E-01		✓			87%
Calc	TF	Unk	KF5F12AF	RA-228	1.79E+00	(1.46E+00)	U4	pCi/g	R	2.85E+00	6.32E+00					87%
Calc	TF	Unk	KF5F32AF	RA-228	1.37E+00	(2.73E-01)		pCi/g	R	2.70E-01	6.23E-01					91%
Calc	TF	Unk	KF5F32AF	RA-228	1.48E+00	(3.00E-01)		pCi/g	R	3.00E-01	6.92E-01					91%
Calc	TF	Unk	KF5F32AF	RA-228	1.34E+00	(3.01E-01)		pCi/g	R	3.33E-01	7.68E-01					91%
Calc	TF	Unk	KF5F32AF	RA-228	1.40E+00	(1.68E-01)		pCi/g	A	1.74E-01	4.01E-01		✓			91%
Calc	TF	Unk	KF5F32AF	RA-228	3.52E-01	(1.30E+00)	U4	pCi/g	R	2.78E+00	6.14E+00					91%
Calc	TF	Unk	KF5F42AF	RA-228	1.29E+00	(2.63E-01)		pCi/g	R	2.60E-01	6.02E-01					91%
Calc	TF	Unk	KF5F42AF	RA-228	1.47E+00	(2.95E-01)		pCi/g	R	2.88E-01	6.68E-01					91%
Calc	TF	Unk	KF5F42AF	RA-228	1.22E+00	(2.84E-01)		pCi/g	R	3.20E-01	7.41E-01					91%
Calc	TF	Unk	KF5F42AF	RA-228	1.33E+00	(1.62E-01)		pCi/g	A	1.67E-01	3.87E-01		✓			91%
Calc	TF	Unk	KF5F42AF	RA-228	4.40E+00	(2.15E+00)		pCi/g	R	4.03E+00	8.70E+00					91%
Calc	TF	Unk	KF5F72AF	RA-228	1.61E+00	(3.14E-01)		pCi/g	R	3.07E-01	6.96E-01					91%
Calc	TF	Unk	KF5F72AF	RA-228	1.25E+00	(2.90E-01)		pCi/g	R	3.41E-01	7.72E-01					91%

() - (1s Uncertainties)
 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

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc	Yld	LCS Yld
Calc	TF	Unk	KF5F72AF	RA-228	1.80E+00	(3.66E-01)		pCi/g	R	3.79E-01	8.57E-01		91%	
Calc	TF	Unk	KF5F72AF	RA-228	1.55E+00	(1.88E-01)		pCi/g	A	1.98E-01	4.48E-01	✓	91%	
Calc	TF	Unk	KF5F72AF	RA-228	2.26E+00	(2.02E+00)	U4	pCi/g	R	4.09E+00	8.85E+00		91%	
Calc	TF	Unk	KF5F82AF	RA-228	1.62E+00	(3.38E-01)		pCi/g	R	4.58E-01	9.92E-01		88%	
Calc	TF	Unk	KF5F82AF	RA-228	1.61E+00	(3.59E-01)		pCi/g	R	5.09E-01	1.10E+00		88%	
Calc	TF	Unk	KF5F82AF	RA-228	1.82E+00	(4.01E-01)		pCi/g	R	5.64E-01	1.22E+00		88%	
Calc	TF	Unk	KF5F82AF	RA-228	1.68E+00	(2.12E-01)		pCi/g	A	2.95E-01	6.38E-01	✓	88%	
Calc	TF	Unk	KF5F82AF	RA-228	1.63E+00	(1.09E+00)	U4	pCi/g	R	2.07E+00	4.59E+00		88%	
Calc	TF	Unk	KF5F92AF	RA-228	1.32E+00	(2.80E-01)		pCi/g	R	3.63E-01	7.97E-01		90%	
Calc	TF	Unk	KF5F92AF	RA-228	1.49E+00	(3.14E-01)		pCi/g	R	4.03E-01	8.84E-01		90%	
Calc	TF	Unk	KF5F92AF	RA-228	1.59E+00	(3.42E-01)		pCi/g	R	4.47E-01	9.81E-01		90%	
Calc	TF	Unk	KF5F92AF	RA-228	1.47E+00	(1.81E-01)		pCi/g	A	2.33E-01	5.12E-01	✓	90%	
Calc	TF	Unk	KF5F92AF	RA-228	3.87E+00	(1.27E+00)		pCi/g	R	2.02E+00	4.46E+00		90%	
Calc	TF	Unk	KF5GC2AF	RA-228	2.03E+00	(3.44E-01)		pCi/g	R	3.32E-01	7.38E-01		87%	
Calc	TF	Unk	KF5GC2AF	RA-228	2.56E+00	(4.11E-01)		pCi/g	R	3.68E-01	8.19E-01		87%	
Calc	TF	Unk	KF5GC2AF	RA-228	2.37E+00	(4.11E-01)		pCi/g	R	4.09E-01	9.08E-01		87%	
Calc	TF	Unk	KF5GC2AF	RA-228	2.32E+00	(2.25E-01)		pCi/g	A	2.13E-01	4.74E-01	✓	87%	
Calc	TF	Unk	KF5GC2AF	RA-228	5.75E+00	(1.51E+00)		pCi/g	R	1.80E+00	4.18E+00		87%	
Calc	TF	Unk	KF5GF2AF	RA-228	3.12E+00	(4.67E-01)		pCi/g	R	3.90E-01	8.56E-01		84%	
Calc	TF	Unk	KF5GF2AF	RA-228	2.84E+00	(4.57E-01)		pCi/g	R	4.32E-01	9.50E-01		84%	
Calc	TF	Unk	KF5GF2AF	RA-228	3.08E+00	(5.01E-01)		pCi/g	R	4.80E-01	1.05E+00		84%	
Calc	TF	Unk	KF5GF2AF	RA-228	3.01E+00	(2.74E-01)		pCi/g	A	2.51E-01	5.50E-01	✓	84%	
Calc	TF	Unk	KF5GF2AF	RA-228	4.29E+00	(1.50E+00)		pCi/g	R	2.28E+00	5.14E+00		84%	
Calc	TF	Unk	KF5GJ2AM	RA-228	1.96E+00	(3.44E-01)		pCi/g	R	2.97E-01	6.80E-01		90%	
Calc	TF	Unk	KF5GJ2AM	RA-228	1.43E+00	(3.05E-01)		pCi/g	R	3.30E-01	7.55E-01		90%	
Calc	TF	Unk	KF5GJ2AM	RA-228	2.17E+00	(4.00E-01)		pCi/g	R	3.66E-01	8.38E-01		90%	
Calc	TF	Unk	KF5GJ2AM	RA-228	1.85E+00	(2.03E-01)		pCi/g	A	1.91E-01	4.38E-01	✓	90%	
Calc	TF	Unk	KF5GJ2AM	RA-228	1.54E+00	(1.01E+00)	U4	pCi/g	R	1.81E+00	4.16E+00		90%	
Calc	TF	Unk	KF5GJ2AP	RA-228	1.18E+01	(1.31E+00)		pCi/g	R	2.93E-01	6.75E-01	W	80%	117%
Calc	TF	Unk	KF5GJ2AP	RA-228	1.18E+01	(1.32E+00)		pCi/g	R	3.22E-01	7.42E-01	W	80%	117%
Calc	TF	Unk	KF5GJ2AP	RA-228	1.14E+01	(1.31E+00)		pCi/g	R	3.57E-01	8.23E-01	W	80%	113%
Calc	TF	Unk	KF5GJ2AP	RA-228	1.17E+01	(7.59E-01)		pCi/g	A	1.87E-01	4.31E-01	W	80%	116%
Calc	TF	Unk	KF5GJ2AP	RA-228	9.80E+00	(7.86E-01)		pCi/g	AN	1.87E-01	4.31E-01	W	80%	97%
Calc	TF	Unk	KF5GJ2AP	RA-228	1.35E+01	(2.49E+00)		pCi/g	R	2.70E+00	5.98E+00	W	80%	134%
Calc	TF	Unk	KF5GJ2AR	RA-228	2.51E+00	(3.96E-01)		pCi/g	R	2.77E-01	6.41E-01	R	82%	
Calc	TF	Unk	KF5GJ2AR	RA-228	1.76E+00	(3.34E-01)		pCi/g	R	3.04E-01	7.04E-01	R	82%	
Calc	TF	Unk	KF5GJ2AR	RA-228	1.92E+00	(3.66E-01)		pCi/g	R	3.38E-01	7.82E-01	R	82%	
Calc	TF	Unk	KF5GJ2AR	RA-228	2.06E+00	(2.11E-01)		pCi/g	A	1.77E-01	4.09E-01	✓	82%	

() - (1s Uncertainties)
 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

Alpha Beta, Ra-228 by GPC , Results Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Calc	TF	Unk	KF5GJ2AR	RA-228	1.40E+00	(9.94E-01)	U4	pCi/g	R	1.80E+00	4.17E+00	R		82%		
Calc	TF	Unk	KGXH22AA	RA-228	-1.88E-01	(1.17E-01)	U4	pCi/g	R	3.01E-01	6.82E-01	B		89%		
Calc	TF	Unk	KGXH22AA	RA-228	2.49E-01	(1.79E-01)	U4	pCi/g	R	3.34E-01	7.57E-01	B		89%		
Calc	TF	Unk	KGXH22AA	RA-228	2.04E-01	(1.91E-01)	U4	pCi/g	R	3.71E-01	8.40E-01	B		89%		
Calc	TF	Unk	KGXH22AA	RA-228	<u>8.84E-02</u>	(9.57E-02)	U4	pCi/g	A	1.94E-01	4.39E-01	B		89%		
Calc	TF	Unk	KGXH22AA	RA-228	1.72E-01	(7.19E-01)	U4	pCi/g	R	1.52E+00	3.58E+00	B		89%		
Calc	TF	Unk	KGXH22AC	RA-228	4.66E+00	(6.25E-01)		pCi/g	R	2.76E-01	6.31E-01	S		91%	94%	
Calc	TF	Unk	KGXH22AC	RA-228	4.29E+00	(6.02E-01)		pCi/g	R	3.06E-01	7.00E-01	S		91%	87%	
Calc	TF	Unk	KGXH22AC	RA-228	4.87E+00	(6.79E-01)		pCi/g	R	3.40E-01	7.77E-01	S		91%	98%	
Calc	TF	Unk	KGXH22AC	RA-228	4.61E+00	(3.67E-01)		pCi/g	A	1.77E-01	4.06E-01	S		91%	93%	
Calc	TF	Unk	KGXH22AC	RA-228	5.33E+00	(1.43E+00)		pCi/g	R	1.86E+00	4.21E+00	S		91%	108%	

Duplicate RER = .72 JVC


Tom SM =  3/28/08

() - (1s Uncertainties)
 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 Regardless of Significant
 Date/Time - mm/dd/yy hh:mm, 24hr Time

Detailed Report

Sq	Calc	TF	Unk	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	Analysis	Date/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/Ent	Yld	Total/Analy	Vol	Final/Count	Vol		
1	1418995	TSB-HJ-05-10	Unk	*STLE	Ra228WoBS	KF5A22AF	✓		pCi/g			01/24/08	10:15	03/28/08	05:54	03/19/08	13:08	✓	RATA30372	1	✓	g	1.00	g	✓	
									Unk				31.5	03/27/08	07:50	03/27/08	07:50		RATA30372	Alq	95%	1.00	g			
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/VolAdj	Decay	Abn
0	91	03/27/08	RA-228	400	400	GPC7C	1	N	N	5.1674E-01	N	1.0000E+00	1.0000E+00	N	87%	7%	N	1.4680E+00	4.5045E-01	1.0184E+00	1.4680E+00	4.5045E-01	1.0184E+00			
	50	03/27/08	RA-228	400	400	GPC7C	1	Y	Y	(1.247E-02)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	7%	N	(0.000E+00)	1.00	1.0184E+00	(0.000E+00)	1.00	1.0184E+00			
1	102	03/27/08	RA-228	400	400	GPC7C	1	N	N	5.1674E-01	N	1.0000E+00	1.0000E+00	N	87%	7%	N	1.6291E+00	4.5045E-01	1.0184E+00	1.6291E+00	4.5045E-01	1.0184E+00			
	50	03/27/08	RA-228	400	400	GPC7C	1	Y	Y	(1.247E-02)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	7%	N	(0.000E+00)	1.00	1.0184E+00	(0.000E+00)	1.00	1.0184E+00			
2	89	03/27/08	RA-228	400	400	GPC7C	1	N	N	5.1674E-01	N	1.0000E+00	1.0000E+00	N	87%	7%	N	1.8080E+00	4.5045E-01	1.0184E+00	1.8080E+00	4.5045E-01	1.0184E+00			
	50	03/27/08	RA-228	400	400	GPC7C	1	Y	Y	(1.247E-02)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	7%	N	(0.000E+00)	1.00	1.0184E+00	(0.000E+00)	1.00	1.0184E+00			
3	80	03/28/08	RA-228	407	400	GPC7A	1	N	N	5.3264E-01	N	1.0000E+00	1.0000E+00	N	87%	7%	N	1.1575E+01	4.5045E-01	1.0184E+00	1.1575E+01	4.5045E-01	1.0184E+00			
	50	03/28/08	RA-228	400	400	GPC7A	1	N	N	(1.416E-02)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	7%	N	(0.000E+00)	1.00	1.0184E+00	(0.000E+00)	1.00	1.0184E+00			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm-Blk	Vol	Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK	LcC/MDC	Std	DvMdc/LcC			
03/28/08	RA-228	R	1.226892	8.20000E-01	2.674602	1.00	G	87%	1.065016								1.065016	0.492253								
			(0.319075)	(1.9723E-01)	(0.681028)				0.492253								0.492253	1.181888								
03/28/08	RA-228	R	1.726815	1.04000E+00	3.764425	1.00	G	87%	1.181888								1.181888	0.546271								
			(0.385417)	(2.0809E-01)	(0.816247)				0.546271								0.546271	1.311625								
03/28/08	RA-228	R	1.437278	7.80000E-01	3.133239	1.00	G	87%	1.311625								1.311625	0.606236								
			(0.386748)	(1.9519E-01)	(0.826641)				0.606236								0.606236	0.684839								
03/28/08	RA-228	A	1.463662	8.80000E-01	3.190756	1.00	G	87%	0.684839								0.684839	0.316534								
			(0.2108)	(1.1561E-01)	(0.448874)				0.316534								0.316534	8.212158								
03/28/08	RA-228	R	6.666656	5.82500E-01	14.533185	1.00	G	87%	8.212158								8.212158	3.798177								
			(2.228234)	(1.8586E-01)	(4.796248)				3.798177								3.798177									

Sq	Calc	TF	Unk	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	Analysis	Date/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/Ent	Yld	Total/Analy	Vol	Final/Count	Vol		
2	1418995	TSB-HJ-05-0	Unk	*STLE	Ra228WoBS	KF5FV2AF	✓		pCi/g			01/24/08	09:55	03/28/08	05:54	03/19/08	13:08	✓	RATA30373	Alq	100%	1.01	g	✓		
									Unk				31.7	03/27/08	07:50	03/27/08	07:50		RATA30373	Alq	100%	1.01	g			
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/VolAdj	Decay	Abn
0	71	03/27/08	RA-228	285	400	GPC1A	1	N	N	5.3466E-01	N	1.0000E+00	1.0000E+00	N	92%	7%	N	1.4693E+00	4.5045E-01	1.0184E+00	1.4693E+00	4.5045E-01	1.0184E+00			
	50	03/27/08	RA-228	400	400	GPC1A	1	Y	Y	(1.089E-02)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	7%	N	(0.000E+00)	0.990099	1.0184E+00	(0.000E+00)	0.990099	1.0184E+00			
1	96	03/27/08	RA-228	285	400	GPC1A	1	N	N	5.3466E-01	N	1.0000E+00	1.0000E+00	N	92%	7%	N	1.6306E+00	4.5045E-01	1.0184E+00	1.6306E+00	4.5045E-01	1.0184E+00			
	50	03/27/08	RA-228	400	400	GPC1A	1	Y	Y	(1.089E-02)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	7%	N	(0.000E+00)	0.990099	1.0184E+00	(0.000E+00)	0.990099	1.0184E+00			
2	83	03/27/08	RA-228	285	400	GPC1A	1	N	N	5.3466E-01	N	1.0000E+00	1.0000E+00	N	92%	7%	N	1.8096E+00	4.5045E-01	1.0184E+00	1.8096E+00	4.5045E-01	1.0184E+00			
	50	03/27/08	RA-228	400	400	GPC1A	1	Y	Y	(1.089E-02)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	7%	N	(0.000E+00)	0.990099	1.0184E+00	(0.000E+00)	0.990099	1.0184E+00			

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Page 1

RecCnt:2 RADCALC v4.8.29
 TA Richland

Alpha Beta, Ra-228 by GPC, Calculated Results

3/28/2008 9:48:47 AM

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BklcC/MDC	StdDvMdc/LcC	
3	03/28/08 05:54	RA-228	71	392	GPC7C 1	N	N	5.1614E-01	1.0000E+00	N	92%	N	1.1575E+01	4.5045E-01	1.0184E+00
			50	400		N	N	(1.246E-02)	(0.0000E+00)	7%			(0.000E+00)	0.990099	
	03/28/08	RA-228	R	0.958278		7.07500E-01	2.109908	2.109908	1.01 G	92%			0.825251		
				(0.253363)		(1.7373E-01)	(0.546584)	(0.546584)	(0.017321)				0.376143		
	03/28/08	RA-228	R	1.814981		1.20750E+00	3.996172	3.996172	1.01 G	92%			0.915812		
				(0.349904)		(2.0045E-01)	(0.740885)	(0.740885)	(0.017321)				0.41742		
	03/28/08	RA-228	R	1.580512		9.47500E-01	3.479925	3.479925	1.01 G	92%			1.016342		
				(0.348336)		(1.8703E-01)	(0.744572)	(0.744572)	(0.017321)				0.463241		
	03/28/08	RA-228	A	1.451257		9.54167E-01	3.195335	3.195335	1.01 G	92%			0.530663		
				(0.184982)		(1.0819E-01)	(0.394694)	(0.394694)	(0.01)				0.241872		
	03/28/08	RA-228	R	4.863325		4.40000E-01	10.707929	10.707929	1.01 G	92%			7.794584		
				(2.000039)		(1.7564E-01)	(4.367101)	(4.367101)	(0.017321)				3.599893		

Sq	Calc TF	Unk	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	QC/Tracer	Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol	
3	141895	TSB-HR-04-10	*STLE	Ra228WoBS	KF5FX2AF	Unk		01/24/08 11:00	03/28/08 05:54	03/19/08 13:08	1	87%	1.02 g	✓	
								30.3	03/27/08 07:50	RATA30374	Alq	87%	1.02 g	✓	
0	03/27/08 11:39	RA-228	70	216	GPC1C 1	N	N	5.3196E-01	1.0000E+00	N	76%	N	1.4693E+00	4.5045E-01	1.0183E+00
			50	400		Y	Y	(1.095E-02)	(0.000E+00)	6%			(0.000E+00)	0.980392	
1	03/27/08 12:34	RA-228	69	216	GPC1C 1	N	N	5.3196E-01	1.0000E+00	N	76%	N	1.6306E+00	4.5045E-01	1.0183E+00
			50	400		Y	Y	(1.095E-02)	(0.000E+00)	6%			(0.000E+00)	0.980392	
2	03/27/08 13:29	RA-228	59	216	GPC1C 1	N	N	5.3196E-01	1.0000E+00	N	76%	N	1.8096E+00	4.5045E-01	1.0183E+00
			50	400		Y	Y	(1.095E-02)	(0.000E+00)	6%			(0.000E+00)	0.980392	
3	03/28/08 05:54	RA-228	48	298	GPC1A 1	N	N	5.3847E-01	1.0000E+00	N	76%	N	1.1581E+01	4.5045E-01	1.0183E+00
			50	400		N	N	(1.096E-02)	(0.000E+00)	6%			(0.000E+00)	0.980392	

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BklcC/MDC	StdDvMdc/LcC
	03/28/08	RA-228	R	1.399362		8.60000E-01	3.111628	3.111628	1.02 G	76%			0.874507	
				(0.310695)		(1.7132E-01)	(0.671039)	(0.671039)	(0.017321)				0.393391	
	03/28/08	RA-228	R	1.516809		8.40000E-01	3.372783	3.372783	1.02 G	76%			0.970473	
				(0.341335)		(1.7015E-01)	(0.737803)	(0.737803)	(0.017321)				0.436561	
	03/28/08	RA-228	R	1.282524		6.40000E-01	2.851824	2.851824	1.02 G	76%			1.077003	
				(0.340594)		(1.5796E-01)	(0.742223)	(0.742223)	(0.017321)				0.484483	
	03/28/08	RA-228	A	1.399565		7.80000E-01	3.112078	3.112078	1.02 G	76%			0.562336	
				(0.191208)		(9.6177E-02)	(0.414399)	(0.414399)	(0.01)				0.252963	
	03/28/08	RA-228	R	2.723907	U4	2.15000E-01	6.05689	6.05689	1.02 G	76%			7.877853	
				(1.857965)		(1.4513E-01)	(4.11898)	(4.11898)	(0.017321)				3.597724	

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

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 RecCnt:4
 RADCALC v4.8.29
 TA Richland

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
4	Calc	TF	Unk	*STLE	Ra228WoBS	KF5F02AF	✓	pCi/g	Unk	01/24/08 11:30	03/28/08 05:54	03/19/08 13:08	✓	1	93%	1.01 g	✓	
1418995	TSB	HJ-04-0'									31.2	03/27/08 07:50	RATA30375	Alq				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/27/08 11:39	RA-228	99	279	GPC1D	1	N	N	5.3949E-01	1.0000E+00	N	85%	N	1.4693E+00	4.5045E-01	1.0183E+00		
			50	400			Y		(1.573E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/27/08 12:34	RA-228	129	279	GPC1D	1	N	N	5.3949E-01	1.0000E+00	N	85%	N	1.6306E+00	4.5045E-01	1.0183E+00		
			50	400			Y		(1.573E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/27/08 13:29	RA-228	83	279	GPC1D	1	N	N	5.3949E-01	1.0000E+00	N	85%	N	1.8096E+00	4.5045E-01	1.0183E+00		
			50	400			Y		(1.573E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/28/08 05:54	RA-228	52	438	GPC1B	1	N	N	5.4616E-01	1.0000E+00	N	85%	N	1.1581E+01	4.5045E-01	1.0183E+00		
			50	400			N		(1.341E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC				
03/28/08	RA-228	R	1.875496			1.28250E+00	4.129502	4.129502	1.01 G	85%	0.882415							
			(0.351773)			(2.0333E-01)	(0.743146)	(0.743146)	(0.017321)		0.401816							
03/28/08	RA-228	R	3.055017			1.88250E+00	6.726596	6.726596	1.01 G	85%	0.979248							
			(0.483972)			(2.3096E-01)	(1.004549)	(1.004549)	(0.017321)		0.445909							
03/28/08	RA-228	R	1.733457			9.62500E-01	3.816759	3.816759	1.01 G	85%	1.086742							
			(0.378845)			(1.8693E-01)	(0.809381)	(0.809381)	(0.017321)		0.494858							
03/28/08	RA-228	A	2.221323			1.37583E+00	4.890952	4.890952	1.01 G	85%	0.567421							
			(0.236055)			(1.2001E-01)	(0.496262)	(0.496262)	(0.01)		0.25838							
03/28/08	RA-228	R	-0.626177			5.50000E-02	-1.378727	-1.378727	1.01 G	85%	8.451529							
			(1.747783)			(1.5342E-01)	(3.847612)	(3.847612)	(0.017321)		3.919558							
Sq	Status	Method	Matrix	Protocol	Equation <td>Set</td> <td>Wrk Ord</td> <td>Units/Matrix</td> <td>QC/BB</td> <td>Sa/On Date</td> <td>AnalysisDate/PptWt</td> <td>Sep1/Sep2 Date</td> <td>QC/Tracer</td> <td>Vial</td> <td>Multi/EntYld</td> <td>Total/Analy Vol</td> <td>Final/Count Vol</td>	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
5	Calc	TF	Unk	*STLE	Ra228WoBS	KF5F12AF	✓	pCi/g	Unk	01/24/08 10:45	03/28/08 05:54	03/19/08 13:08	✓	1	98%	1.01 g	✓	
1418995	TSB	HR-04-0'									30.6	03/27/08 07:50	RATA30376	Alq				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/27/08 11:39	RA-228	67	127	GPC2A	1	N	N	4.4306E-01	1.0000E+00	N	87%	N	1.4700E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/27/08 12:34	RA-228	67	127	GPC2A	1	N	N	4.4306E-01	1.0000E+00	N	87%	N	1.6313E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/27/08 13:30	RA-228	60	127	GPC2A	1	N	N	4.4306E-01	1.0000E+00	N	87%	N	1.8104E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/28/08 05:54	RA-228	37	233	GPC1C	1	N	N	5.3117E-01	1.0000E+00	N	87%	N	1.1581E+01	4.5045E-01	1.0184E+00		
			50	400			N		(1.093E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	iDC/iLcC	BIK/LcC/MDC	StdDvMdc/LcC
0	03/28/08	RA-228	R	1.769064 (0.336546)		1.02250E+00 (1.6611E-01)	3.895119 (0.711826)	3.895119 (0.711826)	1.01 G (0.017321)	87%	0.734865	0.320736		
0	03/28/08	RA-228	R	1.963257 (0.373489)		1.02250E+00 (1.6611E-01)	4.322693 (0.789964)	4.322693 (0.789964)	1.01 G (0.017321)	87%	0.815532	0.355944		
0	03/28/08	RA-228	R	1.880393 (0.383682)		8.82500E-01 (1.5746E-01)	4.140242 (0.815951)	4.140242 (0.815951)	1.01 G (0.017321)	87%	0.905026	0.395004		
0	03/28/08	RA-228	A	1.870905 (0.21081)		9.75833E-01 (9.4270E-02)	4.119351 (0.44678)	4.119351 (0.44678)	1.01 G (0.01)	87%	0.472546	0.206246		
0	03/28/08	RA-228	R	1.790645 (1.460168)	U4	1.57500E-01 (1.2750E-01)	3.942636 (3.208231)	3.942636 (3.208231)	1.01 G (0.017321)	87%	6.322382	2.854781		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
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6	Calc	TF	Unk	*STLE	Ra228WoBS	KF5F32AF	115	pCi/g		01/24/08 11:55	03/28/08 05:54	03/19/08 13:08			1	g		
1418995,TSB-HU-04-10								Unk			31.3	03/27/08 07:50	RATA30463	Alq	100%	1.00 g		
0	03/27/08 11:39	RA-228	59				115	GPC3C 1	N	N	4.8385E-01	1.0000E+00	N	91%	N	1.4708E+00	4.5045E-01	1.0183E+00
1	03/27/08 12:35	RA-228	58				400	GPC3C 1	Y	Y	(7.224E-03)	(0.000E+00)	N	7%	N	(0.000E+00)	1.00	
2	03/27/08 13:30	RA-228	50				400	GPC3C 1	N	N	4.8385E-01	1.0000E+00	N	91%	N	1.6323E+00	4.5045E-01	1.0183E+00
3	03/28/08 05:54	RA-228	32				400	GPC1D 1	N	N	5.3930E-01	1.0000E+00	N	91%	N	1.8114E+00	4.5045E-01	1.0183E+00
			50				400	GPC3C 1	Y	Y	(7.224E-03)	(0.000E+00)	N	7%	N	(0.000E+00)	1.00	
			50				400	GPC1D 1	N	N	(1.572E-02)	(0.000E+00)	N	7%	N	1.1581E+01	4.5045E-01	1.0183E+00

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	iDC/iLcC	BIK/LcC/MDC	StdDvMdc/LcC
0	03/28/08	RA-228	R	1.36773 (0.273384)		8.92500E-01 (1.5594E-01)	2.981694 (0.574723)	2.981694 (0.574723)	1.00 G (0.017321)	91%	0.623415	0.270338		
0	03/28/08	RA-228	R	1.483854 (0.299882)		8.72500E-01 (1.5466E-01)	3.234848 (0.630945)	3.234848 (0.630945)	1.00 G (0.017321)	91%	0.691848	0.300013		
0	03/28/08	RA-228	R	1.344716 (0.301395)		7.12500E-01 (1.4394E-01)	2.931523 (0.638476)	2.931523 (0.638476)	1.00 G (0.017321)	91%	0.767769	0.332936		
0	03/28/08	RA-228	A	1.398767 (0.168492)		8.25833E-01 (8.7532E-02)	3.049355 (0.355285)	3.049355 (0.355285)	1.00 G (0.01)	91%	0.40088	0.173838		
0	03/28/08	RA-228	R	0.351832 (1.29588)	U4	3.25000E-02 (1.1966E-01)	0.767004 (2.824768)	0.767004 (2.824768)	1.00 G (0.017321)	91%	6.135463	2.776006		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
7	Calc	TF	Unk	*STLE	Ra228WoBS	KF5F42AF	✓	pCi/g	01/24/08 12:30	03/28/08 06:54	03/19/08 13:08	03/27/08 07:50	RATA30464	Alq	100%	1.01 g	✓	
1418995	TSB	HR-07-0'		.F8A250205-7	Unk			31.3										
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	03/27/08 11:39	RA-228	56	108	GPC3D 1	N	N	N	4.8306E-01	1.0000E+00	N	91%	N	1.4708E+00	4.5045E-01	1.0183E+00		
			50	400		Y			(8.183E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/27/08 12:35	RA-228	57	108	GPC3D 1	N	N	N	4.8306E-01	1.0000E+00	N	91%	N	1.6323E+00	4.5045E-01	1.0183E+00		
			50	400		Y			(8.183E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/27/08 13:30	RA-228	46	108	GPC3D 1	N	N	N	4.8306E-01	1.0000E+00	N	91%	N	1.8114E+00	4.5045E-01	1.0183E+00		
			50	400		Y			(8.183E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/28/08 06:54	RA-228	69	407	GPC7A 1	N	N	N	5.3321E-01	1.0000E+00	N	91%	N	1.2958E+01	4.5045E-01	1.0183E+00		
			50	400		N			(1.417E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EntFct	LCSYld,EFctU	IDC/LcC	BIK/LcC	StdDvMdc/LcC				
	03/28/08	RA-228	R	1.291803		8.50000E-01	2.844356	2.844356	1.01 G	91%		0.601682						
				(0.262903)		(1.5190E-01)	(0.559006)	(0.559006)	(0.017321)			0.25981						
	03/28/08	RA-228	R	1.467339		8.70000E-01	3.230858	3.230858	1.01 G	91%		0.66773						
				(0.295281)		(1.5322E-01)	(0.627333)	(0.627333)	(0.017321)			0.288329						
	03/28/08	RA-228	R	1.216591		6.50000E-01	2.678749	2.678749	1.01 G	91%		0.741004						
				(0.284352)		(1.3811E-01)	(0.609878)	(0.609878)	(0.017321)			0.31997						
	03/28/08	RA-228	A	1.325244		7.90000E-01	2.917988	2.917988	1.01 G	91%		0.386905						
				(0.162332)		(8.5391E-02)	(0.346087)	(0.346087)	(0.01)			0.167068						
	03/28/08	RA-228	R	4.39728		3.62500E-01	9.682148	9.682148	1.01 G	91%		8.704048						
				(2.151048)		(1.7362E-01)	(4.708552)	(4.708552)	(0.017321)			4.02568						

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
8	Calc	TF	Unk	*STLE	Ra228WoBS	KF5F72AF	✓	pCi/g	01/24/08 12:45	03/28/08 06:54	03/19/08 13:08	03/27/08 07:50	RATA30465	Alq	99%	1.01 g	✓	
1418995	TSB	HR-07-10'		.F8A250205-8	Unk			31.5										
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	03/27/08 11:40	RA-228	73	155	GPC4A 1	N	N	N	4.9064E-01	1.0000E+00	N	91%	N	1.4726E+00	4.5045E-01	1.0183E+00		
			50	400		Y			(2.448E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/27/08 12:35	RA-228	57	155	GPC4A 1	N	N	N	4.9064E-01	1.0000E+00	N	91%	N	1.6343E+00	4.5045E-01	1.0183E+00		
			50	400		Y			(2.448E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/27/08 13:31	RA-228	68	155	GPC4A 1	N	N	N	4.9064E-01	1.0000E+00	N	91%	N	1.8137E+00	4.5045E-01	1.0183E+00		
			50	400		Y			(2.448E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/28/08 06:54	RA-228	58	392	GPC7C 1	N	N	N	5.1674E-01	1.0000E+00	N	91%	N	1.2958E+01	4.5045E-01	1.0183E+00		
			50	400		N			(1.247E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			

Alpha Beta, Ra-228 by GPC, Calculated Results

3/28/2008 9:48:47 AM

Batch Nbr: 8067203

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wc Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMidC/LcC
03/28/08	RA-228	R	1.610228	(0.313527)	1.07250E+00	3.54549	3.54549	(0.664416)	1.01 G	91%	0.695976	0.307483		
03/28/08	RA-228	R	1.253805	(0.290438)	7.52500E-01	2.7607	2.7607	(0.62263)	1.01 G	91%	0.772375	0.341236		
03/28/08	RA-228	R	1.798236	(0.366189)	9.72500E-01	3.959459	3.959459	(0.778659)	1.01 G	91%	0.85716	0.378694		
03/28/08	RA-228	A	1.55409	(0.187601)	9.32500E-01	3.421883	3.421883	(0.399364)	1.01 G	91%	0.447545	0.197726		
03/28/08	RA-228	R	2.257988	(2.021427)	1.80000E-01	4.971766	4.971766	(4.443127)	1.01 G	91%	8.846294	4.08562		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sept1/Sept2 Date	QC/Tracer	Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	TF	Unk	*STLE	RA228WcBS	KF5F82AF	✓	pci/g		01/24/08 13:00	03/28/08 06:54	03/19/08 13:08	✓	1	99%	1.01 g	✓
1418995	TSB	HR	06-0					Unk			30.5	03/27/08 11:35	RATA30466	Alq			

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/27/08 14:59	RA-228	108	400	GPC7C	1	N	N	5.1939E-01	1.0000E+00	N	88%	N	1.4011E+00	4.5045E-01	1.0183E+00		
			50	400			Y	Y	(1.254E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/27/08 15:54	RA-228	102	400	GPC7C	1	N	N	5.1939E-01	1.0000E+00	N	88%	N	1.5549E+00	4.5045E-01	1.0183E+00		
			50	400			Y	Y	(1.254E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/27/08 16:49	RA-228	103	400	GPC7C	1	N	N	5.1939E-01	1.0000E+00	N	88%	N	1.7256E+00	4.5045E-01	1.0183E+00		
			50	400			Y	Y	(1.254E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/28/08 06:54	RA-228	39	233	GPC1C	1	N	N	5.3144E-01	1.0000E+00	N	88%	N	8.4862E+00	4.5045E-01	1.0183E+00		
			50	400			N	N	(1.094E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMidC/LcC
03/28/08	RA-228	R	1.61584	(0.337936)	1.16000E+00	3.557861	3.557861	(0.719931)	1.01 G	88%	0.991526	0.458286		
03/28/08	RA-228	R	1.607658	(0.3588)	1.04000E+00	3.539845	3.539845	(0.767551)	1.01 G	88%	1.100333	0.508576		
03/28/08	RA-228	R	1.818444	(0.401171)	1.06000E+00	4.003966	4.003966	(0.857593)	1.01 G	88%	1.221118	0.564404		
03/28/08	RA-228	A	1.680647	(0.211837)	1.08667E+00	3.700557	3.700557	(0.452512)	1.01 G	88%	0.637583	0.294692		
03/28/08	RA-228	R	1.628464	(1.088622)	1.97500E-01	3.585658	3.585658	(2.389494)	1.01 G	88%	4.585249	2.070404		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

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RecCnt:10

RADCALC v4.8.29

TA Richland

Sq	Status	Method	Matrix	Protocol	Equation Set	Wk 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	Unk	*STLE	Ra228WoBS	KF5F92AF	pCi/g	01/24/08 13:10	03/28/08 06:54	30.9	03/19/08 13:08	✓	1	g				
1418995	TSB	HR-06-10					Unk				03/27/08 11:35	RATA30467	Alq	100%	1.02 g	✓		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	03/27/08 14:59	RA-228	86	285	GPC1A	1	N	N	5.3699E-01	1.0000E+00	N	90%	N	1.4025E+00	4.5045E-01	1.0183E+00		
			50	400			Y		(1.093E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
1	03/27/08 15:54	RA-228	87	285	GPC1A	1	N	N	5.3699E-01	1.0000E+00	N	90%	N	1.5564E+00	4.5045E-01	1.0183E+00		
			50	400			Y		(1.093E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
2	03/27/08 16:50	RA-228	85	285	GPC1A	1	N	N	5.3699E-01	1.0000E+00	N	90%	N	1.7273E+00	4.5045E-01	1.0183E+00		
			50	400			Y		(1.093E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
3	03/28/08 06:54	RA-228	55	243	GPC1D	1	N	N	5.4005E-01	1.0000E+00	N	90%	N	8.4862E+00	4.5045E-01	1.0183E+00		
			50	400			N		(1.574E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rtt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC			
03/28/08	RA-228	R	1.317379				1.00750E+00	2.929416	2.929416	1.02 G	90%	0.796685						
			(0.280226)				(1.9021E-01)	(0.603624)	(0.603624)	(0.017321)		0.363123						
03/28/08	RA-228	R	1.490965				1.02750E+00	3.315414	3.315414	1.02 G	90%	0.884111						
			(0.313642)				(1.9126E-01)	(0.675107)	(0.675107)	(0.017321)		0.402971						
03/28/08	RA-228	R	1.590217				9.87500E-01	3.536117	3.536117	1.02 G	90%	0.981161						
			(0.342158)				(1.8916E-01)	(0.737578)	(0.737578)	(0.017321)		0.447206						
03/28/08	RA-228	A	1.466187				1.00750E+00	3.260316	3.260316	1.02 G	90%	0.512294						
			(0.18073)				(1.0982E-01)	(0.389323)	(0.389323)	(0.01)		0.2335						
03/28/08	RA-228	R	3.874471				4.92500E-01	8.615546	8.615546	1.02 G	90%	4.458637						
			(1.267373)				(1.5336E-01)	(2.781257)	(2.781257)	(0.017321)		2.017322						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wk 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	Unk	*STLE	Ra228WoBS	KF5GC2AF	pCi/g	01/24/08 08:05	03/28/08 07:42	30.6	03/19/08 13:08	✓	1	g				
1418995	TSB	HJ-07-0					Unk				03/27/08 11:35	RATA30468	Alq	97%	1.02 g	✓		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	03/27/08 14:59	RA-228	101	216	GPC1C	1	N	N	5.3117E-01	1.0000E+00	N	87%	N	1.4025E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(1.093E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
1	03/27/08 15:54	RA-228	111	216	GPC1C	1	N	N	5.3117E-01	1.0000E+00	N	87%	N	1.5564E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(1.093E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
2	03/27/08 16:50	RA-228	97	216	GPC1C	1	N	N	5.3117E-01	1.0000E+00	N	87%	N	1.7273E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(1.093E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
3	03/28/08 07:42	RA-228	39	69	GPC2A	1	N	N	4.4306E-01	1.0000E+00	N	87%	N	9.2753E+00	4.5045E-01	1.0184E+00		
			50	274			N		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			

Alpha Beta, Ra-228 by GPC, Calculated Results

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDwidC/LcC
03/28/08	RA-228	R	2.031185	(0.343939)		1.48000E+00	4.51637	4.51637	1.02 G	87%		0.737598		
						(2.0433E-01)	(0.726616)	(0.726616)	(0.017321)			0.331803		
03/28/08	RA-228	R	2.558686	(0.411157)		1.68000E+00	5.689276	5.689276	1.02 G	87%		0.818539		
						(2.1389E-01)	(0.863443)	(0.863443)	(0.017321)			0.368214		
03/28/08	RA-228	R	2.366298	(0.410514)		1.40000E+00	5.261498	5.261498	1.02 G	87%		0.908392		
						(2.0037E-01)	(0.869473)	(0.869473)	(0.017321)			0.408634		
03/28/08	RA-228	A	2.318723	(0.225059)		1.52000E+00	5.155715	5.155715	1.02 G	87%		0.474299		
						(1.1909E-01)	(0.474867)	(0.474867)	(0.01)			0.21336		
03/28/08	RA-228	R	5.747276	(1.509765)		5.28175E-01	12.779152	12.779152	1.02 G	87%		4.180654		
						(1.2853E-01)	(3.288463)	(3.288463)	(0.017321)			1.796508		

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	TF	Unk	*STLE Ra228WoBS	KF5GFZAF	pc/g	Unk	01/24/08 08:05	03/28/08 07:42	03/19/08 13:08	03/27/08 11:35	RATA30469	Alq	93%	g
12	1418995	TSB-HJ-07-07-FD	Unk	FBA250205-12				31.0	31.0						

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/27/08 14:59	RA-228	145	279	GPC1D	1	N	N	5.3987E-01	1.0000E+00	N	84%	N	1.4025E+00	4.5045E-01	1.0184E+00		
			50	400			Y	Y	(1.574E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
1	03/27/08 15:54	RA-228	125	279	GPC1D	1	N	N	5.3987E-01	1.0000E+00	N	84%	N	1.5564E+00	4.5045E-01	1.0184E+00		
			50	400			Y	Y	(1.574E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
2	03/27/08 16:50	RA-228	123	279	GPC1D	1	N	N	5.3987E-01	1.0000E+00	N	84%	N	1.7273E+00	4.5045E-01	1.0184E+00		
			50	400			Y	Y	(1.574E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
3	03/28/08 07:42	RA-228	40	111	GPC2B	1	N	N	4.6606E-01	1.0000E+00	N	84%	N	9.2753E+00	4.5045E-01	1.0184E+00		
			50	274			N	N	(1.356E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDwidC/LcC
03/28/08	RA-228	R	3.123807	(0.467168)		2.20250E+00	6.809639	6.809639	1.00 G	84%		0.85582		
						(2.4443E-01)	(0.952509)	(0.952509)	(0.017321)			0.389705		
03/28/08	RA-228	R	2.837028	(0.457244)		1.80250E+00	6.184483	6.184483	1.00 G	84%		0.949735		
						(2.2747E-01)	(0.9415)	(0.9415)	(0.017321)			0.43247		
03/28/08	RA-228	R	3.078584	(0.500678)		1.76250E+00	6.711056	6.711056	1.00 G	84%		1.053989		
						(2.2571E-01)	(1.032048)	(1.032048)	(0.017321)			0.479943		
03/28/08	RA-228	A	3.01314	(0.274468)		1.92250E+00	6.568393	6.568393	1.00 G	84%		0.550319		
						(1.3434E-01)	(0.563601)	(0.563601)	(0.01)			0.250593		
03/28/08	RA-228	R	4.290641	(1.499471)		3.94891E-01	9.35324	9.35324	1.00 G	84%		5.136687		
						(1.3221E-01)	(3.231035)	(3.231035)	(0.017321)			2.275242		

RecCnt: 13 RADCALC v4.8.29
 TA Richland
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 (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	Calc	TF	Unk	Matrix	Protocol	Equation Set	Wrk 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	1418995	TSB-HR-08-0	Unk	Matrix	*STLE	Ra228WoBS	KF5GJ2AM	pCi/g	Unk	01/24/08 09:00	03/28/08 07:37	03/19/08 13:08	RASA0302	1	100%	1.01 g	g	
											30.9	03/27/08 11:35	RATA30470	Alq			1.01 g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/27/08 14:59	RA-228	77	127	GPC2A	1	N	N	4.4293E-01	1.0000E+00	N	90%	N	1.4032E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/27/08 15:55	RA-228	56	127	GPC2A	1	N	N	4.4293E-01	1.0000E+00	N	90%	N	1.5572E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/27/08 16:50	RA-228	71	127	GPC2A	1	N	N	4.4293E-01	1.0000E+00	N	90%	N	1.7281E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/28/08 07:37	RA-228	23	122	GPC3A	1	N	N	4.6650E-01	1.0000E+00	N	90%	N	9.1927E+00	4.5045E-01	1.0184E+00		
			50	400			N		(4.763E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wc Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BlkLcC/MDC	StdDyMdC/LcC				
03/28/08	RA-228	R	1.958262			1.22250E+00	4.311591	4.311591	1.01 G	90%		0.680376						
			(0.344444)			(1.7775E-01)	(0.723321)	(0.723321)	(0.017321)			0.296954						
03/28/08	RA-228	R	1.426595			8.02500E-01	3.140996	3.140996	1.01 G	90%		0.755063						
			(0.305348)			(1.5229E-01)	(0.651474)	(0.651474)	(0.017321)			0.329552						
03/28/08	RA-228	R	2.174975			1.10250E+00	4.788736	4.788736	1.01 G	90%		0.837921						
			(0.399959)			(1.7086E-01)	(0.843442)	(0.843442)	(0.017321)			0.365716						
03/28/08	RA-228	A	1.853277			1.04250E+00	4.080441	4.080441	1.01 G	90%		0.437508						
			(0.203264)			(9.6598E-02)	(0.429342)	(0.429342)	(0.01)			0.190953						
03/28/08	RA-228	R	1.544389		U4	1.55000E-01	3.400349	3.400349	1.01 G	90%		4.158658						
			(1.005599)			(9.9812E-02)	(2.206762)	(2.206762)	(0.017321)			1.810385						
Sq	Calc	TF	Unk	Matrix	Protocol	Equation Set	Wrk 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	1418995	TSB-HR-08-0	Unk	Matrix	*STLE	Ra228WoBS	KF5GJ2AP	pCi/g	Unk	01/24/08 09:00	03/28/08 07:37	03/19/08 13:08	RASA0302	1	89%	1.00 g	g	
											31.0	03/27/08 11:35	RASA0302	Alq			1.00 g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/27/08 15:00	RA-228	370	115	GPC3C	1	N	N	4.8392E-01	1.0000E+00	N	80%	N	1.4040E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(7.225E-03)	(0.000E+00)		6%		(0.000E+00)	1.00			
1	03/27/08 15:50	RA-228	337	115	GPC3C	1	N	N	4.8392E-01	1.0000E+00	N	80%	N	1.5435E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(7.225E-03)	(0.000E+00)		6%		(0.000E+00)	1.00			
2	03/27/08 16:45	RA-228	296	115	GPC3C	1	N	N	4.8392E-01	1.0000E+00	N	80%	N	1.7129E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(7.225E-03)	(0.000E+00)		6%		(0.000E+00)	1.00			
3	03/28/08 07:37	RA-228	91	230	GPC3B	1	N	N	4.8566E-01	1.0000E+00	N	80%	N	9.1927E+00	4.5045E-01	1.0184E+00		
			50	400			N		(1.039E-02)	(0.000E+00)		6%		(0.000E+00)	1.00			

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIKcC/MDC	StdDvMdc/LcC
03/28/08	RA-228	R	11.797671	7.11250E+00	25.71826	25.71826	(3.8564E-01)	(2.514968)	25.71826	1.00 G	80%	117%	0.674775		
03/28/08	RA-228	R	11.766023	6.45250E+00	25.649269	25.649269	(3.6813E-01)	(2.549213)	25.649269	1.00 G	80%	117%	0.7418		
03/28/08	RA-228	R	11.398206	5.63250E+00	24.847449	24.847449	(3.4514E-01)	(2.531225)	24.847449	1.00 G	80%	113%	0.823228		
03/28/08	RA-228	A	11.653967	6.39917E+00	25.404993	25.404993	(2.1170E-01)	(1.461759)	25.404993	1.00 G	80%	116%	0.43105		
03/28/08	RA-228	AN	9.800689	6.39917E+00	25.404993	25.404993	(2.1170E-01)	(1.461759)	25.404993	1.00 G	80%	97%	0.43105		
03/28/08	RA-228	R	13.472343	1.24500E+00	29.368952	29.368952	(1.9452E-01)	(5.193312)	29.368952	1.00 G	80%	134%	5.982553		
			(2.486692)						(5.193312)	(0.017321)			2.699626		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sept/1	QC/Tracer	Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol		
15	Calc	TF	Unk	*STLE	Ra228WoBS	KF5GJ2AR	pCi/g		01/24/08 09:00	03/28/08 07:37	03/19/08 13:08	✓	1	91%	1.01 g	✓		
1418995	TSB	HR	08-0'				Unk			30.8	03/27/08 11:35	RATA30471	Alq					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/27/08 15:00	RA-228	91	108	GPC3D 1	N	N	N	4.8298E-01	1.0000E+00	N	82%	N	1.4040E+00	4.5045E-01	1.0184E+00		
1	03/27/08 15:50	RA-228	63	400	GPC3D 1	Y	Y	N	(8.182E-03)	(0.000E+00)	N	7%	N	(0.000E+00)	0.990099			
2	03/27/08 16:45	RA-228	50	400	GPC3D 1	Y	Y	N	(8.182E-03)	(0.000E+00)	N	7%	N	1.5435E+00	4.5045E-01	1.0184E+00		
3	03/28/08 07:37	RA-228	20	400	GPC3C 1	N	N	N	4.8298E-01	1.0000E+00	N	82%	N	1.7129E+00	4.5045E-01	1.0184E+00		
			50	400	GPC3C 1	Y	Y	N	(8.182E-03)	(0.000E+00)	N	7%	N	(0.000E+00)	0.990099			
			20	400	GPC3C 1	N	N	N	4.8395E-01	1.0000E+00	N	82%	N	9.1927E+00	4.5045E-01	1.0184E+00		
			50	400	GPC3C 1	N	N	N	(7.225E-03)	(0.000E+00)	N	7%	N	(0.000E+00)	0.990099			

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIKcC/MDC	StdDvMdc/LcC
03/28/08	RA-228	R	2.508495	1.55000E+00	5.523062	5.523062	(1.9255E-01)	(0.821411)	5.523062	1.01 G	82%		0.640724		
			(0.395936)						(0.821411)	(0.017321)			0.276668		
03/28/08	RA-228	R	1.761345	9.90000E-01	3.878029	3.878029	(1.6086E-01)	(0.705411)	3.878029	1.01 G	82%		0.704367		
			(0.333641)						(0.705411)	(0.017321)			0.304149		
03/28/08	RA-228	R	1.915202	9.70000E-01	4.216783	4.216783	(1.5961E-01)	(0.774811)	4.216783	1.01 G	82%		0.781686		
			(0.36618)						(0.774811)	(0.017321)			0.337536		
03/28/08	RA-228	A	2.061681	1.17000E+00	4.539292	4.539292	(9.9121E-02)	(0.443803)	4.539292	1.01 G	82%		0.409299		
			(0.21139)						(0.443803)	(0.01)			0.176737		
03/28/08	RA-228	R	1.401142	1.32500E-01	3.084956	3.084956	(9.3106E-02)	(2.18225)	3.084956	1.01 G	82%		4.169781		
			(0.99391)						(2.18225)	(0.017321)			1.799385		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk 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	Unk	*STLE	Ra228WoBS	KGXH22AC	B	01/24/08 10:15	30.6	03/28/08 07:37	03/19/08 13:08	03/27/08 11:35	RATA30472	Alq	100%	1.00 g	1.00 g	
0	INTRA-LAB	BLANK					Unk											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/27/08 14:56	RA-228	13	155	GPC4A	1	N	N	4.8846E-01	1.0000E+00	N	89%	N	1.3936E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(2.437E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
1	03/27/08 15:51	RA-228	27	155	GPC4A	1	N	N	4.8846E-01	1.0000E+00	N	89%	N	1.5466E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(2.437E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
2	03/27/08 16:46	RA-228	25	155	GPC4A	1	N	N	4.8846E-01	1.0000E+00	N	89%	N	1.7164E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(2.437E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
3	03/28/08 07:37	RA-228	12	89	GPC3D	1	N	N	4.8295E-01	1.0000E+00	N	89%	N	9.1927E+00	4.5045E-01	1.0184E+00		
			50	400			N		(8.181E-03)	(0.000E+00)		7%		(0.000E+00)	1.00			
Sq	CalcDate,TrcAct	Parameter	Avg Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK,LC/MDC	StdDvMdC/LcC					
03/28/08	RA-228	R	-0.187591	U4	-1.27500E-01	-0.408944	-0.408944	1.00 G	89%	0.682034								
			(0.117324)		(7.8541E-02)	(0.254848)	(0.254848)	(0.017321)		0.301324								
03/28/08	RA-228	R	0.249003	U4	1.52500E-01	0.542822	0.542822	1.00 G	89%	0.756902								
			(0.179168)		(1.0848E-01)	(0.389524)	(0.389524)	(0.017321)		0.3344								
03/28/08	RA-228	R	0.203855	U4	1.12500E-01	0.4444	0.4444	1.00 G	89%	0.839988								
			(0.191054)		(1.0473E-01)	(0.41583)	(0.41583)	(0.017321)		0.371108								
03/28/08	RA-228	A	0.088422	U4	4.58333E-02	0.192759	0.192759	1.00 G	89%	0.438579								
			(0.095666)		(5.6673E-02)	(0.208057)	(0.208057)	(0.01)		0.193765								
03/28/08	RA-228	R	0.171777	U4	1.75000E-02	0.37447	0.37447	1.00 G	89%	3.576823								
			(0.718579)		(7.3186E-02)	(1.566365)	(1.566365)	(0.017321)		1.523307								
Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk 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	Unk	*STLE	Ra228WoBS	KGXH22AC	S	01/24/08 10:15	31.2	03/28/08 07:37	03/19/08 13:08	03/27/08 11:35	RASC4719	Alq	100%	1.02 g	1.02 g	
0	INTRA-LAB	CHECK					Unk											
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/27/08 14:56	RA-228	176	132	GPC4C	1	N	N	4.7328E-01	1.0000E+00	N	91%	N	1.3936E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(2.032E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
1	03/27/08 15:51	RA-228	149	132	GPC4C	1	N	N	4.7328E-01	1.0000E+00	N	91%	N	1.5466E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(2.032E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
2	03/27/08 16:46	RA-228	152	132	GPC4C	1	N	N	4.7328E-01	1.0000E+00	N	91%	N	1.7164E+00	4.5045E-01	1.0184E+00		
			50	400			Y		(2.032E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
3	03/28/08 07:37	RA-228	47	147	GPC4A	1	N	N	4.9003E-01	1.0000E+00	N	91%	N	9.1944E+00	4.5045E-01	1.0184E+00		
			50	400			N		(2.445E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			

Batch Nbr: 8067203

Alpha Beta, Ra-228 by GPC , Calculated Results

3/28/2008 9:48:49 AM

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Voi Used	TrcYld,EnrFct	LCSYld,EFctU	iDC/iLcC	BkLcC/MDC	SidDwldC/LcC
03/28/08	RA-228	R	4.65765 (0.62542)	3.19000E+00 (2.6688E-01)	Q	10.356662 (1.278627)	10.356662 (1.278627)	10.356662 (1.278627)	1.02 G (0.017321)	91%	94%	0.630707 0.275949		
03/28/08	RA-228	R	4.293937 (0.6017)	2.65000E+00 (2.4581E-01)	Q	9.547916 (1.239299)	9.547916 (1.239299)	9.547916 (1.239299)	1.02 G (0.017321)	91%	87%	0.699941 0.306241		
03/28/08	RA-228	R	4.873183 (0.679148)	2.71000E+00 (2.4824E-01)	Q	10.835916 (1.397542)	10.835916 (1.397542)	10.835916 (1.397542)	1.02 G (0.017321)	91%	98%	0.776774 0.339857		
03/28/08	RA-228	A	4.608257 (0.367338)	2.85000E+00 (1.4654E-01)	Q	10.246831 (0.754532)	10.246831 (0.754532)	10.246831 (0.754532)	1.02 G (0.01)	91%	93%	0.405573 0.177448		
03/28/08	RA-228	R	5.32633 (1.427627)	5.72500E-01 (1.4042E-01)	Q	11.843526 (3.112231)	11.843526 (3.112231)	11.843526 (3.112231)	1.02 G (0.017321)	91%	108%	4.213192 1.855569		

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 iDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17

RADCALC v4.8.29
 TA Richland

UST Number: KF5A22AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]KF5A22AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD7.BKGRND]CURRENT.C_1;3579

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00091	0050	01162	1700	27-MAR-2008 11:38:55.23
2	00000	00102	0050	01184	1700	27-MAR-2008 12:34:10.92
3	00000	00089	0050	01180	1700	27-MAR-2008 13:29:26.57

Bkg File: [quad7.bkgrnd]2008-03-27_0316.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00400	0400	1.00	09480	1700	27-MAR-2008 03:16:43.36 ✓

UST Number: KF5A22AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]KF5A22AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD7.BKGRND]CURRENT.A_1;3588

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00080	0050	01168	1700	28-MAR-2008 05:54:37.07

Bkg File: [quad7.bkgrnd]2008-03-28_0418.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00407	0400	1.02	09442	1700	28-MAR-2008 04:18:17.65

UST Number: KF5FV2AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF5FV2AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3631

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00071	0050	01177	1650	27-MAR-2008 11:39:23.10
2	00000	00096	0050	01174	1650	27-MAR-2008 12:34:38.82
3	00000	00083	0050	01182	1650	27-MAR-2008 13:29:54.54

Bkg File: [quad1.bkgrnd]2008-03-27_0312.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00285	0400	0.71	09567	1650	27-MAR-2008 03:12:20.03 ✓

UST Number: KF5FV2AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]KF5FV2AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD7.BKGRND]CURRENT.C_1;3580

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00071	0050	01168	1700	28-MAR-2008 05:54:37.07

Bkg File: [quad7.bkgrnd]2008-03-28_0418.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00392	0400	0.98	09442	1700	28-MAR-2008 04:18:17.65

UST Number: KF5FX2AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF5FX2AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3627

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00070	0050	01177	1650	27-MAR-2008 11:39:23.10
2	00000	00069	0050	01174	1650	27-MAR-2008 12:34:38.82
3	00000	00059	0050	01182	1650	27-MAR-2008 13:29:54.54

Bkg File: [quad1.bkgrnd]2008-03-27_0312.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00216	0400	0.54	09567	1650	27-MAR-2008 03:12:20.03 ✓

UST Number: KF5FX2AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF5FX2AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3632

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00048	0050	01195	1650	28-MAR-2008 05:54:52.04

Bkg File: [quad1.bkgrnd]2008-03-28_0418.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00298	0400	0.75	09512	1650	28-MAR-2008 04:18:18.95

UST Number: KF5F02AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF5F02AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3630

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00099	0050	01177	1650	27-MAR-2008 11:39:23.10
2	00000	00129	0050	01174	1650	27-MAR-2008 12:34:38.82
3	00000	00083	0050	01182	1650	27-MAR-2008 13:29:54.54

Bkg File: [quad1.bkgrnd]2008-03-27_0312.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00279	0400	0.70	09567	1650	27-MAR-2008 03:12:20.03 ✓

UST Number: KF5F02AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-B File: [quad1.sample.B]KF5F02AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.B_1;3631

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00052	0050	01195	1650	28-MAR-2008 05:54:52.04

Bkg File: [quad1.bkgrnd]2008-03-28_0418.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00438	0400	1.10	09512	1650	28-MAR-2008 04:18:18.95

UST Number: KF5F12AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]KF5F12AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.A_1;4171

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00067	0050	01190	1810	27-MAR-2008 11:39:37.41
2	00000	00067	0050	01187	1810	27-MAR-2008 12:34:53.19
3	00000	00060	0050	01187	1810	27-MAR-2008 13:30:08.91

Bkg File: [quad2.bkgrnd]2008-03-27_0312.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00127	0400	0.32	09641	1810	27-MAR-2008 03:12:24.23 ✓

UST Number: KF5F12AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF5F12AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3628

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00037	0050	01195	1650	28-MAR-2008 05:54:52.04

Bkg File: [quad1.bkgrnd]2008-03-28_0418.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00233	0400	0.58	09512	1650	28-MAR-2008 04:18:18.95

UST Number: KF5F32AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF5F32AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6099

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00059	0050	01277	1920	27-MAR-2008 11:39:55.39
2	00000	00058	0050	01261	1920	27-MAR-2008 12:35:11.12
3	00000	00050	0050	01280	1920	27-MAR-2008 13:30:26.73

Bkg File: [quad3.bkgrnd]2008-03-27_0307.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00115	0400	0.29	10342	1920	27-MAR-2008 03:07:28.40 ✓

UST Number: KF5F32AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF5F32AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3631

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00032	0050	01195	1650	28-MAR-2008 05:54:52.04

Bkg File: [quad1.bkgrnd]2008-03-28_0418.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00243	0400	0.61	09512	1650	28-MAR-2008 04:18:18.95

UST Number: KF5F42AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]KF5F42AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;6084

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00056	0050	01277	1920	27-MAR-2008 11:39:55.39
2	00000	00057	0050	01261	1920	27-MAR-2008 12:35:11.12
3	00000	00046	0050	01280	1920	27-MAR-2008 13:30:26.73

Bkg File: [quad3.bkgrnd]2008-03-27_0307.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00108	0400	0.27	10342	1920	27-MAR-2008 03:07:28.40 ✓

UST Number: KF5F42AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]KF5F42AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD7.BKGRND]CURRENT.A_1;3588

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00069	0050	01195	1700	28-MAR-2008 06:54:31.84

Bkg File: [quad7.bkgrnd]2008-03-28_0418.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00407	0400	1.02	09442	1700	28-MAR-2008 04:18:17.65

UST Number: KF5F72AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF5F72AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6098

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00073	0050	01227	1850	27-MAR-2008 11:40:34.63
2	00000	00057	0050	01237	1850	27-MAR-2008 12:35:50.52
3	00000	00068	0050	01243	1850	27-MAR-2008 13:31:06.53

Bkg File: [quad4.bkgrnd]2008-03-27_0307.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00155	0400	0.39	09988	1850	27-MAR-2008 03:07:34.07 ✓

UST Number: KF5F72AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]KF5F72AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD7.BKGRND]CURRENT.C_1;3580

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00058	0050	01195	1700	28-MAR-2008 06:54:31.84

Bkg File: [quad7.bkgrnd]2008-03-28_0418.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00392	0400	0.98	09442	1700	28-MAR-2008 04:18:17.65

UST Number: KF5F82AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]KF5F82AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD7.BKGRND]CURRENT.C_1;3579

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00108	0050	01167	1700	27-MAR-2008 14:59:10.19
2	00000	00102	0050	01185	1700	27-MAR-2008 15:54:25.82
3	00000	00103	0050	01172	1700	27-MAR-2008 16:49:41.42

Bkg File: [quad7.bkgrnd]2008-03-27_0316.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00400	0400	1.00	09480	1700	27-MAR-2008 03:16:43.36 ✓

UST Number: KF5F82AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF5F82AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3628

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01194	1650	28-MAR-2008 06:54:54.57

Bkg File: [quad1.bkgrnd]2008-03-28_0418.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00233	0400	0.58	09512	1650	28-MAR-2008 04:18:18.95

UST Number: KF5F92AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF5F92AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3631

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00086	0050	01180	1650	27-MAR-2008 14:59:41.10
2	00000	00087	0050	01199	1650	27-MAR-2008 15:54:56.73
3	00000	00085	0050	01185	1650	27-MAR-2008 16:50:12.39

Bkg File: [quad1.bkgrnd]2008-03-27_0312.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00285	0400	0.71	09567	1650	27-MAR-2008 03:12:20.03 ✓

UST Number: KF5F92AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF5F92AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3631

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00055	0050	01194	1650	28-MAR-2008 06:54:54.57

Bkg File: [quad1.bkgrnd]2008-03-28_0418.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00243	0400	0.61	09512	1650	28-MAR-2008 04:18:18.95

UST Number: KF5GC2AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF5GC2AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3627

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00101	0050	01180	1650	27-MAR-2008 14:59:41.10
2	00000	00111	0050	01199	1650	27-MAR-2008 15:54:56.73
3	00000	00097	0050	01185	1650	27-MAR-2008 16:50:12.39

Bkg File: [quad1.bkgrnd]2008-03-27_0312.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00216	0400	0.54	09567	1650	27-MAR-2008 03:12:20.03 ✓

UST Number: KF5GC2AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]KF5GC2AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.A_1;4172

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01197	1810	28-MAR-2008 07:42:05.63

Bkg File: [quad2.bkgrnd]2008-03-28_0211.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00069	0274	0.25	06592	1810	28-MAR-2008 02:11:44.40

UST Number: KF5GF2AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF5GF2AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3630

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00145	0050	01180	1650	27-MAR-2008 14:59:41.10
2	00000	00125	0050	01199	1650	27-MAR-2008 15:54:56.73
3	00000	00123	0050	01185	1650	27-MAR-2008 16:50:12.39

Bkg File: [quad1.bkgrnd]2008-03-27_0312.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00279	0400	0.70	09567	1650	27-MAR-2008 03:12:20.03 ✓

UST Number: KF5GF2AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]KF5GF2AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.B_1;4169

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00040	0050	01197	1810	28-MAR-2008 07:42:05.63

Bkg File: [quad2.bkgrnd]2008-03-28_0211.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00111	0274	0.41	06592	1810	28-MAR-2008 02:11:44.40

UST Number: KF5GJ2AM Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]KF5GJ2AM.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.A_1;4171

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00077	0050	01179	1810	27-MAR-2008 14:59:57.61
2	00000	00056	0050	01193	1810	27-MAR-2008 15:55:13.34
3	00000	00071	0050	01182	1810	27-MAR-2008 16:50:28.94

Bkg File: [quad2.bkgrnd]2008-03-27_0312.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00127	0400	0.32	09641	1810	27-MAR-2008 03:12:24.23 ✓

UST Number: KF5GJ2AM Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]KF5GJ2AM.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;6087

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00023	0050	01277	1920	28-MAR-2008 07:37:20.39

Bkg File: [quad3.bkgrnd]2008-03-28_0417.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00122	0400	0.31	10282	1920	28-MAR-2008 04:17:44.98

UST Number: KF5GJ2AP Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF5GJ2AP.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6099

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00370	0050	01277	1920	27-MAR-2008 15:00:16.80
2	00000	00337	0050	01280	1920	27-MAR-2008 15:50:31.61
3	00000	00296	0050	01265	1920	27-MAR-2008 16:45:47.28

Bkg File: [quad3.bkgrnd]2008-03-27_0307.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00115	0400	0.29	10342	1920	27-MAR-2008 03:07:28.40 ✓

UST Number: KF5GJ2AP Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]KF5GJ2AP.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.B_1;6095

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00091	0050	01277	1920	28-MAR-2008 07:37:20.39

Bkg File: [quad3.bkgrnd]2008-03-28_0417.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00230	0400	0.58	10282	1920	28-MAR-2008 04:17:44.98

UST Number: KF5GJ2AR Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]KF5GJ2AR.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;6084

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00091	0050	01277	1920	27-MAR-2008 15:00:16.80
2	00000	00063	0050	01280	1920	27-MAR-2008 15:50:31.61
3	00000	00062	0050	01265	1920	27-MAR-2008 16:45:47.28

Bkg File: [quad3.bkgrnd]2008-03-27_0307.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00108	0400	0.27	10342	1920	27-MAR-2008 03:07:28.40 ✓

UST Number: KF5GJ2AR Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF5GJ2AR.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6100

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01277	1920	28-MAR-2008 07:37:20.39

Bkg File: [quad3.bkgrnd]2008-03-28_0417.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00107	0400	0.27	10282	1920	28-MAR-2008 04:17:44.98

UST Number: KGXH22AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KGXH22AA.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6098

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00013	0050	01234	1850	27-MAR-2008 14:56:19.75
2	00000	00027	0050	01220	1850	27-MAR-2008 15:51:35.67
3	00000	00025	0050	01228	1850	27-MAR-2008 16:46:51.32

Bkg File: [quad4.bkgrnd]2008-03-27_0307.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00155	0400	0.39	09988	1850	27-MAR-2008 03:07:34.07 ✓

UST Number: KGXH22AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]KGXH22AA.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;6085

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00012	0050	01277	1920	28-MAR-2008 07:37:20.39

Bkg File: [quad3.bkgrnd]2008-03-28_0417.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00089	0400	0.22	10282	1920	28-MAR-2008 04:17:44.98

UST Number: KGXH22AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]KGXH22AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;6100

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00176	0050	01234	1850	27-MAR-2008 14:56:19.75
2	00000	00149	0050	01220	1850	27-MAR-2008 15:51:35.67
3	00000	00152	0050	01228	1850	27-MAR-2008 16:46:51.32

Bkg File: [quad4.bkgrnd]2008-03-27_0307.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00132	0400	0.33	09988	1850	27-MAR-2008 03:07:34.07 ✓

UST Number: KGXH22AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KGXH22AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6099

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00047	0050	01240	1850	28-MAR-2008 07:37:26.42

Bkg File: [quad4.bkgrnd]2008-03-28_0418.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00147	0400	0.37	09937	1850	28-MAR-2008 04:18:26.22

2/21/2008 1:59:52 PM

1418995, 1 andwell Company
Landwell Company

AnalytDueDate: 02/22/2008

Sample Preparation/Analysis

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Balance Id: 1120373922

Pipet #:

Sep1 DT/Tm Tech: 2/26/08 10:00 DL

Sep2 DT/Tm Tech: 3/5/08 07:15 RM

PM, Quote: JAE, 78254

pCi/g

Batch: 8042380

SEQ Batch, Test: 8042378, D9TE

Prep Tech: ,Barcoti



Work Order, Lot, Sample Date Time	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, Initt/Date	Comments:
1 KF5A2-1-AF F8A250205-1-SAMP		1.01g.in	RATA30161 01/31/08	✓ 0.9731	1"	31.0	3X50	A 1031	3/5/08	
01/24/2008 10:15								Scr: Alpha: 1.04E+02pCig		Beta: 2.65E+01pCig
2 KF5FV-1-AF F8A250205-2-SAMP		1.02g.in	RATA30162 01/31/08	✓ 0.9949		31.1		KC 1031	3/5/08	
01/24/2008 09:55								Scr: Alpha:		Beta:
3 KF5FX-1-AF F8A250205-3-SAMP		1.03g.in	RATA30163 01/31/08	✓ 1.0000		30.4		LD 1031	3/5/08	
01/24/2008 11:00								Scr: Alpha: 1.01E+02pCig		Beta: 2.39E+01pCig
4 KF5F0-1-AF F8A250205-4-SAMP		1.02g.in	RATA30164 01/31/08	✓ 1.0000		30.8		3C 1031	3/5/08	
01/24/2008 11:30								Scr: Alpha:		Beta:

ISV - Insufficient Volume for Analysis

Page 1

TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

WO Cnt: 4

Prep. SamplePrep v4.8.32

2/21/2008 1:59:53 PM

Sample Preparation/Analysis

Balance Id: 1120373922

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

AnalyDueDate: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8042380

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech:

SEO Batch, Test: 8042378, D9TE

pCi/g

Prep Tech: Barcott

Work Order, Lot, Sample Date/Time	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:
5 KF5F1-1-AF F8A250205-5-SAMP	1.02g.in	1.0000	RATA30165 01/31/08	✓ 1.0000	1" 3x50	29.9	35	1031	3/5/08	
6 KF5F3-1-AF F8A250205-6-SAMP	1.02g.in	1.0000	RATA30166 01/31/08	✓ 0.8772 1.0000 2-26-08	36	30.5	4C	1031	3/5/08	
7 KF5F4-1-AF F8A250205-7-SAMP	1.02g.in	0.8772	RATA30167 01/31/08	✓ 0.8772 1.0000 2-26-08	4C	31.4	HA	1031	3/5/08	
8 KF5F7-1-AF F8A250205-8-SAMP	1.00g.in	1.0000	RATA30168 01/31/08	✓ 1.0000	4C	31.1	36	1031	3/5/08	

2/21/2008 1:59:54 PM **Sample Preparation/Analysis** Balance Id:1120373922
 1418995, Landwell Company D9 Ra-226/228 PprRC5013/5032, SepRC5005 Pipet #:
 Landwell Company TF Radium-228 by GPC
Analyte Due Date: 02/22/2008 01 STANDARD TEST SET Sep1 DT/Tm Tech:
 PM, Quote: JAE, 78254 Sep2 DT/Tm Tech:
 pCi/g Prep Tech: Barcolit

Batch: 8042380
 SEQ Batch, Test: 8042378, D9TE

Work Order, Lot, Sample Date/Time	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:
9 KF5F8-1-AF		1.01g.in	RATA30169 01/31/08	✓ 1.0000	1" 3x80	32.1	45	3/15/08	3/15/08	
F8A250205-9-SAMP										
01/24/2008 13:00		AmtRec: SL	#Containers: 1				Scr:	Alpha:	Beta:	
10 KF5F9-1-AF		1.01g.in	RATA30170 01/31/08	✓ 1.0000	2/21/08	30.6	4A	01/07	3/15/08	
F8A250205-10-SAMP										
01/24/2008 13:10		AmtRec: SL	#Containers: 1				Scr:	Alpha:	Beta:	
11 KF5GC-1-AF		1.00g.in	RATA30171 01/31/08	✓ 1.0000	1.5"	30.6	4D	1231	3/15/08	
F8A250205-11-SAMP										
01/24/2008 08:05		AmtRec: SL	#Containers: 1				Scr:	Alpha:	Beta:	
12 KF5GF-1-AF		1.02g.in	RATA30172 01/31/08	✓ 1.0000	1.5"	31.6	5A	1231	3/15/08	
F8A250205-12-SAMP										
01/24/2008 08:05		AmtRec: SL	#Containers: 1				Scr:	Alpha:	Beta:	

2/21/2008 1:59:54 PM

Sample Preparation/Analysis

Balance Id: 1120373922

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

Analyte Date: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8042380

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech:

SEQ Batch, Test: 8042378, D9TE 8042378, D9TE

pCi/g

1.00g.in

Prep Tech: ,Barcolt

Work Order, Lot, Sample Date/Time	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:
15KF5GJ-1-AR-X F8A250205-14-SAMP	1.00g.in	1.0000	RATA30173 01/31/08	1.0000	1.5" SC	31.0	SC	1231	3/5005	3/6/08
01/24/2008 09:00			AmtRec: 2XSL	#Containers: 2			Scr:	Alpha:	Beta:	
15KF5GJ-1-AR-X F8A250205-14-MS	1.02g.in	1.0000	RASA0259 01/08/08	1.0000	SC	31.9	SD	1231	3/5005	3/6/08
01/24/2008 09:00			AmtRec: 2XSL	#Containers: 2			Scr:	Alpha:	Beta:	
15KF5GJ-1-AR-X F8A250205-14-DUP	1.01g.in	1.0000	RATA30174 01/31/08	1.0000	GP	30.2	GP	1231	3/5005	3/6/08
01/24/2008 09:00			AmtRec: 2XSL	#Containers: 2			Scr:	Alpha:	Beta:	
15KF5GJ-1-AR-X J8B110000-380-BLK	1.03g.in	1.0000	RATA30175 01/31/08	1.0000	GP	30.9	GP	1231	3/5005	3/6/08
01/24/2008 10:15			AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:	

2/21/2008 1:59:54 PM

Sample Preparation/Analysis

Balance Id:1120373922

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

AnalyteDueDate: 02/22/2008

Batch: 8042380 pCi/g

SEQ Batch, Test: None

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,Barcotl

Work Order, Lot, Sample Date/Time	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:
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17 KGXH2-1-AC-C	1.02g.in	1.5" 1.0000	RASC4698 01/21/08	✓ 1.0000	6D	3x50	6D	1358	3/5/08	
J8B110000-380-LCS							6D	30.2	3/6/08	

01/24/2008 10:15 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments:

All Clients for Batch:
1418995, Landwell Company Landwell Company , JAE, 78254

KF5A21AF-SAMP Constituent List:

Constituent	RDL	RDL:	pci/g	LCL:20	LCL:	UCL:115	UCL:	RA-228	RA-226	RA-228DA	RPD:35	RPD:	RPD:35	RPD:35	RPD:35	RPD:35	RPD:35
Ba-133																	
RA-228DA																	
Ba-133																	
RA-228																	

Constituent	RDL	RDL:	pci/g	LCL:20	LCL:	UCL:115	UCL:	RA-228	RA-226	RA-228DA	RPD:35	RPD:	RPD:35	RPD:35	RPD:35	RPD:35	RPD:35
Ba-133																	
RA-228DA																	
Ba-133																	
RA-228																	

KF5A21AF-SAMP Calc Info:
Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B
KF5GJ1AF-MS:
Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B
KGXH21AA-BLK:
Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B
KGXH21AC-LCS:
Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B

Approved By: Date: WO Cnt: 17
Prep SamplePrep v4.8.32

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Ra-228 by GPC			Ra-226/Ra-228 Deem With Out Blk Subst. *CntU: 0+1, + *SystU, `MDCConst:2.71													
Calc	TF	SOLID	KF5A21AF	RA-228	2.40E+00	(3.83E-01)		pCi/g	R	3.37E-01	7.48E-01			88%		
Calc	TF	SOLID	KF5A21AF	RA-228	2.33E+00	(3.93E-01)		pCi/g	R	3.74E-01	8.30E-01			88%		
Calc	TF	SOLID	KF5A21AF	RA-228	2.04E+00	(3.84E-01)		pCi/g	R	4.15E-01	9.21E-01			88%		
Calc	TF	SOLID	KF5A21AF	RA-228	2.25E+00	(2.23E-01)		pCi/g	A	2.16E-01	4.81E-01	✓		88%		
Calc	TF	SOLID	KF5A21AF	RA-228	2.62E+00	(1.79E+00)	U4	pCi/g	R	3.46E+00	7.58E+00			88%		
Calc	TF	SOLID	KF5FV1AF	RA-228	6.58E-01	(2.17E-01)		pCi/g	R	3.38E-01	7.48E-01			90%		
Calc	TF	SOLID	KF5FV1AF	RA-228	6.70E-01	(2.36E-01)		pCi/g	R	3.75E-01	8.30E-01			90%		
Calc	TF	SOLID	KF5FV1AF	RA-228	4.10E-01	(2.32E-01)		pCi/g	R	4.16E-01	9.22E-01			90%		
Calc	TF	SOLID	KF5FV1AF	RA-228	5.79E-01	(1.32E-01)		pCi/g	A	2.17E-01	4.81E-01	✓		90%		
Calc	TF	SOLID	KF5FV1AF	RA-228	7.31E-01	(1.54E+00)	U4	pCi/g	R	3.26E+00	7.15E+00			90%		
Calc	TF	SOLID	KF5FX1AF	RA-228	8.68E-01	(2.39E-01)		pCi/g	R	3.44E-01	7.59E-01			88%		
Calc	TF	SOLID	KF5FX1AF	RA-228	5.19E-01	(2.24E-01)		pCi/g	R	3.81E-01	8.43E-01			88%		
Calc	TF	SOLID	KF5FX1AF	RA-228	6.74E-01	(2.58E-01)		pCi/g	R	4.23E-01	9.35E-01			88%		
Calc	TF	SOLID	KF5FX1AF	RA-228	6.87E-01	(1.39E-01)		pCi/g	A	2.21E-01	4.88E-01	✓		88%		
Calc	TF	SOLID	KF5FX1AF	RA-228	3.29E-01	(1.15E+00)	U4	pCi/g	R	2.43E+00	5.57E+00			88%		
Calc	TF	SOLID	KF5F01AF	RA-228	1.04E+00	(2.38E-01)		pCi/g	R	2.62E-01	6.07E-01			90%		
Calc	TF	SOLID	KF5F01AF	RA-228	8.07E-01	(2.25E-01)		pCi/g	R	2.88E-01	6.67E-01			90%		
Calc	TF	SOLID	KF5F01AF	RA-228	2.92E-01	(1.82E-01)	U4	pCi/g	R	3.19E-01	7.40E-01			90%		
Calc	TF	SOLID	KF5F01AF	RA-228	7.14E-01	(1.25E-01)		pCi/g	A	1.67E-01	3.88E-01	✓		90%		
Calc	TF	SOLID	KF5F01AF	RA-228	2.14E+00	(1.45E+00)	U4	pCi/g	R	2.68E+00	6.07E+00			90%		
Calc	TF	SOLID	KF5F11AF	RA-228	9.18E-01	(2.39E-01)		pCi/g	R	3.18E-01	7.20E-01			87%		
Calc	TF	SOLID	KF5F11AF	RA-228	4.71E-01	(2.09E-01)		pCi/g	R	3.50E-01	7.91E-01			87%		
Calc	TF	SOLID	KF5F11AF	RA-228	7.10E-01	(2.50E-01)		pCi/g	R	3.89E-01	8.78E-01			87%		
Calc	TF	SOLID	KF5F11AF	RA-228	7.00E-01	(1.35E-01)		pCi/g	A	2.03E-01	4.60E-01	✓		87%		
Calc	TF	SOLID	KF5F11AF	RA-228	3.10E+00	(1.56E+00)		pCi/g	R	2.66E+00	6.08E+00			87%		
Calc	TF	SOLID	KF5F31AF	RA-228	9.44E-01	(2.25E-01)		pCi/g	R	2.58E-01	5.98E-01			89%		
Calc	TF	SOLID	KF5F31AF	RA-228	5.75E-01	(1.97E-01)		pCi/g	R	2.84E-01	6.57E-01			89%		
Calc	TF	SOLID	KF5F31AF	RA-228	7.48E-01	(2.31E-01)		pCi/g	R	3.15E-01	7.29E-01			89%		
Calc	TF	SOLID	KF5F31AF	RA-228	7.55E-01	(1.26E-01)		pCi/g	A	1.65E-01	3.82E-01	✓		89%		
Calc	TF	SOLID	KF5F31AF	RA-228	3.40E-02	(1.15E+00)	U4	pCi/g	R	2.52E+00	5.77E+00			89%		
Calc	TF	SOLID	KF5F41AF	RA-228	1.82E+00	(3.32E-01)		pCi/g	R	2.94E-01	6.79E-01			80%		
Calc	TF	SOLID	KF5F41AF	RA-228	1.86E+00	(3.50E-01)		pCi/g	R	3.24E-01	7.46E-01			80%		
Calc	TF	SOLID	KF5F41AF	RA-228	5.95E-01	(2.33E-01)		pCi/g	R	3.59E-01	8.28E-01			80%		
Calc	TF	SOLID	KF5F41AF	RA-228	1.43E+00	(1.79E-01)		pCi/g	A	1.88E-01	4.34E-01	✓		80%		
Calc	TF	SOLID	KF5F41AF	RA-228	-9.70E-01	(1.86E+00)	U4	pCi/g	R	4.24E+00	9.28E+00			80%		
Calc	TF	SOLID	KF5F71AF	RA-228	9.81E-01	(2.31E-01)		pCi/g	R	2.40E-01	5.60E-01			90%		
Calc	TF	SOLID	KF5F71AF	RA-228	5.28E-01	(1.91E-01)		pCi/g	R	2.66E-01	6.21E-01			90%		

(j) - (1s Uncertainties)

IDC - Instrument Detection Level in Conc Units

MLcC - Method Decision Level in Conc Units

MDC - Minimum Detectable Concentration

*Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU

All Results Displayed to Three Digits Regardless of Significant

Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:38

RADCALC v4.8.29

TA Richland

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Calc	TF	SOLID	KF5F71AF	RA-228	3.30E-01	(1.81E-01)		pCi/g	R	2.95E-01	6.89E-01			90%		
Calc	TF	SOLID	KF5F71AF	RA-228	6.13E-01	(1.17E-01)		pCi/g	A	1.54E-01	3.60E-01	✓		90%		
Calc	TF	SOLID	KF5F71AF	RA-228	3.01E-01	(1.72E+00)	U4	pCi/g	R	3.73E+00	8.18E+00			90%		
Calc	TF	SOLID	KF5F81AF	RA-228	1.25E+00	(2.72E-01)		pCi/g	R	2.95E-01	6.70E-01			93%		
Calc	TF	SOLID	KF5F81AF	RA-228	1.16E+00	(2.78E-01)		pCi/g	R	3.28E-01	7.43E-01			93%		
Calc	TF	SOLID	KF5F81AF	RA-228	9.57E-01	(2.73E-01)		pCi/g	R	3.64E-01	8.25E-01			93%		
Calc	TF	SOLID	KF5F81AF	RA-228	1.12E+00	(1.58E-01)		pCi/g	A	1.90E-01	4.31E-01	✓		93%		
Calc	TF	SOLID	KF5F81AF	RA-228	2.65E+00	(1.51E+00)		pCi/g	R	2.65E+00	6.07E+00			93%		
Calc	TF	SOLID	KF5F91AF	RA-228	1.35E+00	(2.79E-01)		pCi/g	R	2.65E-01	6.13E-01			89%		
Calc	TF	SOLID	KF5F91AF	RA-228	1.30E+00	(2.87E-01)		pCi/g	R	2.94E-01	6.80E-01			89%		
Calc	TF	SOLID	KF5F91AF	RA-228	9.80E-01	(2.68E-01)		pCi/g	R	3.26E-01	7.55E-01			89%		
Calc	TF	SOLID	KF5F91AF	RA-228	1.21E+00	(1.61E-01)		pCi/g	A	1.70E-01	3.94E-01	✓		89%		
Calc	TF	SOLID	KF5F91AF	RA-228	2.76E+00	(1.70E+00)	U4	pCi/g	R	3.08E+00	6.96E+00			89%		
Calc	TF	SOLID	KF5GC1AF	RA-228	2.60E+00	(4.22E-01)		pCi/g	R	2.81E-01	6.48E-01			89%		
Calc	TF	SOLID	KF5GC1AF	RA-228	1.82E+00	(3.52E-01)		pCi/g	R	3.12E-01	7.19E-01			89%		
Calc	TF	SOLID	KF5GC1AF	RA-228	2.14E+00	(4.04E-01)		pCi/g	R	3.46E-01	7.98E-01			89%		
Calc	TF	SOLID	KF5GC1AF	RA-228	2.19E+00	(2.27E-01)		pCi/g	A	1.81E-01	4.17E-01	✓		89%		
Calc	TF	SOLID	KF5GC1AF	RA-228	2.53E+00	(1.64E+00)	U4	pCi/g	R	2.98E+00	6.79E+00			89%		
Calc	TF	SOLID	KF5GF1AF	RA-228	1.27E+00	(2.69E-01)		pCi/g	R	3.42E-01	7.48E-01			92%		
Calc	TF	SOLID	KF5GF1AF	RA-228	8.23E-01	(2.45E-01)		pCi/g	R	3.76E-01	8.22E-01			92%		
Calc	TF	SOLID	KF5GF1AF	RA-228	9.13E-01	(2.72E-01)		pCi/g	R	4.17E-01	9.13E-01			92%		
Calc	TF	SOLID	KF5GF1AF	RA-228	1.00E+00	(1.51E-01)		pCi/g	A	2.19E-01	4.78E-01	✓		92%		
Calc	TF	SOLID	KF5GF1AF	RA-228	2.63E+00	(1.62E+00)	U4	pCi/g	R	3.12E+00	6.79E+00			92%		
Calc	TF	SOLID	KF5GJ1AM	RA-228	1.11E+00	(2.51E-01)		pCi/g	R	3.23E-01	7.13E-01			90%		
Calc	TF	SOLID	KF5GJ1AM	RA-228	9.00E-01	(2.46E-01)		pCi/g	R	3.56E-01	7.83E-01			90%		
Calc	TF	SOLID	KF5GJ1AM	RA-228	9.99E-01	(2.73E-01)		pCi/g	R	3.95E-01	8.69E-01			90%		
Calc	TF	SOLID	KF5GJ1AM	RA-228	1.00E+00	(1.48E-01)		pCi/g	A	2.07E-01	4.55E-01	✓		90%		
Calc	TF	SOLID	KF5GJ1AM	RA-228	2.09E+00	(1.64E+00)	U4	pCi/g	R	3.25E+00	7.07E+00			90%		
Calc	TF	SOLID	KF5GJ1AP	RA-228	5.53E+00	(6.76E-01)		pCi/g	R	3.39E-01	7.42E-01	W		93%	57%	
Calc	TF	SOLID	KF5GJ1AP	RA-228	5.02E+00	(6.40E-01)		pCi/g	R	3.72E-01	8.16E-01	W		93%	52%	
Calc	TF	SOLID	KF5GJ1AP	RA-228	5.22E+00	(6.76E-01)		pCi/g	R	4.13E-01	9.05E-01	W		93%	54%	
Calc	TF	SOLID	KF5GJ1AP	RA-228	5.26E+00	(3.83E-01)		pCi/g	A	2.16E-01	4.74E-01	W		93%	54%	
Calc	TF	SOLID	KF5GJ1AP	RA-228	4.26E+00	(4.11E-01)		pCi/g	AN	2.16E-01	4.74E-01	W		93%	44%	W
Calc	TF	SOLID	KF5GJ1AP	RA-228	6.69E+00	(1.91E+00)		pCi/g	R	2.94E+00	6.45E+00	W		93%	69%	
Calc	TF	SOLID	KF5GJ1AR	RA-228	1.75E+00	(3.54E-01)		pCi/g	R	4.49E-01	9.80E-01	R		88%		
Calc	TF	SOLID	KF5GJ1AR	RA-228	1.95E+00	(3.92E-01)		pCi/g	R	4.93E-01	1.08E+00	R		88%		
Calc	TF	SOLID	KF5GJ1AR	RA-228	1.70E+00	(3.90E-01)		pCi/g	R	5.42E-01	1.18E+00	R		88%		
Calc	TF	SOLID	KF5GJ1AR	RA-228	1.80E+00	(2.19E-01)		pCi/g	A	2.86E-01	6.24E-01	R		88%		

(j) - (1s Uncertainties)
 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

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Calc	TF	SOLID	KF5GJ1AR	RA-228	4.68E+00	(1.94E+00)		pCi/g	R	3.45E+00	7.51E+00	R		88%		
Calc	TF	SOLID	KGXH21AA	RA-228	2.07E+00	(3.71E-01)		pCi/g	R	3.95E-01	8.72E-01	S		88%	42%	
Calc	TF	SOLID	KGXH21AA	RA-228	2.41E+00	(4.20E-01)		pCi/g	R	4.35E-01	9.58E-01	S		88%	49%	
Calc	TF	SOLID	KGXH21AA	RA-228	2.83E+00	(4.80E-01)		pCi/g	R	4.78E-01	1.05E+00	S		88%	58%	
Calc	TF	SOLID	KGXH21AA	RA-228	2.44E+00	(2.46E-01)		pCi/g	A	2.52E-01	5.55E-01	S		88%	50%	W
Calc	TF	SOLID	KGXH21AA	RA-228	4.17E+00	(1.75E+00)		pCi/g	R	3.06E+00	6.72E+00	S		88%	85%	
Calc	TF	SOLID	KGXH21AC	RA-228	1.06E-01	(1.98E-01)	U4	pCi/g	R	4.16E-01	9.10E-01	B		90%		
Calc	TF	SOLID	KGXH21AC	RA-228	-1.73E-01	(1.95E-01)	U4	pCi/g	R	4.57E-01	1.00E+00	B		90%		
Calc	TF	SOLID	KGXH21AC	RA-228	2.34E-01	(2.47E-01)	U4	pCi/g	R	5.02E-01	1.10E+00	B		90%		
Calc	TF	SOLID	KGXH21AC	RA-228	5.57E-02	(1.24E-01)	U4	pCi/g	A	2.65E-01	5.79E-01	B		90%		
Calc	TF	SOLID	KGXH21AC	RA-228	4.28E+00	(1.84E+00)		pCi/g	R	3.30E+00	7.19E+00	B		90%		

Results for LCS + Blank
 Recalculated. Believe samples
 were switched during process.
 TD

Tsm DME G 3/7/08

Batch Nbr: 8042380

Alpha Beta, Ra-228 by GPC , Calculated Results Detailed Report

3/6/2008 10:10:58 AM

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol				
1	Calc	TF	SOLID	*STLE	Ra228WoBS	KF5A21AF			pCi/g			01/24/08 10:15	03/06/08 06:09	02/26/08 10:00		RATA30161	1	1.4451E+00	4.5045E-01	1.0109E+00	1.0109E+00	1.0109E+00				
1418995	TSB	HU-05-10							SOLID			31.0	03/05/08 07:15	03/05/08 07:15		RATA30161	Alq	97%	1.01 g							
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn
0	03/05/08	10:55	RA-228	114	136			GPC1A	1	N	N	5.3672E-01	1.0000E+00	N	88%	N	88%	N			1.4451E+00	(0.000E+00)	4.5045E-01	0.990099	1.0109E+00	
1	03/05/08	11:50	RA-228	103	136			GPC1A	1	N	N	5.3672E-01	1.0000E+00	N	88%	N	88%	N			1.6036E+00	(0.000E+00)	4.5045E-01	0.990099	1.0109E+00	
2	03/05/08	12:46	RA-228	87	136			GPC1A	1	N	N	5.3672E-01	1.0000E+00	N	88%	N	88%	N			1.7797E+00	(0.000E+00)	4.5045E-01	0.990099	1.0109E+00	
3	03/06/08	06:09	RA-228	50	249			GPC1A	1	Y	Y	(1.093E-02)	(0.000E+00)		7%		7%				1.2721E+01	(0.000E+00)	4.5045E-01	0.990099	1.0109E+00	
50				48	298			GPC1A	1	N	N	5.3672E-01	1.0000E+00	N	88%	N	88%	N			1.2721E+01	(0.000E+00)	4.5045E-01	0.990099	1.0109E+00	
50				400	400			GPC1A	1	N	N	(1.093E-02)	(0.000E+00)		7%		7%				1.2721E+01	(0.000E+00)	4.5045E-01	0.990099	1.0109E+00	
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm-Blk	Vol	Used	Trc	Yld,EnFct	LCS	Yld,EFctU	IDC	ILcC	Blk	C/MDC	StdDv	MdC/LcC
03/06/08	RA-228		R	2.400132	(0.383326)			1.73382E+00	5.323305		5.323305	1.01 G	1.01 G	(0.802272)	(0.802272)	1.01 G	88%			0.747805		0.336588				
03/06/08	RA-228		R	2.325547	(0.392902)			1.51382E+00	5.157882		5.157882	1.01 G	1.01 G	(0.827677)	(0.827677)	1.01 G	88%			0.829866		0.373524				
03/06/08	RA-228		R	2.035275	(0.383828)			1.19382E+00	4.51408		4.51408	1.01 G	1.01 G	(0.817177)	(0.817177)	1.01 G	88%			0.920962		0.414526				
03/06/08	RA-228		A	2.253651	(0.223267)			1.48048E+00	4.998423		4.998423	1.01 G	1.01 G	(0.470988)	(0.470988)	1.01 G	88%			0.480862		0.216436				
03/06/08	RA-228		R	2.619978	(1.787087)			2.15000E-01	5.810907		5.810907	1.01 G	1.01 G	(3.9517)	(3.9517)	1.01 G	88%			7.57728		3.460455				
2	Calc	TF	SOLID	*STLE	Ra228WoBS	KF5FV1AF			pCi/g			01/24/08 09:55	03/06/08 06:09	02/26/08 10:00		RATA30162	Alq	99%	1.02 g							
1418995	TSB	HU-05-0							SOLID			31.1	03/05/08 07:15	03/05/08 07:15		RATA30162	Alq	99%	1.02 g							
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn
0	03/05/08	10:55	RA-228	53	143			GPC1C	1	N	N	5.2966E-01	1.0000E+00	N	90%	N	90%	N			1.4451E+00	(0.000E+00)	4.5045E-01	0.980392	1.0110E+00	
1	03/05/08	11:50	RA-228	51	143			GPC1C	1	N	N	5.2966E-01	1.0000E+00	N	90%	N	90%	N			1.6036E+00	(0.000E+00)	4.5045E-01	0.980392	1.0110E+00	
2	03/05/08	12:46	RA-228	41	143			GPC1C	1	N	N	5.2966E-01	1.0000E+00	N	90%	N	90%	N			1.7797E+00	(0.000E+00)	4.5045E-01	0.980392	1.0110E+00	
50				41	249			GPC1C	1	Y	Y	(1.090E-02)	(0.000E+00)		7%		7%				1.7797E+00	(0.000E+00)	4.5045E-01	0.980392	1.0110E+00	
50				249	249			GPC1C	1	Y	Y	(1.090E-02)	(0.000E+00)		7%		7%				1.7797E+00	(0.000E+00)	4.5045E-01	0.980392	1.0110E+00	

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
3	03/06/08 06:09	RA-228	39	287		4.85703E-01	1.473275	1.473275	1.02 G	90%		0.748279		
			50	400		(1.5332E-01)	(0.480717)	(0.480717)	(0.017321)			0.33764		
						4.45703E-01	1.500302	1.500302	1.02 G	90%		0.830393		
						(1.5069E-01)	(0.522154)	(0.522154)	(0.017321)			0.374692		
						2.45703E-01	0.917861	0.917861	1.02 G	90%		0.921546		
						(1.3677E-01)	(0.516526)	(0.516526)	(0.017321)			0.415823		
						3.92369E-01	1.297146	1.297146	1.02 G	90%		0.481167		
						(8.4931E-02)	(0.2926)	(0.2926)	(0.01)			0.217114		
						6.25000E-02	1.637851	1.637851	1.02 G	90%		7.151158		
						(1.3189E-01)	(3.45895)	(3.45895)	(0.017321)			3.260455		

Sq	Status Method	Matrix	Protocol	Equation	Set	Wrk 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 SOLID	*STLE	Ra228WoBS	KF5FX1AF		pCi/g		01/24/08 11:00	03/06/08 06:09	02/26/08 10:00		1		
							SOLID			30.4	03/05/08 07:15	RATA30163	Alq	100%	1.03 g

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/05/08 10:55	RA-228	63	152	GPC1D	1	N	N	5.4088E-01	1.0000E+00	N	88%	N	1.4451E+00	4.5045E-01	1.0109E+00		
			50	249			Y		(1.577E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
1	03/05/08 11:50	RA-228	48	152	GPC1D	1	N	N	5.4088E-01	1.0000E+00	N	88%	N	1.6036E+00	4.5045E-01	1.0109E+00		
			50	249			Y		(1.577E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
2	03/05/08 12:46	RA-228	51	152	GPC1D	1	N	N	5.4088E-01	1.0000E+00	N	88%	N	1.7797E+00	4.5045E-01	1.0109E+00		
			50	249			Y		(1.577E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
3	03/06/08 06:09	RA-228	17	126	GPC3C	1	N	N	4.8399E-01	1.0000E+00	N	88%	N	1.2725E+01	4.5045E-01	1.0109E+00		
			50	400			N		(7.226E-03)	(0.000E+00)		7%		(0.000E+00)	0.970874			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
	03/06/08	RA-228	R	0.868218		6.49558E-01	1.963791	1.963791	1.03 G	88%		0.759198		
				(0.238672)		(1.6629E-01)	(0.52981)	(0.52981)	(0.017321)			0.343581		
	03/06/08	RA-228	R	0.518502		3.49558E-01	1.17278	1.17278	1.03 G	88%		0.84251		
				(0.224354)		(1.4714E-01)	(0.503674)	(0.503674)	(0.017321)			0.381284		
	03/06/08	RA-228	R	0.674186		4.09558E-01	1.524918	1.524918	1.03 G	88%		0.934994		
				(0.257841)		(1.5117E-01)	(0.577627)	(0.577627)	(0.017321)			0.423138		
	03/06/08	RA-228	A	0.686969		4.69558E-01	1.55383	1.55383	1.03 G	88%		0.488189		
				(0.138957)		(8.9539E-02)	(0.310562)	(0.310562)	(0.01)			0.220933		
	03/06/08	RA-228	R	0.328831		2.50000E-02	0.743771	0.743771	1.03 G	88%		5.567536		
				(1.146174)		(8.7106E-02)	(2.592193)	(2.592193)	(0.017321)			2.428757		

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant. Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 8042380

Alpha Beta, Ra-228 by GPC , Calculated Results

3/6/2008 10:10:58 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol		
4	Calc	TF	SOLID	*STLE	Ra228WobS	KF5F01AF	pCi/g		01/24/08 11:30	03/06/08 06:10	02/26/08 10:00			1		9		
1418995	TSB	HJ-04-0'		FBA250205-4			SOLID			30.8	03/05/08 07:15	RATA30164	Alq	100%	1.02 g			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/05/08 10:55	RA-228	47	106	GPC3A	1	N	N	4.6648E-01	1.0000E+00	N	90%	N	1.4455E+00	4.5045E-01	1.0109E+00		
			50	400			Y		(4.763E-03)	(0.000E+00)		7%		(0.000E+00)	0.980392			
1	03/05/08 11:45	RA-228	37	106	GPC3A	1	N	N	4.6648E-01	1.0000E+00	N	90%	N	1.5891E+00	4.5045E-01	1.0109E+00		
			50	400			Y		(4.763E-03)	(0.000E+00)		7%		(0.000E+00)	0.980392			
2	03/05/08 12:41	RA-228	21	106	GPC3A	1	N	N	4.6648E-01	1.0000E+00	N	90%	N	1.7635E+00	4.5045E-01	1.0109E+00		
			50	400			Y		(4.763E-03)	(0.000E+00)		7%		(0.000E+00)	0.980392			
3	03/06/08 06:10	RA-228	28	158	GPC4A	1	N	N	4.8903E-01	1.0000E+00	N	90%	N	1.2730E+01	4.5045E-01	1.0109E+00		
			50	400			N		(2.440E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wb Blk	Dpm-Blk	Vol Used	Trc Yld,EntFct	LCSYld,EFctU	IDC/LcC	BkLcC/MDC	StdDvMdc/LcC				
03/06/08	RA-228	R	1.042968			6.75000E-01	2.336165	2.336165	1.02 G	90%		0.606814						
			(0.237853)			(1.3951E-01)	(0.518293)	(0.518293)	(0.017321)			0.261689						
03/06/08	RA-228	R	0.806842			4.75000E-01	1.807262	1.807262	1.02 G	90%		0.667089						
			(0.225085)			(1.2435E-01)	(0.495058)	(0.495058)	(0.017321)			0.287683						
03/06/08	RA-228	R	0.292177			1.55000E-01	0.654454	0.654454	1.02 G	90%		0.740293						
			(0.181645)			(9.5197E-02)	(0.4054)	(0.4054)	(0.017321)			0.319252						
03/06/08	RA-228	A	0.713996			4.35000E-01	1.599294	1.599294	1.02 G	90%		0.387632						
			(0.124825)			(6.9911E-02)	(0.274481)	(0.274481)	(0.01)			0.167167						
03/06/08	RA-228	R	2.14167			1.65000E-01	4.797169	4.797169	1.02 G	90%		6.068078						
			(1.451504)			(1.1040E-01)	(3.241368)	(3.241368)	(0.017321)			2.683879						
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol		
5	Calc	TF	SOLID	*STLE	Ra228WobS	KF5F11AF	pCi/g		01/24/08 10:45	03/06/08 06:10	02/26/08 10:00			1		9		
1418995	TSB	HR-04-0'		FBA250205-5			SOLID			29.9	03/05/08 07:15	RATA30165	Alq	100%	1.02 g			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/05/08 10:55	RA-228	50	160	GPC3B	1	N	N	4.8507E-01	1.0000E+00	N	87%	N	1.4455E+00	4.5045E-01	1.0109E+00		
			50	400			Y		(1.038E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
1	03/05/08 11:45	RA-228	34	160	GPC3B	1	N	N	4.8507E-01	1.0000E+00	N	87%	N	1.5891E+00	4.5045E-01	1.0109E+00		
			50	400			Y		(1.038E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
2	03/05/08 12:41	RA-228	39	160	GPC3B	1	N	N	4.8507E-01	1.0000E+00	N	87%	N	1.7635E+00	4.5045E-01	1.0109E+00		
			50	400			Y		(1.038E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
3	03/06/08 06:10	RA-228	28	135	GPC4B	1	N	N	4.6942E-01	1.0000E+00	N	87%	N	1.2730E+01	4.5045E-01	1.0109E+00		
			50	400			N		(2.313E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			

(1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 8042380

Alpha Beta, Ra-228 by GPC, Calculated Results

3/6/2008 10:10:59 AM

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCS Yld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
03/06/08	RA-228	R	0.918395 (0.239452)	6.00000E-01 (1.491E-01)	Q	2.05711 (0.525233)	2.05711 (0.525233)	1.02 G (0.017321)	87%	0.719576		0.318496		
03/06/08	RA-228	R	0.471155 (0.208521)	2.80000E-01 (1.2083E-01)	Q	1.055339 (0.463728)	1.055339 (0.463728)	1.02 G (0.017321)	87%	0.791051		0.350132		
03/06/08	RA-228	R	0.709593 (0.250482)	3.80000E-01 (1.2884E-01)	Q	1.589416 (0.554741)	1.589416 (0.554741)	1.02 G (0.017321)	87%	0.877858		0.388554		
03/06/08	RA-228	A	0.699715 (0.134808)	4.20000E-01 (7.6158E-02)	Q	1.567289 (0.297891)	1.567289 (0.297891)	1.02 G (0.01)	87%	0.459664		0.203455		
03/06/08	RA-228	R	3.099254 (1.564722)	2.22500E-01 (1.0974E-01)	Q	6.942009 (3.485593)	6.942009 (3.485593)	1.02 G (0.017321)	87%	6.076439		2.662318		

Sq	Status Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	TF SOLID	*STLE	Ra228WobS	KF5F31AF	pci/g		01/24/08 11:55	03/06/08 06:10	02/26/08 10:00				
		1418995.TSB-HJ-04-10'		F8A250205-6		SOLID			30.5	03/05/08 07:15	RATA30166 Alq	100%	1.02 g	

Sq	CalcDate	TrcAct	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/05/08 10:55	RA-228	45	109	GPC3C	1	N	N	N	4.8398E-01	1.0000E+00	1.0000E+00	1.0000E+00	N	89%	N	1.4455E+00	4.5045E-01	1.0109E+00		
1	03/05/08 11:45	RA-228	50	400	GPC3C	1	Y	Y	Y	(7.226E-03)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	N	(0.000E+00)	0.980392			
2	03/05/08 12:41	RA-228	31	109	GPC3C	1	N	N	N	4.8398E-01	1.0000E+00	1.0000E+00	1.0000E+00	N	89%	N	1.5891E+00	4.5045E-01	1.0109E+00		
3	03/05/08 06:10	RA-228	50	400	GPC3C	1	Y	Y	Y	(7.226E-03)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	N	(0.000E+00)	0.980392			
3	03/06/08 06:10	RA-228	16	127	GPC4C	1	N	N	N	4.7163E-01	1.0000E+00	1.0000E+00	1.0000E+00	N	89%	N	1.2730E+01	4.5045E-01	1.0109E+00		
50			50	400			N	N	N	(2.025E-02)	(0.000E+00)	(0.000E+00)	(0.000E+00)	N	7%	N	(0.000E+00)	0.980392			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCS Yld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
03/06/08	RA-228	R	0.943695 (0.225017)	6.27500E-01 (1.3668E-01)	Q	2.113813 (0.491509)	2.113813 (0.491509)	1.02 G (0.017321)	89%	0.597772		0.258284		
03/06/08	RA-228	R	0.574514 (0.197134)	3.47500E-01 (1.1437E-01)	Q	1.286872 (0.436306)	1.286872 (0.436306)	1.02 G (0.017321)	89%	0.657148		0.283939		
03/06/08	RA-228	R	0.747641 (0.23094)	4.07500E-01 (1.1950E-01)	Q	1.674665 (0.509675)	1.674665 (0.509675)	1.02 G (0.017321)	89%	0.729261		0.315097		
03/06/08	RA-228	A	0.755283 (0.125975)	4.60833E-01 (7.1526E-02)	Q	1.691783 (0.277231)	1.691783 (0.277231)	1.02 G (0.01)	89%	0.381856		0.164991		
03/06/08	RA-228	R	0.033978 (1.152751)	2.50000E-03 (8.4816E-02)	U4	0.076108 (2.582082)	0.076108 (2.582082)	1.02 G (0.017321)	89%	5.772754		2.519553		

Alpha Beta, Ra-228 by GPC , Calculated Results

3/6/2008 10:10:59 AM

Batch Nbr: 8042380

Sq	Calc	TF	SOLID	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
7	03/05/08 10:55	1418995,TSB-HR-07-10	SOLID	*STLE Ra228WoBS	KF5F41AF	1418995,TSB-HR-07-10	pc/g	QC/BB	01/24/08 12:30	03/06/08 07:13	RATA30167	Alq	88%	1.02 g	g			
									31.4									
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/05/08 10:55	RA-228	69	115	GPC3D	1	N	N	4.8308E-01	1.0000E+00	N	80%	N	1.4455E+00	1.4455E+00	4.5045E-01	1.0109E+00	
			50	400			Y		(8.183E-03)	(0.000E+00)		6%		(0.000E+00)	0.980392			
1	03/05/08 11:45	RA-228	65	115	GPC3D	1	N	N	4.8308E-01	1.0000E+00	N	80%	N	1.5891E+00	1.5891E+00	4.5045E-01	1.0109E+00	
			50	400			Y		(8.183E-03)	(0.000E+00)		6%		(0.000E+00)	0.980392			
2	03/05/08 12:41	RA-228	29	115	GPC3D	1	N	N	4.8308E-01	1.0000E+00	N	80%	N	1.7635E+00	1.7635E+00	4.5045E-01	1.0109E+00	
			50	400			Y		(8.183E-03)	(0.000E+00)		6%		(0.000E+00)	0.980392			
3	03/06/08 07:13	RA-228	34	298	GPC1A	1	N	N	5.3559E-01	1.0000E+00	N	80%	N	1.4338E+01	1.4338E+01	4.5045E-01	1.0109E+00	
			50	400			N		(1.090E-02)	(0.000E+00)		6%		(0.000E+00)	0.980392			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EntFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMDC/LcC				
	03/06/08	RA-228	R	1.822708		1.09250E+00	4.082776	4.082776	1.02 G	80%		0.678704						
				(0.332122)		(1.6828E-01)	(0.712012)	(0.712012)	(0.017321)			0.294314						
	03/06/08	RA-228	R	1.857028		1.01250E+00	4.159651	4.159651	1.02 G	80%		0.746119						
				(0.35008)		(1.6346E-01)	(0.752771)	(0.752771)	(0.017321)			0.323548						
	03/06/08	RA-228	R	0.595346		2.92500E-01	1.333545	1.333545	1.02 G	80%		0.827996						
				(0.23322)		(1.1099E-01)	(0.517634)	(0.517634)	(0.017321)			0.359053						
	03/06/08	RA-228	A	1.425027		7.99167E-01	3.191991	3.191991	1.02 G	80%		0.433555						
				(0.178653)		(8.6510E-02)	(0.386087)	(0.386087)	(0.01)			0.188007						
	03/06/08	RA-228	R	-0.970176	U4	-6.50000E-02	-2.173147	-2.173147	1.02 G	80%		9.280927						
				(1.85843)		(1.2435E-01)	(4.161209)	(4.161209)	(0.017321)			4.238491						
Sq	Calc	TF	SOLID	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
8	03/05/08 10:55	1418995,TSB-HR-07-10	SOLID	*STLE Ra228WoBS	KF5F71AF	1418995,TSB-HR-07-10	pc/g	QC/BB	01/24/08 12:45	03/06/08 07:13	RATA30168	Alq	100%	1.00 g	g			
									31.1									
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/05/08 10:55	RA-228	45	60	GPC4A	1	N	N	4.8980E-01	1.0000E+00	N	90%	N	1.4460E+00	1.4460E+00	4.5045E-01	1.0109E+00	
			50	250			Y		(2.444E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
1	03/05/08 11:51	RA-228	28	60	GPC4A	1	N	N	4.8980E-01	1.0000E+00	N	90%	N	1.6047E+00	1.6047E+00	4.5045E-01	1.0109E+00	
			50	250			Y		(2.444E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
2	03/05/08 12:46	RA-228	21	60	GPC4A	1	N	N	4.8980E-01	1.0000E+00	N	90%	N	1.7808E+00	1.7808E+00	4.5045E-01	1.0109E+00	
			50	250			Y		(2.444E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
3	03/06/08 07:13	RA-228	37	287	GPC1D	1	N	N	5.3969E-01	1.0000E+00	N	90%	N	1.4338E+01	1.4338E+01	4.5045E-01	1.0109E+00	
			50	400			N		(1.573E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			

Batch Nbr: 8042380

Alpha Beta, Ra-228 by GPC , Calculated Results

3/6/2008 10:10:59 AM

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
03/06/08	RA-228	R	0.981404 (0.230611)	6.6000E-01 (1.3770E-01)	2.1552 (0.493424)	2.1552 (0.493424)	1.00 G (0.017321)	2.1552 (0.493424)	0.55964 0.239665	1.00 G (0.017321)	90%	0.55964 0.239665			
03/06/08	RA-228	R	0.528065 (0.190719)	3.2000E-01 (1.1027E-01)	1.159651 (0.414305)	1.159651 (0.414305)	1.00 G (0.017321)	1.159651 (0.414305)	0.621073 0.265974	1.00 G (0.017321)	90%	0.621073 0.265974			
03/06/08	RA-228	R	0.329632 (0.180721)	1.8000E-01 (9.6747E-02)	0.723885 (0.395018)	0.723885 (0.395018)	1.00 G (0.017321)	0.723885 (0.395018)	0.689227 0.295161	1.00 G (0.017321)	90%	0.689227 0.295161			
03/06/08	RA-228	A	0.613034 (0.116531)	3.86667E-01 (6.7065E-02)	1.346245 (0.251916)	1.346245 (0.251916)	1.00 G (0.01)	1.346245 (0.251916)	0.35987 0.154114	1.00 G (0.01)	90%	0.35987 0.154114			
03/06/08	RA-228	R	0.301075 (1.723977)	2.2500E-02 (1.2882E-01)	0.661173 (3.785758)	0.661173 (3.785758)	1.00 G (0.017321)	0.661173 (3.785758)	8.178952 3.729062	1.00 G (0.017321)	90%	8.178952 3.729062			

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

9	Calc	TF	SOLID	*STLE	Ra228WoBS	KF5F81AF	pCi/g	01/24/08 13:00	03/06/08 07:13	02/26/08 10:00	03/05/08 07:15	RATA30169	Alq	100%	1.01 g
1418995	TSB-HR-06-0						SOLID	32.1							

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/05/08 10:55	RA-228	61	93	GPC4B	1	N	N	4.7494E-01	1.0000E+00	N	93%	N	1.4460E+00	4.5045E-01	1.0109E+00		
			50	250			Y		(2.341E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/05/08 11:51	RA-228	54	93	GPC4B	1	N	N	4.7494E-01	1.0000E+00	N	93%	N	1.6047E+00	4.5045E-01	1.0109E+00		
			50	250			Y		(2.341E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/05/08 12:46	RA-228	45	93	GPC4B	1	N	N	4.7494E-01	1.0000E+00	N	93%	N	1.7808E+00	4.5045E-01	1.0109E+00		
			50	250			Y		(2.341E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/06/08 07:13	RA-228	25	126	GPC3C	1	N	N	4.8358E-01	1.0000E+00	N	93%	N	1.4344E+01	4.5045E-01	1.0109E+00		
			50	400			N		(7.220E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
03/06/08	RA-228	R	1.247409 (0.272218)	8.4800E-01 (1.6090E-01)	2.766759 (0.585801)	2.766759 (0.585801)	1.01 G (0.017321)	2.766759 (0.585801)	0.669729 0.295175	1.01 G (0.017321)	93%	0.669729 0.295175			
03/06/08	RA-228	R	1.155792 (0.277588)	7.0800E-01 (1.5195E-01)	2.563553 (0.600595)	2.563553 (0.600595)	1.01 G (0.017321)	2.563553 (0.600595)	0.743246 0.327577	1.01 G (0.017321)	93%	0.743246 0.327577			
03/06/08	RA-228	R	0.956534 (0.273117)	5.2800E-01 (1.3960E-01)	2.121598 (0.595304)	2.121598 (0.595304)	1.01 G (0.017321)	2.121598 (0.595304)	0.824807 0.363525	1.01 G (0.017321)	93%	0.824807 0.363525			
03/06/08	RA-228	A	1.119912 (0.158377)	6.94667E-01 (8.7219E-02)	2.48397 (0.342907)	2.48397 (0.342907)	1.01 G (0.01)	2.48397 (0.342907)	0.430661 0.189809	1.01 G (0.01)	93%	0.430661 0.189809			
03/06/08	RA-228	R	2.651402 (1.510626)	1.8500E-01 (1.0386E-01)	5.880824 (3.336125)	5.880824 (3.336125)	1.01 G (0.017321)	5.880824 (3.336125)	6.066441 2.646397	1.01 G (0.017321)	93%	6.066441 2.646397			

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPV
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	Calc	TF	SOLID	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol				
10	1418995	TSB-HR-06-10	SOLID	*STLE	Ra228WobS	KF5F91AF	pc/g		SOLID			01/24/08 13:10	03/06/08 07:13	02/26/08 10:00				1								
												30.6	03/05/08 07:15			RATA30170	Alq	100%	1.01 g							
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn
0	57	03/05/08 10:55	RA-228	67	67	250		GPC4C	1	N	N	4.7188E-01	1.0000E+00	N	89%	7%		N		1.4460E+00			4.5045E-01	1.0109E+00		
	50			250						Y		(2.026E-02)	(0.000E+00)							(0.000E+00)			0.990099			
1	51	03/05/08 11:51	RA-228	67	67	250		GPC4C	1	N	N	4.7188E-01	1.0000E+00	N	89%	7%		N		1.6047E+00			4.5045E-01	1.0109E+00		
	50			250						Y		(2.026E-02)	(0.000E+00)							(0.000E+00)			0.990099			
2	39	03/05/08 12:46	RA-228	67	67	250		GPC4C	1	N	N	4.7188E-01	1.0000E+00	N	89%	7%		N		1.7808E+00			4.5045E-01	1.0109E+00		
	50			250						Y		(2.026E-02)	(0.000E+00)							(0.000E+00)			0.990099			
3	29	03/06/08 07:13	RA-228	158	158	400		GPC4A	1	N	N	4.8846E-01	1.0000E+00	N	89%	7%		N		1.4352E+01			4.5045E-01	1.0109E+00		
	50			400						N		(2.437E-02)	(0.000E+00)							(0.000E+00)			0.990099			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wb	Blk	Dpm	Blk	Vol	Used	Trc	Yld,EntFct	LCS	Yld,EFctU	IDC	ILcC	Blk	LcC/MDC	Std	DvMDC/LcC	
03/06/08	RA-228	R	1.354861	8.72000E-01	3.005096	1.01 G	89%	0.613161																				
			(0.279087)	(1.5451E-01)	(0.598291)	(0.017321)																						
03/06/08	RA-228	R	1.296671	7.52000E-01	2.87603	1.01 G	89%	0.680469																				
			(0.28705)	(1.4653E-01)	(0.618264)	(0.017321)																						
03/06/08	RA-228	R	0.97972	5.12000E-01	2.173029	1.01 G	89%	0.755142																				
			(0.267655)	(1.2912E-01)	(0.582443)	(0.017321)																						
03/06/08	RA-228	A	1.210417	7.12000E-01	2.684718	1.01 G	89%	0.394286																				
			(0.160529)	(8.3010E-02)	(0.346321)	(0.01)																						
03/06/08	RA-228	R	2.756043	1.85000E-01	6.112934	1.01 G	89%	0.170168																				
			(1.697756)	(1.1219E-01)	(3.751752)	(0.017321)																						

Sq	Calc	TF	SOLID	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol				
11	1418995	TSB-HJ-07-0	SOLID	*STLE	Ra228WobS	KF5GC1AF	pc/g		SOLID			01/24/08 08:05	03/06/08 07:13	02/26/08 10:00				1								
												30.6	03/05/08 07:15			RATA30171	Alq	100%	1.00 g							
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn
0	96	03/05/08 10:55	RA-228	72	72	250		GPC4D	1	N	N	4.6515E-01	1.0000E+00	N	89%	7%		N		1.4460E+00			4.5045E-01	1.0110E+00		
	50			250						Y		(2.241E-02)	(0.000E+00)							(0.000E+00)			1.00			
1	66	03/05/08 11:51	RA-228	72	72	250		GPC4D	1	N	N	4.6515E-01	1.0000E+00	N	89%	7%		N		1.6047E+00			4.5045E-01	1.0110E+00		
	50			250						Y		(2.241E-02)	(0.000E+00)							(0.000E+00)			1.00			
2	69	03/05/08 12:46	RA-228	72	72	250		GPC4D	1	N	N	4.6515E-01	1.0000E+00	N	89%	7%		N		1.7808E+00			4.5045E-01	1.0110E+00		
	50			250						Y		(2.241E-02)	(0.000E+00)							(0.000E+00)			1.00			
3	25	03/06/08 07:13	RA-228	135	135	400		GPC4B	1	N	N	4.7170E-01	1.0000E+00	N	89%	7%		N		1.4352E+01			4.5045E-01	1.0110E+00		
	50			400						N		(2.325E-02)	(0.000E+00)							(0.000E+00)			1.00			

Batch Nbr: 8042380

Alpha Beta, Ra-228 by GPC , Calculated Results

3/6/2008 10:10:59 AM

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
03/06/08	RA-228	R	2.597281 (0.421779)	1.63200E+00 (1.9888E-01)	5.70336 (0.875635)	5.70336 (0.875635)	1.00 G (0.017321)	89%	0.647904	0.28099	0.719026	0.311835	0.797929	0.346054
03/06/08	RA-228	R	1.822687 (0.352449)	1.03200E+00 (1.6599E-01)	4.002432 (0.7444)	4.002432 (0.7444)	1.00 G (0.017321)	89%	0.416627	0.180687	6.79484	2.977077		
03/06/08	RA-228	R	2.140302 (0.404017)	1.09200E+00 (1.6956E-01)	4.699881 (0.851609)	4.699881 (0.851609)	1.00 G (0.017321)	89%						
03/06/08	RA-228	A	2.186756 (0.227388)	1.25200E+00 (1.0320E-01)	4.801891 (0.476807)	4.801891 (0.476807)	1.00 G (0.01)	89%						
03/06/08	RA-228	R	2.531108 (1.64479)	1.62500E-01 (1.0413E-01)	5.558051 (3.599795)	5.558051 (3.599795)	1.00 G (0.017321)	89%						

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

12	Calc	TF	SOLID	*STLE	Ra228WoBS	KF5GF1AF	pCi/g	01/24/08 08:05	03/06/08 06:15	02/26/08 10:00	1	1	g	
1418995	TSB-HJ-07-0-FD						SOLID	31.6			RATA30172	Alq	100%	1.02 g

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv FctVoiAdj	Decay	Abn
0	03/05/08 10:56	RA-228	92	173	GPC5A	1.5	N	N	5.9313E-01	1.0000E+00	N	92%	N	1.4470E+00 (0.000E+00)	4.5045E-01	1.0110E+00	
1	03/05/08 11:46	RA-228	70	225	GPC5A	1.5	N	N	5.9313E-01	1.0000E+00	N	92%	N	1.5907E+00 (0.000E+00)	4.5045E-01	1.0110E+00	
2	03/05/08 12:41	RA-228	70	225	GPC5A	1.5	N	N	5.9313E-01	1.0000E+00	N	92%	N	1.7653E+00 (0.000E+00)	4.5045E-01	1.0110E+00	
3	03/06/08 06:15	RA-228	54	331	GPC5B	1.5	N	N	5.9995E-01	1.0000E+00	N	92%	N	1.2856E+01 (0.000E+00)	4.5045E-01	1.0110E+00	

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC
03/06/08	RA-228	R	1.270012 (0.269205)	1.0711E+00 (2.0054E-01)	2.844591 (0.58396)	2.844591 (0.58396)	1.02 G (0.017321)	92%	0.747976	0.342059	0.8222246	0.376024	0.912506	0.4173
03/06/08	RA-228	R	0.822608 (0.24507)	6.3111E-01 (1.7725E-01)	1.84249 (0.54022)	1.84249 (0.54022)	1.02 G (0.017321)	92%			0.477801	0.218505	6.794781	3.116996
03/06/08	RA-228	R	0.912907 (0.271971)	6.3111E-01 (1.7725E-01)	2.044744 (0.599521)	2.044744 (0.599521)	1.02 G (0.017321)	92%						
03/06/08	RA-228	A	1.001843 (0.151474)	7.77778E-01 (1.0701E-01)	2.243942 (0.332043)	2.243942 (0.332043)	1.02 G (0.01)	92%						
03/06/08	RA-228	R	2.62977 (1.62307)	2.52500E-01 (1.5385E-01)	5.890198 (3.622047)	5.890198 (3.622047)	1.02 G (0.017321)	92%						

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	Calc	TF	SOLID	Protocol	Equation	Set	Wk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
13	1418995	TSB-HR-08-0	*STLE	Ra228WobS	KF5GJ1AM	1418995,TSB-HR-08-0	01/24/08 09:00	03/06/08 06:15	02/26/08 10:00	03/05/08 07:15	RATA30173	Alq	100%	1.00 g	g			
								31.0										
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/05/08 10:56	RA-228	78	146	GPC5C	1.5	N	N	5.9912E-01	1.0000E+00	N	90%	N	1.4470E+00	4.5045E-01	1.0110E+00		
			50	225			Y		(1.374E-02)	(0.0000E+00)		7%		(0.0000E+00)	1.00			
1	03/05/08 11:46	RA-228	66	146	GPC5C	1.5	N	N	5.9912E-01	1.0000E+00	N	90%	N	1.5907E+00	4.5045E-01	1.0110E+00		
			50	225			Y		(1.374E-02)	(0.0000E+00)		7%		(0.0000E+00)	1.00			
2	03/05/08 12:41	RA-228	66	146	GPC5C	1.5	N	N	5.9912E-01	1.0000E+00	N	90%	N	1.7653E+00	4.5045E-01	1.0110E+00		
			50	225			Y		(1.374E-02)	(0.0000E+00)		7%		(0.0000E+00)	1.00			
3	03/06/08 06:15	RA-228	51	331	GPC5C	1.5	N	N	5.9912E-01	1.0000E+00	N	90%	N	1.2856E+01	4.5045E-01	1.0110E+00		
			50	400			N		(1.374E-02)	(0.0000E+00)		7%		(0.0000E+00)	1.00			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wb Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC				
03/06/08	RA-228	R	1.111991	(0.250592)	9.11111E-01	2.441848	(0.534897)	1.00 G	90%	0.712671								
03/06/08	RA-228	R	0.900406	(0.246167)	6.71111E-01	1.977223	(0.530342)	1.00 G	90%	0.323453								
03/06/08	RA-228	R	0.999245	(0.273189)	6.71111E-01	2.194266	(0.588558)	1.00 G	90%	0.783436								
03/06/08	RA-228	A	1.003881	(0.148334)	7.51111E-01	2.204446	(0.318639)	1.00 G	90%	0.35557								
03/06/08	RA-228	R	2.087429	(1.638422)	1.92500E-01	4.583835	(3.589666)	1.00 G	90%	0.869435								
					1.4990E-01	(3.589666)	(3.589666)	(0.017321)		0.394601								
										0.455249								
										0.206619								
										7.074568								
										3.245344								

Batch Nbr: 8042380

Alpha Beta, Ra-228 by GPC

, Calculated Results

3/6/2008 10:11:00 AM

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/06/08	RA-228	R	5.533756	4.59111E+00 (3.3112E-01)	0	12.394743 (1.365219)	12.394743 (1.365219)	1.02 G (0.017321)	93%	57%	0.742036	0.338555		
03/06/08	RA-228	R	5.023226	3.79111E+00 (3.0601E-01)	0	11.251237 (1.304637)	11.251237 (1.304637)	1.02 G (0.017321)	93%	52%	0.815716	0.372171		
03/06/08	RA-228	R	5.221726	3.55111E+00 (2.9806E-01)	0	11.695846 (1.382651)	11.695846 (1.382651)	1.02 G (0.017321)	93%	54%	0.905258	0.413025		
03/06/08	RA-228	A	5.259569	3.97778E+00 (1.8016E-01)	0	11.780609 (0.780144)	11.780609 (0.780144)	1.02 G (0.01)	93%	54%	0.474006	0.216266		
03/06/08	RA-228	AN	4.255689	3.97778E+00 (1.8016E-01)	0	11.780609 (0.780144)	11.780609 (0.780144)	1.02 G (0.01)	93%	44%	0.474006	0.216266		
03/06/08	RA-228	R	6.693191	6.25000E-01 (1.6774E-01)	0	14.991696 (4.212703)	14.991696 (4.212703)	1.02 G (0.017321)	93%	69%	6.451453	2.937254		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sept1/Sept2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	TF	SOLID	*STLE	Ra228WoBS	KF5GJ1AR	PC/G	R	01/24/08 09:00	03/06/08 06:10	30.2	02/26/08 10:00			1		g
1418995	TSB	HR	08-0'				SOLID					03/05/08 07:15	RATA30174	Alq	100%		1.01 g

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/06/08	RA-228	R	1.746786	1.13500E+00 (2.0090E-01)	0	3.874168 (0.757339)	3.874168 (0.757339)	1.01 G (0.017321)	88%			0.980114		
03/06/08	RA-228	R	1.95413	1.15500E+00 (2.0190E-01)	0	4.334033 (0.838591)	4.334033 (0.838591)	1.01 G (0.017321)	88%			1.077467		
03/06/08	RA-228	R	1.701792	9.15000E-01 (1.8964E-01)	0	3.774378 (0.842597)	3.774378 (0.842597)	1.01 G (0.017321)	88%			1.184454		
03/06/08	RA-228	A	1.800903	1.06833E+00 (1.1406E-01)	0	3.994193 (0.469842)	3.994193 (0.469842)	1.01 G (0.01)	88%			0.62393		
03/06/08	RA-228	R	4.678097	4.07500E-01 (1.6396E-01)	0	10.375475 (4.262321)	10.375475 (4.262321)	1.01 G (0.017321)	88%			7.510351		

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

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RecCnt:16 RADCALC v4.8.29
 TA Richland

Sq	Calc	TF	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PptWt	Sept1/Sept2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol										
16	03/05/08	12:24	STLE	RA228WoBS	KGXH21AA	pCi/g	SOLID	S	01/24/08	10:15	03/06/08	06:10	02/26/08	10:00	03/05/08	07:15	RASC4698	1	1.02 g														
0	03/05/08	12:24	RA-228	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn						
0	03/05/08	12:24	RA-228	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn						
1	03/05/08	13:14	RA-228	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn						
2	03/05/08	14:04	RA-228	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn						
3	03/05/08	06:10	RA-228	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn						
0	03/06/08	12:24	RA-228	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm-Blk	Vol	Used	Trc	Yld,EnFct	LCS	Yld,EFctU	IDC	ILcC	Blk	LcC/MDC	Std	DvM	Gc/LcC				
03/06/08	RA-228	R	2.073453	(0.370856)	1.38000E+00	4.644289	4.644289	1.02 G	88%	42%	0.871883																						
03/06/08	RA-228	R	2.411547	(0.420402)	1.46000E+00	5.401579	5.401579	1.02 G	88%	49%	0.958486																						
03/06/08	RA-228	R	2.832575	(0.479652)	1.56000E+00	6.344632	6.344632	1.02 G	88%	58%	1.053659																						
03/06/08	RA-228	A	2.439192	(0.245931)	1.46667E+00	5.4635	5.4635	1.02 G	88%	50%	0.555032																						
03/06/08	RA-228	R	4.174834	(1.747003)	3.72500E-01	9.351133	9.351133	1.02 G	88%	85%	6.718522																						
03/06/08	RA-228	R	4.174834	(1.747003)	3.72500E-01	9.351133	9.351133	1.02 G	88%	85%	6.718522																						

0 - (1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 8042380

Alpha Beta, Ra-228 by GPC , Calculated Results

3/6/2008 10:11:00 AM

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdc/LcC
03/06/08	RA-228	R	0.105924 (0.197751)	U4	7.25000E-02 (1.3516E-01)	0.239584 (0.447103)	0.239584 (0.447103)	0.239584 (0.447103)	1.03 G (0.017321)	90%	0.909862	0.415584			
03/06/08	RA-228	R	-0.172661 (0.195272)	U4	-1.07500E-01 (1.2111E-01)	-0.390531 (0.441194)	-0.390531 (0.441194)	-0.390531 (0.441194)	1.03 G (0.017321)	90%	1.000238	0.456864			
03/06/08	RA-228	R	0.233946 (0.247438)	U4	1.32500E-01 (1.3953E-01)	0.529148 (0.558968)	0.529148 (0.558968)	0.529148 (0.558968)	1.03 G (0.017321)	90%	1.099556	0.502228			
03/06/08	RA-228	A	0.055736 (0.124035)	U4	3.25000E-02 (7.6308E-02)	0.126067 (0.280277)	0.126067 (0.280277)	0.126067 (0.280277)	1.03 G (0.01)	90%	0.579209	0.264556			
03/06/08	RA-228	R	4.277548 (1.837188)	R	3.92500E-01 (1.6407E-01)	9.675134 (4.123964)	9.675134 (4.123964)	9.675134 (4.123964)	1.03 G (0.017321)	90%	7.18839	3.300814			

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

UST Number: KF5A21AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF5A21AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3610

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00114	0050	01164	1650	5-MAR-2008 10:55:33.13
2	00000	00103	0050	01160	1650	5-MAR-2008 11:50:48.79
3	00000	00087	0050	01161	1650	5-MAR-2008 12:46:04.52

Bkg File: [quad1.bkgrnd]2008-03-05_0123.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00136	0249	0.55	05800	1650	5-MAR-2008 01:23:53.39

UST Number: KF5A21AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF5A21AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3611

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00048	0050	01175	1650	6-MAR-2008 06:09:42.12

Bkg File: [quad1.bkgrnd]2008-03-06_0342.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00298	0400	0.75	09350	1650	6-MAR-2008 03:42:06.63

UST Number: KF5FV1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF5FV1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3606

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00053	0050	01164	1650	5-MAR-2008 10:55:33.13
2	00000	00051	0050	01160	1650	5-MAR-2008 11:50:48.79
3	00000	00041	0050	01161	1650	5-MAR-2008 12:46:04.52

Bkg File: [quad1.bkgrnd]2008-03-05_0123.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00143	0249	0.57	05800	1650	5-MAR-2008 01:23:53.39

UST Number: KF5FV1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF5FV1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3610

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01175	1650	6-MAR-2008 06:09:42.12

Bkg File: [quad1.bkgrnd]2008-03-06_0342.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00287	0400	0.72	09350	1650	6-MAR-2008 03:42:06.63

UST Number: KF5FX1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF5FX1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3609

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00063	0050	01164	1650	5-MAR-2008 10:55:33.13
2	00000	00048	0050	01160	1650	5-MAR-2008 11:50:48.79
3	00000	00051	0050	01161	1650	5-MAR-2008 12:46:04.52

Bkg File: [quad1.bkgrnd]2008-03-05_0123.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00152	0249	0.61	05800	1650	5-MAR-2008 01:23:53.39

UST Number: KF5FX1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF5FX1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6079

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00017	0050	01233	1920	6-MAR-2008 06:09:52.49

Bkg File: [quad3.bkgrnd]2008-03-06_0111.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00126	0400	0.32	09947	1920	6-MAR-2008 01:11:31.08

UST Number: KF5F01AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]KF5F01AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;6064

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00047	0050	01235	1920	5-MAR-2008 10:55:43.37
2	00000	00037	0050	01236	1920	5-MAR-2008 11:45:58.12
3	00000	00021	0050	01247	1920	5-MAR-2008 12:41:13.64

Bkg File: [quad3.bkgrnd]2008-03-05_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0400	0.27	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF5F01AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF5F01AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6078

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01226	1850	6-MAR-2008 06:10:05.01

Bkg File: [quad4.bkgrnd]2008-03-06_0342.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00158	0400	0.40	09683	1850	6-MAR-2008 03:42:45.49

UST Number: KF5F11AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]KF5F11AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.B_1;6072

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00050	0050	01235	1920	5-MAR-2008 10:55:43.37
2	00000	00034	0050	01236	1920	5-MAR-2008 11:45:58.12
3	00000	00039	0050	01247	1920	5-MAR-2008 12:41:13.64

Bkg File: [quad3.bkgrnd]2008-03-05_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00160	0400	0.40	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF5F11AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]KF5F11AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.B_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01226	1850	6-MAR-2008 06:10:05.01

Bkg File: [quad4.bkgrnd]2008-03-06_0342.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00135	0400	0.34	09683	1850	6-MAR-2008 03:42:45.49

UST Number: KF5F31AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF5F31AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00045	0050	01235	1920	5-MAR-2008 10:55:43.37
2	00000	00031	0050	01236	1920	5-MAR-2008 11:45:58.12
3	00000	00034	0050	01247	1920	5-MAR-2008 12:41:13.64

Bkg File: [quad3.bkgrnd]2008-03-05_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00109	0400	0.27	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF5F31AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]KF5F31AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;6080

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00016	0050	01226	1850	6-MAR-2008 06:10:05.01

Bkg File: [quad4.bkgrnd]2008-03-06_0342.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00127	0400	0.32	09683	1850	6-MAR-2008 03:42:45.49

UST Number: KF5F41AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]KF5F41AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;6062

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00069	0050	01235	1920	5-MAR-2008 10:55:43.37
2	00000	00065	0050	01236	1920	5-MAR-2008 11:45:58.12
3	00000	00029	0050	01247	1920	5-MAR-2008 12:41:13.64

Bkg File: [quad3.bkgrnd]2008-03-05_0355.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00115	0400	0.29	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF5F41AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF5F41AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3611

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00034	0050	01149	1650	6-MAR-2008 07:13:11.40

Bkg File: [quad1.bkgrnd]2008-03-06_0342.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00298	0400	0.75	09350	1650	6-MAR-2008 03:42:06.63

UST Number: KF5F71AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF5F71AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00045	0050	01209	1850	5-MAR-2008 10:55:53.73
2	00000	00028	0050	01192	1850	5-MAR-2008 11:51:09.26
3	00000	00021	0050	01199	1850	5-MAR-2008 12:46:24.93

Bkg File: [quad4.bkgrnd]2008-03-05_0124.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00060	0250	0.24	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF5F71AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF5F71AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3610

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00037	0050	01149	1650	6-MAR-2008 07:13:11.40

Bkg File: [quad1.bkgrnd]2008-03-06_0342.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00287	0400	0.72	09350	1650	6-MAR-2008 03:42:06.63

UST Number: KF5F81AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]KF5F81AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.B_1;6076

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00061	0050	01209	1850	5-MAR-2008 10:55:53.73
2	00000	00054	0050	01192	1850	5-MAR-2008 11:51:09.26
3	00000	00045	0050	01199	1850	5-MAR-2008 12:46:24.93

Bkg File: [quad4.bkgrnd]2008-03-05_0124.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00093	0250	0.37	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF5F81AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF5F81AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6079

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00025	0050	01235	1920	6-MAR-2008 07:13:26.33

Bkg File: [quad3.bkgrnd]2008-03-06_0111.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00126	0400	0.32	09947	1920	6-MAR-2008 01:11:31.08

UST Number: KF5F91AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]KF5F91AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;6079

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00057	0050	01209	1850	5-MAR-2008 10:55:53.73
2	00000	00051	0050	01192	1850	5-MAR-2008 11:51:09.26
3	00000	00039	0050	01199	1850	5-MAR-2008 12:46:24.93

Bkg File: [quad4.bkgrnd]2008-03-05_0124.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00067	0250	0.27	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF5F91AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF5F91AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6078

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00029	0050	01210	1850	6-MAR-2008 07:13:42.92

Bkg File: [quad4.bkgrnd]2008-03-06_0342.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00158	0400	0.40	09683	1850	6-MAR-2008 03:42:45.49

UST Number: KF5GC1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]KF5GC1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.D_1;6093

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00096	0050	01209	1850	5-MAR-2008 10:55:53.73
2	00000	00066	0050	01192	1850	5-MAR-2008 11:51:09.26
3	00000	00069	0050	01199	1850	5-MAR-2008 12:46:24.93

Bkg File: [quad4.bkgrnd]2008-03-05_0124.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00072	0250	0.29	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF5GC1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]KF5GC1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.B_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00025	0050	01210	1850	6-MAR-2008 07:13:42.92

Bkg File: [quad4.bkgrnd]2008-03-06_0342.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00135	0400	0.34	09683	1850	6-MAR-2008 03:42:45.49

UST Number: KF5GF1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-A File: [quad5.sample.A]KF5GF1AF.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.A_15;6122

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00092	0050	01277	1800	5-MAR-2008 10:56:15.10
2	00000	00070	0050	01277	1800	5-MAR-2008 11:46:29.88
3	00000	00070	0050	01273	1800	5-MAR-2008 12:41:45.55

Bkg File: [quad5.bkgrnd]2008-03-05_0059.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00173	0225	0.77	05733	1800	5-MAR-2008 00:59:17.96

UST Number: KF5GF1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-B File: [quad5.sample.B]KF5GF1AF.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.B_15;6117

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00054	0050	01265	1800	6-MAR-2008 06:15:19.51

Bkg File: [quad5.bkgrnd]2008-03-06_0046.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00331	0400	0.83	10157	1800	6-MAR-2008 00:46:37.56

UST Number: KF5GJ1AM Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-C File: [quad5.sample.C]KF5GJ1AM.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.C_15;6135

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00078	0050	01277	1800	5-MAR-2008 10:56:15.10
2	00000	00066	0050	01277	1800	5-MAR-2008 11:46:29.88
3	00000	00066	0050	01273	1800	5-MAR-2008 12:41:45.55

Bkg File: [quad5.bkgrnd]2008-03-05_0059.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00146	0225	0.65	05733	1800	5-MAR-2008 00:59:17.96

UST Number: KF5GJ1AM Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-C File: [quad5.sample.C]KF5GJ1AM.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.C_15;6137

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00051	0050	01265	1800	6-MAR-2008 06:15:19.51

Bkg File: [quad5.bkgrnd]2008-03-06_0046.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00331	0400	0.83	10157	1800	6-MAR-2008 00:46:37.56

UST Number: KF5GJ1AP Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-D File: [quad5.sample.D]KF5GJ1AP.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.D_15;6188

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00266	0050	01277	1800	5-MAR-2008 10:56:15.10
2	00000	00226	0050	01277	1800	5-MAR-2008 11:46:29.88
3	00000	00214	0050	01273	1800	5-MAR-2008 12:41:45.55

Bkg File: [quad5.bkgrnd]2008-03-05_0059.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00164	0225	0.73	05733	1800	5-MAR-2008 00:59:17.96

UST Number: KF5GJ1AP Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-D File: [quad5.sample.D]KF5GJ1AP.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.D_15;6190

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00066	0050	01265	1800	6-MAR-2008 06:15:19.51

Bkg File: [quad5.bkgrnd]2008-03-06_0046.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00278	0400	0.70	10157	1800	6-MAR-2008 00:46:37.56

UST Number: KF5GJ1AR Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 6-A File: [quad6.sample.A]KF5GJ1AR.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.A_15;6139

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00096	0050	01290	1800	5-MAR-2008 12:24:12.03
2	00000	00097	0050	01296	1800	5-MAR-2008 13:14:27.00
3	00000	00085	0050	01293	1800	5-MAR-2008 14:04:41.92

Bkg File: [quad6.bkgrnd]2008-03-05_0356.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00314	0400	0.79	10328	1800	5-MAR-2008 03:56:08.51

UST Number: KF5GJ1AR Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-A File: [quad6.sample.A]KF5GJ1AR.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.A_15;6141

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00062	0050	01279	1800	6-MAR-2008 06:10:28.32

Bkg File: [quad6.bkgrnd]2008-03-06_0047.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00333	0400	0.83	10270	1800	6-MAR-2008 00:47:12.00

UST Number: KGXH21AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 6-C File: [quad6.sample.C]KGXH21AA.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.C_15;6142

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00101	0050	01290	1800	5-MAR-2008 12:24:12.03
2	00000	00105	0050	01296	1800	5-MAR-2008 13:14:27.00
3	00000	00110	0050	01293	1800	5-MAR-2008 14:04:41.92

Bkg File: [quad6.bkgrnd]2008-03-05_0356.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00256	0400	0.64	10328	1800	5-MAR-2008 03:56:08.51

UST Number: KHAM01AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-A File: [quad6.sample.A]KHAM01AA.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.A_15;6141

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00046	0050	01274	1800	6-MAR-2008 07:09:27.46

Bkg File: [quad6.bkgrnd]2008-03-06_0047.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00333	0400	0.83	10270	1800	6-MAR-2008 00:47:12.00

UST Number: KGXH21AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-C File: [quad6.sample.C]KGXH21AA.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.C_15;6144

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00053	0050	01279	1800	6-MAR-2008 06:10:28.32

Bkg File: [quad6.bkgrnd]2008-03-06_0047.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00275	0400	0.69	10270	1800	6-MAR-2008 00:47:12.00

UST Number: KHAM01AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-C File: [quad6.sample.C]KHAM01AC.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.C_15;6144

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00070	0050	01274	1800	6-MAR-2008 07:09:27.46

Bkg File: [quad6.bkgrnd]2008-03-06_0047.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00275	0400	0.69	10270	1800	6-MAR-2008 00:47:12.00

UST Number: KGXH21AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 6-D File: [quad6.sample.D]KGXH21AC.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.D_15;6141

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00041	0050	01290	1800	5-MAR-2008 12:24:12.03
2	00000	00032	0050	01296	1800	5-MAR-2008 13:14:27.00
3	00000	00044	0050	01293	1800	5-MAR-2008 14:04:41.92

Bkg File: [quad6.bkgrnd]2008-03-05_0356.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00299	0400	0.75	10328	1800	5-MAR-2008 03:56:08.51

UST Number: KGXH21AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-D File: [quad6.sample.D]KGXH21AC.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.D_15;6143

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00062	0050	01279	1800	6-MAR-2008 06:10:28.32

Bkg File: [quad6.bkgrnd]2008-03-06_0047.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00339	0400	0.85	10270	1800	6-MAR-2008 00:47:12.00

UST Number: KHAM01AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-D File: [quad6.sample.D]KHAM01AD.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.D_15;6143

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00083	0050	01274	1800	6-MAR-2008 07:09:27.46

Bkg File: [quad6.bkgrnd]2008-03-06_0047.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00339	0400	0.85	10270	1800	6-MAR-2008 00:47:12.00

RADIUM 228

STANDARDS AND TRACEABILITY

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: Ra22606A100		Ref: 11/1/2001	2.1060E+01	± 3.234E-01	DPM/G	
RASC4699	RA-226	3.0308E+00 ± 4.664E-02 DPM	0.1443 g	1/21/2008 1/21/2008	Armstron	2.1003E+01 ± 3.225E-01 DPM/G
		3.0308E+000 ± 3.031E+000 (1)	3.0308E+000 , 3.0308E+000			

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: Ra22606A100		Ref: 11/1/2001	2.1060E+01	± 3.234E-01	DPM/G	
RASC4719	RA-226	3.0390E+00 ± 4.676E-02 DPM	0.1447 g	2/27/2008 2/27/2008	Armstron	2.1002E+01 ± 3.225E-01 DPM/G

3.0390E+000 ± 3.039E+000 (1)

3.0390E+000 , 3.0390E+000

RA22606A

RA22606A000
Ref. 6068
422.23 ± 13.93
dpm/g
REF. 11/1/2001



RA22606A100
Ref. 6069
21.12 ± 0.697
dpm/g
DVF 3/21/06

ISOTOPE DILUTION RECORD

1) Prepared by tda 2) Date Prepared 10/14/2005

3) Source Identification Number / Ref. Number RA22606A000 6068

4) Source Activity (dpm ± dpm/g) 4.2223E+02 ± 1.393E+01

5) Percent error of Source Activity 3.3 %

6) Weight of Source Material used (g) 50

7) (% Error) of Weight of Source Material used 0.0096 %

8) Diluent 1 M HNO3

9) Total Weight of the Dilution (g) approx. 750 g

10) (% Error) of Total Weight of the Dilution 0.0400 %

11) Specific Activity of Diluted Solution dpm/g 2.1120E+01 ± 6.970E-01

12) Total Uncertainty 3.300 %

13) Dilution Identification Number / Ref. Number RA22606A100 6069

14) Calibration Reference Date 11/1/2001

15) Isotope Inventory File update by/date tda 3/21/2006

16) Reviewed by/date _____

17) Location QCLAB 18) Exhausted _____

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE RECORD FORM

1) Isotope <u> Ra-226 </u>	2) Reference Number <u> 6068 </u>
3) Half Life <u> 1600 yrs. </u>	4) Storage Location <u> qclab </u>
5) Source Identification Number <u> Ra22606A000 </u>	

CALIBRATION DATA

6) Activity as Received Units	<u> 195.9 pCi/mL </u>
7) Overall Uncertainty Percent	<u> 3.30% </u>
8) Reference Date / Time	<u> 11/1/2001 </u>
9) Activity dpm/g	<u> 422.23 dpm/g </u>
10) Volume or Mass (ml/g)	<u> 100 mL </u>
11) Calibrated by	<u> IPL </u>
12) Certificate Solution Number	<u> 763-63-7 </u>

SURVEY DATA

13) Date Received	<u> 3/21/2006 from Denver Lab </u>
14) Surveyed by	<u> tda </u>
15) Survey Reading (Beta/Gamma) cpm	<u> <300 cpm </u>
16) Survey Reading (Alpha) cpm	<u> 0 </u>

17) Activity Conversion 195.9 pCi/mL x 2.22 dpm/pCi / 1.025 g/mL =
 422.23 dpm/g

18) Remarks _____

19) Isotope File Updated by tda 3/21/2006

20) QC Approved _____

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: RA22806A000		Ref: 12/15/2003	4.4881E+02	± 1.482E+01	DPM/G	
RASC4699	RA-228	1.1167E+01 ± 3.708E-01 DPM	0.0408 g	1/21/2008 1/21/2008	Armstron	2.7370E+02 ± 9.038E+00 DPM/G
		1.1167E+001 ± 1.117E+001 (1)	1.1167E+001 , 1.1167E+001			
<p>STL Richland, SMFractions v4.8.29</p> <p>* - Isotope is an Impurity</p>						

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: RA22806A000		Ref: 12/15/2003	4.4881E+02	± 1.482E+01	DPM/G	
RASC4719	RA-228	1.1112E+01 ± 3.689E-01 DPM	0.0411 g	2/27/2008 2/27/2008	Armstron	2.7038E+02 ± 8.928E+00 DPM/G

1.1112E+001 ± 1.111E+001 (1) 1.1112E+001 , 1.1112E+001

Ra22806A000

Ra22806A000
Ref. 6076
448.81 ± 14.82
dpm/g
4/11/2007 DVF

ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>7/7/2004</u>
3) Source Identification Number / Ref. Number	<u>new source</u>		
4) Source Activity (dpm ± dpm/g)	<u>4.5507E+04</u>	±	<u>1.502E+03</u>
5) Percent error of Source Activity	<u>3.3</u>	%	
6) Weight of Source Material used (g)	<u>5.0063</u>		
7) (% Error) of Weight of Source Material used	<u>0.0959</u>	%	
8) Diluent	<u>1M HCL</u>		
9) Total Weight of the Dilution (g)	<u>507.61</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.0591</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>4.4881E+02</u>	±	<u>1.482E+01</u>
12) Total Uncertainty	<u>3.302</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22806A000</u>		<u>6076</u>
14) Calibration Reference Date	<u>12/15/2003</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>3/30/2006</u>
16) Reviewed by/date	<u></u>		<u></u>
17) Location	<u>QCLAB</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE RECORD FORM

1) Isotope RA-228 2) Reference Number 6076
 3) Half Life 5.75 yrs 4) Storage Location QCLAB
 5) Source Identification Number RA22806A000

CALIBRATION DATA

6) Activity as Received Units 3797
 7) Overall Uncertainty Percent 3.30%
 8) Reference Date / Time 15-Dec-03
 9) Activity dpm/g 45507 ± 1502
 10) Volume or Mass (ml/g) 5.0063
 11) Calibrated by Analytix
 12) Certificate Solution Number 67328-288

SURVEY DATA

13) Date Received 3/30/2006
 14) Surveyed by tda
 15) Survey Reading (Beta/Gamma) cpm >200 cpm
 16) Survey Reading (Alpha) cpm background

17) Activity Conversion 3797 dps * 60 s/m / 5.0063g =
45507 ± 1501 dpm/g

18) Remarks From STL Denver

19) Isotope File Updated by tda

20) QC Approved _____

RADIUM 228
CONTINUING CALIBRATION

Quality Assurance Report.

Generated 26-MAR-2008 11:24:30.75

QA Filename : \$DISK1:[QUAD6.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 6a 1.5" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 44.000000 Upper Bound : 49.250000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 46.656689 Std Deviation : 0.904850

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 04:34	CHK		45.8000		
12-JAN-2008 06:31	CHK		47.1000		
13-JAN-2008 09:02	CHK		44.3000	In	
14-JAN-2008 04:54	CHK		47.3000		
15-JAN-2008 04:39	CHK		45.9000		
16-JAN-2008 04:39	CHK		45.1000		
17-JAN-2008 04:40	CHK		46.1000		
18-JAN-2008 04:50	CHK		46.2000		
21-JAN-2008 05:37	CHK		46.2000		
22-JAN-2008 04:52	CHK		45.2000		
23-JAN-2008 04:41	CHK		45.9000		
24-JAN-2008 04:49	CHK		45.3000		
25-JAN-2008 04:58	CHK		45.7000		
28-JAN-2008 10:20	CHK		45.8000		
29-JAN-2008 05:01	CHK		46.2000		
30-JAN-2008 04:44	CHK		45.0000		
31-JAN-2008 04:33	CHK		46.2000		
1-FEB-2008 04:36	CHK		45.4000		
2-FEB-2008 04:44	CHK		46.6000		
4-FEB-2008 05:33	CHK		44.6000	In	
5-FEB-2008 04:49	CHK		45.1000		

6-FEB-2008 04:43	CHK	45.9000	
7-FEB-2008 04:46	CHK	45.4000	
8-FEB-2008 04:45	CHK	46.1000	
11-FEB-2008 04:45	CHK	45.5000	
12-FEB-2008 05:12	CHK	46.5000	
13-FEB-2008 05:17	CHK	44.4000	In
14-FEB-2008 05:45	CHK	46.6000	
15-FEB-2008 04:41	CHK	46.6000	
18-FEB-2008 05:37	CHK	46.8000	
19-FEB-2008 04:51	CHK	47.0000	
20-FEB-2008 04:48	CHK	45.7000	
21-FEB-2008 04:44	CHK	46.2000	
22-FEB-2008 04:49	CHK	46.6000	
25-FEB-2008 04:46	CHK	45.4000	
26-FEB-2008 04:44	CHK	44.9000	
27-FEB-2008 04:48	CHK	46.6000	
28-FEB-2008 04:49	CHK	45.7000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
29-FEB-2008 04:47	CHK		45.5000	
3-MAR-2008 04:51	CHK		45.7000	
4-MAR-2008 04:50	CHK		45.0000	
5-MAR-2008 04:57	CHK		46.3000	
6-MAR-2008 05:07	CHK		45.6000	
7-MAR-2008 04:53	CHK		44.8000	In
8-MAR-2008 08:02	CHK		46.0000	
10-MAR-2008 05:20	CHK		45.0000	
11-MAR-2008 05:35	CHK		46.5000	
12-MAR-2008 05:01	CHK		46.3000	
13-MAR-2008 05:04	CHK		46.6000	
14-MAR-2008 05:43	CHK		46.6000	
17-MAR-2008 06:26	CHK		49.2000	In
18-MAR-2008 04:57	CHK		46.4000	
19-MAR-2008 04:55	CHK		45.9000	
20-MAR-2008 05:06	CHK		45.2000	
21-MAR-2008 05:02	CHK		47.5000	

-- Multi-Test Full Report --

Description : quad 6b 1.5" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 50.000000 Upper Bound : 54.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 52.041027 Std Deviation : 0.696986

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 04:34	CHK		51.4000	
12-JAN-2008 06:31	CHK		50.7000	
13-JAN-2008 09:02	CHK		51.2000	
14-JAN-2008 04:54	CHK		51.4000	
15-JAN-2008 04:39	CHK		50.9000	
16-JAN-2008 04:39	CHK		51.9000	
17-JAN-2008 04:40	CHK		51.2000	
18-JAN-2008 04:50	CHK		52.0000	
21-JAN-2008 05:37	CHK		52.0000	
22-JAN-2008 04:52	CHK		51.1000	
23-JAN-2008 04:41	CHK		50.6000	In
24-JAN-2008 04:49	CHK		51.4000	
25-JAN-2008 04:58	CHK		51.3000	
28-JAN-2008 10:20	CHK		51.4000	
29-JAN-2008 05:01	CHK		51.0000	
30-JAN-2008 04:44	CHK		51.3000	
31-JAN-2008 04:33	CHK		52.6000	
1-FEB-2008 04:36	CHK		51.9000	
2-FEB-2008 04:44	CHK		51.1000	
4-FEB-2008 05:33	CHK		52.2000	
5-FEB-2008 04:49	CHK		52.5000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-FEB-2008 04:43	CHK		52.3000	
7-FEB-2008 04:46	CHK		52.1000	
8-FEB-2008 04:45	CHK		51.7000	
11-FEB-2008 04:45	CHK		53.0000	
12-FEB-2008 05:12	CHK		51.2000	
13-FEB-2008 05:17	CHK		52.0000	

14-FEB-2008 05:45	CHK	51.9000			
15-FEB-2008 04:41	CHK	51.6000			
18-FEB-2008 05:37	CHK	51.8000			
19-FEB-2008 04:51	CHK	52.1000			
20-FEB-2008 04:48	CHK	52.2000			
21-FEB-2008 04:44	CHK	52.9000			
22-FEB-2008 04:49	CHK	51.7000			
25-FEB-2008 04:46	CHK	51.0000			
26-FEB-2008 04:44	CHK	51.5000			
27-FEB-2008 04:48	CHK	51.4000			
28-FEB-2008 04:49	CHK	51.2000			
29-FEB-2008 04:47	CHK	51.3000			
3-MAR-2008 04:51	CHK	52.3000			
4-MAR-2008 04:50	CHK	51.4000			
5-MAR-2008 04:57	CHK	50.7000			
6-MAR-2008 05:07	CHK	51.0000			
7-MAR-2008 04:53	CHK	51.3000			
8-MAR-2008 08:02	CHK	51.7000			
10-MAR-2008 05:20	CHK	50.9000			
11-MAR-2008 05:35	CHK	52.1000			
12-MAR-2008 05:01	CHK	52.1000			
13-MAR-2008 05:04	CHK	53.2000			
14-MAR-2008 05:43	CHK	52.8000			
17-MAR-2008 06:26	CHK	52.0000			
18-MAR-2008 04:57	CHK	51.8000			
19-MAR-2008 04:55	CHK	51.1000			
20-MAR-2008 05:06	CHK	51.5000			
21-MAR-2008 05:02	CHK	52.4000			

-- Multi-Test Full Report --

Description : quad 6c 1.5" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 50.000000 Upper Bound : 54.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 51.875000 Std Deviation : 0.608396

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 04:34	CHK		52.0000	
12-JAN-2008 06:31	CHK		49.6000	Be Ac
13-JAN-2008 09:02	CHK		51.6000	
14-JAN-2008 04:54	CHK		51.9000	

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
15-JAN-2008 04:39	CHK		50.3000	In
16-JAN-2008 04:39	CHK		50.6000	In
17-JAN-2008 04:40	CHK		51.8000	
18-JAN-2008 04:50	CHK		51.8000	
21-JAN-2008 05:37	CHK		51.2000	
22-JAN-2008 04:52	CHK		50.9000	
23-JAN-2008 04:41	CHK		50.7000	
24-JAN-2008 04:49	CHK		50.8000	
25-JAN-2008 04:58	CHK		51.4000	
28-JAN-2008 10:20	CHK		51.4000	
29-JAN-2008 05:01	CHK		52.3000	
30-JAN-2008 04:44	CHK		52.8000	
31-JAN-2008 04:33	CHK		52.4000	
1-FEB-2008 04:36	CHK		51.1000	
2-FEB-2008 04:44	CHK		51.4000	
4-FEB-2008 05:33	CHK		52.0000	
5-FEB-2008 04:49	CHK		51.6000	
6-FEB-2008 04:43	CHK		51.8000	
7-FEB-2008 04:46	CHK		52.1000	
8-FEB-2008 04:45	CHK		51.6000	
11-FEB-2008 04:45	CHK		52.6000	
12-FEB-2008 05:12	CHK		51.5000	
13-FEB-2008 05:17	CHK		52.1000	
14-FEB-2008 05:45	CHK		51.4000	
15-FEB-2008 04:41	CHK		51.2000	
18-FEB-2008 05:37	CHK		51.6000	
19-FEB-2008 04:51	CHK		51.3000	
20-FEB-2008 04:48	CHK		51.4000	
21-FEB-2008 04:44	CHK		52.1000	
22-FEB-2008 04:49	CHK		51.6000	
25-FEB-2008 04:46	CHK		51.6000	
26-FEB-2008 04:44	CHK		50.7000	
27-FEB-2008 04:48	CHK		51.5000	

28-FEB-2008 04:49	CHK	51.7000			
29-FEB-2008 04:47	CHK	50.8000			
3-MAR-2008 04:51	CHK	51.8000			
4-MAR-2008 04:50	CHK	51.1000			
5-MAR-2008 04:57	CHK	52.1000			
6-MAR-2008 05:07	CHK	51.3000			
7-MAR-2008 04:53	CHK	52.3000			
8-MAR-2008 08:02	CHK	52.0000			
10-MAR-2008 05:20	CHK	51.6000			
11-MAR-2008 05:35	CHK	51.3000			
12-MAR-2008 05:01	CHK	51.1000			
13-MAR-2008 05:04	CHK	52.7000			
14-MAR-2008 05:43	CHK	51.6000			
17-MAR-2008 06:26	CHK	52.7000			
18-MAR-2008 04:57	CHK	51.6000			
19-MAR-2008 04:55	CHK	52.2000			
20-MAR-2008 05:06	CHK	51.7000			
21-MAR-2008 05:02	CHK	53.3000		In	

-- Multi-Test Full Report --

Description : quad 6d 1.5" beta %eff
 Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 49.000000 Upper Bound : 53.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 51.031212 Std Deviation : 0.623766

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-JAN-2008 04:34	CHK	50.9000			
12-JAN-2008 06:31	CHK	49.9000			
13-JAN-2008 09:02	CHK	50.2000			
14-JAN-2008 04:54	CHK	50.1000			

15-JAN-2008 04:39	CHK	51.2000			
16-JAN-2008 04:39	CHK	50.8000			
17-JAN-2008 04:40	CHK	51.2000			
18-JAN-2008 04:50	CHK	50.1000			
21-JAN-2008 05:37	CHK	50.7000			
22-JAN-2008 04:52	CHK	50.7000			
23-JAN-2008 04:41	CHK	51.2000			
24-JAN-2008 04:49	CHK	50.3000			
25-JAN-2008 04:58	CHK	49.9000			
28-JAN-2008 10:20	CHK	51.6000			
29-JAN-2008 05:01	CHK	50.3000			
30-JAN-2008 04:44	CHK	50.9000			
31-JAN-2008 04:33	CHK	50.7000			
1-FEB-2008 04:36	CHK	50.7000			
2-FEB-2008 04:44	CHK	50.6000			
4-FEB-2008 05:33	CHK	50.5000			
5-FEB-2008 04:49	CHK	50.6000			
6-FEB-2008 04:43	CHK	51.7000			
7-FEB-2008 04:46	CHK	51.2000			
8-FEB-2008 04:45	CHK	50.2000			
11-FEB-2008 04:45	CHK	50.4000			
12-FEB-2008 05:12	CHK	49.7000	In		
13-FEB-2008 05:17	CHK	49.9000			
14-FEB-2008 05:45	CHK	50.6000			
15-FEB-2008 04:41	CHK	51.7000			
18-FEB-2008 05:37	CHK	50.0000			
19-FEB-2008 04:51	CHK	50.7000			
20-FEB-2008 04:48	CHK	50.8000			
21-FEB-2008 04:44	CHK	50.8000			
22-FEB-2008 04:49	CHK	50.4000			
25-FEB-2008 04:46	CHK	51.2000			
26-FEB-2008 04:44	CHK	50.5000			
27-FEB-2008 04:48	CHK	50.5000			
28-FEB-2008 04:49	CHK	50.7000			
29-FEB-2008 04:47	CHK	51.2000			
3-MAR-2008 04:51	CHK	51.2000			
4-MAR-2008 04:50	CHK	50.5000			
5-MAR-2008 04:57	CHK	49.6000	In		
6-MAR-2008 05:07	CHK	50.3000			
7-MAR-2008 04:53	CHK	51.0000			
8-MAR-2008 08:02	CHK	49.8000			
10-MAR-2008 05:20	CHK	51.7000			
11-MAR-2008 05:35	CHK	51.4000			

12-MAR-2008 05:01	CHK	51.0000	
13-MAR-2008 05:04	CHK	51.0000	
14-MAR-2008 05:43	CHK	50.8000	
17-MAR-2008 06:26	CHK	52.3000	In
18-MAR-2008 04:57	CHK	51.3000	
19-MAR-2008 04:55	CHK	50.2000	
20-MAR-2008 05:06	CHK	51.4000	
21-MAR-2008 05:02	CHK	51.1000	

Quality Assurance Report. Generated 26-MAR-2008 11:24:32.13

QA Filename : \$DISK1:[QUAD6.QA]BKG_15.QAF;2

-- Multi-Test Full Report --

Description : quad 6a 1.5" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.790939 Std Deviation : 0.059448

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:21	BKG		0.6900	
12-JAN-2008 03:05	BKG		0.7200	
12-JAN-2008 20:45	BKG		0.7300	
13-JAN-2008 21:48	BKG		0.7400	
15-JAN-2008 04:09	BKG		0.7300	
16-JAN-2008 02:26	BKG		0.8000	
17-JAN-2008 02:55	BKG		0.8200	
18-JAN-2008 02:08	BKG		0.8500	
19-JAN-2008 02:18	BKG		0.7200	
19-JAN-2008 15:44	BKG		0.7600	
20-JAN-2008 13:40	BKG		0.8100	
22-JAN-2008 02:15	BKG		0.7500	
23-JAN-2008 01:51	BKG		0.8600	
24-JAN-2008 02:11	BKG		0.7400	
25-JAN-2008 02:59	BKG		0.8500	
25-JAN-2008 23:31	BKG		0.7800	

27-JAN-2008 19:17	BKG	0.8300	
29-JAN-2008 01:37	BKG	0.8100	
30-JAN-2008 01:56	BKG	0.7800	
31-JAN-2008 02:16	BKG	0.7300	
1-FEB-2008 02:46	BKG	0.8500	
2-FEB-2008 00:10	BKG	0.7600	
2-FEB-2008 13:27	BKG	0.7700	
3-FEB-2008 18:42	BKG	0.8500	
5-FEB-2008 02:41	BKG	0.7300	
6-FEB-2008 01:44	BKG	0.7700	
7-FEB-2008 03:54	BKG	0.8800	
8-FEB-2008 01:55	BKG	0.7600	
8-FEB-2008 23:21	BKG	0.8400	
9-FEB-2008 13:59	BKG	0.9000	
10-FEB-2008 19:27	BKG	0.7900	
12-FEB-2008 02:16	BKG	0.7300	
13-FEB-2008 02:08	BKG	0.9300	In
14-FEB-2008 02:31	BKG	0.7600	
14-FEB-2008 23:17	BKG	0.7900	
16-FEB-2008 01:31	BKG	0.8500	
16-FEB-2008 15:12	BKG	0.7800	
17-FEB-2008 14:28	BKG	0.7500	
19-FEB-2008 02:09	BKG	0.7900	
19-FEB-2008 23:27	BKG	0.8100	
21-FEB-2008 03:20	BKG	0.9500	In

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
22-FEB-2008 03:23	BKG		0.8700	
22-FEB-2008 23:18	BKG		0.7700	
23-FEB-2008 18:45	BKG		0.7600	
24-FEB-2008 19:17	BKG		0.8200	
26-FEB-2008 04:10	BKG		0.7400	
27-FEB-2008 01:51	BKG		0.7900	
28-FEB-2008 03:05	BKG		0.8500	
29-FEB-2008 03:59	BKG		0.8000	
29-FEB-2008 23:16	BKG		0.7800	
1-MAR-2008 12:16	BKG		0.7100	
2-MAR-2008 13:58	BKG		0.7400	
4-MAR-2008 00:24	BKG		0.6900	
4-MAR-2008 00:24	BKG		0.7200	
5-MAR-2008 03:56	BKG		0.7900	

6-MAR-2008 00:47	BKG	0.8900	
6-MAR-2008 00:47	BKG	0.8300	
7-MAR-2008 02:47	BKG	0.8800	
7-MAR-2008 23:29	BKG	0.8200	
8-MAR-2008 17:08	BKG	0.8400	
9-MAR-2008 16:42	BKG	0.7800	
11-MAR-2008 02:57	BKG	0.7900	
12-MAR-2008 03:00	BKG	0.8200	
13-MAR-2008 02:13	BKG	0.7400	
14-MAR-2008 05:20	BKG	0.9100	In
14-MAR-2008 23:36	BKG	0.8700	
15-MAR-2008 23:29	BKG	0.8200	
16-MAR-2008 16:08	BKG	0.7500	
18-MAR-2008 03:37	BKG	0.8600	
19-MAR-2008 02:22	BKG	0.7900	
20-MAR-2008 01:34	BKG	0.8200	
21-MAR-2008 04:16	BKG	0.9300	In
21-MAR-2008 23:22	BKG	0.8300	
23-MAR-2008 20:02	BKG	0.8400	

-- Multi-Test Full Report --

Description : quad 6b 1.5" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.762541 Std Deviation : 0.051803

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:21	BKG		0.7600	
12-JAN-2008 03:05	BKG		0.8100	
12-JAN-2008 20:45	BKG		0.7600	
13-JAN-2008 21:48	BKG		0.8000	
15-JAN-2008 04:09	BKG		0.7100	
16-JAN-2008 02:26	BKG		0.7800	
17-JAN-2008 02:55	BKG		0.7800	
18-JAN-2008 02:08	BKG		0.7000	

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-JAN-2008 02:18	BKG		0.8200	
19-JAN-2008 15:44	BKG		0.8100	
20-JAN-2008 13:40	BKG		0.8300	
22-JAN-2008 02:15	BKG		0.7900	
23-JAN-2008 01:51	BKG		0.7600	
24-JAN-2008 02:11	BKG		0.8000	
25-JAN-2008 02:59	BKG		0.9800	Ac
25-JAN-2008 23:31	BKG		0.7900	
27-JAN-2008 19:17	BKG		0.7700	
29-JAN-2008 01:37	BKG		0.7200	
30-JAN-2008 01:56	BKG		0.8500	
31-JAN-2008 02:16	BKG		0.8400	
1-FEB-2008 02:46	BKG		0.8800	In
2-FEB-2008 00:10	BKG		0.7900	
2-FEB-2008 13:27	BKG		0.8200	
3-FEB-2008 18:42	BKG		0.8600	
5-FEB-2008 02:41	BKG		0.8000	
6-FEB-2008 01:44	BKG		0.8200	
7-FEB-2008 03:54	BKG		0.8600	
8-FEB-2008 01:55	BKG		0.8000	
8-FEB-2008 23:21	BKG		0.8400	
9-FEB-2008 13:59	BKG		0.8100	
10-FEB-2008 19:27	BKG		0.8200	
12-FEB-2008 02:16	BKG		0.9300	Ac
13-FEB-2008 02:08	BKG		0.7900	
14-FEB-2008 02:31	BKG		0.8900	In
14-FEB-2008 23:17	BKG		0.8700	In
16-FEB-2008 01:31	BKG		0.8600	
16-FEB-2008 15:12	BKG		0.7500	
17-FEB-2008 14:28	BKG		0.8500	
19-FEB-2008 02:09	BKG		0.8600	
19-FEB-2008 23:27	BKG		0.7800	
21-FEB-2008 03:20	BKG		0.8800	In
22-FEB-2008 03:23	BKG		0.9000	In
22-FEB-2008 23:18	BKG		0.9300	Ac
23-FEB-2008 18:45	BKG		0.8200	
24-FEB-2008 19:17	BKG		0.9800	Ac
26-FEB-2008 04:10	BKG		0.9200	Ac
27-FEB-2008 01:51	BKG		0.9100	In
28-FEB-2008 03:05	BKG		1.0300	Ac
29-FEB-2008 03:59	BKG		0.9300	Ac

29-FEB-2008 23:16	BKG	0.8400	
1-MAR-2008 12:16	BKG	0.9000	In
2-MAR-2008 13:58	BKG	0.8600	
4-MAR-2008 00:24	BKG	0.9800	Ac
4-MAR-2008 00:24	BKG	0.9600	Ac
5-MAR-2008 03:56	BKG	0.9300	Ac
6-MAR-2008 00:47	BKG	0.9900	Ac
6-MAR-2008 00:47	BKG	0.9200	Ac
7-MAR-2008 02:47	BKG	0.8500	
7-MAR-2008 23:29	BKG	1.0100	Ac
8-MAR-2008 17:08	BKG	0.8400	
9-MAR-2008 16:42	BKG	0.8800	In
11-MAR-2008 02:57	BKG	0.9500	Ac
12-MAR-2008 03:00	BKG	1.0000	Ac

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-MAR-2008 02:13	BKG		0.9500	Ac
14-MAR-2008 05:20	BKG		1.0800	Ac
14-MAR-2008 23:36	BKG		1.0900	Ac
15-MAR-2008 23:29	BKG		0.9100	In
16-MAR-2008 16:08	BKG		0.9800	Ac
18-MAR-2008 03:37	BKG		0.9800	Ac
19-MAR-2008 02:22	BKG		1.0400	Ac
20-MAR-2008 01:34	BKG		1.0100	Ac
21-MAR-2008 04:16	BKG		1.1000	Ac
21-MAR-2008 23:22	BKG		0.9700	Ac
23-MAR-2008 20:02	BKG		1.1000	Ac

-- Multi-Test Full Report --

Description : quad 6c 1.5" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.657514 Std Deviation : 0.045411

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-JAN-2008 02:21	BKG	0.7000	
12-JAN-2008 03:05	BKG	0.6400	
12-JAN-2008 20:45	BKG	0.6200	
13-JAN-2008 21:48	BKG	0.6500	
15-JAN-2008 04:09	BKG	0.6500	
16-JAN-2008 02:26	BKG	0.7300	
17-JAN-2008 02:55	BKG	0.6100	
18-JAN-2008 02:08	BKG	0.5900	
19-JAN-2008 02:18	BKG	0.6700	
19-JAN-2008 15:44	BKG	0.6200	
20-JAN-2008 13:40	BKG	0.6900	
22-JAN-2008 02:15	BKG	0.6400	
23-JAN-2008 01:51	BKG	0.6600	
24-JAN-2008 02:11	BKG	0.6900	
25-JAN-2008 02:59	BKG	0.6600	
25-JAN-2008 23:31	BKG	0.6700	
27-JAN-2008 19:17	BKG	0.6700	
29-JAN-2008 01:37	BKG	0.6300	
30-JAN-2008 01:56	BKG	0.6200	
31-JAN-2008 02:16	BKG	0.7100	
1-FEB-2008 02:46	BKG	0.6400	
2-FEB-2008 00:10	BKG	0.6100	
2-FEB-2008 13:27	BKG	0.7100	
3-FEB-2008 18:42	BKG	0.6500	
5-FEB-2008 02:41	BKG	0.6500	
6-FEB-2008 01:44	BKG	0.5500	In
7-FEB-2008 03:54	BKG	0.7200	
8-FEB-2008 01:55	BKG	0.5900	
8-FEB-2008 23:21	BKG	0.5800	
9-FEB-2008 13:59	BKG	0.6100	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 19:27	BKG		0.5900	
12-FEB-2008 02:16	BKG		0.6100	
13-FEB-2008 02:08	BKG		0.6500	
14-FEB-2008 02:31	BKG		0.7200	
14-FEB-2008 23:17	BKG		0.6000	
16-FEB-2008 01:31	BKG		0.6700	
16-FEB-2008 15:12	BKG		0.6400	
17-FEB-2008 14:28	BKG		0.6300	
19-FEB-2008 02:09	BKG		0.7100	

19-FEB-2008 23:27 BKG	0.7300	
21-FEB-2008 03:20 BKG	0.7000	
22-FEB-2008 03:23 BKG	0.7600	In
22-FEB-2008 23:18 BKG	0.6100	
23-FEB-2008 18:45 BKG	0.5800	
24-FEB-2008 19:17 BKG	0.6800	
26-FEB-2008 04:10 BKG	0.6200	
27-FEB-2008 01:51 BKG	0.6500	
28-FEB-2008 03:05 BKG	0.6600	
29-FEB-2008 03:59 BKG	0.7100	
29-FEB-2008 23:16 BKG	0.6100	
1-MAR-2008 12:16 BKG	0.6200	
2-MAR-2008 13:58 BKG	0.6400	
4-MAR-2008 00:24 BKG	0.7400	
4-MAR-2008 00:24 BKG	0.7200	
5-MAR-2008 03:56 BKG	0.6400	
6-MAR-2008 00:47 BKG	0.6100	
6-MAR-2008 00:47 BKG	0.6900	
7-MAR-2008 02:47 BKG	0.7800	In
7-MAR-2008 23:29 BKG	0.6800	
8-MAR-2008 17:08 BKG	0.6500	
9-MAR-2008 16:42 BKG	0.6100	
11-MAR-2008 02:57 BKG	0.6400	
12-MAR-2008 03:00 BKG	0.6100	
13-MAR-2008 02:13 BKG	0.7400	
14-MAR-2008 05:20 BKG	0.6600	
14-MAR-2008 23:36 BKG	0.6200	
15-MAR-2008 23:29 BKG	0.6100	
16-MAR-2008 16:08 BKG	0.6300	
18-MAR-2008 03:37 BKG	0.6500	
19-MAR-2008 02:22 BKG	0.6200	
20-MAR-2008 01:34 BKG	0.7200	
21-MAR-2008 04:16 BKG	0.6800	
21-MAR-2008 23:22 BKG	0.5900	
23-MAR-2008 20:02 BKG	0.6400	

-- Multi-Test Full Report --

Description : quad 6d 1.5" beta bkg, cpm
Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.732431 Std Deviation : 0.050174

Measurement Time Sample ID Sample Analyst Value LU|SD|UD|BS Rej

 Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time Sample ID Sample Analyst Value LU|SD|UD|BS Rej

11-JAN-2008 02:21	BKG		0.7600	
12-JAN-2008 03:05	BKG		0.7800	
12-JAN-2008 20:45	BKG		0.7800	
13-JAN-2008 21:48	BKG		0.7500	
15-JAN-2008 04:09	BKG		0.8100	
16-JAN-2008 02:26	BKG		0.6800	
17-JAN-2008 02:55	BKG		0.7700	
18-JAN-2008 02:08	BKG		0.8000	
19-JAN-2008 02:18	BKG		0.8000	
19-JAN-2008 15:44	BKG		0.7600	
20-JAN-2008 13:40	BKG		0.7700	
22-JAN-2008 02:15	BKG		0.7700	
23-JAN-2008 01:51	BKG		0.7300	
24-JAN-2008 02:11	BKG		0.8800	In
25-JAN-2008 02:59	BKG		0.7800	
25-JAN-2008 23:31	BKG		0.8200	
27-JAN-2008 19:17	BKG		0.9100	Ac
29-JAN-2008 01:37	BKG		0.7700	
30-JAN-2008 01:56	BKG		0.8500	In
31-JAN-2008 02:16	BKG		0.8200	
1-FEB-2008 02:46	BKG		0.7800	
2-FEB-2008 00:10	BKG		0.7300	
2-FEB-2008 13:27	BKG		0.8400	In
3-FEB-2008 18:42	BKG		0.8000	
5-FEB-2008 02:41	BKG		0.7700	
6-FEB-2008 01:44	BKG		0.7500	
7-FEB-2008 03:54	BKG		0.8000	
8-FEB-2008 01:55	BKG		0.8300	
8-FEB-2008 23:21	BKG		0.7600	
9-FEB-2008 13:59	BKG		0.7500	
10-FEB-2008 19:27	BKG		0.7300	
12-FEB-2008 02:16	BKG		0.6900	
13-FEB-2008 02:08	BKG		0.7800	

14-FEB-2008 02:31	BKG	0.7400	
14-FEB-2008 23:17	BKG	0.7500	
16-FEB-2008 01:31	BKG	0.7700	
16-FEB-2008 15:12	BKG	0.7800	
17-FEB-2008 14:28	BKG	0.8100	
19-FEB-2008 02:09	BKG	0.7100	
19-FEB-2008 23:27	BKG	0.7500	
21-FEB-2008 03:20	BKG	0.8300	
22-FEB-2008 03:23	BKG	0.7900	
22-FEB-2008 23:18	BKG	0.7700	
23-FEB-2008 18:45	BKG	0.6900	
24-FEB-2008 19:17	BKG	0.7900	
26-FEB-2008 04:10	BKG	0.7300	
27-FEB-2008 01:51	BKG	0.6600	
28-FEB-2008 03:05	BKG	0.8500	In
29-FEB-2008 03:59	BKG	0.7100	
29-FEB-2008 23:16	BKG	0.8200	
1-MAR-2008 12:16	BKG	0.7900	
2-MAR-2008 13:58	BKG	0.7100	
4-MAR-2008 00:24	BKG	0.7900	
4-MAR-2008 00:24	BKG	0.7600	
5-MAR-2008 03:56	BKG	0.7500	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2008 00:47	BKG	0.8400	In	
6-MAR-2008 00:47	BKG	0.8500	In	
7-MAR-2008 02:47	BKG	0.7500		
7-MAR-2008 23:29	BKG	0.7600		
8-MAR-2008 17:08	BKG	0.8600	In	
9-MAR-2008 16:42	BKG	0.7600		
11-MAR-2008 02:57	BKG	0.7700		
12-MAR-2008 03:00	BKG	0.8300		
13-MAR-2008 02:13	BKG	0.8300		
14-MAR-2008 05:20	BKG	0.7700		
14-MAR-2008 23:36	BKG	0.8900	Ac	
15-MAR-2008 23:29	BKG	0.7600		
16-MAR-2008 16:08	BKG	0.7400		
18-MAR-2008 03:37	BKG	0.7300		
19-MAR-2008 02:22	BKG	0.9000	Ac	
20-MAR-2008 01:34	BKG	0.7700		
21-MAR-2008 04:16	BKG	0.7700		

21-MAR-2008 23:22 BKG
23-MAR-2008 20:02 BKG

0.7700 | | |
0.7800 | | |

Quality Assurance Report.

Generated 26-MAR-2008 13:38:25.26

QA Filename : \$DISK1:[QUAD5.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 5a 1.5" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 46.000000 Upper Bound : 50.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 48.478981 Std Deviation : 0.707291

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 04:50	CHK		47.9000		
12-FEB-2008 05:12	CHK		47.7000		
13-FEB-2008 05:12	CHK		48.0000		
14-FEB-2008 05:45	CHK		49.3000		
15-FEB-2008 04:46	CHK		49.5000		
18-FEB-2008 05:37	CHK		47.6000		
19-FEB-2008 04:56	CHK		49.4000		
20-FEB-2008 04:48	CHK		48.7000		
21-FEB-2008 04:44	CHK		47.1000		
22-FEB-2008 04:49	CHK		48.3000		
25-FEB-2008 04:51	CHK		48.7000		
26-FEB-2008 04:44	CHK		47.7000		
27-FEB-2008 04:48	CHK		48.4000		
28-FEB-2008 04:49	CHK		47.8000		
29-FEB-2008 04:47	CHK		48.4000		
3-MAR-2008 04:51	CHK		47.6000		
4-MAR-2008 04:50	CHK		49.0000		
5-MAR-2008 04:52	CHK		48.1000		
6-MAR-2008 05:12	CHK		48.3000		
7-MAR-2008 04:48	CHK		48.2000		
8-MAR-2008 08:07	CHK		48.3000		

10-MAR-2008 05:25	CHK	49.0000	
11-MAR-2008 05:40	CHK	49.3000	
12-MAR-2008 05:06	CHK	48.6000	
13-MAR-2008 05:04	CHK	48.5000	
14-MAR-2008 05:43	CHK	48.6000	
17-MAR-2008 06:26	CHK	48.7000	
18-MAR-2008 05:02	CHK	48.3000	
19-MAR-2008 04:55	CHK	48.3000	
20-MAR-2008 05:06	CHK	50.0000	In
21-MAR-2008 05:02	CHK	49.0000	
24-MAR-2008 06:46	CHK	47.7000	
25-MAR-2008 05:06	CHK	47.4000	

-- Multi-Test Full Report --

Description : quad 5b 1.5" beta %eff
 Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 50.000000 Upper Bound : 54.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 51.994267 Std Deviation : 0.690247

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 04:50	CHK	51.6000	
12-FEB-2008 05:12	CHK	50.6000	In
13-FEB-2008 05:12	CHK	51.6000	
14-FEB-2008 05:45	CHK	51.4000	
15-FEB-2008 04:46	CHK	51.3000	
18-FEB-2008 05:37	CHK	51.5000	
19-FEB-2008 04:56	CHK	50.9000	
20-FEB-2008 04:48	CHK	52.0000	
21-FEB-2008 04:44	CHK	51.8000	
22-FEB-2008 04:49	CHK	51.9000	

25-FEB-2008 04:51	CHK	51.3000			
26-FEB-2008 04:44	CHK	52.6000			
27-FEB-2008 04:48	CHK	51.0000			
28-FEB-2008 04:49	CHK	51.0000			
29-FEB-2008 04:47	CHK	51.3000			
3-MAR-2008 04:51	CHK	51.2000			
4-MAR-2008 04:50	CHK	50.8000			
5-MAR-2008 04:52	CHK	52.1000			
6-MAR-2008 05:12	CHK	51.4000			
7-MAR-2008 04:48	CHK	50.6000	In		
8-MAR-2008 08:07	CHK	50.6000	In		
10-MAR-2008 05:25	CHK	51.2000			
11-MAR-2008 05:40	CHK	51.6000			
12-MAR-2008 05:06	CHK	52.4000			
13-MAR-2008 05:04	CHK	51.5000			
14-MAR-2008 05:43	CHK	52.6000			
17-MAR-2008 06:26	CHK	53.4000	In		
18-MAR-2008 05:02	CHK	52.2000			
19-MAR-2008 04:55	CHK	51.7000			
20-MAR-2008 05:06	CHK	51.9000			
21-MAR-2008 05:02	CHK	51.8000			
24-MAR-2008 06:46	CHK	51.8000			
25-MAR-2008 05:06	CHK	52.7000			

-- Multi-Test Full Report --

Description : quad 5c 1.5" beta %eff
 Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 49.000000 Upper Bound : 53.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 51.110191 Std Deviation : 0.711642

Measurement Time Sample ID Sample Analyst Value LU|SD|UD|BS Rej

11-FEB-2008 04:50	CHK	50.5000			
12-FEB-2008 05:12	CHK	50.9000			
13-FEB-2008 05:12	CHK	51.1000			

14-FEB-2008 05:45 CHK 51.4000 | | |
 15-FEB-2008 04:46 CHK 50.2000 | | |

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time Sample ID Sample Analyst Value LU|SD|UD|BS Rej

 18-FEB-2008 05:37 CHK 50.6000 | | |
 19-FEB-2008 04:56 CHK 50.2000 | | |
 20-FEB-2008 04:48 CHK 51.1000 | | |
 21-FEB-2008 04:44 CHK 51.1000 | | |
 22-FEB-2008 04:49 CHK 51.7000 | | |
 25-FEB-2008 04:51 CHK 50.7000 | | |
 26-FEB-2008 04:44 CHK 50.6000 | | |
 27-FEB-2008 04:48 CHK 51.3000 | | |
 28-FEB-2008 04:49 CHK 50.3000 | | |
 29-FEB-2008 04:47 CHK 50.6000 | | |
 3-MAR-2008 04:51 CHK 50.3000 | | |
 4-MAR-2008 04:50 CHK 50.7000 | | |
 5-MAR-2008 04:52 CHK 51.1000 | | |
 6-MAR-2008 05:12 CHK 51.1000 | | |
 7-MAR-2008 04:48 CHK 51.3000 | | |
 8-MAR-2008 08:07 CHK 49.8000 | | |
 10-MAR-2008 05:25 CHK 50.0000 | | |
 11-MAR-2008 05:40 CHK 50.9000 | | |
 12-MAR-2008 05:06 CHK 50.0000 | | |
 13-MAR-2008 05:04 CHK 51.4000 | | |
 14-MAR-2008 05:43 CHK 51.0000 | | |
 17-MAR-2008 06:26 CHK 50.7000 | | |
 18-MAR-2008 05:02 CHK 50.3000 | | |
 19-MAR-2008 04:55 CHK 51.1000 | | |
 20-MAR-2008 05:06 CHK 51.2000 | | |
 21-MAR-2008 05:02 CHK 51.0000 | | |
 24-MAR-2008 06:46 CHK 49.9000 | | |
 25-MAR-2008 05:06 CHK 51.1000 | | |

-- Multi-Test Full Report --

Description : quad 5d 1.5" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 46.250000 Upper Bound : 52.250000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 49.508228 Std Deviation : 1.110400

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 04:50	CHK		50.2000		
12-FEB-2008 05:12	CHK		48.8000		
13-FEB-2008 05:12	CHK		49.7000		
14-FEB-2008 05:45	CHK		50.2000		
15-FEB-2008 04:46	CHK		49.8000		
18-FEB-2008 05:37	CHK		50.0000		
19-FEB-2008 04:56	CHK		49.7000		
20-FEB-2008 04:48	CHK		50.2000		
21-FEB-2008 04:44	CHK		49.3000		
22-FEB-2008 04:49	CHK		49.8000		

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
25-FEB-2008 04:51	CHK		49.1000		
26-FEB-2008 04:44	CHK		48.5000		
27-FEB-2008 04:48	CHK		49.4000		
28-FEB-2008 04:49	CHK		49.0000		
29-FEB-2008 04:47	CHK		50.2000		
3-MAR-2008 04:51	CHK		49.1000		
4-MAR-2008 04:50	CHK		50.2000		
5-MAR-2008 04:52	CHK		50.2000		
6-MAR-2008 05:12	CHK		50.0000		
7-MAR-2008 04:48	CHK		49.3000		
8-MAR-2008 08:07	CHK		46.7000	In	
10-MAR-2008 05:25	CHK		50.3000		
11-MAR-2008 05:40	CHK		48.6000		
12-MAR-2008 05:06	CHK		49.4000		
13-MAR-2008 05:04	CHK		50.8000		
14-MAR-2008 05:43	CHK		50.1000		
17-MAR-2008 06:26	CHK		49.7000		
18-MAR-2008 05:02	CHK		50.3000		
19-MAR-2008 04:55	CHK		49.6000		
20-MAR-2008 05:06	CHK		50.5000		
21-MAR-2008 05:02	CHK		47.1000	In	

24-MAR-2008 06:46 CHK 46.8000 |In| |
 25-MAR-2008 05:06 CHK 49.8000 | | |

Quality Assurance Report. Generated 26-MAR-2008 11:22:02.67

QA Filename : \$DISK1:[QUAD5.QA]BKG_15.QAF;2

-- Multi-Test Full Report --

Description : quad 5a 1.5" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.631483 Std Deviation : 0.047239

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 02:21	BKG		0.6200		
12-JAN-2008 03:04	BKG		0.6200		
12-JAN-2008 20:40	BKG		0.6100		
13-JAN-2008 21:48	BKG		0.6000		
15-JAN-2008 04:09	BKG		0.6300		
16-JAN-2008 02:31	BKG		0.6000		
17-JAN-2008 02:51	BKG		0.6300		
18-JAN-2008 03:38	BKG		0.6500		
19-JAN-2008 02:18	BKG		0.7000		
19-JAN-2008 15:44	BKG		0.7000		
20-JAN-2008 13:40	BKG		0.6500		
22-JAN-2008 02:15	BKG		0.7000		
23-JAN-2008 01:55	BKG		0.6400		
24-JAN-2008 03:37	BKG		0.7300	In	
25-JAN-2008 02:58	BKG		0.6800		
25-JAN-2008 23:31	BKG		0.6800		
27-JAN-2008 19:17	BKG		0.6500		
29-JAN-2008 01:42	BKG		0.7100		
30-JAN-2008 01:56	BKG		0.7400	In	
31-JAN-2008 02:16	BKG		0.6600		
1-FEB-2008 02:46	BKG		0.7400	In	
2-FEB-2008 00:10	BKG		0.6700		

2-FEB-2008 13:27	BKG	0.5900	
3-FEB-2008 18:37	BKG	0.7400	In
5-FEB-2008 02:41	BKG	0.7200	
5-FEB-2008 23:23	BKG	0.6300	
7-FEB-2008 03:54	BKG	0.6400	
8-FEB-2008 01:54	BKG	0.6400	
8-FEB-2008 23:21	BKG	0.7000	
9-FEB-2008 13:58	BKG	0.6700	
10-FEB-2008 19:27	BKG	0.6600	
12-FEB-2008 02:11	BKG	0.7100	
13-FEB-2008 02:08	BKG	0.5700	
14-FEB-2008 02:31	BKG	0.7100	
14-FEB-2008 23:17	BKG	0.6500	
16-FEB-2008 01:36	BKG	0.6800	
16-FEB-2008 15:12	BKG	0.7200	
17-FEB-2008 14:28	BKG	0.6900	
19-FEB-2008 02:08	BKG	0.7200	
19-FEB-2008 23:27	BKG	0.7400	In
21-FEB-2008 03:20	BKG	0.7300	In

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
22-FEB-2008 03:22	BKG	0.7100		
22-FEB-2008 23:18	BKG	0.7700	In	
23-FEB-2008 18:49	BKG	0.6800		
24-FEB-2008 19:17	BKG	0.8100	Ac	
26-FEB-2008 04:14	BKG	0.7000		
27-FEB-2008 01:51	BKG	0.8000	Ac	
28-FEB-2008 03:05	BKG	0.8100	Ac	
29-FEB-2008 03:58	BKG	0.6900		
29-FEB-2008 23:16	BKG	0.8200	Ac	
1-MAR-2008 12:16	BKG	0.8400	Ac	
2-MAR-2008 14:03	BKG	0.6200		
4-MAR-2008 02:44	BKG	0.8100	Ac	
5-MAR-2008 00:59	BKG	0.7700	In	
6-MAR-2008 00:46	BKG	0.8500	Ac	
6-MAR-2008 00:46	BKG	0.8000	Ac	
7-MAR-2008 02:47	BKG	0.7600	In	
7-MAR-2008 23:29	BKG	0.7800	Ac	
8-MAR-2008 17:08	BKG	0.7900	Ac	
9-MAR-2008 16:42	BKG	0.7500	In	
11-MAR-2008 03:02	BKG	0.7900	Ac	

12-MAR-2008 03:05	BKG	0.8000	Ac	
13-MAR-2008 02:53	BKG	1.1000	Ac	
14-MAR-2008 05:20	BKG	0.8300	Ac	
14-MAR-2008 23:35	BKG	0.8700	Ac	
15-MAR-2008 23:29	BKG	0.7400	In	
16-MAR-2008 16:08	BKG	0.7600	In	
18-MAR-2008 03:37	BKG	0.8300	Ac	
19-MAR-2008 02:47	BKG	0.8400	Ac	
20-MAR-2008 01:52	BKG	0.8900	Ac	
21-MAR-2008 04:16	BKG	0.8400	Ac	
21-MAR-2008 23:22	BKG	0.8100	Ac	
23-MAR-2008 19:56	BKG	0.8400	Ac	

-- Multi-Test Full Report --

Description : quad 5b 1.5" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.745714 Std Deviation : 0.049665

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 02:21	BKG		0.6500		
12-JAN-2008 03:04	BKG		0.7400		
12-JAN-2008 20:40	BKG		0.7500		
13-JAN-2008 21:48	BKG		0.7600		
15-JAN-2008 04:09	BKG		0.7700		
16-JAN-2008 02:31	BKG		0.8900	In	
17-JAN-2008 02:51	BKG		0.6800		
18-JAN-2008 03:38	BKG		0.7600		
19-JAN-2008 02:18	BKG		0.7500		

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
19-JAN-2008 15:44	BKG		0.7400		
20-JAN-2008 13:40	BKG		0.6900		
22-JAN-2008 02:15	BKG		0.7700		
23-JAN-2008 01:55	BKG		0.7700		

24-JAN-2008 03:37 BKG	0.8700	In	
25-JAN-2008 02:58 BKG	0.7400		
25-JAN-2008 23:31 BKG	0.8700	In	
27-JAN-2008 19:17 BKG	0.8600	In	
29-JAN-2008 01:42 BKG	0.8800	In	
30-JAN-2008 01:56 BKG	0.8400		
31-JAN-2008 02:16 BKG	0.8100		
1-FEB-2008 02:46 BKG	0.7600		
2-FEB-2008 00:10 BKG	0.7400		
2-FEB-2008 13:27 BKG	0.8200		
3-FEB-2008 18:37 BKG	0.8000		
5-FEB-2008 02:41 BKG	0.7500		
5-FEB-2008 23:23 BKG	0.8600	In	
7-FEB-2008 03:54 BKG	0.8600	In	
8-FEB-2008 01:54 BKG	0.8800	In	
8-FEB-2008 23:21 BKG	0.8400		
9-FEB-2008 13:58 BKG	0.7400		
10-FEB-2008 19:27 BKG	0.7900		
12-FEB-2008 02:11 BKG	0.7700		
13-FEB-2008 02:08 BKG	0.8000		
14-FEB-2008 02:31 BKG	0.8000		
14-FEB-2008 23:17 BKG	0.8700	In	
16-FEB-2008 01:36 BKG	0.7600		
16-FEB-2008 15:12 BKG	0.7800		
17-FEB-2008 14:28 BKG	0.8700	In	
19-FEB-2008 02:08 BKG	0.8300		
19-FEB-2008 23:27 BKG	0.8800	In	
21-FEB-2008 03:20 BKG	0.9000	Ac	
22-FEB-2008 03:22 BKG	0.8100		
22-FEB-2008 23:18 BKG	0.8800	In	
23-FEB-2008 18:49 BKG	0.9100	Ac	
24-FEB-2008 19:17 BKG	0.9400	Ac	
26-FEB-2008 04:14 BKG	0.8000		
27-FEB-2008 01:51 BKG	0.8300		
28-FEB-2008 03:05 BKG	0.9900	Ac	
29-FEB-2008 03:58 BKG	0.9000	Ac	
29-FEB-2008 23:16 BKG	0.8800	In	
1-MAR-2008 12:16 BKG	0.8400		
2-MAR-2008 14:03 BKG	0.8800	In	
4-MAR-2008 02:44 BKG	0.9200	Ac	
5-MAR-2008 00:59 BKG	0.9500	Ac	
6-MAR-2008 00:46 BKG	0.8200		
6-MAR-2008 00:46 BKG	0.8300		

7-MAR-2008 02:47	BKG	0.9100	Ac	
7-MAR-2008 23:29	BKG	0.9400	Ac	
8-MAR-2008 17:08	BKG	0.8200		
9-MAR-2008 16:42	BKG	0.8700	In	
11-MAR-2008 03:02	BKG	0.9100	Ac	
12-MAR-2008 03:05	BKG	0.9300	Ac	
13-MAR-2008 02:53	BKG	1.0400	Ac	
14-MAR-2008 05:20	BKG	0.9200	Ac	

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
14-MAR-2008 23:35	BKG		0.8900	In
15-MAR-2008 23:29	BKG		1.0300	Ac
16-MAR-2008 16:08	BKG		0.9400	Ac
18-MAR-2008 03:37	BKG		0.9500	Ac
19-MAR-2008 02:47	BKG		0.9100	Ac
20-MAR-2008 01:52	BKG		0.9900	Ac
21-MAR-2008 04:16	BKG		1.1000	Ac
21-MAR-2008 23:22	BKG		0.9000	Ac
23-MAR-2008 19:56	BKG		1.0400	Ac

-- Multi-Test Full Report --

Description : quad 5c 1.5" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.706209 Std Deviation : 0.052458

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:21	BKG		0.7300	
12-JAN-2008 03:04	BKG		0.7400	
12-JAN-2008 20:40	BKG		0.7900	
13-JAN-2008 21:48	BKG		0.8000	
15-JAN-2008 04:09	BKG		0.7200	
16-JAN-2008 02:31	BKG		0.8200	In
17-JAN-2008 02:51	BKG		0.7200	
18-JAN-2008 03:38	BKG		0.7000	

19-JAN-2008 02:18	BKG	0.7200	
19-JAN-2008 15:44	BKG	0.7100	
20-JAN-2008 13:40	BKG	0.7000	
22-JAN-2008 02:15	BKG	0.8100	
23-JAN-2008 01:55	BKG	0.7300	
24-JAN-2008 03:37	BKG	0.7100	
25-JAN-2008 02:58	BKG	0.7500	
25-JAN-2008 23:31	BKG	0.7800	
27-JAN-2008 19:17	BKG	0.8200	In
29-JAN-2008 01:42	BKG	0.7500	
30-JAN-2008 01:56	BKG	0.7400	
31-JAN-2008 02:16	BKG	0.7200	
1-FEB-2008 02:46	BKG	0.7700	
2-FEB-2008 00:10	BKG	0.7900	
2-FEB-2008 13:27	BKG	0.7500	
3-FEB-2008 18:37	BKG	0.7200	
5-FEB-2008 02:41	BKG	0.6600	
5-FEB-2008 23:23	BKG	0.7700	
7-FEB-2008 03:54	BKG	0.7700	
8-FEB-2008 01:54	BKG	0.7700	
8-FEB-2008 23:21	BKG	0.6300	
9-FEB-2008 13:58	BKG	0.7300	
10-FEB-2008 19:27	BKG	0.7000	
12-FEB-2008 02:11	BKG	0.6600	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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13-FEB-2008 02:08	BKG	0.6700	
14-FEB-2008 02:31	BKG	0.8100	
14-FEB-2008 23:17	BKG	0.7100	
16-FEB-2008 01:36	BKG	0.7500	
16-FEB-2008 15:12	BKG	0.7600	
17-FEB-2008 14:28	BKG	0.6700	
19-FEB-2008 02:08	BKG	0.6600	
19-FEB-2008 23:27	BKG	0.7100	
21-FEB-2008 03:20	BKG	0.7900	
22-FEB-2008 03:22	BKG	0.7500	
22-FEB-2008 23:18	BKG	0.7100	
23-FEB-2008 18:49	BKG	0.7000	
24-FEB-2008 19:17	BKG	0.7600	
26-FEB-2008 04:14	BKG	0.7500	
27-FEB-2008 01:51	BKG	0.6000	In

28-FEB-2008 03:05	BKG	0.7200	
29-FEB-2008 03:58	BKG	0.8000	
29-FEB-2008 23:16	BKG	0.8200	In
1-MAR-2008 12:16	BKG	0.7000	
2-MAR-2008 14:03	BKG	0.6400	
4-MAR-2008 02:44	BKG	0.6000	In
5-MAR-2008 00:59	BKG	0.6500	
6-MAR-2008 00:46	BKG	0.8000	
6-MAR-2008 00:46	BKG	0.8300	In
7-MAR-2008 02:47	BKG	0.7700	
7-MAR-2008 23:29	BKG	0.7000	
8-MAR-2008 17:08	BKG	0.8100	
9-MAR-2008 16:42	BKG	0.7000	
11-MAR-2008 03:02	BKG	0.8200	In
12-MAR-2008 03:05	BKG	0.7800	
13-MAR-2008 02:53	BKG	0.9000	Ac
14-MAR-2008 05:20	BKG	0.7400	
14-MAR-2008 23:35	BKG	0.7200	
15-MAR-2008 23:29	BKG	0.7100	
16-MAR-2008 16:08	BKG	0.7800	
18-MAR-2008 03:37	BKG	0.7400	
19-MAR-2008 02:47	BKG	0.7000	
20-MAR-2008 01:52	BKG	0.6600	
21-MAR-2008 04:16	BKG	0.7200	
21-MAR-2008 23:22	BKG	0.6700	
23-MAR-2008 19:56	BKG	0.8300	In

-- Multi-Test Full Report --

Description : quad 5d 1.5" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.633681 Std Deviation : 0.043699

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-JAN-2008 02:21	BKG	0.7000	
12-JAN-2008 03:04	BKG	0.6100	
12-JAN-2008 20:40	BKG	0.6600	
13-JAN-2008 21:48	BKG	0.5900	
15-JAN-2008 04:09	BKG	0.5800	
16-JAN-2008 02:31	BKG	0.7700	Ac
17-JAN-2008 02:51	BKG	0.7500	In
18-JAN-2008 03:38	BKG	0.6600	
19-JAN-2008 02:18	BKG	0.6600	
19-JAN-2008 15:44	BKG	0.7300	In
20-JAN-2008 13:40	BKG	0.5300	In
22-JAN-2008 02:15	BKG	0.7000	
23-JAN-2008 01:55	BKG	0.6500	
24-JAN-2008 03:37	BKG	0.7300	In
25-JAN-2008 02:58	BKG	0.5800	
25-JAN-2008 23:31	BKG	0.7400	In
27-JAN-2008 19:17	BKG	0.7000	
29-JAN-2008 01:42	BKG	0.7200	
30-JAN-2008 01:56	BKG	0.6500	
31-JAN-2008 02:16	BKG	0.6900	
1-FEB-2008 02:46	BKG	0.7000	
2-FEB-2008 00:10	BKG	0.6900	
2-FEB-2008 13:27	BKG	0.7200	
3-FEB-2008 18:37	BKG	0.6600	
5-FEB-2008 02:41	BKG	0.7200	
5-FEB-2008 23:23	BKG	0.6800	
7-FEB-2008 03:54	BKG	0.7000	
8-FEB-2008 01:54	BKG	0.6800	
8-FEB-2008 23:21	BKG	0.6500	
9-FEB-2008 13:58	BKG	0.6500	
10-FEB-2008 19:27	BKG	0.7600	In
12-FEB-2008 02:11	BKG	0.6600	
13-FEB-2008 02:08	BKG	0.7500	In
14-FEB-2008 02:31	BKG	0.6400	
14-FEB-2008 23:17	BKG	0.6500	
16-FEB-2008 01:36	BKG	0.6500	
16-FEB-2008 15:12	BKG	0.7000	
17-FEB-2008 14:28	BKG	0.7900	Ac
19-FEB-2008 02:08	BKG	0.7100	
19-FEB-2008 23:27	BKG	0.6900	
21-FEB-2008 03:20	BKG	0.7200	
22-FEB-2008 03:22	BKG	0.7500	In

22-FEB-2008 23:18	BKG	0.7100	
23-FEB-2008 18:49	BKG	0.6700	
24-FEB-2008 19:17	BKG	0.6700	
26-FEB-2008 04:14	BKG	0.5900	
27-FEB-2008 01:51	BKG	0.6900	
28-FEB-2008 03:05	BKG	0.6600	
29-FEB-2008 03:58	BKG	0.6700	
29-FEB-2008 23:16	BKG	0.6600	
1-MAR-2008 12:16	BKG	0.6600	
2-MAR-2008 14:03	BKG	0.7000	
4-MAR-2008 02:44	BKG	0.6500	
5-MAR-2008 00:59	BKG	0.7300	In
6-MAR-2008 00:46	BKG	0.7400	In

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2008 00:46	BKG		0.7000	
7-MAR-2008 02:47	BKG		0.6300	
7-MAR-2008 23:29	BKG		0.6900	
8-MAR-2008 17:08	BKG		0.7300	In
9-MAR-2008 16:42	BKG		0.6300	
11-MAR-2008 03:02	BKG		0.7600	In
12-MAR-2008 03:05	BKG		0.7400	In
13-MAR-2008 02:53	BKG		1.0500	Ac
14-MAR-2008 05:20	BKG		0.6500	
14-MAR-2008 23:35	BKG		0.7000	
15-MAR-2008 23:29	BKG		0.7300	In
16-MAR-2008 16:08	BKG		0.7200	
18-MAR-2008 03:37	BKG		0.7100	
19-MAR-2008 02:47	BKG		0.6000	
20-MAR-2008 01:52	BKG		0.6800	
21-MAR-2008 04:16	BKG		0.7300	In
21-MAR-2008 23:22	BKG		0.6700	
23-MAR-2008 19:56	BKG		0.7900	Ac

Quality Assurance Report.

Generated 26-MAR-2008 10:16:54.98

QA Filename : \$DISK1:[QUAD4.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 4a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 45.000000 Upper Bound : 49.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 47.033131 Std Deviation : 0.670365

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 04:39	CHK		46.1000		
12-JAN-2008 06:31	CHK		46.1000		
13-JAN-2008 09:01	CHK		45.6000	In	
14-JAN-2008 04:54	CHK		46.7000		
15-JAN-2008 04:44	CHK		47.0000		
16-JAN-2008 04:44	CHK		46.6000		
17-JAN-2008 04:40	CHK		46.5000		
18-JAN-2008 04:50	CHK		46.8000		
19-JAN-2008 05:07	CHK		46.4000		
21-JAN-2008 05:37	CHK		46.5000		
22-JAN-2008 04:47	CHK		46.5000		
23-JAN-2008 04:46	CHK		46.4000		
24-JAN-2008 04:49	CHK		46.6000		
25-JAN-2008 04:58	CHK		46.6000		
28-JAN-2008 10:20	CHK		47.0000		
29-JAN-2008 05:01	CHK		47.5000		
30-JAN-2008 04:44	CHK		47.3000		
31-JAN-2008 04:28	CHK		46.9000		
1-FEB-2008 04:36	CHK		47.5000		
2-FEB-2008 04:45	CHK		47.1000		
4-FEB-2008 05:28	CHK		46.3000		

5-FEB-2008 04:50	CHK	47.6000	
6-FEB-2008 04:43	CHK	47.5000	
7-FEB-2008 04:51	CHK	46.2000	
8-FEB-2008 04:50	CHK	46.7000	
11-FEB-2008 04:45	CHK	46.7000	
12-FEB-2008 05:07	CHK	47.1000	
13-FEB-2008 05:12	CHK	46.8000	
14-FEB-2008 05:44	CHK	45.6000	In
15-FEB-2008 04:41	CHK	47.3000	
16-FEB-2008 06:17	CHK	46.9000	
18-FEB-2008 05:32	CHK	45.9000	
19-FEB-2008 04:56	CHK	47.2000	
20-FEB-2008 04:43	CHK	46.6000	
21-FEB-2008 04:48	CHK	47.4000	
22-FEB-2008 04:49	CHK	48.1000	
23-FEB-2008 09:32	CHK	46.9000	
25-FEB-2008 04:51	CHK	47.1000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
26-FEB-2008 04:44	CHK		46.7000	
27-FEB-2008 04:44	CHK		47.9000	
28-FEB-2008 04:49	CHK		47.0000	
29-FEB-2008 04:47	CHK		46.9000	
3-MAR-2008 04:56	CHK		46.9000	
4-MAR-2008 04:49	CHK		47.2000	
5-MAR-2008 04:57	CHK		46.6000	
6-MAR-2008 05:12	CHK		47.0000	
7-MAR-2008 04:47	CHK		47.4000	
8-MAR-2008 08:07	CHK		46.1000	
10-MAR-2008 05:21	CHK		46.3000	
11-MAR-2008 05:39	CHK		46.5000	
12-MAR-2008 05:06	CHK		46.2000	
13-MAR-2008 05:04	CHK		47.4000	
14-MAR-2008 05:38	CHK		47.1000	
17-MAR-2008 06:26	CHK		46.6000	
18-MAR-2008 05:02	CHK		47.5000	
19-MAR-2008 04:50	CHK		47.5000	
20-MAR-2008 05:06	CHK		47.1000	
21-MAR-2008 05:02	CHK		46.5000	

-- Multi-Test Full Report --

Description : quad 4b 1" beta %eff
 Parameter Units : percent Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 42.500000 Upper Bound : 46.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 44.585278 Std Deviation : 0.701518

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 04:39	CHK		44.4000	
12-JAN-2008 06:31	CHK		44.5000	
13-JAN-2008 09:01	CHK		44.6000	
14-JAN-2008 04:54	CHK		43.8000	
15-JAN-2008 04:44	CHK		44.9000	
16-JAN-2008 04:44	CHK		44.1000	
17-JAN-2008 04:40	CHK		44.0000	
18-JAN-2008 04:50	CHK		44.6000	
19-JAN-2008 05:07	CHK		45.0000	
21-JAN-2008 05:37	CHK		44.5000	
22-JAN-2008 04:47	CHK		43.7000	
23-JAN-2008 04:46	CHK		44.0000	
24-JAN-2008 04:49	CHK		44.4000	
25-JAN-2008 04:58	CHK		43.7000	
28-JAN-2008 10:20	CHK		44.7000	
29-JAN-2008 05:01	CHK		44.5000	
30-JAN-2008 04:44	CHK		44.1000	
31-JAN-2008 04:28	CHK		44.1000	

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-FEB-2008 04:36	CHK		44.0000	
2-FEB-2008 04:45	CHK		44.8000	
4-FEB-2008 05:28	CHK		44.3000	
5-FEB-2008 04:50	CHK		44.6000	
6-FEB-2008 04:43	CHK		44.4000	
7-FEB-2008 04:51	CHK		44.6000	

8-FEB-2008 04:50	CHK	45.5000	
11-FEB-2008 04:45	CHK	45.3000	
12-FEB-2008 05:07	CHK	43.2000	
13-FEB-2008 05:12	CHK	45.0000	
14-FEB-2008 05:44	CHK	43.2000	
15-FEB-2008 04:41	CHK	43.6000	
16-FEB-2008 06:17	CHK	43.8000	
18-FEB-2008 05:32	CHK	43.6000	
19-FEB-2008 04:56	CHK	44.5000	
20-FEB-2008 04:43	CHK	44.8000	
21-FEB-2008 04:48	CHK	44.9000	
22-FEB-2008 04:49	CHK	45.1000	
23-FEB-2008 09:32	CHK	43.7000	
25-FEB-2008 04:51	CHK	44.0000	
26-FEB-2008 04:44	CHK	44.4000	
27-FEB-2008 04:44	CHK	45.1000	
28-FEB-2008 04:49	CHK	44.3000	
29-FEB-2008 04:47	CHK	44.6000	
3-MAR-2008 04:56	CHK	44.3000	
4-MAR-2008 04:49	CHK	45.3000	
5-MAR-2008 04:57	CHK	44.5000	
6-MAR-2008 05:12	CHK	44.0000	
7-MAR-2008 04:47	CHK	44.0000	
8-MAR-2008 08:07	CHK	45.3000	
10-MAR-2008 05:21	CHK	44.1000	
11-MAR-2008 05:39	CHK	44.2000	
12-MAR-2008 05:06	CHK	43.0000	In
13-MAR-2008 05:04	CHK	44.7000	
14-MAR-2008 05:38	CHK	44.6000	
17-MAR-2008 06:26	CHK	44.6000	
18-MAR-2008 05:02	CHK	44.8000	
19-MAR-2008 04:50	CHK	44.3000	
20-MAR-2008 05:06	CHK	45.2000	
21-MAR-2008 05:02	CHK	44.7000	

-- Multi-Test Full Report --

Description : quad 4c 1" beta %eff
Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 40.500000 Upper Bound : 45.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 43.111656 Std Deviation : 0.835508

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-JAN-2008 04:39	CHK		43.2000		
12-JAN-2008 06:31	CHK		42.2000		
13-JAN-2008 09:01	CHK		41.7000		
14-JAN-2008 04:54	CHK		42.8000		
15-JAN-2008 04:44	CHK		42.5000		
16-JAN-2008 04:44	CHK		41.8000		
17-JAN-2008 04:40	CHK		43.5000		
18-JAN-2008 04:50	CHK		43.2000		
19-JAN-2008 05:07	CHK		42.4000		
21-JAN-2008 05:37	CHK		42.7000		
22-JAN-2008 04:47	CHK		42.8000		
23-JAN-2008 04:46	CHK		43.5000		
24-JAN-2008 04:49	CHK		43.6000		
25-JAN-2008 04:58	CHK		42.7000		
28-JAN-2008 10:20	CHK		43.2000		
29-JAN-2008 05:01	CHK		43.4000		
30-JAN-2008 04:44	CHK		44.1000		
31-JAN-2008 04:28	CHK		43.0000		
1-FEB-2008 04:36	CHK		43.1000		
2-FEB-2008 04:45	CHK		44.5000		
4-FEB-2008 05:28	CHK		43.1000		
5-FEB-2008 04:50	CHK		43.1000		
6-FEB-2008 04:43	CHK		42.9000		
7-FEB-2008 04:51	CHK		43.0000		
8-FEB-2008 04:50	CHK		42.9000		
11-FEB-2008 04:45	CHK		43.3000		
12-FEB-2008 05:07	CHK		42.4000		
13-FEB-2008 05:12	CHK		42.6000		
14-FEB-2008 05:44	CHK		43.0000		
15-FEB-2008 04:41	CHK		43.1000		
16-FEB-2008 06:17	CHK		42.7000		

18-FEB-2008 05:32	CHK	43.3000			
19-FEB-2008 04:56	CHK	42.7000			
20-FEB-2008 04:43	CHK	43.1000			
21-FEB-2008 04:48	CHK	42.9000			
22-FEB-2008 04:49	CHK	42.9000			
23-FEB-2008 09:32	CHK	44.1000			
25-FEB-2008 04:51	CHK	42.5000			
26-FEB-2008 04:44	CHK	43.4000			
27-FEB-2008 04:44	CHK	42.9000			
28-FEB-2008 04:49	CHK	42.8000			
29-FEB-2008 04:47	CHK	42.9000			
3-MAR-2008 04:56	CHK	43.2000			
4-MAR-2008 04:49	CHK	43.4000			
5-MAR-2008 04:57	CHK	42.8000			
6-MAR-2008 05:12	CHK	41.9000			
7-MAR-2008 04:47	CHK	42.7000			
8-MAR-2008 08:07	CHK	43.0000			
10-MAR-2008 05:21	CHK	42.1000			
11-MAR-2008 05:39	CHK	43.2000			
12-MAR-2008 05:06	CHK	42.5000			
13-MAR-2008 05:04	CHK	43.4000			
14-MAR-2008 05:38	CHK	43.3000			
17-MAR-2008 06:26	CHK	43.3000			
18-MAR-2008 05:02	CHK	43.1000			

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
19-MAR-2008 04:50	CHK		43.3000		
20-MAR-2008 05:06	CHK		42.7000		
21-MAR-2008 05:02	CHK		42.1000		

-- Multi-Test Full Report --

Description : quad 4d 1" beta %eff
 Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 41.500000 Upper Bound : 45.750000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 43.676220 Std Deviation : 0.681559

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-JAN-2008 04:39	CHK		43.9000	
12-JAN-2008 06:31	CHK		43.1000	
13-JAN-2008 09:01	CHK		42.2000	In
14-JAN-2008 04:54	CHK		43.9000	
15-JAN-2008 04:44	CHK		44.1000	
16-JAN-2008 04:44	CHK		43.0000	
17-JAN-2008 04:40	CHK		43.9000	
18-JAN-2008 04:50	CHK		44.1000	
19-JAN-2008 05:07	CHK		44.5000	
21-JAN-2008 05:37	CHK		42.2000	In
22-JAN-2008 04:47	CHK		42.8000	
23-JAN-2008 04:46	CHK		42.5000	
24-JAN-2008 04:49	CHK		43.6000	
25-JAN-2008 04:58	CHK		44.1000	
28-JAN-2008 10:20	CHK		43.5000	
29-JAN-2008 05:01	CHK		43.5000	
30-JAN-2008 04:44	CHK		44.0000	
31-JAN-2008 04:28	CHK		43.7000	
1-FEB-2008 04:36	CHK		43.7000	
2-FEB-2008 04:45	CHK		43.4000	
4-FEB-2008 05:28	CHK		43.4000	
5-FEB-2008 04:50	CHK		43.7000	
6-FEB-2008 04:43	CHK		44.4000	
7-FEB-2008 04:51	CHK		42.9000	
8-FEB-2008 04:50	CHK		44.0000	
11-FEB-2008 04:45	CHK		43.9000	
12-FEB-2008 05:07	CHK		42.9000	
13-FEB-2008 05:12	CHK		43.6000	
14-FEB-2008 05:44	CHK		43.5000	
15-FEB-2008 04:41	CHK		43.6000	
16-FEB-2008 06:17	CHK		43.9000	
18-FEB-2008 05:32	CHK		44.0000	
19-FEB-2008 04:56	CHK		43.5000	
20-FEB-2008 04:43	CHK		43.9000	
21-FEB-2008 04:48	CHK		44.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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22-FEB-2008 04:49  CHK          43.9000  | | |
23-FEB-2008 09:32  CHK          43.3000  | | |
25-FEB-2008 04:51  CHK          43.0000  | | |
26-FEB-2008 04:44  CHK          43.1000  | | |
27-FEB-2008 04:44  CHK          44.4000  | | |
28-FEB-2008 04:49  CHK          43.3000  | | |
29-FEB-2008 04:47  CHK          44.0000  | | |
 3-MAR-2008 04:56  CHK          43.0000  | | |
 4-MAR-2008 04:49  CHK          43.5000  | | |
 5-MAR-2008 04:57  CHK          43.2000  | | |
 6-MAR-2008 05:12  CHK          43.5000  | | |
 7-MAR-2008 04:47  CHK          42.8000  | | |
 8-MAR-2008 08:07  CHK          43.2000  | | |
10-MAR-2008 05:21  CHK          43.1000  | | |
11-MAR-2008 05:39  CHK          44.0000  | | |
12-MAR-2008 05:06  CHK          43.4000  | | |
13-MAR-2008 05:04  CHK          44.0000  | | |
14-MAR-2008 05:38  CHK          44.8000  | | |
17-MAR-2008 06:26  CHK          44.9000  | | |
18-MAR-2008 05:02  CHK          43.7000  | | |
19-MAR-2008 04:50  CHK          45.0000  | | |
20-MAR-2008 05:06  CHK          43.9000  | | |
21-MAR-2008 05:02  CHK          43.1000  | | |

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Quality Assurance Report.

Generated 26-MAR-2008 10:16:56.26

QA Filename : \$DISK1:[QUAD4.QA]BKG_1.QAF;2

-- Multi-Test Full Report --

Description : quad 4a 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 0.284807 Std Deviation : 0.044989

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Measurement Time  Sample ID  Sample Analyst  Value  LU|SD|UD|BS Rej
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```

11-JAN-2008 02:20	BKG	0.3000			
12-JAN-2008 03:00	BKG	0.2600			
12-JAN-2008 20:40	BKG	0.3000			
13-JAN-2008 21:38	BKG	0.3100			
15-JAN-2008 02:38	BKG	0.2500			
16-JAN-2008 02:26	BKG	0.3100			
17-JAN-2008 02:56	BKG	0.2600			
18-JAN-2008 02:07	BKG	0.3000			
19-JAN-2008 02:18	BKG	0.3400			
19-JAN-2008 15:43	BKG	0.3000			
20-JAN-2008 13:40	BKG	0.2700			
22-JAN-2008 02:15	BKG	0.2900			
23-JAN-2008 01:56	BKG	0.2900			
24-JAN-2008 03:37	BKG	0.2600			
25-JAN-2008 02:58	BKG	0.2600			
25-JAN-2008 23:31	BKG	0.3000			
27-JAN-2008 19:17	BKG	0.3500			
29-JAN-2008 01:42	BKG	0.2800			
30-JAN-2008 01:56	BKG	0.2900			
31-JAN-2008 02:16	BKG	0.2700			
1-FEB-2008 02:34	BKG	0.3000			
2-FEB-2008 00:10	BKG	0.3300			
2-FEB-2008 13:26	BKG	0.3200			
3-FEB-2008 18:42	BKG	0.3000			
5-FEB-2008 02:46	BKG	0.2900			
6-FEB-2008 01:44	BKG	0.3100			
7-FEB-2008 01:22	BKG	0.3600			
8-FEB-2008 01:54	BKG	0.3000			
8-FEB-2008 23:20	BKG	0.2600			
9-FEB-2008 13:58	BKG	0.3000			
10-FEB-2008 19:26	BKG	0.2800			
12-FEB-2008 02:11	BKG	0.2100			
13-FEB-2008 02:08	BKG	0.2200			
14-FEB-2008 02:26	BKG	0.2900			
14-FEB-2008 23:17	BKG	0.3000			
16-FEB-2008 01:36	BKG	0.2600			
16-FEB-2008 15:12	BKG	0.2400			
17-FEB-2008 14:28	BKG	0.2800			
19-FEB-2008 01:53	BKG	0.2800			
19-FEB-2008 23:27	BKG	0.3000			
21-FEB-2008 02:19	BKG	0.2400			

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
22-FEB-2008 03:22	BKG		0.2900	
22-FEB-2008 23:18	BKG		0.2500	
23-FEB-2008 18:49	BKG		0.4600	Ac
24-FEB-2008 19:17	BKG		0.2900	
26-FEB-2008 04:14	BKG		0.3100	
27-FEB-2008 01:51	BKG		0.2900	
28-FEB-2008 03:05	BKG		0.3300	
29-FEB-2008 03:58	BKG		0.2700	
29-FEB-2008 23:16	BKG		0.2600	
1-MAR-2008 12:16	BKG		0.3100	
2-MAR-2008 14:03	BKG		0.3100	
4-MAR-2008 02:44	BKG		0.2600	
5-MAR-2008 01:24	BKG		0.2400	
6-MAR-2008 03:42	BKG		0.4000	In
7-MAR-2008 02:47	BKG		0.3500	
7-MAR-2008 23:29	BKG		0.2800	
8-MAR-2008 17:08	BKG		0.3500	
9-MAR-2008 16:41	BKG		0.2800	
11-MAR-2008 00:36	BKG		0.2700	
12-MAR-2008 03:03	BKG		0.3200	
13-MAR-2008 02:53	BKG		0.6400	Ac
14-MAR-2008 03:59	BKG		0.3200	
14-MAR-2008 23:35	BKG		0.3000	
15-MAR-2008 23:29	BKG		0.3700	
16-MAR-2008 16:08	BKG		0.2300	
18-MAR-2008 03:37	BKG		0.3200	
19-MAR-2008 03:26	BKG		0.3300	
20-MAR-2008 01:52	BKG		0.3100	
21-MAR-2008 03:33	BKG		0.3700	
21-MAR-2008 23:22	BKG		0.2900	
23-MAR-2008 19:56	BKG		0.3800	In

-- Multi-Test Full Report --

Description : quad 4b 1" beta bkg, cpm
Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 0.271823 Std Deviation : 0.039784

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:20	BKG		0.3200	
12-JAN-2008 03:00	BKG		0.2800	
12-JAN-2008 20:40	BKG		0.3600	In
13-JAN-2008 21:38	BKG		0.2500	
15-JAN-2008 02:38	BKG		0.3000	
16-JAN-2008 02:26	BKG		0.2300	
17-JAN-2008 02:56	BKG		0.2400	
18-JAN-2008 02:07	BKG		0.2700	
19-JAN-2008 02:18	BKG		0.2200	
19-JAN-2008 15:43	BKG		0.2900	

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-JAN-2008 13:40	BKG		0.2600	
22-JAN-2008 02:15	BKG		0.3000	
23-JAN-2008 01:56	BKG		0.2900	
24-JAN-2008 03:37	BKG		0.2400	
25-JAN-2008 02:58	BKG		0.3300	
25-JAN-2008 23:31	BKG		0.2400	
27-JAN-2008 19:17	BKG		0.2900	
29-JAN-2008 01:42	BKG		0.2800	
30-JAN-2008 01:56	BKG		0.3000	
31-JAN-2008 02:16	BKG		0.2700	
1-FEB-2008 02:34	BKG		0.3100	
2-FEB-2008 00:10	BKG		0.2900	
2-FEB-2008 13:26	BKG		0.3400	
3-FEB-2008 18:42	BKG		0.3100	
5-FEB-2008 02:46	BKG		0.2900	
6-FEB-2008 01:44	BKG		0.2700	
7-FEB-2008 01:22	BKG		0.3200	
8-FEB-2008 01:54	BKG		0.2500	
8-FEB-2008 23:20	BKG		0.3000	
9-FEB-2008 13:58	BKG		0.2900	
10-FEB-2008 19:26	BKG		0.3300	
12-FEB-2008 02:11	BKG		0.3500	
13-FEB-2008 02:08	BKG		0.3400	
14-FEB-2008 02:26	BKG		0.3700	In
14-FEB-2008 23:17	BKG		0.3000	

16-FEB-2008 01:36	BKG	0.2700	
16-FEB-2008 15:12	BKG	0.3300	
17-FEB-2008 14:28	BKG	0.2500	
19-FEB-2008 01:53	BKG	0.3600	In
19-FEB-2008 23:27	BKG	0.3100	
21-FEB-2008 02:19	BKG	0.3800	In
22-FEB-2008 03:22	BKG	0.3500	
22-FEB-2008 23:18	BKG	0.3900	In
23-FEB-2008 18:49	BKG	0.3500	
24-FEB-2008 19:17	BKG	0.3300	
26-FEB-2008 04:14	BKG	0.3000	
27-FEB-2008 01:51	BKG	0.3300	
28-FEB-2008 03:05	BKG	0.3300	
29-FEB-2008 03:58	BKG	0.3100	
29-FEB-2008 23:16	BKG	0.3400	
1-MAR-2008 12:16	BKG	0.3100	
2-MAR-2008 14:03	BKG	0.3600	In
4-MAR-2008 02:44	BKG	0.3600	In
5-MAR-2008 01:24	BKG	0.3700	In
6-MAR-2008 03:42	BKG	0.3400	
7-MAR-2008 02:47	BKG	0.3300	
7-MAR-2008 23:29	BKG	0.3300	
8-MAR-2008 17:08	BKG	0.3700	In
9-MAR-2008 16:41	BKG	0.3300	
11-MAR-2008 00:36	BKG	0.3900	In
12-MAR-2008 03:03	BKG	0.4100	Ac
13-MAR-2008 02:53	BKG	0.4000	Ac
14-MAR-2008 03:59	BKG	0.4000	Ac
14-MAR-2008 23:35	BKG	0.4200	Ac
15-MAR-2008 23:29	BKG	0.4100	Ac

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
16-MAR-2008 16:08	BKG		0.3700	In
18-MAR-2008 03:37	BKG		0.4200	Ac
19-MAR-2008 03:26	BKG		0.3500	
20-MAR-2008 01:52	BKG		0.4100	Ac
21-MAR-2008 03:33	BKG		0.3800	In
21-MAR-2008 23:22	BKG		0.4300	Ac
23-MAR-2008 19:56	BKG		0.4400	Ac

-- Multi-Test Full Report --

Description : quad 4c 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.286685 Std Deviation : 0.041820

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:20	BKG		0.3700	
12-JAN-2008 03:00	BKG		0.3300	
12-JAN-2008 20:40	BKG		0.3400	
13-JAN-2008 21:38	BKG		0.2900	
15-JAN-2008 02:38	BKG		0.2500	
16-JAN-2008 02:26	BKG		0.2600	
17-JAN-2008 02:56	BKG		0.3600	
18-JAN-2008 02:07	BKG		0.3900	In
19-JAN-2008 02:18	BKG		0.3000	
19-JAN-2008 15:43	BKG		0.3100	
20-JAN-2008 13:40	BKG		0.2900	
22-JAN-2008 02:15	BKG		0.3300	
23-JAN-2008 01:56	BKG		0.2900	
24-JAN-2008 03:37	BKG		0.3100	
25-JAN-2008 02:58	BKG		0.3400	
25-JAN-2008 23:31	BKG		0.3000	
27-JAN-2008 19:17	BKG		0.2800	
29-JAN-2008 01:42	BKG		0.3600	
30-JAN-2008 01:56	BKG		0.3300	
31-JAN-2008 02:16	BKG		0.2900	
1-FEB-2008 02:34	BKG		0.3000	
2-FEB-2008 00:10	BKG		0.2600	
2-FEB-2008 13:26	BKG		0.3400	
3-FEB-2008 18:42	BKG		0.3300	
5-FEB-2008 02:46	BKG		0.3000	
6-FEB-2008 01:44	BKG		0.3500	
7-FEB-2008 01:22	BKG		0.3500	
8-FEB-2008 01:54	BKG		0.2800	
8-FEB-2008 23:20	BKG		0.2900	
9-FEB-2008 13:58	BKG		0.2500	
10-FEB-2008 19:26	BKG		0.2900	

12-FEB-2008 02:11	BKG	0.2600	
13-FEB-2008 02:08	BKG	0.3200	
14-FEB-2008 02:26	BKG	0.3100	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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14-FEB-2008 23:17	BKG		0.2700	
16-FEB-2008 01:36	BKG		0.3200	
16-FEB-2008 15:12	BKG		0.3200	
17-FEB-2008 14:28	BKG		0.2800	
19-FEB-2008 01:53	BKG		0.2200	
19-FEB-2008 23:27	BKG		0.3900	In
21-FEB-2008 02:19	BKG		0.3400	
22-FEB-2008 03:22	BKG		0.2700	
22-FEB-2008 23:18	BKG		0.2900	
23-FEB-2008 18:49	BKG		0.3300	
24-FEB-2008 19:17	BKG		0.2400	
26-FEB-2008 04:14	BKG		0.2900	
27-FEB-2008 01:51	BKG		0.2800	
28-FEB-2008 03:05	BKG		0.3200	
29-FEB-2008 03:58	BKG		0.2700	
29-FEB-2008 23:16	BKG		0.2900	
1-MAR-2008 12:16	BKG		0.2400	
2-MAR-2008 14:03	BKG		0.2300	
4-MAR-2008 02:44	BKG		0.2900	
5-MAR-2008 01:24	BKG		0.2700	
6-MAR-2008 03:42	BKG		0.3200	
7-MAR-2008 02:47	BKG		0.3300	
7-MAR-2008 23:29	BKG		0.2700	
8-MAR-2008 17:08	BKG		0.2800	
9-MAR-2008 16:41	BKG		0.2100	
11-MAR-2008 00:36	BKG		0.2600	
12-MAR-2008 03:03	BKG		0.3100	
13-MAR-2008 02:53	BKG		0.4100	In
14-MAR-2008 03:59	BKG		0.2400	
14-MAR-2008 23:35	BKG		0.2700	
15-MAR-2008 23:29	BKG		0.2700	
16-MAR-2008 16:08	BKG		0.3200	
18-MAR-2008 03:37	BKG		0.3300	
19-MAR-2008 03:26	BKG		0.3000	
20-MAR-2008 01:52	BKG		0.2400	
21-MAR-2008 03:33	BKG		0.3300	

21-MAR-2008 23:22 BKG 0.2800 | | |
 23-MAR-2008 19:56 BKG 0.3700 | | |

-- Multi-Test Full Report --

Description : quad 4d 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.285525 Std Deviation : 0.040075

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:20	BKG		0.2700	
12-JAN-2008 03:00	BKG		0.2800	
12-JAN-2008 20:40	BKG		0.2800	

Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-JAN-2008 21:38	BKG		0.3200	
15-JAN-2008 02:38	BKG		0.2700	
16-JAN-2008 02:26	BKG		0.3100	
17-JAN-2008 02:56	BKG		0.2900	
18-JAN-2008 02:07	BKG		0.2600	
19-JAN-2008 02:18	BKG		0.2900	
19-JAN-2008 15:43	BKG		0.2600	
20-JAN-2008 13:40	BKG		0.2900	
22-JAN-2008 02:15	BKG		0.3000	
23-JAN-2008 01:56	BKG		0.3000	
24-JAN-2008 03:37	BKG		0.3600	
25-JAN-2008 02:58	BKG		0.3200	
25-JAN-2008 23:31	BKG		0.3000	
27-JAN-2008 19:17	BKG		0.3300	
29-JAN-2008 01:42	BKG		0.2900	
30-JAN-2008 01:56	BKG		0.2800	
31-JAN-2008 02:16	BKG		0.3300	
1-FEB-2008 02:34	BKG		0.3600	
2-FEB-2008 00:10	BKG		0.3600	
2-FEB-2008 13:26	BKG		0.3800	In

3-FEB-2008 18:42 BKG	0.2900	
5-FEB-2008 02:46 BKG	0.2900	
6-FEB-2008 01:44 BKG	0.3100	
7-FEB-2008 01:22 BKG	0.3300	
8-FEB-2008 01:54 BKG	0.2900	
8-FEB-2008 23:20 BKG	0.2700	
9-FEB-2008 13:58 BKG	0.2800	
10-FEB-2008 19:26 BKG	0.3000	
12-FEB-2008 02:11 BKG	0.3200	
13-FEB-2008 02:08 BKG	0.2800	
14-FEB-2008 02:26 BKG	0.2600	
14-FEB-2008 23:17 BKG	0.3100	
16-FEB-2008 01:36 BKG	0.2400	
16-FEB-2008 15:12 BKG	0.3000	
17-FEB-2008 14:28 BKG	0.2700	
19-FEB-2008 01:53 BKG	0.3000	
19-FEB-2008 23:27 BKG	0.3400	
21-FEB-2008 02:19 BKG	0.3200	
22-FEB-2008 03:22 BKG	0.2800	
22-FEB-2008 23:18 BKG	0.2500	
23-FEB-2008 18:49 BKG	0.2800	
24-FEB-2008 19:17 BKG	0.2700	
26-FEB-2008 04:14 BKG	0.2600	
27-FEB-2008 01:51 BKG	0.3000	
28-FEB-2008 03:05 BKG	0.2700	
29-FEB-2008 03:58 BKG	0.2900	
29-FEB-2008 23:16 BKG	0.3000	
1-MAR-2008 12:16 BKG	0.2500	
2-MAR-2008 14:03 BKG	0.3200	
4-MAR-2008 02:44 BKG	0.2800	
5-MAR-2008 01:24 BKG	0.2900	
6-MAR-2008 03:42 BKG	1.0000	Ac
7-MAR-2008 02:47 BKG	0.2700	
7-MAR-2008 23:29 BKG	0.2900	
8-MAR-2008 17:08 BKG	0.2900	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
9-MAR-2008 16:41 BKG			0.3000	
11-MAR-2008 00:36 BKG			0.2400	
12-MAR-2008 03:03 BKG			0.2900	
13-MAR-2008 02:53 BKG			0.2700	

14-MAR-2008 03:59	BKG	0.3100			
14-MAR-2008 23:35	BKG	0.2900			
15-MAR-2008 23:29	BKG	0.3100			
16-MAR-2008 16:08	BKG	0.2800			
18-MAR-2008 03:37	BKG	0.3300			
19-MAR-2008 03:26	BKG	0.3100			
20-MAR-2008 01:52	BKG	0.3400			
21-MAR-2008 03:33	BKG	0.2800			
21-MAR-2008 23:22	BKG	0.2700			
23-MAR-2008 19:56	BKG	0.2900			

Quality Assurance Report.

Generated 26-MAR-2008 09:22:55.40

QA Filename : \$DISK1:[QUAD3.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 3a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 40.750000 Upper Bound : 44.250000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 42.493210 Std Deviation : 0.568328

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 04:39	CHK		43.3000		
12-JAN-2008 06:31	CHK		41.7000		
13-JAN-2008 09:03	CHK		41.7000		
14-JAN-2008 04:49	CHK		42.0000		
15-JAN-2008 04:44	CHK		41.6000		
16-JAN-2008 04:44	CHK		41.9000		
17-JAN-2008 04:40	CHK		42.9000		
18-JAN-2008 04:50	CHK		42.7000		
19-JAN-2008 05:11	CHK		43.0000		
21-JAN-2008 05:37	CHK		41.9000		
22-JAN-2008 04:52	CHK		42.9000		
23-JAN-2008 04:46	CHK		42.2000		
24-JAN-2008 04:49	CHK		42.0000		
25-JAN-2008 04:58	CHK		43.1000		
28-JAN-2008 10:20	CHK		43.0000		
29-JAN-2008 05:01	CHK		42.7000		
30-JAN-2008 04:49	CHK		42.6000		
31-JAN-2008 04:32	CHK		42.4000		
1-FEB-2008 04:41	CHK		42.3000		
2-FEB-2008 04:49	CHK		43.2000		
4-FEB-2008 05:33	CHK		42.5000		

5-FEB-2008 04:54	CHK	42.2000			
6-FEB-2008 04:48	CHK	42.4000			
7-FEB-2008 04:51	CHK	42.1000			
8-FEB-2008 04:45	CHK	42.9000			
11-FEB-2008 04:45	CHK	42.2000			
12-FEB-2008 05:12	CHK	42.3000			
13-FEB-2008 05:17	CHK	42.0000			
14-FEB-2008 05:44	CHK	41.6000			
15-FEB-2008 04:46	CHK	41.8000			
16-FEB-2008 06:21	CHK	42.5000			
18-FEB-2008 05:37	CHK	41.7000			
19-FEB-2008 04:56	CHK	42.4000			
20-FEB-2008 04:48	CHK	41.8000			
21-FEB-2008 04:43	CHK	42.3000			
22-FEB-2008 04:49	CHK	42.8000			
23-FEB-2008 09:32	CHK	42.7000			
25-FEB-2008 04:51	CHK	42.3000			

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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26-FEB-2008 04:44	CHK	41.6000			
27-FEB-2008 04:48	CHK	42.4000			
28-FEB-2008 04:49	CHK	42.6000			
29-FEB-2008 04:47	CHK	42.8000			
3-MAR-2008 04:51	CHK	42.4000			
4-MAR-2008 04:49	CHK	42.2000			
5-MAR-2008 04:57	CHK	41.9000			
6-MAR-2008 05:12	CHK	43.0000			
7-MAR-2008 04:52	CHK	42.4000			
8-MAR-2008 08:07	CHK	41.5000			
10-MAR-2008 05:26	CHK	42.6000			
11-MAR-2008 05:39	CHK	42.0000			
12-MAR-2008 05:06	CHK	41.9000			
13-MAR-2008 05:09	CHK	42.9000			
14-MAR-2008 05:43	CHK	42.7000			
17-MAR-2008 06:21	CHK	42.7000			
18-MAR-2008 05:01	CHK	43.4000			
19-MAR-2008 04:55	CHK	43.0000			
20-MAR-2008 05:06	CHK	43.0000			
21-MAR-2008 05:02	CHK	42.0000			

-- Multi-Test Full Report --

Description : quad 3b 1" beta %eff
 Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 42.500000 Upper Bound : 46.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 44.279629 Std Deviation : 0.561734

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 04:39	CHK		44.9000	
12-JAN-2008 06:31	CHK		44.1000	
13-JAN-2008 09:03	CHK		44.2000	
14-JAN-2008 04:49	CHK		44.3000	
15-JAN-2008 04:44	CHK		44.4000	
16-JAN-2008 04:44	CHK		43.7000	
17-JAN-2008 04:40	CHK		44.8000	
18-JAN-2008 04:50	CHK		44.4000	
19-JAN-2008 05:11	CHK		44.3000	
21-JAN-2008 05:37	CHK		44.3000	
22-JAN-2008 04:52	CHK		43.4000	
23-JAN-2008 04:46	CHK		43.5000	
24-JAN-2008 04:49	CHK		44.4000	
25-JAN-2008 04:58	CHK		43.4000	
28-JAN-2008 10:20	CHK		43.9000	
29-JAN-2008 05:01	CHK		44.1000	
30-JAN-2008 04:49	CHK		45.5000	In
31-JAN-2008 04:32	CHK		44.8000	

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-FEB-2008 04:41	CHK		43.7000	
2-FEB-2008 04:49	CHK		44.0000	
4-FEB-2008 05:33	CHK		44.1000	
5-FEB-2008 04:54	CHK		43.9000	
6-FEB-2008 04:48	CHK		44.7000	
7-FEB-2008 04:51	CHK		44.1000	

8-FEB-2008 04:45	CHK	44.5000			
11-FEB-2008 04:45	CHK	44.6000			
12-FEB-2008 05:12	CHK	44.0000			
13-FEB-2008 05:17	CHK	44.1000			
14-FEB-2008 05:44	CHK	44.5000			
15-FEB-2008 04:46	CHK	44.1000			
16-FEB-2008 06:21	CHK	44.7000			
18-FEB-2008 05:37	CHK	44.4000			
19-FEB-2008 04:56	CHK	44.9000			
20-FEB-2008 04:48	CHK	44.4000			
21-FEB-2008 04:43	CHK	44.6000			
22-FEB-2008 04:49	CHK	44.8000			
23-FEB-2008 09:32	CHK	44.6000			
25-FEB-2008 04:51	CHK	43.8000			
26-FEB-2008 04:44	CHK	44.2000			
27-FEB-2008 04:48	CHK	44.3000			
28-FEB-2008 04:49	CHK	44.3000			
29-FEB-2008 04:47	CHK	44.6000			
3-MAR-2008 04:51	CHK	43.8000			
4-MAR-2008 04:49	CHK	44.2000			
5-MAR-2008 04:57	CHK	44.4000			
6-MAR-2008 05:12	CHK	43.9000			
7-MAR-2008 04:52	CHK	44.5000			
8-MAR-2008 08:07	CHK	44.1000			
10-MAR-2008 05:26	CHK	44.0000			
11-MAR-2008 05:39	CHK	43.5000			
12-MAR-2008 05:06	CHK	43.8000			
13-MAR-2008 05:09	CHK	44.1000			
14-MAR-2008 05:43	CHK	44.4000			
17-MAR-2008 06:21	CHK	44.6000			
18-MAR-2008 05:01	CHK	44.1000			
19-MAR-2008 04:55	CHK	43.8000			
20-MAR-2008 05:06	CHK	43.8000			
21-MAR-2008 05:02	CHK	44.8000			

-- Multi-Test Full Report --

Description : quad 3c 1" beta %eff
Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 44.250000 Upper Bound : 46.750000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 45.761112 Std Deviation : 0.520302

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-JAN-2008 04:39	CHK		45.5000		
12-JAN-2008 06:31	CHK		44.7000	In	
13-JAN-2008 09:03	CHK		45.2000		
14-JAN-2008 04:49	CHK		45.3000		
15-JAN-2008 04:44	CHK		46.3000		
16-JAN-2008 04:44	CHK		45.3000		
17-JAN-2008 04:40	CHK		45.6000		
18-JAN-2008 04:50	CHK		46.5000		
19-JAN-2008 05:11	CHK		45.5000		
21-JAN-2008 05:37	CHK		45.3000		
22-JAN-2008 04:52	CHK		45.5000		
23-JAN-2008 04:46	CHK		45.2000		
24-JAN-2008 04:49	CHK		46.7000		
25-JAN-2008 04:58	CHK		45.4000		
28-JAN-2008 10:20	CHK		45.3000		
29-JAN-2008 05:01	CHK		46.2000		
30-JAN-2008 04:49	CHK		44.8000		
31-JAN-2008 04:32	CHK		46.5000		
1-FEB-2008 04:41	CHK		45.6000		
2-FEB-2008 04:49	CHK		45.3000		
4-FEB-2008 05:33	CHK		45.5000		
5-FEB-2008 04:54	CHK		46.4000		
6-FEB-2008 04:48	CHK		45.5000		
7-FEB-2008 04:51	CHK		45.8000		
8-FEB-2008 04:45	CHK		46.2000		
11-FEB-2008 04:45	CHK		45.4000		
12-FEB-2008 05:12	CHK		45.1000		
13-FEB-2008 05:17	CHK		45.3000		
14-FEB-2008 05:44	CHK		46.3000		
15-FEB-2008 04:46	CHK		45.8000		
16-FEB-2008 06:21	CHK		45.6000		

18-FEB-2008 05:37	CHK	45.4000	
19-FEB-2008 04:56	CHK	45.4000	
20-FEB-2008 04:48	CHK	45.4000	
21-FEB-2008 04:43	CHK	45.1000	
22-FEB-2008 04:49	CHK	45.9000	
23-FEB-2008 09:32	CHK	44.9000	
25-FEB-2008 04:51	CHK	45.2000	
26-FEB-2008 04:44	CHK	45.1000	
27-FEB-2008 04:48	CHK	44.4000	In
28-FEB-2008 04:49	CHK	45.3000	
29-FEB-2008 04:47	CHK	47.0000	Ab In
3-MAR-2008 04:51	CHK	45.8000	
4-MAR-2008 04:49	CHK	45.9000	
5-MAR-2008 04:57	CHK	45.0000	
6-MAR-2008 05:12	CHK	45.3000	
7-MAR-2008 04:52	CHK	46.2000	
8-MAR-2008 08:07	CHK	44.9000	
10-MAR-2008 05:26	CHK	45.0000	
11-MAR-2008 05:39	CHK	45.2000	
12-MAR-2008 05:06	CHK	45.7000	
13-MAR-2008 05:09	CHK	45.6000	
14-MAR-2008 05:43	CHK	46.4000	
17-MAR-2008 06:21	CHK	45.5000	
18-MAR-2008 05:01	CHK	45.6000	

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-MAR-2008 04:55	CHK		45.4000	
20-MAR-2008 05:06	CHK		46.4000	
21-MAR-2008 05:02	CHK		45.7000	

-- Multi-Test Full Report --

Description : quad 3d 1" beta %eff
 Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 45.000000 Upper Bound : 48.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 46.732925 Std Deviation : 0.554304

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 04:39	CHK		46.2000	
12-JAN-2008 06:31	CHK		46.6000	
13-JAN-2008 09:03	CHK		46.6000	
14-JAN-2008 04:49	CHK		46.6000	
15-JAN-2008 04:44	CHK		45.9000	
16-JAN-2008 04:44	CHK		45.1000	In
17-JAN-2008 04:40	CHK		46.7000	
18-JAN-2008 04:50	CHK		46.6000	
19-JAN-2008 05:11	CHK		47.3000	
21-JAN-2008 05:37	CHK		46.2000	
22-JAN-2008 04:52	CHK		46.0000	
23-JAN-2008 04:46	CHK		47.5000	
24-JAN-2008 04:49	CHK		47.4000	
25-JAN-2008 04:58	CHK		46.7000	
28-JAN-2008 10:20	CHK		46.3000	
29-JAN-2008 05:01	CHK		46.5000	
30-JAN-2008 04:49	CHK		46.2000	
31-JAN-2008 04:32	CHK		46.9000	
1-FEB-2008 04:41	CHK		46.7000	
2-FEB-2008 04:49	CHK		46.7000	
4-FEB-2008 05:33	CHK		46.8000	
5-FEB-2008 04:54	CHK		47.4000	
6-FEB-2008 04:48	CHK		46.9000	
7-FEB-2008 04:51	CHK		46.5000	
8-FEB-2008 04:45	CHK		46.6000	
11-FEB-2008 04:45	CHK		46.7000	
12-FEB-2008 05:12	CHK		46.7000	
13-FEB-2008 05:17	CHK		46.5000	
14-FEB-2008 05:44	CHK		46.1000	
15-FEB-2008 04:46	CHK		46.8000	
16-FEB-2008 06:21	CHK		47.2000	
18-FEB-2008 05:37	CHK		46.6000	
19-FEB-2008 04:56	CHK		46.7000	
20-FEB-2008 04:48	CHK		46.7000	
21-FEB-2008 04:43	CHK		47.5000	

Quality Assurance Multi-Test Full Report (continued)

Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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22-FEB-2008 04:49  CHK          47.1000  | | |
23-FEB-2008 09:32  CHK          45.5000  |In| |
25-FEB-2008 04:51  CHK          46.8000  | | |
26-FEB-2008 04:44  CHK          46.6000  | | |
27-FEB-2008 04:48  CHK          46.9000  | | |
28-FEB-2008 04:49  CHK          46.0000  | | |
29-FEB-2008 04:47  CHK          47.0000  | | |
 3-MAR-2008 04:51  CHK          45.7000  | | |
 4-MAR-2008 04:49  CHK          46.3000  | | |
 5-MAR-2008 04:57  CHK          46.8000  | | |
 6-MAR-2008 05:12  CHK          46.8000  | | |
 7-MAR-2008 04:52  CHK          46.2000  | | |
 8-MAR-2008 08:07  CHK          46.8000  | | |
10-MAR-2008 05:26  CHK          46.5000  | | |
11-MAR-2008 05:39  CHK          46.6000  | | |
12-MAR-2008 05:06  CHK          46.6000  | | |
13-MAR-2008 05:09  CHK          47.2000  | | |
14-MAR-2008 05:43  CHK          46.6000  | | |
17-MAR-2008 06:21  CHK          46.6000  | | |
18-MAR-2008 05:01  CHK          46.6000  | | |
19-MAR-2008 04:55  CHK          46.7000  | | |
20-MAR-2008 05:06  CHK          46.7000  | | |
21-MAR-2008 05:02  CHK          46.8000  | | |

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Quality Assurance Report.

Generated 26-MAR-2008 09:22:56.69

QA Filename : \$DISK1:[QUAD3.QA]BKG_1.QAF;2

-- Multi-Test Full Report --

Description : quad 3a 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 0.227838 Std Deviation : 0.046796

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Measurement Time  Sample ID  Sample Analyst  Value  LU|SD|UD|BS Rej
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11-JAN-2008 02:20	BKG	0.2800		
12-JAN-2008 02:59	BKG	0.2200		
12-JAN-2008 20:45	BKG	0.3400	In	
13-JAN-2008 21:38	BKG	0.2300		
15-JAN-2008 04:08	BKG	0.2100		
16-JAN-2008 02:25	BKG	0.2900		
17-JAN-2008 02:55	BKG	0.2300		
18-JAN-2008 03:42	BKG	2.6500	Ac	R
19-JAN-2008 02:12	BKG	0.2600		
19-JAN-2008 15:43	BKG	0.1600		
20-JAN-2008 13:39	BKG	0.2300		
22-JAN-2008 02:15	BKG	0.2200		
23-JAN-2008 01:52	BKG	0.2500		
24-JAN-2008 03:41	BKG	0.2600		
25-JAN-2008 02:18	BKG	0.2200		
25-JAN-2008 23:31	BKG	0.2400		
27-JAN-2008 19:12	BKG	0.2100		
29-JAN-2008 01:41	BKG	0.1800		
30-JAN-2008 01:56	BKG	0.2300		
31-JAN-2008 02:15	BKG	0.2500		
1-FEB-2008 02:34	BKG	0.9700	Ac	
2-FEB-2008 00:10	BKG	0.2300		
2-FEB-2008 13:21	BKG	0.2200		
3-FEB-2008 18:42	BKG	0.2200		
5-FEB-2008 02:45	BKG	0.2200		
6-FEB-2008 01:44	BKG	0.2600		
7-FEB-2008 00:57	BKG	0.3500	In	
8-FEB-2008 01:59	BKG	0.2100		
8-FEB-2008 23:20	BKG	0.2400		
9-FEB-2008 13:52	BKG	0.2200		
10-FEB-2008 19:21	BKG	0.1800		
12-FEB-2008 02:16	BKG	0.2700		
13-FEB-2008 02:07	BKG	0.3000		
14-FEB-2008 02:31	BKG	0.2400		
14-FEB-2008 23:14	BKG	0.1800		
16-FEB-2008 01:36	BKG	0.2500		
16-FEB-2008 15:06	BKG	0.3200		
17-FEB-2008 14:27	BKG	0.2600		
19-FEB-2008 01:53	BKG	0.2200		
19-FEB-2008 23:27	BKG	0.2900		
21-FEB-2008 03:19	BKG	0.2700		

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
22-FEB-2008 03:22	BKG		0.2400	
22-FEB-2008 23:18	BKG		0.3000	
23-FEB-2008 18:49	BKG		0.3400	In
24-FEB-2008 19:17	BKG		0.2500	
26-FEB-2008 04:14	BKG		0.2200	
27-FEB-2008 01:51	BKG		0.2600	
28-FEB-2008 02:59	BKG		0.2200	
29-FEB-2008 03:58	BKG		0.2600	
29-FEB-2008 23:15	BKG		0.2700	
1-MAR-2008 12:15	BKG		0.2700	
2-MAR-2008 13:57	BKG		0.2600	
4-MAR-2008 02:44	BKG		0.2500	
5-MAR-2008 03:55	BKG		0.2700	
6-MAR-2008 01:11	BKG		0.7400	Ac
6-MAR-2008 01:11	BKG		0.5500	Ac
7-MAR-2008 02:42	BKG		0.3400	In
7-MAR-2008 23:29	BKG		0.2900	
8-MAR-2008 17:08	BKG		0.2600	
9-MAR-2008 16:36	BKG		0.2200	
11-MAR-2008 03:01	BKG		0.2700	
12-MAR-2008 03:03	BKG		0.2800	
13-MAR-2008 02:47	BKG		0.3200	
14-MAR-2008 02:39	BKG		0.2700	
14-MAR-2008 23:30	BKG		0.2900	
15-MAR-2008 23:29	BKG		0.2600	
16-MAR-2008 13:42	BKG		0.2900	
18-MAR-2008 03:37	BKG		0.3200	
19-MAR-2008 03:26	BKG		0.3400	In
20-MAR-2008 01:51	BKG		0.2900	
21-MAR-2008 03:33	BKG		0.2800	
21-MAR-2008 23:20	BKG		0.2600	
23-MAR-2008 20:01	BKG		0.2800	

-- Multi-Test Full Report --

Description : quad 3b 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Manual

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.268811 Std Deviation : 0.056469

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:20	BKG		0.2700	
12-JAN-2008 02:59	BKG		0.2700	
12-JAN-2008 20:45	BKG		0.3500	
13-JAN-2008 21:38	BKG		0.2500	
15-JAN-2008 04:08	BKG		0.2200	
16-JAN-2008 02:25	BKG		0.3700	
17-JAN-2008 02:55	BKG		0.3400	
18-JAN-2008 03:42	BKG		0.3600	
19-JAN-2008 02:12	BKG		0.2700	

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
19-JAN-2008 15:43	BKG		0.2900	
20-JAN-2008 13:39	BKG		0.2900	
22-JAN-2008 02:15	BKG		0.3000	
23-JAN-2008 01:52	BKG		0.3100	
24-JAN-2008 03:41	BKG		0.3300	
25-JAN-2008 02:18	BKG		0.2800	
25-JAN-2008 23:31	BKG		0.2700	
27-JAN-2008 19:12	BKG		0.2700	
29-JAN-2008 01:41	BKG		0.3100	
30-JAN-2008 01:56	BKG		0.3400	
31-JAN-2008 02:15	BKG		0.2900	
1-FEB-2008 02:34	BKG		0.3400	
2-FEB-2008 00:10	BKG		0.3500	
2-FEB-2008 13:21	BKG		0.3300	
3-FEB-2008 18:42	BKG		0.3800	
5-FEB-2008 02:45	BKG		0.2900	
6-FEB-2008 01:44	BKG		0.3600	
7-FEB-2008 00:57	BKG		0.4400	Ac
8-FEB-2008 01:59	BKG		0.3300	
8-FEB-2008 23:20	BKG		0.3200	
9-FEB-2008 13:52	BKG		0.3100	
10-FEB-2008 19:21	BKG		0.3500	
12-FEB-2008 02:16	BKG		0.3600	
13-FEB-2008 02:07	BKG		0.3400	
14-FEB-2008 02:31	BKG		0.3300	

14-FEB-2008 23:14	BKG	0.2900	
16-FEB-2008 01:36	BKG	0.3600	
16-FEB-2008 15:06	BKG	0.4000	In
17-FEB-2008 14:27	BKG	0.3700	
19-FEB-2008 01:53	BKG	0.3200	
19-FEB-2008 23:27	BKG	0.4000	In
21-FEB-2008 03:19	BKG	0.4200	In
22-FEB-2008 03:22	BKG	0.4200	In
22-FEB-2008 23:18	BKG	0.3900	In
23-FEB-2008 18:49	BKG	0.3600	
24-FEB-2008 19:17	BKG	0.3500	
26-FEB-2008 04:14	BKG	0.3700	
27-FEB-2008 01:51	BKG	0.3900	In
28-FEB-2008 02:59	BKG	0.4100	In
29-FEB-2008 03:58	BKG	0.4000	In
29-FEB-2008 23:15	BKG	0.4500	Ac
1-MAR-2008 12:15	BKG	0.4200	In
2-MAR-2008 13:57	BKG	0.3600	
4-MAR-2008 02:44	BKG	0.3900	In
5-MAR-2008 03:55	BKG	0.4000	In
6-MAR-2008 01:11	BKG	0.5700	Ac
6-MAR-2008 01:11	BKG	0.4900	Ac
7-MAR-2008 02:42	BKG	0.3600	
7-MAR-2008 23:29	BKG	0.4300	In
8-MAR-2008 17:08	BKG	0.3800	
9-MAR-2008 16:36	BKG	0.4300	In
11-MAR-2008 03:01	BKG	0.4800	Ac
12-MAR-2008 03:03	BKG	0.4400	Ac
13-MAR-2008 02:47	BKG	0.5100	Ac
14-MAR-2008 02:39	BKG	0.4200	In

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
14-MAR-2008 23:30	BKG		0.4600	Ac
15-MAR-2008 23:29	BKG		0.5500	Ac
16-MAR-2008 13:42	BKG		0.4900	Ac
18-MAR-2008 03:37	BKG		0.5400	Ac
19-MAR-2008 03:26	BKG		0.6000	Ac
20-MAR-2008 01:51	BKG		0.5400	Ac
21-MAR-2008 03:33	BKG		0.5900	Ac
21-MAR-2008 23:20	BKG		0.5600	Ac
23-MAR-2008 20:01	BKG		0.5300	Ac

-- Multi-Test Full Report --

Description : quad 3c 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.280973 Std Deviation : 0.046894

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 02:20	BKG		0.3100		
12-JAN-2008 02:59	BKG		0.2500		
12-JAN-2008 20:45	BKG		0.2500		
13-JAN-2008 21:38	BKG		0.2500		
15-JAN-2008 04:08	BKG		0.2500		
16-JAN-2008 02:25	BKG		0.3100		
17-JAN-2008 02:55	BKG		0.3800	In	
18-JAN-2008 03:42	BKG		0.3300		
19-JAN-2008 02:12	BKG		0.2800		
19-JAN-2008 15:43	BKG		0.3400		
20-JAN-2008 13:39	BKG		0.2700		
22-JAN-2008 02:15	BKG		0.2700		
23-JAN-2008 01:52	BKG		0.2900		
24-JAN-2008 03:41	BKG		0.3500		
25-JAN-2008 02:18	BKG		0.2800		
25-JAN-2008 23:31	BKG		0.2800		
27-JAN-2008 19:12	BKG		0.2600		
29-JAN-2008 01:41	BKG		0.3000		
30-JAN-2008 01:56	BKG		0.2900		
31-JAN-2008 02:15	BKG		0.3400		
1-FEB-2008 02:34	BKG		0.2600		
2-FEB-2008 00:10	BKG		0.3100		
2-FEB-2008 13:21	BKG		0.2600		
3-FEB-2008 18:42	BKG		0.3000		
5-FEB-2008 02:45	BKG		0.3200		
6-FEB-2008 01:44	BKG		0.2900		
7-FEB-2008 00:57	BKG		0.3400		
8-FEB-2008 01:59	BKG		0.2600		
8-FEB-2008 23:20	BKG		0.2700		

9-FEB-2008 13:52	BKG	0.3000	
10-FEB-2008 19:21	BKG	0.2600	
12-FEB-2008 02:16	BKG	0.2700	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

13-FEB-2008 02:07	BKG		0.3300	
14-FEB-2008 02:31	BKG		0.2100	
14-FEB-2008 23:14	BKG		0.2800	
16-FEB-2008 01:36	BKG		0.2400	
16-FEB-2008 15:06	BKG		0.2700	
17-FEB-2008 14:27	BKG		0.2400	
19-FEB-2008 01:53	BKG		0.2700	
19-FEB-2008 23:27	BKG		0.3200	
21-FEB-2008 03:19	BKG		0.3100	
22-FEB-2008 03:22	BKG		0.2700	
22-FEB-2008 23:18	BKG		0.2600	
23-FEB-2008 18:49	BKG		0.2400	
24-FEB-2008 19:17	BKG		0.3100	
26-FEB-2008 04:14	BKG		0.2900	
27-FEB-2008 01:51	BKG		0.2800	
28-FEB-2008 02:59	BKG		0.2400	
29-FEB-2008 03:58	BKG		0.2800	
29-FEB-2008 23:15	BKG		0.2900	
1-MAR-2008 12:15	BKG		0.2800	
2-MAR-2008 13:57	BKG		0.2600	
4-MAR-2008 02:44	BKG		0.2600	
5-MAR-2008 03:55	BKG		0.2700	
6-MAR-2008 01:11	BKG		0.3000	
6-MAR-2008 01:11	BKG		0.3200	
7-MAR-2008 02:42	BKG		0.3300	
7-MAR-2008 23:29	BKG		0.2600	
8-MAR-2008 17:08	BKG		0.2500	
9-MAR-2008 16:36	BKG		0.2100	
11-MAR-2008 03:01	BKG		0.2800	
12-MAR-2008 03:03	BKG		0.2900	
13-MAR-2008 02:47	BKG		0.2800	
14-MAR-2008 02:39	BKG		0.2800	
14-MAR-2008 23:30	BKG		0.2100	
15-MAR-2008 23:29	BKG		0.2300	
16-MAR-2008 13:42	BKG		0.2600	
18-MAR-2008 03:37	BKG		0.2600	

19-MAR-2008 03:26	BKG	0.2600			
20-MAR-2008 01:51	BKG	0.3100			
21-MAR-2008 03:33	BKG	0.3100			
21-MAR-2008 23:20	BKG	0.2700			
23-MAR-2008 20:01	BKG	0.2500			

-- Multi-Test Full Report --

Description : quad 3d 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Manual

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00
 Mean : 0.253459 Std Deviation : 0.052315

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-JAN-2008 02:20	BKG	0.2800			
12-JAN-2008 02:59	BKG	0.2800			
12-JAN-2008 20:45	BKG	0.2900			
13-JAN-2008 21:38	BKG	0.2500			
15-JAN-2008 04:08	BKG	0.2600			
16-JAN-2008 02:25	BKG	0.3200			
17-JAN-2008 02:55	BKG	0.3000			
18-JAN-2008 03:42	BKG	0.3600	In		
19-JAN-2008 02:12	BKG	0.3000			
19-JAN-2008 15:43	BKG	0.2400			
20-JAN-2008 13:39	BKG	0.2900			
22-JAN-2008 02:15	BKG	0.2600			
23-JAN-2008 01:52	BKG	0.2300			
24-JAN-2008 03:41	BKG	0.3200			
25-JAN-2008 02:18	BKG	0.2800			
25-JAN-2008 23:31	BKG	0.2200			
27-JAN-2008 19:12	BKG	0.3200			
29-JAN-2008 01:41	BKG	0.2400			
30-JAN-2008 01:56	BKG	0.2900			
31-JAN-2008 02:15	BKG	0.2400			

1-FEB-2008 02:34	BKG	0.2400	
2-FEB-2008 00:10	BKG	0.2500	
2-FEB-2008 13:21	BKG	0.2700	
3-FEB-2008 18:42	BKG	0.1900	
5-FEB-2008 02:45	BKG	0.2400	
6-FEB-2008 01:44	BKG	0.2700	
7-FEB-2008 00:57	BKG	0.3400	
8-FEB-2008 01:59	BKG	0.2500	
8-FEB-2008 23:20	BKG	0.2500	
9-FEB-2008 13:52	BKG	0.2300	
10-FEB-2008 19:21	BKG	0.2500	
12-FEB-2008 02:16	BKG	0.2600	
13-FEB-2008 02:07	BKG	0.2600	
14-FEB-2008 02:31	BKG	0.2800	
14-FEB-2008 23:14	BKG	0.2300	
16-FEB-2008 01:36	BKG	0.2600	
16-FEB-2008 15:06	BKG	0.2500	
17-FEB-2008 14:27	BKG	0.2300	
19-FEB-2008 01:53	BKG	0.2000	
19-FEB-2008 23:27	BKG	0.3000	
21-FEB-2008 03:19	BKG	0.2300	
22-FEB-2008 03:22	BKG	0.2500	
22-FEB-2008 23:18	BKG	0.2200	
23-FEB-2008 18:49	BKG	0.2200	
24-FEB-2008 19:17	BKG	0.2300	
26-FEB-2008 04:14	BKG	0.2300	
27-FEB-2008 01:51	BKG	0.2700	
28-FEB-2008 02:59	BKG	0.2800	
29-FEB-2008 03:58	BKG	0.2400	
29-FEB-2008 23:15	BKG	0.2700	
1-MAR-2008 12:15	BKG	0.2100	
2-MAR-2008 13:57	BKG	0.2500	
4-MAR-2008 02:44	BKG	0.2600	
5-MAR-2008 03:55	BKG	0.2900	
6-MAR-2008 01:11	BKG	0.9300	Ac

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2008 01:11	BKG	0.6700	Ac	
7-MAR-2008 02:42	BKG	0.2900		
7-MAR-2008 23:29	BKG	0.2800		
8-MAR-2008 17:08	BKG	0.2700		

9-MAR-2008 16:36 BKG	0.2200			
11-MAR-2008 03:01 BKG	0.2200			
12-MAR-2008 03:03 BKG	0.2500			
13-MAR-2008 02:47 BKG	0.2700			
14-MAR-2008 02:39 BKG	0.2500			
14-MAR-2008 23:30 BKG	0.2200			
15-MAR-2008 23:29 BKG	0.2300			
16-MAR-2008 13:42 BKG	0.3000			
18-MAR-2008 03:37 BKG	0.2700			
19-MAR-2008 03:26 BKG	0.2300			
20-MAR-2008 01:51 BKG	0.3000			
21-MAR-2008 03:33 BKG	0.2500			
21-MAR-2008 23:20 BKG	0.2600			
23-MAR-2008 20:01 BKG	0.2300			

Quality Assurance Report.

Generated 25-MAR-2008 19:02:46.29

QA Filename : \$DISK1:[QUAD2.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 2a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 41.000000 Upper Bound : 45.250000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 43.240147 Std Deviation : 0.743052

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 04:39	CHK		43.3000		
12-JAN-2008 06:31	CHK		43.0000		
13-JAN-2008 09:03	CHK		43.8000		
14-JAN-2008 04:54	CHK		43.4000		
15-JAN-2008 04:44	CHK		43.1000		
16-JAN-2008 04:44	CHK		42.7000		
17-JAN-2008 04:40	CHK		43.0000		
18-JAN-2008 04:50	CHK		43.3000		
19-JAN-2008 05:11	CHK		43.2000		
21-JAN-2008 05:37	CHK		43.5000		
22-JAN-2008 04:47	CHK		43.0000		
23-JAN-2008 04:46	CHK		42.6000		
24-JAN-2008 04:49	CHK		46.4000	Ab Ac	
24-JAN-2008 05:06	CHK		44.8000	In	
24-JAN-2008 05:06	CHK		No Value		
24-JAN-2008 05:35	CHK		No Value		
25-JAN-2008 04:58	CHK		42.5000		
28-JAN-2008 10:20	CHK		42.5000		
29-JAN-2008 05:01	CHK		42.6000		
30-JAN-2008 04:49	CHK		43.3000		
31-JAN-2008 04:33	CHK		43.4000		

1-FEB-2008 04:41	CHK	42.9000			
2-FEB-2008 04:49	CHK	42.6000			
4-FEB-2008 05:33	CHK	42.4000			
5-FEB-2008 04:54	CHK	43.3000			
6-FEB-2008 04:48	CHK	43.4000			
7-FEB-2008 04:51	CHK	42.7000			
8-FEB-2008 04:50	CHK	43.9000			
11-FEB-2008 04:50	CHK	43.5000			
12-FEB-2008 05:11	CHK	42.3000			
13-FEB-2008 05:17	CHK	43.0000			
14-FEB-2008 05:44	CHK	43.2000			
15-FEB-2008 04:46	CHK	43.3000			
15-FEB-2008 05:03	CHK	No Value			
16-FEB-2008 06:21	CHK	43.0000			
18-FEB-2008 05:37	CHK	42.2000			
19-FEB-2008 04:55	CHK	42.6000			
20-FEB-2008 04:48	CHK	42.7000			

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej	
21-FEB-2008 04:48	CHK		44.6000			
22-FEB-2008 04:49	CHK		43.0000			
25-FEB-2008 04:51	CHK		43.0000			
26-FEB-2008 04:44	CHK		41.9000			
27-FEB-2008 04:49	CHK		42.6000			
28-FEB-2008 04:48	CHK		42.5000			
29-FEB-2008 04:47	CHK		43.6000			
3-MAR-2008 04:56	CHK		43.2000			
4-MAR-2008 04:44	CHK		43.0000			
5-MAR-2008 04:57	CHK		42.8000			
7-MAR-2008 04:52	CHK		42.1000			
10-MAR-2008 05:25	CHK		42.7000			
11-MAR-2008 05:39	CHK		43.4000			
12-MAR-2008 05:06	CHK		42.4000			
13-MAR-2008 05:09	CHK		43.8000			
14-MAR-2008 05:43	CHK		43.7000			
17-MAR-2008 06:26	CHK		42.9000			
18-MAR-2008 05:01	CHK		42.7000			
19-MAR-2008 04:55	CHK		43.7000			
20-MAR-2008 05:06	CHK		42.7000			
21-MAR-2008 04:57	CHK		41.9000			

-- Multi-Test Full Report --

Description : quad 2b 1" beta %eff

Parameter Units : percent Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 43.500000 Upper Bound : 47.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 45.508148 Std Deviation : 0.670381

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 04:39	CHK		45.8000		
12-JAN-2008 06:31	CHK		45.4000		
13-JAN-2008 09:03	CHK		45.6000		
14-JAN-2008 04:54	CHK		44.9000		
15-JAN-2008 04:44	CHK		45.6000		
16-JAN-2008 04:44	CHK		46.1000		
17-JAN-2008 04:40	CHK		45.3000		
18-JAN-2008 04:50	CHK		44.7000		
19-JAN-2008 05:11	CHK		45.9000		
21-JAN-2008 05:37	CHK		45.3000		
22-JAN-2008 04:47	CHK		44.6000		
23-JAN-2008 04:46	CHK		44.7000		
24-JAN-2008 04:49	CHK		48.7000	Ab Ac	
24-JAN-2008 05:06	CHK		46.4000		
24-JAN-2008 05:06	CHK		No Value		
24-JAN-2008 05:35	CHK		47.0000	In	
25-JAN-2008 04:58	CHK		45.5000		

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
28-JAN-2008 10:20	CHK		45.9000		
29-JAN-2008 05:01	CHK		45.4000		
30-JAN-2008 04:49	CHK		45.4000		
31-JAN-2008 04:33	CHK		45.0000		
1-FEB-2008 04:41	CHK		45.8000		
2-FEB-2008 04:49	CHK		45.4000		

4-FEB-2008 05:33	CHK	46.2000			
5-FEB-2008 04:54	CHK	45.5000			
6-FEB-2008 04:48	CHK	45.9000			
7-FEB-2008 04:51	CHK	45.2000			
8-FEB-2008 04:50	CHK	46.1000			
11-FEB-2008 04:50	CHK	46.2000			
12-FEB-2008 05:11	CHK	45.5000			
13-FEB-2008 05:17	CHK	45.5000			
14-FEB-2008 05:44	CHK	45.7000			
15-FEB-2008 04:46	CHK	44.4000			
15-FEB-2008 05:03	CHK	No Value			
16-FEB-2008 06:21	CHK	46.0000			
18-FEB-2008 05:37	CHK	45.1000			
19-FEB-2008 04:55	CHK	45.2000			
20-FEB-2008 04:48	CHK	45.1000			
21-FEB-2008 04:48	CHK	45.3000			
22-FEB-2008 04:49	CHK	45.6000			
25-FEB-2008 04:51	CHK	45.3000			
26-FEB-2008 04:44	CHK	44.5000			
27-FEB-2008 04:49	CHK	45.1000			
28-FEB-2008 04:48	CHK	45.7000			
29-FEB-2008 04:47	CHK	45.9000			
3-MAR-2008 04:56	CHK	45.3000			
4-MAR-2008 04:44	CHK	45.5000			
5-MAR-2008 04:57	CHK	45.1000			
7-MAR-2008 04:52	CHK	45.7000			
10-MAR-2008 05:25	CHK	45.2000			
11-MAR-2008 05:39	CHK	45.7000			
12-MAR-2008 05:06	CHK	46.1000			
13-MAR-2008 05:09	CHK	46.1000			
14-MAR-2008 05:43	CHK	45.6000			
17-MAR-2008 06:26	CHK	46.0000			
18-MAR-2008 05:01	CHK	45.7000			
19-MAR-2008 04:55	CHK	45.5000			
20-MAR-2008 05:06	CHK	45.6000			
21-MAR-2008 04:57	CHK	46.0000			

-- Multi-Test Full Report --

Description : quad 2c 1" beta %eff
Parameter Units : percent Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 40.000000 Upper Bound : 44.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 42.309700 Std Deviation : 0.726395

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-JAN-2008 04:39	CHK		42.0000		
12-JAN-2008 06:31	CHK		42.4000		
13-JAN-2008 09:03	CHK		41.9000		
14-JAN-2008 04:54	CHK		40.9000		
15-JAN-2008 04:44	CHK		41.8000		
16-JAN-2008 04:44	CHK		41.4000		
17-JAN-2008 04:40	CHK		42.7000		
18-JAN-2008 04:50	CHK		42.1000		
19-JAN-2008 05:11	CHK		42.2000		
21-JAN-2008 05:37	CHK		42.3000		
22-JAN-2008 04:47	CHK		41.0000		
23-JAN-2008 04:46	CHK		41.9000		
24-JAN-2008 04:49	CHK		41.7000		
24-JAN-2008 05:06	CHK		No Value		
24-JAN-2008 05:06	CHK		No Value		
24-JAN-2008 05:35	CHK		No Value		
25-JAN-2008 04:58	CHK		42.7000		
28-JAN-2008 10:20	CHK		41.4000		
29-JAN-2008 05:01	CHK		41.7000		
30-JAN-2008 04:49	CHK		41.9000		
31-JAN-2008 04:33	CHK		42.5000		
1-FEB-2008 04:41	CHK		41.8000		
2-FEB-2008 04:49	CHK		42.2000		
4-FEB-2008 05:33	CHK		41.2000		
5-FEB-2008 04:54	CHK		42.3000		
6-FEB-2008 04:48	CHK		42.8000		
7-FEB-2008 04:51	CHK		42.6000		
8-FEB-2008 04:50	CHK		41.6000		
11-FEB-2008 04:50	CHK		42.3000		

12-FEB-2008 05:11	CHK	41.3000	
13-FEB-2008 05:17	CHK	42.6000	
14-FEB-2008 05:44	CHK	41.7000	
15-FEB-2008 04:46	CHK	44.6000	Ab Ac
15-FEB-2008 05:03	CHK	42.5000	
16-FEB-2008 06:21	CHK	41.4000	
18-FEB-2008 05:37	CHK	41.4000	
19-FEB-2008 04:55	CHK	41.3000	
20-FEB-2008 04:48	CHK	41.3000	
21-FEB-2008 04:48	CHK	42.4000	
22-FEB-2008 04:49	CHK	42.8000	
25-FEB-2008 04:51	CHK	41.8000	
26-FEB-2008 04:44	CHK	41.6000	
27-FEB-2008 04:49	CHK	42.4000	
28-FEB-2008 04:48	CHK	41.4000	
29-FEB-2008 04:47	CHK	41.4000	
3-MAR-2008 04:56	CHK	40.9000	
4-MAR-2008 04:44	CHK	41.4000	
5-MAR-2008 04:57	CHK	41.1000	
7-MAR-2008 04:52	CHK	42.0000	
10-MAR-2008 05:25	CHK	41.2000	
11-MAR-2008 05:39	CHK	42.3000	
12-MAR-2008 05:06	CHK	42.1000	
13-MAR-2008 05:09	CHK	42.4000	
14-MAR-2008 05:43	CHK	42.4000	
17-MAR-2008 06:26	CHK	41.9000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
18-MAR-2008 05:01	CHK		41.9000	
19-MAR-2008 04:55	CHK		41.6000	
20-MAR-2008 05:06	CHK		42.4000	
21-MAR-2008 04:57	CHK		41.7000	

-- Multi-Test Full Report --

Description : quad 2d 1" beta %eff

Parameter Units : percent Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 41.000000 Upper Bound : 44.750000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 42.974075 Std Deviation : 0.597253

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-JAN-2008 04:39	CHK		43.2000		
12-JAN-2008 06:31	CHK		43.1000		
13-JAN-2008 09:03	CHK		42.3000		
14-JAN-2008 04:54	CHK		42.2000		
15-JAN-2008 04:44	CHK		42.6000		
16-JAN-2008 04:44	CHK		42.0000		
17-JAN-2008 04:40	CHK		43.3000		
18-JAN-2008 04:50	CHK		43.1000		
19-JAN-2008 05:11	CHK		42.9000		
21-JAN-2008 05:37	CHK		42.7000		
22-JAN-2008 04:47	CHK		42.6000		
23-JAN-2008 04:46	CHK		42.3000		
24-JAN-2008 04:49	CHK		44.9000	Ab Ac	
24-JAN-2008 05:06	CHK		44.4000	In	
24-JAN-2008 05:06	CHK		No Value		
24-JAN-2008 05:35	CHK		No Value		
25-JAN-2008 04:58	CHK		43.0000		
28-JAN-2008 10:20	CHK		42.7000		
29-JAN-2008 05:01	CHK		43.1000		
30-JAN-2008 04:49	CHK		42.4000		
31-JAN-2008 04:33	CHK		43.0000		
1-FEB-2008 04:41	CHK		42.8000		
2-FEB-2008 04:49	CHK		43.5000		
4-FEB-2008 05:33	CHK		42.2000		
5-FEB-2008 04:54	CHK		43.0000		
6-FEB-2008 04:48	CHK		42.8000		
7-FEB-2008 04:51	CHK		43.0000		
8-FEB-2008 04:50	CHK		43.0000		
11-FEB-2008 04:50	CHK		42.8000		
12-FEB-2008 05:11	CHK		43.3000		
13-FEB-2008 05:17	CHK		43.4000		
14-FEB-2008 05:44	CHK		43.1000		
15-FEB-2008 04:46	CHK		43.0000		
15-FEB-2008 05:03	CHK		No Value		

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
16-FEB-2008 06:21	CHK		42.2000	
18-FEB-2008 05:37	CHK		42.4000	
19-FEB-2008 04:55	CHK		42.8000	
20-FEB-2008 04:48	CHK		42.7000	
21-FEB-2008 04:48	CHK		43.3000	
22-FEB-2008 04:49	CHK		43.1000	
25-FEB-2008 04:51	CHK		42.1000	
26-FEB-2008 04:44	CHK		43.2000	
27-FEB-2008 04:49	CHK		43.2000	
28-FEB-2008 04:48	CHK		42.1000	
29-FEB-2008 04:47	CHK		44.1000	
3-MAR-2008 04:56	CHK		43.2000	
4-MAR-2008 04:44	CHK		43.0000	
5-MAR-2008 04:57	CHK		43.6000	
7-MAR-2008 04:52	CHK		43.6000	
10-MAR-2008 05:25	CHK		42.5000	
11-MAR-2008 05:39	CHK		43.0000	
12-MAR-2008 05:06	CHK		43.9000	
13-MAR-2008 05:09	CHK		43.9000	
14-MAR-2008 05:43	CHK		43.7000	
17-MAR-2008 06:26	CHK		43.3000	
18-MAR-2008 05:01	CHK		44.0000	
19-MAR-2008 04:55	CHK		43.3000	
20-MAR-2008 05:06	CHK		43.4000	
21-MAR-2008 04:57	CHK		42.6000	

Quality Assurance Report.

Generated 25-MAR-2008 19:02:48.12

QA Filename : \$DISK1:[QUAD2.QA]BKG_1.QAF;5

-- Multi-Test Full Report --

Description : quad 2a 1" beta bkg, cpm

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:20	BKG		0.2100	
12-JAN-2008 03:04	BKG		0.2300	

12-JAN-2008 20:43	BKG	0.3500			
13-JAN-2008 21:38	BKG	0.2400			
15-JAN-2008 04:13	BKG	0.1700			
16-JAN-2008 02:26	BKG	0.2200			
17-JAN-2008 02:55	BKG	0.2300			
18-JAN-2008 03:42	BKG	0.3700			
19-JAN-2008 02:17	BKG	0.2200			
19-JAN-2008 15:43	BKG	0.2500			
20-JAN-2008 13:39	BKG	0.2500			
22-JAN-2008 02:10	BKG	0.2000			
23-JAN-2008 01:52	BKG	0.2500			
24-JAN-2008 03:41	BKG	0.2400			
25-JAN-2008 03:03	BKG	0.2100			
25-JAN-2008 23:30	BKG	0.2100			
27-JAN-2008 19:17	BKG	0.2200			
29-JAN-2008 01:41	BKG	0.2000			
30-JAN-2008 01:56	BKG	0.2000			
31-JAN-2008 02:15	BKG	0.2200			
1-FEB-2008 02:39	BKG	0.1700			
2-FEB-2008 00:10	BKG	0.2400			
2-FEB-2008 13:26	BKG	0.4100			
3-FEB-2008 18:54	BKG	0.4800			
5-FEB-2008 02:45	BKG	0.2100			
6-FEB-2008 01:44	BKG	0.1900			
7-FEB-2008 02:33	BKG	0.1600			
8-FEB-2008 01:59	BKG	0.2100			
8-FEB-2008 23:20	BKG	0.2100			
9-FEB-2008 13:57	BKG	0.2400			
10-FEB-2008 19:25	BKG	0.2100			
12-FEB-2008 02:15	BKG	0.1800			
13-FEB-2008 02:07	BKG	0.2400			
14-FEB-2008 02:31	BKG	0.1900			
14-FEB-2008 23:14	BKG	0.2200			
16-FEB-2008 01:36	BKG	0.2200			
16-FEB-2008 15:11	BKG	0.2600			
17-FEB-2008 14:26	BKG	0.2300			
19-FEB-2008 01:53	BKG	0.2700			
19-FEB-2008 23:27	BKG	0.2300			
21-FEB-2008 03:19	BKG	0.2400			
22-FEB-2008 03:22	BKG	0.2700			
22-FEB-2008 23:18	BKG	0.2500			
23-FEB-2008 18:49	BKG	0.2300			
24-FEB-2008 19:17	BKG	0.2800			

26-FEB-2008 04:14 BKG 0.2700 | | |
 27-FEB-2008 01:51 BKG 0.2700 | | |

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
28-FEB-2008 03:04	BKG		0.2400	
29-FEB-2008 03:58	BKG		0.2800	
29-FEB-2008 23:15	BKG		0.2400	
1-MAR-2008 12:15	BKG		0.2700	
2-MAR-2008 14:02	BKG		0.2300	
4-MAR-2008 02:44	BKG		0.2400	
5-MAR-2008 03:55	BKG		0.2100	
7-MAR-2008 02:47	BKG		0.2400	
7-MAR-2008 23:29	BKG		0.2900	
8-MAR-2008 17:08	BKG		0.2500	
9-MAR-2008 16:41	BKG		0.2600	
11-MAR-2008 03:01	BKG		0.2700	
12-MAR-2008 03:02	BKG		0.2500	
13-MAR-2008 02:57	BKG		0.3200	
14-MAR-2008 02:18	BKG		0.2600	
14-MAR-2008 23:35	BKG		0.2900	
15-MAR-2008 23:29	BKG		0.2500	
16-MAR-2008 16:07	BKG		0.2400	
18-MAR-2008 03:37	BKG		0.2300	
19-MAR-2008 03:31	BKG		0.2600	
20-MAR-2008 01:51	BKG		0.2700	
21-MAR-2008 02:27	BKG		0.2600	
21-MAR-2008 23:20	BKG		0.2900	
23-MAR-2008 20:01	BKG		0.3000	

-- Multi-Test Full Report --

Description : quad 2b 1" beta bkg, cpm

Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:20	BKG		0.2800	
12-JAN-2008 03:04	BKG		0.2500	
12-JAN-2008 20:43	BKG		0.2700	
13-JAN-2008 21:38	BKG		0.2800	
15-JAN-2008 04:13	BKG		0.2200	

16-JAN-2008 02:26	BKG	0.2900			
17-JAN-2008 02:55	BKG	0.2400			
18-JAN-2008 03:42	BKG	0.3300			
19-JAN-2008 02:17	BKG	0.2800			
19-JAN-2008 15:43	BKG	0.2100			
20-JAN-2008 13:39	BKG	0.2600			
22-JAN-2008 02:10	BKG	0.2500			
23-JAN-2008 01:52	BKG	0.2400			
24-JAN-2008 03:41	BKG	0.2500			
25-JAN-2008 03:03	BKG	0.3000			
25-JAN-2008 23:30	BKG	0.2500			
27-JAN-2008 19:17	BKG	0.3200			
29-JAN-2008 01:41	BKG	0.2900			
30-JAN-2008 01:56	BKG	0.2800			
31-JAN-2008 02:15	BKG	0.2400			
1-FEB-2008 02:39	BKG	0.2600			
2-FEB-2008 00:10	BKG	0.2600			
2-FEB-2008 13:26	BKG	0.5200			

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej	
3-FEB-2008 18:54	BKG		0.8000			
5-FEB-2008 02:45	BKG		0.2500			
6-FEB-2008 01:44	BKG		0.2600			
7-FEB-2008 02:33	BKG		0.3100			
8-FEB-2008 01:59	BKG		0.2300			
8-FEB-2008 23:20	BKG		0.2700			
9-FEB-2008 13:57	BKG		0.2600			
10-FEB-2008 19:25	BKG		0.2900			
12-FEB-2008 02:15	BKG		0.2800			
13-FEB-2008 02:07	BKG		0.3000			
14-FEB-2008 02:31	BKG		0.2700			
14-FEB-2008 23:14	BKG		0.2900			
16-FEB-2008 01:36	BKG		0.2500			
16-FEB-2008 15:11	BKG		0.3000			
17-FEB-2008 14:26	BKG		0.2700			
19-FEB-2008 01:53	BKG		0.3000			
19-FEB-2008 23:27	BKG		0.3000			
21-FEB-2008 03:19	BKG		0.3300			
22-FEB-2008 03:22	BKG		0.3100			
22-FEB-2008 23:18	BKG		0.3300			
23-FEB-2008 18:49	BKG		0.3100			

24-FEB-2008 19:17	BKG	0.2900			
26-FEB-2008 04:14	BKG	0.2400			
27-FEB-2008 01:51	BKG	0.3100			
28-FEB-2008 03:04	BKG	0.3000			
29-FEB-2008 03:58	BKG	0.3400			
29-FEB-2008 23:15	BKG	0.3300			
1-MAR-2008 12:15	BKG	0.3000			
2-MAR-2008 14:02	BKG	0.3200			
4-MAR-2008 02:44	BKG	0.2600			
5-MAR-2008 03:55	BKG	0.3200			
7-MAR-2008 02:47	BKG	0.3400			
7-MAR-2008 23:29	BKG	0.3800			
8-MAR-2008 17:08	BKG	0.2900			
9-MAR-2008 16:41	BKG	0.3400			
11-MAR-2008 03:01	BKG	0.2700			
12-MAR-2008 03:02	BKG	0.3200			
13-MAR-2008 02:57	BKG	0.3500			
14-MAR-2008 02:18	BKG	0.3300			
14-MAR-2008 23:35	BKG	0.3200			
15-MAR-2008 23:29	BKG	0.3100			
16-MAR-2008 16:07	BKG	0.3100			
18-MAR-2008 03:37	BKG	0.3500			
19-MAR-2008 03:31	BKG	0.3400			
20-MAR-2008 01:51	BKG	0.3700			
21-MAR-2008 02:27	BKG	0.3100			
21-MAR-2008 23:20	BKG	0.3300			
23-MAR-2008 20:01	BKG	0.3100			

-- Multi-Test Full Report --

Description : quad 2c 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type :

Measurement Time Sample ID Sample Analyst Value LU|SD|UD|BS Rej

 Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time Sample ID Sample Analyst Value LU|SD|UD|BS Rej

11-JAN-2008 02:20	BKG	0.2800			
12-JAN-2008 03:04	BKG	0.2600			
12-JAN-2008 20:43	BKG	0.2100			
13-JAN-2008 21:38	BKG	0.2500			

15-JAN-2008 04:13	BKG	0.2000			
16-JAN-2008 02:26	BKG	0.2500			
17-JAN-2008 02:55	BKG	0.2400			
18-JAN-2008 03:42	BKG	0.3400			
19-JAN-2008 02:17	BKG	0.2400			
19-JAN-2008 15:43	BKG	0.3100			
20-JAN-2008 13:39	BKG	0.2800			
22-JAN-2008 02:10	BKG	0.2400			
23-JAN-2008 01:52	BKG	0.2700			
24-JAN-2008 03:41	BKG	0.2600			
25-JAN-2008 03:03	BKG	0.2800			
25-JAN-2008 23:30	BKG	0.2400			
27-JAN-2008 19:17	BKG	0.2900			
29-JAN-2008 01:41	BKG	0.2500			
30-JAN-2008 01:56	BKG	0.3400			
31-JAN-2008 02:15	BKG	0.3000			
1-FEB-2008 02:39	BKG	0.2700			
2-FEB-2008 00:10	BKG	0.2700			
2-FEB-2008 13:26	BKG	0.4900			R
3-FEB-2008 18:54	BKG	0.4000			R
5-FEB-2008 02:45	BKG	0.2700			
6-FEB-2008 01:44	BKG	0.2400			
7-FEB-2008 02:33	BKG	0.2800			
8-FEB-2008 01:59	BKG	0.3100			
8-FEB-2008 23:20	BKG	0.2400			
9-FEB-2008 13:57	BKG	0.3400			
10-FEB-2008 19:25	BKG	0.3000			
12-FEB-2008 02:15	BKG	0.3100			
13-FEB-2008 02:07	BKG	0.2700			
14-FEB-2008 02:31	BKG	0.2800			
14-FEB-2008 23:14	BKG	0.2700			
16-FEB-2008 01:36	BKG	0.3400			
16-FEB-2008 15:11	BKG	0.3300			
17-FEB-2008 14:26	BKG	0.3200			
19-FEB-2008 01:53	BKG	0.2900			
19-FEB-2008 23:27	BKG	0.3600			
21-FEB-2008 03:19	BKG	0.3400			
22-FEB-2008 03:22	BKG	0.2700			
22-FEB-2008 23:18	BKG	0.3000			
23-FEB-2008 18:49	BKG	0.3200			
24-FEB-2008 19:17	BKG	0.3600			
26-FEB-2008 04:14	BKG	0.3400			
27-FEB-2008 01:51	BKG	0.3500			

28-FEB-2008 03:04	BKG	0.3100	
29-FEB-2008 03:58	BKG	0.3600	
29-FEB-2008 23:15	BKG	0.3100	
1-MAR-2008 12:15	BKG	0.3500	
2-MAR-2008 14:02	BKG	0.3600	
4-MAR-2008 02:44	BKG	0.3700	
5-MAR-2008 03:55	BKG	0.3300	
7-MAR-2008 02:47	BKG	0.3900	

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
7-MAR-2008 23:29	BKG		0.3500	
8-MAR-2008 17:08	BKG		0.3800	
9-MAR-2008 16:41	BKG		0.3000	
11-MAR-2008 03:01	BKG		0.4100	
12-MAR-2008 03:02	BKG		0.3400	
13-MAR-2008 02:57	BKG		0.4300	
14-MAR-2008 02:18	BKG		0.3700	
14-MAR-2008 23:35	BKG		0.4000	
15-MAR-2008 23:29	BKG		0.3700	
16-MAR-2008 16:07	BKG		0.4300	
18-MAR-2008 03:37	BKG		0.3600	
19-MAR-2008 03:31	BKG		0.3400	
20-MAR-2008 01:51	BKG		0.4000	
21-MAR-2008 02:27	BKG		0.5200	
21-MAR-2008 23:20	BKG		0.4200	
23-MAR-2008 20:01	BKG		0.4700	

-- Multi-Test Full Report --

Description : quad 2d 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 02:20	BKG		0.2500	
12-JAN-2008 03:04	BKG		0.2100	
12-JAN-2008 20:43	BKG		0.2600	
13-JAN-2008 21:38	BKG		0.2600	
15-JAN-2008 04:13	BKG		0.2200	
16-JAN-2008 02:26	BKG		0.2400	
17-JAN-2008 02:55	BKG		0.2400	

18-JAN-2008 03:42	BKG	0.3300		
19-JAN-2008 02:17	BKG	0.2900		
19-JAN-2008 15:43	BKG	0.2700		
20-JAN-2008 13:39	BKG	0.3000		
22-JAN-2008 02:10	BKG	0.3200		
23-JAN-2008 01:52	BKG	0.2500		
24-JAN-2008 03:41	BKG	0.2900		
25-JAN-2008 03:03	BKG	0.3100		
25-JAN-2008 23:30	BKG	0.2900		
27-JAN-2008 19:17	BKG	0.3100		
29-JAN-2008 01:41	BKG	0.2900		
30-JAN-2008 01:56	BKG	0.3700		
31-JAN-2008 02:15	BKG	0.3100		
1-FEB-2008 02:39	BKG	0.3300		
2-FEB-2008 00:10	BKG	0.3500		
2-FEB-2008 13:26	BKG	0.5300		R
3-FEB-2008 18:54	BKG	0.7800		R
5-FEB-2008 02:45	BKG	0.3000		
6-FEB-2008 01:44	BKG	0.3100		
7-FEB-2008 02:33	BKG	0.3500		
8-FEB-2008 01:59	BKG	0.3100		
8-FEB-2008 23:20	BKG	0.3100		
9-FEB-2008 13:57	BKG	0.3500		
10-FEB-2008 19:25	BKG	0.2800		

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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12-FEB-2008 02:15	BKG	0.3900		
13-FEB-2008 02:07	BKG	0.3400		
14-FEB-2008 02:31	BKG	0.3100		
14-FEB-2008 23:14	BKG	0.3400		
16-FEB-2008 01:36	BKG	0.3100		
16-FEB-2008 15:11	BKG	0.3500		
17-FEB-2008 14:26	BKG	0.3800		
19-FEB-2008 01:53	BKG	0.3800		
19-FEB-2008 23:27	BKG	0.3900		
21-FEB-2008 03:19	BKG	0.4400		
22-FEB-2008 03:22	BKG	0.4000		
22-FEB-2008 23:18	BKG	0.4400		
23-FEB-2008 18:49	BKG	0.3600		
24-FEB-2008 19:17	BKG	0.3800		
26-FEB-2008 04:14	BKG	0.4100		

27-FEB-2008 01:51 BKG	0.4800			
28-FEB-2008 03:04 BKG	0.3800			
29-FEB-2008 03:58 BKG	0.3900			
29-FEB-2008 23:15 BKG	0.4000			
1-MAR-2008 12:15 BKG	0.3700			
2-MAR-2008 14:02 BKG	0.4600			
4-MAR-2008 02:44 BKG	0.4100			
5-MAR-2008 03:55 BKG	0.4200			
7-MAR-2008 02:47 BKG	0.5000			
7-MAR-2008 23:29 BKG	0.4100			
8-MAR-2008 17:08 BKG	0.4600			
9-MAR-2008 16:41 BKG	0.4400			
11-MAR-2008 03:01 BKG	0.4500			
12-MAR-2008 03:02 BKG	0.4500			
13-MAR-2008 02:57 BKG	0.4900			
14-MAR-2008 02:18 BKG	0.5400			
14-MAR-2008 23:35 BKG	0.5200			
15-MAR-2008 23:29 BKG	0.4800			
16-MAR-2008 16:07 BKG	0.4700			
18-MAR-2008 03:37 BKG	0.4400			
19-MAR-2008 03:31 BKG	0.5200			
20-MAR-2008 01:51 BKG	0.5700			
21-MAR-2008 02:27 BKG	0.5800			
21-MAR-2008 23:20 BKG	0.6500			
23-MAR-2008 20:01 BKG	0.5000			

Quality Assurance Report.

Generated 25-MAR-2008 18:58:55.40

QA Filename : \$DISK1:[QUAD1.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 1a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 54.000000 Upper Bound : 57.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 55.588463 Std Deviation : 0.506796

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 04:39	CHK		55.7000		
12-JAN-2008 06:31	CHK		41.0000	Be Ac	
12-JAN-2008 07:07	CHK		55.6000		
14-JAN-2008 04:54	CHK		54.6000		
15-JAN-2008 04:44	CHK		55.4000		
16-JAN-2008 04:44	CHK		54.7000		
17-JAN-2008 04:40	CHK		55.2000		
18-JAN-2008 04:50	CHK		55.7000		
19-JAN-2008 05:11	CHK		55.5000		
21-JAN-2008 05:37	CHK		55.9000		
22-JAN-2008 04:46	CHK		55.4000		
23-JAN-2008 04:46	CHK		54.7000		
24-JAN-2008 04:48	CHK		55.5000		
25-JAN-2008 04:58	CHK		55.6000		
28-JAN-2008 10:19	CHK		55.5000		
29-JAN-2008 05:01	CHK		54.8000		
30-JAN-2008 04:49	CHK		55.4000		
31-JAN-2008 04:32	CHK		55.1000		
1-FEB-2008 04:41	CHK		55.8000		
2-FEB-2008 04:49	CHK		55.6000		
4-FEB-2008 05:33	CHK		55.5000		

5-FEB-2008 04:49	CHK	55.5000	
6-FEB-2008 04:48	CHK	55.7000	
7-FEB-2008 04:51	CHK	55.1000	
8-FEB-2008 04:50	CHK	55.5000	
11-FEB-2008 04:50	CHK	55.8000	
12-FEB-2008 05:11	CHK	55.3000	
13-FEB-2008 05:17	CHK	55.1000	
14-FEB-2008 05:44	CHK	55.8000	
15-FEB-2008 04:46	CHK	55.5000	
16-FEB-2008 06:21	CHK	55.3000	
18-FEB-2008 05:37	CHK	51.6000	Be Ac
18-FEB-2008 05:56	CHK	55.9000	
19-FEB-2008 04:55	CHK	55.4000	
20-FEB-2008 04:48	CHK	56.0000	
21-FEB-2008 04:49	CHK	55.5000	
22-FEB-2008 04:49	CHK	56.0000	
23-FEB-2008 09:32	CHK	54.6000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
25-FEB-2008 04:51	CHK	55.2000		
26-FEB-2008 04:44	CHK	54.5000	In	
27-FEB-2008 04:49	CHK	55.6000		
28-FEB-2008 04:43	CHK	55.9000		
29-FEB-2008 04:47	CHK	55.8000		
3-MAR-2008 04:56	CHK	55.6000		
4-MAR-2008 04:49	CHK	56.3000		
5-MAR-2008 04:57	CHK	56.0000		
6-MAR-2008 05:12	CHK	55.9000		
7-MAR-2008 04:52	CHK	55.2000		
10-MAR-2008 05:21	CHK	55.4000		
11-MAR-2008 05:39	CHK	54.5000	In	
12-MAR-2008 05:06	CHK	55.8000		
13-MAR-2008 05:09	CHK	56.0000		
14-MAR-2008 05:43	CHK	55.4000		
17-MAR-2008 06:26	CHK	55.9000		
18-MAR-2008 05:01	CHK	55.6000		
19-MAR-2008 04:55	CHK	55.3000		
20-MAR-2008 05:06	CHK	55.3000		
21-MAR-2008 05:02	CHK	55.8000		

-- Multi-Test Full Report --

Description : quad 1b 1" beta %eff
 Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 45.000000 Upper Bound : 48.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 46.490002 Std Deviation : 0.494128

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 04:39	CHK		46.5000	
12-JAN-2008 06:31	CHK		33.5000	Be Ac
12-JAN-2008 07:07	CHK		46.2000	
14-JAN-2008 04:54	CHK		47.2000	
15-JAN-2008 04:44	CHK		46.0000	
16-JAN-2008 04:44	CHK		46.0000	
17-JAN-2008 04:40	CHK		45.6000	
18-JAN-2008 04:50	CHK		46.8000	
19-JAN-2008 05:11	CHK		46.5000	
21-JAN-2008 05:37	CHK		46.8000	
22-JAN-2008 04:46	CHK		46.7000	
23-JAN-2008 04:46	CHK		46.6000	
24-JAN-2008 04:48	CHK		46.8000	
25-JAN-2008 04:58	CHK		46.4000	
28-JAN-2008 10:19	CHK		46.3000	
29-JAN-2008 05:01	CHK		46.5000	
30-JAN-2008 04:49	CHK		46.7000	
31-JAN-2008 04:32	CHK		46.4000	

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
1-FEB-2008 04:41	CHK		46.8000	
2-FEB-2008 04:49	CHK		46.9000	
4-FEB-2008 05:33	CHK		45.9000	
5-FEB-2008 04:49	CHK		46.9000	
6-FEB-2008 04:48	CHK		46.8000	
7-FEB-2008 04:51	CHK		47.3000	

8-FEB-2008 04:50	CHK	46.6000	
11-FEB-2008 04:50	CHK	46.8000	
12-FEB-2008 05:11	CHK	46.5000	
13-FEB-2008 05:17	CHK	46.2000	
14-FEB-2008 05:44	CHK	46.4000	
15-FEB-2008 04:46	CHK	46.8000	
16-FEB-2008 06:21	CHK	46.3000	
18-FEB-2008 05:37	CHK	43.2000	Be Ac
18-FEB-2008 05:56	CHK	45.8000	
19-FEB-2008 04:55	CHK	46.5000	
20-FEB-2008 04:48	CHK	45.9000	
21-FEB-2008 04:49	CHK	47.1000	
22-FEB-2008 04:49	CHK	46.7000	
23-FEB-2008 09:32	CHK	46.7000	
25-FEB-2008 04:51	CHK	45.9000	
26-FEB-2008 04:44	CHK	46.7000	
27-FEB-2008 04:49	CHK	45.8000	
28-FEB-2008 04:43	CHK	45.2000	In
29-FEB-2008 04:47	CHK	46.2000	
3-MAR-2008 04:56	CHK	46.7000	
4-MAR-2008 04:49	CHK	46.4000	
5-MAR-2008 04:57	CHK	47.3000	
6-MAR-2008 05:12	CHK	46.4000	
7-MAR-2008 04:52	CHK	46.2000	
10-MAR-2008 05:21	CHK	46.1000	
11-MAR-2008 05:39	CHK	47.2000	
12-MAR-2008 05:06	CHK	47.6000	In
13-MAR-2008 05:09	CHK	47.4000	
14-MAR-2008 05:43	CHK	47.4000	
17-MAR-2008 06:26	CHK	47.9000	In
18-MAR-2008 05:01	CHK	46.5000	
19-MAR-2008 04:55	CHK	45.8000	
20-MAR-2008 05:06	CHK	46.6000	
21-MAR-2008 05:02	CHK	45.8000	

-- Multi-Test Full Report --

Description : quad 1c 1" beta %eff

Parameter Units : percent Parameter Type : Generic

----- Lower/Upper Bounds Test Parameters -----

Lower Bound : 49.000000 Upper Bound : 53.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 51.024616 Std Deviation : 0.657934

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-JAN-2008 04:39	CHK		50.5000		
12-JAN-2008 06:31	CHK		36.1000	Be Ac	
12-JAN-2008 07:07	CHK		51.0000		
14-JAN-2008 04:54	CHK		51.2000		
15-JAN-2008 04:44	CHK		51.1000		
16-JAN-2008 04:44	CHK		49.6000	In	
17-JAN-2008 04:40	CHK		51.2000		
18-JAN-2008 04:50	CHK		51.7000		
19-JAN-2008 05:11	CHK		51.1000		
21-JAN-2008 05:37	CHK		51.4000		
22-JAN-2008 04:46	CHK		50.4000		
23-JAN-2008 04:46	CHK		50.3000		
24-JAN-2008 04:48	CHK		51.0000		
25-JAN-2008 04:58	CHK		50.8000		
28-JAN-2008 10:19	CHK		51.1000		
29-JAN-2008 05:01	CHK		50.4000		
30-JAN-2008 04:49	CHK		51.2000		
31-JAN-2008 04:32	CHK		51.0000		
1-FEB-2008 04:41	CHK		50.6000		
2-FEB-2008 04:49	CHK		51.6000		
4-FEB-2008 05:33	CHK		50.3000		
5-FEB-2008 04:49	CHK		50.9000		
6-FEB-2008 04:48	CHK		51.6000		
7-FEB-2008 04:51	CHK		51.1000		
8-FEB-2008 04:50	CHK		50.7000		
11-FEB-2008 04:50	CHK		51.1000		
12-FEB-2008 05:11	CHK		51.6000		
13-FEB-2008 05:17	CHK		51.1000		
14-FEB-2008 05:44	CHK		50.8000		
15-FEB-2008 04:46	CHK		50.2000		
16-FEB-2008 06:21	CHK		50.9000		

18-FEB-2008 05:37	CHK	47.5000	Be Ac	
18-FEB-2008 05:56	CHK	50.6000		
19-FEB-2008 04:55	CHK	51.0000		
20-FEB-2008 04:48	CHK	51.7000		
21-FEB-2008 04:49	CHK	51.6000		
22-FEB-2008 04:49	CHK	51.7000		
23-FEB-2008 09:32	CHK	49.9000		
25-FEB-2008 04:51	CHK	50.9000		
26-FEB-2008 04:44	CHK	50.3000		
27-FEB-2008 04:49	CHK	51.4000		
28-FEB-2008 04:43	CHK	50.8000		
29-FEB-2008 04:47	CHK	50.6000		
3-MAR-2008 04:56	CHK	50.9000		
4-MAR-2008 04:49	CHK	50.8000		
5-MAR-2008 04:57	CHK	51.2000		
6-MAR-2008 05:12	CHK	50.3000		
7-MAR-2008 04:52	CHK	50.6000		
10-MAR-2008 05:21	CHK	49.9000		
11-MAR-2008 05:39	CHK	50.7000		
12-MAR-2008 05:06	CHK	50.0000		
13-MAR-2008 05:09	CHK	51.6000		
14-MAR-2008 05:43	CHK	51.3000		
17-MAR-2008 06:26	CHK	51.1000		
18-MAR-2008 05:01	CHK	51.3000		

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

19-MAR-2008 04:55	CHK		52.2000		
20-MAR-2008 05:06	CHK		51.3000		
21-MAR-2008 05:02	CHK		50.4000		

-- Multi-Test Full Report --

Description : quad 1d 1" beta %eff
Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 46.500000 Upper Bound : 49.750000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00
 Mean : 48.156155 Std Deviation : 0.518197

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-JAN-2008 04:39	CHK		48.1000	
12-JAN-2008 06:31	CHK		37.0000	Be Ac
12-JAN-2008 07:07	CHK		47.6000	
14-JAN-2008 04:54	CHK		48.7000	
15-JAN-2008 04:44	CHK		47.9000	
16-JAN-2008 04:44	CHK		47.6000	
17-JAN-2008 04:40	CHK		48.6000	
18-JAN-2008 04:50	CHK		47.6000	
19-JAN-2008 05:11	CHK		48.1000	
21-JAN-2008 05:37	CHK		48.4000	
22-JAN-2008 04:46	CHK		47.6000	
23-JAN-2008 04:46	CHK		47.8000	
24-JAN-2008 04:48	CHK		48.1000	
25-JAN-2008 04:58	CHK		48.3000	
28-JAN-2008 10:19	CHK		47.6000	
29-JAN-2008 05:01	CHK		48.2000	
30-JAN-2008 04:49	CHK		48.3000	
31-JAN-2008 04:32	CHK		49.1000	
1-FEB-2008 04:41	CHK		48.3000	
2-FEB-2008 04:49	CHK		47.9000	
4-FEB-2008 05:33	CHK		48.1000	
5-FEB-2008 04:49	CHK		48.5000	
6-FEB-2008 04:48	CHK		48.4000	
7-FEB-2008 04:51	CHK		49.0000	
8-FEB-2008 04:50	CHK		48.2000	
11-FEB-2008 04:50	CHK		46.7000	In
12-FEB-2008 05:11	CHK		48.4000	
13-FEB-2008 05:17	CHK		48.1000	
14-FEB-2008 05:44	CHK		48.5000	
15-FEB-2008 04:46	CHK		47.3000	
16-FEB-2008 06:21	CHK		48.0000	
18-FEB-2008 05:37	CHK		44.3000	Be Ac
18-FEB-2008 05:56	CHK		47.9000	
19-FEB-2008 04:55	CHK		48.4000	
20-FEB-2008 04:48	CHK		48.1000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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21-FEB-2008 04:49  CHK          48.1000  | | |
22-FEB-2008 04:49  CHK          48.4000  | | |
23-FEB-2008 09:32  CHK          47.8000  | | |
25-FEB-2008 04:51  CHK          47.3000  | | |
26-FEB-2008 04:44  CHK          48.2000  | | |
27-FEB-2008 04:49  CHK          47.9000  | | |
28-FEB-2008 04:43  CHK          48.2000  | | |
29-FEB-2008 04:47  CHK          48.1000  | | |
 3-MAR-2008 04:56  CHK          48.5000  | | |
 4-MAR-2008 04:49  CHK          47.6000  | | |
 5-MAR-2008 04:57  CHK          47.6000  | | |
 6-MAR-2008 05:12  CHK          47.9000  | | |
 7-MAR-2008 04:52  CHK          48.6000  | | |
10-MAR-2008 05:21  CHK          47.7000  | | |
11-MAR-2008 05:39  CHK          47.4000  | | |
12-MAR-2008 05:06  CHK          48.5000  | | |
13-MAR-2008 05:09  CHK          47.3000  | | |
14-MAR-2008 05:43  CHK          48.2000  | | |
17-MAR-2008 06:26  CHK          48.4000  | | |
18-MAR-2008 05:01  CHK          48.2000  | | |
19-MAR-2008 04:55  CHK          48.8000  | | |
20-MAR-2008 05:06  CHK          48.6000  | | |
21-MAR-2008 05:02  CHK          47.8000  | | |

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Quality Assurance Report.

Generated 25-MAR-2008 18:58:56.45

QA Filename : \$DISK1:[QUAD1.QA]BKG_1.QAF;2

-- Multi-Test Full Report --

Description : quad 1a 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 0.645497 Std Deviation : 0.101164

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Measurement Time  Sample ID  Sample Analyst  Value  LU|SD|UD|BS Rej
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11-JAN-2008 02:20	BKG	0.6700			
12-JAN-2008 03:04	BKG	0.7600			R
12-JAN-2008 20:43	BKG	0.7000			
13-JAN-2008 21:38	BKG	0.6600			
15-JAN-2008 04:13	BKG	0.6700			
16-JAN-2008 02:20	BKG	0.7100			
17-JAN-2008 02:55	BKG	0.7200			
18-JAN-2008 03:42	BKG	0.7500			
19-JAN-2008 02:17	BKG	0.7100			
19-JAN-2008 15:41	BKG	0.6800			
20-JAN-2008 13:39	BKG	0.6400			
22-JAN-2008 02:15	BKG	0.6500			
23-JAN-2008 01:52	BKG	0.6900			
24-JAN-2008 03:41	BKG	0.7400			
25-JAN-2008 03:03	BKG	0.7000			
25-JAN-2008 23:30	BKG	0.7000			
27-JAN-2008 19:17	BKG	0.6700			
29-JAN-2008 01:41	BKG	0.6700			
30-JAN-2008 01:56	BKG	0.6900			
31-JAN-2008 02:15	BKG	0.7600			
1-FEB-2008 02:39	BKG	0.6400			
2-FEB-2008 00:09	BKG	0.6800			
2-FEB-2008 13:26	BKG	0.6900			
3-FEB-2008 18:42	BKG	0.7500			
5-FEB-2008 02:45	BKG	0.7100			
6-FEB-2008 01:38	BKG	0.7700			
7-FEB-2008 03:52	BKG	0.7200			
8-FEB-2008 01:59	BKG	0.7000			
8-FEB-2008 23:20	BKG	0.6300			
9-FEB-2008 13:57	BKG	0.6500			
10-FEB-2008 19:25	BKG	0.7100			
12-FEB-2008 02:15	BKG	0.6100			
13-FEB-2008 02:07	BKG	0.8200			
14-FEB-2008 02:30	BKG	0.5900			
14-FEB-2008 23:14	BKG	0.6100			
16-FEB-2008 01:36	BKG	0.6700			
16-FEB-2008 15:11	BKG	0.6800			
17-FEB-2008 14:26	BKG	0.6700			
19-FEB-2008 01:53	BKG	0.6000			
19-FEB-2008 23:26	BKG	0.8500		In	
21-FEB-2008 03:19	BKG	0.6500			

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
22-FEB-2008 03:21	BKG		0.6300		
22-FEB-2008 23:17	BKG		0.7300		
23-FEB-2008 18:49	BKG		0.7000		
24-FEB-2008 19:17	BKG		0.7200		
26-FEB-2008 04:14	BKG		0.7200		
27-FEB-2008 01:51	BKG		0.7200		
28-FEB-2008 03:04	BKG		0.6300		
29-FEB-2008 03:58	BKG		0.7600		
29-FEB-2008 23:15	BKG		0.6600		
1-MAR-2008 12:15	BKG		0.7700		
2-MAR-2008 14:02	BKG		0.7600		
4-MAR-2008 00:23	BKG		0.8000		
4-MAR-2008 00:23	BKG		0.7600		
5-MAR-2008 01:23	BKG		0.5500		
6-MAR-2008 03:42	BKG		0.7500		
7-MAR-2008 02:47	BKG		0.8000		
7-MAR-2008 23:29	BKG		0.6700		
8-MAR-2008 17:08	BKG		0.7400		
9-MAR-2008 16:41	BKG		0.7900		
11-MAR-2008 03:01	BKG		0.6700		
12-MAR-2008 03:02	BKG		0.7100		
13-MAR-2008 02:57	BKG		0.8100		
14-MAR-2008 03:58	BKG		0.7100		
14-MAR-2008 23:35	BKG		0.6700		
15-MAR-2008 23:29	BKG		0.6100		
16-MAR-2008 15:22	BKG		0.6800		
18-MAR-2008 03:37	BKG		0.6900		
19-MAR-2008 03:31	BKG		0.7200		
20-MAR-2008 01:51	BKG		0.7800		
21-MAR-2008 03:37	BKG		0.7300		
21-MAR-2008 23:20	BKG		0.7100		
23-MAR-2008 20:01	BKG		0.7000		

-- Multi-Test Full Report --

Description : quad 1b 1" beta bkg, cpm

Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 0.664437 Std Deviation : 0.059527

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-JAN-2008 02:20	BKG		0.7200		
12-JAN-2008 03:04	BKG		0.7000		R
12-JAN-2008 20:43	BKG		0.7100		
13-JAN-2008 21:38	BKG		0.6800		
15-JAN-2008 04:13	BKG		0.6400		
16-JAN-2008 02:20	BKG		0.6700		
17-JAN-2008 02:55	BKG		0.7600		
18-JAN-2008 03:42	BKG		0.6400		
19-JAN-2008 02:17	BKG		0.6200		

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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19-JAN-2008 15:41	BKG		0.6100		
20-JAN-2008 13:39	BKG		0.6100		
22-JAN-2008 02:15	BKG		0.7700		
23-JAN-2008 01:52	BKG		0.6700		
24-JAN-2008 03:41	BKG		0.7300		
25-JAN-2008 03:03	BKG		0.7000		
25-JAN-2008 23:30	BKG		0.7400		
27-JAN-2008 19:17	BKG		0.7300		
29-JAN-2008 01:41	BKG		0.7100		
30-JAN-2008 01:56	BKG		0.7100		
31-JAN-2008 02:15	BKG		0.7400		
1-FEB-2008 02:39	BKG		0.6600		
2-FEB-2008 00:09	BKG		0.7400		
2-FEB-2008 13:26	BKG		0.8000	In	
3-FEB-2008 18:42	BKG		0.6900		
5-FEB-2008 02:45	BKG		0.7200		
6-FEB-2008 01:38	BKG		0.7600		
7-FEB-2008 03:52	BKG		0.7700		
8-FEB-2008 01:59	BKG		0.7500		
8-FEB-2008 23:20	BKG		0.7700		
9-FEB-2008 13:57	BKG		0.7100		
10-FEB-2008 19:25	BKG		0.7900	In	
12-FEB-2008 02:15	BKG		0.7600		
13-FEB-2008 02:07	BKG		0.7400		
14-FEB-2008 02:30	BKG		0.7400		

14-FEB-2008 23:14	BKG	0.7300	
16-FEB-2008 01:36	BKG	0.7200	
16-FEB-2008 15:11	BKG	0.8200	In
17-FEB-2008 14:26	BKG	0.7600	
19-FEB-2008 01:53	BKG	0.7100	
19-FEB-2008 23:26	BKG	0.9400	Ac
21-FEB-2008 03:19	BKG	0.8300	In
22-FEB-2008 03:21	BKG	0.7600	
22-FEB-2008 23:17	BKG	0.8700	Ac
23-FEB-2008 18:49	BKG	0.8600	Ac
24-FEB-2008 19:17	BKG	0.8100	In
26-FEB-2008 04:14	BKG	0.8500	Ac
27-FEB-2008 01:51	BKG	0.7800	
28-FEB-2008 03:04	BKG	0.7300	
29-FEB-2008 03:58	BKG	0.8700	Ac
29-FEB-2008 23:15	BKG	0.8600	Ac
1-MAR-2008 12:15	BKG	0.8400	In
2-MAR-2008 14:02	BKG	0.8200	In
4-MAR-2008 00:23	BKG	0.8100	In
4-MAR-2008 00:23	BKG	0.8400	In
5-MAR-2008 01:23	BKG	0.8800	Ac
6-MAR-2008 03:42	BKG	1.0700	Ac
7-MAR-2008 02:47	BKG	0.8400	In
7-MAR-2008 23:29	BKG	0.8700	Ac
8-MAR-2008 17:08	BKG	0.8100	In
9-MAR-2008 16:41	BKG	0.9500	Ac
11-MAR-2008 03:01	BKG	0.9500	Ac
12-MAR-2008 03:02	BKG	0.9000	Ac
13-MAR-2008 02:57	BKG	1.0500	Ac
14-MAR-2008 03:58	BKG	0.9500	Ac

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
14-MAR-2008 23:35	BKG		0.8600	Ac
15-MAR-2008 23:29	BKG		0.9000	Ac
16-MAR-2008 15:22	BKG		0.9900	Ac
18-MAR-2008 03:37	BKG		0.9100	Ac
19-MAR-2008 03:31	BKG		1.0300	Ac
20-MAR-2008 01:51	BKG		1.0600	Ac
21-MAR-2008 03:37	BKG		0.9500	Ac
21-MAR-2008 23:20	BKG		0.9900	Ac
23-MAR-2008 20:01	BKG		1.0100	Ac

-- Multi-Test Full Report --

Description : quad 1c 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Manual

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00
 Mean : 0.557351 Std Deviation : 0.061511

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-JAN-2008 02:20	BKG		0.6900	In	
12-JAN-2008 03:04	BKG		0.5100		R
12-JAN-2008 20:43	BKG		0.6200		
13-JAN-2008 21:38	BKG		0.5500		
15-JAN-2008 04:13	BKG		0.5800		
16-JAN-2008 02:20	BKG		0.6000		
17-JAN-2008 02:55	BKG		0.5000		
18-JAN-2008 03:42	BKG		0.5900		
19-JAN-2008 02:17	BKG		0.5700		
19-JAN-2008 15:41	BKG		0.6200		
20-JAN-2008 13:39	BKG		0.6300		
22-JAN-2008 02:15	BKG		0.5700		
23-JAN-2008 01:52	BKG		0.6000		
24-JAN-2008 03:41	BKG		0.6800		
25-JAN-2008 03:03	BKG		0.5700		
25-JAN-2008 23:30	BKG		0.6400		
27-JAN-2008 19:17	BKG		0.5900		
29-JAN-2008 01:41	BKG		0.5500		
30-JAN-2008 01:56	BKG		0.5800		
31-JAN-2008 02:15	BKG		0.6100		
1-FEB-2008 02:39	BKG		0.6100		
2-FEB-2008 00:09	BKG		0.6500		
2-FEB-2008 13:26	BKG		0.6000		
3-FEB-2008 18:42	BKG		0.6200		
5-FEB-2008 02:45	BKG		0.6000		
6-FEB-2008 01:38	BKG		0.6400		
7-FEB-2008 03:52	BKG		0.6700		
8-FEB-2008 01:59	BKG		0.6200		
8-FEB-2008 23:20	BKG		0.5300		

9-FEB-2008 13:57	BKG	0.6200	
10-FEB-2008 19:25	BKG	0.5500	
12-FEB-2008 02:15	BKG	0.5500	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

13-FEB-2008 02:07	BKG		0.6200	
14-FEB-2008 02:30	BKG		0.6400	
14-FEB-2008 23:14	BKG		0.6400	
16-FEB-2008 01:36	BKG		0.5800	
16-FEB-2008 15:11	BKG		0.7000	In
17-FEB-2008 14:26	BKG		0.6600	
19-FEB-2008 01:53	BKG		0.6200	
19-FEB-2008 23:26	BKG		0.6200	
21-FEB-2008 03:19	BKG		0.6500	
22-FEB-2008 03:21	BKG		0.6500	
22-FEB-2008 23:17	BKG		0.6200	
23-FEB-2008 18:49	BKG		0.6000	
24-FEB-2008 19:17	BKG		0.6800	
26-FEB-2008 04:14	BKG		0.5300	
27-FEB-2008 01:51	BKG		0.6100	
28-FEB-2008 03:04	BKG		0.5900	
29-FEB-2008 03:58	BKG		0.5900	
29-FEB-2008 23:15	BKG		0.5500	
1-MAR-2008 12:15	BKG		0.5700	
2-MAR-2008 14:02	BKG		0.5800	
4-MAR-2008 00:23	BKG		0.6600	
4-MAR-2008 00:23	BKG		0.6600	
5-MAR-2008 01:23	BKG		0.5700	
6-MAR-2008 03:42	BKG		0.9000	Ac
7-MAR-2008 02:47	BKG		0.5900	
7-MAR-2008 23:29	BKG		0.5900	
8-MAR-2008 17:08	BKG		0.5600	
9-MAR-2008 16:41	BKG		0.6400	
11-MAR-2008 03:01	BKG		0.6000	
12-MAR-2008 03:02	BKG		0.6200	
13-MAR-2008 02:57	BKG		0.5900	
14-MAR-2008 03:58	BKG		0.5800	
14-MAR-2008 23:35	BKG		0.5500	
15-MAR-2008 23:29	BKG		0.5700	
16-MAR-2008 15:22	BKG		0.5200	
18-MAR-2008 03:37	BKG		0.5200	

19-MAR-2008 03:31	BKG	0.6100			
20-MAR-2008 01:51	BKG	0.6400			
21-MAR-2008 03:37	BKG	0.5800			
21-MAR-2008 23:20	BKG	0.5800			
23-MAR-2008 20:01	BKG	0.5900			

-- Multi-Test Full Report --

Description : quad 1d 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Manual

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00
 Mean : 0.625364 Std Deviation : 0.054096

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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 Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-JAN-2008 02:20	BKG		0.7000			
12-JAN-2008 03:04	BKG		0.6200			R
12-JAN-2008 20:43	BKG		0.5900			
13-JAN-2008 21:38	BKG		0.6500			
15-JAN-2008 04:13	BKG		0.5700			
16-JAN-2008 02:20	BKG		0.6100			
17-JAN-2008 02:55	BKG		0.6000			
18-JAN-2008 03:42	BKG		0.6300			
19-JAN-2008 02:17	BKG		0.6500			
19-JAN-2008 15:41	BKG		0.6500			
20-JAN-2008 13:39	BKG		0.6400			
22-JAN-2008 02:15	BKG		0.6400			
23-JAN-2008 01:52	BKG		0.7200			
24-JAN-2008 03:41	BKG		0.6700			
25-JAN-2008 03:03	BKG		0.5900			
25-JAN-2008 23:30	BKG		0.5700			
27-JAN-2008 19:17	BKG		0.6800			
29-JAN-2008 01:41	BKG		0.5500			
30-JAN-2008 01:56	BKG		0.5900			
31-JAN-2008 02:15	BKG		0.5900			

1-FEB-2008 02:39	BKG	0.6600	
2-FEB-2008 00:09	BKG	0.6400	
2-FEB-2008 13:26	BKG	0.7500	In
3-FEB-2008 18:42	BKG	0.6600	
5-FEB-2008 02:45	BKG	0.6800	
6-FEB-2008 01:38	BKG	0.6000	
7-FEB-2008 03:52	BKG	0.6900	
8-FEB-2008 01:59	BKG	0.6300	
8-FEB-2008 23:20	BKG	0.6400	
9-FEB-2008 13:57	BKG	0.6500	
10-FEB-2008 19:25	BKG	0.5900	
12-FEB-2008 02:15	BKG	0.6100	
13-FEB-2008 02:07	BKG	0.6700	
14-FEB-2008 02:30	BKG	0.6700	
14-FEB-2008 23:14	BKG	0.5400	
16-FEB-2008 01:36	BKG	0.7000	
16-FEB-2008 15:11	BKG	0.5900	
17-FEB-2008 14:26	BKG	0.6100	
19-FEB-2008 01:53	BKG	0.6000	
19-FEB-2008 23:26	BKG	0.6500	
21-FEB-2008 03:19	BKG	0.7100	
22-FEB-2008 03:21	BKG	0.6200	
22-FEB-2008 23:17	BKG	0.6700	
23-FEB-2008 18:49	BKG	0.6300	
24-FEB-2008 19:17	BKG	0.6900	
26-FEB-2008 04:14	BKG	0.6500	
27-FEB-2008 01:51	BKG	0.6400	
28-FEB-2008 03:04	BKG	0.7200	
29-FEB-2008 03:58	BKG	0.6300	
29-FEB-2008 23:15	BKG	0.6400	
1-MAR-2008 12:15	BKG	0.6600	
2-MAR-2008 14:02	BKG	0.5700	
4-MAR-2008 00:23	BKG	0.5800	
4-MAR-2008 00:23	BKG	0.6100	
5-MAR-2008 01:23	BKG	0.6100	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
6-MAR-2008 03:42	BKG		0.7200	
7-MAR-2008 02:47	BKG		0.6700	
7-MAR-2008 23:29	BKG		0.6100	
8-MAR-2008 17:08	BKG		0.6200	

9-MAR-2008 16:41 BKG	0.7500	In	
11-MAR-2008 03:01 BKG	0.7100		
12-MAR-2008 03:02 BKG	0.6600		
13-MAR-2008 02:57 BKG	0.6600		
14-MAR-2008 03:58 BKG	0.7000		
14-MAR-2008 23:35 BKG	0.6600		
15-MAR-2008 23:29 BKG	0.6400		
16-MAR-2008 15:22 BKG	0.6600		
18-MAR-2008 03:37 BKG	0.5600		
19-MAR-2008 03:31 BKG	0.6800		
20-MAR-2008 01:51 BKG	0.6800		
21-MAR-2008 03:37 BKG	0.6800		
21-MAR-2008 23:20 BKG	0.6100		
23-MAR-2008 20:01 BKG	0.6400		

Quality Assurance Report.

Generated 26-MAR-2008 13:40:09.47

QA Filename : \$DISK1:[QUAD7.QA]CHK.QAF;2

-- Multi-Test Full Report --

Description : quad 7a 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 41.000000 Upper Bound : 45.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 43.066666 Std Deviation : 0.694772

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 04:50	CHK		42.9000		
12-FEB-2008 05:11	CHK		43.4000		
13-FEB-2008 05:17	CHK		42.5000		
14-FEB-2008 05:45	CHK		42.7000		
15-FEB-2008 04:46	CHK		43.1000		
16-FEB-2008 06:17	CHK		42.7000		
18-FEB-2008 05:36	CHK		42.4000		
19-FEB-2008 04:56	CHK		43.0000		
20-FEB-2008 04:48	CHK		42.4000		
21-FEB-2008 04:48	CHK		42.6000		
22-FEB-2008 04:49	CHK		42.8000		
23-FEB-2008 09:56	CHK		42.5000		
25-FEB-2008 04:51	CHK		42.7000		
26-FEB-2008 04:45	CHK		43.4000		
27-FEB-2008 04:44	CHK		42.4000		
28-FEB-2008 04:49	CHK		42.4000		
29-FEB-2008 04:47	CHK		43.7000		
3-MAR-2008 04:56	CHK		43.1000		
4-MAR-2008 04:50	CHK		43.1000		
5-MAR-2008 04:57	CHK		42.7000		
7-MAR-2008 04:53	CHK		42.4000		

10-MAR-2008 05:25	CHK	41.7000	
11-MAR-2008 05:39	CHK	43.0000	
12-MAR-2008 05:01	CHK	42.9000	
13-MAR-2008 05:09	CHK	42.9000	
14-MAR-2008 05:39	CHK	43.1000	
17-MAR-2008 06:26	CHK	43.0000	
18-MAR-2008 05:02	CHK	42.9000	
19-MAR-2008 04:55	CHK	43.1000	
20-MAR-2008 05:06	CHK	43.2000	
21-MAR-2008 05:02	CHK	43.3000	
24-MAR-2008 06:46	CHK	43.4000	
25-MAR-2008 05:02	CHK	42.7000	

-- Multi-Test Full Report --

Description : quad 7b 1" beta %eff
 Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 43.000000 Upper Bound : 46.500000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00
 Mean : 44.638760 Std Deviation : 0.608958

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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11-FEB-2008 04:50	CHK	44.0000	
12-FEB-2008 05:11	CHK	43.2000	In
13-FEB-2008 05:17	CHK	44.5000	
14-FEB-2008 05:45	CHK	43.7000	
15-FEB-2008 04:46	CHK	45.1000	
16-FEB-2008 06:17	CHK	44.6000	
18-FEB-2008 05:36	CHK	44.6000	
19-FEB-2008 04:56	CHK	44.4000	
20-FEB-2008 04:48	CHK	44.0000	
21-FEB-2008 04:48	CHK	45.0000	

22-FEB-2008 04:49	CHK	44.5000			
23-FEB-2008 09:56	CHK	44.6000			
25-FEB-2008 04:51	CHK	45.2000			
26-FEB-2008 04:45	CHK	45.2000			
27-FEB-2008 04:44	CHK	45.0000			
28-FEB-2008 04:49	CHK	44.9000			
29-FEB-2008 04:47	CHK	45.2000			
3-MAR-2008 04:56	CHK	44.8000			
4-MAR-2008 04:50	CHK	44.4000			
5-MAR-2008 04:57	CHK	44.8000			
7-MAR-2008 04:53	CHK	44.7000			
10-MAR-2008 05:25	CHK	44.3000			
11-MAR-2008 05:39	CHK	44.6000			
12-MAR-2008 05:01	CHK	45.3000			
13-MAR-2008 05:09	CHK	45.2000			
14-MAR-2008 05:39	CHK	45.6000			
17-MAR-2008 06:26	CHK	44.8000			
18-MAR-2008 05:02	CHK	44.6000			
19-MAR-2008 04:55	CHK	45.2000			
20-MAR-2008 05:06	CHK	45.7000			
21-MAR-2008 05:02	CHK	45.3000			
24-MAR-2008 06:46	CHK	44.8000			
25-MAR-2008 05:02	CHK	45.8000			

-- Multi-Test Full Report --

Description : quad 7c 1" beta %eff
Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 37.000000 Upper Bound : 41.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00
Mean : 39.105072 Std Deviation : 0.586879

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 04:50	CHK		38.7000			
12-FEB-2008 05:11	CHK		37.9000	In		
13-FEB-2008 05:17	CHK		38.0000			

14-FEB-2008 05:45 CHK 38.3000 | | |
 15-FEB-2008 04:46 CHK 38.5000 | | |

Quality Assurance Multi-Test Full Report (continued) Page : 3

Measurement Time Sample ID Sample Analyst Value LU|SD|UD|BS Rej

 16-FEB-2008 06:17 CHK 38.9000 | | |
 18-FEB-2008 05:36 CHK 39.4000 | | |
 19-FEB-2008 04:56 CHK 38.3000 | | |
 20-FEB-2008 04:48 CHK 38.9000 | | |
 21-FEB-2008 04:48 CHK 39.1000 | | |
 22-FEB-2008 04:49 CHK 39.1000 | | |
 23-FEB-2008 09:56 CHK 39.1000 | | |
 25-FEB-2008 04:51 CHK 37.9000 |In| |
 26-FEB-2008 04:45 CHK 38.1000 | | |
 27-FEB-2008 04:44 CHK 38.5000 | | |
 28-FEB-2008 04:49 CHK 39.3000 | | |
 29-FEB-2008 04:47 CHK 38.3000 | | |
 3-MAR-2008 04:56 CHK 38.3000 | | |
 4-MAR-2008 04:50 CHK 38.9000 | | |
 5-MAR-2008 04:57 CHK 36.7000 Be|Ac| |
 7-MAR-2008 04:53 CHK 38.3000 | | |
 10-MAR-2008 05:25 CHK 38.3000 | | |
 11-MAR-2008 05:39 CHK 39.2000 | | |
 12-MAR-2008 05:01 CHK 38.6000 | | |
 13-MAR-2008 05:09 CHK 38.7000 | | |
 14-MAR-2008 05:39 CHK 39.4000 | | |
 17-MAR-2008 06:26 CHK 38.5000 | | |
 18-MAR-2008 05:02 CHK 39.1000 | | |
 19-MAR-2008 04:55 CHK 38.8000 | | |
 20-MAR-2008 05:06 CHK 38.5000 | | |
 21-MAR-2008 05:02 CHK 38.7000 | | |
 24-MAR-2008 06:46 CHK 38.8000 | | |
 25-MAR-2008 05:02 CHK 38.7000 | | |

-- Multi-Test Full Report --

Description : quad 7d 1" beta %eff

Parameter Units : percent Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 15.000000 Upper Bound : 45.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00

Mean : 33.268749 Std Deviation : 6.344590

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 04:50	CHK		29.8000		
12-FEB-2008 05:11	CHK		25.6000		
13-FEB-2008 05:17	CHK		26.4000		
14-FEB-2008 05:45	CHK		24.2000		
15-FEB-2008 04:46	CHK		36.8000		
16-FEB-2008 06:17	CHK		27.1000		
18-FEB-2008 05:36	CHK		26.4000		
19-FEB-2008 04:56	CHK		27.0000		
20-FEB-2008 04:48	CHK		27.4000		
21-FEB-2008 04:48	CHK		27.5000		

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
22-FEB-2008 04:49	CHK		36.0000		
23-FEB-2008 09:56	CHK		26.5000		
25-FEB-2008 04:51	CHK		26.4000		
26-FEB-2008 04:45	CHK		25.6000		
27-FEB-2008 04:44	CHK		43.5000		
28-FEB-2008 04:49	CHK		43.2000		
29-FEB-2008 04:47	CHK		44.3000		
3-MAR-2008 04:56	CHK		43.8000		
4-MAR-2008 04:50	CHK		43.4000		
5-MAR-2008 04:57	CHK		43.9000		
7-MAR-2008 04:53	CHK		43.4000		
10-MAR-2008 05:25	CHK		43.3000		
11-MAR-2008 05:39	CHK		43.5000		
12-MAR-2008 05:01	CHK		43.8000		
13-MAR-2008 05:09	CHK		44.1000		
14-MAR-2008 05:39	CHK		44.2000		
17-MAR-2008 06:26	CHK		43.6000		
18-MAR-2008 05:02	CHK		44.2000		
19-MAR-2008 04:55	CHK		26.8000		
20-MAR-2008 05:06	CHK		43.2000		
21-MAR-2008 05:02	CHK		44.1000		

24-MAR-2008 06:46 CHK 44.4000 | | |
 25-MAR-2008 05:02 CHK 43.1000 | | |

Quality Assurance Report. Generated 26-MAR-2008 13:40:10.62

QA Filename : \$DISK1:[QUAD7.QA]BKG_1.QAF;2

-- Multi-Test Full Report --

Description : quad 7a 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00
 Mean : 0.760199 Std Deviation : 0.050153

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 19:27	BKG		0.9800	Ac	
12-FEB-2008 02:16	BKG		0.8000		
13-FEB-2008 02:08	BKG		0.8500		
14-FEB-2008 02:31	BKG		0.8600		
14-FEB-2008 23:18	BKG		0.8900	In	
16-FEB-2008 01:36	BKG		0.8900	In	
16-FEB-2008 15:12	BKG		0.9400	Ac	
17-FEB-2008 14:29	BKG		0.9500	Ac	
19-FEB-2008 02:09	BKG		0.9300	Ac	
19-FEB-2008 23:27	BKG		0.8500		
21-FEB-2008 03:20	BKG		0.9100	In	
22-FEB-2008 03:23	BKG		0.9100	In	
22-FEB-2008 23:18	BKG		0.9100	In	
23-FEB-2008 18:50	BKG		1.0100	Ac	
24-FEB-2008 19:17	BKG		0.9600	Ac	
26-FEB-2008 04:15	BKG		0.9800	Ac	
27-FEB-2008 01:52	BKG		0.8700	In	
28-FEB-2008 03:05	BKG		0.8800	In	
29-FEB-2008 03:59	BKG		1.0000	Ac	
29-FEB-2008 23:15	BKG		0.9500	Ac	
1-MAR-2008 12:16	BKG		0.9800	Ac	
2-MAR-2008 12:03	BKG		1.0500	Ac	

2-MAR-2008 12:03	BKG	1.0200	Ac	
4-MAR-2008 00:24	BKG	1.0200	Ac	
4-MAR-2008 00:24	BKG	0.9600	Ac	
5-MAR-2008 01:09	BKG	1.0600	Ac	
6-MAR-2008 20:01	BKG	1.0600	Ac	
7-MAR-2008 03:09	BKG	1.0600	Ac	
7-MAR-2008 23:29	BKG	0.9700	Ac	
8-MAR-2008 17:08	BKG	1.0300	Ac	
9-MAR-2008 16:42	BKG	0.9500	Ac	
11-MAR-2008 02:57	BKG	0.9800	Ac	
12-MAR-2008 03:00	BKG	1.0100	Ac	
13-MAR-2008 00:33	BKG	1.1000	Ac	
13-MAR-2008 00:33	BKG	1.1100	Ac	
14-MAR-2008 04:50	BKG	1.0900	Ac	
14-MAR-2008 23:36	BKG	1.0300	Ac	
15-MAR-2008 23:29	BKG	1.1000	Ac	
16-MAR-2008 14:33	BKG	1.0500	Ac	
18-MAR-2008 03:37	BKG	1.0700	Ac	
19-MAR-2008 03:28	BKG	1.0900	Ac	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
20-MAR-2008 02:15	BKG		0.9200	Ac
21-MAR-2008 04:17	BKG		1.0800	Ac
21-MAR-2008 23:23	BKG		1.0100	Ac
23-MAR-2008 20:02	BKG		1.0800	Ac
25-MAR-2008 02:37	BKG		1.1500	Ac

-- Multi-Test Full Report --

Description : quad 7b 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00
 Mean : 0.734636 Std Deviation : 0.058819

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 19:27	BKG		0.9700	Ac

12-FEB-2008 02:16	BKG	0.9100	In	
13-FEB-2008 02:08	BKG	0.9900	Ac	
14-FEB-2008 02:31	BKG	1.0500	Ac	
14-FEB-2008 23:18	BKG	1.0000	Ac	
16-FEB-2008 01:36	BKG	1.0100	Ac	
16-FEB-2008 15:12	BKG	1.0100	Ac	
17-FEB-2008 14:29	BKG	0.9200	Ac	
19-FEB-2008 02:09	BKG	0.9300	Ac	
19-FEB-2008 23:27	BKG	1.0200	Ac	
21-FEB-2008 03:20	BKG	1.0400	Ac	
22-FEB-2008 03:23	BKG	1.0300	Ac	
22-FEB-2008 23:18	BKG	1.1000	Ac	
23-FEB-2008 18:50	BKG	0.9500	Ac	
24-FEB-2008 19:17	BKG	1.0600	Ac	
26-FEB-2008 04:15	BKG	1.0500	Ac	
27-FEB-2008 01:52	BKG	1.1700	Ac	
28-FEB-2008 03:05	BKG	1.0600	Ac	
29-FEB-2008 03:59	BKG	1.1000	Ac	
29-FEB-2008 23:15	BKG	1.0100	Ac	
1-MAR-2008 12:16	BKG	1.2100	Ac	
2-MAR-2008 12:03	BKG	1.1200	Ac	
2-MAR-2008 12:03	BKG	1.1300	Ac	
4-MAR-2008 00:24	BKG	1.0800	Ac	
4-MAR-2008 00:24	BKG	1.1000	Ac	
5-MAR-2008 01:09	BKG	1.2500	Ac	
6-MAR-2008 20:01	BKG	1.5000	Ac	
7-MAR-2008 03:09	BKG	1.1700	Ac	
7-MAR-2008 23:29	BKG	1.2000	Ac	
8-MAR-2008 17:08	BKG	1.3100	Ac	
9-MAR-2008 16:42	BKG	1.2400	Ac	
11-MAR-2008 02:57	BKG	1.1900	Ac	
12-MAR-2008 03:00	BKG	1.3000	Ac	
13-MAR-2008 00:33	BKG	1.5300	Ac	
13-MAR-2008 00:33	BKG	1.4300	Ac	
14-MAR-2008 04:50	BKG	1.2500	Ac	

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
14-MAR-2008 23:36	BKG		1.2600	Ac	
15-MAR-2008 23:29	BKG		1.2600	Ac	
16-MAR-2008 14:33	BKG		1.3800	Ac	
18-MAR-2008 03:37	BKG		1.3200	Ac	

19-MAR-2008 03:28	BKG	1.2900	Ac	
20-MAR-2008 02:15	BKG	1.2400	Ac	
21-MAR-2008 04:17	BKG	1.3100	Ac	
21-MAR-2008 23:23	BKG	1.2400	Ac	
23-MAR-2008 20:02	BKG	1.4700	Ac	
25-MAR-2008 02:37	BKG	1.5200	Ac	

-- Multi-Test Full Report --

Description : quad 7c 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00
 Mean : 0.904636 Std Deviation : 0.084686

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
10-FEB-2008 19:27	BKG		0.9600		
12-FEB-2008 02:16	BKG		0.8800		
13-FEB-2008 02:08	BKG		0.9500		
14-FEB-2008 02:31	BKG		0.9800		
14-FEB-2008 23:18	BKG		1.0100		
16-FEB-2008 01:36	BKG		0.9500		
16-FEB-2008 15:12	BKG		0.9100		
17-FEB-2008 14:29	BKG		0.8800		
19-FEB-2008 02:09	BKG		1.0600		
19-FEB-2008 23:27	BKG		1.0300		
21-FEB-2008 03:20	BKG		1.0100		
22-FEB-2008 03:23	BKG		0.9800		
22-FEB-2008 23:18	BKG		0.9100		
23-FEB-2008 18:50	BKG		0.9800		
24-FEB-2008 19:17	BKG		1.0400		
26-FEB-2008 04:15	BKG		0.9400		
27-FEB-2008 01:52	BKG		0.9800		
28-FEB-2008 03:05	BKG		0.9300		
29-FEB-2008 03:59	BKG		0.9600		
29-FEB-2008 23:15	BKG		0.9500		
1-MAR-2008 12:16	BKG		0.9100		
2-MAR-2008 12:03	BKG		0.9100		
2-MAR-2008 12:03	BKG		0.9200		

4-MAR-2008 00:24	BKG	0.8800	
4-MAR-2008 00:24	BKG	0.9000	
5-MAR-2008 01:09	BKG	1.0200	
6-MAR-2008 20:01	BKG	1.0100	
7-MAR-2008 03:09	BKG	0.9400	
7-MAR-2008 23:29	BKG	1.0100	
8-MAR-2008 17:08	BKG	0.8700	
9-MAR-2008 16:42	BKG	0.9800	

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-MAR-2008 02:57	BKG		1.0100	
12-MAR-2008 03:00	BKG		1.0000	
13-MAR-2008 00:33	BKG		1.2400	Ac
13-MAR-2008 00:33	BKG		1.1600	Ac
14-MAR-2008 04:50	BKG		1.0200	
14-MAR-2008 23:36	BKG		1.0000	
15-MAR-2008 23:29	BKG		0.9400	
16-MAR-2008 14:33	BKG		1.0000	
18-MAR-2008 03:37	BKG		0.9200	
19-MAR-2008 03:28	BKG		1.0200	
20-MAR-2008 02:15	BKG		0.9900	
21-MAR-2008 04:17	BKG		1.0100	
21-MAR-2008 23:23	BKG		0.8600	
23-MAR-2008 20:02	BKG		0.9700	
25-MAR-2008 02:37	BKG		1.0700	

-- Multi-Test Full Report --

Description : quad 7d 1" beta bkg, cpm
 Parameter Units : cpm Parameter Type : Generic

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUN-2007 00:00
 Mean : 0.622848 Std Deviation : 0.119255

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
10-FEB-2008 19:27	BKG		0.5000	
12-FEB-2008 02:16	BKG		0.4400	

13-FEB-2008 02:08	BKG	0.4900	
14-FEB-2008 02:31	BKG	0.4000	
14-FEB-2008 23:18	BKG	0.4000	
16-FEB-2008 01:36	BKG	0.5100	
16-FEB-2008 15:12	BKG	0.7600	
17-FEB-2008 14:29	BKG	0.7700	
19-FEB-2008 02:09	BKG	0.4900	
19-FEB-2008 23:27	BKG	0.5100	
21-FEB-2008 03:20	BKG	0.5400	
22-FEB-2008 03:23	BKG	0.7100	
22-FEB-2008 23:18	BKG	0.5900	
23-FEB-2008 18:50	BKG	0.8000	
24-FEB-2008 19:17	BKG	0.7400	
26-FEB-2008 04:15	BKG	0.4600	
27-FEB-2008 01:52	BKG	0.8100	
28-FEB-2008 03:05	BKG	0.7300	
29-FEB-2008 03:59	BKG	0.7800	
29-FEB-2008 23:15	BKG	0.8100	
1-MAR-2008 12:16	BKG	0.7100	
2-MAR-2008 12:03	BKG	0.8000	
2-MAR-2008 12:03	BKG	0.7700	
4-MAR-2008 00:24	BKG	0.7900	
4-MAR-2008 00:24	BKG	0.7900	
5-MAR-2008 01:09	BKG	0.8200	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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6-MAR-2008 20:01	BKG	0.8200	
7-MAR-2008 03:09	BKG	0.8000	
7-MAR-2008 23:29	BKG	0.8000	
8-MAR-2008 17:08	BKG	0.8800	In
9-MAR-2008 16:42	BKG	0.7700	
11-MAR-2008 02:57	BKG	0.8100	
12-MAR-2008 03:00	BKG	0.7700	
13-MAR-2008 00:33	BKG	0.8900	In
13-MAR-2008 00:33	BKG	0.8400	
14-MAR-2008 04:50	BKG	0.7900	
14-MAR-2008 23:36	BKG	0.8200	
15-MAR-2008 23:29	BKG	0.8500	
16-MAR-2008 14:33	BKG	0.8500	
18-MAR-2008 03:37	BKG	0.7000	
19-MAR-2008 03:28	BKG	0.8300	

20-MAR-2008 02:15 BKG	0.8500			
21-MAR-2008 04:17 BKG	0.7400			
21-MAR-2008 23:23 BKG	0.7700			
23-MAR-2008 20:02 BKG	0.8500			
25-MAR-2008 02:37 BKG	0.9000	In		

RADIUM 226
SAMPLE AND QC DATA

Lot No., Due Date: F8A250205,F8A260145; 02/28/2008,02/25/2008

Client, Site: 1418995; LANDWELL - Tronox Parcel H

QC Batch No., Method Test: 8042381; RRA2267 Ra-226 by ASC-7

SDG, Matrix: ;

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

Thomas D MEJ

Date

3/5/08

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 8042381

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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: Erika Ford Date: 3/6/18

2/21/2008 1:37:39 PM

1418995, Landwell Company
Landwell Company

Sample Preparation/Analysis

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:11

Pipet #:

Sep1 DT/Tm Tech: 2/25/08 14:55 DL

AnalyDueDate: 02/22/2008

Batch: 8042381
SEQ Batch. Test: 8042382, D9TF

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech:

Prep Tech: ,Barcolt

pCi/g

Work Order, Lot, Sample Date/Time	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, Ini/Date	Comments:
1 KF5GG-1-AE F8A250205-13-SAMP		1.03g.in	RATA30224 02/07/08	2126108 115		9"		1734	2/25/080A	
				7.4282 = 1.0389 7.15					2HA 3-3-08 (115) Alpha	15:15 SB 9:33 SB
01/24/2008 08:40			#Containers: 1							Beta:
2 KF5GL-1-AE F8A250205-15-SAMP		1.03g.in	RATA30225 02/07/08	1142 1815		9"			2/25/080A 2/25/080A	
				7.4230 = 1.0774 6.89					2HA 3-3-08 (115) Alpha	15:15 SB 9:42 SB
01/24/2008 09:30			#Containers: 1							Beta:
3 KF6EM-1-AE F8A260145-1-SAMP		1.01g.in	RATA30226 02/07/08	845		9"			2/25/080A	
				7.4540 = 1.0000 7.50					2-26-08 4HC 3-3-08 (087) Alpha	15:15 SB 9:41 SB
01/25/2008 12:10			#Containers: 1							Beta:
4 KF6EP-1-AE F8A260145-2-SAMP		1.01g.in	RATA30227 02/07/08	1919		9"			2/25/080A	
				7.5109 = 1.0579 7.10					2-26-08 5HA 3-3-08 (005) Alpha	15:15 SB 9:44 SB
01/25/2008 12:50			#Containers: 1							Beta:

2/21/2008 1:37:40 PM Balance Id:11
 1418995, Landwell Company Pipet #:
 Landwell Company
AnalyteDueDate: 02/22/2008
 Batch: 8042381 Prep Tech: ,Barcotl
 SEQ Batch, Test: 8042382, D9TF PM, Quote: JAE, 78254

Sample Preparation/Analysis
 D9 Ra-226/228 PprRC5013/5032, SepRC5005
 TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
 01 STANDARD TEST SET
 pCi/g

Sep1 DT/Tm Tech:
 Sep2 DT/Tm Tech:
 Count On | Off
 (24hr) Circle

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	CR Analyst, Init/Date	Comments:
5 KF6EQ-1-AE	1.02g.in	1.02g.in	RATA30228 02/07/08	9"	9"	1957	2/25/08	15:15 SB	
F8A260145-3-SAMP	7.5057 ✓	7.13						2-26-08	15:15 SB
								GMB 3-3-08	9:48 SB

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	CR Analyst, Init/Date	Comments:
6 KF6ER-1-AE	1.00g.in	1.00g.in	RATA30229 02/07/08	9"	9"	2118	2/25/08	15:15 SB	
F8A260145-4-SAMP	7.5005 ✓	7.04						7HB 3-3-08	9:47 SB

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	CR Analyst, Init/Date	Comments:
7 KF6ET-1-AE	1.00g.in	1.00g.in	RATA30230 02/07/08	9"	9"	2157	2/25/08	15:15 SB	
F8A260145-5-SAMP	7.4385 ✓	7.05						8HA 3-3-08	9:43 SB

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	CR Analyst, Init/Date	Comments:
8 KF6EV-1-AE	1.00g.in	1.00g.in	RATA30231 02/07/08	9"	9"	2230	2/25/08	15:15 SB	
F8A260145-6-SAMP	7.4126 ✓	6.98						9RC 3-3-08	10:37 SB

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	CR Analyst, Init/Date	Comments:
01/25/2008 07:25	AmtRec: 500SL	#Containers: 1							
01/25/2008 07:25	AmtRec: 500SL	#Containers: 1							

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	CR Analyst, Init/Date	Comments:
01/25/2008 07:25	AmtRec: 500SL	#Containers: 1							
01/25/2008 07:45	AmtRec: 500SL	#Containers: 1							

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	CR Analyst, Init/Date	Comments:
01/25/2008 13:00	AmtRec: 500SL	#Containers: 1							
01/25/2008 07:25	AmtRec: 500SL	#Containers: 1							

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	CR Analyst, Init/Date	Comments:
01/25/2008 07:25	AmtRec: 500SL	#Containers: 1							
01/25/2008 07:45	AmtRec: 500SL	#Containers: 1							

2/21/2008 1:37:40 PM Balance Id:11
 1418995, Landwell Company Pipet #:
 Landwell Company
Sample Preparation/Analysis
 D9 Ra-226/228 PprRC5013/5032, SepRC5005
 TE Ba-133 by Nat & Ra-226 by Alpha Scint 7 day ingrow
 01 STANDARD TEST SET
AnalyDueDate: 02/22/2008
 Batch: 8042381 Prep Tech: , Barcotl
 SEO Batch, Test: 8042382, D9TF Sep1 DT/Tm Tech:
 pCi/g Sep2 DT/Tm Tech:
 PM, Quote: JAE, 78254

Work Order, Lot, Sample Date/Time	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:
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9 KF6EW-1-AE 1.01g.in RATA30232 02/07/08
 7.4540 = 1.0000
 8.22
 2-26-08 15:45 SB

01/25/2008 08:05 AmtRec: 500SL #Containers: 1
 1.01g.in RATA30233 02/07/08
 7.4540 = 1.0059
 7.41
 ASC (109) Alpha
 3-3-08 10:24 SB

01/25/2008 08:20 AmtRec: 500SL #Containers: 1
 1.01g.in RATA30234 02/07/08
 7.4643 = 1.0000
 8.143
 CSB (103) Alpha
 3-3-08 10:35 SB

01/25/2008 08:40 AmtRec: 500SL #Containers: 1
 1.01g.in RATA30235 02/07/08
 7.5005 = 1.0263
 7.308
 DSA (113) Alpha
 3-3-08 10:39 SB

01/25/2008 08:55 AmtRec: 2X500SL #Containers: 2
 1.01g.in RATA30235 02/07/08
 7.5005 = 1.0263
 7.308
 ESD (020) Alpha
 3-3-08 10:34 SB

TAL Richland Key In - Initial Amt. fi - Final Amt. di - Diluted Amt. s1 - Sep1, s2 - Sep2 Page 3
 Richland Wa. pd - Prep Dt. r - Reference Dt. ec - Enrichment Cell, ct - Cocktailed Added
 WO Cnt: 12
 Prep SamplePrep v4.8.32

2/21/2008 1:37:40 PM

Sample Preparation/Analysis

Balance Id: 11

141899b, Landwell Company
Landwell Company

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TE Ba-133 by Nat & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Pipet #:

AnalyteDueDate: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8042381

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech:

SEQ Batch, Test: 8042382, D9TF 8042382, D9TF

Prep Tech: , Barcott

Work Order, Lot, Sample Date Time	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:
<p>1.03g.in RATA30236 02:07:08</p> <p>7.4643 ✓ 1.0000 8.282</p>										
01/25/2008 08:55										
13XF6E2-1-AM-X										
F8A260145-10-DUP										
<p>1.00g.in RATA30237 02:07:08</p> <p>7.4695 ✓ 1.0000 7.601</p>										
01/25/2008 08:55										
15XF6E2-1-AM-X										
F8A260145-11-SAMP										
<p>1.00g.in RATA30238 02:07:08</p> <p>7.4850 ✓ 1.0000 8.503</p>										
01/25/2008 08:55										
15XGXA-1-AA-B										
J8B110000-381-BLK										
<p>1.03g.in RATA30239 02:07:08</p> <p>7.4695 ✓ 1.0337 7.226</p>										
01/24/2008 08:40										
15XGXA-1-AA-B										
J8B110000-381-BLK										
<p>1.03g.in RATA30236 02:07:08</p> <p>7.4643 ✓ 1.0000 8.282</p>										
01/25/2008 08:55										
13XF6E2-1-AM-X										
F8A260145-10-DUP										
<p>1.00g.in RATA30237 02:07:08</p> <p>7.4695 ✓ 1.0000 7.601</p>										
01/25/2008 08:55										
15XF6E2-1-AM-X										
F8A260145-11-SAMP										
<p>1.00g.in RATA30238 02:07:08</p> <p>7.4850 ✓ 1.0000 8.503</p>										
01/25/2008 08:55										
15XGXA-1-AA-B										
J8B110000-381-BLK										
<p>1.03g.in RATA30239 02:07:08</p> <p>7.4695 ✓ 1.0337 7.226</p>										
01/24/2008 08:40										
15XGXA-1-AA-B										
J8B110000-381-BLK										

2/21/2008 1:37:40 PM

Sample Preparation/Analysis

Balance Id:11

D9 Ra-226/228 PrpRC5013/5032, SepRC5005

Pipet #:

TE Ba-133 by Nai & Ra-226 by Alpha Scint 7 day ingrow

AnalyseDate: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8042381

pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,Barcotl



Work Order, Lot, Sample Date/Time	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:
J8B110000-381-LCS		1.00g.in	RASC4699				68	0614	2/26/08	
			01/21/08	7.5127	✓ 1.0948		9"	0827	2/26/08	KE
				6.802					2-26-08	16:10 SB
									KMF 3-3-08	11:19 SB

1.00g.in

RASC4699

01/21/08

68

9"

0614

0827

2-26-08

16:10 SB

KMF 3-3-08

11:19 SB

Beta:

Scr:

#Containers: 1

AmtRec:

01/24/2008 08:40

Comments:

All Clients for Batch:

1418995, Landwell Company

Landwell Company

JAE, 78254

KF5GG1AE-SAMP Constituent List:

KGXJALAA-BLK:

Ba-133 RDL:

LCL:20

UCL:115

RPD:35

Ra-226

RDL:1

pCi/g

LCL:70

UCL:130

RPD:35

KGXJALAC-LCS:

Ba-133 RDL:

LCL:20

UCL:115

RPD:35

Ra-226

RDL:1

pCi/g

LCL:70

UCL:130

RPD:35

KF5GG1AE-SAMP Calc Info:

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

Approved By

Date:

TAL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 5

ISV - Insufficient Volume for Analysis

WO Cnt: 17

Richland Wa.

pd Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Prep...SamplePrep v4 8.32

ICOC Fraction Transfer/Status Report

ByDate: 3/6/2007, 3/10/2008, Batch: '8042381', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
8042381					
AC		Rev1C		Barcotl	2/21/2008 1:42:21 PM
SC			wagarr	IsBatched	2/12/2008 7:52:00 AM
SC			Barcotl	InPrep	2/21/2008 1:42:21 PM
SC			Barcotl	Prep1C	2/21/2008 1:42:37 PM
SC			LucasD	Sep1C	2/25/2008 3:04:53 PM
SC			DAWKINSO	InCnt1	2/25/2008 5:02:34 PM
SC			BlackCL	Cnt1C	2/26/2008 6:19:31 AM
SC			BairdS	InSep2	2/26/2008 4:44:54 PM
SC			BairdS	CalcC	3/3/2008 4:51:11 PM
SC			mcginnist	Rev1C	3/5/2008 2:43:17 PM
AC			Barcotl		2/21/2008 1:42:37 PM
AC			LucasD		2/25/2008 3:04:53 PM
AC			DAWKINSO		2/25/2008 5:02:34 PM
AC			BlackCL		2/26/2008 6:19:31
AC			BairdS		2/26/2008 4:44:54 PM
AC			BairdS		3/3/2008 4:51:11 PM
AC			mcginnist		3/5/2008 2:43:17 PM

AC: Accepting Entry; SC: Status Change

TAL Richland
Richland Wa.

Rpt DB Transfer log (Batch Results)

SDG or Batch Isotope	Rpt Db Id Method	LotSample RTst Qc Analysis Date	Client Id Result	Matrix CntUncert	Received Date Tot uncert mga	Sample Date Units Expected Yield	Volumes			
8030200	9KF5GG10	F8A25020513	TSB-HJ-07-10'	SOLID	1/25/2008 9:15:00	1/24/2008 8:40:00 AM				
RA-226	D9TE	0	3/3/2008 1:33:00 PM	1.4051E+00	9.76E-02	1.743E-01	1.435E-01	pCi/g	0.963	1.03E+0
RA-226	TBD	0	3/3/2008 1:33:00 PM	1.4051E+00	9.76E-02	1.743E-01	1.435E-01	pCi/g	0.963	1.03E+0
TH-228	D2S1	0	2/20/2008 9:47:29 AM	1.7082E+00	1.443E-01	2.06E-01	6.866E-02	pCi/g	0.846	1.01E+0
TH-230	D2S1	0	2/20/2008 9:47:29 AM	1.6086E+00	1.38E-01	1.954E-01	5.666E-02	pCi/g	0.846	1.01E+0
TH-232	D2S1	0	2/20/2008 9:47:29 AM	1.1591E+00	1.171E-01	1.538E-01	5.666E-02	pCi/g	0.846	1.01E+0
U-234	KWSR	0	2/20/2008 6:25:07 PM	1.7882E+00	2.179E-01	2.905E-01	1.411E-01	PCI/G	0.233	1.01E+0
U-235	KWSR	0	2/20/2008 6:25:07 PM	5.0729E-02	3.743E-02	3.782E-02	1.064E-01	PCI/G	0.233	1.01E+0
U-238	KWSR	0	2/20/2008 6:25:07 PM	1.3126E+00	1.869E-01	2.341E-01	1.411E-01	PCI/G	0.233	1.01E+0
8030200	9KF5GL10	F8A25020515	TSB-HR-08-10'	SOLID	1/25/2008 9:15:00	1/24/2008 9:30:00 AM				
RA-226	D9TE	0	3/3/2008 1:42:00 PM	1.5878E+00	1.029E-01	1.881E-01	1.05E-01	pCi/g	0.928	1.03E+0
RA-226	TBD	0	3/3/2008 1:42:00 PM	1.5878E+00	1.029E-01	1.881E-01	1.05E-01	pCi/g	0.928	1.03E+0
TH-228	D2S1	0	2/20/2008 12:48:03 PM	2.3821E+00	1.819E-01	2.733E-01	6.641E-02	pCi/g	0.9	1.0E+0
TH-230	D2S1	0	2/20/2008 12:48:03 PM	1.5522E+00	1.448E-01	1.966E-01	6.465E-02	pCi/g	0.9	1.0E+0
TH-232	D2S1	0	2/20/2008 12:48:03 PM	2.227E+00	1.734E-01	2.578E-01	6.465E-02	pCi/g	0.9	1.0E+0
U-234	KWSR	0	2/21/2008 6:26:27 AM	1.605E+00	1.007E-01	1.676E-01	4.32E-02	PCI/G	0.953	1.0E+0
U-235	KWSR	0	2/21/2008 6:26:27 AM	6.1636E-02	1.993E-02	2.058E-02	3.012E-02	PCI/G	0.953	1.0E+0
U-238	KWSR	0	2/21/2008 6:26:27 AM	1.3925E+00	9.373E-02	1.493E-01	3.97E-02	PCI/G	0.953	1.0E+0
8030213	9KF6E010	F8A2601458	TSB-HR-03-10'	SOLID	1/26/2008 10:15:00	1/25/2008 8:20:00 AM				
RA-226	D9TE	0	3/3/2008 2:35:00 PM	2.0933E+00	1.211E-01	2.478E-01	1.154E-01	pCi/g	0.994	1.01E+0
RA-226	TBD	0	3/3/2008 2:35:00 PM	2.0933E+00	1.211E-01	2.478E-01	1.154E-01	pCi/g	0.994	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.0177E+00	1.543E-01	2.234E-01	5.651E-02	pCi/g	0.705	1.01E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	3.0318E+00	1.866E-01	3.062E-01	5.5E-02	pCi/g	0.705	1.01E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.9155E+00	1.484E-01	2.134E-01	5.5E-02	pCi/g	0.705	1.01E+0
U-234	KWSR	0	2/22/2008 2:21:12 PM	3.3576E+00	1.395E-01	3.106E-01	2.778E-02	PCI/G	1.025	1.0E+0
U-235	KWSR	0	2/22/2008 2:21:12 PM	6.9587E-02	2.012E-02	2.093E-02	2.778E-02	PCI/G	1.025	1.0E+0
U-238	KWSR	0	2/22/2008 2:21:12 PM	2.6037E+00	1.229E-01	2.478E-01	2.778E-02	PCI/G	1.025	1.0E+0
8030213	9KF6E110	F8A2601459	TSB-HJ-02-0'	SOLID	1/26/2008 10:15:00	1/25/2008 8:40:00 AM				
RA-226	D9TE	0	3/3/2008 2:39:00 PM	8.2963E-01	9.527E-02	1.294E-01	1.622E-01	pCi/g	1.0	1.01E+0
RA-226	TBD	0	3/3/2008 2:39:00 PM	8.2963E-01	9.527E-02	1.294E-01	1.622E-01	pCi/g	1.0	1.01E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	1.8774E+00	1.475E-01	2.104E-01	6.525E-02	pCi/g	0.764	1.02E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.2916E+00	1.205E-01	1.586E-01	5.379E-02	pCi/g	0.764	1.02E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	1.7611E+00	1.407E-01	1.99E-01	5.379E-02	pCi/g	0.764	1.02E+0
U-234	KWSR	0	2/22/2008 2:21:29 PM	9.8107E-01	7.856E-02	1.135E-01	3.012E-02	PCI/G	0.928	1.02E+0
U-235	KWSR	0	2/22/2008 2:21:29 PM	3.7734E-02	1.546E-02	1.577E-02	3.012E-02	PCI/G	0.928	1.02E+0
U-238	KWSR	0	2/22/2008 2:21:29 PM	1.1131E+00	8.368E-02	1.251E-01	3.012E-02	PCI/G	0.928	1.02E+0
8030213	9KF6E210	F8A26014510	TSB-HJ-02-10'	SOLID	1/26/2008 10:15:00	1/25/2008 8:55:00 AM				
RA-226	D9TE	0	3/3/2008 2:34:00 PM	1.579E+00	9.616E-02	1.792E-01	8.26E-02	pCi/g	0.974	1.01E+0
RA-226	TBD	0	3/3/2008 2:34:00 PM	1.579E+00	9.616E-02	1.792E-01	8.26E-02	pCi/g	0.974	1.01E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	1.9666E+00	1.437E-01	2.128E-01	7.178E-02	pCi/g	0.871	1.02E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.7869E+00	1.353E-01	1.966E-01	7.932E-02	pCi/g	0.871	1.02E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	1.4901E+00	1.233E-01	1.713E-01	5.744E-02	pCi/g	0.871	1.02E+0
U-234	KWSR	0	2/22/2008 2:21:45 PM	2.1117E+00	1.133E-01	2.091E-01	2.908E-02	PCI/G	1.001	1.03E+0
U-235	KWSR	0	2/22/2008 2:21:45 PM	6.0715E-02	1.924E-02	1.989E-02	2.908E-02	PCI/G	1.001	1.03E+0
U-238	KWSR	0	2/22/2008 2:21:45 PM	1.5519E+00	9.716E-02	1.616E-01	3.431E-02	PCI/G	1.001	1.03E+0
8030213	9KF6E510	F8A26014511	TSB-HR-02-0'	SOLID	1/26/2008 10:15:00	1/25/2008 9:45:00 AM				
RA-226	D9TE	0	3/3/2008 2:33:00 PM	1.2536E+00	8.49E-02	1.476E-01	9.29E-02	pCi/g	1.0	1.0E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	2.5836E+00	2.076E-01	2.93E-01	7.983E-02	pCi/g	0.727	1.01E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.4074E+00	1.513E-01	1.886E-01	7.766E-02	pCi/g	0.727	1.01E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	2.0754E+00	1.835E-01	2.475E-01	7.766E-02	pCi/g	0.727	1.01E+0
U-234	KWSR	0	2/22/2008 2:22:10 PM	1.105E+00	8.215E-02	1.233E-01	2.924E-02	PCI/G	0.953	1.01E+0
U-235	KWSR	0	2/22/2008 2:22:10 PM	4.2736E-02	1.62E-02	1.658E-02	2.924E-02	PCI/G	0.953	1.01E+0

8042381, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

SDG or Batch	Rpt Db Id	LotSample	Client Id	Matrix	Received Date	Sample Date			Volumes	
Isotope	Method	RTst Qc	Analysis Date	Result	CntUncert	TotUncert	maa	Units	Expected Yield	
U-238	KWSR	0	2/22/2008 2:22:10 PM	1.1478E+00	8.372E-02	1.27E-01	2.924E-02	PCI/G	0.953	1.01E+0
8030213	9KF6EM10		F8A2601451	TSB-HJ-01-10'	SOLID		1/26/2008 10:15:00	1/25/2008 12:10:00 PM		
RA-226	D9TE	0	3/3/2008 1:41:00 PM	1.3657E+00	9.376E-02	1.604E-01	1.367E-01	pCi/g	1.0	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.8241E+00	1.378E-01	2.095E-01	5.87E-02	pCi/g	0.857	1.01E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.6482E+00	1.291E-01	1.923E-01	4.843E-02	pCi/g	0.857	1.01E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	2.4147E+00	1.563E-01	2.608E-01	4.843E-02	pCi/g	0.857	1.01E+0
U-234	KWSR	0	2/22/2008 2:19:11 PM	1.6921E+00	1.015E-01	1.736E-01	3.432E-02	PCI/G	0.953	1.02E+0
U-235	KWSR	0	2/22/2008 2:19:11 PM	8.5031E-02	2.276E-02	2.383E-02	2.909E-02	PCI/G	0.953	1.02E+0
U-238	KWSR	0	2/22/2008 2:19:11 PM	1.6144E+00	9.907E-02	1.669E-01	2.909E-02	PCI/G	0.953	1.02E+0
8030213	9KF6EP10		F8A2601452	TSB-HJ-09-0'	SOLID		1/26/2008 10:15:00	1/25/2008 12:50:00 PM		
RA-226	D9TE	0	3/3/2008 1:44:00 PM	1.2501E+00	9.548E-02	1.53E-01	1.553E-01	pCi/g	0.945	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.0512E+00	1.457E-01	2.291E-01	7.073E-02	pCi/g	0.901	1.0E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	9.4027E-01	9.783E-02	1.27E-01	7.823E-02	pCi/g	0.901	1.0E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.6199E+00	1.276E-01	1.891E-01	5.665E-02	pCi/g	0.901	1.0E+0
U-234	KWSR	0	2/22/2008 2:19:29 PM	1.014E+00	7.967E-02	1.162E-01	2.998E-02	PCI/G	1.008	1.0E+0
U-235	KWSR	0	2/22/2008 2:19:29 PM	1.1266E-02	8.94E-03	8.989E-03	2.998E-02	PCI/G	1.008	1.0E+0
U-238	KWSR	0	2/22/2008 2:19:29 PM	1.0515E+00	8.114E-02	1.194E-01	2.998E-02	PCI/G	1.008	1.0E+0
8030213	9KF6EQ10		F8A2601453	TSB-HJ-09-10'	SOLID		1/26/2008 10:15:00	1/25/2008 1:00:00 PM		
RA-226	D9TE	0	3/3/2008 1:48:00 PM	1.6981E+00	1.121E-01	2.093E-01	1.298E-01	pCi/g	0.95	1.02E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.8173E+00	1.533E-01	2.183E-01	6.182E-02	pCi/g	0.948	1.02E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.4952E+00	1.371E-01	1.875E-01	6.018E-02	pCi/g	0.948	1.02E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.3947E+00	1.324E-01	1.782E-01	6.018E-02	pCi/g	0.948	1.02E+0
U-234	KWSR	0	2/22/2008 2:19:42 PM	2.6374E+00	1.285E-01	2.55E-01	4.291E-02	PCI/G	0.94	1.02E+0
U-235	KWSR	0	2/22/2008 2:19:42 PM	9.9949E-02	2.502E-02	2.637E-02	2.992E-02	PCI/G	0.94	1.02E+0
U-238	KWSR	0	2/22/2008 2:19:42 PM	2.3663E+00	1.218E-01	2.321E-01	4.875E-02	PCI/G	0.94	1.02E+0
8030213	9KF6ER10		F8A2601454	TSB-HJ-03-0'	SOLID		1/26/2008 10:15:00	1/25/2008 7:25:00 AM		
RA-226	D9TE	0	3/3/2008 1:47:00 PM	1.1157E+00	9.528E-02	1.428E-01	1.814E-01	pCi/g	0.939	1.0E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.582E+00	1.432E-01	1.974E-01	6.21E-02	pCi/g	0.915	1.03E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	9.5912E-01	1.1E-01	1.374E-01	6.044E-02	pCi/g	0.915	1.03E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.7416E+00	1.483E-01	2.106E-01	6.044E-02	pCi/g	0.915	1.03E+0
U-234	KWSR	0	2/22/2008 2:19:58 PM	1.1651E+00	8.547E-02	1.295E-01	4.586E-02	PCI/G	0.951	1.01E+0
U-235	KWSR	0	2/22/2008 2:19:58 PM	2.9906E-02	1.399E-02	1.421E-02	2.984E-02	PCI/G	0.951	1.01E+0
U-238	KWSR	0	2/22/2008 2:19:58 PM	9.7568E-01	7.809E-02	1.128E-01	3.521E-02	PCI/G	0.951	1.01E+0
8030213	9KF6ET10		F8A2601455	TSB-HJ-03-0' FD	SOLID		1/26/2008 10:15:00	1/25/2008 7:25:00 AM		
RA-226	D9TE	0	3/3/2008 1:43:00 PM	1.049E+00	1.002E-01	1.455E-01	2.045E-01	pCi/g	0.948	1.0E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.1485E+00	1.624E-01	2.451E-01	5.88E-02	pCi/g	0.977	1.02E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.3741E+00	1.282E-01	1.738E-01	5.723E-02	pCi/g	0.977	1.02E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	2.1269E+00	1.594E-01	2.418E-01	5.723E-02	pCi/g	0.977	1.02E+0
U-234	KWSR	0	2/22/2008 2:20:15 PM	9.8954E-01	7.584E-02	1.117E-01	3.971E-02	PCI/G	0.924	1.02E+0
U-235	KWSR	0	2/22/2008 2:20:15 PM	6.2424E-02	1.92E-02	1.989E-02	2.769E-02	PCI/G	0.924	1.02E+0
U-238	KWSR	0	2/22/2008 2:20:15 PM	1.0635E+00	7.866E-02	1.181E-01	4.255E-02	PCI/G	0.924	1.02E+0
8030213	9KF6EV10		F8A2601456	TSB-HJ-03-10'	SOLID		1/26/2008 10:15:00	1/25/2008 7:45:00 AM		
RA-226	D9TE	0	3/3/2008 2:37:00 PM	1.2479E+00	1.079E-01	1.635E-01	1.674E-01	pCi/g	0.942	1.0E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.8638E+00	1.357E-01	2.106E-01	4.728E-02	pCi/g	0.884	1.0E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.495E+00	1.2E-01	1.763E-01	5.429E-02	pCi/g	0.884	1.0E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.5737E+00	1.231E-01	1.834E-01	4.602E-02	pCi/g	0.884	1.0E+0
U-234	KWSR	0	2/22/2008 2:20:30 PM	1.5931E+00	1.002E-01	1.665E-01	3.016E-02	PCI/G	0.916	1.02E+0
U-235	KWSR	0	2/22/2008 2:20:30 PM	3.0225E-02	1.414E-02	1.436E-02	3.016E-02	PCI/G	0.916	1.02E+0
U-238	KWSR	0	2/22/2008 2:20:30 PM	1.3274E+00	9.148E-02	1.437E-01	3.016E-02	PCI/G	0.916	1.02E+0
8030213	9KF6EW10		F8A2601457	TSB-HR-03-0'	SOLID		1/26/2008 10:15:00	1/25/2008 8:05:00 AM		
RA-226	D9TE	0	3/3/2008 2:24:00 PM	8.0495E-01	9.936E-02	1.261E-01	1.977E-01	pCi/g	1.0	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.2854E+00	2.053E-01	2.754E-01	8.827E-02	pCi/g	0.596	1.0E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.3777E+00	1.574E-01	1.925E-01	8.592E-02	pCi/g	0.596	1.0E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.7759E+00	1.785E-01	2.285E-01	8.592E-02	pCi/g	0.596	1.0E+0

8042381, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

SDG or Batch	Rpt Db Id	LotSample	Client Id	Matrix	Received Date	Sample Date	Isotope	Method	RTst Qc	Analysis Date	Result	Cnt.Uncert	Tot.uncert	mg/g	Units	Expected Yield	Volumes
U-234	KWSR	0	2/22/2008 2:20:42 PM	1.0882E+00	8.213E-02	1.223E-01	2.965E-02	PCI/G								0.974	1.0E+0
U-235	KWSR	0	2/22/2008 2:20:42 PM	4.2093E-02	1.642E-02	1.679E-02	2.965E-02	PCI/G								0.974	1.0E+0
U-238	KWSR	0	2/22/2008 2:20:42 PM	9.5824E-01	7.708E-02	1.11E-01	2.965E-02	PCI/G								0.974	1.0E+0
8030213	KF6E21KR		F8A26014510	TSB-HJ-02-10' DUP	SOIL	1/26/2008 10:15:00	1/25/2008 8:55:00 AM										
RA-226	D9TE	0 R	3/3/2008 2:44:00 PM	1.6309E+00	1.311E-01	2.063E-01	1.56E-01	pCi/g								1.0	1.03E+0
8030213	KF6E21MR		F8A26014510	TSB-HJ-02-10' DUP	SOIL	1/26/2008 10:15:00	1/25/2008 8:55:00 AM										
RA-226	D9TE	0 R	3/3/2008 2:43:00 PM	1.9089E+00	1.309E-01	2.44E-01	1.307E-01	pCi/g								1.0	1.0E+0
8030213	KGXJA1AB		J8B110000381	INTRA-LAB BLANK	SOIL	1/25/2008 9:15:00	1/24/2008 8:40:00 AM										
RA-226	D9TE	0 B	3/3/2008 3:25:00 PM	1.4816E-02	2.389E-02	2.394E-02	9.153E-02	pCi/g								0.967	1.03E+0
8030213	KGXJA1CS		J8B110000381	INTRA-LAB CHECK	SOIL	1/25/2008 9:15:00	1/24/2008 8:40:00 AM										
RA-226	D9TE	0 S	3/3/2008 3:19:00 PM	1.5259E+00	1.022E-01	1.89E-01	9.123E-02	pCi/g								1.3652E+00 0.913	1.0E+0

8042381, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtims => .

Alpha Beta, Ra-226 by ASC-7 , Results Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc	Yld	LCS	Yld
Ra-226 by ASC-7			Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt. *CntU: 0+1, + *SystU, MDCCConst:2.71												
Calc	TE	SOIL	KF5GG1AE	RA-226	1.41E+00	(1.74E-01)		pCi/g	R 6.39E-02	1.44E-01	✓		96%		
Calc	TE	SOIL	KF5GL1AE	RA-226	1.59E+00	(1.88E-01)		pCi/g	R 4.41E-02	1.05E-01	✓		93%		
Calc	TE	SOIL	KF6EM1AE	RA-226	1.37E+00	(1.60E-01)		pCi/g	R 6.09E-02	1.37E-01	✓		100%		
Calc	TE	SOIL	KF6EP1AE	RA-226	1.25E+00	(1.53E-01)		pCi/g	R 6.96E-02	1.55E-01	✓		95%		
Calc	TE	SOIL	KF6EQ1AE	RA-226	1.70E+00	(2.09E-01)		pCi/g	R 5.58E-02	1.30E-01	✓		95%		
Calc	TE	SOIL	KF6ER1AE	RA-226	1.12E+00	(1.43E-01)		pCi/g	R 8.25E-02	1.81E-01	✓		94%		
Calc	TE	SOIL	KF6ET1AE	RA-226	1.05E+00	(1.45E-01)		pCi/g	R 9.31E-02	2.05E-01	✓		95%		
Calc	TE	SOIL	KF6EV1AE	RA-226	1.25E+00	(1.64E-01)		pCi/g	R 7.30E-02	1.67E-01	✓		94%		
Calc	TE	SOIL	KF6EW1AE	RA-226	8.05E-01	(1.26E-01)		pCi/g	R 8.65E-02	1.98E-01	✓		100%		
Calc	TE	SOIL	KF6E01AE	RA-226	2.09E+00	(2.48E-01)		pCi/g	R 4.87E-02	1.15E-01	✓		99%		
Calc	TE	SOIL	KF6E11AE	RA-226	8.30E-01	(1.29E-01)		pCi/g	R 6.89E-02	1.62E-01	✓		100%		
Calc	TE	SOIL	KF6E21AH	RA-226	1.58E+00	(1.79E-01)		pCi/g	R 3.37E-02	8.26E-02	✓		97%		REP=
Calc	TE	SOIL	KF6E21AK	RA-226	1.63E+00	(2.06E-01)		pCi/g	R 6.49E-02	1.56E-01	✓	R	100%		018 JK
Calc	TE	SOIL	KF6E21AM	RA-226	1.91E+00	(2.44E-01)		pCi/g	R 5.39E-02	1.31E-01	✓	R	100%		1.09
Calc	TE	SOIL	KF6E51AE	RA-226	1.25E+00	(1.48E-01)		pCi/g	R 3.92E-02	9.29E-02	✓		100%		
Calc	TE	SOIL	KGXJA1AA	RA-226	1.48E-02	(2.39E-02)	U4	pCi/g	R 3.78E-02	9.15E-02	✓	B	97%		OK
Calc	TE	SOIL	KGXJA1AC	RA-226	1.53E+00	(1.89E-01)		pCi/g	R 3.68E-02	9.12E-02	✓	S	91%	112%	OK

Tom DME

3/2/08

() - (1s Uncertainties)
 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 Regardless of Significants
 Date/Time - mm/dd/yy hh:mm, 24hr Time

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate/PtWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/Ent/Yld	Total/Analy	Vol	Final/Count	Vol		
1	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GG1AE	pci/g						03/03/08 13:33	02/26/08 15:15	03/03/08 09:33	RATA30224	1	96%	1.03 g	1.03 g	1.03 g	1.03 g	1.03 g	
													F8A250205-13											
0																								
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Bik	Dpm-Bik	Vol	Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKLcC/MDC	StdDvMdc/LcC			
	03/03/08	RA-226	R	1.405126				4.85000E+00			3.212838			3.212838	1.03 G		96%			0.143508				
								(3.3690E-01)			(0.363396)			(0.363396)	(0.0103)					0.06394				
2	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GL1AE	pci/g						03/03/08 13:42	02/26/08 15:15	03/03/08 09:42	RATA30225	1	93%	1.03 G	1.03 G	1.03 G	1.03 G	1.03 G	
													F8A250205-15											
0																								
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Bik	Dpm-Bik	Vol	Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKLcC/MDC	StdDvMdc/LcC			
	03/03/08	RA-226	R	1.587755				5.07667E+00			3.630422			3.630422	1.03 G		93%			0.105014				
								(3.2902E-01)			(0.388327)			(0.388327)	(0.0103)					0.044058				
3	Calc	TE	SOIL	*STLE	Ra226WoBS	KF6EM1AE	pci/g						03/03/08 13:41	02/26/08 15:15	03/03/08 09:41	RATA30226	1	100%	1.01 G	1.01 G	1.01 G	1.01 G	1.01 G	
													F8A260145-1											
0																								
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Bik	Dpm-Bik	Vol	Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKLcC/MDC	StdDvMdc/LcC			
	03/03/08	RA-226	R	1.365674				4.95000E+00			3.062001			3.062001	1.01 G		100%			0.136661				
								(3.3985E-01)			(0.324035)			(0.324035)	(0.0101)					0.06089				
4	Calc	TE	SOIL	*STLE	Ra226WoBS	KF6EP1AE	pci/g						03/03/08 13:44	02/26/08 15:15	03/03/08 09:44	RATA30227	1	95%	1.01 G	1.01 G	1.01 G	1.01 G	1.01 G	
													F8A260145-2											
0																								
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Bik	Dpm-Bik	Vol	Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKLcC/MDC	StdDvMdc/LcC			
	03/03/08	RA-226	R	1.365674				4.95000E+00			3.062001			3.062001	1.01 G		100%			0.136661				
								(3.3985E-01)			(0.324035)			(0.324035)	(0.0101)					0.06089				
4	Calc	TE	SOIL	*STLE	Ra226WoBS	KF6EP1AE	pci/g						03/03/08 13:44	02/26/08 15:15	03/03/08 09:44	RATA30227	1	95%	1.01 G	1.01 G	1.01 G	1.01 G	1.01 G	
													F8A260145-2											
0																								
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Bik	Dpm-Bik	Vol	Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKLcC/MDC	StdDvMdc/LcC			
	03/03/08	RA-226	R	1.365674				4.95000E+00			3.062001			3.062001	1.01 G		100%			0.136661				
								(3.3985E-01)			(0.324035)			(0.324035)	(0.0101)					0.06089				

(1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC			
03/03/08	RA-226		R	1.250109 (0.15297)		4.18000E+00 (3.1927E-01)	2.802891 (0.311779)	2.802891 (0.311779)	1.01 G (0.0101)	95%	0.155277 0.069575						
Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol																	
5	Calc	TE SOIL				*STLE Ra226WoBS .F8A260145-3	KF6EQ1AE	pCi/g		01/25/08 13:00	03/03/08 13:48	02/26/08 15:15 03/03/08 09:48	RATA30228 RATA30228 Alq	1 95%	1.02 G	g	Abn
0	03/03/08 13:48	RA-226	263	15	ASC6MB ASC	N	N	2.1822E+00 (9.340E-02)	1.0000E+00 (0.000E+00)	95%	8%	1.5909E+00 (0.000E+00)	4.5045E-01 0.980392	1.0000E+00			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC			
03/03/08	RA-226		R	1.698141 (0.209286)		5.01000E+00 (3.3071E-01)	3.845128 (0.431427)	3.845128 (0.431427)	1.02 G (0.0102)	95%	0.12982 0.055757						
Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol																	
6	Calc	TE SOIL				*STLE Ra226WoBS .F8A260145-4	KF6ER1AE	pCi/g		01/25/08 07:25	03/03/08 13:47	02/26/08 15:15 03/03/08 09:47	RATA30229 RATA30229 Alq	1 94%	1.00 G	g	Abn
0	03/03/08 13:47	RA-226	218	41	ASC7HB ASC	N	N	2.5164E+00 (2.224E-02)	1.0000E+00 (0.000E+00)	94%	8%	1.5911E+00 (0.000E+00)	4.5045E-01 1.00	1.0000E+00			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC			
03/03/08	RA-226		R	1.115692 (0.142753)		3.67667E+00 (3.1399E-01)	2.476743 (0.290649)	2.476743 (0.290649)	1.00 G (0.01)	94%	0.181405 0.082528						
Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol																	
7	Calc	TE SOIL				*STLE Ra226WoBS .F8A260145-5	KF6ET1AE	pCi/g		01/25/08 07:25	03/03/08 13:43	02/26/08 15:15 03/03/08 09:43	RATA30230 RATA30230 Alq	1 95%	1.00 G	g	Abn
0	03/03/08 13:43	RA-226	190	42	ASC8HA ASC	N	N	2.2354E+00 (7.444E-02)	1.0000E+00 (0.000E+00)	95%	8%	1.5915E+00 (0.000E+00)	4.5045E-01 1.00	1.0000E+00			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC			
03/03/08	RA-226		R	1.048965 (0.145467)		3.10000E+00 (2.9609E-01)	2.328614 (0.300304)	2.328614 (0.300304)	1.00 G (0.01)	95%	0.204513 0.093142						
Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol																	
8	Calc	TE SOIL				*STLE Ra226WoBS .F8A260145-6	KF6EV1AE	pCi/g		01/25/08 07:45	03/03/08 14:37	02/26/08 15:15 03/03/08 10:37	RATA30231 RATA30231 Alq	1 94%	1.00 G	g	Abn
0	03/03/08 14:37	RA-226	190	42	ASC8HA ASC	N	N	2.2354E+00 (7.444E-02)	1.0000E+00 (0.000E+00)	95%	8%	1.5915E+00 (0.000E+00)	4.5045E-01 1.00	1.0000E+00			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC			
03/03/08	RA-226		R	1.048965 (0.145467)		3.10000E+00 (2.9609E-01)	2.328614 (0.300304)	2.328614 (0.300304)	1.00 G (0.01)	95%	0.204513 0.093142						

Alpha Beta, Ra-226 by ASC-7, Calculated Results

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BKlLcC/MDC	StdDvMdc/LcC			
0	03/03/08 14:37	RA-226	174	19	ASC9RC ASC	N	N	1.9230E+00	1.0000E+00	N	94%	N	1.5857E+00	4.5045E-01	1.0000E+00		
			50	60		Y		(5.038E-02)	(0.000E+00)		8%		(0.000E+00)	1.00			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BKlLcC/MDC	StdDvMdc/LcC			
	03/03/08	RA-226	R	1.247885		3.16333E+00	2.770202	2.770202	1.00 G	94%		0.167363					
				(0.163512)		(2.7364E-01)	(0.334372)	(0.334372)	(0.01)			0.073034					
Sq	Status Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analyt Vol	Final/Count Vol	
9	Calc	TE SOIL	*STLE	Ra226WoBS	KF6E11AE	1.76667E+00	1.804786	1.804786	1.01 G	02/26/08	15:45	RATA30232	1	100%	1.01 G		
						(2.1807E-01)	(0.267432)	(0.267432)	(0.0101)	03/03/08	10:24	RATA30232	Alq	100%	1.01 G		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay
0	03/03/08 14:24	RA-226	105	20	ASCASC ASC	N	N	1.5567E+00	1.0000E+00	1.0000E+00	N	100%	N	1.5903E+00	4.5045E-01	1.0000E+00	Abn
			50	60		Y		(2.787E-02)	(0.000E+00)			8%		(0.000E+00)	0.990099		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BKlLcC/MDC	StdDvMdc/LcC			
	03/03/08	RA-226	R	0.804948		1.76667E+00	1.804786	1.804786	1.01 G	100%		0.197685					
				(0.126141)		(2.1807E-01)	(0.267432)	(0.267432)	(0.0101)			0.086546					
Sq	Status Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analyt Vol	Final/Count Vol	
10	Calc	TE SOIL	*STLE	Ra226WoBS	KF6E01AE	6.32000E+00	4.693492	4.693492	1.01 G	02/26/08	15:45	RATA30233	1	99%	1.01 G		
						(3.6570E-01)	(0.501409)	(0.501409)	(0.0101)	03/03/08	10:35	RATA30233	Alq	99%	1.01 G		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay
0	03/03/08 14:35	RA-226	326	12	ASCCSB ASC	N	N	2.1524E+00	1.0000E+00	1.0000E+00	N	99%	N	1.5891E+00	4.5045E-01	1.0000E+00	Abn
			50	60		Y		(8.782E-02)	(0.000E+00)			8%		(0.000E+00)	0.990099		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BKlLcC/MDC	StdDvMdc/LcC			
	03/03/08	RA-226	R	2.093331		6.32000E+00	4.693492	4.693492	1.01 G	99%		0.115362					
				(0.247799)		(3.6570E-01)	(0.501409)	(0.501409)	(0.0101)			0.048734					
Sq	Status Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analyt Vol	Final/Count Vol	
11	Calc	TE SOIL	*STLE	Ra226WoBS	KF6E11AE	1.84333E+00	1.860133	1.860133	1.01 G	02/26/08	15:45	RATA30234	1	100%	1.01 G		
						(2.1169E-01)	(0.274156)	(0.274156)	(0.0101)	03/03/08	10:39	RATA30234	Alq	100%	1.01 G		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay
0	03/03/08 14:39	RA-226	103	13	ASCDSA ASC	N	N	1.5743E+00	1.0000E+00	1.0000E+00	N	100%	N	1.5887E+00	4.5045E-01	1.0000E+00	Abn
			50	60		Y		(7.273E-02)	(0.000E+00)			8%		(0.000E+00)	0.990099		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BKlLcC/MDC	StdDvMdc/LcC			
	03/03/08	RA-226	R	0.829633		1.84333E+00	1.860133	1.860133	1.01 G	100%		0.162161					
				(0.129387)		(2.1169E-01)	(0.274156)	(0.274156)	(0.0101)			0.068925					

(1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12
 RADCALC v4.8.29
 TA Richland

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

Batch Nbr: 8042381

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	SOIL	*STLE	Ra226WoBS	KF6E21AH	pCi/g		01/25/08 08:55	03/03/08 14:34	02/26/08 15:45	RATA30235	1	97%	1.01 G	9
							SOIL		(3.422E-02)	(0.000E+00)	8%					
0									2.5922E+00	1.0000E+00	97%					
									(3.422E-02)	(0.000E+00)	8%					
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	NetCnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIKlC/MDC	StdDwMdc/LcC		
	03/03/08	RA-226	R	1.579032		5.62667E+00	3.540373	3.540373	1.01 G	97%	0.082597					
				(0.179226)		(3.4267E-01)	(0.359015)	(0.359015)	(0.0101)		0.033714					
13	Calc	TE	SOIL	*STLE	Ra226WoBS	KF6E21AK	pCi/g		01/25/08 08:55	03/03/08 14:44	02/26/08 15:45	RATA30236	1	100%	1.03 G	9
							SOIL		(3.319E-02)	(0.000E+00)	8%					
0									1.4366E+00	1.0000E+00	100%					
									(3.319E-02)	(0.000E+00)	8%					
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	NetCnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIKlC/MDC	StdDwMdc/LcC		
	03/03/08	RA-226	R	1.630924		3.37333E+00	3.729131	3.729131	1.03 G	100%	0.156002					
				(0.206294)		(2.7125E-01)	(0.43167)	(0.43167)	(0.0103)		0.064937					
14	Calc	TE	SOIL	*STLE	Ra226WoBS	KF6E21AM	pCi/g		01/25/08 08:55	03/03/08 14:43	02/26/08 15:45	RATA30237	1	100%	1.00 G	9
							SOIL		(8.671E-02)	(0.000E+00)	8%					
0									1.6903E+00	1.0000E+00	100%					
									(8.671E-02)	(0.000E+00)	8%					
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	NetCnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIKlC/MDC	StdDwMdc/LcC		
	03/03/08	RA-226	R	1.908947		4.51000E+00	4.237705	4.237705	1.00 G	100%	0.130744					
				(0.243992)		(3.0935E-01)	(0.496674)	(0.496674)	(0.01)		0.053934					
15	Calc	TE	SOIL	*STLE	Ra226WoBS	KF6E51AE	pCi/g		01/25/08 09:45	03/03/08 14:33	02/26/08 15:45	RATA30238	1	100%	1.00 G	9
							SOIL		(4.483E-02)	(0.000E+00)	8%					
0									2.6843E+00	1.0000E+00	100%					
									(4.483E-02)	(0.000E+00)	8%					
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	NetCnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIKlC/MDC	StdDwMdc/LcC		
	03/03/08	RA-226	R	1.908947		4.51000E+00	4.237705	4.237705	1.00 G	100%	0.130744					
				(0.243992)		(3.0935E-01)	(0.496674)	(0.496674)	(0.01)		0.053934					

(1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

Batch Nbr: 8042381

3/3/2008 4:48:15 PM

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIKLCcMDC	StdDyMdc/LcC				
03/03/08	RA-226		R	1.253566		4.70000E+00 (3.1833E-01)	2.782813 (0.295374)	2.782813 (0.295374)	1.00 G (0.01)	100%	0.092895	0.039243						
Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol																		
16	Calc	TE	SOIL	*STLE	Ra226WoBS	KGXJA1AA	pci/g	B	01/24/08 08:40	03/03/08 15:25	02/26/08 15:45	RATA30239	1	g				
0	INTRA-LAB	BLANK				.J8B110000-381	SOIL				03/03/08 11:25	RATA30239	Alq	97%	1.03 G	✓		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/AV	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/03/08 15:25	RA-226	10	✓	9	ASCJMA	ASC	N	N	2.4163E+00	1.0000E+00	N	97%	N	1.5838E+00	4.5045E-01	1.0000E+00	Abn
			50		60		Y		(8.336E-02)	(0.000E+00)		8%			(0.000E+00)	0.970874		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIKLCcMDC	StdDyMdc/LcC				
03/03/08	RA-226		R	0.014816		5.00000E-02 (8.0623E-02)	0.033877 (0.054705)	0.033877 (0.054705)	1.03 G (0.0103)	97%	0.091531	0.037757						
Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol																		
17	Calc	TE	SOIL	*STLE	Ra226WoBS	KGXJA1AC	pci/g	S	01/24/08 08:40	03/03/08 15:19	02/26/08 16:10	RASC4699	1	g				
0	INTRA-LAB	CHECK				.J8B110000-381	SOIL				03/03/08 11:19	RASC4699	Alq	91%	1.00 G	✓		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/AV	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/03/08 15:19	RA-226	239	✓	7	ASCKMF	ASC	N	N	2.3920E+00	1.0000E+00	N	91%	N	1.5871E+00	4.5045E-01	1.0000E+00	Abn
			50		60		Y		(1.031E-01)	(0.000E+00)		7%			(0.000E+00)	1.00		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIKLCcMDC	StdDyMdc/LcC				
03/03/08	RA-226		R	1.525909		4.66333E+00 (3.1232E-01)	3.387387 (0.382386)	3.387387 (0.382386)	1.00 G (0.01)	91%	0.091233	0.036771						

(1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

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 RecCnt:17
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ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GG1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0389
Technician: SB
Analysis Size: 1.03 Analysis Unit: G
 Report Date: 3-MAR-2008 14:23:00.74
 First Separation Date: 26-FEB-2008 15:15:00.00
 Second Separation Date: 3-MAR-2008 09:33:00.00
Detector ID: 2 Cell ID: 2HA
Bkg Date: 20-FEB-2008 09:00:37.98
 Bkg Counts: 000027 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 13:33:00.33
 Counts: 000265 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GL1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0774
Technician: SB

Analysis Size: 1.03 Analysis Unit: G

 Report Date: 3-MAR-2008 14:32:00.62
 First Separation Date: 26-FEB-2008 15:15:00.00
 Second Separation Date: 3-MAR-2008 09:42:00.00

Detector ID: 3 Cell ID: 3MA

Bkg Date: 20-FEB-2008 09:00:46.41
 Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 3-MAR-2008 13:42:00.30
 Counts: 000263 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6EM1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 3-MAR-2008 14:31:00.65
 First Separation Date: 26-FEB-2008 15:15:00.00
 Second Separation Date: 3-MAR-2008 09:41:00.00
Detector ID: 4 Cell ID: 4HC
Bkg Date: 6-FEB-2008 16:28:24.19
 Bkg Counts: 000027 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 13:41:00.31
 Counts: 000270 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6EP1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0579
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 3-MAR-2008 14:34:00.84
 First Separation Date: 26-FEB-2008 15:15:00.00
 Second Separation Date: 3-MAR-2008 09:44:00.00
Detector ID: 5 Cell ID: 5HA
Bkg Date: 20-FEB-2008 09:00:54.36
 Bkg Counts: 000030 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 13:44:00.46
 Counts: 000234 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6EQ1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0527
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 3-MAR-2008 14:38:00.62
 First Separation Date: 26-FEB-2008 15:15:00.00
 Second Separation Date: 3-MAR-2008 09:48:00.00
Detector ID: 6 Cell ID: 6MB
Bkg Date: 20-FEB-2008 09:01:05.17
 Bkg Counts: 000015 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 13:48:00.28
 Counts: 000263 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6ER1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0654
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 3-MAR-2008 14:37:00.67
 First Separation Date: 26-FEB-2008 15:15:00.00
 Second Separation Date: 3-MAR-2008 09:47:00.00
Detector ID: 7 Cell ID: 7HB
Bkg Date: 11-FEB-2008 09:55:31.32
 Bkg Counts: 000041 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 13:47:00.31
 Counts: 000218 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6ET1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0551
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 3-MAR-2008 14:33:00.67
 First Separation Date: 26-FEB-2008 15:15:00.00
 Second Separation Date: 3-MAR-2008 09:43:00.00
Detector ID: 8 Cell ID: 8HA
Bkg Date: 21-FEB-2008 09:06:36.57
 Bkg Counts: 000042 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 13:43:00.30
 Counts: 000190 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6EV1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0620
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 3-MAR-2008 15:27:00.64
 First Separation Date: 26-FEB-2008 15:15:00.00
 Second Separation Date: 3-MAR-2008 10:37:00.00
Detector ID: 9 Cell ID: 9RC
Bkg Date: 26-FEB-2008 08:44:50.83
 Bkg Counts: 000019 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 14:37:00.28
 Counts: 000174 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6EW1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 3-MAR-2008 15:14:00.85
 First Separation Date: 26-FEB-2008 15:45:00.00
 Second Separation Date: 3-MAR-2008 10:24:00.00
Detector ID: 10 Cell ID: ASC
Bkg Date: 21-FEB-2008 09:06:51.64
 Bkg Counts: 000020 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 14:24:00.41
 Counts: 000105 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6E01AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0059
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 3-MAR-2008 15:25:00.97
 First Separation Date: 26-FEB-2008 15:45:00.00
 Second Separation Date: 3-MAR-2008 10:35:00.00
Detector ID: 12 Cell ID: CSB
Bkg Date: 20-FEB-2008 09:01:42.58
 Bkg Counts: 000012 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 14:35:00.28
 Counts: 000326 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6E11AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 3-MAR-2008 15:29:00.71
 First Separation Date: 26-FEB-2008 15:45:00.00
 Second Separation Date: 3-MAR-2008 10:39:00.00
Detector ID: 13 Cell ID: DSA
Bkg Date: 20-FEB-2008 09:01:50.52
 Bkg Counts: 000013 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 14:39:00.38
 Counts: 000103 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6E21AH Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0263
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 3-MAR-2008 15:24:00.73
 First Separation Date: 26-FEB-2008 15:45:00.00
 Second Separation Date: 3-MAR-2008 10:34:00.00
Detector ID: 14 Cell ID: ESD
Bkg Date: 14-FEB-2008 09:31:06.91
 Bkg Counts: 000008 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 14:34:00.27
 Counts: 000288 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6E21AK Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.03 Analysis Unit: G
 Report Date: 3-MAR-2008 15:34:00.85
 First Separation Date: 26-FEB-2008 15:45:00.00
 Second Separation Date: 3-MAR-2008 10:44:00.00
Detector ID: 15 Cell ID: FSA
Bkg Date: 14-FEB-2008 09:31:17.80
 Bkg Counts: 000010 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 14:44:00.45
 Counts: 000177 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6E21AM Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 3-MAR-2008 15:33:00.71
 First Separation Date: 26-FEB-2008 15:45:00.00
 Second Separation Date: 3-MAR-2008 10:43:00.00
Detector ID: 16 Cell ID: GSA
Bkg Date: 20-FEB-2008 09:02:22.04
 Bkg Counts: 000009 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 14:43:00.38
 Counts: 000233 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF6E51AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 3-MAR-2008 15:23:00.62
 First Separation Date: 26-FEB-2008 15:45:00.00
 Second Separation Date: 3-MAR-2008 10:33:00.00
Detector ID: 17 Cell ID: HAC
Bkg Date: 20-FEB-2008 09:02:45.23
 Bkg Counts: 000012 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 14:33:00.29
 Counts: 000245 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KGXJA1AA Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0337
Technician: SB
Analysis Size: 1.03 Analysis Unit: G
 Report Date: 3-MAR-2008 16:15:00.62
 First Separation Date: 26-FEB-2008 15:45:00.00
 Second Separation Date: 3-MAR-2008 11:25:00.00
Detector ID: 18 Cell ID: JMA
Bkg Date: 20-FEB-2008 09:02:53.79
 Bkg Counts: 000009 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 15:25:00.30
 Counts: 000010 Count Duration: 000050.0

End of Report



ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KGXJA1AC Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042381 Activity Unit: PCI/G Multiplier: 1.0948
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 3-MAR-2008 16:09:00.62
 First Separation Date: 26-FEB-2008 16:10:00.00
 Second Separation Date: 3-MAR-2008 11:19:00.00
Detector ID: 19 Cell ID: KMF
Bkg Date: 14-FEB-2008 09:34:42.19
 Bkg Counts: 000007 Bkg Duration: 000060.0
Count Date: 3-MAR-2008 15:19:00.28
 Counts: 000239 Count Duration: 000050.0

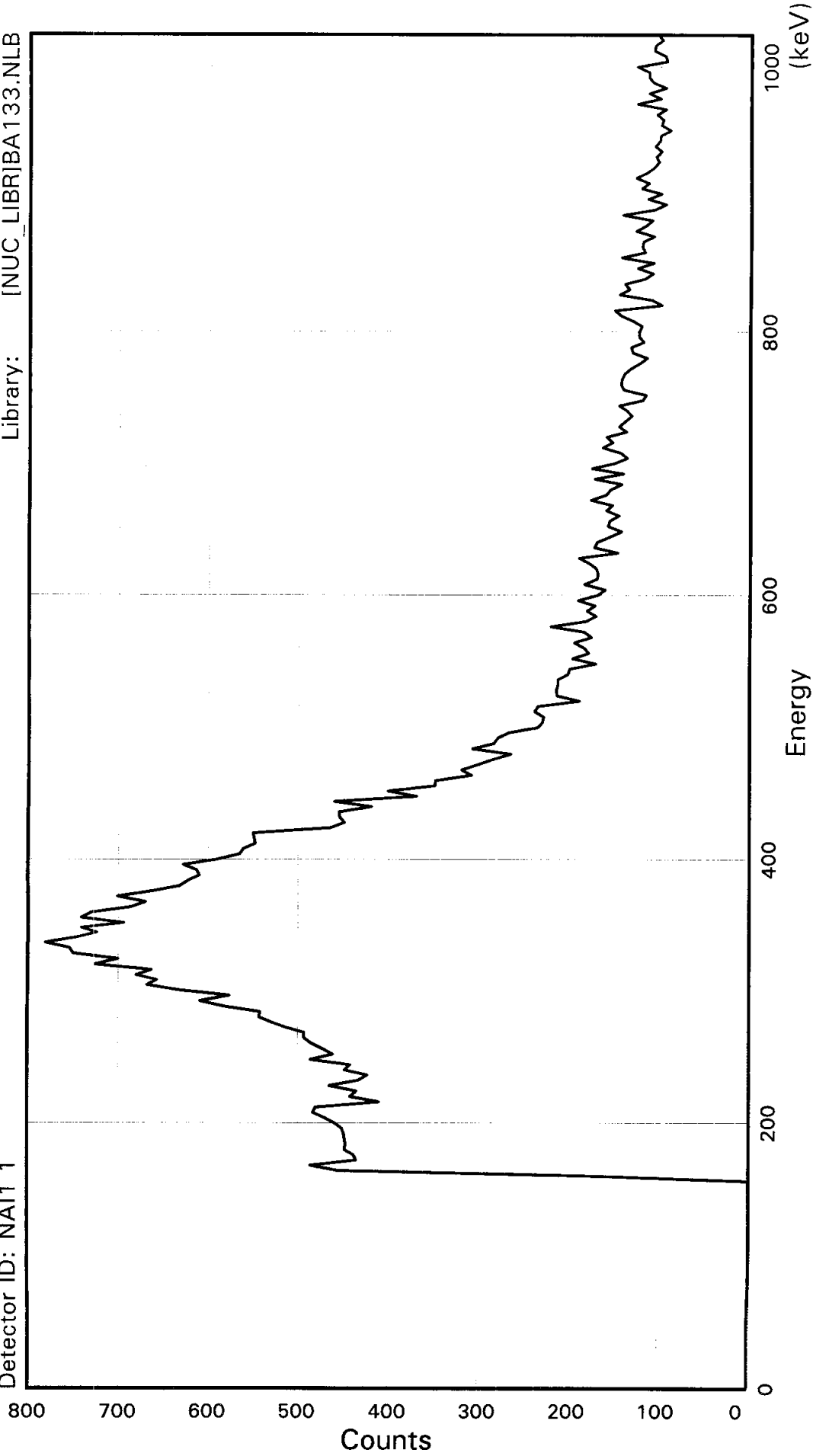
End of Report ✓

TAL Richland WA.

BA133

Sample ID: KF5GG1AE
Detector ID: NAI1 1

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 25-FEB-2008 17:04:47.99
Preset Live Time: 0 00:30:00
Elapsed Live Time: 0 00:30:00
Weighting: DERIVED

Start Channel: 80
End Channel: 113
Iterations: 5
Gain shift: lter

SAMPLE IDENTIFICATION: KF5GG1AE

CONFIGURATION ID: NAI1:KF5GG1AE_250281704
TITLE : BA133
SAMPLE ID : KF5GG1AE

REPORT DATE: 25-FEB-08
ACQUIRE DATE: 25-FEB-08 17:04:47
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 7-FEB-2008 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/C²
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

Configuration : RDND06\$DKA100: [NAI1.SAMPLE] KF5GG1AE_250281704.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 17:04:47
Sample ID : KF5GG1AE 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:	6.9	5.0	6.4	5.7	6.5	3.5	2.8	2.5
88:	0.4	1.5	0.7	-0.6	-0.9	-1.2	-1.1	-2.2
96:	-1.9	-2.9	-2.7	-1.8	-3.7	-2.0	-3.0	-2.9
104:	-3.7	-3.4	-5.4	-4.5	-3.7	-3.6	-4.8	-2.5
112:	-4.2	-2.5						

List of Suspicious Channels

81 82 83 84 85 86

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.25E+01	0.00E+00	1.02E+00
2	6.49E+00	0.00E+00	1.05E+00
3	2.68E+00	0.00E+00	1.07E+00
4	1.02E+00	0.00E+00	1.08E+00

Brief Report

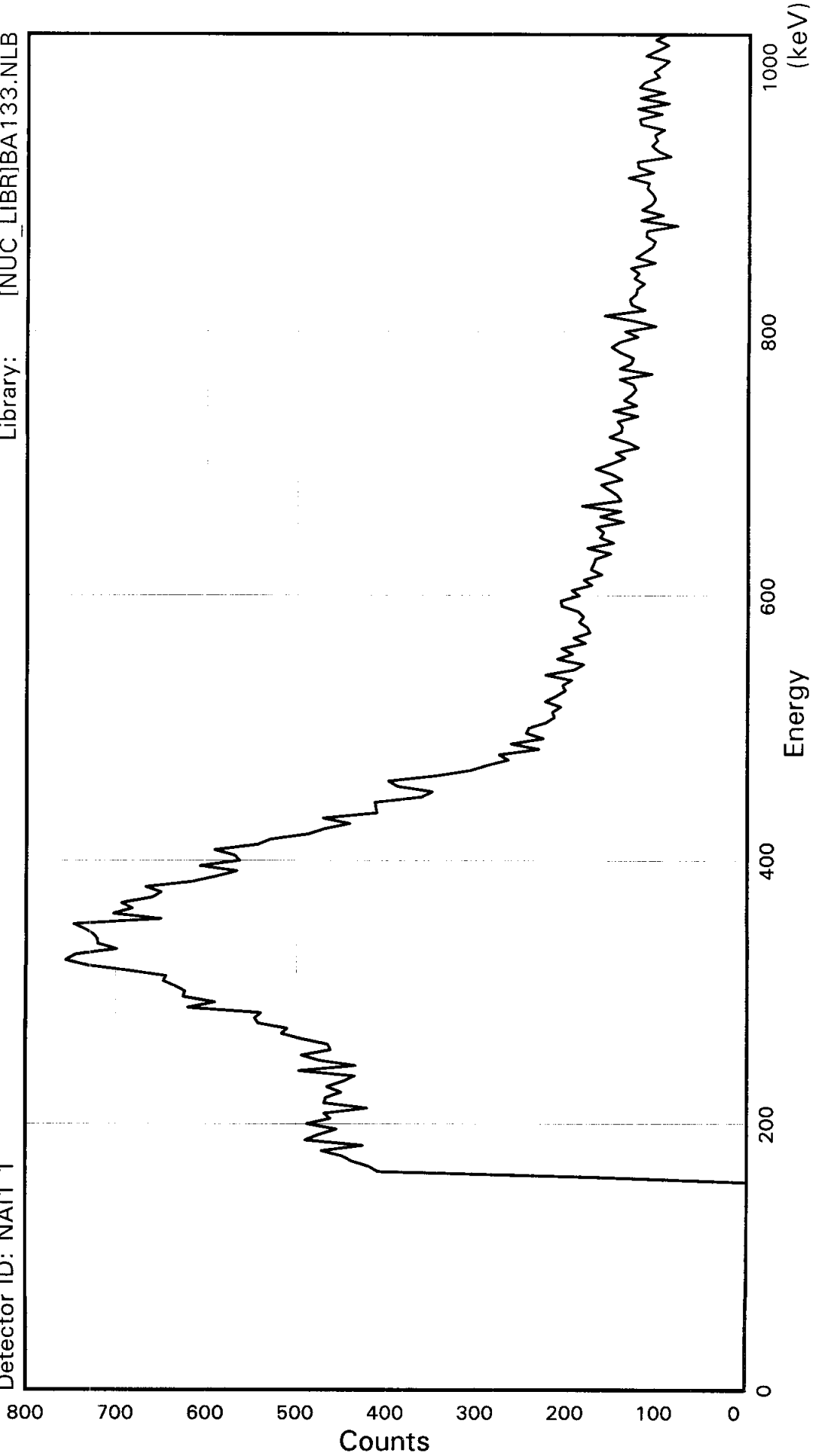
Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	715.	9.36

Total Activity :	715.	

TAL Richland WA.
BA133

Sample ID: KF5GL1AE
Detector ID: NAI1 1

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 25-FEB-2008 17:43:42.1
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: lter

SAMPLE IDENTIFICATION: KF5GL1AE

CONFIGURATION ID: NAI1:KF5GL1AE_250281743
TITLE : BA133
SAMPLE ID : KF5GL1AE

REPORT DATE: 25-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 25-FEB-08 17:43:42	CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY:	SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV	FWHM OFFSET: -.2302E+02 keV
ENERGY SLOPE: 4.0000E+00 keV/C	FWHM SLOPE: 5.7163E+00 sqr keV
ENERGY Q COEFF: 0.0000E+00 keV/C ²	ITERATIONS: 5
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 20.000 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]BA133.NLB

Configuration : RDND06\$DKA100: [NAI1.SAMPLE] KF5GL1AE_250281743.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 17:43:42
Sample ID : KF5GL1AE 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:	8.3	8.5	6.8	4.0	4.6	3.1	3.2	3.2
88:	3.9	-0.7	0.1	-1.0	0.3	-2.5	-0.9	0.5
96:	-1.9	-4.0	-4.1	-1.9	-4.5	-2.0	-1.6	-2.4
104:	-3.4	-5.3	-5.2	-5.1	-3.2	-5.4	-4.6	-3.9
112:	-4.7	-5.4						

List of Suspicious Channels

81 82 83 84 85 86 87

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.65E+01	0.00E+00	1.02E+00
2	7.81E+00	0.00E+00	1.04E+00
3	3.45E+00	0.00E+00	1.07E+00
4	1.75E+00	0.00E+00	1.08E+00
5	1.28E+00	0.00E+00	1.08E+00

Brief Report

	Nuclide	Activity DPM/sampl	1-Sigma Error
	BA-133	689.	10.2

Total Activity :		689.	

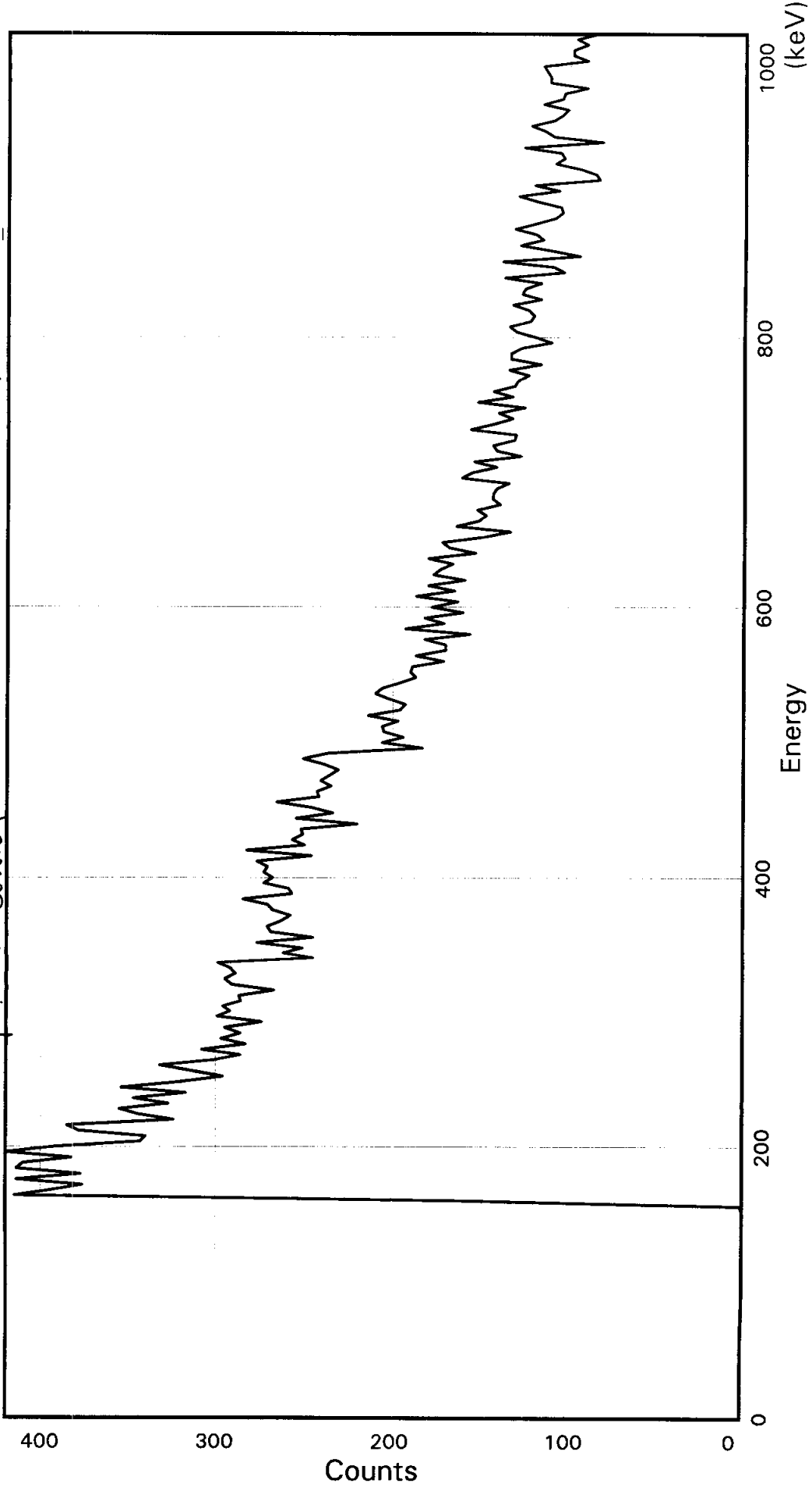
TAL Richland WA.

BA133

Sample ID: KF5GL1AE
Detector ID: NAI1 1

Perchlorate Count

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 25-FEB-2008 11:12:58.84
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: KF5GL1AE

CONFIGURATION ID: NAI1:KF5GL1AE_250281112
TITLE : BA133
SAMPLE ID : KF5GL1AE

REPORT DATE: 25-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 25-FEB-08 11:12:58	CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY:	SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV	FWHM OFFSET: -.2302E+02 keV
ENERGY SLOPE: 4.0000E+00 keV/C	FWHM SLOPE: 5.7163E+00 sqr keV
ENERGY Q COEFF: 0.0000E+00 keV/C ²	ITERATIONS: 5
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 20.000 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]BA133.NLB

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF5GL1AE_250281112.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 11:12:58
Sample ID : KF5GL1AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.54 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:	1.1	1.5	1.1	0.6	1.9	-1.4	-0.6	-0.8
88:	1.1	-1.1	0.3	0.1	-0.3	-0.5	0.0	0.4
96:	1.4	-0.5	-0.3	0.7	0.4	1.1	0.1	1.0
104:	-0.9	0.9	-0.9	-0.3	-0.4	-0.6	-2.0	-0.3
112:	-1.0	-1.0						

List of Suspicious Channels

None

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	7.90E-01	0.00E+00	1.01E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	-14.0	5.22

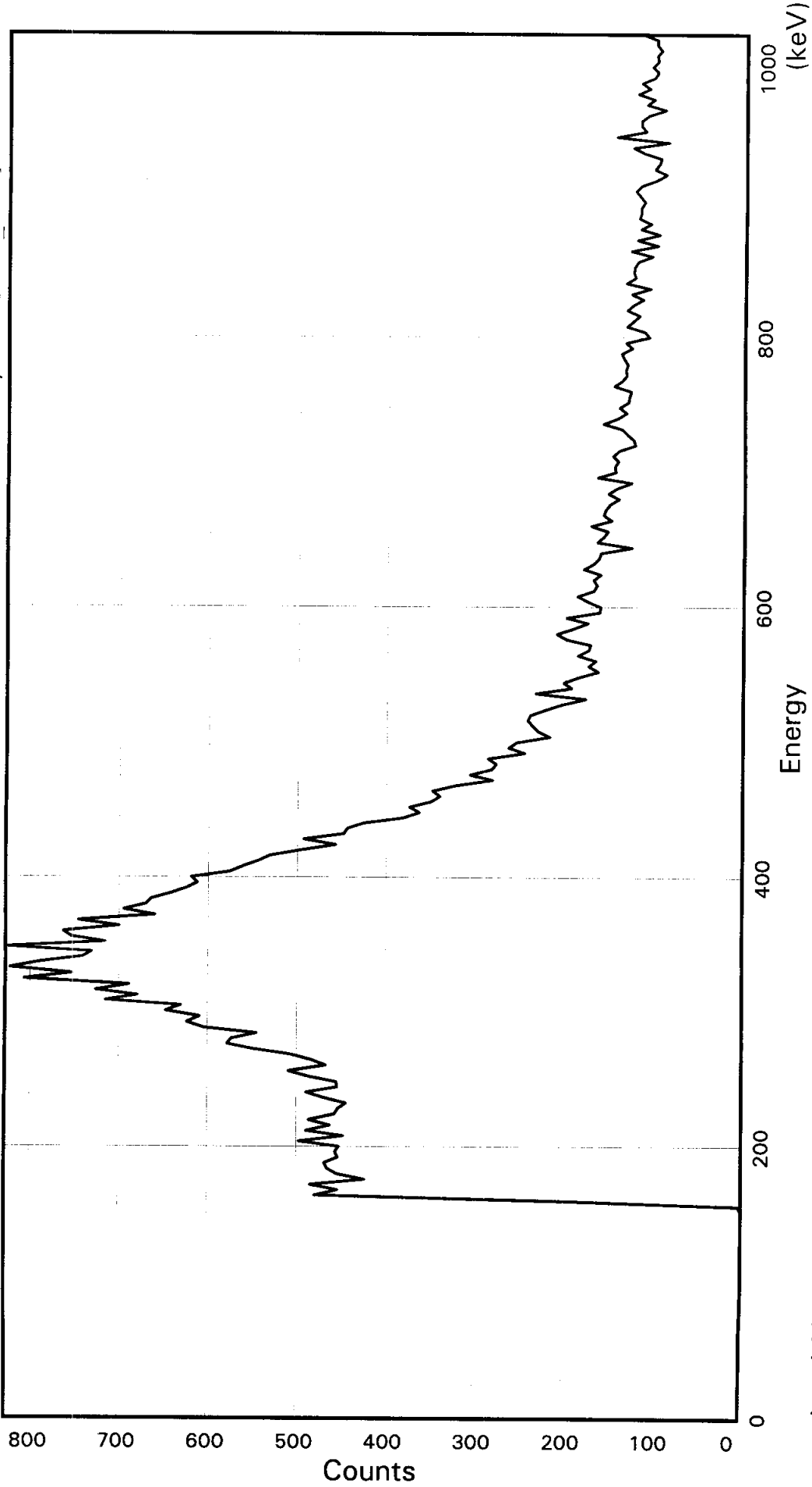
Total Activity :	-14.0	

TAL Richland WA.

BA133

Sample ID: KF6EM1AE
Detector ID: NAI1 1

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 25-FEB-2008 18:15:35.87
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: KF6EM1AE

CONFIGURATION ID: NAI1:KF6EM1AE_250281815
TITLE : BA133
SAMPLE ID : KF6EM1AE

REPORT DATE: 25-FEB-08
ACQUIRE DATE: 25-FEB-08 18:15:35
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 7-FEB-2008 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/C²
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

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF6EM1AE_250281815.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 18:15:35
Sample ID : KF6EM1AE 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:	5.3	9.1	5.4	7.3	6.2	3.0	2.1	4.8
88:	0.6	1.3	1.1	-1.0	1.2	-4.0	-0.7	-0.9
96:	-1.5	-3.0	-2.7	-2.8	-3.4	-2.7	-4.1	-3.7
104:	-4.6	-5.6	-6.3	-3.9	-4.8	-4.0	-4.6	-6.4
112:	-5.4	-4.5						

List of Suspicious Channels

81 82 83 84 85 86

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.71E+01	0.00E+00	1.03E+00
2	6.15E+00	0.00E+00	1.06E+00
3	1.71E+00	0.00E+00	1.08E+00
4	5.82E-01	0.00E+00	1.09E+00

Brief Report

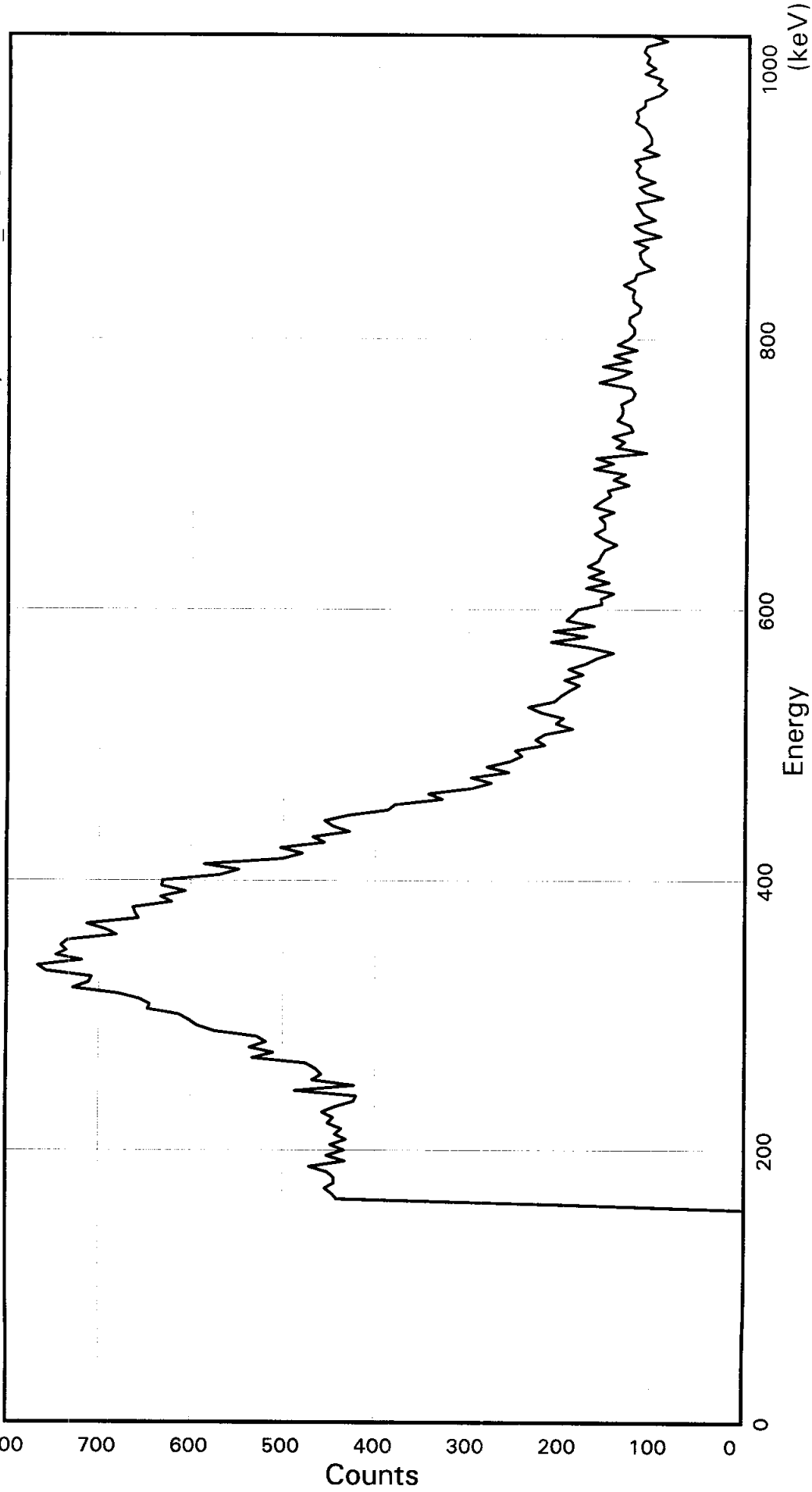
Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	750.	7.32

Total Activity :	750.	

TAL Richland WA.
BA133

Sample ID: KF6EP1AE
Detector ID: NAI1 1

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 25-FEB-2008 18:49:21.9
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: lter

SAMPLE IDENTIFICATION: KF6EP1AE

CONFIGURATION ID: NAI1:KF6EP1AE_250281849
TITLE : BA133
SAMPLE ID : KF6EP1AE

REPORT DATE: 25-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 25-FEB-08 18:49:21	CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY:	SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV	FWHM OFFSET: -.2302E+02 keV
ENERGY SLOPE: 4.0000E+00 keV/C	FWHM SLOPE: 5.7163E+00 sqr keV
ENERGY Q COEFF: 0.0000E+00 keV/C ²	ITERATIONS: 5
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 20.000 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]BA133.NLB

Configuration : RDND06\$DKA100: [NAI1.SAMPLE] KF6EP1AE_250281849.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 18:49:21
Sample ID : KF6EP1AE 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	5.8	4.7	5.4	5.4	2.6	4.1	2.6
88:	2.2	1.6	-0.8	-0.9	0.4	-3.0	-0.7	0.2
96:	-2.0	-2.8	-2.6	-1.0	-2.5	-2.0	-3.4	-1.3
104:	-5.5	-6.4	-3.6	-3.5	-3.0	-4.7	-2.3	-1.7
112:	-2.1	-4.2						

List of Suspicious Channels

81 82 83 84 85 86 87

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.32E+01	0.00E+00	1.02E+00
2	7.26E+00	0.00E+00	1.04E+00
3	2.77E+00	0.00E+00	1.06E+00
4	1.16E+00	0.00E+00	1.07E+00

Brief Report

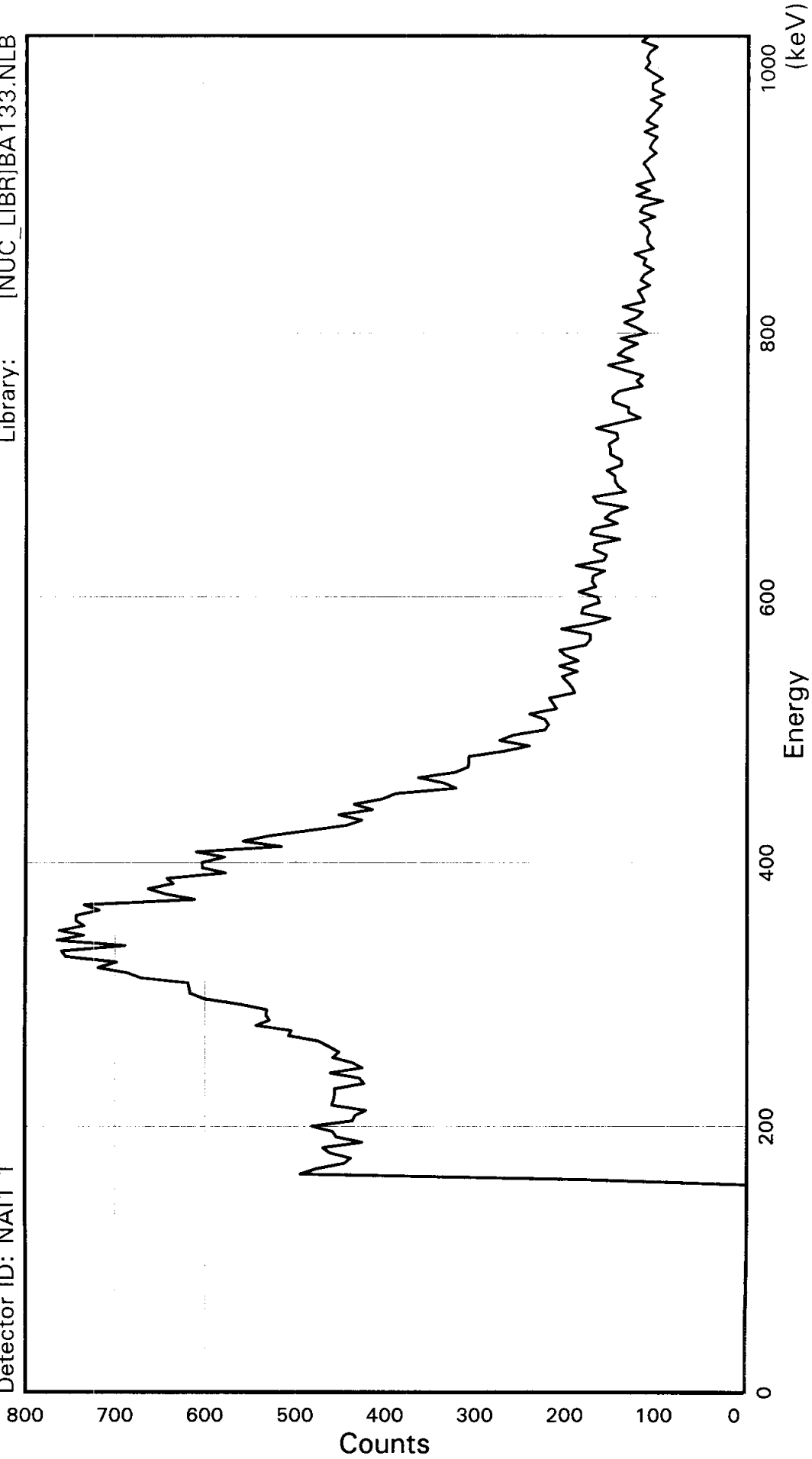
Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	710.	9.92

Total Activity :	710.	

TAL Richland WA.
BA133

Sample ID: KF6EQ1AE
Detector ID: NAI1 1

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 25-FEB-2008 19:27:08.05
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: lter

SAMPLE IDENTIFICATION: KF6EQ1AE

CONFIGURATION ID: NAI1:KF6EQ1AE_250281927
TITLE : BA133
SAMPLE ID : KF6EQ1AE

REPORT DATE: 25-FEB-08
ACQUIRE DATE: 25-FEB-08 19:27:08
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 7-FEB-2008 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/C²
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

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF6EQ1AE_250281927.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 19:27:08
Sample ID : KF6EQ1AE 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:	7.2	5.5	6.6	5.5	2.7	4.6	3.4	3.6
88:	2.5	2.3	1.0	-0.3	1.3	-4.7	-1.7	-0.6
96:	-1.7	-2.1	-3.5	-1.8	-3.6	-2.4	-1.4	-4.1
104:	-2.7	-4.0	-4.9	-5.3	-5.3	-3.4	-4.7	-3.5
112:	-3.0	-3.6						

List of Suspicious Channels

81 82 83 84 85 86 87 88

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.34E+01	0.00E+00	1.02E+00
2	7.43E+00	0.00E+00	1.04E+00
3	3.56E+00	0.00E+00	1.06E+00
4	1.67E+00	0.00E+00	1.07E+00
5	1.17E+00	0.00E+00	1.08E+00

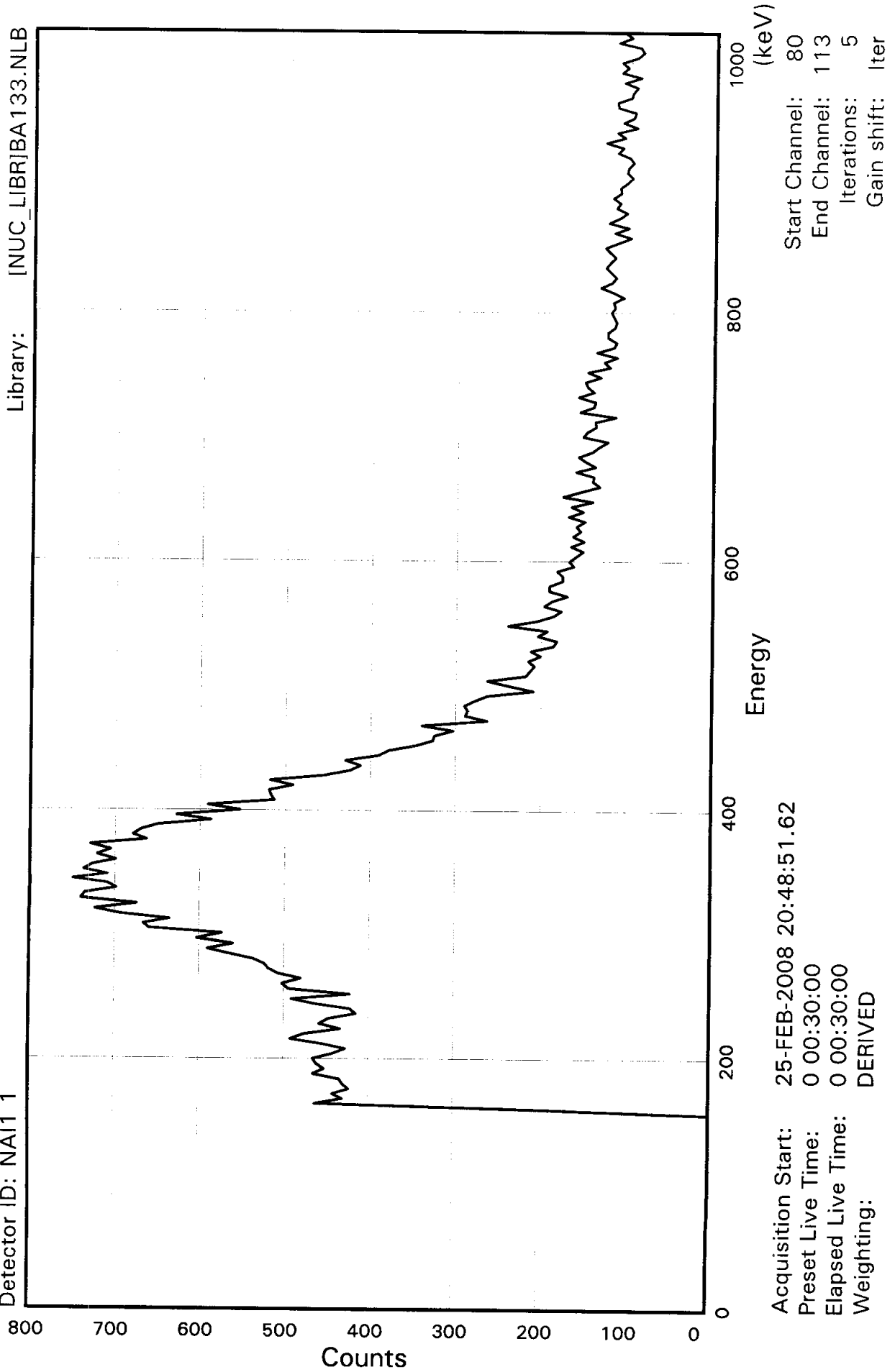
Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	713.	10.0

Total Activity :	713.	

TAL Richland WA.
BA133

Sample ID: KF6ER1AE
Detector ID: NAI1 1
BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



SAMPLE IDENTIFICATION: KF6ER1AE

CONFIGURATION ID: NAI1:KF6ER1AE_250282048
TITLE : BA133
SAMPLE ID : KF6ER1AE

REPORT DATE: 25-FEB-08
ACQUIRE DATE: 25-FEB-08 20:48:51
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 7-FEB-2008 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/C²
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

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF6ER1AE_250282048.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 20:48:51
Sample ID : KF6ER1AE 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	3.6	6.0	5.2	3.0	2.3	4.3	1.7
88:	2.6	1.8	-0.3	0.0	0.2	-0.2	-0.9	0.2
96:	-0.1	-1.8	-3.7	-1.5	-5.0	-1.0	-5.1	-3.8
104:	-3.6	-5.0	-3.0	-4.3	-4.8	-4.5	-3.9	-5.5
112:	-4.5	-6.1						

List of Suspicious Channels

81 82 83 84 85

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.24E+01	0.00E+00	1.03E+00
2	3.79E+00	0.00E+00	1.06E+00
3	1.36E+00	0.00E+00	1.07E+00
4	5.13E-01	0.00E+00	1.08E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	704.	6.50

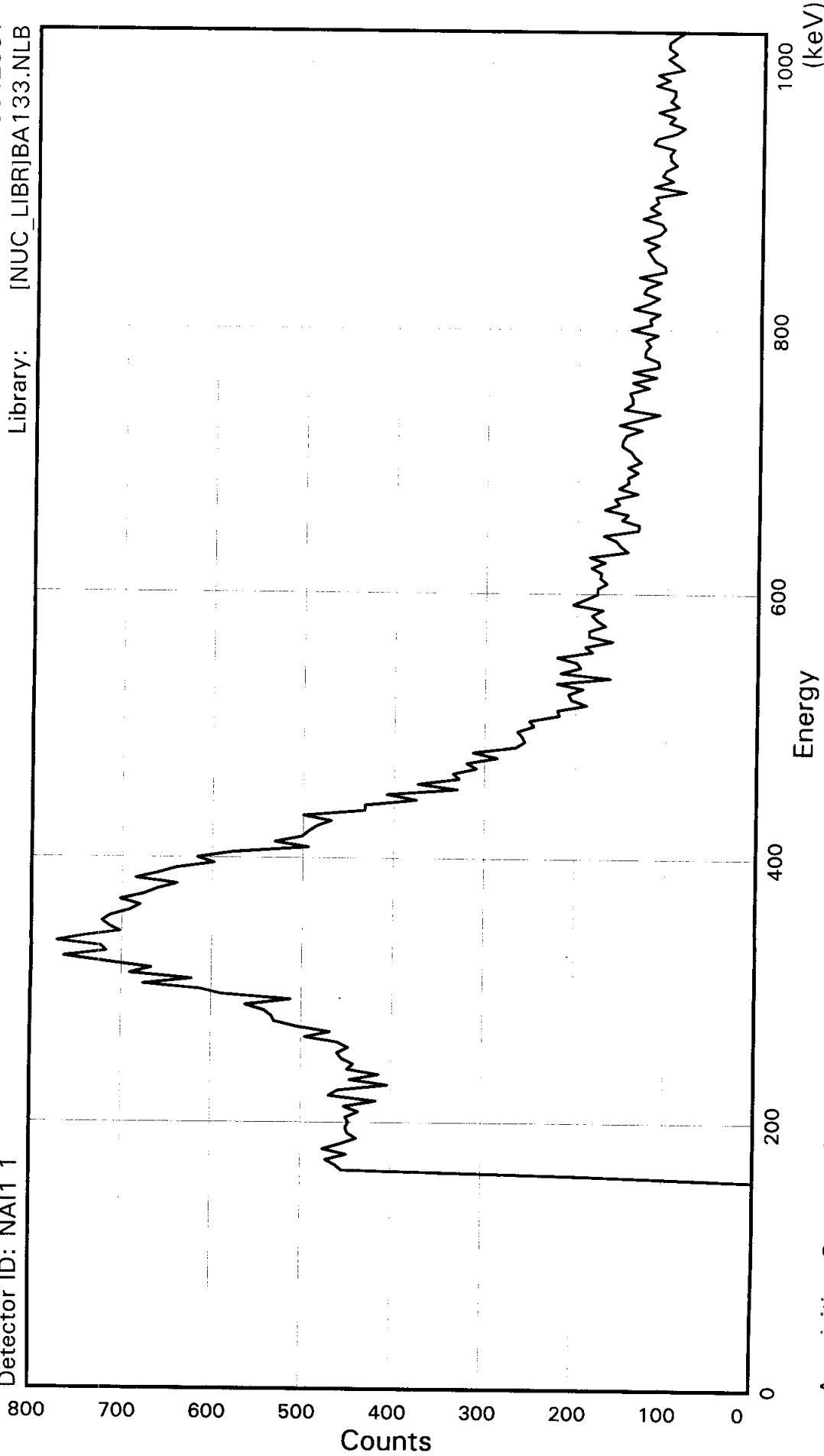
Total Activity :	704.	

TAL Richland WA.

BA133

Sample ID: KF6ET1AE
Detector ID: NAI1 1

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 25-FEB-2008 21:27:15.49
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: lter

SAMPLE IDENTIFICATION: KF6ET1AE

CONFIGURATION ID: NAI1:KF6ET1AE_250282127
TITLE : BA133
SAMPLE ID : KF6ET1AE

REPORT DATE: 25-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 25-FEB-08 21:27:15	CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY:	SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV	FWHM OFFSET: -.2302E+02 keV
ENERGY SLOPE: 4.0000E+00 keV/C	FWHM SLOPE: 5.7163E+00 sqr keV
ENERGY Q COEFF: 0.0000E+00 keV/C ²	ITERATIONS: 5
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 20.000 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]BA133.NLB

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF6ET1AE_250282127.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 21:27:15
Sample ID : KF6ET1AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.64 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	7.8	5.1	4.4	6.2	3.5	1.8	2.0
88:	2.3	0.8	-0.8	-1.0	0.8	-2.1	-1.0	-1.3
96:	0.5	-1.3	-1.6	-2.7	-2.6	-1.7	-6.1	-3.9
104:	-5.0	-4.7	-4.2	-3.8	-1.1	-3.4	-3.7	-6.2
112:	-3.0	-6.8						

List of Suspicious Channels

81 82 83 84

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.52E+01	0.00E+00	1.02E+00
2	7.79E+00	0.00E+00	1.04E+00
3	3.71E+00	0.00E+00	1.06E+00
4	1.74E+00	0.00E+00	1.07E+00
5	7.05E-01	0.00E+00	1.08E+00

Brief Report

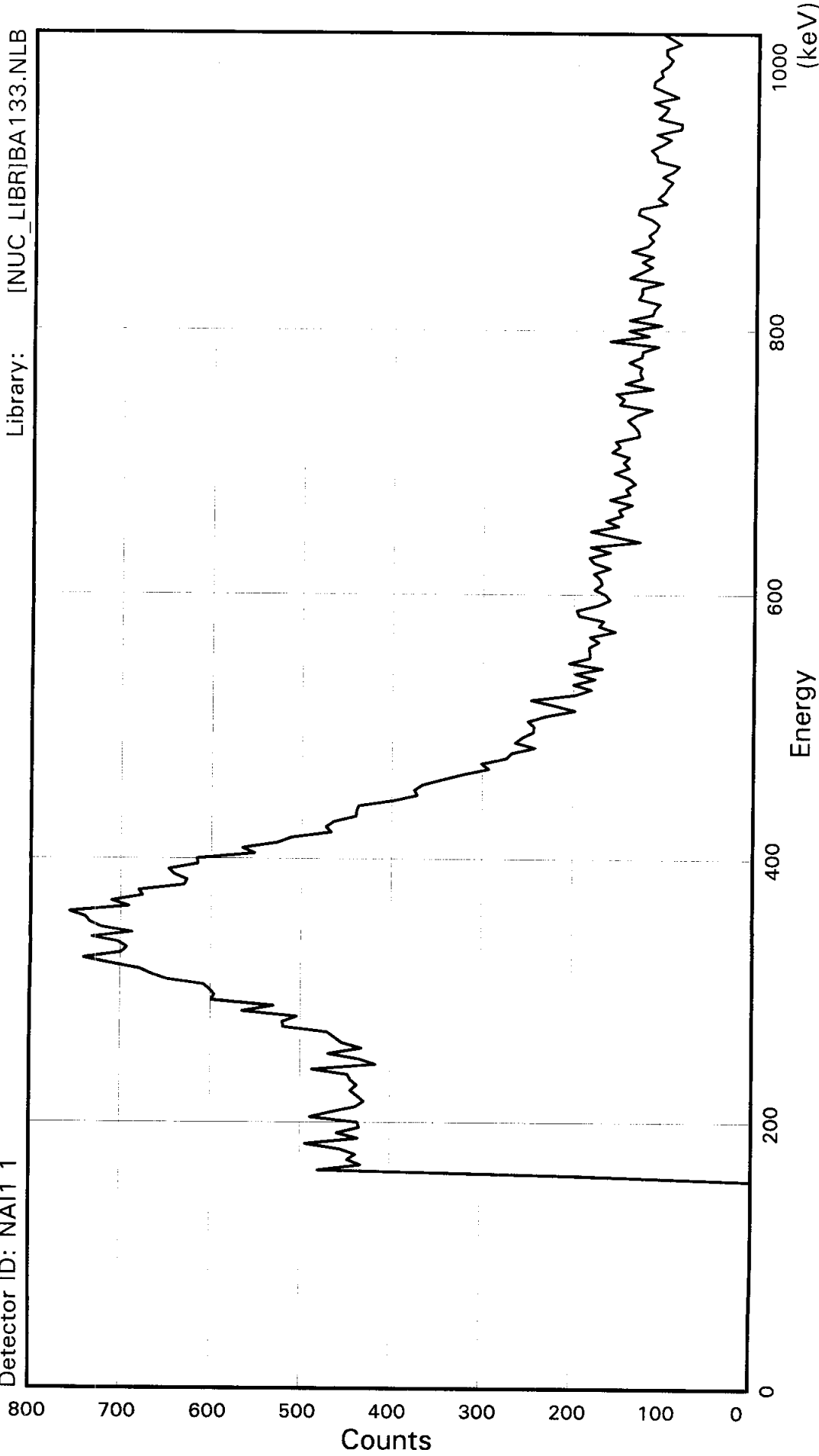
Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	705.	7.64

Total Activity :	705.	

TAL Richland WA.
BA133

Sample ID: KF6EV1AE
Detector ID: NAI1 1

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 25-FEB-2008 22:00:17.79
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: lter

SAMPLE IDENTIFICATION: KF6EV1AE

CONFIGURATION ID: NAI1:KF6EV1AE_250282200
TITLE : BA133
SAMPLE ID : KF6EV1AE

REPORT DATE: 25-FEB-08
ACQUIRE DATE: 25-FEB-08 22:00:17
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 7-FEB-2008 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/C²
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

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF6EV1AE_250282200.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 22:00:17
Sample ID : KF6EV1AE 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:	7.4	7.5	4.5	3.4	3.8	3.6	1.8	2.7
88:	3.2	2.2	1.8	-0.7	0.8	-2.2	-0.3	-1.8
96:	-1.8	-1.8	-0.9	-1.8	-2.7	-2.5	-2.7	-3.7
104:	-4.9	-6.3	-4.8	-3.9	-4.2	-3.9	-3.5	-4.8
112:	-4.4	-4.7						

List of Suspicious Channels

81 82 83 84 88

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.16E+01	0.00E+00	1.03E+00
2	4.17E+00	0.00E+00	1.06E+00
3	1.34E+00	0.00E+00	1.07E+00
4	7.76E-01	0.00E+00	1.08E+00

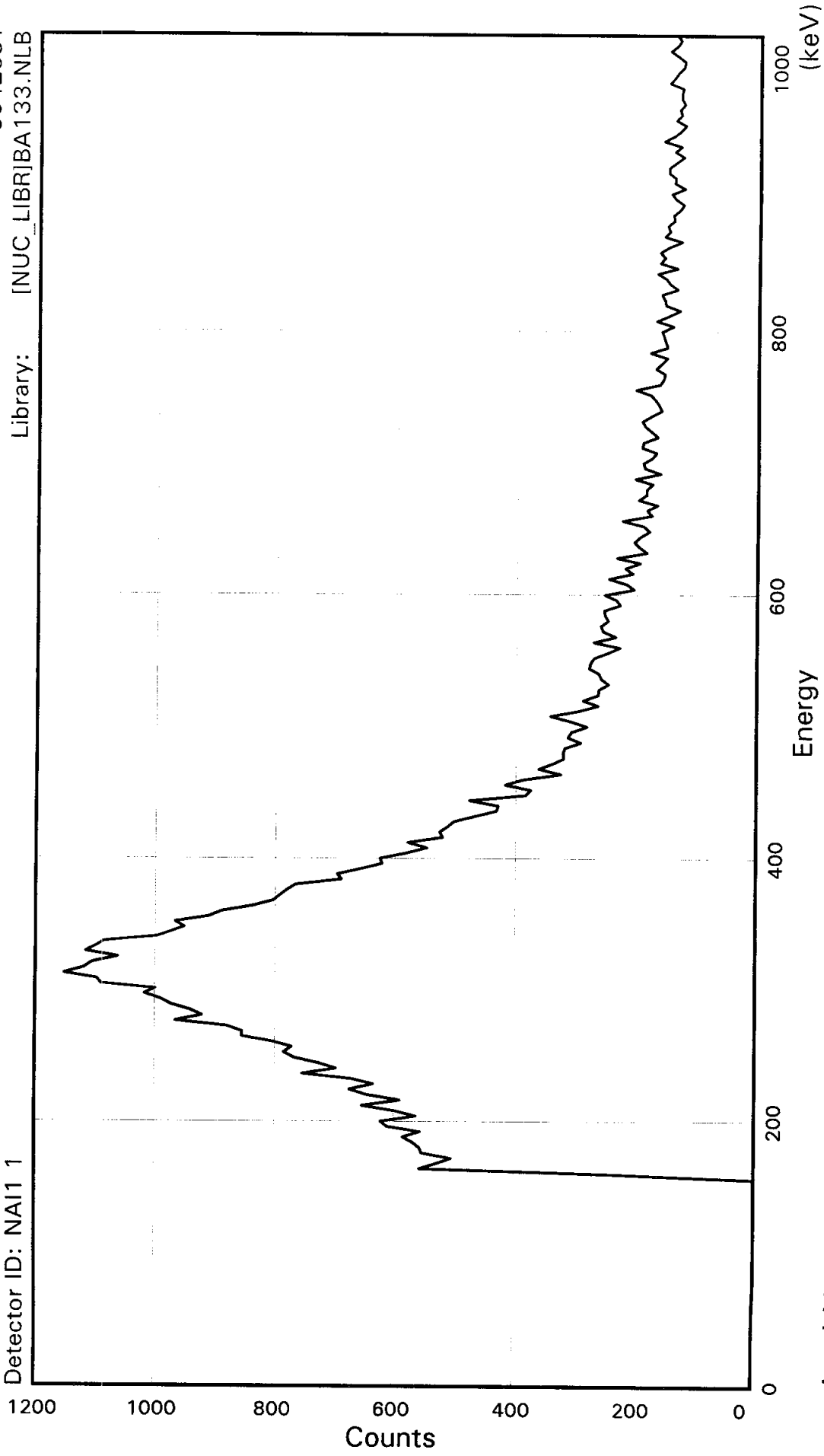
Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	698.	8.01

Total Activity :	698.	

TAL Richland WA.
BA133

Sample ID: KF6EW1AE
Detector ID: NAI1 1
BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 26-FEB-2008 05:08:23.89
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: lter

SAMPLE IDENTIFICATION: KF6EW1AE

CONFIGURATION ID: NAI1:KF6EW1AE_260280508

TITLE : BA133
SAMPLE ID : KF6EW1AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 05:08:23
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 7-FEB-2008 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/C²
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

```

Configuration      : RDND06$DKA100: [NAI1.SAMPLE] KF6EW1AE_260280508.CNF;1
Analyses by       : NAI V3.0
Sample title      : BA133
Sample date       : 7-FEB-2008 12:00:00   Acquisition date : 26-FEB-2008 05:08:23
Sample ID        : KF6EW1AE               Sample quantity  : 1.0000 sampl
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.85   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:	21.4	18.8	19.8	18.2	17.2	12.5	11.2	9.2
88:	8.9	5.8	4.3	2.7	2.0	-0.1	1.6	0.8
96:	-1.8	-2.2	-3.1	-4.0	-5.2	-3.9	-5.4	-3.8
104:	-6.4	-5.7	-5.0	-4.5	-5.2	-6.2	-5.6	-3.0
112:	-5.6	-5.6						

List of Suspicious Channels

80	81	82	83	84	85	86	87	88
89	90							

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	8.23E+01	0.00E+00	1.00E+00
2	8.24E+01	0.00E+00	1.00E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	822.	95.4

Total Activity :	822.	

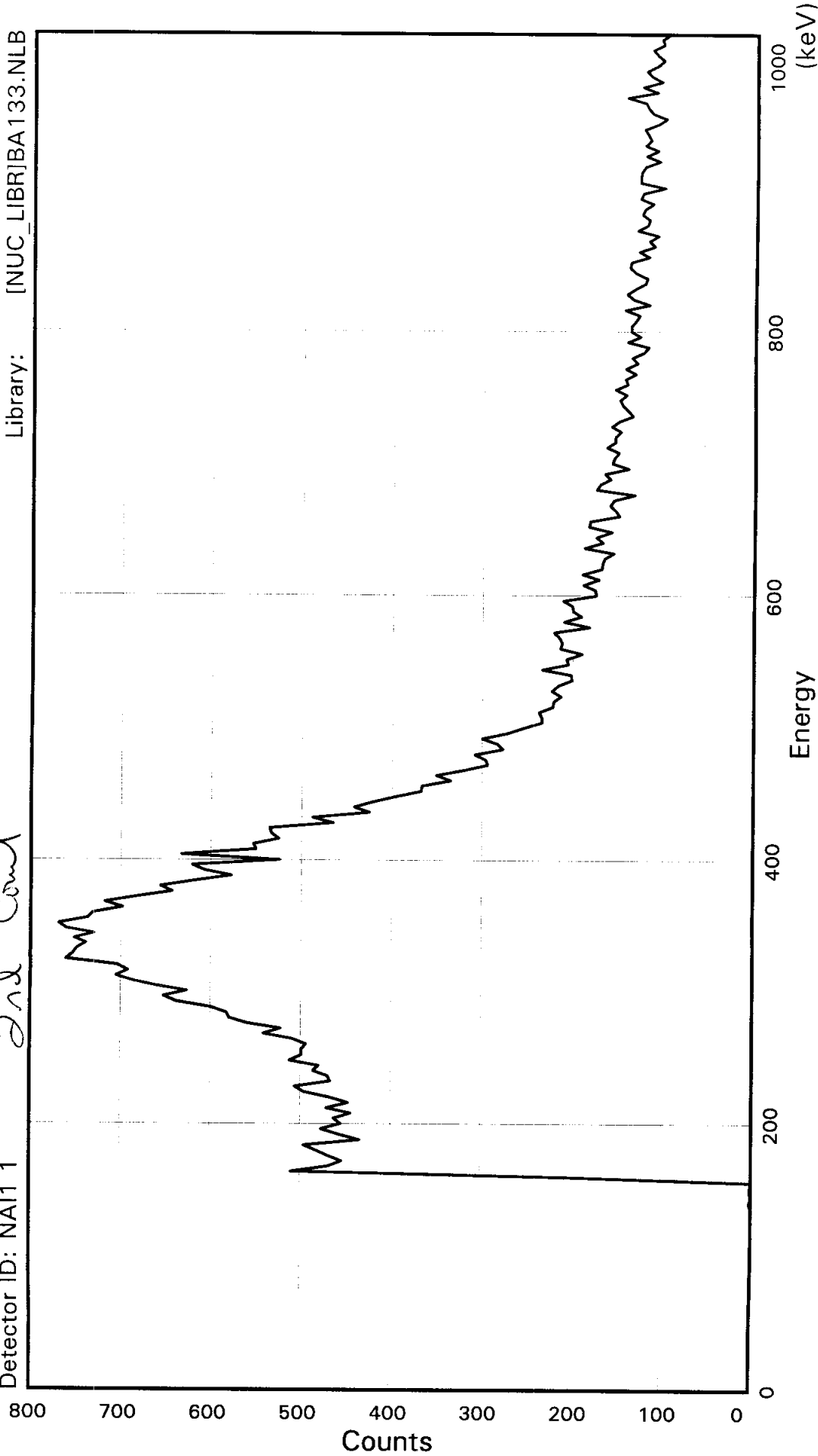
TAL Richland WA.

BA133

Sample ID: KF6E01AE
Detector ID: NAI1 1

2nd Count

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 26-FEB-2008 06:51:50.78
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: lter

SAMPLE IDENTIFICATION: KF6E01AE

CONFIGURATION ID: NAI1:KF6E01AE_260280651
TITLE : BA133
SAMPLE ID : KF6E01AE

REPORT DATE: 26-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 26-FEB-08 06:51:50	CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY:	SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV	FWHM OFFSET: -.2302E+02 keV
ENERGY SLOPE: 4.0000E+00 keV/C	FWHM SLOPE: 5.7163E+00 sqr keV
ENERGY Q COEFF: 0.0000E+00 keV/C ²	ITERATIONS: 5
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 20.000 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]BA133.NLB

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF6E01AE_260280651.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 06:51:50
Sample ID : KF6E01AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.69 0.0%
Sample Multiplier: 1.00 Rejection Coeff. : 0.00
Gain shift type : ITER Threshold Shift : No
Weighting type : DERIVED Calculated counts: No
Iterations : 5

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	5.9	8.0	6.5	5.3	4.8	4.7	3.4	3.2
88:	2.6	1.0	0.5	-0.5	0.6	-2.3	-2.0	-1.6
96:	-2.5	-4.6	-3.1	-2.2	-6.9	0.4	-3.3	-2.8
104:	-4.3	-3.6	-2.6	-4.5	-2.8	-5.2	-3.8	-3.7
112:	-3.4	-4.6						

List of Suspicious Channels

81	82	83	84	85	86	87
----	----	----	----	----	----	----

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.36E+01	0.00E+00	1.02E+00
2	7.24E+00	0.00E+00	1.05E+00
3	2.77E+00	0.00E+00	1.07E+00
4	1.33E+00	0.00E+00	1.09E+00
5	8.77E-01	0.00E+00	1.10E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	741.	8.66

Total Activity :	741.	

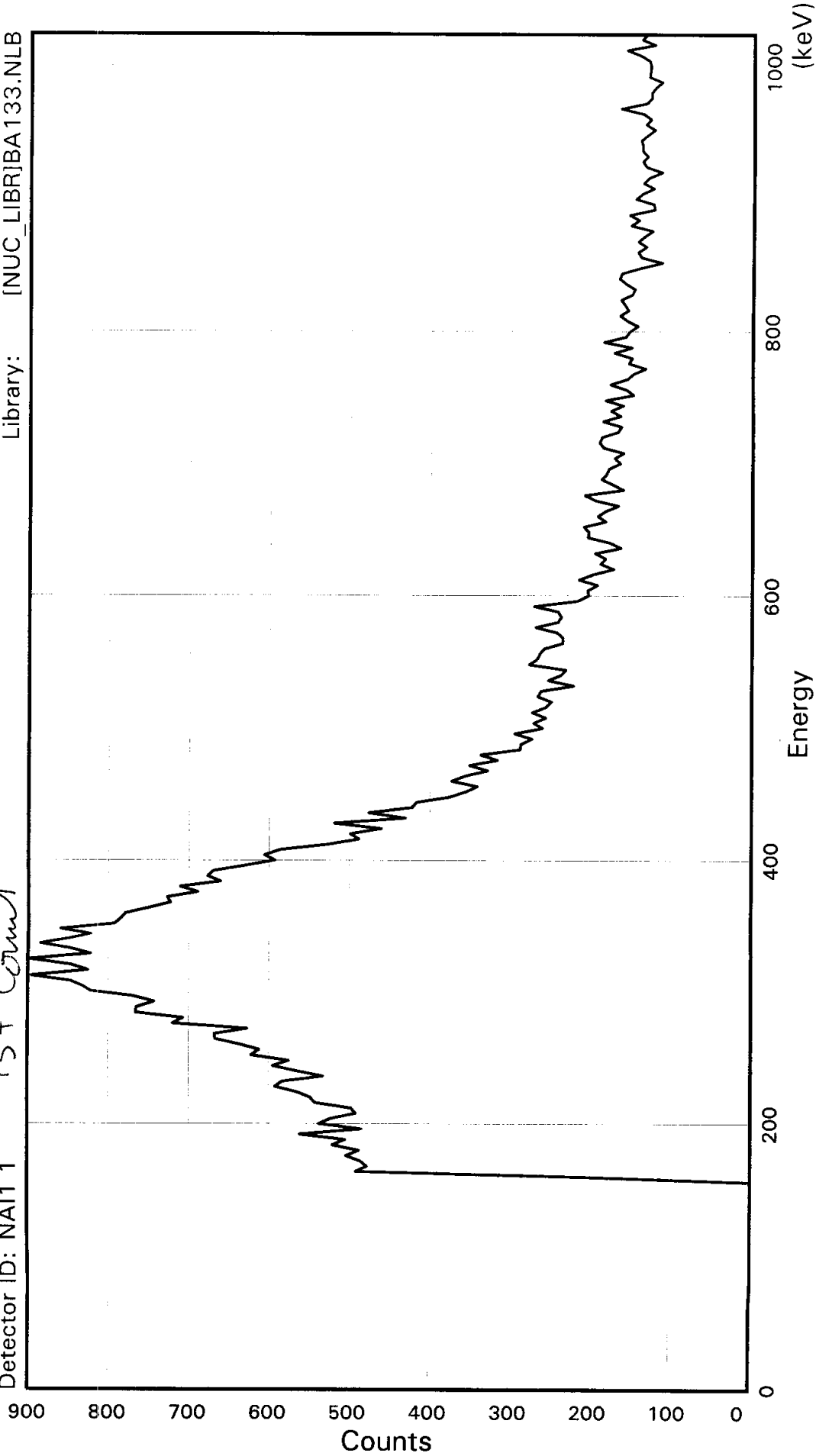
TAL Richland WA.

BA133

Sample ID: KF6E01AE
Detector ID: NAI1 1

1st Count

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 26-FEB-2008 05:41:49.59
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: KF6E01AE

CONFIGURATION ID: NAI1:KF6E01AE_260280541
TITLE : BA133
SAMPLE ID : KF6E01AE

REPORT DATE: 26-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 26-FEB-08 05:41:49	CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY:	SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV	FWHM OFFSET: -.2302E+02 keV
ENERGY SLOPE: 4.0000E+00 keV/C	FWHM SLOPE: 5.7163E+00 sqr keV
ENERGY Q COEFF: 0.0000E+00 keV/C ²	ITERATIONS: 5
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 20.000 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]BA133.NLB

Configuration : RDND06\$DKA100: [NAI1.SAMPLE] KF6E01AE_260280541.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 05:41:49
Sample ID : KF6E01AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.78 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:	8.9	10.5	6.2	5.9	6.9	4.4	3.1	4.0
88:	1.2	-0.3	-1.5	-1.9	-2.4	-4.3	-3.3	-2.3
96:	-3.9	-4.0	-3.4	-4.3	-7.3	-3.8	-4.6	-6.3
104:	-8.4	-7.5	-7.8	-4.5	-7.5	-5.1	-6.1	-5.4
112:	-6.2	-6.9						

List of Suspicious Channels

81 82 83 84 85 86

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	2.86E+01	0.00E+00	1.03E+00
2	1.82E+01	0.00E+00	1.07E+00
3	6.18E+00	0.00E+00	1.11E+00
4	2.40E+00	0.00E+00	1.12E+00
5	1.61E+00	0.00E+00	1.13E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	893.	12.7

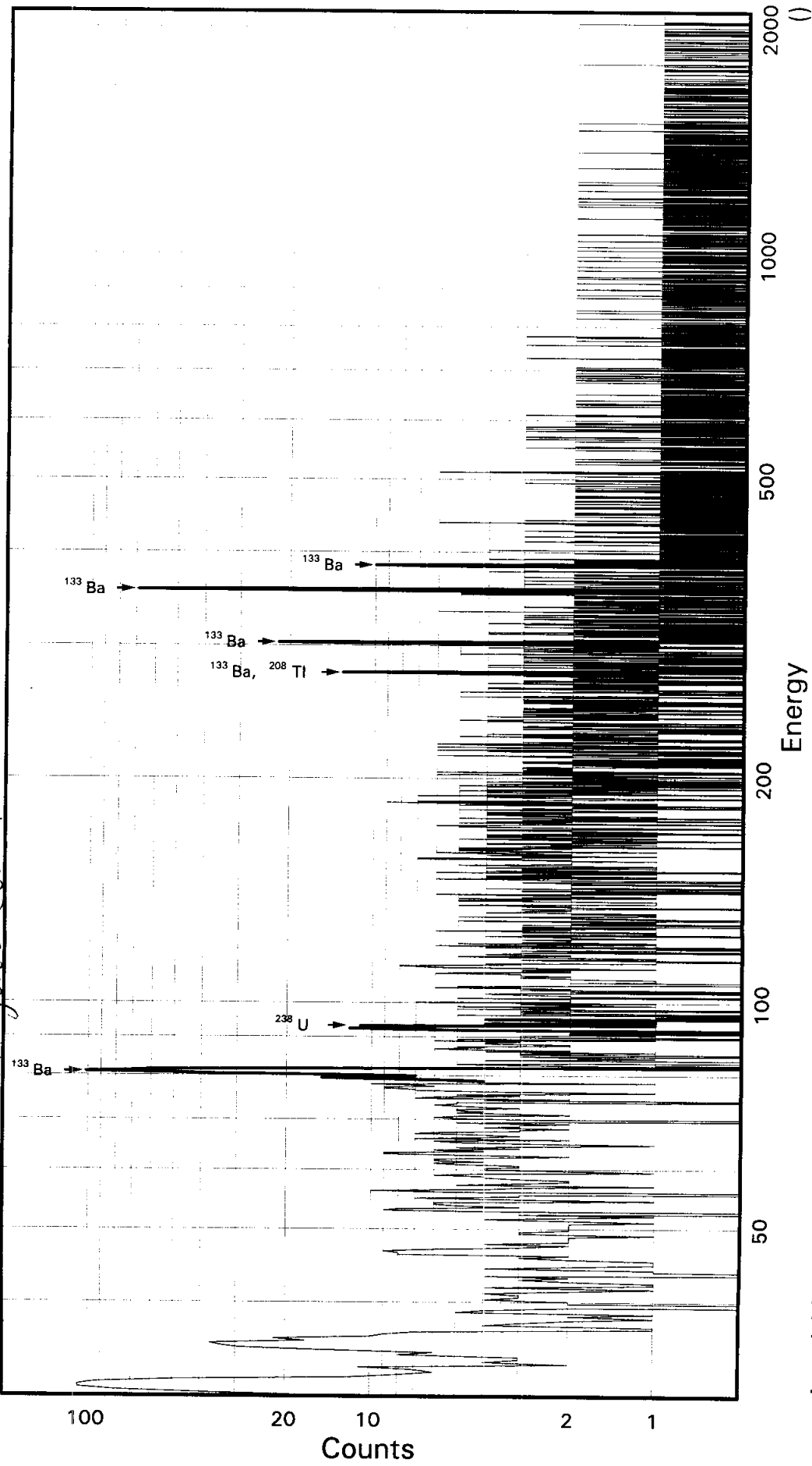
Total Activity :	893.	

TAL Richland WA.
BA133

Batch ID: 8042381

Sample ID: KF6E11AE
Detector ID: GER5 1

Original Count



Acquisition Start: 26-FEB-2008 05:43:21.07
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -3.59498E-01
Slope: 2.49379E-01
Quadrature: -3.84442E-09

SAMPLE IDENTIFICATION: KF6E11AE

CONFIGURATION ID: GER5:KF6E11AE_260280543
TITLE : BA133
SAMPLE ID : KF6E11AE

REPORT DATE: 26-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 26-FEB-08 05:43:21	CALIB DATE: 26-FEB-2008 04:52:15.35
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY: BA133T15	SAMPLE TYPE:

ENERGY OFFSET: -.3595E+00 keV	FWHM OFFSET: 7.6258E-01 keV
ENERGY SLOPE: 2.4938E-01 keV/C	FWHM SLOPE: 2.5570E-02 sqr keV
ENERGY Q COEFF: -.3844E-08 keV/C ²	ITERATIONS: 10
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 1.500 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 26-FEB-2008 11:12:10

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KF6E11AE_260280543.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 05:43:21
 Sample ID : KF6E11AE 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 : 19.59 End energy : 2042.29
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	31.01	491	100	1.09	125.77	117	19	2.73E-01	6.7	
2	0	35.33	160	49	1.17	143.11	136	17	8.86E-02	12.9	
3	0	46.70*	8	26	0.92	188.70	182	17	4.18E-03	173.2	
4	0	80.93	372	42	0.83	325.97	317	15	2.07E-01	6.3	
5	0	93.30*	13	23	1.12	375.59	365	20	7.45E-03	104.7	
6	0	276.28	53	8	0.69	1109.34	1102	15	2.92E-02	17.9	
7	0	302.93	89	9	0.98	1216.20	1210	14	4.95E-02	13.0	
8	0	355.92	314	4	1.05	1428.71	1420	16	1.74E-01	5.8	
9	0	384.03	47	7	1.67	1541.41	1534	14	2.61E-02	18.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2008 11:12:10

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KF6E11AE_260280543.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
 Sample title : BA133
 Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 05:43:21
 Sample ID : KF6E11AE 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 propagatd: 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	Decay Corr	1-Sigma
					DPM/SAMPL	DPM/SAMPL	%Error
BA-133	81.00	372	33.00	1.919E+00	1.961E+03	1.967E+03	8.35
	276.40	53	6.90	2.071E+00	1.224E+03	1.229E+03	18.67
	302.84	89	17.80	2.074E+00	8.049E+02	8.076E+02	14.09
	356.00	314	62.05*	2.076E+00	8.116E+02	8.143E+02	7.93
	383.85	47	8.70	2.076E+00	8.675E+02	8.704E+02	19.61

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF6E11AE

Page : 2
Acquisition date : 26-FEB-2008 05:43:21

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	31.01	491	100	1.09	125.77	117	19	2.73E-01	6.7	1.68E+00	
0	35.33	160	49	1.17	143.11	136	17	8.86E-02	12.9	1.71E+00	
0	46.70	8	26	0.92	188.70	182	17	4.18E-03	****	1.79E+00	
0	93.30	13	23	1.12	375.59	365	20	7.45E-03	****	1.95E+00	T

Flags: "T" = Tentatively associated

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	1.242E+03	18.67	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
		% Abundances Found =		5.44			
U-238DHP	4.47E+09Y	0.00	63.28*	3.80	---	Not Found	---
			92.59	5.41	4.242E+02	104.85	Abun.
		% Abundances Found =		58.74			

Flag: "*" = Keyline

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]KF6E11AE_260280543.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       : 7-FEB-2008 12:00:00   Acquisition date : 26-FEB-2008 05:43:21
Sample ID        : KF6E11AE               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	8.143E+02	6.461E+01	4.395E+01	8.790E-01	18.528

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-7.769E+01	7.356E+01	2.582E+02	5.180E+00	-0.301
NA-22	-3.018E+00	4.352E+00	1.680E+01	3.562E-01	-0.180
NA-24	-7.104E+02	1.923E+03	Half-Life too short		
K-40	-3.545E+01	5.804E+01	2.952E+02	6.342E+00	-0.120
SC-46	2.122E+00	5.143E+00	2.359E+01	4.946E-01	0.090
CR-51	1.818E+02	1.497E+02	6.075E+02	1.215E+01	0.299
MN-54	5.619E+00	4.649E+00	2.300E+01	4.721E-01	0.244
CO-57	1.139E+02	1.293E+02	4.866E+02	1.006E+01	0.234
CO-58	-5.935E+00	4.444E+00	1.462E+01	2.996E-01	-0.406
FE-59	1.194E+01	6.923E+00	4.281E+01	8.962E-01	0.279
CO-60	5.093E+00	4.587E+00	2.254E+01	4.800E-01	0.226
ZN-65	-6.606E+00	8.415E+00	3.244E+01	6.800E-01	-0.204
SE-75	2.780E+01	1.948E+01	7.855E+01	1.576E+00	0.354
SR-85	-2.632E+01	1.190E+01	3.595E+01	7.225E-01	-0.732
Y-88	2.010E+00	2.013E+00	1.478E+01	3.256E-01	0.136
NB-94	-1.745E+00	4.408E+00	1.777E+01	3.658E-01	-0.098
NB-95	4.221E+00	6.572E+00	3.048E+01	6.225E-01	0.138
TC-95M	2.482E+01	2.273E+01	8.853E+01	1.790E+00	0.280
ZR-95	1.537E+00	1.155E+01	4.875E+01	9.952E-01	0.032
ZRNB-95	7.614E+00	1.119E+01	5.200E+01	1.062E+00	0.146
MO-99	-1.631E+03	1.603E+03	5.356E+03	1.105E+02	-0.304
RH-101	5.302E+00	1.557E+01	5.894E+01	1.193E+00	0.090
RH-102M	1.035E+01	6.431E+00	2.987E+01	5.992E-01	0.346
RU-103	-7.605E+00	9.780E+00	3.551E+01	7.131E-01	-0.214
RU-106DA	-9.277E+01	5.937E+01	1.850E+02	3.741E+00	-0.501
AG-108M	-2.232E+01	9.194E+00	2.684E+01	5.376E-01	-0.831
AG-110M	4.813E+00	6.864E+00	3.159E+01	6.508E-01	0.152

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	5.285E+00		1.466E+01	5.781E+01	1.157E+00	0.091
SB-124	-2.336E+00		4.725E+00	1.908E+01	3.854E-01	-0.122
SB-125	2.872E+01		2.271E+01	1.006E+02	2.015E+00	0.285
SN-126DA	2.405E-01		3.893E+00	1.752E+01	3.555E-01	0.014
I-131	8.291E+01		3.725E+01	1.815E+02	3.630E+00	0.457
CS-134	2.022E+00		5.853E+00	2.565E+01	5.250E-01	0.079
CS-137DA	2.207E+00		4.959E+00	2.299E+01	4.661E-01	0.096
LA-138	5.055E+00		5.224E+00	2.777E+01	5.955E-01	0.182
CE-139	-4.079E-01		1.708E+01	6.304E+01	1.288E+00	-0.006
BA-140	-2.022E+01		6.502E+01	2.515E+02	5.061E+00	-0.080
BALA-140	0.000E+00		5.036E-01	2.722E+01	5.903E-01	0.000
LA-140	0.000E+00		9.578E-05	Half-Life too short		
CE-141	-4.845E+00		3.842E+01	1.367E+02	2.814E+00	-0.035
CE-144	1.095E+01		1.222E+02	4.417E+02	9.144E+00	0.025
CEPR-144	2.060E+01		2.442E+02	8.828E+02	1.828E+01	0.023
PM-144	9.136E-01		6.232E+00	2.524E+01	5.104E-01	0.036
PM-146	4.023E+00		9.078E+00	3.843E+01	7.702E-01	0.105
EU-152	-1.104E+01		3.139E+01	1.143E+02	2.285E+00	-0.097
EU-154	-9.777E+00		1.186E+01	4.467E+01	9.471E-01	-0.219
EU-155	2.087E+01		5.973E+01	2.221E+02	4.684E+00	0.094
HF-181	1.566E+01		1.237E+01	5.295E+01	1.062E+00	0.296
BI-207	7.821E+00		6.478E+00	2.871E+01	5.788E-01	0.272
TL-208	-2.558E+00		8.615E+00	3.445E+01	6.951E-01	-0.074
BI-210M	1.167E+01		2.098E+01	8.035E+01	1.612E+00	0.145
BI-212	7.748E+01		8.167E+01	3.729E+02	1.140E+01	0.208
PB-212	1.073E+01		2.706E+01	1.078E+02	2.169E+00	0.099
BI-214	3.643E+01		1.805E+01	8.190E+01	1.655E+00	0.445
PB-214	6.414E+01		3.446E+01	1.287E+02	2.574E+00	0.498
RA-223	-6.701E+01		7.256E+01	2.504E+02	5.022E+00	-0.268
RA-224DA	1.093E+01		2.757E+01	1.099E+02	2.210E+00	0.099
RA-226DA	3.276E+01		1.840E+01	8.190E+01	1.655E+00	0.400
AC-227DA	-1.707E+02		1.046E+02	3.411E+02	6.863E+00	-0.500
AC-228	-1.249E+01		2.013E+01	8.280E+01	1.709E+00	-0.151
RA-228DA	-1.257E+01		2.025E+01	8.331E+01	1.720E+00	-0.151
TH-228DA	-7.255E+00		2.443E+01	9.770E+01	1.971E+00	-0.074
TH-232DA	5.725E+01		6.910E+01	2.764E+02	5.528E+00	0.207
TH-234DA	-1.174E+03		4.909E+02	6.937E+02	1.442E+01	-1.692
U-234DA	1.055E+01		5.893E+01	2.173E+02	4.352E+00	0.049
U-235HP	-1.621E+01		1.089E+02	3.903E+02	8.041E+00	-0.042
NP-237DA	1.785E+01		2.598E+01	1.016E+02	2.033E+00	0.176
U-238DA	6.414E+01		3.446E+01	1.287E+02	2.574E+00	0.498
U-238DHP	-6.505E+02		4.860E+02	1.752E+03	3.901E+01	-0.371
AM-241HP	-1.887E+01		4.575E+01	1.620E+02	3.635E+00	-0.116

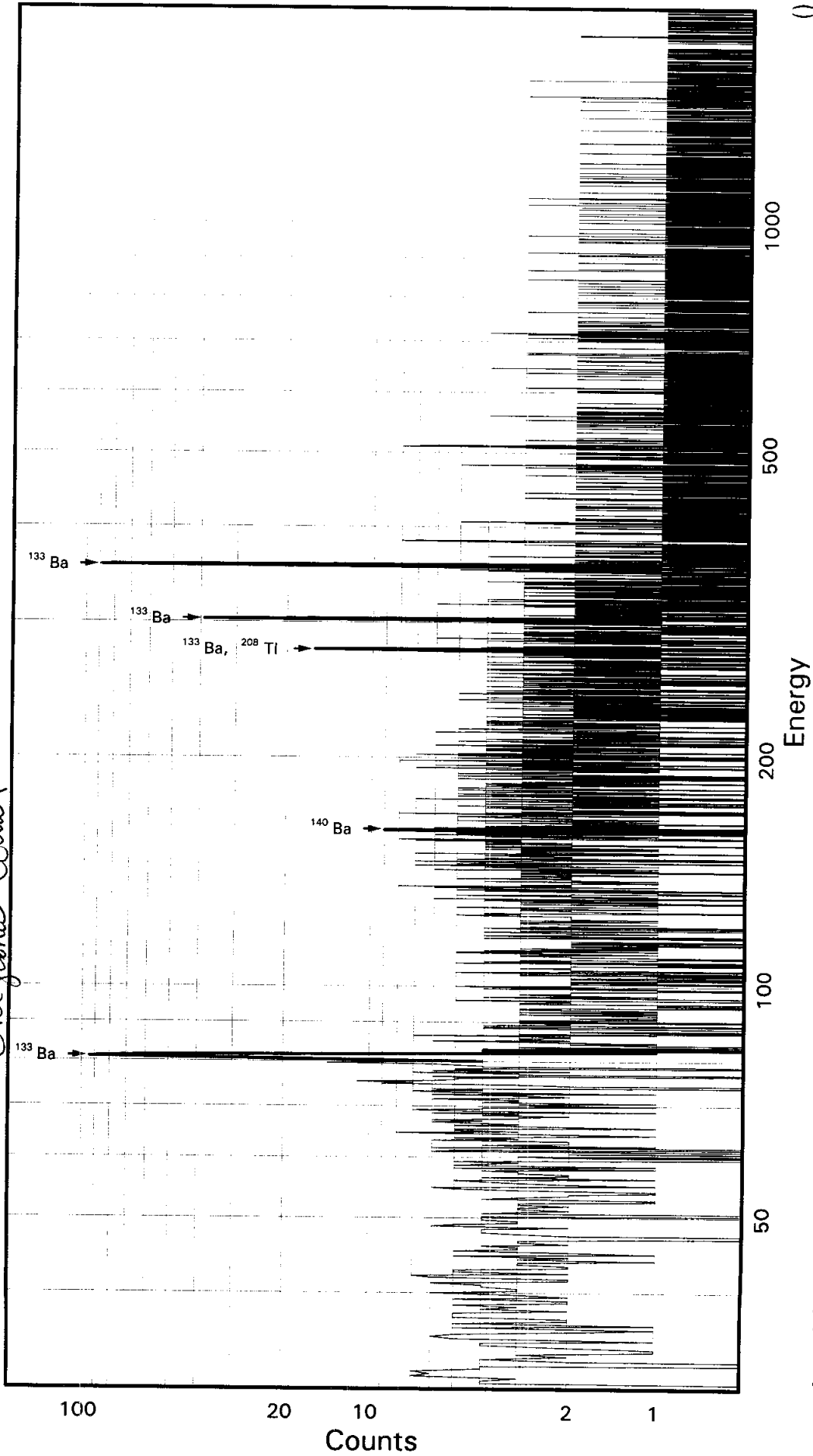
TAL Richland WA.

BA133

Sample ID: KF6E21AH
Detector ID: GER11 1

Batch ID: 8042381

Original Count



Acquisition Start: 26-FEB-2008 05:43:47.63
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.02763E+00
Slope: 2.31726E-01
Quadrature: 2.99654E-08

SAMPLE IDENTIFICATION: KF6E21AH

CONFIGURATION ID: GER11:KF6E21AH_260280543
TITLE : BA133
SAMPLE ID : KF6E21AH

REPORT DATE: 26-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 26-FEB-08 05:43:47	CALIB DATE: 26-FEB-2008 04:53:04.78
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY: BA133T15	SAMPLE TYPE:

ENERGY OFFSET: -.1028E+01 keV	FWHM OFFSET: 2.1716E-01 keV
ENERGY SLOPE: 2.3173E-01 keV/C	FWHM SLOPE: 4.0024E-02 sqr keV
ENERGY Q COEFF: 2.9965E-08 keV/C ²	ITERATIONS: 10
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 1.500 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 26-FEB-2008 11:12:49

```

Configuration      : $DISK1:[GER11.SAMPLE]KF6E21AH_260280543.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 7-FEB-2008 12:00:00   Acquisition date : 26-FEB-2008 05:43:47
Sample ID        : KF6E21AH               Sample quantity  : 1.0000 SAMPL
Sample type      :                       Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.95   0.1%
Start energy     :      1.29              End energy       : 1899.28
Sensitivity      :      5.00              Gaussian        :      10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.17	274	49	0.68	354.69	350	13	1.52E-01	8.3	
2	0	161.32	20	25	0.93	700.52	692	11	1.12E-02	52.9	
3	0	276.25	62	19	0.95	1196.38	1187	16	3.47E-02	20.3	
4	0	302.71	144	14	0.71	1310.53	1303	14	8.00E-02	10.0	
5	0	355.88	419	10	1.01	1539.90	1531	19	2.33E-01	5.2	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER11.SAMPLE]KF6E21AH_260280543.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 7-FEB-2008 12:00:00   Acquisition date : 26-FEB-2008 05:43:47
Sample ID        : KF6E21AH               Sample quantity  : 1.0000 SAMPL
Sample type      :                        Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.95   0.1%
Energy tolerance : 1.50                  Half life ratio  : 8.00
Errors propagated: Yes                   Systematic Error : 5.00 %
Efficiency type  : Empirical              Efficiencies at  : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	274	33.00	2.880E+00	9.614E+02	9.647E+02	9.89
	276.40	62	6.90	3.084E+00	9.770E+02	9.803E+02	21.04
	302.84	144	17.80	3.088E+00	8.734E+02	8.763E+02	11.35
	356.00	419	62.05*	3.090E+00	7.283E+02	7.308E+02	7.48
	383.85	-----	8.70	3.090E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines

Sample ID : KF6E21AH

Acquisition date : 26-FEB-2008 05:43:47

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	161.32	20	25	0.93	700.52	692	11	1.12E-02	52.9	3.03E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life		Energy	%Abund	Activity 1-Sigma		Rejected by	
		Ratio				(DPM/SAMPL)	%Error		
BA-140	12.79D	1.47		162.64	6.70	9.126E+02	53.15	Abun.	
				304.84	4.50	---	Not Found		---
				423.70	3.20	---	Not Found		---
				537.32*	25.00	---	Not Found		---
% Abundances Found =				17.01					
TL-208	1.41E+10Y	0.00		277.35	6.80	9.914E+02	21.04	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

```

Configuration      : $DISK1:[GER11.SAMPLE]KF6E21AH_260280543.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       : 7-FEB-2008 12:00:00   Acquisition date  : 26-FEB-2008 05:43:47
Sample ID        : KF6E21AH               Sample quantity  : 1.0000 SAMPL
Sample type      :                        Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.95   0.1%
Peak Width (FWHM):      3.00             Confidence level :      5.00 %
Energy tolerance :      1.50             Half life ratio  :      8.00
Errors propagatd: 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	7.308E+02	5.469E+01	3.098E+01	6.197E-01	23.585

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.788E+01	5.954E+01	2.205E+02	4.421E+00	-0.126
NA-22	-5.676E+00	2.960E+00	8.173E+00	1.723E-01	-0.695
K-40	-7.403E+01	4.191E+01	1.954E+02	4.167E+00	-0.379
SC-46	6.550E+00	3.965E+00	1.972E+01	4.115E-01	0.332
CR-51	7.958E-01	9.668E+01	3.650E+02	7.303E+00	0.002
MN-54	3.292E+00	3.773E+00	1.708E+01	3.498E-01	0.193
CO-57	-8.438E+00	8.003E+01	2.840E+02	5.850E+00	-0.030
CO-58	1.262E+00	3.922E+00	1.725E+01	3.526E-01	0.073
FE-59	4.678E-03	7.526E+00	3.194E+01	6.656E-01	0.000
CO-60	-1.106E+00	2.550E+00	1.066E+01	2.255E-01	-0.104
ZN-65	-9.448E+00	7.441E+00	2.515E+01	5.246E-01	-0.376
SE-75	7.018E+00	1.150E+01	4.574E+01	9.174E-01	0.153
SR-85	-2.059E+01	8.251E+00	2.375E+01	4.771E-01	-0.867
Y-88	5.400E+00	3.268E+00	1.752E+01	3.821E-01	0.308
NB-94	8.095E-01	3.641E+00	1.534E+01	3.149E-01	0.053
NB-95	8.999E-01	5.012E+00	2.144E+01	4.369E-01	0.042
TC-95M	-5.196E+00	1.514E+01	5.384E+01	1.088E+00	-0.097
ZR-95	2.389E-01	8.138E+00	3.380E+01	6.885E-01	0.007
ZRNB-95	1.171E+00	8.411E+00	3.586E+01	7.309E-01	0.033
MO-99	-8.366E+02	9.262E+02	3.231E+03	6.644E+01	-0.259
RH-101	4.859E-01	1.104E+01	4.111E+01	8.314E-01	0.012
RH-102M	-3.090E+00	4.831E+00	1.769E+01	3.547E-01	-0.175
RU-103	8.712E-02	7.330E+00	2.855E+01	5.731E-01	0.003
RU-106DA	-3.320E+01	3.784E+01	1.382E+02	2.793E+00	-0.240
AG-108M	-1.034E+01	5.160E+00	1.574E+01	3.153E-01	-0.657
AG-110M	4.533E+00	6.648E+00	2.787E+01	5.725E-01	0.163
SN-113DA	-1.834E+00	6.827E+00	2.706E+01	5.414E-01	-0.068

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	2.821E-01		5.089E+00	2.071E+01	4.179E-01	0.014
SB-125	-2.853E+00		1.321E+01	5.256E+01	1.052E+00	-0.054
SN-126DA	1.813E+00		3.761E+00	1.613E+01	3.266E-01	0.112
I-131	-7.907E+01		2.923E+01	7.195E+01	1.439E+00	-1.099
CS-134	-1.317E+00		2.850E+00	1.196E+01	2.442E-01	-0.110
CS-137DA	-1.364E+00		4.655E+00	1.811E+01	3.666E-01	-0.075
LA-138	-7.097E+00		4.959E+00	1.598E+01	3.402E-01	-0.444
CE-139	-4.202E+00		9.697E+00	3.531E+01	7.197E-01	-0.119
BA-140	4.880E+01		3.913E+01	1.824E+02	3.668E+00	0.268
BALA-140	-6.303E+00		1.483E+01	6.227E+01	1.339E+00	-0.101
CE-141	3.258E+01		2.401E+01	9.667E+01	1.984E+00	0.337
CE-144	-8.844E+01		7.056E+01	2.297E+02	4.739E+00	-0.385
CEPR-144	-1.769E+02		1.411E+02	4.594E+02	9.478E+00	-0.385
PM-144	-1.052E+00		2.982E+00	1.225E+01	2.475E-01	-0.086
PM-146	2.781E+00		6.135E+00	2.593E+01	5.197E-01	0.107
EU-152	2.131E+01		2.011E+01	8.339E+01	1.668E+00	0.255
EU-154	-1.708E+01		8.014E+00	1.927E+01	4.061E-01	-0.886
EU-155	4.282E+01		3.040E+01	1.263E+02	2.651E+00	0.339
HF-181	1.049E+01		7.997E+00	3.456E+01	6.933E-01	0.303
BI-207	4.636E+00		2.741E+00	1.471E+01	2.963E-01	0.315
TL-208	5.274E+00		3.625E+00	1.820E+01	3.668E-01	0.290
BI-210M	1.605E+00		1.286E+01	4.920E+01	9.867E-01	0.033
BI-212	4.513E+01		4.420E+01	2.149E+02	6.565E+00	0.210
PB-212	-1.983E+00		1.616E+01	5.815E+01	1.169E+00	-0.034
BI-214	1.211E+01		9.633E+00	4.262E+01	8.604E-01	0.284
PB-214	1.100E+01		2.156E+01	7.572E+01	1.514E+00	0.145
RA-223	-4.461E+01		4.312E+01	1.515E+02	3.038E+00	-0.294
RA-224DA	-2.021E+00		1.647E+01	5.924E+01	1.191E+00	-0.034
RA-226DA	1.211E+01		9.633E+00	4.262E+01	8.604E-01	0.284
AC-227DA	-1.135E+01		6.158E+01	2.215E+02	4.454E+00	-0.051
AC-228	-1.262E+01		1.224E+01	4.310E+01	8.868E-01	-0.293
RA-228DA	-1.270E+01		1.232E+01	4.336E+01	8.923E-01	-0.293
TH-228DA	1.496E+01		1.028E+01	5.160E+01	1.040E+00	0.290
TH-232DA	1.009E+02		4.826E+01	2.083E+02	4.166E+00	0.485
TH-234DA	5.426E+02		5.623E+02	2.577E+03	5.336E+01	0.211
U-234DA	-2.557E+01		2.599E+01	9.366E+01	1.875E+00	-0.273
U-235HP	8.418E+01		7.282E+01	2.915E+02	5.986E+00	0.289
NP-237DA	2.955E+00		1.495E+01	5.827E+01	1.166E+00	0.051
U-238DA	1.100E+01		2.156E+01	7.572E+01	1.514E+00	0.145
U-238DHP	-2.343E+02		2.317E+02	7.566E+02	1.666E+01	-0.310
AM-241HP	-1.804E+01		2.126E+01	7.125E+01	1.580E+00	-0.253

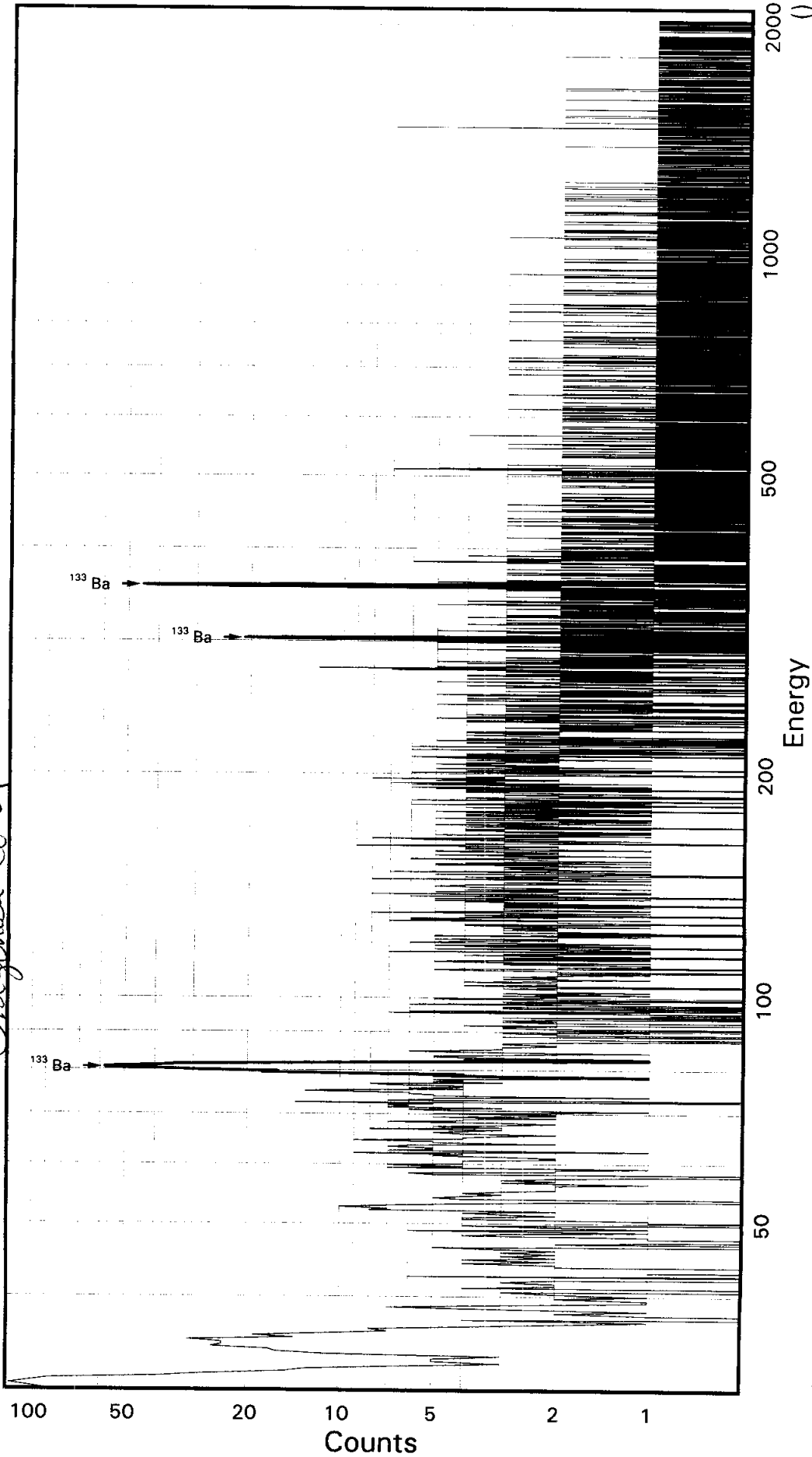
TAL Richland WA.

BA133

Sample ID: KF6E21AK
Detector ID: GER14 1

Batch ID: 8042381

Aligned Count



Acquisition Start: 26-FEB-2008 05:44:00.82
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -7.02954E-01
Slope: 2.48255E-01
Quadrature: -4.45494E-09

SAMPLE IDENTIFICATION: KF6E21AK

CONFIGURATION ID: GER14:KF6E21AK_260280544
TITLE : BA133
SAMPLE ID : KF6E21AK

REPORT DATE: 26-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 26-FEB-08 05:44:00	CALIB DATE: 26-FEB-2008 04:53:33.62
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY: BA133T15	SAMPLE TYPE:

ENERGY OFFSET: -.7030E+00 keV	FWHM OFFSET: 1.1393E+00 keV
ENERGY SLOPE: 2.4826E-01 keV/C	FWHM SLOPE: 2.3225E-02 sqr keV
ENERGY Q COEFF: -.4455E-08 keV/C ²	ITERATIONS: 10
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 1.500 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 26-FEB-2008 11:13:07

Configuration : \$DISK1:[GER14.SAMPLE]KF6E21AK_260280544.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 05:44:00
 Sample ID : KF6E21AK Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.43 0.0%
 Start energy : 19.16 End energy : 2032.71
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.40	707	123	1.30	125.30	113	22	3.93E-01	5.5	
2	0	34.97	185	42	1.54	143.68	136	19	1.03E-01	11.8	
3	0	80.65	355	35	1.47	327.70	318	18	1.97E-01	6.6	
4	0	302.74	102	23	1.14	1222.34	1210	20	5.68E-02	13.9	
5	0	356.06	299	20	1.62	1437.12	1422	26	1.66E-01	6.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 26-FEB-2008 11:13:07

Configuration : \$DISK1:[GER14.SAMPLE]KF6E21AK_260280544.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 05:44:00
 Sample ID : KF6E21AK Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.43 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 Decay Corr		1-Sigma %Error
					DPM/SAMPL	DPM/SAMPL	
BA-133	81.00	355	33.00	1.818E+00	1.971E+03	1.977E+03	8.57
	276.40	-----	6.90	1.945E+00	-----	Line Not Found	-----
	302.84	102	17.80	1.948E+00	9.830E+02	9.863E+02	14.93
	356.00	299	62.05*	1.949E+00	8.254E+02	8.282E+02	8.54
	383.85	-----	8.70	1.949E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines

Sample ID : KF6E21AK

Page : 2

Acquisition date : 26-FEB-2008 05:44:00

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.40	707	123	1.30	125.30	113	22	3.93E-01	5.5	1.61E+00	
0	34.97	185	42	1.54	143.68	136	19	1.03E-01	11.8	1.64E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF6E21AK

Page : 3
Acquisition date : 26-FEB-2008 05:44:00

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 26-FEB-2008 11:13:09

```

Configuration      : $DISK1:[GER14.SAMPLE]KF6E21AK_260280544.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       : 7-FEB-2008 12:00:00   Acquisition date : 26-FEB-2008 05:44:00
Sample ID        : KF6E21AK               Sample quantity  : 1.0000 SAMPL
Sample type      :                        Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.43   0.0%
Peak Width (FWHM):      3.00             Confidence level :      5.00 %
Energy tolerance :      1.50             Half life ratio  :      8.00
Errors propagated: Yes                   Systematic Error :      5.00 %
Efficiency type  : Empirical              Efficiencies at  : Peak Energy
Abundance limit  :      80.00            WTM error limit  :      3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.282E+02	7.073E+01	7.624E+01	1.525E+00	10.863

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.713E+01	9.158E+01	3.517E+02	7.053E+00	-0.049
NA-22	6.451E-02	5.143E+00	2.192E+01	4.616E-01	0.003
K-40	5.947E+01	1.077E+02	5.192E+02	1.106E+01	0.115
SC-46	6.886E+00	7.379E+00	3.438E+01	7.168E-01	0.200
CR-51	-3.274E+02	1.977E+02	6.317E+02	1.264E+01	-0.518
MN-54	-1.628E+01	7.969E+00	2.390E+01	4.892E-01	-0.681
CO-57	2.627E+02	1.666E+02	6.420E+02	1.322E+01	0.409
CO-58	-5.020E+00	8.273E+00	3.079E+01	6.292E-01	-0.163
FE-59	2.157E+01	1.389E+01	6.685E+01	1.392E+00	0.323
CO-60	-9.103E+00	4.841E+00	1.338E+01	2.827E-01	-0.680
ZN-65	-2.116E+01	1.144E+01	3.437E+01	7.163E-01	-0.616
SE-75	1.707E+00	2.562E+01	9.286E+01	1.862E+00	0.018
SR-85	-3.251E+01	1.692E+01	5.375E+01	1.080E+00	-0.605
Y-88	4.234E+00	3.003E+00	1.964E+01	4.278E-01	0.216
NB-94	1.729E+00	6.332E+00	2.632E+01	5.399E-01	0.066
NB-95	-4.077E+00	1.122E+01	4.241E+01	8.642E-01	-0.096
TC-95M	9.806E+00	3.152E+01	1.143E+02	2.308E+00	0.086
ZR-95	-6.102E+00	1.624E+01	6.174E+01	1.257E+00	-0.099
ZRNB-95	-7.922E+00	1.885E+01	7.085E+01	1.444E+00	-0.112
MO-99	9.096E+02	2.107E+03	7.751E+03	1.593E+02	0.117
RH-101	-1.825E+01	2.508E+01	8.631E+01	1.745E+00	-0.211
RH-102M	1.122E+01	8.592E+00	3.684E+01	7.387E-01	0.305
RU-103	-7.250E+00	1.351E+01	4.922E+01	9.878E-01	-0.147
RU-106DA	-4.281E+01	7.465E+01	2.739E+02	5.533E+00	-0.156
AG-108M	-3.240E-01	1.092E+01	4.114E+01	8.238E-01	-0.008
AG-110M	-2.511E-01	1.082E+01	4.232E+01	8.689E-01	-0.006
SN-113DA	-3.869E+00	2.046E+01	7.493E+01	1.499E+00	-0.052

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-5.312E+00		1.091E+01	3.965E+01	8.000E-01	-0.134
SB-125	4.579E+01		2.861E+01	1.245E+02	2.492E+00	0.368
SN-126DA	-1.127E+01		6.519E+00	2.079E+01	4.211E-01	-0.542
I-131	-1.346E+02		7.026E+01	2.259E+02	4.518E+00	-0.596
CS-134	2.077E-01		7.726E+00	3.120E+01	6.370E-01	0.007
CS-137DA	-4.978E+00		8.379E+00	3.056E+01	6.187E-01	-0.163
LA-138	-9.869E-01		6.562E+00	2.816E+01	5.990E-01	-0.035
CE-139	6.404E+00		2.262E+01	8.251E+01	1.681E+00	0.078
BA-140	-3.499E+01		9.443E+01	3.488E+02	7.013E+00	-0.100
BALA-140	-1.236E+01		2.878E+01	1.143E+02	2.455E+00	-0.108
CE-141	-5.716E+01		5.082E+01	1.735E+02	3.558E+00	-0.329
CE-144	-1.205E+02		1.626E+02	5.675E+02	1.170E+01	-0.212
CEPR-144	-2.465E+02		3.249E+02	1.133E+03	2.336E+01	-0.218
PM-144	-8.233E+00		9.418E+00	3.273E+01	6.610E-01	-0.252
PM-146	-2.002E+01		1.584E+01	5.351E+01	1.072E+00	-0.374
EU-152	-2.568E+01		4.278E+01	1.494E+02	2.988E+00	-0.172
EU-154	1.799E-01		1.434E+01	6.112E+01	1.287E+00	0.003
EU-155	2.006E+01		7.635E+01	2.759E+02	5.784E+00	0.073
HF-181	-2.637E+00		1.089E+01	4.232E+01	8.489E-01	-0.062
BI-207	-2.183E+00		9.635E+00	3.559E+01	7.167E-01	-0.061
TL-208	1.405E+01		8.541E+00	3.850E+01	7.760E-01	0.365
BI-210M	8.976E+00		2.795E+01	1.025E+02	2.056E+00	0.088
BI-212	-9.899E+01		1.099E+02	3.945E+02	1.205E+01	-0.251
PB-212	1.925E+01		3.441E+01	1.268E+02	2.550E+00	0.152
BI-214	-4.280E+01		2.060E+01	7.257E+01	1.465E+00	-0.590
PB-214	1.496E+01		3.835E+01	1.324E+02	2.649E+00	0.113
RA-223	-2.440E+01		9.944E+01	3.542E+02	7.101E+00	-0.069
RA-224DA	1.961E+01		3.505E+01	1.292E+02	2.598E+00	0.152
RA-226DA	-4.280E+01		2.060E+01	7.257E+01	1.465E+00	-0.590
AC-227DA	1.977E+02		1.288E+02	4.994E+02	1.004E+01	0.396
AC-228	1.209E+01		2.333E+01	1.057E+02	2.175E+00	0.114
RA-228DA	1.217E+01		2.348E+01	1.064E+02	2.188E+00	0.114
TH-228DA	3.984E+01		2.422E+01	1.092E+02	2.201E+00	0.365
TH-232DA	1.032E+02		1.024E+02	3.922E+02	7.844E+00	0.263
TH-234DA	7.924E+02		8.257E+02	3.835E+03	7.935E+01	0.207
U-234DA	2.057E+01		6.612E+01	2.414E+02	4.833E+00	0.085
U-235HP	7.938E+01		1.588E+02	5.867E+02	1.204E+01	0.135
NP-237DA	-5.319E+01		3.657E+01	1.192E+02	2.384E+00	-0.446
U-238DA	1.496E+01		3.835E+01	1.324E+02	2.649E+00	0.113
U-238DHP	6.430E+02		6.048E+02	2.204E+03	4.845E+01	0.292
AM-241HP	-3.311E+01		5.656E+01	1.952E+02	4.320E+00	-0.170

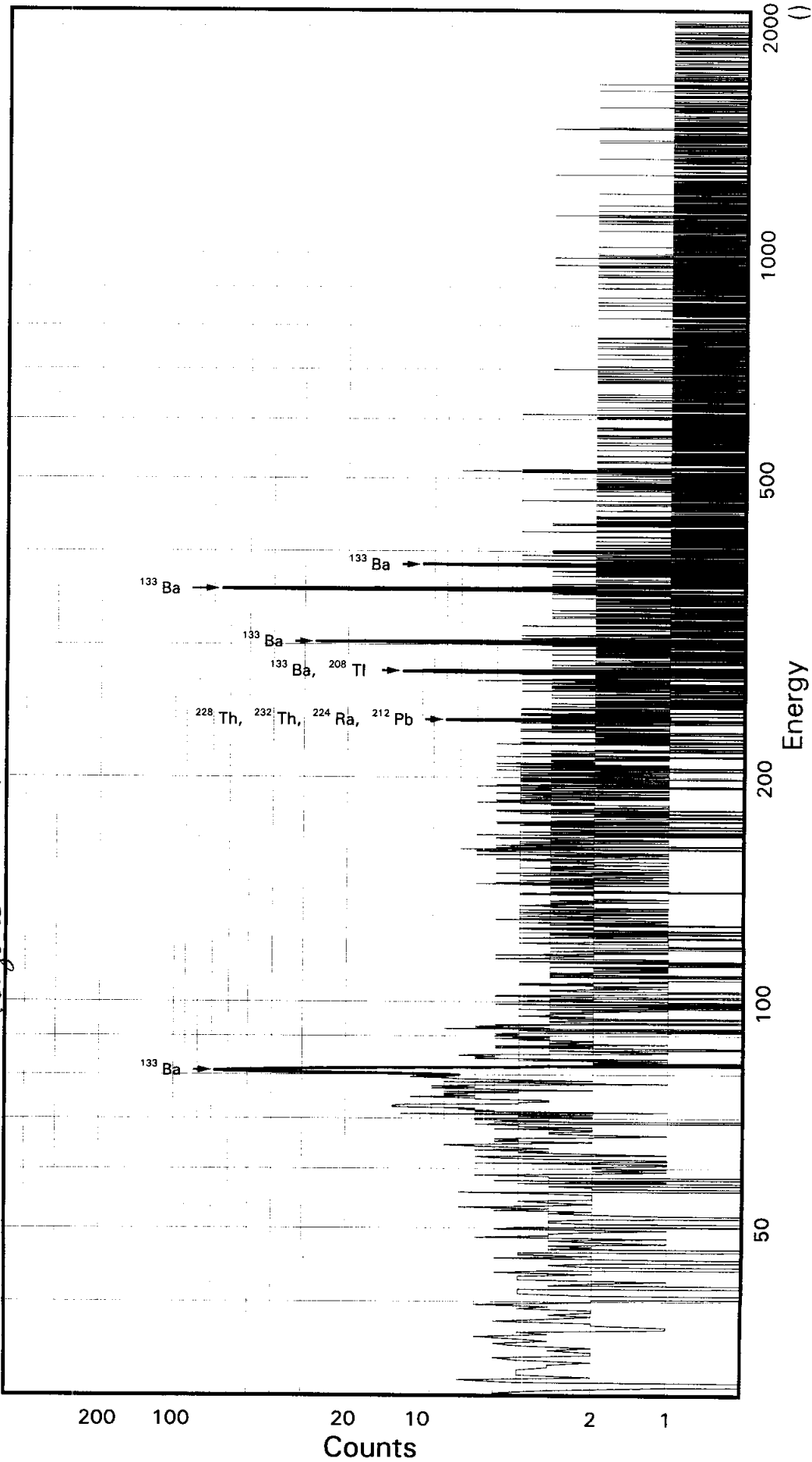
TAL Richland WA.

BA133

Sample ID: KF6E21AM
Detector ID: GER4 1

Batch ID: 8042381

Original Count



Acquisition Start: 26-FEB-2008 05:44:06.07
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.13203E-01
Slope: 2.48749E-01
Quadrature: 9.77908E-10

SAMPLE IDENTIFICATION: KF6E21AM

CONFIGURATION ID: GER4:KF6E21AM_260280544
TITLE : BA133
SAMPLE ID : KF6E21AM

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 05:44:06
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 7-FEB-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:51:57.84
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: -.1132E+00 keV
ENERGY SLOPE: 2.4875E-01 keV/C
ENERGY Q COEFF: 9.7791E-10 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.4250E-01 keV
FWHM SLOPE: 4.3049E-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 26-FEB-2008 11:13:41

Configuration : \$DISK1:[GER4.SAMPLE]KF6E21AM_260280544.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 05:44:06
 Sample ID : KF6E21AM Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.40 0.0%
 Start energy : 19.79 End energy : 2037.70
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	73.50*	58	75	3.93	295.95	285	23	3.23E-02	41.5	
2	0	81.12	212	57	0.77	326.59	321	12	1.18E-01	10.2	
3	0	238.71*	6	16	0.60	960.08	955	12	3.53E-03	138.3	
4	0	276.94	42	22	1.22	1113.77	1104	14	2.32E-02	28.1	
5	0	302.85	101	8	0.76	1217.93	1210	15	5.63E-02	11.6	
6	0	356.06	313	11	1.10	1431.86	1422	22	1.74E-01	6.3	
7	0	383.86	35	10	1.04	1543.60	1536	13	1.95E-02	25.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 26-FEB-2008 11:13:41

Configuration : \$DISK1:[GER4.SAMPLE]KF6E21AM_260280544.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 05:44:06
 Sample ID : KF6E21AM Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.40 0.0%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected	Decay Corr	1-Sigma
					DPM/SAMPL	DPM/SAMPL	%Error
BA-133	81.00	212	33.00	2.054E+00	1.042E+03	1.046E+03	11.63
	276.40	42	6.90	2.215E+00	9.104E+02	9.135E+02	28.63
	302.84	101	17.80	2.217E+00	8.561E+02	8.590E+02	12.80
	356.00	313	62.05*	2.220E+00	7.576E+02	7.601E+02	8.26
	383.85	35	8.70	2.219E+00	6.057E+02	6.077E+02	25.54

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected	Decay Corr	1-Sigma
					DPM/SAMPL	DPM/SAMPL	%Error
PB-212	238.63	6	44.60*	2.207E+00	2.154E+01	2.154E+01	138.43
	300.09	-----	3.41	2.217E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF6E21AM

Page : 2
Acquisition date : 26-FEB-2008 05:44:06

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	73.50	58	75	3.93	295.95	285	23	3.23E-02	41.5	2.03E+00	

Flags: "T" = Tentatively associated

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	9.238E+02	28.63	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =			5.44				
RA-224DA	1.91Y	0.03	238.63*	44.60	2.194E+01	138.43	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	0.03	238.63	44.60	2.194E+01	138.43	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	2.154E+01	138.43	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	---
% Abundances Found =			32.61				

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER4.SAMPLE]KF6E21AM_260280544.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       : 7-FEB-2008 12:00:00   Acquisition date  : 26-FEB-2008 05:44:06
Sample ID        : KF6E21AM               Sample quantity   : 1.0000 SAMPL
Sample type      :                        Sample geometry   : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.40   0.0%
Peak Width (FWHM):      3.00             Confidence level  :      5.00 %
Energy tolerance  :      1.50             Half life ratio   :      8.00
Errors propagated: Yes                   Systematic Error  :      5.00 %
Efficiency type   : Empirical             Efficiencies at   : Peak Energy
Abundance limit   :      80.00           WTM error limit  :      3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.601E+02	6.280E+01	5.019E+01	1.007E+00	15.146
PB-212	2.154E+01	2.982E+01	8.348E+01	1.948E+00	0.258

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-6.833E+01	6.765E+01	2.415E+02	4.845E+00	-0.283
NA-22	1.467E+00	4.326E+00	1.937E+01	4.102E-01	0.076
K-40	-7.954E+01	6.902E+01	3.388E+02	7.269E+00	-0.235
SC-46	5.798E+00	7.512E+00	3.198E+01	6.700E-01	0.181
CR-51	-1.780E+02	1.217E+02	4.071E+02	9.450E+00	-0.437
MN-54	1.955E+00	5.226E+00	2.264E+01	4.646E-01	0.086
CO-57	3.410E+01	1.036E+02	3.886E+02	9.315E+00	0.088
CO-58	-9.932E-01	5.950E+00	2.381E+01	4.877E-01	-0.042
FE-59	1.089E+00	1.376E+01	5.609E+01	1.173E+00	0.019
CO-60	4.836E-01	4.505E+00	1.957E+01	4.163E-01	0.025
ZN-65	7.202E+00	9.246E+00	4.326E+01	9.060E-01	0.166
SE-75	-2.171E+01	1.769E+01	5.870E+01	1.366E+00	-0.370
SR-85	-2.894E+01	1.267E+01	3.873E+01	7.782E-01	-0.747
Y-88	-1.905E+00	1.907E+00	5.074E+00	1.116E-01	-0.375
NB-94	4.719E+00	4.064E+00	2.024E+01	4.164E-01	0.233
NB-95	-1.162E+01	7.556E+00	2.394E+01	4.888E-01	-0.485
TC-95M	-2.373E+01	2.015E+01	6.882E+01	1.615E+00	-0.345
ZR-95	-1.412E+01	1.093E+01	3.651E+01	7.451E-01	-0.387
ZRNB-95	-1.963E+01	1.276E+01	4.044E+01	8.257E-01	-0.485
MO-99	-1.096E+01	1.302E+03	4.769E+03	1.141E+02	-0.002
RH-101	1.294E+01	1.476E+01	5.849E+01	1.374E+00	0.221
RH-102M	3.326E-01	5.465E+00	2.262E+01	4.537E-01	0.015
RU-103	-1.367E+01	9.339E+00	3.088E+01	6.200E-01	-0.443
RU-106DA	4.412E+01	6.726E+01	2.834E+02	5.730E+00	0.156
AG-108M	1.219E+01	8.006E+00	3.441E+01	6.892E-01	0.354
AG-110M	1.169E+01	6.792E+00	3.400E+01	7.002E-01	0.344

---- Non-Identified Nuclides ----

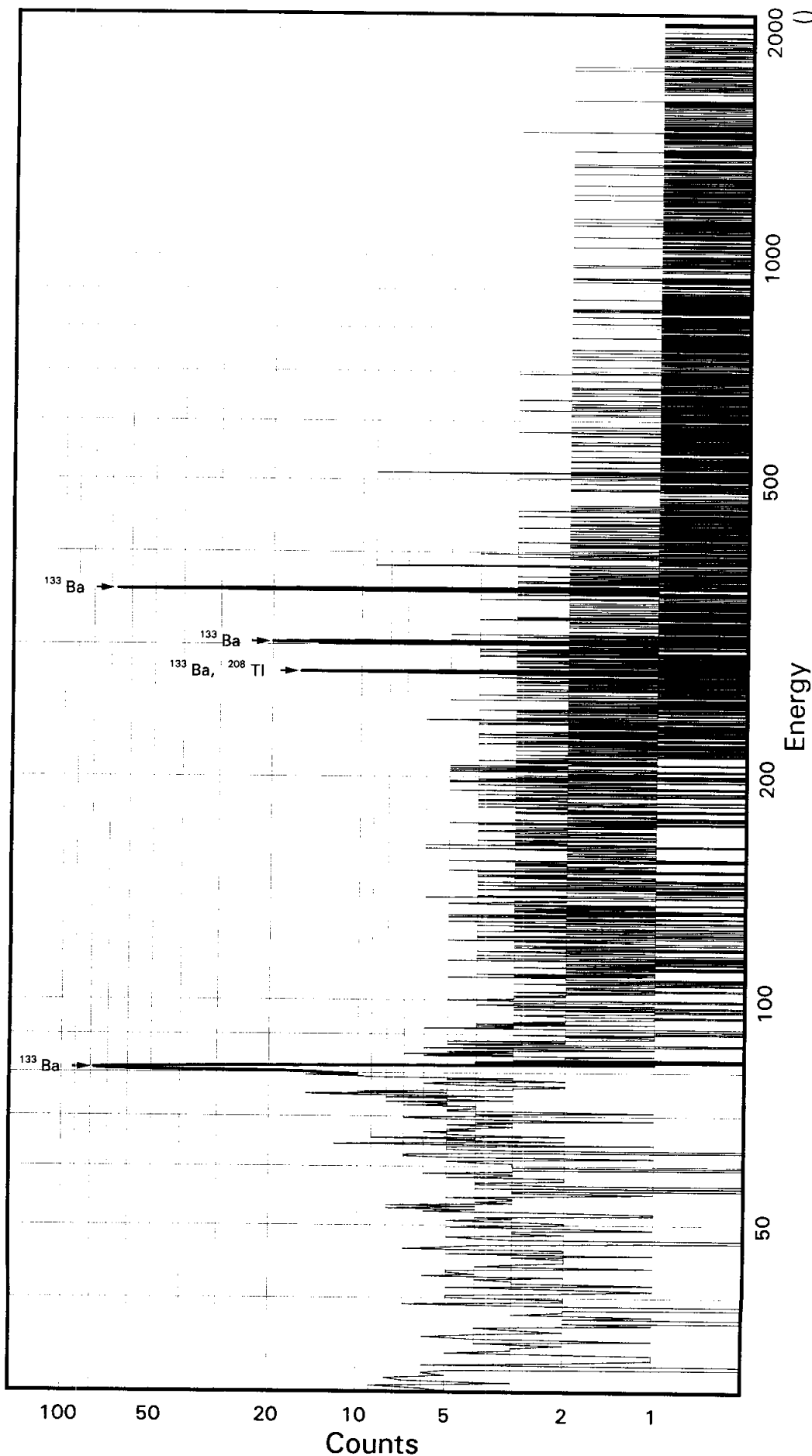
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-2.033E+01		1.315E+01	4.238E+01	8.479E-01	-0.480
SB-124	2.521E+00		8.306E+00	3.312E+01	6.689E-01	0.076
SB-125	1.533E+01		2.085E+01	8.777E+01	1.757E+00	0.175
SN-126DA	4.689E+00		4.539E+00	2.147E+01	4.354E-01	0.218
I-131	1.764E+00		4.194E+01	1.636E+02	3.272E+00	0.011
CS-134	-1.797E+00		3.317E+00	1.389E+01	2.843E-01	-0.129
CS-137DA	2.046E-01		4.994E+00	2.150E+01	4.358E-01	0.010
LA-138	-4.764E+00		4.801E+00	1.773E+01	3.799E-01	-0.269
CE-139	-7.074E+00		1.621E+01	5.627E+01	1.333E+00	-0.126
BA-140	1.739E+01		6.522E+01	2.663E+02	5.357E+00	0.065
BALA-140	9.408E+00		9.422E+00	6.918E+01	1.498E+00	0.136
CE-141	3.255E+01		3.345E+01	1.292E+02	3.085E+00	0.252
CE-144	-2.711E+01		1.056E+02	3.803E+02	9.130E+00	-0.071
CEPR-144	-5.301E+01		2.113E+02	7.613E+02	1.827E+01	-0.070
PM-144	3.745E+00		5.818E+00	2.522E+01	5.099E-01	0.148
PM-146	1.664E+01		8.341E+00	4.050E+01	8.117E-01	0.411
EU-152	2.185E+01		2.631E+01	1.095E+02	2.541E+00	0.200
EU-154	4.091E+00		1.206E+01	5.400E+01	1.144E+00	0.076
EU-155	7.014E+01		4.319E+01	1.828E+02	4.469E+00	0.384
HF-181	7.927E+00		1.008E+01	4.304E+01	8.636E-01	0.184
BI-207	1.196E+00		6.098E+00	2.458E+01	4.955E-01	0.049
TL-208	-2.746E+00		7.345E+00	3.027E+01	6.107E-01	-0.091
BI-210M	7.255E+00		2.032E+01	7.592E+01	1.767E+00	0.096
BI-212	2.723E+01		6.254E+01	2.841E+02	8.685E+00	0.096
BI-214	1.083E+01		1.491E+01	6.576E+01	1.329E+00	0.165
PB-214	5.163E+01		2.455E+01	9.787E+01	2.271E+00	0.528
RA-223	-1.109E+01		7.920E+01	2.843E+02	6.614E+00	-0.039
RA-224DA	2.194E+01	+	3.038E+01	9.697E+01	2.263E+00	0.226
RA-226DA	1.083E+01		1.491E+01	6.577E+01	1.329E+00	0.165
AC-227DA	-1.377E+02		1.080E+02	2.945E+02	6.875E+00	-0.467
AC-228	5.550E+00		2.338E+01	9.737E+01	2.009E+00	0.057
RA-228DA	5.584E+00		2.352E+01	9.797E+01	2.022E+00	0.057
TH-228DA	-7.788E+00		2.083E+01	8.585E+01	1.732E+00	-0.091
TH-232DA	2.493E+01		5.850E+01	2.343E+02	5.437E+00	0.106
TH-234DA	-1.709E+02		7.477E+02	2.996E+03	6.223E+01	-0.057
U-234DA	3.145E+01		4.367E+01	1.757E+02	4.081E+00	0.179
U-235HP	1.212E+02		1.047E+02	4.081E+02	9.749E+00	0.297
NP-237DA	-3.573E+01		2.009E+01	6.476E+01	1.504E+00	-0.552
U-238DA	5.163E+01		2.455E+01	9.787E+01	2.271E+00	0.528
U-238DHP	-1.298E+02		3.494E+02	1.248E+03	3.217E+01	-0.104
AM-241HP	1.595E+00		2.860E+01	1.067E+02	2.772E+00	0.015

TAL Richland WA.

BA133

Sample ID: KF6E51AE
Detector ID: GER7 1

Batch ID: 8042381



Acquisition Start: 26-FEB-2008 05:44:12.07
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 6.74902E-01
Slope: 2.49142E-01
Quadrature: 1.63405E-07

SAMPLE IDENTIFICATION: KF6E51AE

CONFIGURATION ID: GER7:KF6E51AE_260280544
TITLE : BA133
SAMPLE ID : KF6E51AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 05:44:12
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 7-FEB-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:52:31.64
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 6.7490E-01 keV
ENERGY SLOPE: 2.4914E-01 keV/C
ENERGY Q COEFF: 1.6341E-07 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.2803E-01 keV
FWHM SLOPE: 3.8593E-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 26-FEB-2008 11:13:54

Configuration : \$DISK1:[GER7.SAMPLE]KF6E51AE_260280544.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 05:44:12
 Sample ID : KF6E51AE 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 : 20.61 End energy : 2052.61
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.16	279	80	0.92	323.00	317	14	1.55E-01	9.5	
2	0	276.39	50	6	0.46	1105.87	1099	12	2.78E-02	17.2	
3	0	302.65	101	3	1.60	1211.10	1205	13	5.59E-02	10.6	
4	0	355.89	326	5	0.93	1424.44	1414	19	1.81E-01	5.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 26-FEB-2008 11:13:54

Configuration : \$DISK1:[GER7.SAMPLE]KF6E51AE_260280544.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 05:44:12
 Sample ID : KF6E51AE 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	279	33.00	1.909E+00	1.474E+03	1.479E+03	10.96
	276.40	50	6.90	2.061E+00	1.172E+03	1.176E+03	18.03
	302.84	101	17.80	2.064E+00	9.126E+02	9.157E+02	11.93
	356.00	326	62.05*	2.065E+00	8.474E+02	8.503E+02	7.89
	383.85	-----	8.70	2.065E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF6E51AE

Page : 2
Acquisition date : 26-FEB-2008 05:44:12

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF6E51AE

Page : 3
Acquisition date : 26-FEB-2008 05:44:12

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.189E+03	18.03	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 26-FEB-2008 11:13:57

```

Configuration      : $DISK1:[GER7.SAMPLE]KF6E51AE_260280544.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       : 7-FEB-2008 12:00:00   Acquisition date : 26-FEB-2008 05:44:12
Sample ID        : KF6E51AE               Sample quantity  : 1.0000 SAMPL
Sample type      :                        Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.19   0.0%
Peak Width (FWHM):      3.00             Confidence level :      5.00 %
Energy tolerance :      1.50             Half life ratio  :      8.00
Errors propagated: Yes                    Systematic Error :      5.00 %
Efficiency type  : Empirical              Efficiencies at  : Peak Energy
Abundance limit  :      80.00            WTM error limit  :      3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.503E+02	6.712E+01	4.959E+01	9.919E-01	17.145

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-6.364E-01	2.847E+01	1.457E+02	2.923E+00	-0.004
NA-22	-2.369E-01	3.526E+00	1.596E+01	3.385E-01	-0.015
K-40	1.037E+02	6.813E+01	3.448E+02	7.409E+00	0.301
SC-46	1.544E-02	3.944E+00	1.833E+01	3.844E-01	0.001
CR-51	6.459E+01	1.226E+02	4.920E+02	9.844E+00	0.131
MN-54	2.081E+00	3.918E+00	1.900E+01	3.900E-01	0.110
CO-57	1.501E+02	1.147E+02	4.562E+02	9.430E+00	0.329
CO-58	5.899E+00	5.927E+00	2.796E+01	5.730E-01	0.211
FE-59	8.129E+00	1.128E+01	5.241E+01	1.097E+00	0.155
CO-60	-3.362E+00	2.384E+00	4.675E+00	9.956E-02	-0.719
ZN-65	-6.952E+00	8.586E+00	3.261E+01	6.836E-01	-0.213
SE-75	5.002E+00	1.637E+01	6.353E+01	1.275E+00	0.079
SR-85	-3.904E+01	1.158E+01	2.772E+01	5.571E-01	-1.408
Y-88	-8.168E+00	4.108E+00	5.462E+00	1.204E-01	-1.495
NB-94	1.630E+00	5.519E+00	2.341E+01	4.819E-01	0.070
NB-95	7.333E+00	7.075E+00	3.360E+01	6.863E-01	0.218
TC-95M	-2.037E+00	2.368E+01	8.407E+01	1.700E+00	-0.024
ZR-95	2.265E+00	9.116E+00	4.157E+01	8.486E-01	0.054
ZRNB-95	1.260E+01	1.199E+01	5.695E+01	1.163E+00	0.221
MO-99	-3.422E+03	1.347E+03	4.074E+03	8.405E+01	-0.840
RH-101	1.398E+01	1.717E+01	6.460E+01	1.308E+00	0.216
RH-102M	-5.385E+00	3.962E+00	1.268E+01	2.544E-01	-0.425
RU-103	-8.282E+00	7.841E+00	2.725E+01	5.471E-01	-0.304
RU-106DA	3.412E+01	6.440E+01	2.730E+02	5.520E+00	0.125
AG-108M	-7.145E+00	8.466E+00	3.002E+01	6.013E-01	-0.238
AG-110M	4.781E+00	5.933E+00	2.896E+01	5.966E-01	0.165
SN-113DA	1.315E+01	1.124E+01	4.960E+01	9.923E-01	0.265

---- Non-Identified Nuclides ----

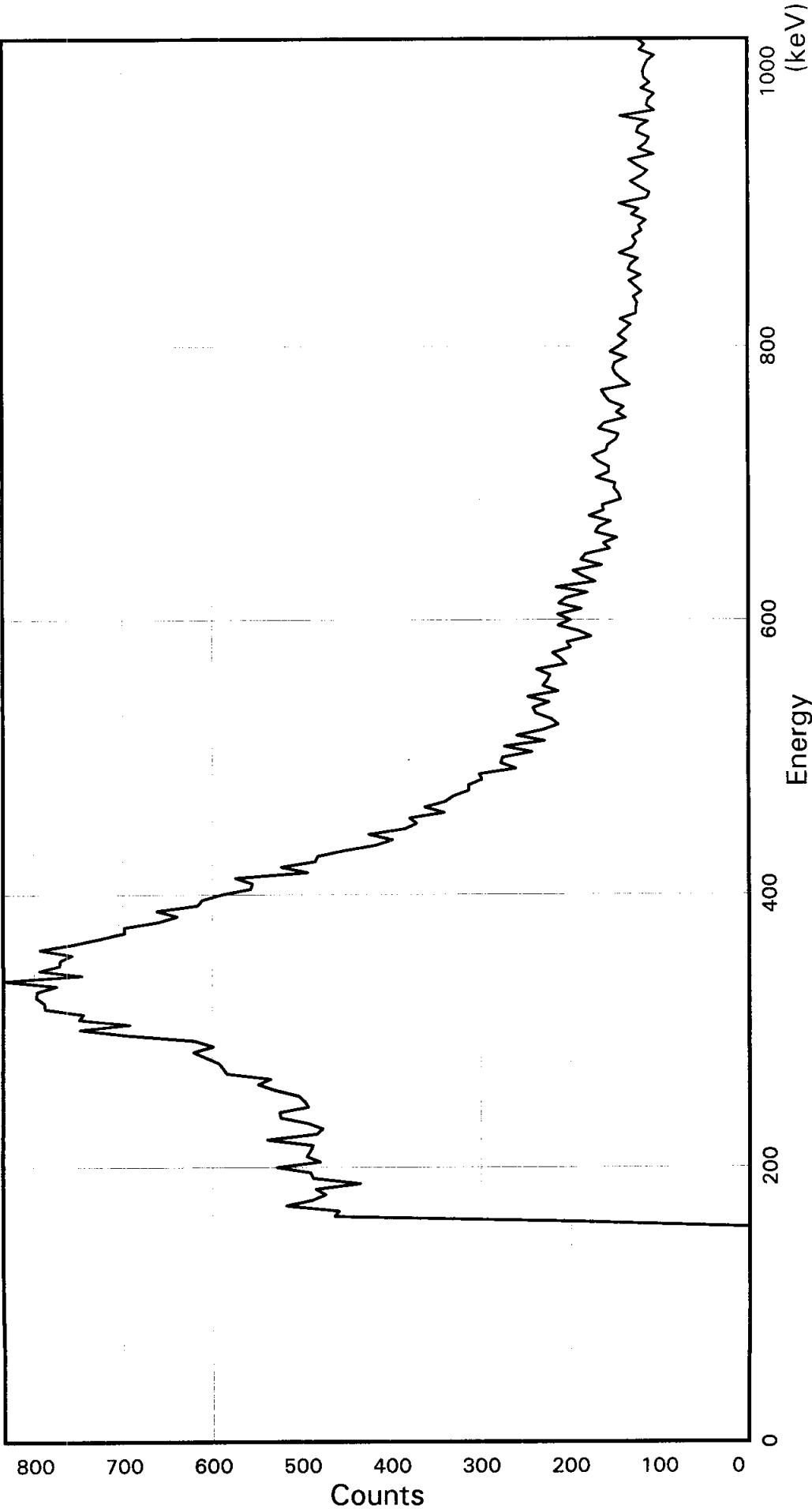
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.933E+00		6.157E+00	2.481E+01	5.011E-01	-0.078
SB-125	1.792E+00		2.251E+01	8.987E+01	1.800E+00	0.020
SN-126DA	-1.831E+00		5.491E+00	2.145E+01	4.352E-01	-0.085
I-131	-1.818E+01		4.731E+01	1.783E+02	3.565E+00	-0.102
CS-134	2.177E+00		5.836E+00	2.578E+01	5.278E-01	0.084
CS-137DA	-1.666E-01		6.140E+00	2.522E+01	5.114E-01	-0.007
LA-138	3.590E-03		3.667E+00	1.908E+01	4.093E-01	0.000
CE-139	2.347E+00		1.545E+01	5.711E+01	1.166E+00	0.041
BA-140	7.350E+01		5.030E+01	2.528E+02	5.088E+00	0.291
BALA-140	2.513E+01		2.628E+01	1.279E+02	2.774E+00	0.196
CE-141	-4.401E+01		3.523E+01	1.185E+02	2.438E+00	-0.372
CE-144	-2.026E+02		1.186E+02	3.865E+02	8.002E+00	-0.524
CEPR-144	-4.040E+02		2.373E+02	7.736E+02	1.602E+01	-0.522
PM-144	4.189E+00		6.472E+00	2.764E+01	5.590E-01	0.152
PM-146	1.661E+01		8.986E+00	4.295E+01	8.609E-01	0.387
EU-152	-1.168E+01		2.894E+01	1.057E+02	2.113E+00	-0.111
EU-154	-2.400E+00		9.393E+00	4.146E+01	8.792E-01	-0.058
EU-155	-7.338E+01		4.848E+01	1.634E+02	3.446E+00	-0.449
HF-181	2.378E+00		7.138E+00	3.189E+01	6.400E-01	0.075
BI-207	-6.512E+00		6.082E+00	2.151E+01	4.337E-01	-0.303
TL-208	3.364E+00		7.060E+00	3.001E+01	6.055E-01	0.112
BI-210M	1.092E+01		1.809E+01	7.139E+01	1.432E+00	0.153
BI-212	4.501E+01		8.063E+01	3.521E+02	1.076E+01	0.128
PB-212	1.130E+01		2.540E+01	1.007E+02	2.026E+00	0.112
BI-214	8.692E+00		1.505E+01	6.231E+01	1.259E+00	0.139
PB-214	3.081E+01		2.075E+01	9.270E+01	1.854E+00	0.332
RA-223	-3.784E+01		6.615E+01	2.382E+02	4.777E+00	-0.159
RA-224DA	1.152E+01		2.587E+01	1.026E+02	2.064E+00	0.112
RA-226DA	8.552E+00		1.503E+01	6.221E+01	1.257E+00	0.137
AC-227DA	-1.063E+02		9.701E+01	3.338E+02	6.717E+00	-0.318
AC-228	1.180E+01		1.484E+01	7.219E+01	1.490E+00	0.163
RA-228DA	1.187E+01		1.493E+01	7.263E+01	1.500E+00	0.163
TH-228DA	9.540E+00		2.002E+01	8.511E+01	1.717E+00	0.112
TH-232DA	-7.579E+00		5.704E+01	2.168E+02	4.335E+00	-0.035
TH-234DA	1.101E+01		3.572E+02	1.897E+03	3.943E+01	0.006
U-234DA	8.920E+01		5.411E+01	2.263E+02	4.531E+00	0.394
U-235HP	-3.952E+01		1.040E+02	3.750E+02	7.726E+00	-0.105
NP-237DA	-3.376E+01		2.018E+01	6.322E+01	1.265E+00	-0.534
U-238DA	3.081E+01		2.075E+01	9.270E+01	1.854E+00	0.332
U-238DHP	8.145E+01		4.519E+02	1.673E+03	3.725E+01	0.049
AM-241HP	-2.151E+01		4.073E+01	1.432E+02	3.214E+00	-0.150

TAL Richland WA.
BA133

Sample ID: KF6E51AE
Detector ID: NAI1 1

2nd Count

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 26-FEB-2008 07:24:27.09
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: KF6E51AE

CONFIGURATION ID: NAI1:KF6E51AE_260280724
TITLE : BA133
SAMPLE ID : KF6E51AE

REPORT DATE: 26-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 26-FEB-08 07:24:27	CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY:	SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV	FWHM OFFSET: -.2302E+02 keV
ENERGY SLOPE: 4.0000E+00 keV/C	FWHM SLOPE: 5.7163E+00 sqr keV
ENERGY Q COEFF: 0.0000E+00 keV/C ²	ITERATIONS: 5
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 20.000 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]BA133.NLB

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF6E51AE_260280724.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 26-FEB-2008 07:24:27
Sample ID : KF6E51AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.71 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:	7.8	7.2	6.9	5.7	7.4	2.9	4.4	2.5
88:	1.8	0.5	1.3	0.1	-0.4	-2.9	-0.8	-2.6
96:	-3.0	-2.9	-4.3	-4.0	-5.7	-3.7	-4.3	-3.2
104:	-6.6	-5.1	-5.8	-4.6	-4.9	-6.1	-6.2	-4.5
112:	-5.3	-5.0						

List of Suspicious Channels

81 82 83 84 85 86

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	2.02E+01	0.00E+00	1.03E+00
2	7.68E+00	0.00E+00	1.07E+00
3	1.68E+00	0.00E+00	1.10E+00
4	6.68E-01	0.00E+00	1.11E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	800.	7.63

Total Activity :	800.	

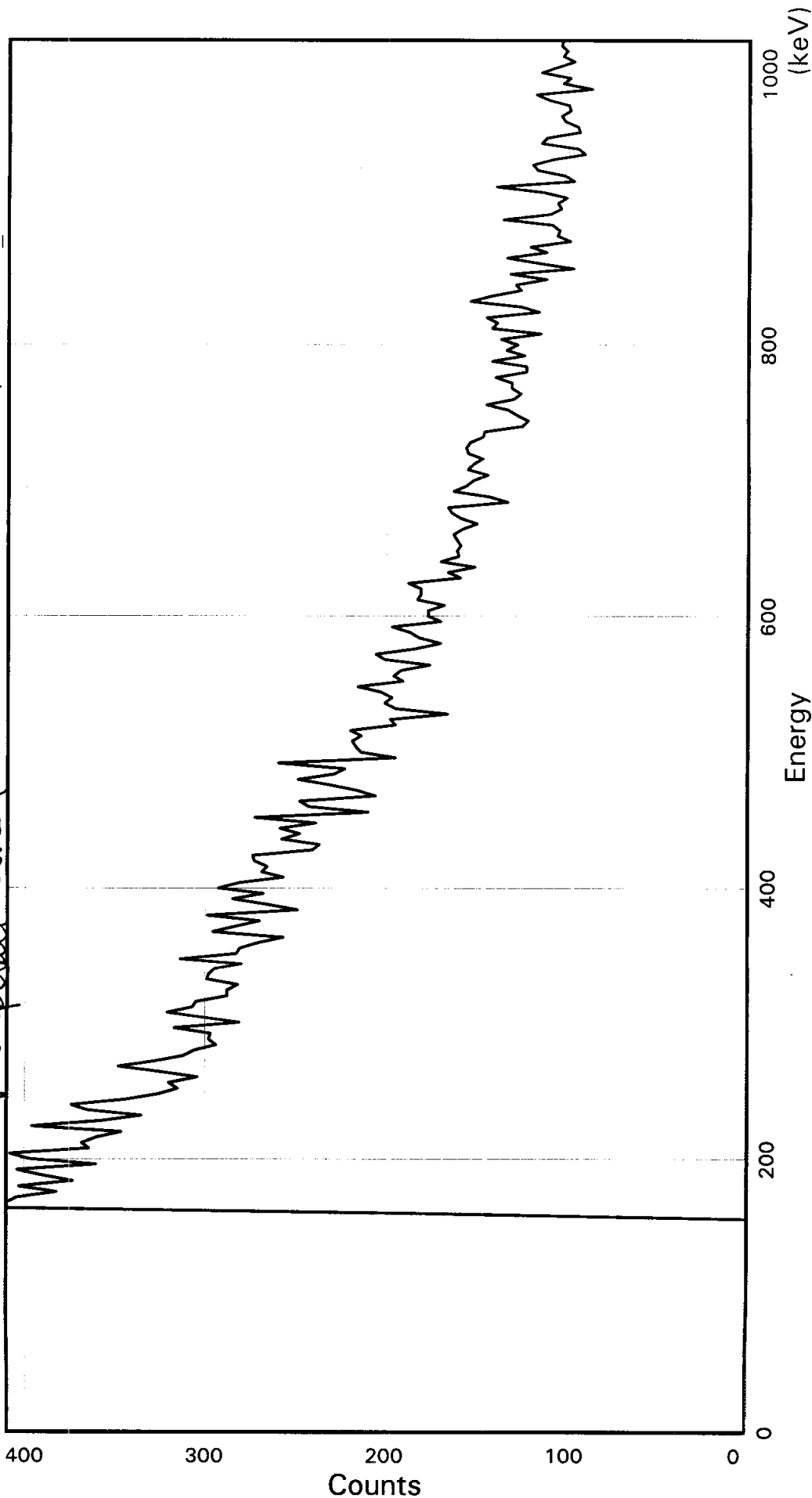
TAL Richland WA.

BA133

Sample ID: KF6E51AE
Detector ID: NAI1 1

BatchID: 8042381
Library: [NUC_LIBR]BA133.NLB

precipitate Count



Acquisition Start: 25-FEB-2008 11:45:25.89
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: KF6E51AE

CONFIGURATION ID: NAI1:KF6E51AE_250281145
TITLE : BA133
SAMPLE ID : KF6E51AE

REPORT DATE: 25-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 25-FEB-08 11:45:25	CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY:	SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV	FWHM OFFSET: -.2302E+02 keV
ENERGY SLOPE: 4.0000E+00 keV/C	FWHM SLOPE: 5.7163E+00 sqr keV
ENERGY Q COEFF: 0.0000E+00 keV/C ²	ITERATIONS: 5
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 20.000 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]BA133.NLB

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF6E51AE_250281145.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 7-FEB-2008 12:00:00 Acquisition date : 25-FEB-2008 11:45:25
Sample ID : KF6E51AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.55 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:	0.4	0.5	0.0	1.0	1.3	0.9	0.1	2.4
88:	0.5	0.4	-0.3	-1.4	1.0	0.3	-0.4	1.4
96:	-1.5	-0.6	0.6	-0.2	1.4	1.0	-1.4	-0.1
104:	-0.2	-0.3	0.0	-1.7	-1.7	-0.7	-0.7	-0.5
112:	-1.0	0.3						

List of Suspicious Channels

None

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	9.19E-01	0.00E+00	9.97E-01

Brief Nuclide Activity Report
Sample ID : KF6E51AE

Page : 3
Acquisition date : 25-FEB-2008 11:45:25

Brief Report

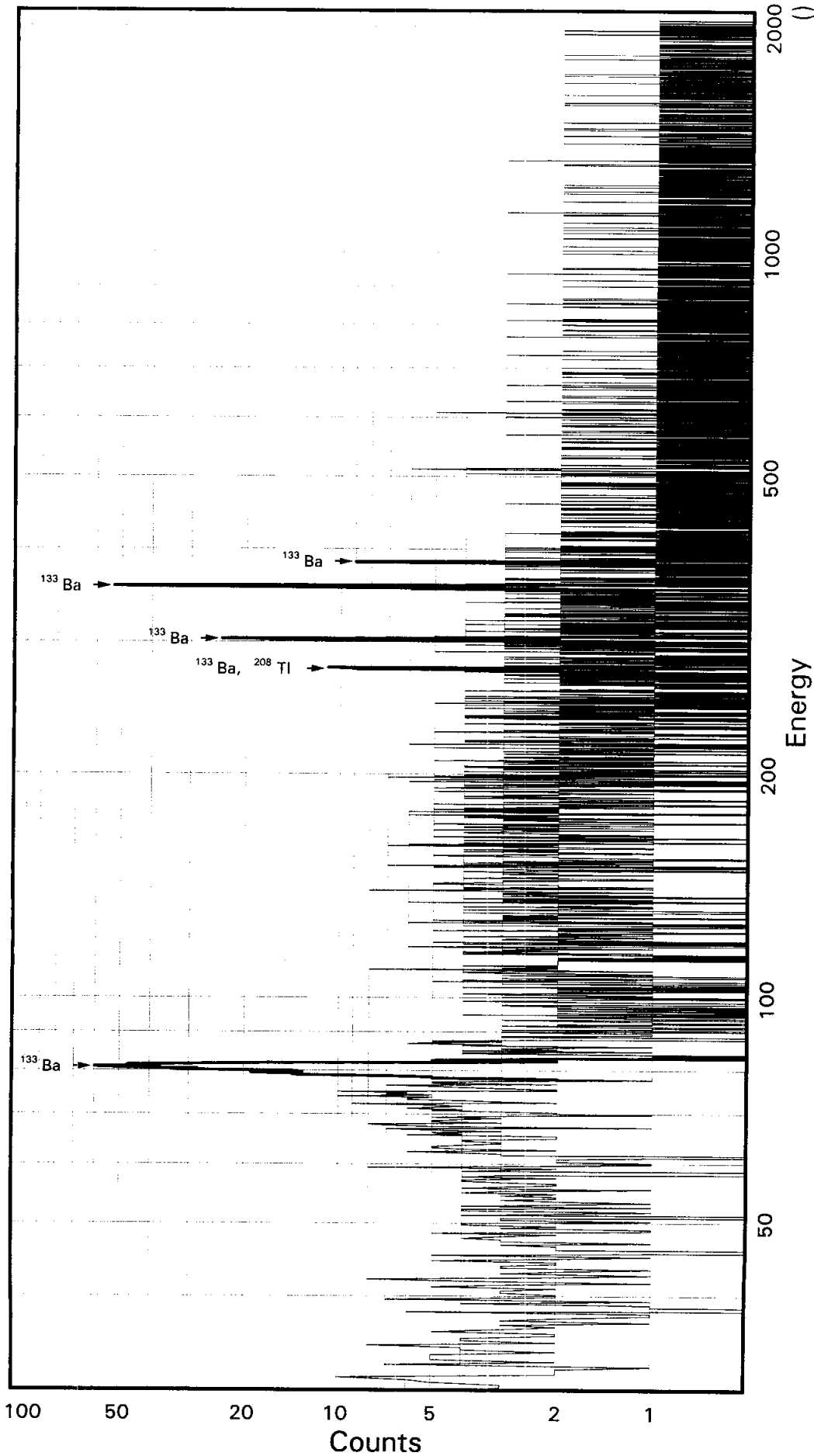
Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	5.18	5.60

Total Activity :	5.18	

TAL Richland WA.
BA133

Batch ID: 8042381

Sample ID: KGXJA1AA
Detector ID: GER10 1



Acquisition Start: 26-FEB-2008 05:44:17.98
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.46425E+01
Slope: 2.47248E-01
Quadrature: 2.05587E-09

SAMPLE IDENTIFICATION: KGXJA1AA

CONFIGURATION ID: GER10:KGXJA1AA_260280544
TITLE : BA133
SAMPLE ID : KGXJA1AA

REPORT DATE: 26-FEB-08	SAMPLE DATE: 7-FEB-2008 12:00:00.00
ACQUIRE DATE: 26-FEB-08 05:44:17	CALIB DATE: 26-FEB-2008 05:34:18.65
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY: BA133T15	SAMPLE TYPE:

ENERGY OFFSET: 1.4643E+01 keV	FWHM OFFSET: 1.2291E+00 keV
ENERGY SLOPE: 2.4725E-01 keV/C	FWHM SLOPE: 2.1883E-02 sqr keV
ENERGY Q COEFF: 2.0559E-09 keV/C ²	ITERATIONS: 10
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 1.500 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 26-FEB-2008 11:14:07

```

Configuration      : $DISK1:[GER10.SAMPLE]KGXJA1AA_260280544.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 7-FEB-2008 12:00:00   Acquisition date : 26-FEB-2008 05:44:17
Sample ID         : KGXJA1AA               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      :      17.12              End energy       :      2040.24
Sensitivity       :      5.00               Gaussian        :      10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	79.13	64	14	1.46	260.81	256	23	3.56E-02	19.2	2.58E+00
2	3	80.88	344	19	1.64	267.91	256	23	1.91E-01	6.5	
3	0	276.27	58	16	1.48	1058.14	1045	20	3.23E-02	19.6	
4	0	302.82	136	19	1.31	1165.51	1155	22	7.58E-02	10.9	
5	0	355.98	354	14	1.57	1380.54	1370	21	1.97E-01	5.8	
6	0	384.29	52	10	1.46	1495.03	1484	22	2.88E-02	19.5	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER10.SAMPLE]KGXJA1AA_260280544.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 7-FEB-2008 12:00:00   Acquisition date : 26-FEB-2008 05:44:17
Sample ID        : KGXJA1AA               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	344	33.00	2.478E+00	1.403E+03	1.408E+03	8.48
	276.40	58	6.90	2.637E+00	1.064E+03	1.068E+03	20.32
	302.84	136	17.80	2.640E+00	9.683E+02	9.716E+02	12.18
	356.00	354	62.05*	2.642E+00	7.202E+02	7.226E+02	7.89
	383.85	52	8.70	2.641E+00	7.531E+02	7.556E+02	20.21

Flag: "*" = Keyline

Unidentified Energy Lines

Sample ID : KGXJA1AA

Acquisition date : 26-FEB-2008 05:44:17

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	79.13	64	14	1.46	260.81	256	23	3.56E-02	19.2	2.47E+00	

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity 1-Sigma (DPM/SAMPL)%Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.080E+03 20.32	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

```

Configuration      : $DISK1:[GER10.SAMPLE]KGXJA1AA_260280544.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       : 7-FEB-2008 12:00:00   Acquisition date : 26-FEB-2008 05:44:17
Sample ID        : KGXJA1AA               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	7.226E+02	5.701E+01	5.155E+01	1.031E+00	14.018

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-9.954E+01	6.747E+01	2.182E+02	4.375E+00	-0.456
NA-22	-2.750E+00	2.722E+00	9.869E+00	2.070E-01	-0.279
K-40	1.151E+01	4.592E+01	2.272E+02	4.817E+00	0.051
SC-46	9.225E+00	5.317E+00	2.550E+01	5.299E-01	0.362
CR-51	1.292E+02	1.322E+02	5.230E+02	1.046E+01	0.247
MN-54	3.924E+00	4.073E+00	1.894E+01	3.869E-01	0.207
CO-57	-1.120E+02	1.201E+02	4.087E+02	8.396E+00	-0.274
CO-58	6.088E+00	5.438E+00	2.466E+01	5.031E-01	0.247
FE-59	-9.011E+00	1.111E+01	4.063E+01	8.433E-01	-0.222
CO-60	7.360E-01	3.481E+00	1.545E+01	3.251E-01	0.048
ZN-65	-1.072E+01	8.579E+00	2.930E+01	6.088E-01	-0.366
SE-75	1.808E+00	1.463E+01	5.540E+01	1.111E+00	0.033
SR-85	-3.450E+00	1.270E+01	4.476E+01	8.988E-01	-0.077
Y-88	6.206E+00	3.122E+00	1.862E+01	4.030E-01	0.333
NB-94	-4.227E+00	4.761E+00	1.692E+01	3.464E-01	-0.250
NB-95	-1.701E+01	6.847E+00	1.729E+01	3.517E-01	-0.984
TC-95M	-5.239E+00	1.959E+01	6.913E+01	1.395E+00	-0.076
ZR-95	-1.407E-01	9.032E+00	3.723E+01	7.571E-01	-0.004
ZRNB-95	-2.874E+01	1.157E+01	2.920E+01	5.941E-01	-0.984
MO-99	2.278E+03	1.568E+03	5.943E+03	1.219E+02	0.383
RH-101	-3.312E-01	1.605E+01	6.022E+01	1.216E+00	-0.005
RH-102M	-1.079E+00	6.067E+00	2.301E+01	4.613E-01	-0.047
RU-103	7.174E+00	7.482E+00	3.270E+01	6.561E-01	0.219
RU-106DA	-6.445E+01	5.151E+01	1.763E+02	3.559E+00	-0.366
AG-108M	-3.280E+00	7.528E+00	2.736E+01	5.479E-01	-0.120
AG-110M	4.857E+00	7.332E+00	3.096E+01	6.343E-01	0.157
SN-113DA	1.498E+01	1.137E+01	4.758E+01	9.519E-01	0.315

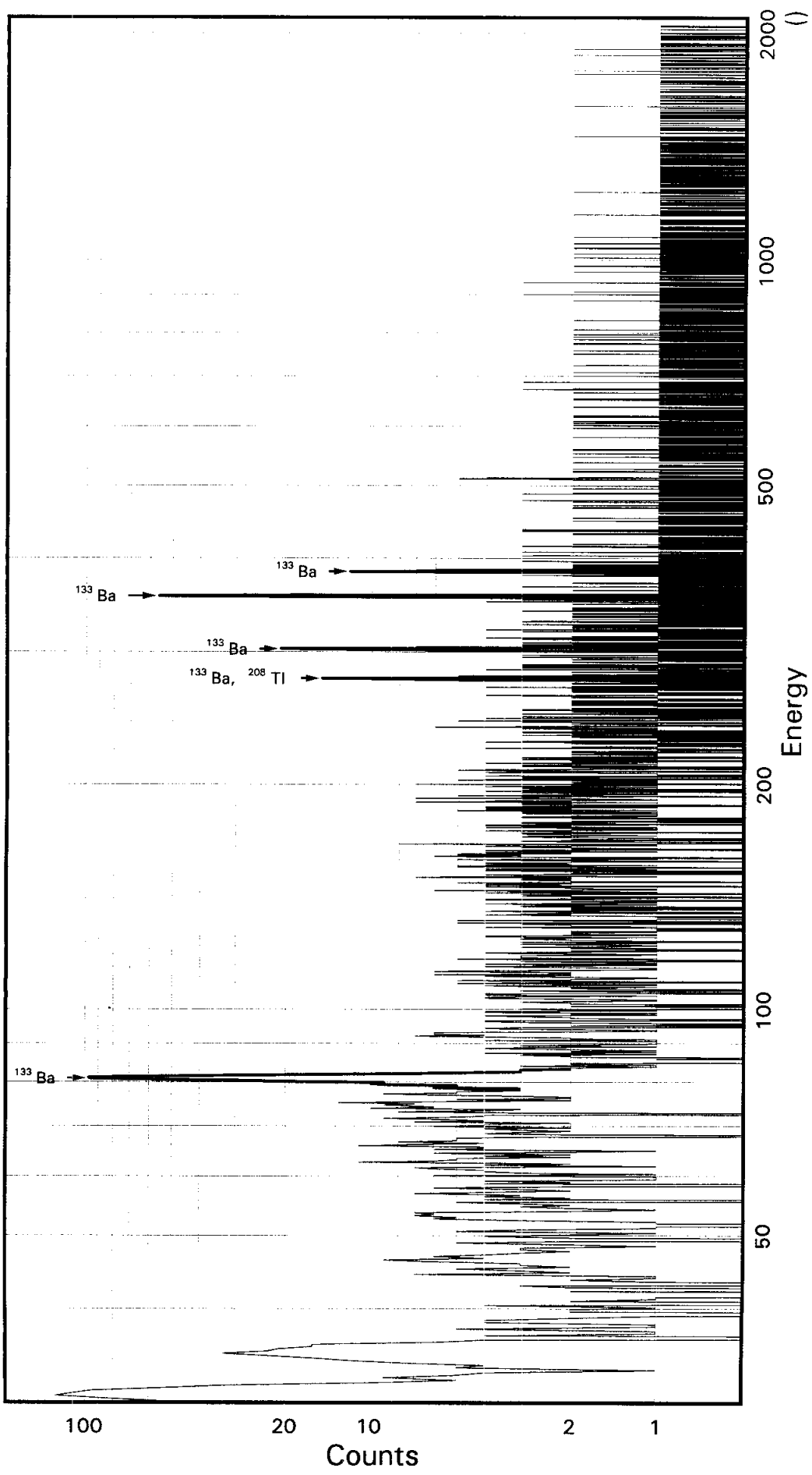
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	1.480E+00		7.240E+00	2.885E+01	5.816E-01	0.051
SB-125	-2.667E+01		1.545E+01	4.731E+01	9.471E-01	-0.564
SN-126DA	7.332E+00		5.364E+00	2.374E+01	4.803E-01	0.309
I-131	4.377E+01		4.402E+01	1.780E+02	3.560E+00	0.246
CS-134	1.910E+00		6.058E+00	2.476E+01	5.046E-01	0.077
CS-137DA	3.349E+00		6.005E+00	2.517E+01	5.091E-01	0.133
LA-138	-1.626E-01		4.087E+00	1.858E+01	3.933E-01	-0.009
CE-139	-4.357E+00		1.647E+01	5.787E+01	1.177E+00	-0.075
BA-140	-2.209E+01		5.807E+01	2.221E+02	4.465E+00	-0.099
BALA-140	7.940E+00		1.343E+01	7.235E+01	1.545E+00	0.110
CE-141	-1.166E+01		3.647E+01	1.283E+02	2.628E+00	-0.091
CE-144	3.962E+01		1.060E+02	3.903E+02	8.029E+00	0.102
CEPR-144	7.620E+01		2.119E+02	7.795E+02	1.603E+01	0.098
PM-144	3.566E+00		5.036E+00	2.170E+01	4.378E-01	0.164
PM-146	3.406E+00		8.854E+00	3.542E+01	7.096E-01	0.096
EU-152	-4.507E+00		3.456E+01	1.257E+02	2.515E+00	-0.036
EU-154	-7.668E+00		7.588E+00	2.752E+01	5.771E-01	-0.279
EU-155	-7.460E+01		5.520E+01	1.846E+02	3.856E+00	-0.404
HF-181	9.840E+00		9.190E+00	3.905E+01	7.832E-01	0.252
BI-207	9.246E+00		5.618E+00	2.525E+01	5.082E-01	0.366
TL-208	2.775E-01		5.148E+00	2.127E+01	4.284E-01	0.013
BI-210M	2.048E+01		1.570E+01	6.385E+01	1.280E+00	0.321
BI-212	3.756E+01		6.741E+01	2.911E+02	8.887E+00	0.129
PB-212	7.584E+00		2.239E+01	8.371E+01	1.682E+00	0.091
BI-214	7.216E+00		1.502E+01	6.165E+01	1.243E+00	0.117
PB-214	4.131E+01		3.014E+01	1.063E+02	2.125E+00	0.389
RA-223	-1.306E+01		6.858E+01	2.283E+02	4.577E+00	-0.057
RA-224DA	7.727E+00		2.281E+01	8.529E+01	1.714E+00	0.091
RA-226DA	7.216E+00		1.502E+01	6.165E+01	1.243E+00	0.117
AC-227DA	-1.195E+02		8.762E+01	2.862E+02	5.752E+00	-0.418
AC-228	-1.073E+01		1.660E+01	6.123E+01	1.257E+00	-0.175
RA-228DA	-1.080E+01		1.671E+01	6.161E+01	1.264E+00	-0.175
TH-228DA	7.871E-01		1.460E+01	6.031E+01	1.215E+00	0.013
TH-232DA	-7.805E+00		6.791E+01	2.494E+02	4.989E+00	-0.031
TH-234DA	-1.144E+03		7.367E+02	2.404E+03	4.960E+01	-0.476
U-234DA	1.597E+01		4.756E+01	1.768E+02	3.540E+00	0.090
U-235HP	-5.036E+01		1.248E+02	4.347E+02	8.906E+00	-0.116
NP-237DA	2.776E+01		2.499E+01	9.801E+01	1.961E+00	0.283
U-238DA	4.131E+01		3.014E+01	1.063E+02	2.125E+00	0.389
U-238DHP	-2.418E+02		3.884E+02	1.356E+03	2.959E+01	-0.178
AM-241HP	-8.442E+01		3.895E+01	1.203E+02	2.642E+00	-0.702

TAL Richland WA.
BA133

Batch ID: 8042381

Sample ID: KGXJA1AC
Detector ID: GER8 1



Acquisition Start: 26-FEB-2008 05:44:35.41
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.60532E-01
Slope: 2.49936E-01
Quadrature: 2.00131E-08

SAMPLE IDENTIFICATION: KGXJA1AC

CONFIGURATION ID: GER8:KGXJA1AC_260280544
TITLE : BA133
SAMPLE ID : KGXJA1AC

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 05:44:35
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 21-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:52:48.76
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: 1.6053E-01 keV
ENERGY SLOPE: 2.4994E-01 keV/C
ENERGY Q COEFF: 2.0013E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.7445E-01 keV
FWHM SLOPE: 2.0293E-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 26-FEB-2008 11:15:12

```

Configuration      : $DISK1:[GER8.SAMPLE]KGXJA1AC_260280544.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 21-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 05:44:35
Sample ID         : KGXJA1AC Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 0.0%
Start energy      : 20.16 End energy : 2048.98
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	30.80	563	76	1.14	122.57	113	34	3.13E-01	5.3	6.99E-01
2	3	35.04	149	39	1.46	139.56	113	34	8.29E-02	14.5	
3	0	80.98	425	65	0.93	323.36	313	20	2.36E-01	6.7	
4	0	276.73	36	25	0.86	1106.48	1099	14	1.97E-02	34.1	
5	0	302.81	100	13	0.96	1210.78	1202	18	5.54E-02	13.2	
6	0	356.01	293	5	1.11	1423.60	1414	17	1.63E-01	6.1	
7	0	383.88	56	0	1.05	1535.09	1527	16	3.11E-02	13.4	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER8.SAMPLE]KGXJA1AC_260280544.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 21-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 05:44:35
Sample ID        : KGXJA1AC Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	425	33.00	2.140E+00	2.005E+03	2.018E+03	8.65
	276.40	36	6.90	2.306E+00	7.442E+02	7.490E+02	34.53
	302.84	100	17.80	2.309E+00	8.091E+02	8.143E+02	14.27
	356.00	293	62.05*	2.311E+00	6.817E+02	6.862E+02	8.11
	383.85	56	8.70	2.310E+00	9.287E+02	9.348E+02	14.41

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KGXJA1AC

Page : 2
Acquisition date : 26-FEB-2008 05:44:35

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	30.80	563	76	1.14	122.57	113	34	3.13E-01	5.3	1.87E+00	
3	35.04	149	39	1.46	139.56	113	34	8.29E-02	14.5	1.91E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KGXJA1AC

Page : 3
Acquisition date : 26-FEB-2008 05:44:35

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	7.551E+02	34.53	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

```

Configuration      : $DISK1:[GER8.SAMPLE]KGXJA1AC_260280544.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       : 21-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 05:44:35
Sample ID        : KGXJA1AC Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.862E+02	5.564E+01	3.560E+01	7.121E-01	19.272

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.809E+01	7.145E+01	3.111E+02	6.242E+00	0.090
NA-22	3.808E+00	3.329E+00	1.778E+01	3.764E-01	0.214
K-40	-2.686E+01	3.622E+01	1.740E+02	3.731E+00	-0.154
SC-46	2.400E-01	5.076E+00	2.436E+01	5.102E-01	0.010
CR-51	6.975E+01	2.159E+02	8.250E+02	1.651E+01	0.085
MN-54	-1.994E+00	5.434E+00	2.099E+01	4.305E-01	-0.095
CO-57	6.902E+01	1.078E+02	4.088E+02	8.443E+00	0.169
CO-58	3.995E+00	6.048E+00	2.763E+01	5.658E-01	0.145
FE-59	9.407E+00	1.136E+01	5.582E+01	1.167E+00	0.169
CO-60	5.244E+00	2.868E+00	1.747E+01	3.713E-01	0.300
ZN-65	-6.502E+00	6.553E+00	2.421E+01	5.068E-01	-0.269
SE-75	-1.394E+01	1.834E+01	6.484E+01	1.301E+00	-0.215
SR-85	-3.102E+01	1.391E+01	4.327E+01	8.696E-01	-0.717
Y-88	-2.024E+00	2.027E+00	5.438E+00	1.195E-01	-0.372
NB-94	3.278E+00	3.103E+00	1.646E+01	3.386E-01	0.199
NB-95	1.563E+01	9.196E+00	4.560E+01	9.308E-01	0.343
TC-95M	-1.028E+00	2.496E+01	9.187E+01	1.857E+00	-0.011
ZR-95	-4.351E+00	1.190E+01	4.703E+01	9.596E-01	-0.093
ZRNB-95	2.318E+01	1.342E+01	6.653E+01	1.358E+00	0.348
RH-101	4.005E+00	1.493E+01	5.613E+01	1.136E+00	0.071
RH-102M	-5.478E+00	5.222E+00	1.879E+01	3.769E-01	-0.291
RU-103	-4.924E+00	1.112E+01	4.305E+01	8.643E-01	-0.114
RU-106DA	-4.613E+01	5.699E+01	2.085E+02	4.216E+00	-0.221
AG-108M	-7.072E+00	8.807E+00	3.064E+01	6.136E-01	-0.231
AG-110M	2.075E+00	5.171E+00	2.437E+01	5.017E-01	0.085
SN-113DA	4.854E+00	1.315E+01	5.203E+01	1.041E+00	0.093
SB-124	2.489E+00	8.033E+00	3.371E+01	6.807E-01	0.074

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-3.898E+01		1.878E+01	5.245E+01	1.050E+00	-0.743
SN-126DA	-1.457E+00		4.388E+00	1.756E+01	3.561E-01	-0.083
I-131	1.302E+02		1.435E+02	6.289E+02	1.258E+01	0.207
CS-134	1.718E+00		4.809E+00	2.155E+01	4.409E-01	0.080
CS-137DA	5.177E+00		5.170E+00	2.427E+01	4.919E-01	0.213
LA-138	-1.073E-01		3.350E+00	1.702E+01	3.644E-01	-0.006
CE-139	-1.064E+01		1.740E+01	5.994E+01	1.224E+00	-0.177
BA-140	2.942E+00		7.912E+01	3.738E+02	7.521E+00	0.008
BALA-140	2.269E+01		2.272E+01	1.668E+02	3.609E+00	0.136
CE-141	1.574E+01		5.529E+01	2.007E+02	4.127E+00	0.078
CE-144	-6.104E+01		1.075E+02	3.761E+02	7.779E+00	-0.162
CEPR-144	-1.233E+02		2.149E+02	7.516E+02	1.555E+01	-0.164
PM-144	5.805E+00		5.356E+00	2.449E+01	4.950E-01	0.237
PM-146	8.639E+00		7.968E+00	3.576E+01	7.167E-01	0.242
EU-152	-6.758E+00		2.965E+01	1.099E+02	2.197E+00	-0.062
EU-154	8.965E+00		8.820E+00	4.713E+01	9.978E-01	0.190
EU-155	-1.886E+01		5.898E+01	2.094E+02	4.410E+00	-0.090
HF-181	-1.107E+01		1.052E+01	3.780E+01	7.585E-01	-0.293
BI-207	-1.247E+00		4.872E+00	1.953E+01	3.936E-01	-0.064
TL-208	-1.089E+01		4.735E+00	1.349E+01	2.722E-01	-0.807
BI-210M	-1.593E+01		1.855E+01	6.491E+01	1.302E+00	-0.245
BI-212	-2.691E+01		7.424E+01	2.896E+02	8.853E+00	-0.093
PB-212	6.220E+00		2.370E+01	9.152E+01	1.841E+00	0.068
BI-214	-1.861E+01		1.346E+01	5.241E+01	1.059E+00	-0.355
PB-214	9.766E+00		2.362E+01	9.539E+01	1.908E+00	0.102
RA-223	-5.187E+01		6.403E+01	2.257E+02	4.525E+00	-0.230
RA-224DA	6.445E+00		2.456E+01	9.483E+01	1.907E+00	0.068
RA-226DA	-1.861E+01		1.346E+01	5.241E+01	1.059E+00	-0.355
AC-227DA	-6.717E+01		9.060E+01	3.194E+02	6.425E+00	-0.210
AC-228	-1.194E+01		1.430E+01	5.431E+01	1.120E+00	-0.220
RA-228DA	-1.209E+01		1.447E+01	5.495E+01	1.133E+00	-0.220
TH-228DA	-3.139E+01		1.366E+01	3.892E+01	7.850E-01	-0.807
TH-232DA	-2.150E+01		5.526E+01	2.049E+02	4.099E+00	-0.105
TH-234DA	1.261E+02		6.595E+02	2.877E+03	5.973E+01	0.044
U-234DA	-2.090E+01		4.501E+01	1.758E+02	3.519E+00	-0.119
U-235HP	-1.254E+01		1.161E+02	4.132E+02	8.504E+00	-0.030
NP-237DA	3.609E+01		2.575E+01	1.041E+02	2.082E+00	0.347
U-238DA	9.766E+00		2.362E+01	9.539E+01	1.908E+00	0.102
U-238DHP	-1.018E+03		4.743E+02	1.584E+03	3.516E+01	-0.642
AM-241HP	-1.051E+02		4.419E+01	1.388E+02	3.104E+00	-0.757

RADIUM 226
SAMPLE AND QC DATA

Lot No., Due Date: F8A250205; 02/28/2008
Client, Site: 1418995; LANDWELL - Tronox Parcel H
QC Batch No., Method Test: 8067181; RRA2267 Ra-226 by ASC-7
SDG, Matrix: ;

- 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:
NCM 10-12037

First Level Review

Thomas DMEGO Date 3/28/08

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 7067181

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?		✓	
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?		✓	
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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 Num

Second Level Review: Erika Ford Date: 3/30/18

Clouseau Nonconformance Memo

NCM #: 10-12037 NCM Initiated By: Tom McGinnis Date Opened: 03/28/2008 Date Closed:	Classification: Deficiency Status: GLREVIEW Production Area: Environmental - Sep Tests: Ra-226 by ASC-7 Lot #'s (Sample #'s): J8B110000 (378), QC Batches: 8067181,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Tom McGinnis	03/28/2008	Batch 8067181 is a re-analysis of batch 8042378 due to multiple QC failures. All QC within acceptable criteria for batch 8067181.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Tom McGinnis	03/28/2008	PM and QA manager notified of original batch deficiencies and aware of re-analysis request.

Client Notification Summary

<u>Client</u>	<u>Project Manager</u>	<u>Notified</u>	<u>Response</u>	<u>How Notified</u>	<u>Note</u>

Quality Assurance Verification

<u>Verified By</u>	<u>Due Date</u>	<u>Status</u>	<u>Notes</u>
			This section not yet completed by QA.

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>

3/13/2008 11:40:23 AM Balance Id:120373922
 1418995, Landwell Company Pipet #:
 Landwell Company
 D9 Ra-226/228 PrpRC5013/5032, SepRC5005
 TE Ba-133 by Nal & Ra-226 by Alpha Scint 7 day ingrow
 01 STANDARD TEST SET
 AnalyDueDate: 02/22/2008
 PM, Quote: JAE, 78254
 Batch: 8067181
 SEQ Batch, Test: 8042380, D9TF 8067203, D9TF

Work Order, Lot, Sample Date Time 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 KF5A2-2-AE 1.00g,in RATA30372 02/21/08 7.4661 = 1.0513 7.102 68 1441 3-20-08 12:12 SB
 F8A250205-1-SAMP

01/24/2008 10:15 AmtRec: SL #Containers: 1 3-25-08 9:53 SB
 2 KF5FV-2-AE 1.01g,in RATA30373 02/21/08 7.4558 = 1.0000 7.826 65 1441 3-20-08 12:12 SB
 F8A250205-2-SAMP

01/24/2008 09:55 AmtRec: SL #Containers: 1 3-25-08 9:42 SB
 3 KF5FX-2-AE 1.02g,in RATA30374 02/21/08 7.4455 = 1.1538 6.453 60 1442 3-20-08 12:12 SB
 F8A250205-3-SAMP

01/24/2008 11:00 AmtRec: SL #Containers: 1 3-25-08 9:50 SB
 4 KF5F0-2-AE 1.01g,in RATA30375 02/21/08 7.4713 = 1.0722 6.968 67 1442 3-20-08 12:12 SB
 F8A250205-4-SAMP

01/24/2008 11:30 AmtRec: SL #Containers: 1
 TAL Richland Key: In Initial Amt. fi - Final Amt. di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
 Richland Wa. pd - Prep Dt. r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

3/13/2008 11:40:24 AM

Sample Preparation/Analysis

Balance Id: 1120373922

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TE Ba-133 by Nai & Ra-226 by Alpha Scinti 7 day ingrow
01 STANDARD TEST SET

Pipet #:

Analyte Date: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8067181 pCi/g

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech:

SEQ Batch, Test: 8042380, D9TF 8067203, D9TF

Prep Tech: ,Barcolt

Work Order, Lot, Sample Date Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24-hr) Circle	CR Analyst, Int/Date	Comments:
5 KF5F1-2-AE		1.01g.in	RATA30376				54	1442	3/17/08	
F8A250205-5-SAMP			02/21/08							
74661 ✓ 1.0214										
7310										
01/24/2008 10:45		AmtRec: SL	#Containers: 1				Scr:			Beta:
6 KF5F3-2-AE		1.00g.in	RATA30463				514	1443	3/17/08	
F8A250205-6-SAMP			02/28/08							
75543 ✓ 1.0000										
8022										
01/24/2008 11:55		AmtRec: SL	#Containers: 1				Scr:			Beta:
7 KF5F4-2-AE		1.01g.in	RATA30464				511	1443	3/17/08	
F8A250205-7-SAMP			02/28/08							
75440 ✓ 1.0000										
8425										
01/24/2008 12:30		AmtRec: SL	#Containers: 1				Scr:			Beta:
8 KF5F7-2-AE		1.01g.in	RATA30465				711	1523	3/17/08	
F8A250205-8-SAMP			02/28/08							
75543 ✓ 1.0086										
749										
01/24/2008 12:45		AmtRec: SL	#Containers: 1				Scr:			Beta:
8HC (OW) 3-20-08 12:12 SB										
9.50 SB										

TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis
WO Cnt: 8
Prep_SamplePrep v4.8.32

3/13/2008 11:40:24 AM

Sample Preparation/Analysis

Balance Id: 1120373922

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TE Ba-133 by Nai & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Pipet #:

Analyte Due Date: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8067181 pCi/g

PM, Quote: JAE, 78254

SEQ Batch, Test: 8042380, D9TF 8067203, D9TF

Sep2 DT/Tm Tech:

Prep Tech: ,Barcoti

Work Order, Lot, Sample Date Time	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:
9 KF5F8-2-AE		1.01g.in	RATA30466				617	1524	3/19/08	
F8A250205-9-SAMP			02/28/08	7.471 ✓	1.0081					
				7.417						3-20-08 12:36 SB
01/24/2008 13:00			#Containers: 1							9RC (0.72) Alpha: 3-25-08 10:57 SB
10 KF5F9-2-AE		1.02g.in	RATA30467				66	1225	3/19/08	
F8A250205-10-SAMP			02/28/08	7.4874 ✓	1.0000		77	037	3/20/08	
				7.60						3-20-08 12:36 SB
01/24/2008 13:10			#Containers: 1							ASB (0.55) Alpha: 3-25-08 10:41 SB
11 KF5FG-2-AE		1.02g.in	RATA30468				68	1525	3/19/08	
F8A250205-11-SAMP			02/28/08	7.5183 ✓	1.0281					
				7.313						3-20-08 12:36 SB
01/24/2008 08:05			#Containers: 1							BMA (1.31) Alpha: 3-25-08 10:49 SB
12 KF5GF-2-AE		1.00g.in	RATA30469				65	1526	3/19/08	
F8A250205-12-SAMP			02/28/08	7.5234 ✓	1.0725					
				7.015						3-20-08 12:36 SB
01/24/2008 08:05			#Containers: 1							CSB (0.54) Alpha: 3-25-08 10:59 SB

TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 12

Prep SamplePrep v4.8.32

3/13/2008 11:40:24 AM
 1418995, Landwell Company
 Landwell Company
 Analyze Date: 02/22/2008
 Balance Id: 1120373922
 Pipet #:
 Sep1 DT/Tm Tech:
 Sep2 DT/Tm Tech:
 Prep Tech: ,Barcoti

Sample Preparation/Analysis
 D9 Ra-226/228 PpRC5013/5032, SepRC5005
 TE Ba-133 by Nai & Ra-226 by Alpha Scint 7 day ingrow
 01 STANDARD TEST SET
 PM, Quote: JAE, 78254
 SEQ Batch, Test: 8042380, D9TF 8042380, D9TF 8067203, D9TF 8067203, D9TF 8067203, D9TF

Work Order, Lot, Sample Date Time || Total Amt/Unit || Initial Aliquot Amt/Unit || OC Tracer Prep Date || Dish Size || Ppt or Geometry || Count Time Min || Detector Id || Count On | Off (24hr) Circle || CR Analyst, Init/Date || Comments:

13 KF5GJ-2-AL 1.00g, in RATA30470 02/28/08 7.5286 ✓ 1.0000 7.647
 F8A250205-14-SAMP

01/24/2008 09:00 AmtRec: 2XSL #Containers: 2 Scr: 67 1526 7/11/08 PL
 14 KF5GJ-2-AN-S 1.00g, in RASA0302 02/28/08 7.5337 ✓ 1.1231 6.708
 F8A250205-14-MS

01/24/2008 09:00 AmtRec: 2XSL #Containers: 2 Scr: 64 1526 3/11/08 PL
 15 KF5GJ-2-AQ-X 1.00g, in RATA30471 02/28/08 7.5080 ✓ 1.0975 6.841
 F8A250205-14-DUP

01/24/2008 09:00 AmtRec: 2XSL #Containers: 2 Scr: 614 1526 7/11/08 PL
 16 KGXH0-2-AA-B 1.00g, in RATA30472 02/28/08 7.5286 ✓ 1.0000 7.928
 J8B110000-378-BLK

01/24/2008 10:15 AmtRec: #Containers: 1 Scr: 614 1526 7/11/08 PL
 17 KF5GJ-2-AB 1.00g, in RATA30473 02/28/08 7.5286 ✓ 1.0000 7.928
 F8A250205-14-DUP

01/24/2008 10:15 AmtRec: #Containers: 1 Scr: 614 1526 7/11/08 PL
 18 KF5GJ-2-AB 1.00g, in RATA30474 02/28/08 7.5286 ✓ 1.0000 7.928
 F8A250205-14-DUP

3/13/2008 11:40:24 AM

Sample Preparation/Analysis

Balance Id:1120373922

D9 Ra-226/228 PpRC5013/5032, SepRC5005
TE Ba-133 by nai & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:

AnalyDueDate: 02/22/2008

Batch: 8067181

SEQ Batch, Test: None

Prep Tech: ,Barcotl

Work Order, Lot, Sample Date/Time	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:
17 KGXH0-2-AC-C	1.02g, in		RASC4719				611	1527	J/J/J/01/01/01	

J8B110000-378-LCS
 7.5401 = 1.0000
 7.908
 HSB 3-20-08 13:03 SB
 (057) Alpha: HSB 3-25-08 10:52 SB

01/24/2008 10:15

Amt/Rec. #Containers: 1

Scr.

Beta:

Comments:

3-25-08 LCS on first case. was high. Spete w/ J.C. decision made to re-count and forward on that pass further. *(Signature)*

All Clients for Batch:

1418995, Landwell Company

Landwell Company

JAE, 78254

KF5A22AE-SAMP Constituent List:

Constituent	RDL	pCi/g	LCL:20	UCL:115	RPD:35	Ra-226	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
KF5A22AE-SAMP											
KF5GJ2AN-MS:											
KGXH02AA-BLK:											
Ba-133	RDL:	pCi/g	LCL:20	UCL:115	RPD:35	Ra-226	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
KGXH02AC-LCS:											
Ba-133	RDL:	pCi/g	LCL:20	UCL:115	RPD:35	Ra-226	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
KF5A22AE-SAMP Calc Info:											
Uncert Level (#s):	4	Decay to SaDt: N	Blk Subt.: N	Sci.Not.: N	ODRs: B						
KGXH02AN-MS:											
Uncert Level (#s):	4	Decay to SaDt: N	Blk Subt.: N	Sci.Not.: N	ODRs: B						
KGXH02AA-BLK:											
Uncert Level (#s):	4	Decay to SaDt: N	Blk Subt.: N	Sci.Not.: N	ODRs: B						
KGXH02AC-LCS:											
Uncert Level (#s):	4	Decay to SaDt: N	Blk Subt.: N	Sci.Not.: N	ODRs: B						

Approved By

Date:

TAL Richland
Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt. s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 17

Prep. Sample/Prep v4.8.32

ICOC Fraction Transfer/Status Report

ByDate: 3/29/2007, 4/2/2008, Batch: '8067181', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8067181				
AC	Rev1C	Barcotl	3/13/2008 11:28:07	
SC		mcginnist	IsBatched	3/7/2008 10:05:52 AM ICOC_RADCALC v4.8.32
SC		Barcotl	InPrep	3/13/2008 11:28:07 AM RICH-RC-5032 REVISION 3
SC		Barcotl	Prep1C	3/13/2008 11:28:23 AM RICH-RC-5032 REVISION 3
SC		LucasD	Sep1C	3/19/2008 1:20:14 PM RICH-RC-5005 REVISION 6
SC		ClarkR	InCnt1	3/19/2008 1:59:36 PM RICH-RD-0007 REVISION 6
SC		DAWKINSO	Cnt1C	3/19/2008 10:15:13 PM RICH-RD-0007 REVISION 6
SC		BairdS	InSep2	3/20/2008 4:21:57 PM RICH-RC-5005 REVISION 6
SC		BairdS	CalcC	3/26/2008 8:38:03 AM RICH-RC-5005 REVISION 6
SC		mcginnist	Rev1C	3/28/2008 12:15:22 PM RICH-RC-0002 REV 8
AC		Barcotl	3/13/2008 11:28:23	
AC		LucasD	3/19/2008 1:20:14 PM	
AC		ClarkR	3/19/2008 1:59:36 PM	
AC		DAWKINSO	3/19/2008 10:15:13	
AC		BairdS	3/20/2008 4:21:57 PM	
AC		BairdS	3/26/2008 8:38:03	
AC		mcginnist	3/28/2008 12:15:22	

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

3/28/2008 12:16:06 PM

Rpt DB Transfer log (Batch Results)

SDG or Batch Isootope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert	Sample Date Yield	Units	Expected	Volumes
8067181	9KF5A220		F8A2502051	TSB-HJ-05-10'	SOIL	1/25/2008 9:15:00	1/24/2008 10:15:00 AM			
RA-226	D9TE	1	3/25/2008 1:53:00 PM	1.2498E+00	1.04E-01	1.661E-01 1.777E-01	pCi/g	0.951	1.0E+0	
8067181	9KF5F020		F8A2502054	TSB-HJ-04-0'	SOIL	1/25/2008 9:15:00	1/24/2008 11:30:00 AM			
RA-226	D9TE	1	3/25/2008 1:50:00 PM	1.1693E+00	1.054E-01	1.571E-01 1.71E-01	pCi/g	0.933	1.01E+0	
8067181	9KF5F120		F8A2502055	TSB-HR-04-0'	SOIL	1/25/2008 9:15:00	1/24/2008 10:45:00 AM			
RA-226	D9TE	1	3/25/2008 1:51:00 PM	1.3107E+00	1.01E-01	1.609E-01 1.652E-01	pCi/g	0.979	1.01E+0	
8067181	9KF5F320		F8A2502056	TSB-HJ-04-10'	SOIL	1/25/2008 9:15:00	1/24/2008 11:55:00 AM			
RA-226	D9TE	1	3/25/2008 1:54:00 PM	1.0692E+00	8.594E-02	1.439E-01 9.858E-02	pCi/g	1.0	1.0E+0	
8067181	9KF5F420		F8A2502057	TSB-HR-07-0'	SOIL	1/25/2008 9:15:00	1/24/2008 12:30:00 PM			
RA-226	D9TE	1	3/25/2008 1:55:00 PM	9.9613E-01	9.742E-02	1.36E-01 2.142E-01	pCi/g	1.0	1.01E+0	
8067181	9KF5F720		F8A2502058	TSB-HR-07-10'	SOIL	1/25/2008 9:15:00	1/24/2008 12:45:00 PM			
RA-226	D9TE	1	3/25/2008 1:50:01 PM	1.7369E+00	1.094E-01	1.986E-01 1.273E-01	pCi/g	0.991	1.01E+0	
8067181	9KF5F820		F8A2502059	TSB-HR-06-0'	SOIL	1/25/2008 9:15:00	1/24/2008 1:00:00 PM			
RA-226	D9TE	1	3/25/2008 2:57:00 PM	8.5771E-01	1.003E-01	1.311E-01 2.121E-01	pCi/g	0.992	1.01E+0	
8067181	9KF5F920		F8A25020510	TSB-HR-06-10'	SOIL	1/25/2008 9:15:00	1/24/2008 1:10:00 PM			
RA-226	D9TE	1	3/25/2008 2:41:00 PM	1.1751E+00	9.743E-02	1.558E-01 1.297E-01	pCi/g	1.0	1.02E+0	
8067181	9KF5FV20		F8A2502052	TSB-HJ-05-0'	SOIL	1/25/2008 9:15:00	1/24/2008 9:55:00 AM			
RA-226	D9TE	1	3/25/2008 1:42:00 PM	9.0118E-01	8.997E-02	1.276E-01 1.47E-01	pCi/g	1.0	1.01E+0	
8067181	9KF5FX20		F8A2502053	TSB-HR-04-10'	SOIL	1/25/2008 9:15:00	1/24/2008 11:00:00 AM			
RA-226	D9TE	1	3/25/2008 1:50:03 PM	1.5988E+00	1.23E-01	2.091E-01 2.084E-01	pCi/g	0.867	1.02E+0	
8067181	9KF5GC20		F8A25020511	TSB-HJ-07-0'	SOIL	1/25/2008 9:15:00	1/24/2008 8:05:00 AM			
RA-226	D9TE	1	3/25/2008 2:49:00 PM	1.2587E+00	9.936E-02	1.659E-01 1.603E-01	pCi/g	0.973	1.02E+0	
8067181	9KF5GF20		F8A25020512	TSB-HJ-07-0'-FD	SOIL	1/25/2008 9:15:00	1/24/2008 8:05:00 AM			
RA-226	D9TE	1	3/25/2008 2:59:00 PM	1.5171E+00	1.129E-01	1.931E-01 1.211E-01	pCi/g	0.932	1.0E+0	
8067181	9KF5GJ20		F8A25020514	TSB-HR-08-0'	SOIL	1/25/2008 9:15:00	1/24/2008 9:00:00 AM			
RA-226	D9TE	1	3/25/2008 2:51:00 PM	1.1693E+00	9.413E-02	1.528E-01 1.254E-01	pCi/g	1.0	1.01E+0	
8067181	KF5GJ2NW		F8A25020514	TSB-HR-08-0'	SOIL	1/25/2008 9:15:00	1/24/2008 9:00:00 AM			
RA-226	D9TE	1 W	3/25/2008 3:00:00 PM	3.097E+00	1.716E-01	4.688E-01 8.318E-02	pCi/g	4.9755E+00 0.89	1.0E+0	
8067181	KF5GJ2QR		F8A25020514	TSB-HR-08-0'	SOIL	1/25/2008 9:15:00	1/24/2008 9:00:00 AM			
RA-226	D9TE	1 R	3/25/2008 2:59:00 PM	1.2715E+00	1.323E-01	1.815E-01 1.998E-01	pCi/g	0.911	1.01E+0	
8067181	KGXH02AB		J8B110000378	INTRA-LAB BLANK	SOIL	1/25/2008 9:15:00	1/24/2008 10:15:00 AM			
RA-226	D9TE	1 B	3/25/2008 2:49:01 PM	2.6219E-02	2.378E-02	2.392E-02 8.592E-02	pCi/g	1.0	1.0E+0	
8067181	KGXH02CS		J8B110000378	INTRA-LAB CHECK	SOIL	1/25/2008 9:15:00	1/24/2008 10:15:00 AM			
RA-226	D9TE	1 S	3/25/2008 4:41:56 PM	1.6244E+00	1.169E-01	2.09E-01 1.347E-01	pCi/g	1.3421E+00 1.0	1.02E+0	

8067181, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc	Yld	LCS Yld	
Ra-226 by ASC-7			Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt. *CntU: 0+1, + *SystU, MDCCConst:2.71												
Calc	TE	SOIL	KF5A22AE	RA-226	1.25E+00	(1.66E-01)		pCi/g	R	7.95E-02	1.78E-01 ✓		95%		
Calc	TE	SOIL	KF5FV2AE	RA-226	9.01E-01	(1.28E-01)		pCi/g	R	6.34E-02	1.47E-01 ✓		100%		
Calc	TE	SOIL	KF5FX2AE	RA-226	1.60E+00	(2.09E-01)		pCi/g	R	9.40E-02	2.08E-01 ✓		87%		
Calc	TE	SOIL	KF5F02AE	RA-226	1.17E+00	(1.57E-01)		pCi/g	R	7.49E-02	1.71E-01 ✓		93%		
Calc	TE	SOIL	KF5F12AE	RA-226	1.31E+00	(1.61E-01)		pCi/g	R	7.40E-02	1.65E-01 ✓		98%		
Calc	TE	SOIL	KF5F32AE	RA-226	1.07E+00	(1.44E-01)		pCi/g	R	4.07E-02	9.86E-02 ✓		100%		
Calc	TE	SOIL	KF5F42AE	RA-226	9.96E-01	(1.36E-01)		pCi/g	R	9.87E-02	2.14E-01 ✓		100%		
Calc	TE	SOIL	KF5F72AE	RA-226	1.74E+00	(1.99E-01)		pCi/g	R	5.51E-02	1.27E-01 ✓		99%		
Calc	TE	SOIL	KF5F82AE	RA-226	8.58E-01	(1.31E-01)		pCi/g	R	9.50E-02	2.12E-01 ✓		99%		
Calc	TE	SOIL	KF5F92AE	RA-226	1.18E+00	(1.56E-01)		pCi/g	R	5.51E-02	1.30E-01 ✓		100%		
Calc	TE	SOIL	KF5GC2AE	RA-226	1.26E+00	(1.66E-01)		pCi/g	R	7.14E-02	1.60E-01 ✓		97%		
Calc	TE	SOIL	KF5GF2AE	RA-226	1.52E+00	(1.93E-01)		pCi/g	R	5.00E-02	1.21E-01 ✓		93%		
Calc	TE	SOIL	KF5GJ2AL	RA-226	1.17E+00	(1.53E-01)		pCi/g	R	5.36E-02	1.25E-01 ✓		100%		
Calc	TE	SOIL	KF5GJ2AN	RA-226	4.27E+00	(4.43E-01)		pCi/g	R	3.24E-02	8.32E-02 W	89%	86%	JK	
Calc	TE	SOIL	KF5GJ2AN	RA-226	3.10E+00	(4.69E-01)		pCi/g	RN	3.24E-02	8.32E-02 ✓W	89%	62%	JK	
Calc	TE	SOIL	KF5GJ2AQ	RA-226	1.27E+00	(1.81E-01)		pCi/g	R	8.38E-02	2.00E-01 ✓R	91%		JK	
Calc	TE	SOIL	KGXH02AA	RA-226	2.62E-02	(2.39E-02)	U4	pCi/g	R	3.41E-02	8.59E-02 ✓B	100%			
Calc	TE	SOIL	KGXH02AC	RA-226	1.62E+00	(2.09E-01)		pCi/g	R	5.69E-02	1.35E-01 ✓S	100%	121%	JK	

REC = 0.42 JK TM

Tom DM = [Signature]

3/28/08

() - (1s Uncertainties)
 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 Regardless of Significant
 Date/Time - mm/dd/yy hh:mm, 24hr Time

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	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
1	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5A22AE	pCi/g		01/24/08 10:15	03/25/08 13:53	03/20/08 12:12	RATA30372	✓	95%	1.00 g	g	
							SOIL				03/25/08 09:53	RATA30372	Alq	95%	1.00 g	g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 13:53	RA-226	204	29	ASC1RH	ASC	N	N	2.3890E+00	1.0000E+00	N	95%	N	1.7529E+00	4.5045E-01	1.0001E+00	
			50	60			Y		(9.341E-02)	(0.0000E+00)	8%			(0.0000E+00)	1.00		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC			
	03/25/08	RA-226	R	1.249793		3.59667E+00	2.774359	2.774359	1.00 G	95%	0.177699						
				(0.166084)		(2.9943E-01)	(0.338193)	(0.338193)	(0.017321)		0.07948						
2	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5FV2AE	pCi/g		01/24/08 09:55	03/25/08 13:42	03/20/08 12:12	RATA30373	✓	100%	1.01 G	g	
							SOIL				03/25/08 09:42	RATA30373	Alq	100%	1.01 G	g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 13:42	RA-226	134	16	ASC2RC	ASC	N	N	2.0957E+00	1.0000E+00	N	100%	N	1.7546E+00	4.5045E-01	1.0001E+00	
			50	60			Y		(6.874E-02)	(0.0000E+00)	8%			(0.0000E+00)	0.990099		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC			
	03/25/08	RA-226	R	0.901183		2.41333E+00	2.020501	2.020501	1.01 G	100%	0.147048						
				(0.12758)		(2.4092E-01)	(0.266844)	(0.266844)	(0.0101)		0.063442						
3	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5FX2AE	pCi/g		01/24/08 11:00	03/25/08 13:50	03/20/08 12:12	RATA30374	✓	87%	1.02 G	g	
							SOIL				03/25/08 09:50	RATA30374	Alq	87%	1.02 G	g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 13:50	RA-226	239	34	ASC3HA	ASC	N	N	2.3545E+00	1.0000E+00	N	87%	N	1.7534E+00	4.5045E-01	1.0001E+00	
			50	60			Y		(1.100E-01)	(0.0000E+00)	7%			(0.0000E+00)	0.980392		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC			
	03/25/08	RA-226	R	1.598814		4.21333E+00	3.620118	3.620118	1.02 G	87%	0.208414						
				(0.209061)		(3.2411E-01)	(0.435892)	(0.435892)	(0.0102)		0.093979						
4	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5F02AE	pCi/g		01/24/08 11:30	03/25/08 13:50	03/20/08 12:12	RATA30375	✓	93%	1.01 G	g	
							SOIL				03/25/08 09:50	RATA30375	Alq	93%	1.01 G	g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 13:50	RA-226	165	20	ASC4UA	ASC	N	N	2.1273E+00	1.0000E+00	N	93%	N	1.7534E+00	4.5045E-01	1.0001E+00	
			50	60			Y		(6.425E-02)	(0.0000E+00)	7%			(0.0000E+00)	0.990099		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcC/MDC	StdDvMdc/LcC			
	03/25/08	RA-226	R	1.598814		4.21333E+00	3.620118	3.620118	1.02 G	87%	0.208414						
				(0.209061)		(3.2411E-01)	(0.435892)	(0.435892)	(0.0102)		0.093979						

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCSYld,EFctU	IDC/I/LcC	BIK/LcC/MDC	StdDvMdc/LcC				
03/25/08	RA-226	R	1.169319	2.9667E+00	2.621676	2.621676	2.621676	1.01 G	93%	0.171011								
			(0.157065)	(2.6750E-01)	(0.325788)	(0.325788)	(0.325788)	(0.0101)		0.074869								
Sq	Status Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol				
5	Calc	TE SOIL	*STLE	Ra226WoBS	KF5F12AE	pCi/g		01/24/08 10:45	03/25/08 13:51	03/20/08 12:12	RATA30376	1	9					
					F8A250205-5	SOIL				03/25/08 09:51	RATA30376	Alq	98%	1.01 G				
1418995,TSB-HR-04-0																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 13:51	RA-226	231	30	ASC5HA	ASC	N	N	2.5107E+00	1.0000E+00	N	98%	N	1.7532E+00	1.7532E+00	4.5045E-01	1.0001E+00	Abn
			50	60			Y	Y	(2.963E-02)	(0.0000E+00)		8%		(0.0000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCSYld,EFctU	IDC/I/LcC	BIK/LcC/MDC	StdDvMdc/LcC				
03/25/08	RA-226	R	1.310663	4.12000E+00	2.938576	2.938576	2.938576	1.01 G	98%	0.165169								
			(0.160916)	(3.1739E-01)	(0.328197)	(0.328197)	(0.328197)	(0.0101)		0.074007								
Sq	Status Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol				
6	Calc	TE SOIL	*STLE	Ra226WoBS	KF5F32AE	pCi/g		01/24/08 11:55	03/25/08 13:54	03/20/08 12:12	RATA30463	1	9					
					F8A250205-6	SOIL				03/25/08 09:54	RATA30463	Alq	100%	1.00 G				
1418995,TSB-HU-04-10																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 13:54	RA-226	175	9	ASC6MA	ASC	N	N	2.4740E+00	1.0000E+00	N	100%	N	1.7527E+00	1.7527E+00	4.5045E-01	1.0001E+00	Abn
			50	60			Y	Y	(1.272E-01)	(0.0000E+00)		8%		(0.0000E+00)	1.00			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCSYld,EFctU	IDC/I/LcC	BIK/LcC/MDC	StdDvMdc/LcC				
03/25/08	RA-226	R	1.069169	3.35000E+00	2.3734	2.3734	2.3734	1.00 G	100%	0.098584								
			(0.143851)	(2.6926E-01)	(0.295507)	(0.295507)	(0.295507)	(0.01)		0.040667								
Sq	Status Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol				
7	Calc	TE SOIL	*STLE	Ra226WoBS	KF5F42AE	pCi/g		01/24/08 12:30	03/25/08 13:55	03/20/08 12:12	RATA30464	1	9					
					F8A250205-7	SOIL				03/25/08 09:55	RATA30464	Alq	100%	1.01 G				
1418995,TSB-HR-07-0																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 13:55	RA-226	207	56	ASC7HB	ASC	N	N	2.5164E+00	1.0000E+00	N	100%	N	1.7526E+00	1.7526E+00	4.5045E-01	1.0001E+00	Abn
			50	60			Y	Y	(2.224E-02)	(0.0000E+00)		8%		(0.0000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EnFct	LCSYld,EFctU	IDC/I/LcC	BIK/LcC/MDC	StdDvMdc/LcC				
03/25/08	RA-226	R	0.996132	3.20667E+00	2.2338	2.2338	2.2338	1.01 G	100%	0.214192								
			(0.136012)	(3.1362E-01)	(0.282885)	(0.282885)	(0.282885)	(0.0101)		0.098736								
Sq	Status Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol				
8	Calc	TE SOIL	*STLE	Ra226WoBS	KF5F72AE	pCi/g		01/24/08 12:45	03/25/08 13:50	03/20/08 12:12	RATA30465	1	9					
					F8A250205-8	SOIL				03/25/08 09:50	RATA30465	Alq	99%	1.01 G				
1418995,TSB-HR-07-10																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

0 - (1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh.mm, 24hr Time

Batch Nbr: 8067181

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

3/26/2008 8:34:46 AM

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKlC/MDC	StdDvMdc/LcC
0	03/25/08	RA-226	1.736876	1.736876	0	5.51667E+00	3.894169	3.894169	1.01 G	99%	0.127271			
*STLE Ra226WoBS KF5F82AE ✓ pCi/g ,F8A250205-9 SOIL														
0	03/25/08	RA-226	130	30	ASC9RC	ASC	N	N	1.9230E+00	1.0000E+00	1.7468E+00	4.5045E-01	1.0001E+00	Abn
50 60 (0.198636)														
Protocol Equation Set Wk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date Trc Yld Fct Ent Blk Value Ingr Fct Conv Fct/VolAdj Decay														
01/24/08 13:00 03/25/08 14:57 03/20/08 12:36 ✓ RATA30466 1 ✓ 99% RATA30466 Alq 99% 1.01 G ✓														
0	03/25/08	RA-226	0.857714	0.857714	0	2.10000E+00	1.923041	1.923041	1.01 G	99%	0.21206			
*STLE Ra226WoBS KF5F92AE ✓ pCi/g ,F8A250205-10 SOIL														
0	03/25/08	RA-226	174	13	ASCASB	ASC	N	N	2.1454E+00	1.0000E+00	1.7492E+00	4.5045E-01	1.0001E+00	Abn
50 60 (0.155842)														
Protocol Equation Set Wk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date Trc Yld Fct Ent Blk Value Ingr Fct Conv Fct/VolAdj Decay														
01/24/08 13:10 03/25/08 14:41 03/20/08 12:36 ✓ RATA30467 1 ✓ 100% RATA30467 Alq 100% 1.02 G ✓														
0	03/25/08	RA-226	1.175083	1.175083	0	3.26333E+00	2.660685	2.660685	1.02 G	100%	0.129739			
*STLE Ra226WoBS KF5GC2AE ✓ pCi/g ,F8A250205-11 SOIL														
0	03/25/08	RA-226	217	27	ASCBMA	ASC	N	N	2.4529E+00	1.0000E+00	1.7480E+00	4.5045E-01	1.0001E+00	Abn
50 60 (0.165916)														
Protocol Equation Set Wk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date Trc Yld Fct Ent Blk Value Ingr Fct Conv Fct/VolAdj Decay														
01/24/08 08:05 03/25/08 14:49 03/20/08 12:36 ✓ RATA30468 1 ✓ 97% RATA30468 Alq 97% 1.02 G ✓														
0	03/25/08	RA-226	1.258693	1.258693	0	3.89000E+00	2.849998	2.849998	1.02 G	97%	0.160277			
*STLE Ra226WoBS KF5G92AE ✓ pCi/g ,F8A250205-12 SOIL														
(0.165916)														
Protocol Equation Set Wk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date Trc Yld Fct Ent Blk Value Ingr Fct Conv Fct/VolAdj Decay														
01/24/08 08:05 03/25/08 14:49 03/20/08 12:36 ✓ RATA30468 1 ✓ 97% RATA30468 Alq 97% 1.02 G ✓														

(1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration
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 RecCnt:12 RADCALC v4.8.29
 TA Richland

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	SOIL	*STLE	Ra226WoBS	KF5GF2AE	✓ pCi/g		01/24/08 08:05	03/25/08 14:59	03/20/08 12:36	RATA30469	1	93%	1.00 G	✓	
							SOIL				03/25/08 10:59	RATA30469	Alq	93%	1.00 G	✓	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 14:59	RA-226	201	9	ASCCSB	ASC	N	N	2.1524E+00	1.0000E+00	93%	N	1.7465E+00	1.7465E+00	4.5045E-01	1.0001E+00	
			50	60			Y		(8.782E-02)	(0.000E+00)	7%		(0.000E+00)	1.00			
Sq	CalcDate,TrcAct	Parameter	Avg Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm	Blk		Vol Used	Trc Yld,EnFct	LCSYld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC		
	03/25/08	RA-226	R	1.517104	3.87000E+00	3.367749	3.367749			1.00 G	93%		0.12109				
				(0.193095)	(2.8792E-01)	(0.392741)	(0.392741)			(0.01)			0.049951				
13	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GJ2AL	✓ pCi/g		01/24/08 09:00	03/25/08 14:51	03/20/08 12:36	RATA30470	1	100%	1.01 G	✓	
							SOIL				03/25/08 10:51	RATA30470	Alq	100%	1.01 G	✓	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 14:51	RA-226	185	14	ASCDUD	ASC	N	N	2.3111E+00	1.0000E+00	100%	N	1.7477E+00	1.7477E+00	4.5045E-01	1.0001E+00	
			50	60			Y		(9.221E-02)	(0.000E+00)	8%		(0.000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm	Blk		Vol Used	Trc Yld,EnFct	LCSYld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC		
	03/25/08	RA-226	R	1.169277	3.46667E+00	2.621581	2.621581			1.01 G	100%		0.125424				
				(0.152783)	(2.7909E-01)	(0.315388)	(0.315388)			(0.0101)			0.053603				
14	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GJ2AN	✓ pCi/g		01/24/08 09:00	03/25/08 15:00	03/20/08 12:36	RASA0302	1	89%	1.00 G	✓	
							SOIL				03/25/08 11:00	RASA0302	Alq	89%	1.00 G	✓	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/25/08 15:00	RA-226	630	5	ASCESD	ASC	N	N	2.5922E+00	1.0000E+00	89%	N	1.7463E+00	1.7463E+00	4.5045E-01	1.0001E+00	
			50	60			Y		(3.422E-02)	(0.000E+00)	7%		(0.000E+00)	1.00			
Sq	CalcDate,TrcAct	Parameter	Avg Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm	Blk		Vol Used	Trc Yld,EnFct	LCSYld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC		
	03/25/08	RA-226	R	4.266247	1.25167E+01	9.470447	9.470447			1.00 G	89%		0.083178				
				(0.443189)	(5.0338E-01)	(0.857147)	(0.857147)			(0.01)			0.032371				
	03/25/08	RA-226	RN	3.09697	1.25167E+01	9.470447	9.470447			1.00 G	89%		0.083178				
				(0.468785)	(5.0338E-01)	(0.857147)	(0.857147)			(0.01)			0.032371				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	SOIL	*STLE	Ra226WoBS	KF5GJ2AQ	✓ pCi/g		01/24/08 09:00	03/25/08 14:59	03/20/08 12:36	RATA30471	1	91%	1.01 G	✓	
							SOIL				03/25/08 10:59	RATA30471	Alq	91%	1.01 G	✓	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
Sq	CalcDate,TrcAct	Parameter	Avg Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm	Blk		Vol Used	Trc Yld,EnFct	LCSYld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC		

0	03/25/08 14:59	RA-226	116	✓	11	ASCFS	ASC	N	N	1.4366E+00	1.0000E+00	N	91%	N	1.7465E+00	4.5045E-01	1.0001E+00
			50		60			Y		(3.319E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099	

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKlCC/MDC	StdDvMdc/LcC
	03/25/08	RA-226	R	1.2715		2.13667E+00	2.850769	2.850769	1.01 G	91%		0.199813		
				(0.181457)		(2.2239E-01)	(0.379981)	(0.379981)	(0.0101)			0.083829		

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

16	Calc	TE	SOIL	*STLE	Ra226WoBS	KGXH02AA	✓	pCi/g		B	01/24/08 10:15	03/25/08 14:49	03/20/08 12:36	✓	RATA30472	✓	1	g		
								SOIL					03/25/08 10:49		RATA30472	Alq	100%	1.00 G	✓	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn		
0	03/25/08 14:49	RA-226	9	✓	6	ASCGAB	ASC	N	N	2.4026E+00	1.0000E+00	100%	N	1.7480E+00	4.5045E-01	1.0001E+00				
			50		60		Y		(6.223E-02)	(0.000E+00)	8%			(0.000E+00)	1.00					

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKlCC/MDC	StdDvMdc/LcC
	03/25/08	RA-226	R	0.026219		8.00000E-02	0.058203	0.058203	1.00 G	100%		0.085918		
				(0.023924)		(7.2572E-02)	(0.053025)	(0.053025)	(0.01)			0.034098		

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

17	Calc	TE	SOIL	*STLE	Ra226WoBS	KGXH02AC	✓	pCi/g		S	01/24/08 10:15	03/25/08 16:41	03/20/08 13:03	✓	RASC4719	✓	1	g	
								SOIL					03/25/08 10:52		RASC4719	Alq	100%	1.02 g	✓
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn	
0	03/25/08 16:41	RA-226	220	✓	12	ASCHSB	ASC	N	N	2.0281E+00	1.0000E+00	100%	N	1.7761E+00	4.5045E-01	1.0001E+00			
			50		60		Y		(9.471E-02)	(0.000E+00)	8%			(0.000E+00)	0.980392				

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKlCC/MDC	StdDvMdc/LcC
	03/26/08	RA-226	R	1.62441		4.20000E+00	3.678074	3.678074	1.02 G	100%	121%	0.134707		
				(0.208955)		(3.0221E-01)	(0.431426)	(0.431426)	(0.017321)			0.056906		

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5A22AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0513
Technician: SB

Analysis Size: 1.00 Analysis Unit: G

 Report Date: 25-MAR-2008 14:43:00.62
 First Separation Date: 20-MAR-2008 12:12:00.00
 Second Separation Date: 25-MAR-2008 09:53:00.00

Detector ID: 1 Cell ID: 1RH

Bkg Date: 18-MAR-2008 08:46:21.71
 Bkg Counts: 000029 Bkg Duration: 000060.0

Count Date: 25-MAR-2008 13:53:00.29
 Counts: 000204 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5FV2AE

Isotope: RA-226

Client: STL

Matrix Code: 341

Batch Nbr: 8067181
Technician: SB

Activity Unit: PCI/G

Multiplier: 1.0

Analysis Size: 1.01

Analysis Unit: G

Report Date: 25-MAR-2008 14:32:00.75

First Separation Date: 20-MAR-2008 12:12:00.00

Second Separation Date: 25-MAR-2008 09:42:00.00

Detector ID: 2

Cell ID: 2RC

Bkg Date: 13-MAR-2008 08:53:41.52

Bkg Counts: 000016

Bkg Duration: 000060.0

Count Date: 25-MAR-2008 13:42:00.40

Counts: 000134

Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5FX2AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.1538
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 25-MAR-2008 14:40:03.02
 First Separation Date: 20-MAR-2008 12:12:00.00
 Second Separation Date: 25-MAR-2008 09:50:00.00
Detector ID: 3 Cell ID: 3HA
Bkg Date: 18-MAR-2008 08:46:49.64
 Bkg Counts: 000034 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 13:50:02.63
 Counts: 000239 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F02AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0722
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 25-MAR-2008 14:40:00.96
 First Separation Date: 20-MAR-2008 12:12:00.00
 Second Separation Date: 25-MAR-2008 09:50:00.00
Detector ID: 4 Cell ID: 4UA
Bkg Date: 19-MAR-2008 08:44:28.62
 Bkg Counts: 000020 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 13:50:00.48
 Counts: 000165 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F12AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0214
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 25-MAR-2008 14:41:00.64
 First Separation Date: 20-MAR-2008 12:12:00.00
 Second Separation Date: 25-MAR-2008 09:51:00.00
Detector ID: 5 Cell ID: 5HA
Bkg Date: 18-MAR-2008 08:47:11.13
 Bkg Counts: 000030 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 13:51:00.26
 Counts: 000231 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F32AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 25-MAR-2008 14:44:00.59
 First Separation Date: 20-MAR-2008 12:12:00.00
 Second Separation Date: 25-MAR-2008 09:54:00.00
Detector ID: 6 Cell ID: 6MA
Bkg Date: 12-MAR-2008 08:40:42.93
 Bkg Counts: 000009 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 13:54:00.26
 Counts: 000175 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F42AE

Isotope: RA-226

Client: STL

Matrix Code: 341

Batch Nbr: 8067181

Activity Unit: PCI/G

Multiplier: 1.0

Technician: SB

Analysis Size: 1.01

Analysis Unit: G

Report Date: 25-MAR-2008 14:45:00.63

First Separation Date: 20-MAR-2008 12:12:00.00

Second Separation Date: 25-MAR-2008 09:55:00.00

Detector ID: 7

Cell ID: 7HB

Bkg Date: 19-MAR-2008 08:45:36.15

Bkg Counts: 000056

Bkg Duration: 000060.0

Count Date: 25-MAR-2008 13:55:00.30

Counts: 000207

Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F72AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0086
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 25-MAR-2008 14:40:01.03
 First Separation Date: 20-MAR-2008 12:12:00.00
 Second Separation Date: 25-MAR-2008 09:50:00.00
Detector ID: 8 Cell ID: 8HC
Bkg Date: 19-MAR-2008 08:45:47.42
 Bkg Counts: 000017 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 13:50:00.58
 Counts: 000290 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F82AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0081
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 25-MAR-2008 15:47:00.64
 First Separation Date: 20-MAR-2008 12:36:00.00
 Second Separation Date: 25-MAR-2008 10:57:00.00
Detector ID: 9 Cell ID: 9RC
Bkg Date: 19-MAR-2008 08:45:55.56
 Bkg Counts: 000030 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 14:57:00.33
 Counts: 000130 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F92AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 25-MAR-2008 15:31:00.63
 First Separation Date: 20-MAR-2008 12:36:00.00
 Second Separation Date: 25-MAR-2008 10:41:00.00
Detector ID: 10 Cell ID: ASB
Bkg Date: 19-MAR-2008 08:46:04.74
 Bkg Counts: 000013 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 14:41:00.28
 Counts: 000174 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GC2AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0281
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 25-MAR-2008 15:39:00.94
 First Separation Date: 20-MAR-2008 12:36:00.00
 Second Separation Date: 25-MAR-2008 10:49:00.00
Detector ID: 11 Cell ID: BMA
Bkg Date: 19-MAR-2008 08:46:13.16
 Bkg Counts: 000027 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 14:49:00.44
 Counts: 000217 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GF2AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0725
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 25-MAR-2008 15:49:00.88
 First Separation Date: 20-MAR-2008 12:36:00.00
 Second Separation Date: 25-MAR-2008 10:59:00.00
Detector ID: 12 Cell ID: CSB
Bkg Date: 18-MAR-2008 08:48:19.91
 Bkg Counts: 000009 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 14:59:00.44
 Counts: 000201 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GJ2AL

Isotope: RA-226

Client: STL

Matrix Code: 341

Batch Nbr: 8067181
Technician: SB

Activity Unit: PCI/G

Multiplier: 1.0

Analysis Size: 1.01

Analysis Unit: G

Report Date: 25-MAR-2008 15:41:00.63

First Separation Date: 20-MAR-2008 12:36:00.00

Second Separation Date: 25-MAR-2008 10:51:00.00

Detector ID: 13

Cell ID: DUD

Bkg Date: 19-MAR-2008 08:46:37.28

Bkg Counts: 000014

Bkg Duration: 000060.0

Count Date: 25-MAR-2008 14:51:00.32

Counts: 000185

Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GJ2AN Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.1231
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 25-MAR-2008 15:50:00.65
 First Separation Date: 20-MAR-2008 12:36:00.00
 Second Separation Date: 25-MAR-2008 11:00:00.00
Detector ID: 14 Cell ID: ESD
Bkg Date: 20-MAR-2008 08:47:40.54
 Bkg Counts: 000005 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 15:00:00.32
 Counts: 000630 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GJ2AQ Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0975
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 25-MAR-2008 15:49:01.01
 First Separation Date: 20-MAR-2008 12:36:00.00
 Second Separation Date: 25-MAR-2008 10:59:00.00
Detector ID: 15 Cell ID: FSA
Bkg Date: 18-MAR-2008 08:48:50.60
 Bkg Counts: 000011 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 14:59:00.49
 Counts: 000116 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KGXH02AA Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 25-MAR-2008 15:39:01.00
 First Separation Date: 20-MAR-2008 12:36:00.00
 Second Separation Date: 25-MAR-2008 10:49:00.00
Detector ID: 16 Cell ID: GAB
Bkg Date: 19-MAR-2008 08:47:11.14
 Bkg Counts: 000006 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 14:49:00.52
 Counts: 000009 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KGXH02AC Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 25-MAR-2008 17:31:56.37
 First Separation Date: 20-MAR-2008 13:03:00.00
 Second Separation Date: 25-MAR-2008 10:52:00.00
Detector ID: 17 Cell ID: HSB
Bkg Date: 19-MAR-2008 08:47:21.60
 Bkg Counts: 000012 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 16:41:56.06
 Counts: 000220 Count Duration: 000050.0

End of Report ✓

Alpha Beta, Ra-226 by ASC-7 , Results

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Ra-226 by ASC-7			Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt. *CntU: 0+1, + *SystU, `MDCConst:2.71													
Calc	TE	SOIL	KF5A22AE	RA-226	1.25E+00	(1.66E-01)		pCi/g	R	7.95E-02	1.78E-01			95%		
Calc	TE	SOIL	KF5FV2AE	RA-226	9.01E-01	(1.28E-01)		pCi/g	R	6.34E-02	1.47E-01			100%		
Calc	TE	SOIL	KF5FX2AE	RA-226	1.60E+00	(2.09E-01)		pCi/g	R	9.40E-02	2.08E-01			87%		
Calc	TE	SOIL	KF5F02AE	RA-226	1.17E+00	(1.57E-01)		pCi/g	R	7.49E-02	1.71E-01			93%		
Calc	TE	SOIL	KF5F12AE	RA-226	1.31E+00	(1.61E-01)		pCi/g	R	7.40E-02	1.65E-01			98%		
Calc	TE	SOIL	KF5F32AE	RA-226	1.07E+00	(1.44E-01)		pCi/g	R	4.07E-02	9.86E-02			100%		
Calc	TE	SOIL	KF5F42AE	RA-226	9.96E-01	(1.36E-01)		pCi/g	R	9.87E-02	2.14E-01			100%		
Calc	TE	SOIL	KF5F72AE	RA-226	1.74E+00	(1.99E-01)		pCi/g	R	5.51E-02	1.27E-01			99%		
Calc	TE	SOIL	KF5F82AE	RA-226	8.58E-01	(1.31E-01)		pCi/g	R	9.50E-02	2.12E-01			99%		
Calc	TE	SOIL	KF5F92AE	RA-226	1.18E+00	(1.56E-01)		pCi/g	R	5.51E-02	1.30E-01			100%		
Calc	TE	SOIL	KF5GC2AE	RA-226	1.26E+00	(1.66E-01)		pCi/g	R	7.14E-02	1.60E-01			97%		
Calc	TE	SOIL	KF5GF2AE	RA-226	1.52E+00	(1.93E-01)		pCi/g	R	5.00E-02	1.21E-01			93%		
Calc	TE	SOIL	KF5GJ2AL	RA-226	1.17E+00	(1.53E-01)		pCi/g	R	5.36E-02	1.25E-01			100%		
Calc	TE	SOIL	KF5GJ2AN	RA-226	4.27E+00	(4.43E-01)		pCi/g	R	3.24E-02	8.32E-02	W		89%	86%	
Calc	TE	SOIL	KF5GJ2AN	RA-226	3.10E+00	(4.69E-01)		pCi/g	RN	3.24E-02	8.32E-02	W		89%	62%	
Calc	TE	SOIL	KF5GJ2AQ	RA-226	1.27E+00	(1.81E-01)		pCi/g	R	8.38E-02	2.00E-01	R		91%		
Calc	TE	SOIL	KGXH02AA	RA-226	2.62E-02	(2.39E-02)	U4	pCi/g	R	3.41E-02	8.59E-02	B		100%		
Calc	TE	SOIL	KGXH02AC	RA-226	1.85E+00	(2.31E-01)		pCi/g	R	5.61E-02	1.33E-01	S		100%	138%	

1st cont of LCS
High Recovery. Recount per procedure

TAM
3/28/08

(j) - (1s Uncertainties)
 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 Regardless of Significant
 Date/Time - mm/dd/yy hh:mm, 24hr Time

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

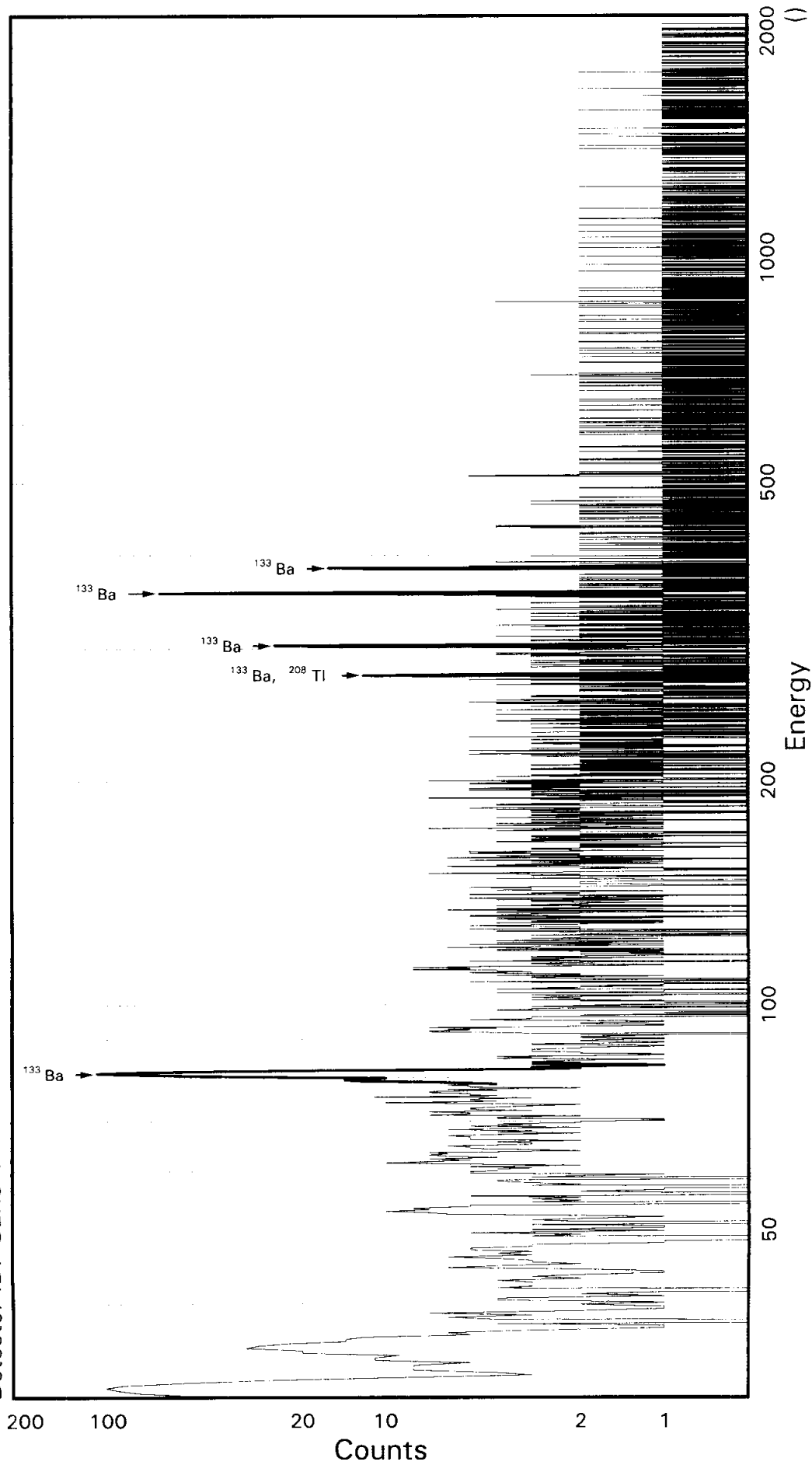
Sample ID: KGXH02AC Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8067181 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 25-MAR-2008 15:42:00.64
 First Separation Date: 20-MAR-2008 13:03:00.00
 Second Separation Date: 25-MAR-2008 10:52:00.00
Detector ID: 17 Cell ID: HSB
Bkg Date: 19-MAR-2008 08:47:21.60
 Bkg Counts: 000012 Bkg Duration: 000060.0
Count Date: 25-MAR-2008 14:52:00.30
 Counts: 000252 Count Duration: 000050.0

End of Report

TAL Richland WA.
BA133

Batch ID: 8067181

Sample ID: KF5A22AE
Detector ID: GER8 1



Energy Coefficients:
Offset: 1.31203E-01
Slope: 2.49915E-01
Quadrature: 1.88114E-08

Acquisition Start: 19-MAR-2008 14:11:03.05
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5A22AE

CONFIGURATION ID: GER8:KF5A22AE_190381411
TITLE : BA133
SAMPLE ID : KF5A22AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:11:03
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 21-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:06:04.93
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: 1.3120E-01 keV
ENERGY SLOPE: 2.4992E-01 keV/C
ENERGY Q COEFF: 1.8811E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.3242E-01 keV
FWHM SLOPE: 2.3659E-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 19-MAR-2008 14:41:19

```

Configuration      : $DISK1:[GER8.SAMPLE]KF5A22AE_190381411.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:11:03
Sample ID         : KF5A22AE Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy      : 20.12 End energy : 2048.70
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	4	30.77	486	102	1.20	122.60	115	37	2.70E-01	6.1	1.23E+00
2	4	35.05	152	59	1.57	139.73	115	37	8.44E-02	18.4	
3	0	80.93	476	77	1.00	323.30	313	21	2.64E-01	6.5	
4	0	276.48	38	9	0.78	1105.68	1100	12	2.10E-02	22.8	
5	0	302.76	128	0	1.42	1210.80	1203	16	7.11E-02	8.8	
6	0	355.92	304	9	1.06	1423.47	1414	18	1.69E-01	6.2	
7	0	383.97	55	13	1.24	1535.69	1526	15	3.03E-02	20.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 19-MAR-2008 14:41:19

```

Configuration      : $DISK1:[GER8.SAMPLE]KF5A22AE_190381411.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:11:03
Sample ID         : KF5A22AE 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	476	33.00	2.140E+00	2.245E+03	2.256E+03	8.51
	276.40	38	6.90	2.306E+00	7.918E+02	7.957E+02	23.39
	302.84	128	17.80	2.309E+00	1.038E+03	1.043E+03	10.35
	356.00	304	62.05*	2.311E+00	7.068E+02	7.102E+02	8.20
	383.85	55	8.70	2.310E+00	9.058E+02	9.103E+02	21.11

Flag: "*" = Keyline

Unidentified Energy Lines

Sample ID : KF5A22AE

Acquisition date : 19-MAR-2008 14:11:03

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	30.77	486	102	1.20	122.60	115	37	2.70E-01	6.1	1.87E+00	
4	35.05	152	59	1.57	139.73	115	37	8.44E-02	18.4	1.92E+00	

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	8.034E+02	23.39	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER8.SAMPLE]KF5A22AE_190381411.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       : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:11:03
Sample ID         : KF5A22AE 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	7.102E+02	5.824E+01	2.715E+01	5.430E-01	26.160

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.151E+01	5.145E+01	2.366E+02	4.747E+00	0.091
NA-22	3.117E+00	2.210E+00	1.446E+01	3.061E-01	0.216
K-40	4.730E+01	4.147E+01	2.175E+02	4.664E+00	0.217
SC-46	3.930E+00	5.162E+00	2.476E+01	5.184E-01	0.159
CR-51	-3.633E+01	1.625E+02	5.994E+02	1.199E+01	-0.061
MN-54	6.381E+00	4.425E+00	2.215E+01	4.543E-01	0.288
CO-57	-5.639E+01	1.243E+02	4.338E+02	8.959E+00	-0.130
CO-58	7.753E+00	4.723E+00	2.531E+01	5.184E-01	0.306
FE-59	3.153E-01	1.182E+01	4.973E+01	1.040E+00	0.006
CO-60	-1.486E+00	2.647E+00	1.138E+01	2.420E-01	-0.131
ZN-65	-1.576E+01	7.658E+00	1.638E+01	3.429E-01	-0.962
SE-75	8.334E+00	1.660E+01	6.466E+01	1.297E+00	0.129
SR-85	-4.717E+01	1.448E+01	4.040E+01	8.119E-01	-1.167
Y-88	-1.851E+00	1.854E+00	5.141E+00	1.129E-01	-0.360
NB-94	-2.421E+00	3.671E+00	1.443E+01	2.969E-01	-0.168
NB-95	-1.175E+01	6.459E+00	1.886E+01	3.850E-01	-0.623
TC-95M	1.062E+01	1.958E+01	7.575E+01	1.531E+00	0.140
ZR-95	4.101E+00	9.245E+00	4.283E+01	8.738E-01	0.096
ZRNB-95	-2.239E+01	1.078E+01	2.904E+01	5.929E-01	-0.771
RH-101	9.917E+00	1.741E+01	6.524E+01	1.321E+00	0.152
RH-102M	-8.876E+00	4.792E+00	1.438E+01	2.885E-01	-0.617
RU-103	-6.077E+00	7.967E+00	2.999E+01	6.021E-01	-0.203
RU-106DA	-6.503E+01	6.334E+01	2.207E+02	4.462E+00	-0.295
AG-108M	-6.451E+00	9.505E+00	3.419E+01	6.848E-01	-0.189
AG-110M	8.979E+00	7.609E+00	3.496E+01	7.198E-01	0.257
SN-113DA	-9.317E+00	1.176E+01	4.150E+01	8.303E-01	-0.224
SB-124	1.903E+00	7.910E+00	3.224E+01	6.511E-01	0.059

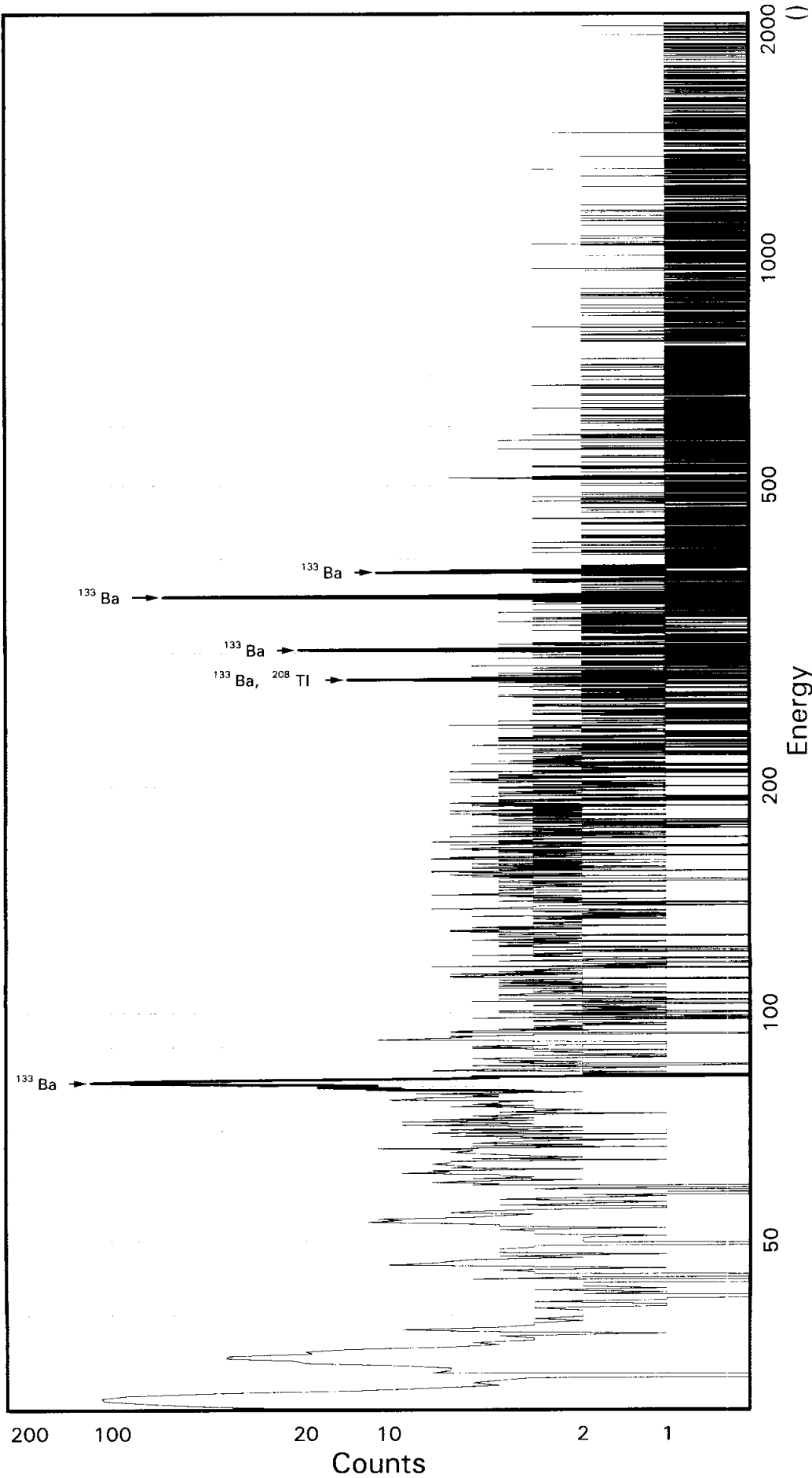
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	1.687E+01		2.027E+01	8.732E+01	1.749E+00	0.193
SN-126DA	-2.226E+00		3.826E+00	1.492E+01	3.025E-01	-0.149
I-131	6.786E+01		8.355E+01	3.457E+02	6.914E+00	0.196
CS-134	3.754E+00		4.941E+00	2.321E+01	4.748E-01	0.162
CS-137DA	-1.620E+00		5.299E+00	2.105E+01	4.266E-01	-0.077
LA-138	1.932E-02		6.541E+00	2.778E+01	5.948E-01	0.001
CE-139	9.087E+00		1.614E+01	5.994E+01	1.224E+00	0.152
BA-140	1.267E+02		7.574E+01	3.783E+02	7.612E+00	0.335
BALA-140	-1.314E+01		3.269E+01	1.351E+02	2.924E+00	-0.097
CE-141	-3.201E+01		4.094E+01	1.403E+02	2.886E+00	-0.228
CE-144	2.030E+02		1.298E+02	4.991E+02	1.032E+01	0.407
CEPR-144	4.096E+02		2.599E+02	9.994E+02	2.067E+01	0.410
PM-144	5.340E+00		6.146E+00	2.643E+01	5.343E-01	0.202
PM-146	7.477E+00		9.607E+00	4.062E+01	8.141E-01	0.184
EU-152	-8.323E-01		2.839E+01	1.072E+02	2.143E+00	-0.008
EU-154	8.653E+00		6.136E+00	4.014E+01	8.498E-01	0.216
EU-155	-1.603E+01		5.161E+01	1.855E+02	3.908E+00	-0.086
HF-181	4.325E-01		8.473E+00	3.567E+01	7.156E-01	0.012
BI-207	1.457E+00		4.460E+00	1.947E+01	3.925E-01	0.075
TL-208	-1.762E+00		6.240E+00	2.435E+01	4.912E-01	-0.072
BI-210M	-1.735E+01		1.769E+01	6.125E+01	1.229E+00	-0.283
BI-212	-5.203E+01		7.953E+01	2.924E+02	8.936E+00	-0.178
PB-212	1.044E+01		2.258E+01	8.744E+01	1.759E+00	0.119
BI-214	8.399E+00		1.301E+01	5.856E+01	1.183E+00	0.143
PB-214	3.483E+01		2.406E+01	9.793E+01	1.959E+00	0.356
RA-223	-2.260E+01		6.851E+01	2.487E+02	4.988E+00	-0.091
RA-224DA	1.072E+01		2.319E+01	8.982E+01	1.807E+00	0.119
RA-226DA	8.525E+00		1.302E+01	5.865E+01	1.185E+00	0.145
AC-227DA	-5.087E+00		8.098E+01	3.015E+02	6.066E+00	-0.017
AC-228	3.437E+01		1.564E+01	8.240E+01	1.700E+00	0.417
RA-228DA	3.468E+01		1.579E+01	8.314E+01	1.715E+00	0.417
TH-228DA	-5.038E+00		1.784E+01	6.963E+01	1.405E+00	-0.072
TH-232DA	1.014E+01		6.587E+01	2.496E+02	4.993E+00	0.041
TH-234DA	-6.159E+00		5.668E+02	2.478E+03	5.145E+01	-0.002
U-234DA	5.936E+01		5.360E+01	2.119E+02	4.244E+00	0.280
U-235HP	4.242E+01		1.119E+02	4.113E+02	8.465E+00	0.103
NP-237DA	3.467E+01		2.315E+01	9.588E+01	1.919E+00	0.362
U-238DA	3.483E+01		2.406E+01	9.793E+01	1.959E+00	0.356
U-238DHP	3.780E+02		4.767E+02	1.810E+03	4.017E+01	0.209
AM-241HP	-3.764E+01		4.329E+01	1.496E+02	3.345E+00	-0.252

TAL Richland WA.
BA133

Batch ID: 8067181

Sample ID: KF5FV2AE
Detector ID: GER5 1



Energy Coefficients:
Offset: -3.54275E-01
Slope: 2.49363E-01
Quadrature: -2.14999E-09

Acquisition Start: 19-MAR-2008 14:11:50.12
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5FV2AE

CONFIGURATION ID: GER5:KF5FV2AE_190381411
TITLE : BA133
SAMPLE ID : KF5FV2AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:11:50
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 21-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:05:31.41
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: -.3543E+00 keV
ENERGY SLOPE: 2.4936E-01 keV/C
ENERGY Q COEFF: -.2150E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.9172E-01 keV
FWHM SLOPE: 2.3846E-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 19-MAR-2008 14:42:04

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KF5FV2AE_190381411.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:11:50
 Sample ID : KF5FV2AE 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 : 19.59 End energy : 2042.28
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.98	493	48	1.05	125.67	120	15	2.74E-01	5.6	
2	0	35.14	181	37	0.82	142.33	135	16	1.01E-01	10.5	
3	0	53.70	36	49	0.84	216.78	207	18	1.99E-02	48.9	
4	0	80.91	442	30	0.76	325.89	317	17	2.46E-01	5.5	
5	0	276.47	27	21	0.76	1110.12	1103	12	1.50E-02	39.0	
6	0	302.79	75	17	0.75	1215.71	1207	17	4.17E-02	17.1	
7	0	356.04	301	17	1.07	1429.24	1421	17	1.67E-01	6.6	
8	0	383.86	47	8	1.27	1540.79	1531	18	2.62E-02	20.7	

Flag: "*" = Peak area was modified by background subtraction

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KF5FV2AE_190381411.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
 Sample title : BA133
 Sample date : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:11:50
 Sample ID : KF5FV2AE 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	442	33.00	1.919E+00	2.327E+03	2.338E+03	7.77
	276.40	27	6.90	2.072E+00	6.297E+02	6.328E+02	39.39
	302.84	75	17.80	2.074E+00	6.771E+02	6.804E+02	17.92
	356.00	301	62.05*	2.076E+00	7.788E+02	7.826E+02	8.49
	383.85	47	8.70	2.076E+00	8.718E+02	8.761E+02	21.38

Flag: "*" = Keyline

Unidentified Energy Lines

Page : 2

Sample ID : KF5FV2AE

Acquisition date : 19-MAR-2008 14:11:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.98	493	48	1.05	125.67	120	15	2.74E-01	5.6	1.68E+00	
0	35.14	181	37	0.82	142.33	135	16	1.01E-01	10.5	1.71E+00	
0	53.70	36	49	0.84	216.78	207	18	1.99E-02	48.9	1.83E+00	

Flags: "T" = Tentatively associated

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	6.389E+02	39.39	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 19-MAR-2008 14:42:05

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]KF5FV2AE_190381411.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       : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:11:50
Sample ID        : KF5FV2AE 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	7.826E+02	6.644E+01	5.206E+01	1.041E+00	15.034

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.575E+01	1.177E+02	4.428E+02	8.883E+00	-0.036
NA-22	-6.867E+00	3.454E+00	4.695E+00	9.956E-02	-1.463
NA-24	1.734E+07	2.146E+07	Half-Life too short		
K-40	-2.535E+01	5.753E+01	2.930E+02	6.294E+00	-0.087
SC-46	4.304E+00	4.173E+00	2.265E+01	4.750E-01	0.190
CR-51	1.885E+02	1.930E+02	7.650E+02	1.531E+01	0.246
MN-54	-5.142E+00	5.222E+00	1.883E+01	3.865E-01	-0.273
CO-57	3.032E+01	1.296E+02	4.706E+02	9.728E+00	0.064
CO-58	6.663E+00	7.128E+00	3.242E+01	6.643E-01	0.206
FE-59	-9.242E+00	1.221E+01	4.699E+01	9.837E-01	-0.197
CO-60	-1.725E+00	4.567E+00	1.857E+01	3.953E-01	-0.093
ZN-65	-3.260E+00	6.020E+00	2.632E+01	5.517E-01	-0.124
SE-75	-1.894E+01	2.116E+01	7.293E+01	1.463E+00	-0.260
SR-85	-1.296E+01	1.343E+01	4.634E+01	9.313E-01	-0.280
Y-88	4.245E+00	3.010E+00	1.969E+01	4.339E-01	0.216
NB-94	-3.302E+00	4.050E+00	1.533E+01	3.156E-01	-0.215
NB-95	2.891E+00	4.817E+00	2.605E+01	5.321E-01	0.111
TC-95M	4.145E+01	2.913E+01	1.126E+02	2.276E+00	0.368
ZR-95	6.435E-01	1.236E+01	5.206E+01	1.063E+00	0.012
ZRNB-95	4.529E+00	7.547E+00	4.081E+01	8.336E-01	0.111
MO-99	-1.353E-02	6.276E-03	Half-Life too short		
RH-101	2.078E+01	1.737E+01	6.777E+01	1.372E+00	0.307
RH-102M	-6.877E+00	9.348E+00	3.334E+01	6.688E-01	-0.206
RU-103	-2.318E+01	1.170E+01	3.504E+01	7.036E-01	-0.662
RU-106DA	-8.174E+01	6.141E+01	2.020E+02	4.086E+00	-0.405
AG-108M	-3.346E-01	7.775E+00	3.048E+01	6.104E-01	-0.011
AG-110M	-2.379E-02	6.026E+00	2.642E+01	5.444E-01	-0.001

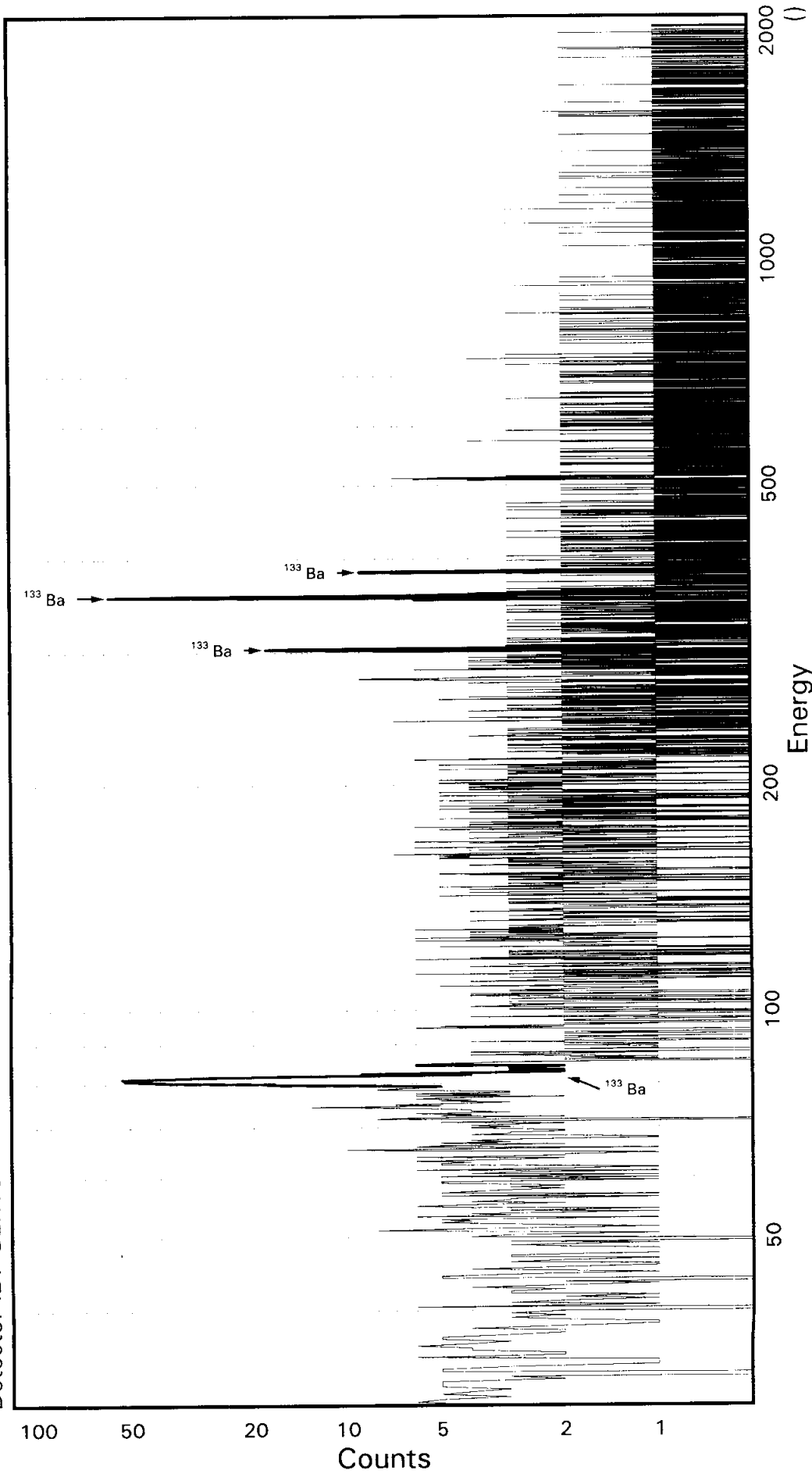
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.835E+01		1.220E+01	5.480E+01	1.096E+00	0.335
SB-124	-1.063E+01		7.916E+00	2.606E+01	5.263E-01	-0.408
SB-125	2.255E+01		2.682E+01	1.112E+02	2.226E+00	0.203
SN-126DA	2.766E+00		5.258E+00	2.285E+01	4.635E-01	0.121
I-131	-2.687E+01		8.839E+01	3.406E+02	6.813E+00	-0.079
CS-134	-5.667E+00		5.843E+00	2.122E+01	4.344E-01	-0.267
CS-137DA	-7.116E+00		7.636E+00	2.663E+01	5.399E-01	-0.267
LA-138	2.530E+00		4.503E+00	2.395E+01	5.137E-01	0.106
CE-139	-3.170E+00		2.109E+01	7.611E+01	1.554E+00	-0.042
BA-140	1.497E+02		8.643E+01	4.298E+02	8.649E+00	0.348
BALA-140	-1.662E+01		1.664E+01	4.281E+01	9.283E-01	-0.388
LA-140	-6.364E-02		6.373E-02	Half-Life	too short	
CE-141	5.747E+01		5.350E+01	1.996E+02	4.109E+00	0.288
CE-144	1.631E+01		1.258E+02	4.547E+02	9.415E+00	0.036
CEPR-144	-3.602E+01		2.566E+02	9.103E+02	1.885E+01	-0.040
PM-144	7.923E+00		6.742E+00	2.977E+01	6.019E-01	0.266
PM-146	-1.986E-01		1.148E+01	4.463E+01	8.945E-01	-0.004
EU-152	-4.299E+00		2.938E+01	1.101E+02	2.201E+00	-0.039
EU-154	-1.907E+01		9.589E+00	1.303E+01	2.764E-01	-1.463
EU-155	2.083E+01		5.919E+01	2.199E+02	4.639E+00	0.095
HF-181	-3.635E-01		1.529E+01	5.848E+01	1.173E+00	-0.006
BI-207	6.441E+00		6.267E+00	2.762E+01	5.568E-01	0.233
TL-208	1.907E+01		7.803E+00	3.745E+01	7.555E-01	0.509
BI-210M	-6.296E+00		2.062E+01	7.459E+01	1.496E+00	-0.084
BI-212	-1.410E+02		7.647E+01	2.306E+02	7.049E+00	-0.611
PB-212	2.805E+00		2.494E+01	1.004E+02	2.019E+00	0.028
BI-214	1.998E+01		1.697E+01	7.464E+01	1.508E+00	0.268
PB-214	3.294E+01		2.723E+01	9.871E+01	1.974E+00	0.334
RA-223	2.495E+01		7.412E+01	2.813E+02	5.642E+00	0.089
RA-224DA	2.881E+00		2.562E+01	1.031E+02	2.074E+00	0.028
RA-226DA	1.998E+01		1.697E+01	7.464E+01	1.508E+00	0.268
AC-227DA	-1.223E+02		9.391E+01	3.147E+02	6.333E+00	-0.389
AC-228	6.160E+00		1.916E+01	8.828E+01	1.822E+00	0.070
RA-228DA	6.215E+00		1.933E+01	8.907E+01	1.839E+00	0.070
TH-228DA	5.453E+01		2.231E+01	1.071E+02	2.160E+00	0.509
TH-232DA	5.295E+00		7.153E+01	2.743E+02	5.487E+00	0.019
TH-234DA	-1.717E+01		5.220E+02	2.382E+03	4.950E+01	-0.007
U-234DA	-2.566E+01		4.626E+01	1.654E+02	3.313E+00	-0.155
U-235HP	1.478E+02		1.403E+02	5.221E+02	1.076E+01	0.283
NP-237DA	-2.609E+01		2.708E+01	9.242E+01	1.850E+00	-0.282
U-238DA	3.294E+01		2.723E+01	9.871E+01	1.974E+00	0.334
U-238DHP	-1.238E+03		5.181E+02	1.765E+03	3.929E+01	-0.701
AM-241HP	-2.812E+01		4.531E+01	1.582E+02	3.549E+00	-0.178

TAL Richland WA.
BA133

Batch ID: 8067181

Sample ID: KF5FX2AE
Detector ID: GER10 1



Energy Coefficients:
Offset: 1.47085E+01
Slope: 2.47229E-01
Quadrature: 5.26522E-09

Acquisition Start: 19-MAR-2008 14:12:00.44
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5FX2AE

CONFIGURATION ID: GER10:KF5FX2AE_190381412
TITLE : BA133
SAMPLE ID : KF5FX2AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:12:00
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 21-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:20:25.04
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: 1.4709E+01 keV
ENERGY SLOPE: 2.4723E-01 keV/C
ENERGY Q COEFF: 5.2652E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.1792E+00 keV
FWHM SLOPE: 2.3370E-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 19-MAR-2008 14:42:19

```

Configuration      : $DISK1:[GER10.SAMPLE]KF5FX2AE_190381412.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:12:00
Sample ID         : KF5FX2AE Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Start energy      : 17.18 End energy : 2040.36
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.02	293	117	1.57	268.20	260	25	1.63E-01	11.8	
2	0	303.12	117	22	1.41	1166.57	1154	27	6.50E-02	13.3	
3	0	356.08	316	60	1.38	1380.75	1367	22	1.75E-01	7.8	
4	0	383.94	59	9	1.63	1493.42	1484	18	3.28E-02	16.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 19-MAR-2008 14:42:20

Configuration : \$DISK1:[GER10.SAMPLE]KF5FX2AE_190381412.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:12:00
 Sample ID : KF5FX2AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	293	33.00	2.478E+00	1.194E+03	1.200E+03	12.97
	276.40	-----	6.90	2.637E+00	-----	Line Not Found	-----
	302.84	117	17.80	2.640E+00	8.294E+02	8.335E+02	14.31
	356.00	316	62.05*	2.642E+00	6.421E+02	6.453E+02	9.47
	383.85	59	8.70	2.641E+00	8.573E+02	8.615E+02	17.35

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5FX2AE

Page : 2
Acquisition date : 19-MAR-2008 14:12:00

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5FX2AE

Page : 3
Acquisition date : 19-MAR-2008 14:12:00

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 19-MAR-2008 14:42:22

```

Configuration      : $DISK1:[GER10.SAMPLE]KF5FX2AE_190381412.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       : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:12:00
Sample ID        : KF5FX2AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.453E+02	6.109E+01	6.644E+01	1.329E+00	9.712

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.118E+01	7.210E+01	2.735E+02	5.485E+00	-0.077
NA-22	-4.877E+00	2.910E+00	7.913E+00	1.660E-01	-0.616
K-40	1.765E+01	4.901E+01	2.358E+02	4.999E+00	0.075
SC-46	-3.625E+00	3.919E+00	1.455E+01	3.023E-01	-0.249
CR-51	-1.564E+02	1.632E+02	5.681E+02	1.137E+01	-0.275
MN-54	-7.126E+00	5.029E+00	1.643E+01	3.357E-01	-0.434
CO-57	-9.174E+01	1.039E+02	3.593E+02	7.381E+00	-0.255
CO-58	4.947E+00	5.641E+00	2.533E+01	5.168E-01	0.195
FE-59	2.337E+00	1.031E+01	4.481E+01	9.301E-01	0.052
CO-60	-3.936E+00	4.152E+00	1.483E+01	3.120E-01	-0.265
ZN-65	2.840E+00	6.216E+00	3.000E+01	6.234E-01	0.095
SE-75	-1.323E+01	1.726E+01	5.933E+01	1.190E+00	-0.223
SR-85	5.377E+00	1.497E+01	5.440E+01	1.092E+00	0.099
Y-88	1.638E+00	1.641E+00	1.205E+01	2.606E-01	0.136
NB-94	5.389E-02	3.248E+00	1.412E+01	2.892E-01	0.004
NB-95	-4.504E+00	7.648E+00	2.879E+01	5.857E-01	-0.156
TC-95M	-3.931E+01	2.492E+01	8.109E+01	1.637E+00	-0.485
ZR-95	6.144E+00	1.080E+01	4.668E+01	9.493E-01	0.132
ZRNB-95	-7.058E+00	1.198E+01	4.511E+01	9.177E-01	-0.156
RH-101	1.525E+00	1.692E+01	6.047E+01	1.222E+00	0.025
RH-102M	1.137E+01	5.570E+00	2.593E+01	5.199E-01	0.439
RU-103	-1.004E+01	1.046E+01	3.635E+01	7.293E-01	-0.276
RU-106DA	1.489E+01	6.153E+01	2.460E+02	4.964E+00	0.061
AG-108M	-1.603E+00	7.068E+00	2.644E+01	5.294E-01	-0.061
AG-110M	2.825E+00	5.356E+00	2.428E+01	4.974E-01	0.116
SN-113DA	3.350E+01	1.236E+01	5.567E+01	1.114E+00	0.602
SB-124	2.658E+00	9.730E+00	3.783E+01	7.627E-01	0.070

Sample ID : KF5FX2AE

Acquisition date : 19-MAR-2008 14:12:00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	1.241E+00		2.264E+01	8.652E+01	1.732E+00	0.014
SN-126DA	1.970E+00		5.580E+00	2.259E+01	4.571E-01	0.087
I-131	-5.802E+01		1.011E+02	3.613E+02	7.227E+00	-0.161
CS-134	-7.870E+00		4.701E+00	1.432E+01	2.920E-01	-0.549
CS-137DA	1.325E+01		7.452E+00	3.258E+01	6.590E-01	0.407
LA-138	2.221E+00		5.217E+00	2.403E+01	5.088E-01	0.092
CE-139	-1.332E+01		1.665E+01	5.720E+01	1.164E+00	-0.233
BA-140	-1.166E+01		1.103E+02	4.144E+02	8.330E+00	-0.028
BALA-140	-3.627E+01		2.103E+01	3.314E+01	7.079E-01	-1.095
CE-141	5.950E+01		4.080E+01	1.580E+02	3.234E+00	0.377
CE-144	-6.819E+01		1.014E+02	3.555E+02	7.312E+00	-0.192
CEPR-144	-1.384E+02		2.026E+02	7.101E+02	1.461E+01	-0.195
PM-144	1.126E-01		5.307E+00	2.128E+01	4.294E-01	0.005
PM-146	9.639E+00		8.152E+00	3.555E+01	7.123E-01	0.271
EU-152	-3.177E+00		2.948E+01	1.096E+02	2.191E+00	-0.029
EU-154	-1.217E+01		8.385E+00	2.597E+01	5.447E-01	-0.469
EU-155	-1.030E+01		5.291E+01	1.912E+02	3.995E+00	-0.054
HF-181	-1.003E+01		8.409E+00	2.857E+01	5.729E-01	-0.351
BI-207	1.956E+00		6.379E+00	2.534E+01	5.101E-01	0.077
TL-208	-2.347E+00		5.153E+00	2.005E+01	4.038E-01	-0.117
BI-210M	-6.965E-01		1.777E+01	6.437E+01	1.291E+00	-0.011
BI-212	1.893E+01		8.008E+01	3.235E+02	9.874E+00	0.059
PB-212	-3.325E+01		2.011E+01	6.439E+01	1.294E+00	-0.516
BI-214	5.260E+00		1.449E+01	5.870E+01	1.184E+00	0.090
PB-214	4.559E+01		2.486E+01	9.220E+01	1.844E+00	0.494
RA-223	-1.935E+01		6.289E+01	2.243E+02	4.496E+00	-0.086
RA-224DA	-3.416E+01		2.066E+01	6.615E+01	1.329E+00	-0.516
RA-226DA	5.371E+00		1.450E+01	5.876E+01	1.185E+00	0.091
AC-227DA	-9.463E+01		8.321E+01	2.784E+02	5.595E+00	-0.340
AC-228	1.365E+01		1.253E+01	6.123E+01	1.257E+00	0.223
RA-228DA	1.378E+01		1.264E+01	6.178E+01	1.268E+00	0.223
TH-228DA	-6.712E+00		1.473E+01	5.732E+01	1.155E+00	-0.117
TH-232DA	-4.858E+00		6.592E+01	2.443E+02	4.887E+00	-0.020
TH-234DA	-7.651E+02		5.553E+02	1.858E+03	3.835E+01	-0.412
U-234DA	-3.451E+01		4.909E+01	1.708E+02	3.420E+00	-0.202
U-235HP	4.470E+01		1.058E+02	3.909E+02	8.009E+00	0.114
NP-237DA	3.595E+01		2.137E+01	8.898E+01	1.781E+00	0.404
U-238DA	4.559E+01		2.486E+01	9.220E+01	1.844E+00	0.494
U-238DHP	1.426E+02		3.861E+02	1.378E+03	3.008E+01	0.103
AM-241HP	-1.465E+01		3.958E+01	1.371E+02	3.011E+00	-0.107

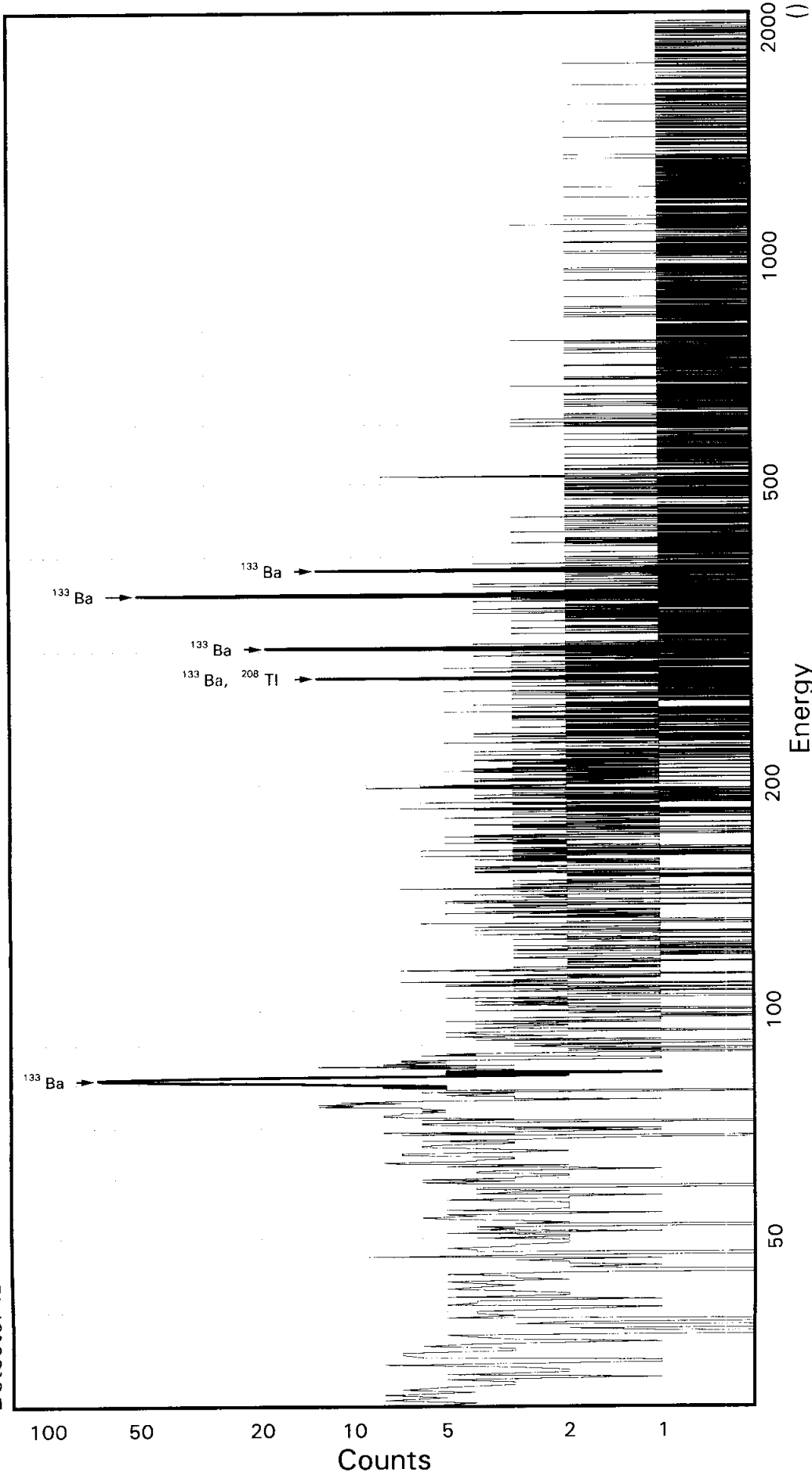
TAL Richland WA.

BA133

Batch ID: 8067181

Sample ID: KF5F02AE

Detector ID: GER7 1



Energy Coefficients:
Offset: 6.59422E-01
Slope: 2.49203E-01
Quadrature: 1.58217E-07

Acquisition Start: 19-MAR-2008 14:12:26.53
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5F02AE

CONFIGURATION ID: GER7:KF5F02AE_190381412
TITLE : BA133
SAMPLE ID : KF5F02AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:12:26
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 21-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:05:47.39
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 6.5942E-01 keV
ENERGY SLOPE: 2.4920E-01 keV/C
ENERGY Q COEFF: 1.5822E-07 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.3028E-01 keV
FWHM SLOPE: 3.8486E-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 19-MAR-2008 14:42:42

```

Configuration      : $DISK1:[GER7.SAMPLE]KF5F02AE_190381412.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:12:26
Sample ID         : KF5F02AE 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      : 20.60 End energy        : 2052.75
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	291	72	1.03	322.25	313	18	1.62E-01	9.0	
2	0	276.44	32	8	0.35	1105.88	1097	14	1.79E-02	24.9	
3	0	302.70	91	11	1.17	1211.10	1203	15	5.05E-02	13.2	
4	0	355.94	267	22	1.23	1424.37	1415	18	1.48E-01	7.4	
5	0	383.70	42	6	0.49	1535.56	1528	14	2.31E-02	20.5	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER7.SAMPLE]KF5F02AE_190381412.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:12:26
 Sample ID : KF5F02AE 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	291	33.00	1.909E+00	1.542E+03	1.550E+03	10.51
	276.40	32	6.90	2.061E+00	7.548E+02	7.586E+02	25.52
	302.84	91	17.80	2.064E+00	8.256E+02	8.297E+02	14.26
	356.00	267	62.05*	2.065E+00	6.934E+02	6.968E+02	9.16
	383.85	42	8.70	2.065E+00	7.719E+02	7.757E+02	21.16

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F02AE

Page : 2
Acquisition date : 19-MAR-2008 14:12:26

None

Flags: "T" = Tentatively associated

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	7.660E+02	25.52	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

Configuration : \$DISK1:[GER7.SAMPLE]KF5F02AE_190381412.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 : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:12:26
 Sample ID : KF5F02AE 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	6.968E+02	6.383E+01	5.991E+01	1.198E+00	11.632

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.835E+00	6.443E+01	2.715E+02	5.447E+00	0.010
NA-22	5.239E+00	3.038E+00	1.879E+01	3.983E-01	0.279
K-40	-6.649E+01	4.122E+01	2.129E+02	4.574E+00	-0.312
SC-46	5.177E+00	7.452E+00	3.254E+01	6.823E-01	0.159
CR-51	-6.072E+01	1.718E+02	6.257E+02	1.252E+01	-0.097
MN-54	7.498E+00	5.053E+00	2.519E+01	5.172E-01	0.298
CO-57	7.874E+01	1.164E+02	4.478E+02	9.257E+00	0.176
CO-58	-3.403E+00	4.471E+00	1.766E+01	3.619E-01	-0.193
FE-59	1.838E+01	1.439E+01	6.835E+01	1.431E+00	0.269
CO-60	5.256E+00	3.868E+00	2.083E+01	4.435E-01	0.252
ZN-65	-8.839E+00	1.318E+01	4.895E+01	1.026E+00	-0.181
SE-75	6.584E+00	1.730E+01	6.746E+01	1.354E+00	0.098
SR-85	-4.707E+01	1.691E+01	4.834E+01	9.715E-01	-0.974
Y-88	-4.325E+00	4.303E+00	1.569E+01	3.457E-01	-0.276
NB-94	2.229E+00	3.847E+00	1.862E+01	3.833E-01	0.120
NB-95	5.981E+00	7.871E+00	3.697E+01	7.552E-01	0.162
TC-95M	1.528E+01	2.226E+01	8.703E+01	1.760E+00	0.176
ZR-95	1.482E+00	1.246E+01	5.296E+01	1.081E+00	0.028
ZRNB-95	9.370E+00	1.233E+01	5.792E+01	1.183E+00	0.162
RH-101	5.036E+01	1.815E+01	7.425E+01	1.504E+00	0.678
RH-102M	1.630E+00	3.926E+00	1.866E+01	3.742E-01	0.087
RU-103	-1.787E+00	1.191E+01	4.591E+01	9.220E-01	-0.039
RU-106DA	-7.431E+01	5.469E+01	1.821E+02	3.684E+00	-0.408
AG-108M	-7.229E+00	6.750E+00	2.356E+01	4.719E-01	-0.307
AG-110M	2.388E+00	7.435E+00	3.235E+01	6.665E-01	0.074
SN-113DA	7.359E-01	1.225E+01	4.877E+01	9.757E-01	0.015
SB-124	1.180E+01	8.237E+00	3.813E+01	7.701E-01	0.310

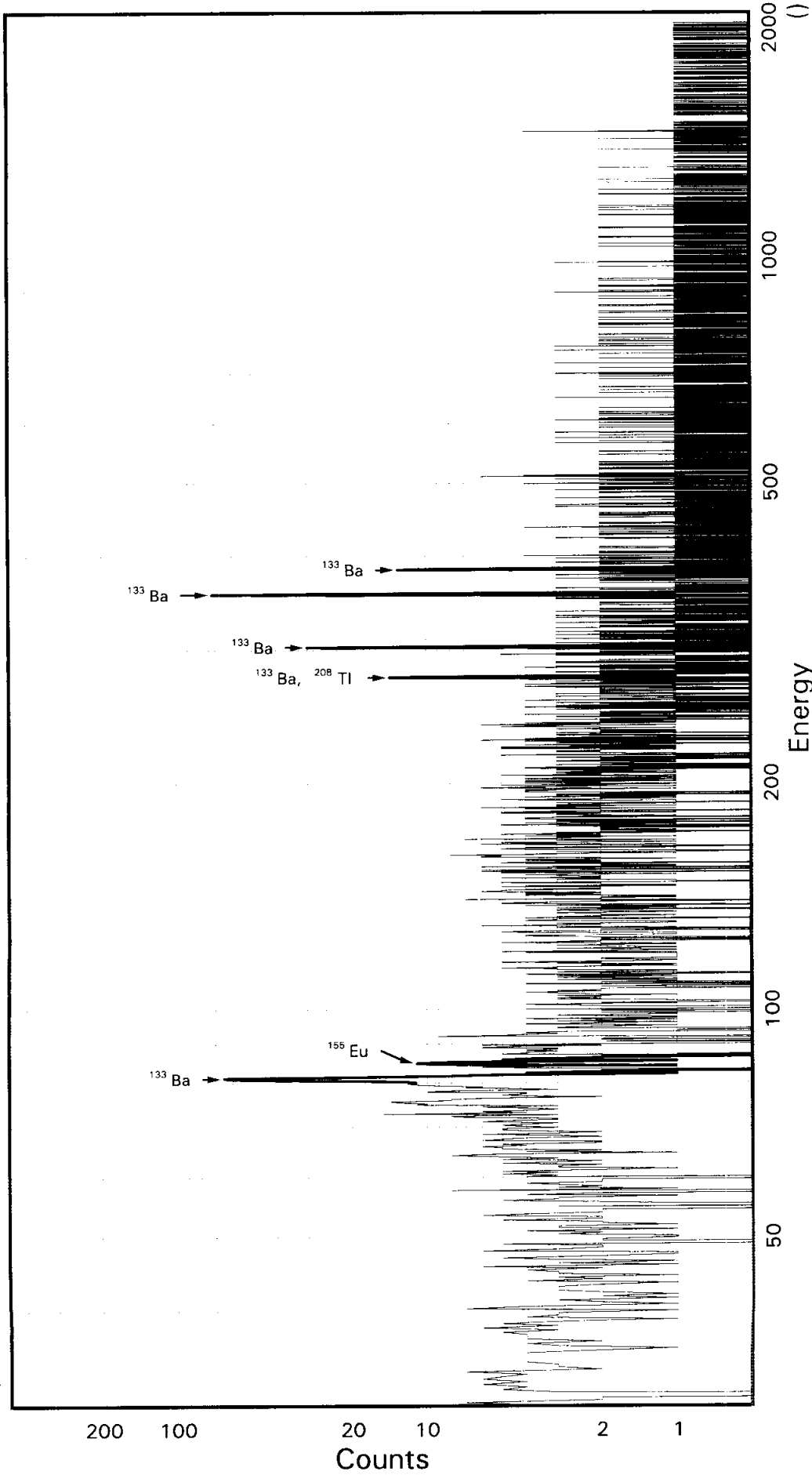
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-1.557E-01		1.939E+01	7.888E+01	1.580E+00	-0.002
SN-126DA	-3.494E+00		5.739E+00	2.145E+01	4.352E-01	-0.163
I-131	-4.385E+01		1.151E+02	4.259E+02	8.518E+00	-0.103
CS-134	3.548E+00		6.104E+00	2.734E+01	5.596E-01	0.130
CS-137DA	5.649E+00		6.434E+00	2.890E+01	5.861E-01	0.195
LA-138	2.601E+00		4.493E+00	2.408E+01	5.165E-01	0.108
CE-139	-2.146E+01		1.758E+01	5.856E+01	1.196E+00	-0.367
BA-140	-1.088E+02		9.373E+01	3.304E+02	6.649E+00	-0.329
BALA-140	-5.928E-01		2.294E+01	1.171E+02	2.539E+00	-0.005
CE-141	4.128E+01		4.270E+01	1.662E+02	3.422E+00	0.248
CE-144	-6.881E+01		9.987E+01	3.556E+02	7.363E+00	-0.193
CEPR-144	-1.429E+02		1.993E+02	7.082E+02	1.466E+01	-0.202
PM-144	8.247E+00		5.691E+00	2.712E+01	5.483E-01	0.304
PM-146	-7.881E+00		9.813E+00	3.534E+01	7.083E-01	-0.223
EU-152	-2.911E+01		3.390E+01	1.165E+02	2.329E+00	-0.250
EU-154	1.454E+01		8.434E+00	5.215E+01	1.106E+00	0.279
EU-155	-7.531E+01		5.223E+01	1.770E+02	3.734E+00	-0.425
HF-181	1.486E+01		1.198E+01	5.314E+01	1.066E+00	0.280
BI-207	7.274E+00		5.787E+00	2.676E+01	5.395E-01	0.272
TL-208	6.276E+00		5.165E+00	2.573E+01	5.190E-01	0.244
BI-210M	-3.563E+00		1.794E+01	6.673E+01	1.339E+00	-0.053
BI-212	-3.659E+00		6.270E+01	2.687E+02	8.215E+00	-0.014
PB-212	-4.508E+00		2.129E+01	8.376E+01	1.685E+00	-0.054
BI-214	1.190E+01		1.467E+01	6.625E+01	1.339E+00	0.180
PB-214	-3.467E+01		2.972E+01	8.824E+01	1.765E+00	-0.393
RA-223	4.768E+01		6.084E+01	2.470E+02	4.953E+00	0.193
RA-224DA	-4.631E+00		2.187E+01	8.605E+01	1.731E+00	-0.054
RA-226DA	1.190E+01		1.467E+01	6.625E+01	1.339E+00	0.180
AC-227DA	-1.525E+02		8.957E+01	2.924E+02	5.884E+00	-0.522
AC-228	-1.258E+01		1.722E+01	6.469E+01	1.336E+00	-0.194
RA-228DA	-1.269E+01		1.738E+01	6.527E+01	1.348E+00	-0.194
TH-228DA	1.795E+01		1.477E+01	7.356E+01	1.484E+00	0.244
TH-232DA	-3.480E+01		8.800E+01	3.109E+02	6.218E+00	-0.112
TH-234DA	-4.711E+02		6.143E+02	2.394E+03	4.976E+01	-0.197
U-234DA	6.811E+00		5.111E+01	1.949E+02	3.902E+00	0.035
U-235HP	-7.932E+01		1.058E+02	3.709E+02	7.640E+00	-0.214
NP-237DA	1.509E+01		1.679E+01	7.318E+01	1.464E+00	0.206
U-238DA	-3.467E+01		2.972E+01	8.824E+01	1.765E+00	-0.393
U-238DHP	4.024E+02		4.288E+02	1.636E+03	3.642E+01	0.246
AM-241HP	1.267E+01		3.848E+01	1.430E+02	3.208E+00	0.089

TAL Richland WA.
BA133

Batch ID: 8067181

Sample ID: KF5F12AE
Detector ID: GER4 1



Energy Coefficients:
Offset: -5.30784E-02
Slope: 2.48659E-01
Quadrature: 1.29262E-08

Acquisition Start: 19-MAR-2008 14:12:50.14
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5F12AE

CONFIGURATION ID: GER4:KF5F12AE_190381412
TITLE : BA133
SAMPLE ID : KF5F12AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:12:50
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 21-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:05:14.57
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: -.5308E-01 keV
ENERGY SLOPE: 2.4866E-01 keV/C
ENERGY Q COEFF: 1.2926E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.7052E-01 keV
FWHM SLOPE: 4.8400E-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 19-MAR-2008 14:43:06

```

Configuration      : $DISK1:[GER4.SAMPLE]KF5F12AE_190381412.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:12:50
Sample ID         : KF5F12AE Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Start energy      : 19.84 End energy : 2037.83
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.16	196	57	0.68	326.59	322	13	1.09E-01	11.6	
2	0	85.37*	11	17	0.67	343.52	339	11	6.07E-03	96.3	
3	0	276.23	65	10	1.09	1111.03	1105	13	3.60E-02	15.9	
4	0	302.89	99	13	0.63	1218.22	1212	13	5.50E-02	12.5	
5	0	356.03	306	9	0.96	1431.90	1423	19	1.70E-01	6.2	
6	0	383.68	60	0	0.94	1543.07	1533	16	3.33E-02	12.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 19-MAR-2008 14:43:07

Configuration : \$DISK1:[GER4.SAMPLE]KF5F12AE_190381412.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:12:50
 Sample ID : KF5F12AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	196	33.00	1.000E+02	1.977E+01	1.987E+01	12.65
	276.40	65	6.90	2.659E+00	1.177E+03	1.183E+03	16.80
	302.84	99	17.80	2.414E+00	7.680E+02	7.717E+02	13.63
	356.00	306	62.05*	2.262E+00	7.274E+02	7.310E+02	8.21
	383.85	60	8.70	2.295E+00	1.002E+03	1.007E+03	13.98

Flag: "*" = Keyline

Unidentified Energy Lines

Sample ID : KF5F12AE

Page : 2

Acquisition date : 19-MAR-2008 14:12:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	85.37	11	17	0.67	343.52	339	11	6.07E-03	96.3	1.00E+02	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
EU-155	4.96Y	0.01	42.90	21.16	---	Not Found	---
			86.54	30.90	1.191E+00	96.44	Abun.
			105.31*	20.70	---	Not Found	---
			% Abundances Found =		42.47		
TL-208	1.41E+10Y	0.00	277.35	6.80	1.194E+03	16.80	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 19-MAR-2008 14:43:09

```

Configuration      : $DISK1:[GER4.SAMPLE]KF5F12AE_190381412.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       : 21-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:12:50
Sample ID        : KF5F12AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagatd: 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	7.310E+02	6.001E+01	4.840E+01	9.680E-01	15.104

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	3.198E+01	7.209E+01	2.919E+02	4.677E+00	0.110
NA-22	-3.128E-04	6.820E-02	3.157E-01	1.428E-04	-0.001
K-40	5.885E-02	1.708E+00	8.258E+00	3.735E-03	0.007
SC-46	2.806E-01	2.493E-01	1.100E+00	7.688E-04	0.255
CR-51	-6.719E+01	1.314E+02	4.875E+02	9.480E+00	-0.138
MN-54	3.936E-01	4.670E-01	2.504E+00	7.838E-03	0.157
CO-57	-7.689E+00	9.747E+00	3.392E+01	6.584E-02	-0.227
CO-58	1.128E+00	1.338E+00	5.777E+00	2.049E-02	0.195
FE-59	-1.640E-01	2.741E-01	1.141E+00	8.915E-04	-0.144
CO-60	7.885E-02	7.084E-02	3.782E-01	1.711E-04	0.209
ZN-65	-6.017E-01	4.469E-01	1.474E+00	1.057E-03	-0.408
SE-75	5.122E+00	1.326E+01	5.067E+01	8.120E-01	0.101
SR-85	-1.670E+01	8.740E+00	2.720E+01	3.849E-01	-0.614
Y-88	7.920E-02	9.840E-02	4.802E-01	2.172E-04	0.165
NB-94	7.493E-01	6.093E-01	2.864E+00	7.419E-03	0.262
NB-95	-4.500E-01	2.002E+00	7.947E+00	3.552E-02	-0.057
TC-95M	-1.583E+00	9.810E+00	3.590E+01	3.280E-01	-0.044
ZR-95	-2.256E+00	3.177E+00	1.179E+01	5.517E-02	-0.191
ZRNB-95	-7.051E-01	3.136E+00	1.245E+01	5.563E-02	-0.057
RH-101	8.544E-01	6.994E+00	2.573E+01	2.152E-01	0.033
RH-102M	4.212E-01	5.151E+00	2.055E+01	3.319E-01	0.020
RU-103	5.242E+00	8.756E+00	3.600E+01	5.410E-01	0.146
RU-106DA	-2.205E+01	2.736E+01	9.947E+01	8.978E-01	-0.222
AG-108M	-4.090E+00	6.935E+00	2.556E+01	4.621E-01	-0.160
AG-110M	-1.114E+00	8.552E-01	2.840E+00	6.850E-03	-0.392
SN-113DA	1.705E+01	1.281E+01	5.407E+01	1.056E+00	0.315
SB-124	-1.755E+00	3.753E+00	1.435E+01	1.412E-01	-0.122

---- Non-Identified Nuclides ----

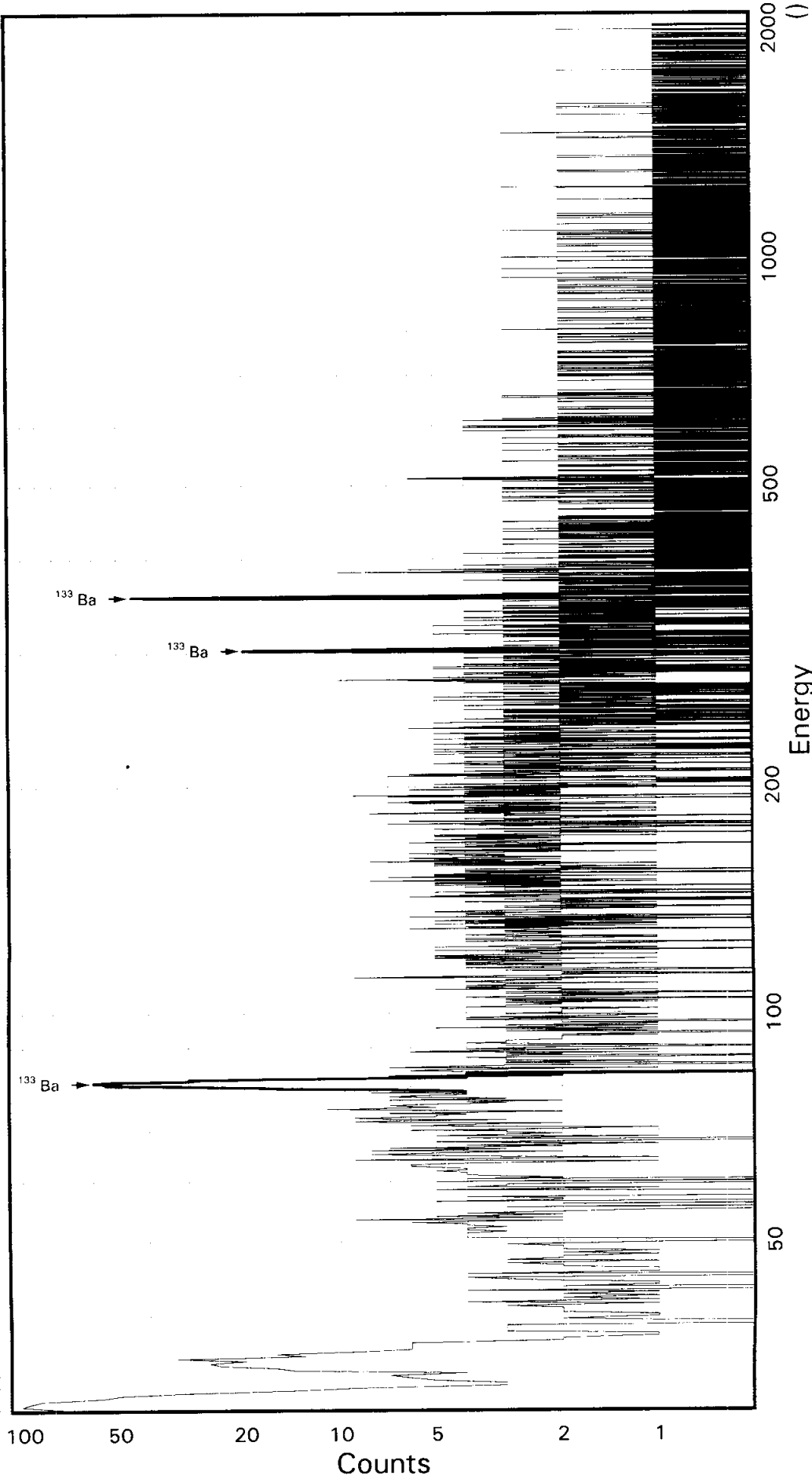
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	1.092E+01		1.955E+01	8.166E+01	1.497E+00	0.134
SN-126DA	1.212E+00		1.912E+00	8.263E+00	6.052E-02	0.147
I-131	1.489E+01		7.363E+01	2.973E+02	5.937E+00	0.050
CS-134	3.568E-01		1.011E+00	4.440E+00	1.701E-02	0.080
CS-137DA	-3.108E+00		2.406E+00	8.065E+00	6.042E-02	-0.385
LA-138	3.520E-03		1.210E-01	5.376E-01	2.432E-04	0.007
CE-139	-1.141E-01		3.789E+00	1.349E+01	6.145E-02	-0.008
BA-140	-2.156E+01		5.655E+01	2.174E+02	2.816E+00	-0.099
BALA-140	-6.926E-03		4.338E-01	2.230E+00	1.009E-03	-0.003
CE-141	-3.194E+00		5.806E+00	2.019E+01	5.288E-02	-0.158
CE-144	-1.259E+00		8.344E+00	3.054E+01	5.326E-02	-0.041
CEPR-144	-2.518E+00		1.668E+01	6.107E+01	1.064E-01	-0.041
PM-144	-6.403E-01		2.946E+00	1.140E+01	1.047E-01	-0.056
PM-146	1.334E+01		8.897E+00	3.905E+01	6.710E-01	0.342
EU-152	2.251E+01		2.506E+01	1.051E+02	2.097E+00	0.214
EU-154	-8.609E-04		1.893E-01	8.764E-01	3.964E-04	-0.001
EU-155	1.042E+00		1.032E+00	4.154E+00	1.921E-03	0.251
HF-181	-1.769E+01		1.035E+01	3.286E+01	5.192E-01	-0.538
BI-207	-2.924E+00		3.145E+00	1.141E+01	1.296E-01	-0.256
TL-208	7.260E+00		4.398E+00	2.053E+01	2.202E-01	0.354
BI-210M	-2.047E+01		1.465E+01	4.757E+01	7.686E-01	-0.430
BI-212	-1.614E+01		1.956E+01	7.298E+01	1.710E+00	-0.221
PB-212	1.195E+01		1.830E+01	7.171E+01	9.572E-01	0.167
BI-214	-7.426E+00		7.030E+00	2.861E+01	2.733E-01	-0.260
PB-214	6.233E+01		2.295E+01	1.032E+02	2.063E+00	0.604
RA-223	4.937E+01		5.571E+01	2.172E+02	3.573E+00	0.227
RA-224DA	1.228E+01		1.879E+01	7.367E+01	9.833E-01	0.167
RA-226DA	-7.426E+00		7.030E+00	2.861E+01	2.733E-01	-0.260
AC-227DA	-5.289E+01		6.221E+01	2.139E+02	2.791E+00	-0.247
AC-228	-4.191E+00		2.734E+00	9.680E+00	2.033E-02	-0.433
RA-228DA	-4.229E+00		2.758E+00	9.767E+00	2.051E-02	-0.433
TH-228DA	2.076E+01		1.258E+01	5.871E+01	6.296E-01	0.354
TH-232DA	8.272E+01		5.169E+01	2.300E+02	4.572E+00	0.360
TH-234DA	5.282E-01		3.610E+01	1.595E+02	2.086E-01	0.003
U-234DA	3.652E+01		4.296E+01	1.771E+02	3.243E+00	0.206
U-235HP	3.122E+01		1.377E+01	5.563E+01	1.382E-01	0.561
NP-237DA	2.658E+01		1.925E+01	8.239E+01	1.578E+00	0.323
U-238DA	6.233E+01		2.295E+01	1.032E+02	2.063E+00	0.604
U-238DHP	5.983E+00		6.563E+00	2.595E+01	1.174E-02	0.231
AM-241HP	-4.543E-01		6.091E-01	2.152E+00	9.735E-04	-0.211

TAL Richland WA.

BA133

Batch ID: 8067181

Sample ID: KF5F32AE
Detector ID: GER14 1



Energy Coefficients:
Offset: -6.31786E-01
Slope: 2.48194E-01
Quadrature: 2.12797E-09

Acquisition Start: 19-MAR-2008 14:13:18.43
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5F32AE

CONFIGURATION ID: GER14:KF5F32AE_190381413
TITLE : BA133
SAMPLE ID : KF5F32AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:13:18
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:07:07.34
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.6318E+00 keV
ENERGY SLOPE: 2.4819E-01 keV/C
ENERGY Q COEFF: 2.1280E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.6555E-01 keV
FWHM SLOPE: 3.3301E-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 19-MAR-2008 14:43:36

Configuration : \$DISK1:[GER14.SAMPLE]KF5F32AE_190381413.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:13:18
 Sample ID : KF5F32AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.44 0.0%
 Start energy : 19.22 End energy : 2032.72
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.45	639	119	1.37	125.23	114	20	3.55E-01	5.7	
2	0	34.97	178	44	1.10	143.46	135	20	9.87E-02	12.2	
3	0	80.96	354	72	1.24	328.73	320	19	1.97E-01	7.9	
4	0	302.76	100	25	1.14	1222.38	1212	19	5.54E-02	14.4	
5	0	356.05	290	16	1.53	1437.08	1427	24	1.61E-01	6.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 19-MAR-2008 14:43:36

Configuration : \$DISK1:[GER14.SAMPLE]KF5F32AE_190381413.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:13:18
 Sample ID : KF5F32AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.44 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 Decay Corr		1-Sigma
					DPM/SAMPL	DPM/SAMPL	%Error
BA-133	81.00	354	33.00	1.818E+00	1.969E+03	1.976E+03	9.61
	276.40	-----	6.90	1.945E+00	-----	Line Not Found	-----
	302.84	100	17.80	1.948E+00	9.583E+02	9.618E+02	15.35
	356.00	290	62.05*	1.949E+00	7.992E+02	8.022E+02	8.54
	383.85	-----	8.70	1.949E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines

Sample ID : KF5F32AE

Page : 2

Acquisition date : 19-MAR-2008 14:13:18

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.45	639	119	1.37	125.23	114	20	3.55E-01	5.7	1.61E+00	
0	34.97	178	44	1.10	143.46	135	20	9.87E-02	12.2	1.64E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5F32AE

Page : 3
Acquisition date : 19-MAR-2008 14:13:18

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER14.SAMPLE]KF5F32AE_190381413.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       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:13:18
Sample ID        : KF5F32AE Sample quantity   : 1.0000 SAMPL
Sample type      : Sample geometry    : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.44 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio  : 8.00
Errors propagated: Yes Systematic Error   : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.022E+02	6.853E+01	6.103E+01	1.221E+00	13.143

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-7.207E+01	1.166E+02	4.158E+02	8.339E+00	-0.173
NA-22	9.138E+00	4.864E+00	2.577E+01	5.426E-01	0.355
K-40	-1.774E+02	8.900E+01	4.185E+02	8.916E+00	-0.424
SC-46	1.501E+01	8.124E+00	3.816E+01	7.957E-01	0.393
CR-51	9.594E+01	2.254E+02	8.306E+02	1.662E+01	0.116
MN-54	-3.130E+00	6.258E+00	2.414E+01	4.940E-01	-0.130
CO-57	1.511E+02	1.617E+02	6.018E+02	1.239E+01	0.251
CO-58	-3.352E+00	9.843E+00	3.725E+01	7.612E-01	-0.090
FE-59	-2.386E+00	1.284E+01	5.295E+01	1.102E+00	-0.045
CO-60	1.769E+00	4.094E+00	1.958E+01	4.138E-01	0.090
ZN-65	-1.732E+01	1.411E+01	4.871E+01	1.015E+00	-0.356
SE-75	2.069E+01	2.527E+01	9.574E+01	1.920E+00	0.216
SR-85	1.574E+01	1.726E+01	6.515E+01	1.309E+00	0.242
Y-88	1.926E+00	5.731E+00	2.563E+01	5.583E-01	0.075
NB-94	-4.886E+00	5.777E+00	2.122E+01	4.354E-01	-0.230
NB-95	-8.652E+00	1.029E+01	3.660E+01	7.458E-01	-0.236
TC-95M	-9.655E+01	2.996E+01	8.760E+01	1.769E+00	-1.102
ZR-95	-8.755E+00	1.384E+01	5.128E+01	1.044E+00	-0.171
ZRNB-95	-1.444E+01	1.718E+01	6.108E+01	1.245E+00	-0.236
MO-99	-5.961E+03	2.740E+03	8.504E+03	1.748E+02	-0.701
RH-101	-3.623E+00	2.380E+01	8.488E+01	1.716E+00	-0.043
RH-102M	1.236E+01	9.601E+00	3.999E+01	8.018E-01	0.309
RU-103	1.507E+00	1.503E+01	5.691E+01	1.142E+00	0.026
RU-106DA	-4.692E+01	7.560E+01	2.795E+02	5.645E+00	-0.168
AG-108M	9.039E+00	1.189E+01	4.650E+01	9.313E-01	0.194
AG-110M	-6.157E+00	9.972E+00	3.712E+01	7.623E-01	-0.166
SN-113DA	-1.105E+01	1.814E+01	6.492E+01	1.299E+00	-0.170

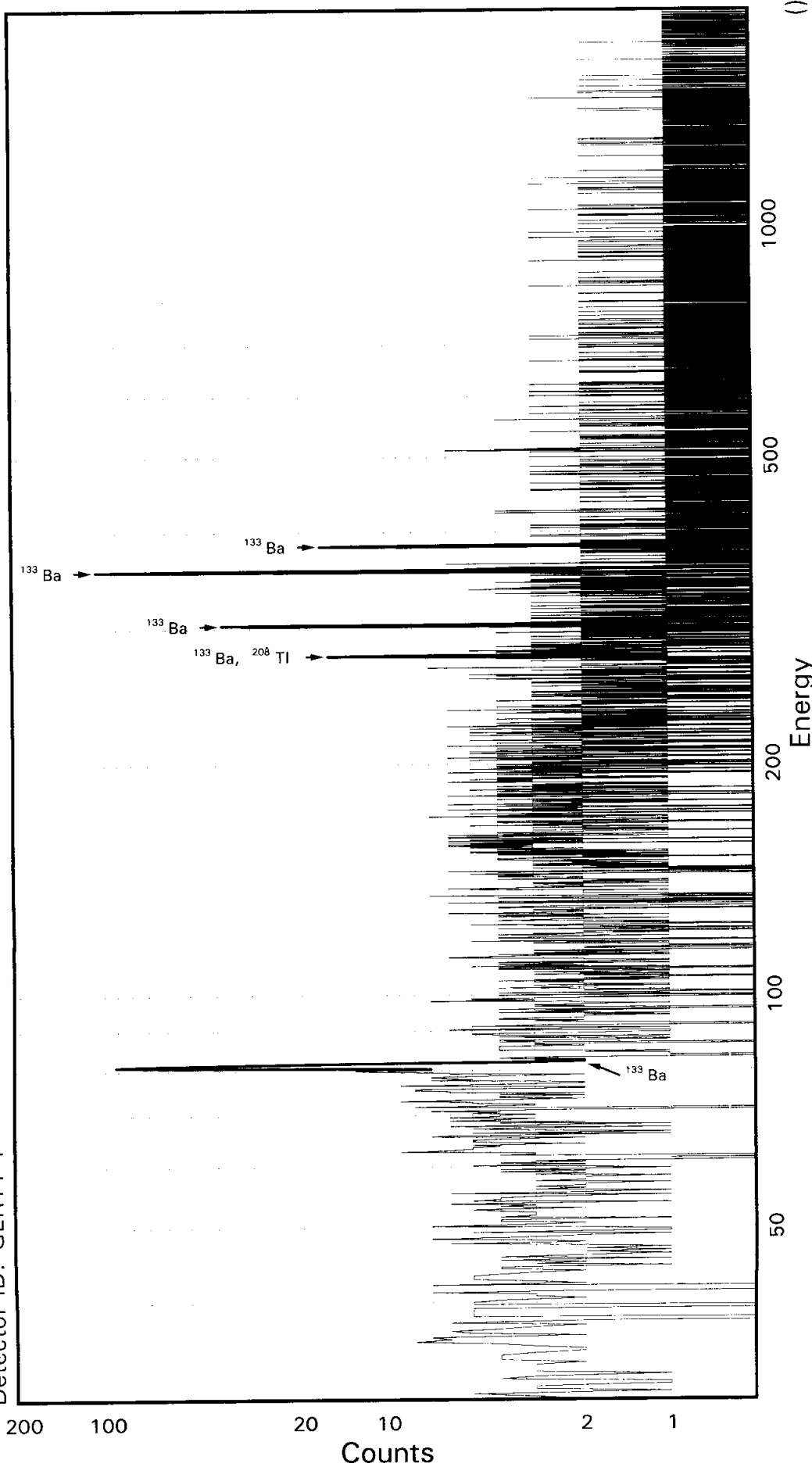
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.162E+01		1.251E+01	4.380E+01	8.838E-01	-0.265
SB-125	-1.182E+01		3.348E+01	1.226E+02	2.454E+00	-0.096
SN-126DA	1.162E+01		7.530E+00	3.342E+01	6.768E-01	0.348
I-131	5.974E+01		7.294E+01	2.889E+02	5.779E+00	0.207
CS-134	2.658E+00		7.912E+00	3.300E+01	6.737E-01	0.081
CS-137DA	1.715E+00		9.306E+00	3.671E+01	7.431E-01	0.047
LA-138	-3.114E+00		7.364E+00	2.933E+01	6.239E-01	-0.106
CE-139	-3.003E+01		2.506E+01	8.256E+01	1.682E+00	-0.364
BA-140	-7.250E+01		7.957E+01	2.881E+02	5.793E+00	-0.252
BALA-140	-1.192E+00		3.191E+01	1.354E+02	2.908E+00	-0.009
CE-141	5.579E+00		5.193E+01	1.854E+02	3.803E+00	0.030
CE-144	-1.025E+02		1.635E+02	5.628E+02	1.160E+01	-0.182
CEPR-144	-2.050E+02		3.271E+02	1.126E+03	2.321E+01	-0.182
PM-144	-6.924E+00		8.035E+00	2.871E+01	5.797E-01	-0.241
PM-146	4.843E+00		1.460E+01	5.645E+01	1.131E+00	0.086
EU-152	-1.495E+01		4.667E+01	1.693E+02	3.386E+00	-0.088
EU-154	2.546E+01		1.355E+01	7.179E+01	1.512E+00	0.355
EU-155	-1.179E+02		7.770E+01	2.563E+02	5.374E+00	-0.460
HF-181	1.668E+01		1.365E+01	5.784E+01	1.160E+00	0.288
BI-207	-9.949E+00		6.920E+00	2.311E+01	4.655E-01	-0.430
TL-208	8.923E+00		8.645E+00	3.733E+01	7.525E-01	0.239
BI-210M	1.331E+01		2.634E+01	9.840E+01	1.973E+00	0.135
BI-212	9.870E+01		1.362E+02	5.471E+02	1.671E+01	0.180
PB-212	5.043E+01		3.382E+01	1.305E+02	2.623E+00	0.387
BI-214	1.858E+01		2.576E+01	1.048E+02	2.114E+00	0.177
PB-214	-4.540E+01		3.436E+01	1.006E+02	2.012E+00	-0.451
RA-223	-1.420E+02		9.675E+01	3.174E+02	6.364E+00	-0.447
RA-224DA	5.145E+01		3.450E+01	1.331E+02	2.676E+00	0.387
RA-226DA	1.843E+01		2.575E+01	1.047E+02	2.113E+00	0.176
AC-227DA	-2.237E+02		1.381E+02	4.521E+02	9.090E+00	-0.495
AC-228	4.237E+01		2.594E+01	1.179E+02	2.424E+00	0.359
RA-228DA	4.265E+01		2.611E+01	1.186E+02	2.440E+00	0.359
TH-228DA	2.534E+01		2.455E+01	1.060E+02	2.137E+00	0.239
TH-232DA	-1.332E+01		1.089E+02	3.970E+02	7.941E+00	-0.034
TH-234DA	1.619E+03		9.508E+02	4.532E+03	9.377E+01	0.357
U-234DA	9.324E+01		6.729E+01	2.629E+02	5.264E+00	0.355
U-235HP	5.638E+01		1.484E+02	5.398E+02	1.108E+01	0.104
NP-237DA	-8.420E+00		3.117E+01	1.120E+02	2.242E+00	-0.075
U-238DA	-4.540E+01		3.436E+01	1.006E+02	2.012E+00	-0.451
U-238DHP	6.534E+02		5.443E+02	1.992E+03	4.379E+01	0.328
AM-241HP	-8.126E+01		5.046E+01	1.620E+02	3.585E+00	-0.502

TAL Richland WA.
BA133

Batch ID: 8067181

Sample ID: KF5F42AE
Detector ID: GER11 1



Energy Coefficients:
Offset: -1.00982E+00
Slope: 2.31713E-01
Quadrature: 3.24897E-08

Acquisition Start: 19-MAR-2008 14:13:45.92
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5F42AE

CONFIGURATION ID: GER11:KF5F42AE_190381413
TITLE : BA133
SAMPLE ID : KF5F42AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:13:45
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:06:36.05
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: -.1010E+01 keV
ENERGY SLOPE: 2.3171E-01 keV/C
ENERGY Q COEFF: 3.2490E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.3901E-01 keV
FWHM SLOPE: 4.4183E-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 19-MAR-2008 14:44:03

Configuration : \$DISK1:[GER11.SAMPLE]KF5F42AE_190381413.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:13:45
 Sample ID : KF5F42AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.98 0.1%
 Start energy : 1.31 End energy : 1899.36
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.14	240	65	0.63	354.52	350	11	1.33E-01	9.5	
2	0	276.36	51	26	0.61	1196.82	1190	13	2.83E-02	25.0	
3	0	302.78	151	16	1.00	1310.81	1304	16	8.39E-02	10.1	
4	0	355.87	483	29	0.99	1539.86	1531	19	2.68E-01	5.3	
5	0	383.53	85	0	1.19	1659.19	1652	15	4.72E-02	10.8	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER11.SAMPLE]KF5F42AE_190381413.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:13:45
 Sample ID : KF5F42AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.98 0.1%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	240	33.00	2.880E+00	8.405E+02	8.436E+02	10.94
	276.40	51	6.90	3.084E+00	7.978E+02	8.007E+02	25.53
	302.84	151	17.80	3.088E+00	9.158E+02	9.191E+02	11.42
	356.00	483	62.05*	3.090E+00	8.394E+02	8.425E+02	7.53
	383.85	85	8.70	3.090E+00	1.054E+03	1.058E+03	12.11

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F42AE

Page : 2
Acquisition date : 19-MAR-2008 14:13:45

None

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	8.095E+02	25.53	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

```

Configuration      : $DISK1:[GER11.SAMPLE]KF5F42AE_190381413.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       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:13:45
Sample ID        : KF5F42AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.98 0.1%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.425E+02	6.347E+01	3.898E+01	7.796E-01	21.612

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	3.189E+01	5.858E+01	2.398E+02	4.809E+00	0.133
NA-22	-4.652E-02	3.281E+00	1.385E+01	2.920E-01	-0.003
K-40	1.775E+00	4.594E+01	2.306E+02	4.918E+00	0.008
SC-45	-4.365E+00	4.121E+00	1.430E+01	2.983E-01	-0.305
CR-51	1.099E+00	9.287E+01	3.546E+02	7.094E+00	0.003
MN-54	1.008E+00	4.511E+00	1.831E+01	3.749E-01	0.055
CO-57	-8.415E+01	7.032E+01	2.332E+02	4.804E+00	-0.361
CO-58	-5.461E+00	5.077E+00	1.769E+01	3.616E-01	-0.309
FE-59	1.087E+01	5.468E+00	3.262E+01	6.797E-01	0.333
CO-60	-3.626E+00	3.114E+00	1.066E+01	2.256E-01	-0.340
ZN-65	1.152E+01	7.140E+00	3.521E+01	7.346E-01	0.327
SE-75	-1.353E+01	1.253E+01	4.385E+01	8.795E-01	-0.309
SR-85	-9.757E+00	8.624E+00	2.882E+01	5.789E-01	-0.339
Y-88	1.349E+00	1.351E+00	9.919E+00	2.164E-01	0.136
NB-94	-8.084E+00	3.461E+00	8.139E+00	1.670E-01	-0.993
NB-95	-4.636E+00	4.869E+00	1.773E+01	3.614E-01	-0.261
TC-95M	2.810E+00	1.450E+01	5.395E+01	1.090E+00	0.052
ZR-95	-4.820E+00	7.652E+00	2.934E+01	5.976E-01	-0.164
ZRNB-95	-7.382E+00	8.184E+00	3.006E+01	6.127E-01	-0.246
MO-99	-1.741E+03	1.225E+03	4.207E+03	8.653E+01	-0.414
RH-101	-3.875E+00	1.058E+01	3.923E+01	7.933E-01	-0.099
RH-102M	-4.901E+00	5.478E+00	1.921E+01	3.852E-01	-0.255
RU-103	-2.614E+00	4.579E+00	1.780E+01	3.574E-01	-0.147
RU-106DA	3.436E+01	4.483E+01	1.923E+02	3.884E+00	0.179
AG-108M	-4.831E+00	5.538E+00	1.974E+01	3.954E-01	-0.245
AG-110M	-9.498E-01	5.128E+00	2.052E+01	4.215E-01	-0.046
SN-113DA	-1.620E+01	8.140E+00	2.540E+01	5.081E-01	-0.638

---- Non-Identified Nuclides ----

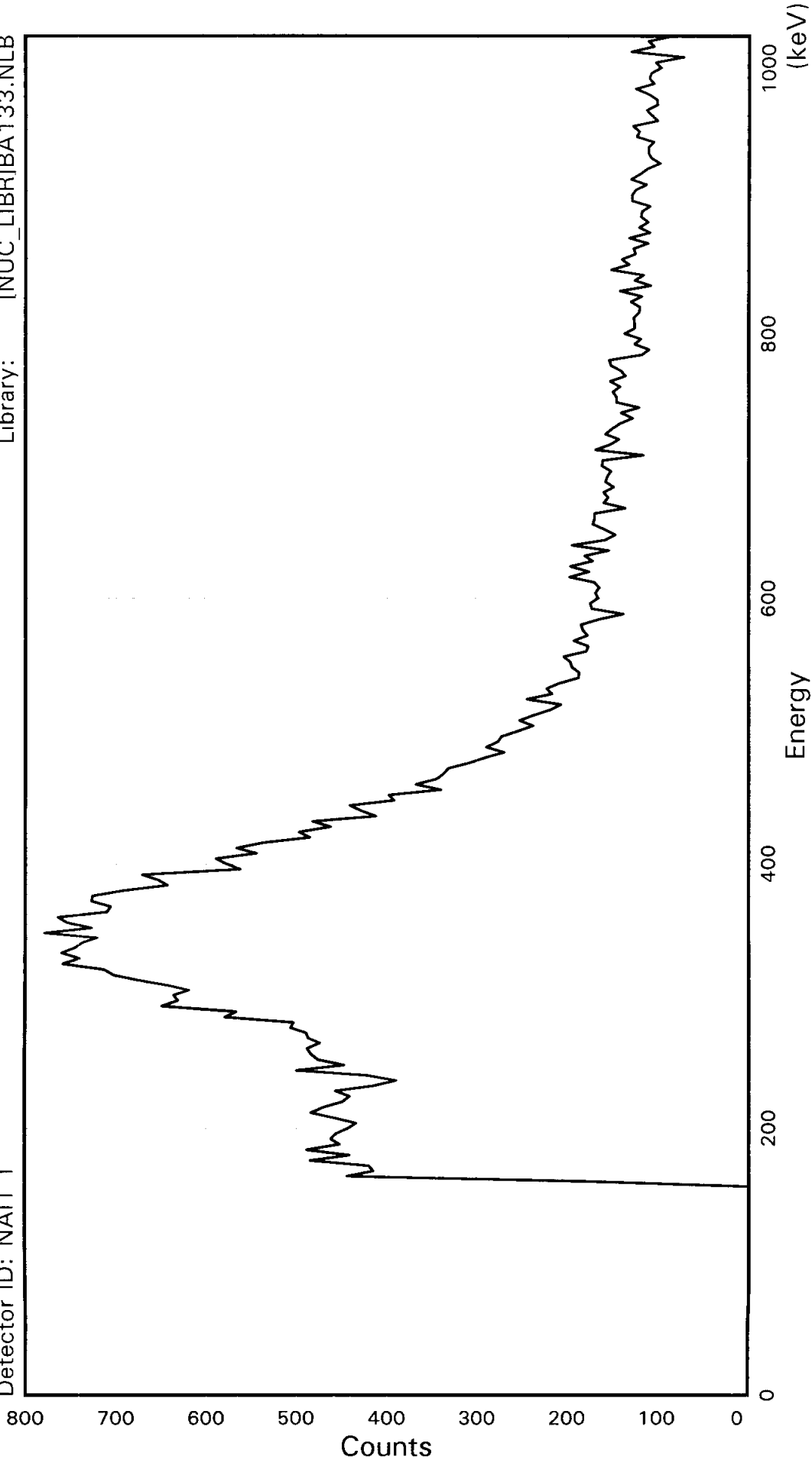
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	5.513E+00		5.909E+00	2.527E+01	5.100E-01	0.218
SB-125	-6.288E-02		1.368E+01	5.535E+01	1.108E+00	-0.001
SN-126DA	4.889E+00		4.243E+00	1.874E+01	3.796E-01	0.261
I-131	8.441E+01		3.736E+01	1.669E+02	3.338E+00	0.506
CS-134	9.215E+00		5.108E+00	2.381E+01	4.863E-01	0.387
CS-137DA	-2.065E-01		4.129E+00	1.683E+01	3.409E-01	-0.012
LA-138	6.925E+00		4.219E+00	2.256E+01	4.803E-01	0.307
CE-139	5.678E+00		8.785E+00	3.505E+01	7.143E-01	0.162
BA-140	6.768E+01		4.240E+01	2.052E+02	4.127E+00	0.330
BALA-140	-3.007E+01		2.091E+01	6.701E+01	1.441E+00	-0.449
CE-141	1.142E+01		2.079E+01	7.967E+01	1.635E+00	0.143
CE-144	-6.159E+01		6.628E+01	2.262E+02	4.667E+00	-0.272
CEPR-144	-1.241E+02		1.325E+02	4.519E+02	9.324E+00	-0.275
PM-144	-1.381E+00		4.090E+00	1.588E+01	3.207E-01	-0.087
PM-146	9.180E+00		7.005E+00	3.086E+01	6.184E-01	0.297
EU-152	1.337E+01		2.482E+01	9.555E+01	1.911E+00	0.140
EU-154	-1.290E-01		9.142E+00	3.860E+01	8.136E-01	-0.003
EU-155	-2.767E+01		2.959E+01	1.045E+02	2.192E+00	-0.265
HF-181	1.025E+00		6.552E+00	2.678E+01	5.372E-01	0.038
BI-207	7.943E+00		4.293E+00	2.017E+01	4.063E-01	0.394
TL-208	2.738E+00		4.430E+00	1.937E+01	3.905E-01	0.141
BI-210M	1.204E+01		1.331E+01	5.331E+01	1.069E+00	0.226
BI-212	-7.663E+01		5.852E+01	2.003E+02	6.119E+00	-0.383
PB-212	2.895E+00		1.509E+01	5.620E+01	1.130E+00	0.052
BI-214	-1.073E+00		1.065E+01	4.262E+01	8.604E-01	-0.025
PB-214	-2.137E+01		1.925E+01	5.829E+01	1.166E+00	-0.367
RA-223	-1.130E+02		4.337E+01	1.275E+02	2.557E+00	-0.886
RA-224DA	2.954E+00		1.539E+01	5.733E+01	1.153E+00	0.052
RA-226DA	-1.073E+00		1.065E+01	4.262E+01	8.604E-01	-0.025
AC-227DA	4.952E+01		6.068E+01	2.353E+02	4.733E+00	0.210
AC-228	2.078E+01		1.429E+01	6.672E+01	1.373E+00	0.311
RA-228DA	2.092E+01		1.438E+01	6.716E+01	1.382E+00	0.311
TH-228DA	7.776E+00		1.258E+01	5.502E+01	1.109E+00	0.141
TH-232DA	9.632E+00		5.687E+01	2.117E+02	4.234E+00	0.045
TH-234DA	1.031E+03		4.244E+02	2.421E+03	5.011E+01	0.426
U-234DA	4.285E+01		3.211E+01	1.328E+02	2.659E+00	0.323
U-235HP	7.381E+00		7.311E+01	2.659E+02	5.462E+00	0.028
NP-237DA	-5.882E+00		1.398E+01	5.206E+01	1.042E+00	-0.113
U-238DA	-2.137E+01		1.925E+01	5.829E+01	1.166E+00	-0.367
U-238DHP	3.971E+02		2.399E+02	9.434E+02	2.077E+01	0.421
AM-241HP	1.220E+01		1.920E+01	7.502E+01	1.663E+00	0.163

TAL Richland WA.

BA133

Sample ID: KF5F72AE
Detector ID: NAI1 1

BatchID: 8067181
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 19-MAR-2008 14:53:53.14
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: KF5F72AE

CONFIGURATION ID: NAI1:KF5F72AE_190381453
TITLE : BA133
SAMPLE ID : KF5F72AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:53:53
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 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/C²
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

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF5F72AE_190381453.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:53:53
Sample ID : KF5F72AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.68 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:	6.6	7.8	5.4	4.8	4.2	2.8	2.1	3.3
88:	1.4	1.5	1.3	-0.7	-0.1	-1.0	0.9	-0.6
96:	-1.7	-1.8	-1.0	-5.1	-4.9	-1.4	-3.6	-2.8
104:	-4.6	-4.4	-3.8	-5.2	-3.1	-5.8	-4.9	-2.5
112:	-4.1	-3.4						

List of Suspicious Channels

81 82 83 84 85 86

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.34E+01	0.00E+00	1.02E+00
2	6.01E+00	0.00E+00	1.05E+00
3	1.87E+00	0.00E+00	1.07E+00
4	6.67E-01	0.00E+00	1.08E+00

Brief Report

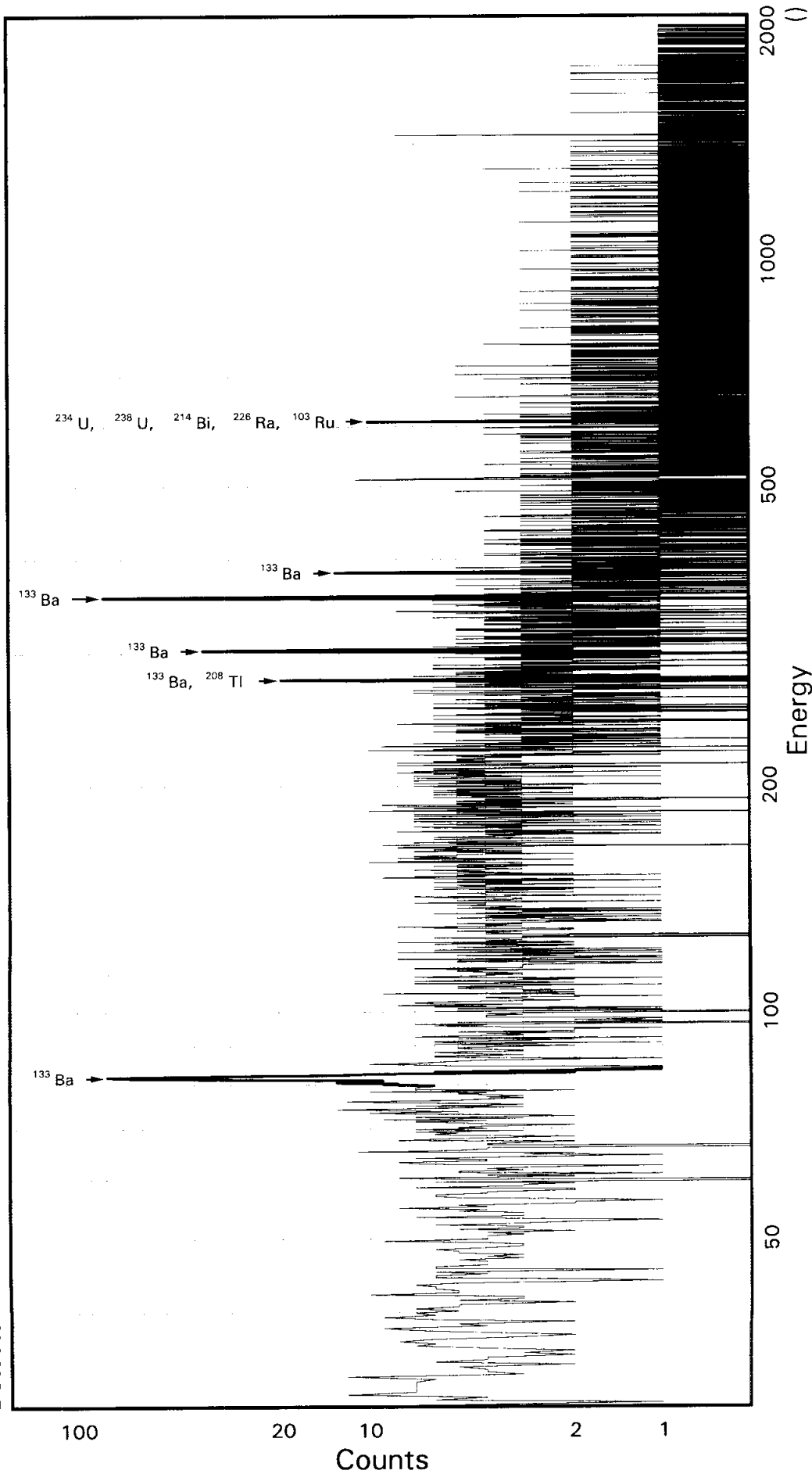
Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	749.	7.39

Total Activity :	749.	

TAL Richland WA.
BA133

Batch ID: 8067181

Sample ID: KF5F82AE
Detector ID: GER13 1



Energy Coefficients:
Offset: -4.68219E-01
Slope: 2.50775E-01
Quadrature: -9.81762E-08

Acquisition Start: 19-MAR-2008 14:54:40.24
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5F82AE

CONFIGURATION ID: GER13:KF5F82AE_190381454
TITLE : BA133
SAMPLE ID : KF5F82AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:54:40
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:06:21.50
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: -.4682E+00 keV
ENERGY SLOPE: 2.5078E-01 keV/C
ENERGY Q COEFF: -.9818E-07 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.3906E-01 keV
FWHM SLOPE: 4.2701E-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 19-MAR-2008 15:24:54

```

Configuration      : $DISK1:[GER13.SAMPLE]KF5F82AE_190381454.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:54:40
Sample ID         : KF5F82AE 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      : 19.59 End energy : 2047.29
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.83	276	59	0.69	328.22	320	16	1.53E-01	8.7	
2	0	276.19	63	16	0.93	1103.68	1097	13	3.48E-02	18.3	
3	0	302.44	165	26	0.87	1208.47	1199	18	9.18E-02	10.7	
4	0	355.81	395	46	1.10	1421.49	1413	18	2.20E-01	6.4	
5	0	383.91	47	25	0.91	1533.68	1524	20	2.60E-02	30.0	
6	0	609.76*	8	16	1.24	2435.71	2425	15	4.50E-03	123.3	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER13.SAMPLE]KF5F82AE_190381454.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:54:40
Sample ID        : KF5F82AE 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	276	33.00	2.677E+00	1.042E+03	1.046E+03	10.24
	276.40	63	6.90	2.869E+00	1.055E+03	1.059E+03	19.10
	302.84	165	17.80	2.872E+00	1.077E+03	1.081E+03	11.98
	356.00	395	62.05*	2.875E+00	7.390E+02	7.417E+02	8.38
	383.85	47	8.70	2.874E+00	6.240E+02	6.263E+02	30.46

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F82AE

Page : 2
Acquisition date : 19-MAR-2008 14:54:40

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	609.76	8	16	1.24	2435.71	2425	15	4.50E-03	****	2.85E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by	
RU-103	39.35D	0.51	497.08*	89.00	---	Not Found	---	
			610.33	5.60	2.415E+02	123.46	Abun.	
			% Abundances Found =		5.92			
TL-208	1.41E+10Y	0.00	277.35	6.80	1.071E+03	19.10	Abun.	
			510.84	21.60	---	Not Found	---	
			583.14*	84.20	---	Not Found	---	
			860.37	12.46	---	Not Found	---	
% Abundances Found =		5.44						
BI-214	4.47E+09Y	0.00	609.31*	46.30	2.049E+01	123.46	Abun.	
			768.36	5.04	---	Not Found	---	
			1120.29	15.10	---	Not Found	---	
			1764.49	15.80	---	Not Found	---	
% Abundances Found =		56.30						
RA-226DA	1600.00Y	0.00	186.21	3.50	---	Not Found	---	
			241.98	7.49	---	Not Found	---	
			295.22	19.20	---	Not Found	---	
			351.92	37.20	---	Not Found	---	
			609.32*	46.30	2.049E+01	123.46	Abun.	
			1120.28	15.10	---	Not Found	---	
			1238.11	5.94	---	Not Found	---	
1764.49	15.80	---	Not Found	---				
% Abundances Found =		30.76						
U-234DA	4.47E+09Y	0.00	241.98	7.49	---	Not Found	---	
			295.22*	19.20	---	Not Found	---	
			351.92	37.20	---	Not Found	---	
			609.31	46.30	2.049E+01	123.46	Abun.	
% Abundances Found =		42.02						
U-238DA	4.47E+09Y	0.00	241.98	7.49	---	Not Found	---	
			295.22	19.20	---	Not Found	---	
			351.92*	37.20	---	Not Found	---	
			609.31	46.30	2.049E+01	123.46	Abun.	
% Abundances Found =		42.02						

Flag: "*" = Keyline


```

Configuration      : $DISK1:[GER13.SAMPLE]KF5F82AE_190381454.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       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:54:40
Sample ID        : KF5F82AE 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	7.417E+02	6.212E+01	5.595E+01	1.119E+00	13.256

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	9.749E+01	7.327E+01	3.084E+02	6.185E+00	0.316
NA-22	5.881E+00	4.046E+00	1.936E+01	4.084E-01	0.304
K-40	-4.435E+01	9.747E+01	4.613E+02	9.852E+00	-0.096
SC-46	-4.986E+00	5.474E+00	2.268E+01	4.736E-01	-0.220
CR-51	1.223E+01	1.603E+02	5.785E+02	1.158E+01	0.021
MN-54	9.588E+00	6.073E+00	2.626E+01	5.379E-01	0.365
CO-57	-3.898E+01	1.012E+02	3.632E+02	7.488E+00	-0.107
CO-58	-2.088E+00	7.703E+00	2.866E+01	5.862E-01	-0.073
FE-59	2.494E+00	8.756E+00	3.798E+01	7.920E-01	0.066
CO-60	6.195E+00	3.723E+00	1.856E+01	3.931E-01	0.334
ZN-65	-1.123E+01	1.133E+01	3.946E+01	8.238E-01	-0.285
SE-75	4.711E+00	1.763E+01	6.526E+01	1.309E+00	0.072
SR-85	-4.541E+01	1.494E+01	4.339E+01	8.717E-01	-1.047
Y-88	-2.683E+00	4.034E+00	1.563E+01	3.416E-01	-0.172
NB-94	-1.465E+00	6.240E+00	2.318E+01	4.759E-01	-0.063
NB-95	5.394E-01	7.767E+00	3.070E+01	6.259E-01	0.018
TC-95M	5.449E+00	2.281E+01	8.106E+01	1.638E+00	0.067
ZR-95	1.137E+01	1.173E+01	4.998E+01	1.018E+00	0.227
ZRNB-95	8.993E-01	1.296E+01	5.121E+01	1.044E+00	0.018
MO-99	-7.153E+02	1.930E+03	6.881E+03	1.416E+02	-0.104
RH-101	-1.857E+00	1.592E+01	5.595E+01	1.132E+00	-0.033
RH-102M	-1.028E+00	6.339E+00	2.373E+01	4.759E-01	-0.043
RU-103	-4.482E+00	1.047E+01	3.775E+01	7.577E-01	-0.119
RU-106DA	3.166E+01	6.862E+01	2.684E+02	5.423E+00	0.118
AG-108M	-3.614E+00	8.448E+00	3.039E+01	6.086E-01	-0.119
AG-110M	-1.219E+01	6.912E+00	2.127E+01	4.372E-01	-0.573
SN-113DA	-1.549E+01	1.299E+01	4.446E+01	8.894E-01	-0.348

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.497E+01		8.402E+00	2.620E+01	5.288E-01	-0.571
SB-125	-3.825E+01		2.471E+01	8.115E+01	1.625E+00	-0.471
SN-126DA	-3.421E-01		4.433E+00	1.751E+01	3.548E-01	-0.020
I-131	6.631E+01		5.306E+01	2.140E+02	4.280E+00	0.310
CS-134	-3.953E+00		6.417E+00	2.353E+01	4.807E-01	-0.168
CS-137DA	1.508E+01		6.105E+00	2.862E+01	5.796E-01	0.527
LA-138	1.098E+01		6.489E+00	3.086E+01	6.581E-01	0.356
CE-139	4.819E-01		1.723E+01	6.132E+01	1.250E+00	0.008
BA-140	2.298E+01		7.044E+01	2.791E+02	5.614E+00	0.082
BALA-140	2.346E+01		1.741E+01	9.347E+01	2.013E+00	0.251
CE-141	-7.032E+00		3.376E+01	1.213E+02	2.492E+00	-0.058
CE-144	-1.035E+02		9.505E+01	3.287E+02	6.785E+00	-0.315
CEPR-144	-2.069E+02		1.901E+02	6.574E+02	1.357E+01	-0.315
PM-144	-2.456E+00		7.148E+00	2.613E+01	5.279E-01	-0.094
PM-146	1.383E+01		1.051E+01	4.297E+01	8.611E-01	0.322
EU-152	-5.071E+01		3.580E+01	1.165E+02	2.331E+00	-0.435
EU-154	1.514E+01		1.107E+01	5.287E+01	1.115E+00	0.286
EU-155	-3.837E+01		5.073E+01	1.728E+02	3.629E+00	-0.222
HF-181	-2.016E+01		1.100E+01	3.435E+01	6.891E-01	-0.587
BI-207	7.029E+00		6.430E+00	2.651E+01	5.342E-01	0.265
TL-208	-9.779E+00		8.476E+00	3.086E+01	6.222E-01	-0.317
BI-210M	2.860E+01		1.866E+01	7.338E+01	1.472E+00	0.390
BI-212	7.952E+01		8.254E+01	3.489E+02	1.066E+01	0.228
PB-212	-4.307E+01		2.562E+01	8.626E+01	1.734E+00	-0.499
BI-214	2.049E+01	+	2.529E+01	8.216E+01	1.659E+00	0.249
PB-214	-7.877E+01		3.577E+01	9.653E+01	1.931E+00	-0.816
RA-223	-1.493E+02		7.065E+01	2.239E+02	4.490E+00	-0.666
RA-224DA	-4.394E+01		2.614E+01	8.800E+01	1.769E+00	-0.499
RA-226DA	2.049E+01	+	2.529E+01	8.220E+01	1.660E+00	0.249
AC-227DA	9.479E+01		8.790E+01	3.380E+02	6.799E+00	0.280
AC-228	-3.791E+01		2.292E+01	8.600E+01	1.771E+00	-0.441
RA-228DA	-3.816E+01		2.308E+01	8.658E+01	1.783E+00	-0.441
TH-228DA	-2.777E+01		2.407E+01	8.763E+01	1.767E+00	-0.317
TH-232DA	-1.049E+02		7.776E+01	2.601E+02	5.203E+00	-0.403
TH-234DA	-9.878E+02		6.408E+02	2.087E+03	4.324E+01	-0.473
U-234DA	6.762E+01		4.829E+01	1.944E+02	3.892E+00	0.348
U-235HP	1.975E+01		1.022E+02	3.747E+02	7.699E+00	0.053
NP-237DA	-3.034E+01		2.556E+01	8.553E+01	1.712E+00	-0.355
U-233DA	-7.877E+01		3.577E+01	9.653E+01	1.931E+00	-0.816
U-233DHP	7.115E+01		3.002E+02	1.108E+03	2.444E+01	0.064
AM-241HP	1.087E+01		2.929E+01	1.100E+02	2.444E+00	0.099

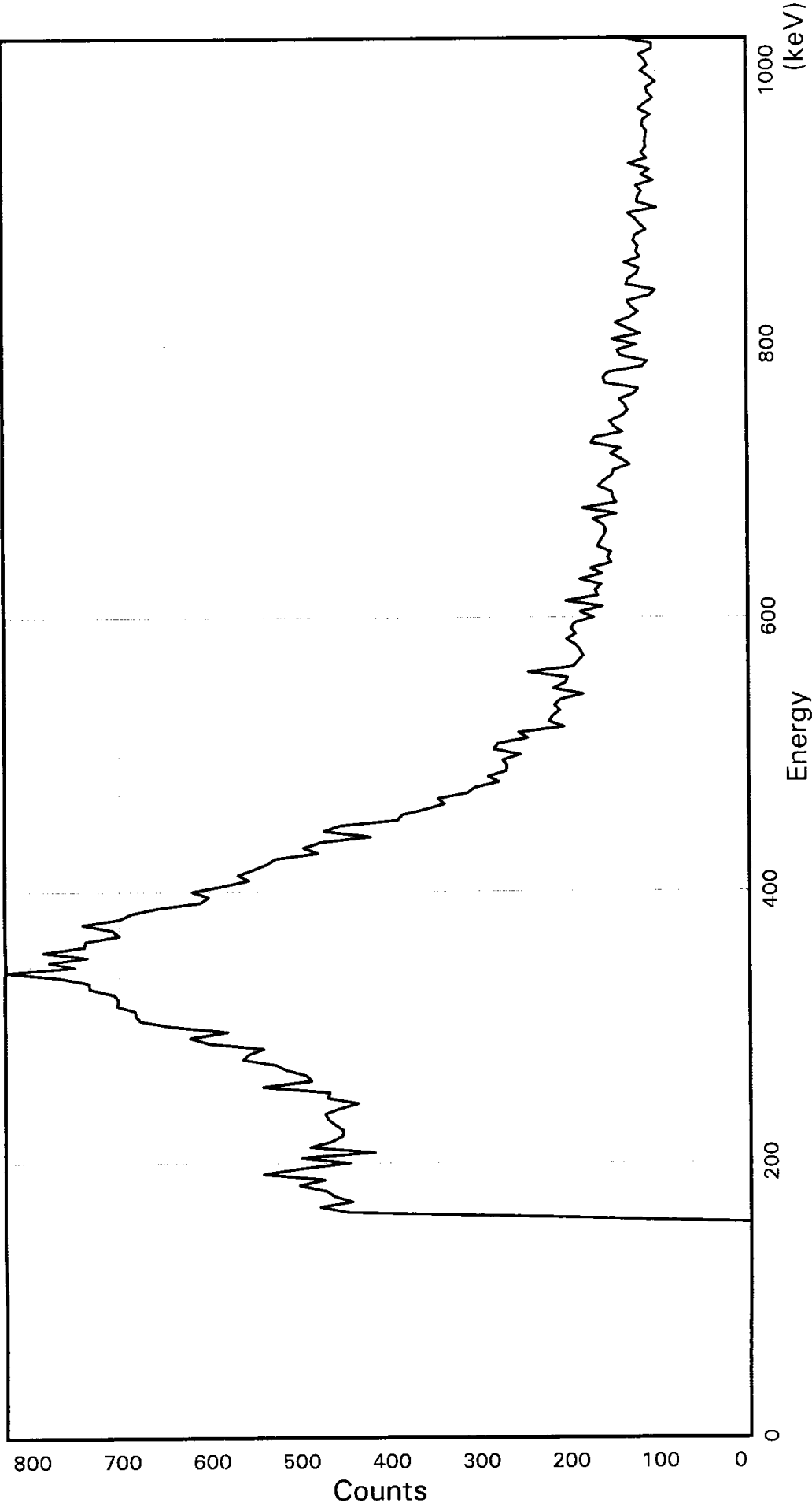
TAL Richland WA.

BA 133

Sample ID: KF5F92AE
Detector ID: NAI1 1

BatchID: 8067181
Library: [NUC_LIBR]BA133.NLB

2nd Count



Acquisition Start: 20-MAR-2008 07:07:59.46
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: KF5F92AE

CONFIGURATION ID: NAI1:KF5F92AE_200380707
TITLE : BA133
SAMPLE ID : KF5F92AE

REPORT DATE: 20-MAR-08
ACQUIRE DATE: 20-MAR-08 07:07:59
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 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/C²
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

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF5F92AE_200380707.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 28-FEB-2008 12:00:00 Acquisition date : 20-MAR-2008 07:07:59
Sample ID : KF5F92AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.70 0.0%
Sample Multiplier: 1.00 Rejection Coeff. : 0.00
Gain shift type : ITER Threshold Shift : No
Weighting type : DERIVED Calculated counts: No
Iterations : 5

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	4.8	4.2	5.0	4.2	4.8	6.8	3.0	2.8
88:	0.6	1.8	-0.6	0.6	-0.1	-1.9	1.2	-0.3
96:	-0.5	-2.0	-3.4	-4.0	-4.0	-2.5	-3.5	-2.7
104:	-3.7	-4.1	-3.7	-3.8	-2.9	-3.1	-5.5	-2.5
112:	-1.4	-3.7						

List of Suspicious Channels

81 82 83 84 85 86

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.18E+01	0.00E+00	1.02E+00
2	6.43E+00	0.00E+00	1.04E+00
3	2.23E+00	0.00E+00	1.07E+00
4	9.22E-01	0.00E+00	1.08E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	760.	8.90

Total Activity :	760.	

TAL Richland WA.

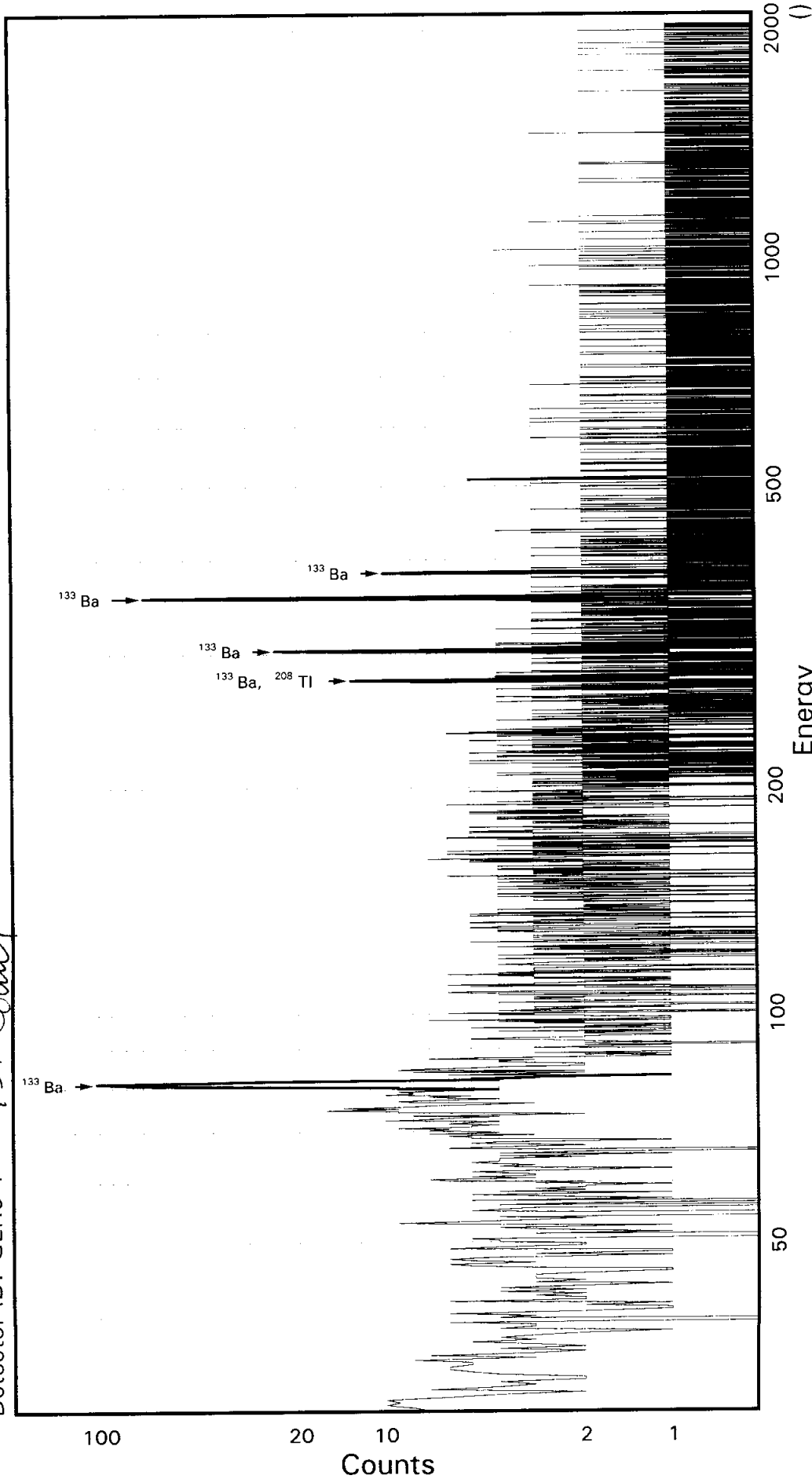
BA133

Batch ID: 8067181

Sample ID: KF5F92AE

Detector ID: GER6 1

1st Count



Energy Coefficients:
Offset: 1.25977E-01
Slope: 2.49383E-01
Quadrature: 9.30134E-09

Acquisition Start: 19-MAR-2008 14:55:04.20

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5F92AE

CONFIGURATION ID: GER6:KF5F92AE_190381455
TITLE : BA133
SAMPLE ID : KF5F92AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:55:04
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:18:27.27
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 1.2598E-01 keV
ENERGY SLOPE: 2.4938E-01 keV/C
ENERGY Q COEFF: 9.3013E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.1930E-01 keV
FWHM SLOPE: 5.7945E-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 19-MAR-2008 15:25:20

Configuration : \$DISK1:[GER6.SAMPLE]KF5F92AE_190381455.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:55:04
 Sample ID : KF5F92AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
 Start energy : 20.08 End energy : 2043.70
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.97	382	43	0.84	324.19	318	14	2.12E-01	6.3	
2	0	276.84	69	7	1.44	1109.56	1102	21	3.86E-02	14.7	
3	0	302.99	105	15	1.08	1214.41	1206	15	5.81E-02	12.7	
4	0	356.11	384	10	1.32	1427.39	1418	19	2.13E-01	5.5	
5	0	384.00	57	0	1.39	1539.19	1531	15	3.17E-02	13.2	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER6.SAMPLE]KF5F92AE_190381455.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:55:04
Sample ID        : KF5F92AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	382	33.00	2.090E+00	1.845E+03	1.851E+03	8.35
	276.40	69	6.90	2.253E+00	1.489E+03	1.495E+03	15.61
	302.84	105	17.80	2.256E+00	8.679E+02	8.711E+02	13.79
	356.00	384	62.05*	2.258E+00	9.124E+02	9.158E+02	7.67
	383.85	57	8.70	2.257E+00	9.674E+02	9.710E+02	14.30

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F92AE

Page : 2
Acquisition date : 19-MAR-2008 14:55:04

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5F92AE

Page : 3
Acquisition date : 19-MAR-2008 14:55:04

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.511E+03	15.61	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 19-MAR-2008 15:25:22

```

Configuration      : $DISK1:[GER6.SAMPLE]KF5F92AE_190381455.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       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:55:04
Sample ID        : KF5F92AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagatd: 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	9.158E+02	7.021E+01	6.013E+01	1.203E+00	15.230

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.252E+02	7.435E+01	3.415E+02	6.851E+00	0.367
NA-22	-1.236E-01	3.939E+00	1.707E+01	3.616E-01	-0.007
K-40	5.042E+01	6.749E+01	3.246E+02	6.964E+00	0.155
SC-46	1.123E+01	7.264E+00	3.310E+01	6.934E-01	0.339
CR-51	-3.192E+01	1.444E+02	5.304E+02	1.061E+01	-0.060
MN-54	-1.343E+00	5.287E+00	2.099E+01	4.307E-01	-0.064
CO-57	1.250E+02	1.053E+02	4.151E+02	8.575E+00	0.301
CO-58	-1.708E+00	6.101E+00	2.427E+01	4.970E-01	-0.070
FE-59	-4.282E+00	1.009E+01	4.018E+01	8.403E-01	-0.107
CO-60	8.018E+00	5.228E+00	2.507E+01	5.330E-01	0.320
ZN-65	1.025E+01	1.386E+01	5.828E+01	1.220E+00	0.176
SE-75	-7.542E+00	1.492E+01	5.491E+01	1.102E+00	-0.137
SR-85	-3.618E+01	1.301E+01	4.210E+01	8.459E-01	-0.860
Y-88	1.861E+00	1.864E+00	1.369E+01	3.009E-01	0.136
NB-94	7.435E+00	6.312E+00	2.752E+01	5.662E-01	0.270
NB-95	7.191E+00	9.126E+00	3.904E+01	7.971E-01	0.184
TC-95M	-1.120E+01	1.983E+01	7.039E+01	1.423E+00	-0.159
ZR-95	2.213E+00	9.680E+00	4.252E+01	8.676E-01	0.052
ZRNB-95	1.606E+01	1.486E+01	6.547E+01	1.337E+00	0.245
MO-99	-1.635E+03	1.749E+03	6.023E+03	1.242E+02	-0.271
RH-101	2.661E+00	1.539E+01	5.708E+01	1.155E+00	0.047
RH-102M	-6.227E+00	6.773E+00	2.435E+01	4.884E-01	-0.256
RU-103	8.946E+00	9.837E+00	4.228E+01	8.489E-01	0.212
RU-106DA	1.973E+01	6.027E+01	2.508E+02	5.071E+00	0.079
AG-108M	-1.319E+01	8.248E+00	2.649E+01	5.305E-01	-0.498
AG-110M	-2.585E+00	8.087E+00	3.120E+01	6.424E-01	-0.083
SN-113DA	-1.397E+01	1.200E+01	4.131E+01	8.265E-01	-0.338

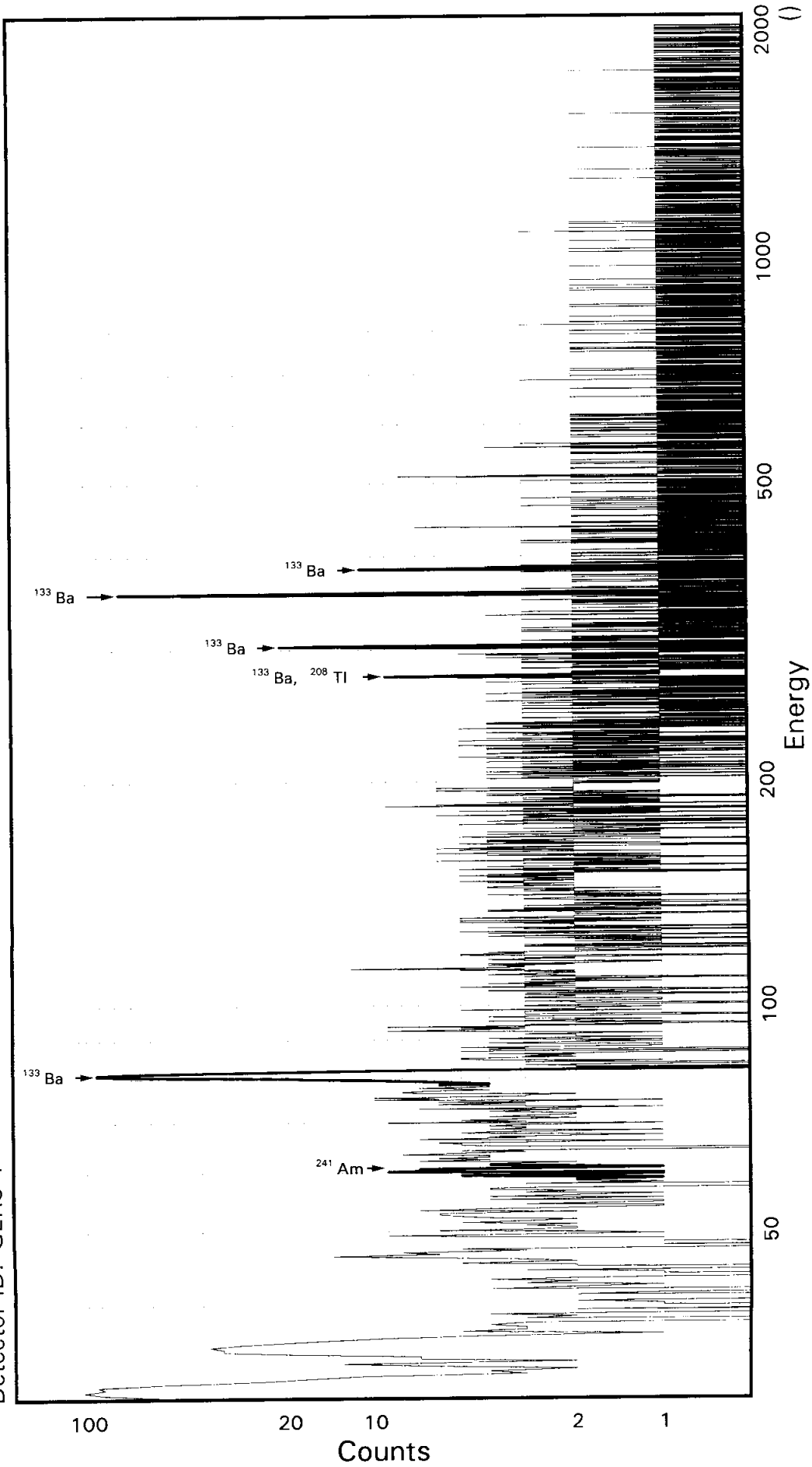
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-4.666E+00		7.894E+00	2.882E+01	5.820E-01	-0.162
SB-125	-5.774E+00		2.123E+01	8.101E+01	1.622E+00	-0.071
SN-126DA	3.029E+00		4.227E+00	1.962E+01	3.978E-01	0.154
I-131	-9.022E+01		6.037E+01	2.019E+02	4.038E+00	-0.447
CS-134	2.861E+00		5.509E+00	2.453E+01	5.018E-01	0.117
CS-137DA	-1.621E+00		6.315E+00	2.482E+01	5.032E-01	-0.065
LA-138	-9.560E+00		4.808E+00	6.406E+00	1.372E-01	-1.492
CE-139	-2.240E+01		1.698E+01	5.540E+01	1.131E+00	-0.404
BA-140	5.595E+01		7.333E+01	3.100E+02	6.237E+00	0.180
BALA-140	3.856E-01		2.805E+01	1.196E+02	2.589E+00	0.003
CE-141	1.948E+01		3.390E+01	1.284E+02	2.641E+00	0.152
CE-144	-1.016E+02		1.154E+02	3.980E+02	8.235E+00	-0.255
CEPR-144	-2.009E+02		2.310E+02	7.972E+02	1.649E+01	-0.252
PM-144	-8.739E+00		6.116E+00	2.050E+01	4.144E-01	-0.426
PM-146	2.642E+00		9.146E+00	3.707E+01	7.429E-01	0.071
EU-152	2.705E-01		3.173E+01	1.183E+02	2.366E+00	0.002
EU-154	-3.438E-01		1.097E+01	4.757E+01	1.007E+00	-0.007
EU-155	7.386E+00		5.325E+01	1.932E+02	4.071E+00	0.038
HF-181	1.047E+01		1.143E+01	4.812E+01	9.656E-01	0.218
BI-207	2.944E+00		6.560E+00	2.667E+01	5.376E-01	0.110
TL-208	-5.578E+00		7.908E+00	2.835E+01	5.719E-01	-0.197
BI-210M	-1.795E+01		1.603E+01	5.572E+01	1.118E+00	-0.322
BI-212	-1.519E+02		8.663E+01	2.644E+02	8.081E+00	-0.575
PB-212	-3.576E+01		2.612E+01	8.989E+01	1.808E+00	-0.398
BI-214	8.255E+00		1.671E+01	6.672E+01	1.348E+00	0.124
PB-214	4.336E+01		2.783E+01	1.013E+02	2.026E+00	0.428
RA-223	1.277E+02		6.407E+01	2.736E+02	5.486E+00	0.467
RA-224DA	-3.648E+01		2.665E+01	9.171E+01	1.845E+00	-0.398
RA-226DA	8.255E+00		1.671E+01	6.672E+01	1.348E+00	0.124
AC-227DA	1.860E+02		1.063E+02	4.170E+02	8.389E+00	0.446
AC-228	-4.661E+01		2.408E+01	7.202E+01	1.486E+00	-0.647
RA-228DA	-4.692E+01		2.424E+01	7.250E+01	1.496E+00	-0.647
TH-228DA	-1.584E+01		2.246E+01	8.051E+01	1.624E+00	-0.197
TH-232DA	7.655E+01		6.514E+01	2.663E+02	5.327E+00	0.287
TH-234DA	4.739E+00		7.442E+02	3.089E+03	6.415E+01	0.002
U-234DA	1.046E+01		4.541E+01	1.734E+02	3.472E+00	0.060
U-235HP	5.685E+01		1.035E+02	3.908E+02	8.045E+00	0.145
NP-237DA	-4.119E+01		2.278E+01	7.189E+01	1.439E+00	-0.573
U-238DA	4.336E+01		2.783E+01	1.013E+02	2.026E+00	0.428
U-238DHP	-1.858E+02		3.413E+02	1.245E+03	2.766E+01	-0.149
AM-241HP	-1.601E+01		3.522E+01	1.273E+02	2.848E+00	-0.126

TAL Richland WA.
BA133

Batch ID: 8067181

Sample ID: KF5GC2AE
Detector ID: GER8 1



Energy Coefficients:
Offset: 1.31203E-01
Slope: 2.49915E-01
Quadrature: 1.88114E-08

Acquisition Start: 19-MAR-2008 14:55:20.68
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5GC2AE

CONFIGURATION ID: GER8:KF5GC2AE_190381455
TITLE : BA133
SAMPLE ID : KF5GC2AE

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:55:20
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:06:04.93
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: 1.3120E-01 keV
ENERGY SLOPE: 2.4992E-01 keV/C
ENERGY Q COEFF: 1.8811E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.3242E-01 keV
FWHM SLOPE: 2.3659E-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 19-MAR-2008 15:25:38

```

Configuration      : $DISK1:[GER8.SAMPLE]KF5GC2AE_190381455.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:55:20
Sample ID         : KF5GC2AE Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy      : 20.12 End energy : 2048.70
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	1	30.78	442	108	1.17	122.62	113	34	2.45E-01	7.0	1.90E+00
2	1	34.98	165	58	1.18	139.43	113	34	9.15E-02	14.6	
3	0	46.53*	24	13	0.74	185.66	178	13	1.32E-02	42.2	
4	0	60.89	11	27	0.64	243.10	233	12	6.35E-03	95.4	
5	0	80.95	449	56	1.10	323.38	313	17	2.49E-01	6.0	
6	0	276.54	29	22	1.06	1105.91	1101	17	1.59E-02	41.7	
7	0	302.78	103	0	1.17	1210.90	1203	15	5.72E-02	9.9	
8	0	355.99	313	5	0.86	1423.78	1416	17	1.74E-01	5.8	
9	0	383.84	54	4	1.04	1535.17	1527	16	3.01E-02	15.9	
10	0	436.96	14	6	0.41	1747.68	1741	12	7.78E-03	44.0	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER8.SAMPLE]KF5GC2AE_190381455.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:55:20
 Sample ID : KF5GC2AE 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	449	33.00	2.140E+00	2.118E+03	2.125E+03	8.09
	276.40	29	6.90	2.306E+00	5.980E+02	6.002E+02	42.00
	302.84	103	17.80	2.309E+00	8.355E+02	8.386E+02	11.23
	356.00	313	62.05*	2.311E+00	7.286E+02	7.313E+02	7.95
	383.85	54	8.70	2.310E+00	8.976E+02	9.008E+02	16.78

Nuclide Type: AP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
AM-241HP	59.54	11	35.90*	2.072E+00	5.124E+01	5.124E+01	95.56

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GC2AE

Page : 2
Acquisition date : 19-MAR-2008 14:55:20

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	30.78	442	108	1.17	122.62	113	34	2.45E-01	7.0	1.87E+00	
1	34.98	165	58	1.18	139.43	113	34	9.15E-02	14.6	1.91E+00	
0	46.53	24	13	0.74	185.66	178	13	1.32E-02	42.2	2.00E+00	
0	436.96	14	6	0.41	1747.68	1741	12	7.78E-03	44.0	2.31E+00	

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity 1-Sigma (DPM/SAMPL)%Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	6.068E+02 42.00	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

```

Configuration      : $DISK1:[GER8.SAMPLE]KF5GC2AE_190381455.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       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:55:20
Sample ID        : KF5GC2AE 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	7.313E+02	5.814E+01	3.550E+01	7.101E-01	20.597
AM-241HP	5.124E+01	4.897E+01	1.492E+02	3.337E+00	0.343

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.159E+01	6.734E+01	2.769E+02	5.556E+00	0.042
NA-22	3.148E+00	3.082E+00	1.668E+01	3.531E-01	0.189
K-40	-1.064E+01	2.127E+01	1.345E+02	2.884E+00	-0.079
SC-46	-7.306E+00	6.142E+00	2.141E+01	4.484E-01	-0.341
CR-51	-2.031E+02	1.436E+02	4.730E+02	9.464E+00	-0.429
MN-54	1.734E+00	4.582E+00	2.027E+01	4.159E-01	0.086
CO-57	-8.132E+01	1.018E+02	3.509E+02	7.246E+00	-0.232
CO-58	2.005E+00	4.716E+00	2.172E+01	4.449E-01	0.092
FE-59	7.187E+00	7.364E+00	3.925E+01	8.207E-01	0.183
CO-60	3.092E-02	2.162E+00	1.135E+01	2.413E-01	0.003
ZN-65	-3.684E+00	9.631E+00	3.781E+01	7.914E-01	-0.097
SE-75	-2.655E+00	1.595E+01	5.919E+01	1.187E+00	-0.045
SR-85	-3.499E+01	1.225E+01	3.525E+01	7.084E-01	-0.993
Y-88	5.501E+00	4.054E+00	2.182E+01	4.794E-01	0.252
NB-94	4.482E+00	3.312E+00	1.781E+01	3.662E-01	0.252
NB-95	3.039E+00	8.338E+00	3.492E+01	7.128E-01	0.087
TC-95M	6.694E+00	2.080E+01	7.808E+01	1.579E+00	0.086
ZR-95	4.296E+00	1.166E+01	4.965E+01	1.013E+00	0.087
ZRNB-95	1.389E+00	1.431E+01	5.810E+01	1.186E+00	0.024
MO-99	6.700E+02	1.951E+03	7.210E+03	1.486E+02	0.093
RH-101	-1.173E+01	1.579E+01	5.559E+01	1.125E+00	-0.211
RH-102M	3.456E+00	6.084E+00	2.570E+01	5.154E-01	0.135
RU-103	5.007E+00	8.587E+00	3.678E+01	7.385E-01	0.136
RU-106DA	-9.462E+01	4.974E+01	1.434E+02	2.900E+00	-0.660
AG-108M	-4.114E+00	1.006E+01	3.112E+01	6.233E-01	-0.132
AG-110M	-2.085E+00	3.703E+00	1.590E+01	3.274E-01	-0.131

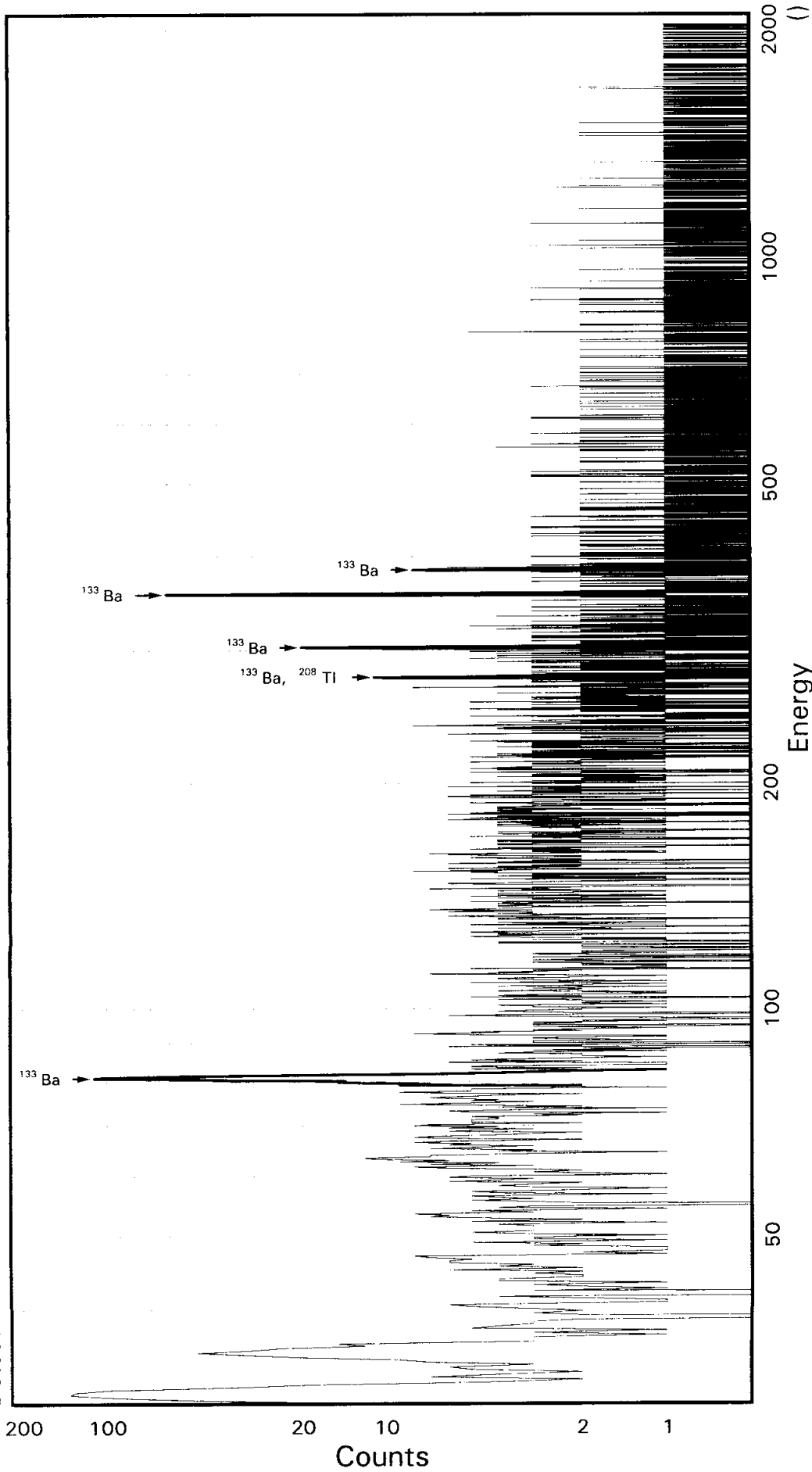
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-5.867E+00		1.272E+01	4.606E+01	9.215E-01	-0.127
SB-124	-5.767E+00		6.811E+00	2.458E+01	4.965E-01	-0.235
SB-125	-9.468E+00		2.349E+01	8.847E+01	1.772E+00	-0.107
SN-126DA	-3.225E+00		5.158E+00	1.917E+01	3.887E-01	-0.168
I-131	-1.822E+01		4.186E+01	1.559E+02	3.118E+00	-0.117
CS-134	-1.410E+00		5.165E+00	2.113E+01	4.322E-01	-0.067
CS-137DA	-2.856E-01		6.042E+00	2.424E+01	4.914E-01	-0.012
LA-138	-1.515E+00		5.343E+00	2.272E+01	4.864E-01	-0.067
CE-139	-1.280E+01		1.779E+01	6.048E+01	1.235E+00	-0.212
BA-140	-3.306E+01		5.946E+01	2.264E+02	4.555E+00	-0.146
BALA-140	-1.994E+01		1.414E+01	2.630E+01	5.691E-01	-0.758
CE-141	4.093E+01		4.306E+01	1.600E+02	3.291E+00	0.256
CE-144	-3.629E+01		1.110E+02	3.929E+02	8.126E+00	-0.092
CEPR-144	-7.375E+01		2.219E+02	7.853E+02	1.624E+01	-0.094
PM-144	1.226E+01		5.789E+00	2.778E+01	5.615E-01	0.441
PM-146	-7.219E+00		7.683E+00	2.794E+01	5.599E-01	-0.258
EU-152	-1.787E+01		2.549E+01	9.122E+01	1.825E+00	-0.196
EU-154	8.771E+00		8.588E+00	4.647E+01	9.837E-01	0.189
EU-155	5.552E+01		5.932E+01	2.256E+02	4.751E+00	0.246
HF-181	-1.329E+01		8.333E+00	2.691E+01	5.399E-01	-0.494
BI-207	-1.443E+00		3.945E+00	1.607E+01	3.239E-01	-0.090
TL-208	-2.925E-02		5.994E+00	2.435E+01	4.912E-01	-0.001
BI-210M	-1.644E+01		1.580E+01	5.467E+01	1.097E+00	-0.301
BI-212	-3.147E+01		5.978E+01	2.333E+02	7.132E+00	-0.135
PB-212	-1.490E+01		2.301E+01	8.307E+01	1.671E+00	-0.179
BI-214	-1.282E+01		1.354E+01	5.241E+01	1.059E+00	-0.245
PB-214	-3.013E+01		2.369E+01	7.366E+01	1.473E+00	-0.409
RA-223	4.317E+01		5.615E+01	2.266E+02	4.545E+00	0.191
RA-224DA	-1.521E+01		2.347E+01	8.474E+01	1.704E+00	-0.179
RA-226DA	-1.282E+01		1.354E+01	5.241E+01	1.059E+00	-0.245
AC-227DA	-4.602E+01		9.582E+01	3.417E+02	6.875E+00	-0.135
AC-228	2.363E+01		1.361E+01	7.249E+01	1.495E+00	0.326
RA-228DA	2.379E+01		1.370E+01	7.297E+01	1.505E+00	0.326
TH-228DA	-8.306E-02		1.702E+01	6.915E+01	1.395E+00	-0.001
TH-232DA	-1.746E+01		5.379E+01	2.007E+02	4.014E+00	-0.087
TH-234DA	3.064E+02		4.224E+02	2.261E+03	4.694E+01	0.136
U-234DA	5.914E+01		5.030E+01	2.019E+02	4.044E+00	0.293
U-235HP	1.676E+01		1.231E+02	4.418E+02	9.094E+00	0.038
NP-237DA	-3.635E+01		2.338E+01	7.598E+01	1.521E+00	-0.478
U-238DA	-3.013E+01		2.369E+01	7.366E+01	1.473E+00	-0.409
U-238DHP	-6.892E+02		5.211E+02	1.552E+03	3.446E+01	-0.444

TAL Richland WA.
BA133

Batch ID: 8067181

Sample ID: KF5GF2AE
Detector ID: GER5 1



Energy Coefficients:
Offset: -3.54275E-01
Slope: 2.49363E-01
Quadrature: -2.14999E-09

Acquisition Start: 19-MAR-2008 14:56:00.27
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5GF2AE

CONFIGURATION ID: GER5:KF5GF2AE_190381456
TITLE : BA133
SAMPLE ID : KF5GF2AE

REPORT DATE: 19-MAR-08	SAMPLE DATE: 28-FEB-2008 12:00:00.00
ACQUIRE DATE: 19-MAR-08 14:56:00	CALIB DATE: 19-MAR-2008 05:05:31.41
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY: BA133T15	SAMPLE TYPE:

ENERGY OFFSET: -.3543E+00 keV	FWHM OFFSET: 7.9172E-01 keV
ENERGY SLOPE: 2.4936E-01 keV/C	FWHM SLOPE: 2.3846E-02 sqr keV
ENERGY Q COEFF: -.2150E-08 keV/C ²	ITERATIONS: 10
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 1.500 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 19-MAR-2008 15:26:15

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KF5GF2AE_190381456.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:00
 Sample ID : KF5GF2AE 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 : 19.59 End energy : 2042.28
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.97	506	116	0.94	125.61	118	14	2.81E-01	6.3	
2	0	35.13	181	42	0.84	142.31	134	17	1.01E-01	11.1	
3	0	80.95	426	32	0.71	326.05	318	16	2.37E-01	5.7	
4	0	276.56	34	23	0.95	1110.50	1104	11	1.90E-02	32.8	
5	0	302.81	88	8	1.13	1215.77	1208	16	4.89E-02	12.9	
6	0	355.94	270	14	1.11	1428.84	1419	18	1.50E-01	6.9	
7	0	383.76	28	8	0.94	1540.38	1535	11	1.53E-02	27.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 19-MAR-2008 15:26:15

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KF5GF2AE_190381456.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:00
 Sample ID : KF5GF2AE 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	426	33.00	1.919E+00	2.243E+03	2.251E+03	7.87
	276.40	34	6.90	2.072E+00	7.958E+02	7.987E+02	33.21
	302.84	88	17.80	2.074E+00	7.944E+02	7.973E+02	13.94
	356.00	270	62.05*	2.076E+00	6.990E+02	7.015E+02	8.73
	383.85	28	8.70	2.076E+00	5.091E+02	5.110E+02	28.29

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GF2AE

Page : 2
Acquisition date : 19-MAR-2008 14:56:00

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.97	506	116	0.94	125.61	118	14	2.81E-01	6.3	1.68E+00	
0	35.13	181	42	0.84	142.31	134	17	1.01E-01	11.1	1.71E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5GF2AE

Page : 3
Acquisition date : 19-MAR-2008 14:56:00

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	8.075E+02	33.21	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KF5GF2AE_190381456.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 : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:00
 Sample ID : KF5GF2AE 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	7.015E+02	6.125E+01	4.744E+01	9.487E-01	14.790

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.904E+01	5.271E+01	2.159E+02	4.331E+00	-0.088
NA-22	-6.812E+00	4.209E+00	1.271E+01	2.695E-01	-0.536
NA-24	-7.813E+03	1.092E+04	Half-Life too short		
K-40	5.546E+01	6.800E+01	3.443E+02	7.398E+00	0.161
SC-46	-3.456E+00	6.127E+00	2.386E+01	5.003E-01	-0.145
CR-51	-1.197E+02	1.769E+02	6.154E+02	1.231E+01	-0.195
MN-54	5.206E+00	4.555E+00	2.258E+01	4.635E-01	0.231
CO-57	2.155E+02	1.576E+02	5.899E+02	1.219E+01	0.365
CO-58	6.486E+00	5.388E+00	2.679E+01	5.489E-01	0.242
FE-59	-7.348E+00	9.651E+00	3.773E+01	7.898E-01	-0.195
CO-60	-1.721E+00	4.555E+00	1.852E+01	3.943E-01	-0.093
ZN-65	1.100E+01	1.039E+01	4.947E+01	1.037E+00	0.222
SE-75	-2.018E+01	1.972E+01	6.731E+01	1.350E+00	-0.300
SR-85	-2.484E+01	1.246E+01	3.887E+01	7.812E-01	-0.639
Y-88	1.684E-02	2.857E+00	1.491E+01	3.286E-01	0.001
NB-94	8.820E+00	4.501E+00	2.381E+01	4.901E-01	0.370
NB-95	2.519E+00	4.197E+00	2.270E+01	4.636E-01	0.111
TC-95M	1.085E+01	2.086E+01	7.990E+01	1.616E+00	0.136
ZR-95	-3.088E+00	1.086E+01	4.423E+01	9.028E-01	-0.070
ZRNB-95	4.202E+00	7.002E+00	3.786E+01	7.734E-01	0.111
MO-99	-1.173E+03	2.475E+03	8.527E+03	1.759E+02	-0.138
RH-101	1.477E+00	1.742E+01	6.411E+01	1.298E+00	0.023
RH-102M	3.506E+00	4.836E+00	2.250E+01	4.513E-01	0.156
RU-103	-6.092E+00	8.776E+00	3.275E+01	6.575E-01	-0.186
RU-106DA	8.034E+00	5.736E+01	2.372E+02	4.797E+00	0.034
AG-108M	-1.925E+01	9.090E+00	2.784E+01	5.576E-01	-0.691
AG-110M	-4.857E+00	6.833E+00	2.591E+01	5.339E-01	-0.187

---- Non-Identified Nuclides ----

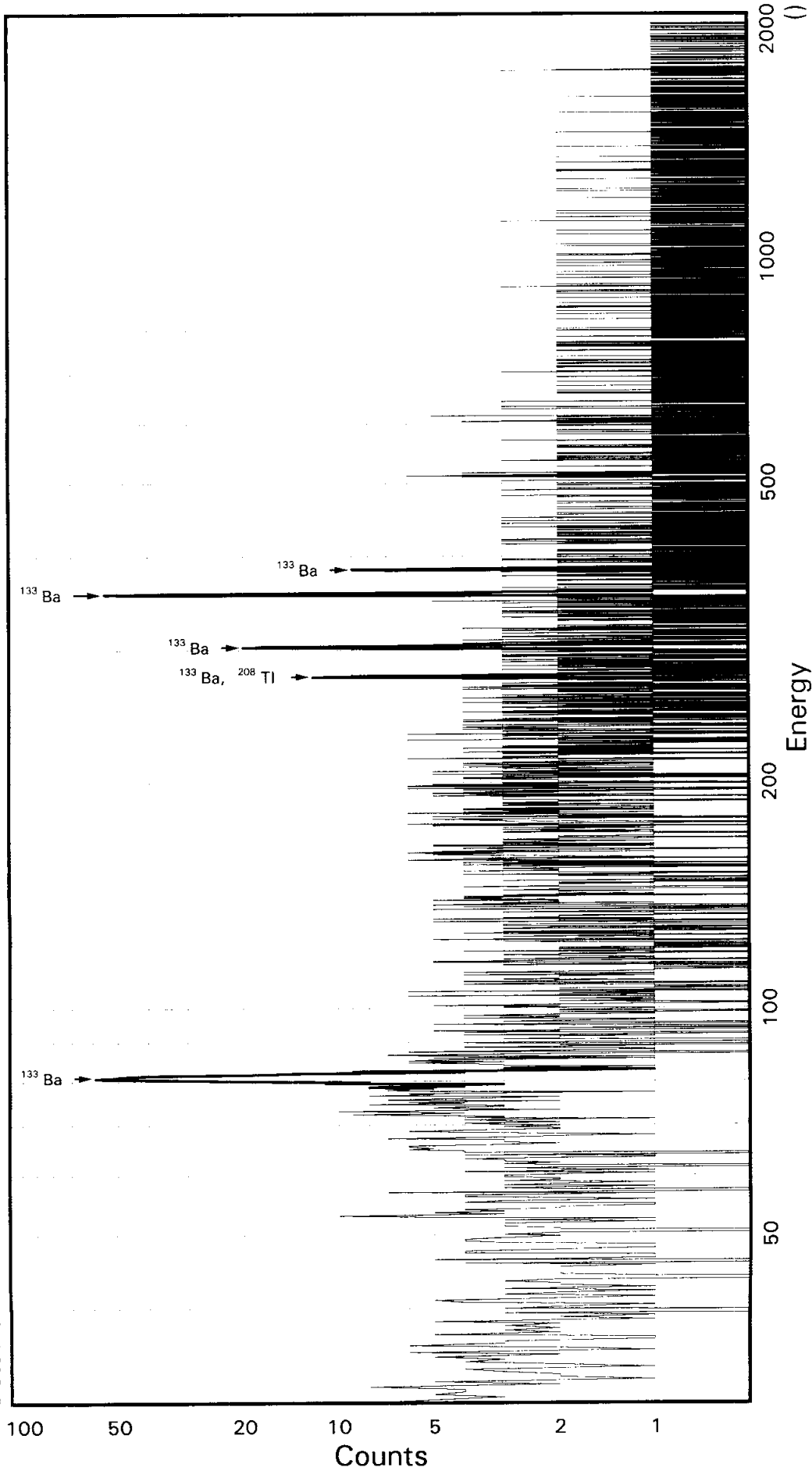
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-3.927E+00		1.384E+01	5.235E+01	1.047E+00	-0.075
SB-124	-1.111E+01		7.742E+00	2.507E+01	5.065E-01	-0.443
SB-125	1.457E+01		2.803E+01	1.124E+02	2.252E+00	0.130
SN-126DA	3.914E+00		4.874E+00	2.229E+01	4.522E-01	0.176
I-131	4.976E+01		4.653E+01	2.033E+02	4.066E+00	0.245
CS-134	1.777E+01		7.620E+00	3.687E+01	7.548E-01	0.482
CS-137DA	-2.139E+00		5.272E+00	2.088E+01	4.234E-01	-0.102
LA-138	6.421E-01		3.922E+00	2.049E+01	4.396E-01	0.031
CE-139	-1.095E+00		1.778E+01	6.517E+01	1.331E+00	-0.017
BA-140	-6.309E+01		7.463E+01	2.678E+02	5.388E+00	-0.236
BALA-140	-1.193E+01		1.944E+01	7.982E+01	1.731E+00	-0.149
LA-140	-3.731E-03		6.079E-03	Half-Life too short		
CE-141	1.426E+01		4.468E+01	1.610E+02	3.315E+00	0.089
CE-144	-8.455E+00		1.498E+02	5.261E+02	1.089E+01	-0.016
CEPR-144	1.150E+01		2.972E+02	1.050E+03	2.174E+01	0.011
PM-144	8.059E+00		5.690E+00	2.679E+01	5.416E-01	0.301
PM-146	3.952E-01		9.206E+00	3.734E+01	7.484E-01	0.011
EU-152	-2.252E+01		2.742E+01	9.612E+01	1.923E+00	-0.234
EU-154	-1.898E+01		1.173E+01	3.541E+01	7.508E-01	-0.536
EU-155	-3.095E+01		6.490E+01	2.268E+02	4.784E+00	-0.136
HF-181	7.929E+00		7.098E+00	3.517E+01	7.057E-01	0.225
BI-207	2.619E+00		6.205E+00	2.590E+01	5.221E-01	0.101
TL-208	1.319E+01		8.029E+00	3.618E+01	7.300E-01	0.365
BI-210M	-2.429E+01		2.130E+01	7.193E+01	1.443E+00	-0.338
BI-212	2.707E+01		8.047E+01	3.475E+02	1.062E+01	0.078
PB-212	8.014E+00		3.004E+01	1.167E+02	2.348E+00	0.069
BI-214	9.922E+00		1.503E+01	6.612E+01	1.336E+00	0.150
PB-214	-1.398E+01		2.711E+01	8.021E+01	1.604E+00	-0.174
RA-223	9.368E+01		8.309E+01	3.251E+02	6.519E+00	0.288
RA-224DA	8.175E+00		3.064E+01	1.191E+02	2.396E+00	0.069
RA-226DA	1.020E+01		1.506E+01	6.631E+01	1.340E+00	0.154
AC-227DA	-1.661E+02		1.161E+02	3.844E+02	7.734E+00	-0.432
AC-228	2.260E+01		2.160E+01	1.018E+02	2.101E+00	0.222
RA-228DA	2.275E+01		2.175E+01	1.024E+02	2.115E+00	0.222
TH-228DA	3.746E+01		2.280E+01	1.027E+02	2.073E+00	0.365
TH-232DA	-5.828E+00		7.306E+01	2.758E+02	5.517E+00	-0.021
TH-234DA	1.200E+03		6.714E+02	3.546E+03	7.369E+01	0.339
U-234DA	-3.885E+01		5.793E+01	2.018E+02	4.040E+00	-0.193
U-235HP	1.880E+02		1.325E+02	5.059E+02	1.042E+01	0.372
NP-237DA	4.054E+01		2.635E+01	1.085E+02	2.171E+00	0.374
U-238DA	-1.398E+01		2.711E+01	8.021E+01	1.604E+00	-0.174
U-238DHP	3.966E+02		5.175E+02	2.010E+03	4.474E+01	0.197
AM-241HP	-3.650E+01		4.699E+01	1.623E+02	3.642E+00	-0.225

TAL Richland WA.

BA133

Batch ID: 8067181

Sample ID: KF5GJ2AL
Detector ID: GER10 1



Energy Coefficients:
Offset: 1.47085E+01
Slope: 2.47229E-01
Quadrature: 5.26522E-09

Acquisition Start: 19-MAR-2008 14:56:10.52
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5GJ2AL

CONFIGURATION ID: GER10:KF5GJ2AL_190381456
TITLE : BA133
SAMPLE ID : KF5GJ2AL

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:56:10
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:20:25.04
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: 1.4709E+01 keV
ENERGY SLOPE: 2.4723E-01 keV/C
ENERGY Q COEFF: 5.2652E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.1792E+00 keV
FWHM SLOPE: 2.3370E-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 19-MAR-2008 15:26:26

```

Configuration      : $DISK1:[GER10.SAMPLE]KF5GJ2AL_190381456.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:10
Sample ID         : KF5GJ2AL Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Start energy      : 17.18 End energy : 2040.36
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.98	293	83	1.22	268.04	257	21	1.63E-01	9.8	
2	0	276.76	47	21	1.40	1059.91	1051	16	2.59E-02	23.9	
3	0	302.80	121	25	1.25	1165.26	1152	22	6.72E-02	12.8	
4	0	356.00	375	15	1.51	1380.42	1366	30	2.08E-01	5.8	
5	0	383.86	60	3	1.46	1493.11	1483	20	3.32E-02	14.4	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER10.SAMPLE]KF5GJ2AL_190381456.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:10
 Sample ID : KF5GJ2AL Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	293	33.00	2.478E+00	1.193E+03	1.197E+03	11.18
	276.40	47	6.90	2.637E+00	8.549E+02	8.580E+02	24.55
	302.84	121	17.80	2.640E+00	8.577E+02	8.608E+02	13.90
	356.00	375	62.05*	2.642E+00	7.619E+02	7.647E+02	7.88
	383.85	60	8.70	2.641E+00	8.665E+02	8.696E+02	15.38

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GJ2AL

Page : 2
Acquisition date : 19-MAR-2008 14:56:10

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5GJ2AL

Page : 3
Acquisition date : 19-MAR-2008 14:56:10

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	8.675E+02	24.55	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

```

Configuration      : $DISK1:[GER10.SAMPLE]KF5GJ2AL_190381456.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       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:10
Sample ID        : KF5GJ2AL Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.647E+02	6.027E+01	4.072E+01	8.144E-01	18.779

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	4.449E+01	6.571E+01	2.744E+02	5.501E+00	0.162
NA-22	-2.784E+00	3.334E+00	1.247E+01	2.615E-01	-0.223
K-40	5.529E+00	5.048E+01	2.358E+02	4.999E+00	0.023
SC-46	2.798E+00	5.726E+00	2.424E+01	5.039E-01	0.115
CR-51	1.677E+02	1.384E+02	5.548E+02	1.110E+01	0.302
MN-54	7.698E-01	5.230E+00	2.107E+01	4.304E-01	0.037
CO-57	-7.513E+01	1.091E+02	3.804E+02	7.815E+00	-0.198
CO-58	-1.714E+00	4.777E+00	1.893E+01	3.861E-01	-0.091
FE-59	3.207E+00	5.469E+00	2.940E+01	6.103E-01	0.109
CO-60	3.975E+00	3.015E+00	1.605E+01	3.378E-01	0.248
ZN-65	1.502E-01	9.430E+00	3.854E+01	8.007E-01	0.004
SE-75	-5.394E+00	1.708E+01	6.058E+01	1.215E+00	-0.089
SR-85	-2.683E+01	1.267E+01	3.914E+01	7.859E-01	-0.686
Y-88	3.785E+00	3.317E+00	1.772E+01	3.835E-01	0.214
NB-94	-9.072E-01	5.174E+00	1.999E+01	4.092E-01	-0.045
NB-95	1.632E-01	8.627E+00	3.355E+01	6.826E-01	0.005
TC-95M	1.064E+01	2.087E+01	7.681E+01	1.550E+00	0.139
ZR-95	-2.002E+00	1.205E+01	4.656E+01	9.469E-01	-0.043
ZRNB-95	2.731E-01	1.439E+01	5.597E+01	1.139E+00	0.005
MO-99	3.050E+03	1.988E+03	7.705E+03	1.581E+02	0.396
RH-101	5.710E+00	1.726E+01	6.225E+01	1.258E+00	0.092
RH-102M	-2.824E+00	5.139E+00	1.914E+01	3.838E-01	-0.148
RU-103	2.561E+01	8.430E+00	4.162E+01	8.352E-01	0.615
RU-106DA	-1.121E+01	4.408E+01	1.768E+02	3.568E+00	-0.063
AG-108M	-2.796E+00	8.508E+00	3.092E+01	6.190E-01	-0.090
AG-110M	6.600E+00	5.240E+00	2.576E+01	5.278E-01	0.256
SN-113DA	-5.665E-01	1.194E+01	4.505E+01	9.012E-01	-0.013

---- Non-Identified Nuclides ----

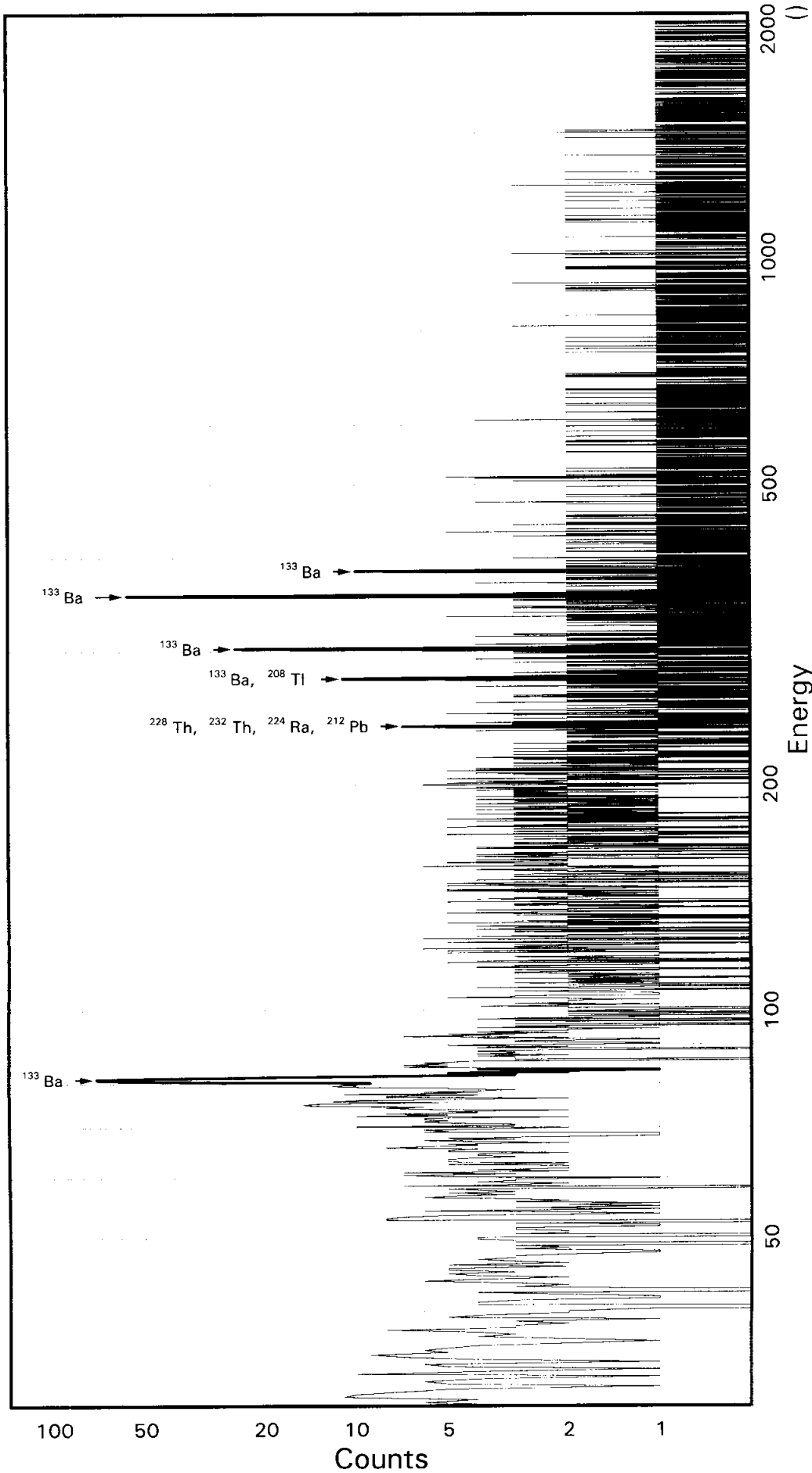
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	4.146E+00		9.410E+00	3.676E+01	7.412E-01	0.113
SB-125	-4.901E+00		2.279E+01	8.500E+01	1.702E+00	-0.058
SN-126DA	3.917E+00		4.215E+00	1.916E+01	3.877E-01	0.204
I-131	2.284E+01		4.837E+01	1.882E+02	3.765E+00	0.121
CS-134	2.925E+00		5.342E+00	2.299E+01	4.685E-01	0.127
CS-137DA	3.082E+00		5.946E+00	2.491E+01	5.039E-01	0.124
LA-138	-3.713E+00		4.791E+00	1.858E+01	3.933E-01	-0.200
CE-139	5.838E+00		1.612E+01	5.883E+01	1.197E+00	0.099
BA-140	1.761E+02		7.200E+01	3.293E+02	6.620E+00	0.535
BALA-140	-3.037E+01		2.095E+01	6.756E+01	1.443E+00	-0.450
CE-141	1.922E+01		3.002E+01	1.143E+02	2.340E+00	0.168
CE-144	-1.126E+02		1.000E+02	3.403E+02	7.001E+00	-0.331
CEPR-144	-2.241E+02		2.001E+02	6.811E+02	1.401E+01	-0.329
PM-144	-2.520E+00		5.229E+00	1.985E+01	4.006E-01	-0.127
PM-146	2.298E+00		9.108E+00	3.591E+01	7.194E-01	0.064
EU-152	1.442E+00		2.983E+01	1.119E+02	2.238E+00	0.013
EU-154	-7.757E+00		9.290E+00	3.474E+01	7.285E-01	-0.223
EU-155	-2.148E+01		4.904E+01	1.758E+02	3.672E+00	-0.122
HF-181	-5.114E-01		9.131E+00	3.536E+01	7.092E-01	-0.014
BI-207	6.333E+00		4.923E+00	2.232E+01	4.492E-01	0.284
TL-208	1.855E+00		5.735E+00	2.388E+01	4.810E-01	0.078
BI-210M	6.971E+00		1.832E+01	6.790E+01	1.361E+00	0.103
BI-212	1.981E+01		8.477E+01	3.388E+02	1.034E+01	0.058
PB-212	1.817E+00		2.313E+01	8.341E+01	1.676E+00	0.022
BI-214	-3.776E+01		1.594E+01	4.999E+01	1.008E+00	-0.755
PB-214	2.733E+00		2.526E+01	8.046E+01	1.609E+00	0.034
RA-223	1.070E+02		6.497E+01	2.600E+02	5.212E+00	0.411
RA-224DA	1.853E+00		2.360E+01	8.509E+01	1.710E+00	0.022
RA-226DA	-3.765E+01		1.595E+01	5.007E+01	1.010E+00	-0.752
AC-227DA	6.853E+01		9.201E+01	3.436E+02	6.906E+00	0.199
AC-228	3.198E+01		1.838E+01	8.472E+01	1.739E+00	0.377
RA-228DA	3.219E+01		1.850E+01	8.528E+01	1.750E+00	0.377
TH-228DA	5.268E+00		1.628E+01	6.781E+01	1.366E+00	0.078
TH-232DA	-7.860E+01		6.335E+01	2.150E+02	4.301E+00	-0.366
TH-234DA	-1.583E+02		7.106E+02	2.822E+03	5.824E+01	-0.056
U-234DA	-1.307E+00		4.662E+01	1.661E+02	3.324E+00	-0.008
U-235HP	-1.187E+02		1.049E+02	3.554E+02	7.282E+00	-0.334
NP-237DA	-8.980E+00		2.400E+01	8.691E+01	1.739E+00	-0.103
U-238DA	2.733E+00		2.526E+01	8.046E+01	1.609E+00	0.034
U-238DHP	-9.363E+01		3.597E+02	1.254E+03	2.737E+01	-0.075
AM-241HP	-2.102E+01		3.463E+01	1.193E+02	2.621E+00	-0.176

TAL Richland WA.

BA133

Batch ID: 8067181

Sample ID: KF5GJ2AN
Detector ID: GER7 1



Acquisition Start: 19-MAR-2008 14:56:30.69
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 6.59422E-01
Slope: 2.49203E-01
Quadrature: 1.58217E-07

SAMPLE IDENTIFICATION: KF5GJ2AN

CONFIGURATION ID: GER7:KF5GJ2AN_190381456
TITLE : BA133
SAMPLE ID : KF5GJ2AN

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:56:30
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:05:47.39
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 6.5942E-01 keV
ENERGY SLOPE: 2.4920E-01 keV/C
ENERGY Q COEFF: 1.5822E-07 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.3028E-01 keV
FWHM SLOPE: 3.8486E-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 19-MAR-2008 15:26:46

```

Configuration      : $DISK1:[GER7.SAMPLE]KF5GJ2AN_190381456.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:30
Sample ID        : KF5GJ2AN 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     : 20.60 End energy : 2052.75
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	27.22	23	35	0.49	106.59	103	10	1.28E-02	52.4	
2	0	54.19	21	38	1.65	214.77	201	19	1.18E-02	72.7	
3	0	81.10	255	86	0.91	322.73	317	16	1.42E-01	10.9	
4	0	239.26*	20	12	0.84	956.89	950	15	1.09E-02	45.7	
5	0	276.28	58	8	1.14	1105.22	1096	16	3.22E-02	17.1	
6	0	302.79	111	11	1.02	1211.43	1201	21	6.14E-02	12.0	
7	0	355.93	257	17	1.03	1424.34	1415	17	1.43E-01	7.2	
8	0	383.76	42	6	0.95	1535.81	1529	13	2.32E-02	19.9	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER7.SAMPLE]KF5GJ2AN_190381456.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:30
Sample ID        : KF5GJ2AN           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	255	33.00	1.909E+00	1.349E+03	1.354E+03	12.19
	276.40	58	6.90	2.061E+00	1.360E+03	1.365E+03	17.90
	302.84	111	17.80	2.064E+00	1.003E+03	1.006E+03	13.16
	356.00	257	62.05*	2.065E+00	6.684E+02	6.708E+02	9.02
	383.85	42	8.70	2.065E+00	7.738E+02	7.767E+02	20.65

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
PB-212	238.63	20	44.60*	2.054E+00	7.130E+01	7.130E+01	46.05
	300.09	-----	3.41	2.063E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GJ2AN

Page : 2
Acquisition date : 19-MAR-2008 14:56:30

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	27.22	23	35	0.49	106.59	103	10	1.28E-02	52.4	1.63E+00	
0	54.19	21	38	1.65	214.77	201	19	1.18E-02	72.7	1.82E+00	

Flags: "T" = Tentatively associated

Nuclide	Half-Life		Energy	%Abund	Activity 1-Sigma		Rejected by
	Half-life	Ratio			(DPM/SAMPL)	%Error	
TL-208	1.41E+10Y	0.00	277.35	6.80	1.380E+03	17.90	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	0.03	238.63*	44.60	7.274E+01	46.05	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	0.03	238.63	44.60	7.274E+01	46.05	Abun.
			240.98	3.95	---	Not Found	---
			583.14*	30.25	---	Not Found	---
			860.37	4.48	---	Not Found	---
% Abundances Found =				53.55			
TH-232DA	1.41E+10Y	0.00	238.63	44.60	7.130E+01	46.05	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	---
% Abundances Found =				32.61			

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER7.SAMPLE]KF5GJ2AN_190381456.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       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:30
Sample ID         : KF5GJ2AN 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	6.708E+02	6.053E+01	5.681E+01	1.136E+00	11.808
PB-212	7.130E+01	3.284E+01	8.610E+01	1.732E+00	0.828

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.079E+02	8.509E+01	2.843E+02	5.703E+00	-0.380
NA-22	4.574E+00	2.830E+00	1.781E+01	3.776E-01	0.257
K-40	9.607E+01	6.183E+01	3.266E+02	7.019E+00	0.294
SC-46	2.928E-02	4.884E+00	2.150E+01	4.508E-01	0.001
CR-51	9.958E+01	1.176E+02	4.927E+02	9.857E+00	0.202
MN-54	-5.078E+00	5.165E+00	1.864E+01	3.826E-01	-0.272
CO-57	7.076E+01	1.090E+02	4.217E+02	8.717E+00	0.168
CO-58	1.026E+01	6.704E+00	3.212E+01	6.583E-01	0.319
FE-59	1.426E-01	9.954E+00	4.397E+01	9.205E-01	0.003
CO-60	5.077E-02	2.412E+00	1.273E+01	2.710E-01	0.004
ZN-65	3.597E+00	9.312E+00	4.235E+01	8.878E-01	0.085
SE-75	-2.149E+01	1.632E+01	5.478E+01	1.099E+00	-0.392
SR-85	-1.913E+01	1.222E+01	3.907E+01	7.853E-01	-0.490
Y-88	-2.095E+00	4.586E+00	1.892E+01	4.169E-01	-0.111
NB-94	-1.680E+00	4.403E+00	1.787E+01	3.678E-01	-0.094
NB-95	-8.149E+00	6.959E+00	2.453E+01	5.011E-01	-0.332
TC-95M	-4.442E+01	2.284E+01	7.434E+01	1.504E+00	-0.597
ZR-95	-6.370E+00	1.250E+01	4.843E+01	9.886E-01	-0.132
ZRNB-95	-1.310E+01	1.170E+01	4.165E+01	8.507E-01	-0.315
MO-99	1.479E+03	1.911E+03	7.447E+03	1.536E+02	0.199
RH-101	-1.018E+01	1.853E+01	6.370E+01	1.290E+00	-0.160
RH-102M	1.621E+01	6.889E+00	3.303E+01	6.626E-01	0.491
RU-103	2.248E+00	7.001E+00	3.115E+01	6.256E-01	0.072
RU-106DA	1.651E+01	5.712E+01	2.427E+02	4.909E+00	0.068
AG-108M	9.369E+00	7.907E+00	3.410E+01	6.829E-01	0.275
AG-110M	-7.364E+00	6.457E+00	2.247E+01	4.630E-01	-0.328

---- Non-Identified Nuclides ----

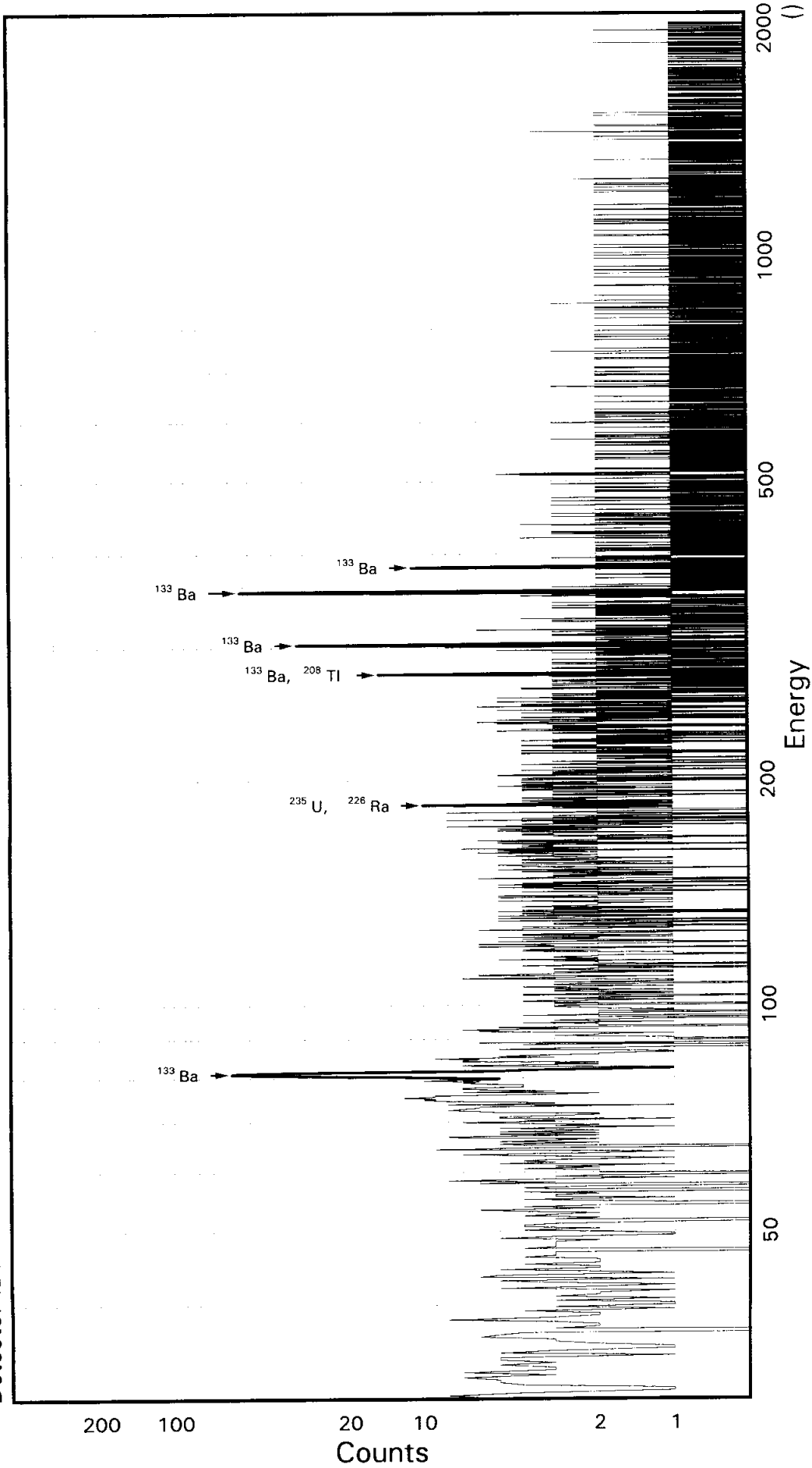
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-1.430E+00		1.081E+01	4.279E+01	8.561E-01	-0.033
SB-124	2.269E+00		7.526E+00	3.151E+01	6.365E-01	0.072
SB-125	6.135E+01		2.454E+01	1.156E+02	2.315E+00	0.531
SN-126DA	2.588E+00		6.113E+00	2.555E+01	5.183E-01	0.101
I-131	-3.912E+01		4.649E+01	1.692E+02	3.384E+00	-0.231
CS-134	5.467E+00		3.295E+00	2.059E+01	4.214E-01	0.266
CS-137DA	-2.256E-01		7.264E+00	2.889E+01	5.858E-01	-0.008
LA-138	-5.164E+00		6.352E+00	2.408E+01	5.165E-01	-0.214
CE-139	2.349E+01		1.507E+01	6.081E+01	1.242E+00	0.386
BA-140	-1.131E+01		6.282E+01	2.558E+02	5.147E+00	-0.044
BALA-140	-1.173E+01		1.939E+01	8.025E+01	1.740E+00	-0.146
CE-141	2.354E+01		3.887E+01	1.472E+02	3.030E+00	0.160
CE-144	-1.816E+02		1.070E+02	3.481E+02	7.207E+00	-0.522
CEPR-144	-3.631E+02		2.140E+02	6.962E+02	1.442E+01	-0.522
PM-144	3.450E+00		4.833E+00	2.241E+01	4.532E-01	0.154
PM-146	1.044E+01		9.514E+00	4.215E+01	8.447E-01	0.248
EU-152	-1.167E+01		3.167E+01	1.149E+02	2.298E+00	-0.102
EU-154	1.415E+01		8.313E+00	5.158E+01	1.094E+00	0.274
EU-155	-1.009E+01		5.119E+01	1.913E+02	4.035E+00	-0.053
HF-181	1.097E+01		7.827E+00	3.857E+01	7.740E-01	0.284
BI-207	1.590E+01		6.151E+00	3.076E+01	6.201E-01	0.517
TL-208	-5.433E+00		6.876E+00	2.533E+01	5.111E-01	-0.214
BI-210M	-8.834E+00		1.557E+01	5.687E+01	1.141E+00	-0.155
BI-212	-2.864E+01		5.753E+01	2.318E+02	7.086E+00	-0.124
BI-214	-2.717E+00		1.690E+01	6.811E+01	1.376E+00	-0.040
PB-214	-1.542E+01		2.966E+01	9.527E+01	1.905E+00	-0.162
RA-223	7.363E+01		6.109E+01	2.551E+02	5.116E+00	0.289
RA-224DA	7.274E+01	+	3.350E+01	1.064E+02	2.140E+00	0.684
RA-226DA	-2.858E+00		1.689E+01	6.802E+01	1.375E+00	-0.042
AC-227DA	6.374E+01		9.160E+01	3.213E+02	6.465E+00	0.198
AC-228	9.038E+00		2.690E+01	1.076E+02	2.221E+00	0.084
RA-228DA	9.098E+00		2.708E+01	1.083E+02	2.236E+00	0.084
TH-228DA	-1.543E+01		1.953E+01	7.193E+01	1.451E+00	-0.214
TH-232DA	-2.143E+01		5.871E+01	2.168E+02	4.335E+00	-0.099
TH-234DA	-1.717E+02		7.607E+02	3.132E+03	6.509E+01	-0.055
U-234DA	-1.464E+01		4.932E+01	1.831E+02	3.667E+00	-0.080
U-235HP	6.381E+01		1.138E+02	4.317E+02	8.893E+00	0.148
NP-237DA	-7.674E-02		2.356E+01	8.879E+01	1.777E+00	-0.001
U-238DA	-1.542E+01		2.966E+01	9.527E+01	1.905E+00	-0.162
U-238DHP	-4.201E+02		4.309E+02	1.495E+03	3.330E+01	-0.281
AM-241HP	1.565E+00		4.335E+01	1.566E+02	3.514E+00	0.010

TAL Richland WA.

BA133

Batch ID: 8067181

Sample ID: KF5GJ2AQ
Detector ID: GER4 1



Acquisition Start: 19-MAR-2008 14:56:50.54
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -5.30784E-02
Slope: 2.48659E-01
Quadrature: 1.29262E-08

SAMPLE IDENTIFICATION: KF5GJ2AQ

CONFIGURATION ID: GER4:KF5GJ2AQ_190381456
TITLE : BA133
SAMPLE ID : KF5GJ2AQ

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:56:50
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:05:14.57
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: -.5308E-01 keV
ENERGY SLOPE: 2.4866E-01 keV/C
ENERGY Q COEFF: 1.2926E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.7052E-01 keV
FWHM SLOPE: 4.8400E-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 19-MAR-2008 15:27:06

Configuration : \$DISK1:[GER4.SAMPLE]KF5GJ2AQ_190381456.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:50
 Sample ID : KF5GJ2AQ 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 : 19.84 End energy : 2037.83
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.10	196	58	0.84	326.35	320	12	1.09E-01	10.6	
2	0	185.50*	8	14	0.34	746.18	742	9	4.31E-03	101.3	
3	0	276.37	53	0	0.52	1111.58	1105	13	2.94E-02	13.7	
4	0	302.82	105	17	0.66	1217.96	1211	14	5.84E-02	12.9	
5	0	356.03	287	30	1.36	1431.91	1424	15	1.59E-01	7.2	
6	0	383.83	48	5	1.00	1543.70	1534	20	2.66E-02	18.4	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER4.SAMPLE]KF5GJ2AQ_190381456.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:50
Sample ID        : KF5GJ2AQ 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	196	33.00	1.000E+02	1.980E+01	1.988E+01	11.74
	276.40	53	6.90	2.657E+00	9.635E+02	9.670E+02	14.72
	302.84	105	17.80	2.414E+00	8.156E+02	8.186E+02	13.94
	356.00	287	62.05*	2.262E+00	6.816E+02	6.841E+02	9.01
	383.85	48	8.70	2.296E+00	8.005E+02	8.034E+02	19.18

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GJ2AQ

Page : 2
Acquisition date : 19-MAR-2008 14:56:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.50	8	14	0.34	746.18	742	9	4.31E-03	****	6.64E+00	T

Flags: "T" = Tentatively associated

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	9.776E+02	14.72	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	1.114E+02	101.44	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	7.221E+00	101.44		
			205.31	4.70	---	Not Found		---
% Abundances Found =			78.03					

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER4.SAMPLE]KF5GJ2AQ_190381456.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       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:56:50
Sample ID         : KF5GJ2AQ 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	6.841E+02	6.163E+01	4.273E+01	8.545E-01	16.011

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.180E+02	5.547E+01	1.583E+02	2.536E+00	-0.745
NA-22	1.012E-01	8.981E-02	4.434E-01	2.006E-04	0.228
K-40	-2.339E-01	1.624E+00	7.979E+00	3.609E-03	-0.029
SC-46	1.713E-01	2.227E-01	9.647E-01	6.743E-04	0.178
CR-51	-2.085E+02	1.195E+02	3.827E+02	7.443E+00	-0.545
MN-54	1.349E+00	8.264E-01	3.944E+00	1.235E-02	0.342
CO-57	4.959E+00	9.210E+00	3.529E+01	6.850E-02	0.141
CO-58	-1.589E+00	9.600E-01	2.972E+00	1.054E-02	-0.535
FE-59	5.453E-01	4.451E-01	2.090E+00	1.633E-03	0.261
CO-60	-1.736E-01	1.030E-01	3.115E-01	1.409E-04	-0.557
ZN-65	-4.240E-01	5.110E-01	1.800E+00	1.291E-03	-0.236
SE-75	1.148E+01	1.290E+01	5.097E+01	8.167E-01	0.225
SR-85	-2.114E+01	8.964E+00	2.676E+01	3.787E-01	-0.790
Y-88	7.646E-02	5.420E-02	3.548E-01	1.605E-04	0.216
NB-94	5.536E-01	6.395E-01	2.864E+00	7.419E-03	0.193
NB-95	-1.866E+00	1.525E+00	5.285E+00	2.362E-02	-0.353
TC-95M	1.332E+01	9.101E+00	3.642E+01	3.327E-01	0.366
ZR-95	1.008E+00	2.765E+00	1.171E+01	5.478E-02	0.086
ZRNB-95	-3.113E+00	2.544E+00	8.816E+00	3.939E-02	-0.353
MO-99	1.453E+02	1.923E+02	7.428E+02	1.657E+00	0.196
RH-101	5.944E+00	6.484E+00	2.505E+01	2.095E-01	0.237
RH-102M	4.858E+00	5.054E+00	2.193E+01	3.541E-01	0.222
RU-103	1.335E+01	7.071E+00	3.288E+01	4.941E-01	0.406
RU-106DA	-6.186E+00	2.113E+01	8.522E+01	7.692E-01	-0.073
AG-108M	-1.403E+01	6.495E+00	1.942E+01	3.510E-01	-0.722
AG-110M	7.523E-01	7.860E-01	3.649E+00	8.803E-03	0.206
SN-113DA	-7.431E-01	1.273E+01	4.777E+01	9.328E-01	-0.016

Sample ID : KF5GJ2AQ

Acquisition date : 19-MAR-2008 14:56:50

---- Non-Identified Nuclides ----

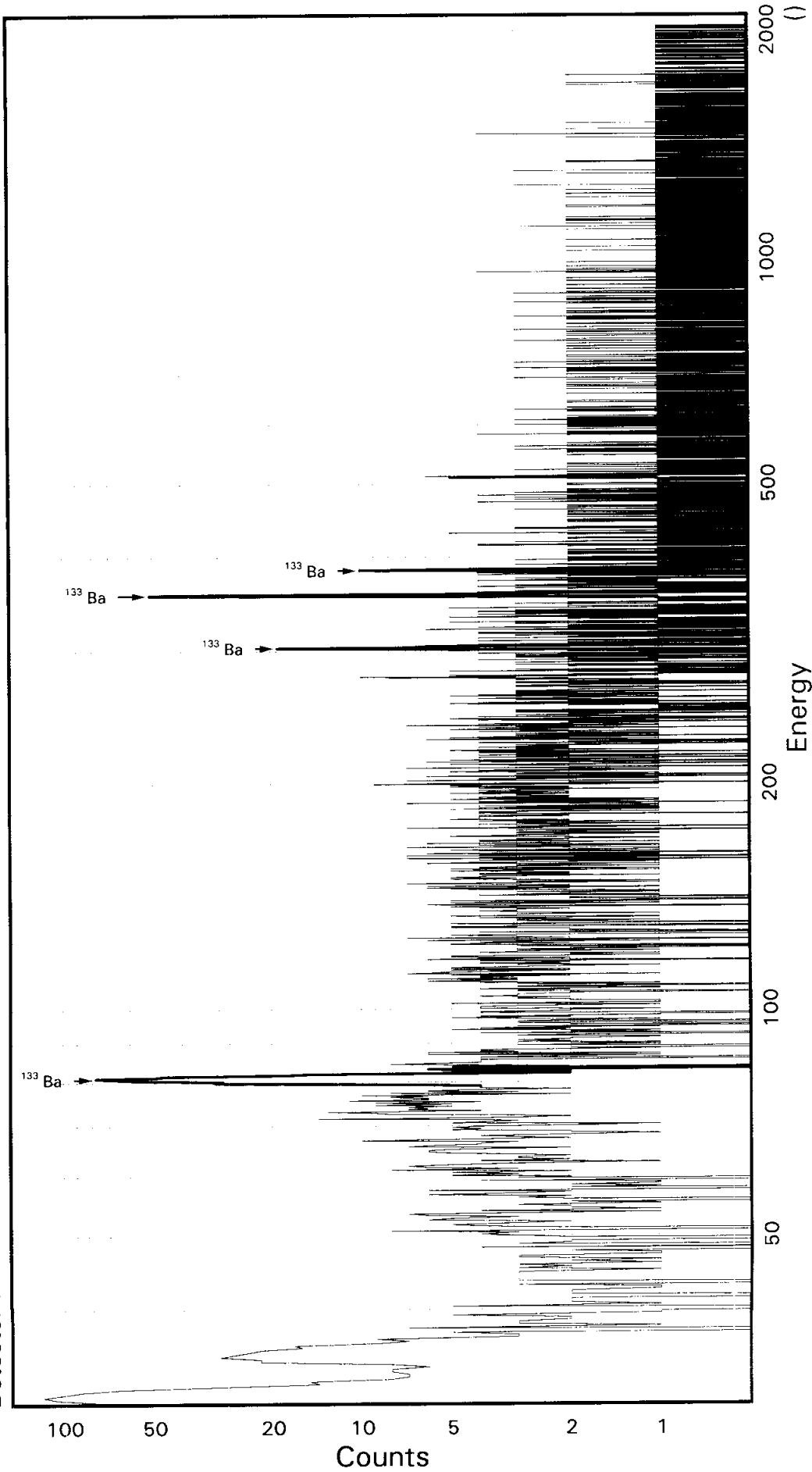
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-4.422E+00		4.022E+00	1.402E+01	1.380E-01	-0.315
SB-125	1.407E+01		2.085E+01	8.670E+01	1.589E+00	0.162
SN-126DA	5.982E-01		1.823E+00	7.714E+00	5.651E-02	0.078
I-131	-6.592E+01		4.926E+01	1.630E+02	3.255E+00	-0.404
CS-134	1.697E+00		1.116E+00	5.340E+00	2.046E-02	0.318
CS-137DA	5.701E-01		1.721E+00	7.740E+00	5.798E-02	0.074
LA-138	-9.643E-02		9.831E-02	3.675E-01	1.662E-04	-0.262
CE-139	5.767E+00		3.444E+00	1.360E+01	6.195E-02	0.424
BA-140	-4.545E+00		4.664E+01	1.803E+02	2.336E+00	-0.025
BALA-140	5.092E-01		5.342E-01	2.611E+00	1.181E-03	0.195
CE-141	1.077E+00		4.418E+00	1.632E+01	4.275E-02	0.066
CE-144	-6.645E-01		9.316E+00	3.385E+01	5.903E-02	-0.020
CEPR-144	-1.528E+00		1.861E+01	6.759E+01	1.178E-01	-0.023
PM-144	4.198E+00		2.823E+00	1.279E+01	1.175E-01	0.328
PM-146	-7.508E+00		7.252E+00	2.566E+01	4.409E-01	-0.293
EU-152	-1.167E+01		2.848E+01	1.046E+02	2.087E+00	-0.112
EU-154	2.821E-01		2.502E-01	1.235E+00	5.588E-04	0.228
EU-155	5.527E-01		1.060E+00	4.130E+00	1.910E-03	0.134
HF-181	4.021E+00		6.811E+00	2.947E+01	4.655E-01	0.136
BI-207	1.208E+00		3.662E+00	1.493E+01	1.696E-01	0.081
TL-208	-9.469E+00		3.476E+00	1.127E+01	1.208E-01	-0.841
BI-210M	4.107E+00		1.312E+01	5.015E+01	8.104E-01	0.082
BI-212	-8.666E+00		2.067E+01	8.108E+01	1.900E+00	-0.107
PB-212	-2.602E+00		1.767E+01	6.709E+01	8.955E-01	-0.039
BI-214	-1.052E+01		5.988E+00	2.411E+01	2.304E-01	-0.436
PB-214	-6.739E+00		2.935E+01	9.708E+01	1.941E+00	-0.069
RA-223	1.228E+01		4.724E+01	1.807E+02	2.973E+00	0.068
RA-224DA	-2.654E+00		1.803E+01	6.844E+01	9.136E-01	-0.039
RA-226DA	-1.052E+01		5.987E+00	2.411E+01	2.304E-01	-0.436
AC-227DA	-1.499E+02		6.767E+01	2.087E+02	2.722E+00	-0.719
AC-228	-4.005E+00		2.059E+00	7.319E+00	1.537E-02	-0.547
RA-228DA	-4.031E+00		2.073E+00	7.368E+00	1.547E-02	-0.547
TH-228DA	-2.689E+01		9.872E+00	3.199E+01	3.431E-01	-0.841
TH-232DA	1.412E+01		7.206E+01	2.726E+02	5.419E+00	0.052
TH-234DA	3.001E+01		3.621E+01	1.780E+02	2.327E-01	0.169
U-234DA	-3.080E+01		4.168E+01	1.561E+02	2.860E+00	-0.197
U-235HP	1.322E+01		1.250E+01	4.847E+01	1.204E-01	0.273
NP-237DA	1.588E+01		2.432E+01	9.514E+01	1.822E+00	0.167
U-238DA	-6.739E+00		2.935E+01	9.708E+01	1.941E+00	-0.069
U-238DHP	-6.943E+00		6.272E+00	2.220E+01	1.004E-02	-0.313
AM-241HP	-1.125E+00		6.008E-01	1.928E+00	8.719E-04	-0.584

TAL Richland WA.

BA133

Batch ID: 8067181

Sample ID: KGXH02AA
Detector ID: GER14 1



Energy Coefficients:
Offset: -6.31786E-01
Slope: 2.48194E-01
Quadrature: 2.12797E-09

Acquisition Start: 19-MAR-2008 14:57:09.56
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KGXH02AA

CONFIGURATION ID: GER14:KGXH02AA_190381457
TITLE : BA133
SAMPLE ID : KGXH02AA

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:57:09
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 28-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:07:07.34
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.6318E+00 keV
ENERGY SLOPE: 2.4819E-01 keV/C
ENERGY Q COEFF: 2.1280E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.6555E-01 keV
FWHM SLOPE: 3.3301E-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

Configuration : \$DISK1:[GER14.SAMPLE]KGXH02AA_190381457.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:57:09
 Sample ID : KGXH02AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.44 0.0%
 Start energy : 19.22 End energy : 2032.72
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.61	646	174	1.42	125.88	116	20	3.59E-01	6.4	
2	0	35.16	145	93	1.81	144.19	137	18	8.03E-02	18.4	
3	0	80.85	421	57	1.25	328.28	319	21	2.34E-01	6.6	
4	0	302.93	90	31	0.93	1223.06	1213	19	4.99E-02	16.6	
5	0	356.02	287	25	1.29	1436.97	1426	22	1.59E-01	7.0	
6	0	383.70	44	24	0.93	1548.49	1538	19	2.44E-02	27.8	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER14.SAMPLE]KGXH02AA_190381457.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:57:09
 Sample ID : KGXH02AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.44 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	421	33.00	1.818E+00	2.339E+03	2.347E+03	8.58
	276.40	-----	6.90	1.945E+00	-----	Line Not Found	-----
	302.84	90	17.80	1.948E+00	8.636E+02	8.667E+02	17.42
	356.00	287	62.05*	1.949E+00	7.899E+02	7.928E+02	8.86
	383.85	44	8.70	1.949E+00	8.619E+02	8.651E+02	28.29

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KGXH02AA

Page : 2
Acquisition date : 19-MAR-2008 14:57:09

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.61	646	174	1.42	125.88	116	20	3.59E-01	6.4	1.61E+00	
0	35.16	145	93	1.81	144.19	137	18	8.03E-02	18.4	1.64E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KGXH02AA

Page : 3
Acquisition date : 19-MAR-2008 14:57:09

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER14.SAMPLE]KGXH02AA_190381457.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       : 28-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:57:09
Sample ID        : KGXH02AA Sample quantity  : 1.0000 SAMPL
Sample type      : Sample geometry   : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.44 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	7.928E+02	7.021E+01	6.533E+01	1.307E+00	12.137

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.843E+00	1.232E+02	4.614E+02	9.254E+00	0.006
NA-22	-3.665E+00	3.666E+00	1.344E+01	2.831E-01	-0.273
K-40	9.852E+00	1.023E+02	4.952E+02	1.055E+01	0.020
SC-46	1.088E+01	8.089E+00	3.666E+01	7.644E-01	0.297
CR-51	9.774E+01	2.006E+02	7.530E+02	1.507E+01	0.130
MN-54	1.329E+01	9.084E+00	3.899E+01	7.979E-01	0.341
CO-57	1.826E+02	1.692E+02	6.301E+02	1.298E+01	0.290
CO-58	1.300E+01	6.758E+00	3.394E+01	6.936E-01	0.383
FE-59	1.358E+01	1.411E+01	6.464E+01	1.346E+00	0.210
CO-60	1.744E+00	4.846E+00	2.185E+01	4.618E-01	0.080
ZN-65	-3.566E+01	1.364E+01	3.450E+01	7.191E-01	-1.034
SE-75	1.238E+01	2.638E+01	9.762E+01	1.958E+00	0.127
SR-85	4.290E+00	1.847E+01	6.677E+01	1.341E+00	0.064
Y-88	7.319E-01	4.552E+00	2.119E+01	4.615E-01	0.035
NB-94	1.757E+01	6.141E+00	3.179E+01	6.522E-01	0.553
NB-95	7.127E+00	1.089E+01	4.524E+01	9.218E-01	0.158
TC-95M	-1.751E+01	3.240E+01	1.133E+02	2.289E+00	-0.155
ZR-95	-5.107E+00	1.644E+01	6.208E+01	1.264E+00	-0.082
ZRNB-95	1.189E+01	1.816E+01	7.547E+01	1.538E+00	0.158
MO-99	-4.635E+03	2.722E+03	8.748E+03	1.798E+02	-0.530
RH-101	1.954E+01	2.496E+01	9.219E+01	1.864E+00	0.212
RH-102M	6.578E+00	1.044E+01	4.093E+01	8.208E-01	0.161
RU-103	1.312E+01	1.215E+01	5.171E+01	1.038E+00	0.254
RU-106DA	-1.505E+02	7.649E+01	2.322E+02	4.689E+00	-0.648
AG-108M	0.000E+00	0.000E+00	4.482E+01	8.976E-01	0.000
AG-110M	-2.430E+00	1.043E+01	4.037E+01	8.288E-01	-0.060
SN-113DA	-7.894E+00	1.744E+01	6.339E+01	1.268E+00	-0.125

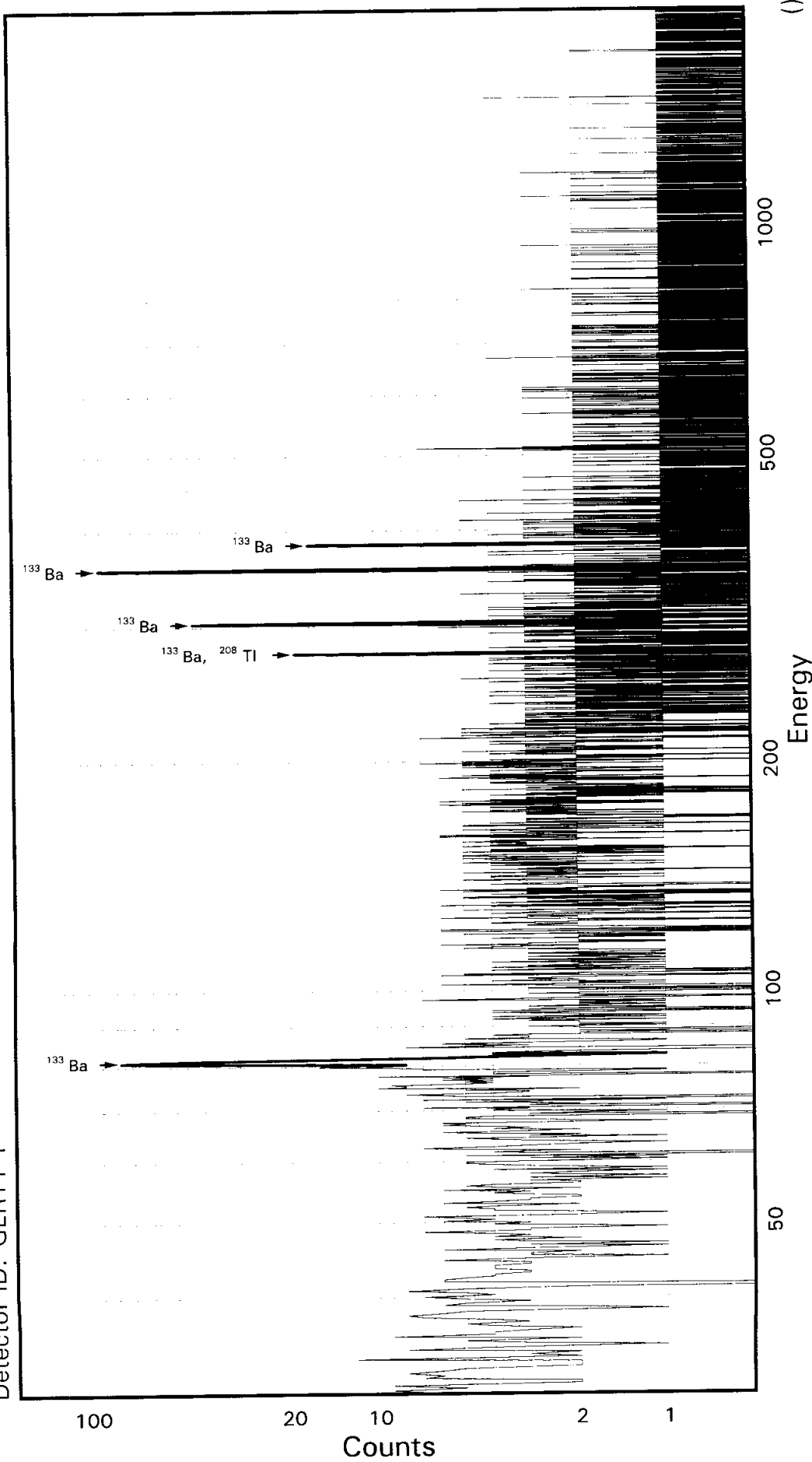
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.590E+00		1.143E+01	4.327E+01	8.731E-01	-0.037
SB-125	2.442E+01		3.251E+01	1.299E+02	2.600E+00	0.188
SN-126DA	1.384E+01		7.393E+00	3.373E+01	6.830E-01	0.410
I-131	2.907E+01		7.426E+01	2.858E+02	5.716E+00	0.102
CS-134	4.809E+00		8.677E+00	3.622E+01	7.395E-01	0.133
CS-137DA	-4.096E+00		8.649E+00	3.229E+01	6.537E-01	-0.127
LA-138	-1.936E-01		5.551E+00	2.530E+01	5.382E-01	-0.008
CE-139	3.522E+00		2.224E+01	7.929E+01	1.615E+00	0.044
BA-140	-4.438E+01		7.835E+01	2.967E+02	5.966E+00	-0.150
BALA-140	1.166E+01		2.553E+01	1.232E+02	2.646E+00	0.095
CE-141	8.318E+01		5.317E+01	2.020E+02	4.143E+00	0.412
CE-144	5.455E+01		1.568E+02	5.689E+02	1.173E+01	0.096
CEPR-144	1.091E+02		3.135E+02	1.138E+03	2.346E+01	0.096
PM-144	-1.572E+00		7.408E+00	2.871E+01	5.797E-01	-0.055
PM-146	5.981E-01		1.142E+01	4.482E+01	8.980E-01	0.013
EU-152	2.498E+00		4.266E+01	1.599E+02	3.198E+00	0.016
EU-154	-1.531E+01		1.143E+01	3.746E+01	7.887E-01	-0.409
EU-155	-9.592E+00		7.678E+01	2.750E+02	5.766E+00	-0.035
HF-181	8.240E-01		1.667E+01	6.248E+01	1.253E+00	0.013
BI-207	-6.319E-01		6.802E+00	2.705E+01	5.449E-01	-0.023
TL-208	1.336E+01		1.150E+01	4.720E+01	9.513E-01	0.283
BI-210M	-1.620E+01		2.715E+01	9.472E+01	1.899E+00	-0.171
BI-212	1.719E+02		1.329E+02	5.584E+02	1.705E+01	0.308
PB-212	3.500E+00		3.451E+01	1.247E+02	2.506E+00	0.028
BI-214	7.606E+00		2.143E+01	8.950E+01	1.807E+00	0.085
PB-214	-4.955E+01		3.831E+01	1.112E+02	2.224E+00	-0.446
RA-223	-8.172E+01		9.541E+01	3.278E+02	6.571E+00	-0.249
RA-224DA	3.571E+00		3.520E+01	1.272E+02	2.557E+00	0.028
RA-226DA	7.606E+00		2.143E+01	8.951E+01	1.807E+00	0.085
AC-227DA	3.099E+01		1.384E+02	5.025E+02	1.010E+01	0.062
AC-228	4.581E+01		2.482E+01	1.159E+02	2.384E+00	0.395
RA-228DA	4.611E+01		2.498E+01	1.167E+02	2.400E+00	0.395
TH-228DA	3.793E+01		3.266E+01	1.340E+02	2.701E+00	0.283
TH-232DA	1.280E+02		1.050E+02	4.117E+02	8.234E+00	0.311
TH-234DA	-8.441E+02		8.270E+02	2.928E+03	6.057E+01	-0.288
U-234DA	-1.807E+01		6.334E+01	2.263E+02	4.532E+00	-0.080
U-235HP	5.291E+00		1.494E+02	5.337E+02	1.096E+01	0.010
NP-237DA	-5.594E+01		3.155E+01	9.946E+01	1.990E+00	-0.562
U-238DA	-4.955E+01		3.831E+01	1.112E+02	2.224E+00	-0.446
U-238DHP	-4.197E+02		5.682E+02	1.908E+03	4.194E+01	-0.220
AM-241HP	-7.859E+01		5.234E+01	1.693E+02	3.746E+00	-0.464

TAL Richland WA.
BA133

Batch ID: 8067181

Sample ID: KGXH02AC
Detector ID: GER11 1



Energy Coefficients:
Offset: -1.00982E+00
Slope: 2.31713E-01
Quadrature: 3.24897E-08

Acquisition Start: 19-MAR-2008 14:57:41.90
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KGXH02AC

CONFIGURATION ID: GER11:KGXH02AC_190381457
TITLE : BA133
SAMPLE ID : KGXH02AC

REPORT DATE: 19-MAR-08
ACQUIRE DATE: 19-MAR-08 14:57:41
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 27-FEB-2008 12:00:00.00
CALIB DATE: 19-MAR-2008 05:06:36.05
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:01

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.1010E+01 keV
ENERGY SLOPE: 2.3171E-01 keV/C
ENERGY Q COEFF: 3.2490E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.3901E-01 keV
FWHM SLOPE: 4.4183E-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 19-MAR-2008 15:27:58

```

Configuration      : $DISK1:[GER11.SAMPLE]KGXH02AC_190381457.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 27-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:57:41
Sample ID        : KGXH02AC Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:01.03 0.1%
Start energy     : 1.31 End energy : 1899.36
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.20	212	89	0.71	354.76	350	14	1.18E-01	12.5	
2	0	276.43	60	8	0.76	1197.14	1192	12	3.31E-02	16.4	
3	0	302.78	163	18	0.92	1310.82	1305	15	9.06E-02	9.7	
4	0	355.83	453	16	1.05	1539.66	1533	13	2.52E-01	5.0	
5	0	383.65	75	9	1.04	1659.70	1653	12	4.16E-02	14.1	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER11.SAMPLE]KGXH02AC_190381457.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 27-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:57:41
Sample ID        : KGXH02AC Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:01.03 0.1%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	212	33.00	2.880E+00	7.431E+02	7.459E+02	13.66
	276.40	60	6.90	3.084E+00	9.322E+02	9.357E+02	17.24
	302.84	163	17.80	3.088E+00	9.890E+02	9.928E+02	11.11
	356.00	453	62.05*	3.090E+00	7.878E+02	7.908E+02	7.38
	383.85	75	8.70	3.090E+00	9.277E+02	9.312E+02	15.08

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KGXH02AC

Page : 2
Acquisition date : 19-MAR-2008 14:57:41

None

Flags: "T" = Tentatively associated

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	9.459E+02	17.24	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline

Configuration : \$DISK1:[GER11.SAMPLE]KGXH02AC_190381457.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 : 27-FEB-2008 12:00:00 Acquisition date : 19-MAR-2008 14:57:41
 Sample ID : KGXH02AC Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:01.03 0.1%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errcrs propagatd: 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	7.908E+02	5.833E+01	4.242E+01	8.484E-01	18.644

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.907E+01	4.377E+01	1.639E+02	3.287E+00	-0.177
NA-22	1.132E+00	2.594E+00	1.243E+01	2.619E-01	0.091
K-40	3.268E+01	5.171E+01	2.533E+02	5.403E+00	0.129
SC-46	8.042E+00	3.312E+00	1.889E+01	3.941E-01	0.426
CR-51	7.412E+01	8.757E+01	3.627E+02	7.257E+00	0.204
MN-54	1.421E+00	2.675E+00	1.285E+01	2.631E-01	0.111
CO-57	-2.828E+01	7.284E+01	2.583E+02	5.322E+00	-0.109
CO-58	5.430E+00	4.742E+00	2.163E+01	4.421E-01	0.251
FE-59	7.968E+00	8.403E+00	3.892E+01	8.110E-01	0.205
CO-60	3.378E+00	3.074E+00	1.506E+01	3.186E-01	0.224
ZN-65	-1.097E+01	6.753E+00	2.026E+01	4.225E-01	-0.541
SE-75	-8.813E+00	1.145E+01	4.134E+01	8.292E-01	-0.213
SR-85	-1.868E+01	8.996E+00	2.730E+01	5.484E-01	-0.684
Y-88	1.342E+00	2.363E+00	1.260E+01	2.749E-01	0.106
NB-94	2.046E+00	3.556E+00	1.560E+01	3.201E-01	0.131
NB-95	6.897E+00	6.649E+00	2.911E+01	5.934E-01	0.237
TC-95M	4.196E+00	1.417E+01	5.327E+01	1.076E+00	0.079
ZR-95	-7.307E+00	8.116E+00	2.966E+01	6.043E-01	-0.246
ZRNB-95	1.140E+01	1.099E+01	4.814E+01	9.811E-01	0.237
MO-99	-4.290E+02	1.763E+03	6.528E+03	1.342E+02	-0.066
RH-101	9.729E+00	1.172E+01	4.568E+01	9.238E-01	0.213
RH-102M	4.529E+00	4.032E+00	1.830E+01	3.670E-01	0.247
RU-103	2.153E+00	5.498E+00	2.380E+01	4.778E-01	0.090
RU-106DA	6.962E-01	4.351E+01	1.745E+02	3.525E+00	0.004
AG-108M	-1.278E+01	5.961E+00	1.803E+01	3.611E-01	-0.709
AG-110M	3.090E+00	4.028E+00	1.942E+01	3.990E-01	0.159
SN-113DA	3.465E+00	9.179E+00	3.686E+01	7.374E-01	0.094

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	5.560E+00		6.901E+00	2.835E+01	5.722E-01	0.196
SB-125	3.672E+00		1.419E+01	5.860E+01	1.173E+00	0.063
SN-126DA	-7.022E+00		4.762E+00	1.540E+01	3.120E-01	-0.456
I-131	2.555E+01		3.729E+01	1.523E+02	3.045E+00	0.168
CS-134	-5.062E-02		4.901E+00	1.966E+01	4.015E-01	-0.003
CS-137DA	2.364E+00		4.513E+00	1.928E+01	3.905E-01	0.123
LA-138	-6.699E+00		4.157E+00	1.266E+01	2.696E-01	-0.529
CE-139	-7.619E-01		9.616E+00	3.622E+01	7.382E-01	-0.021
BA-140	5.206E+01		4.916E+01	2.220E+02	4.464E+00	0.235
BALA-140	-4.164E-01		1.548E+01	7.086E+01	1.524E+00	-0.006
CE-141	1.610E+01		2.357E+01	8.969E+01	1.841E+00	0.179
CE-144	-2.060E+01		6.781E+01	2.438E+02	5.029E+00	-0.084
CEPR-144	-4.306E+01		1.355E+02	4.865E+02	1.004E+01	-0.089
PM-144	-2.533E+00		4.834E+00	1.796E+01	3.627E-01	-0.141
PM-146	-2.738E-01		6.650E+00	2.628E+01	5.265E-01	-0.010
EU-152	-1.166E+01		2.267E+01	8.129E+01	1.626E+00	-0.143
EU-154	3.152E+00		7.224E+00	3.460E+01	7.293E-01	0.091
EU-155	-2.013E+01		3.211E+01	1.158E+02	2.431E+00	-0.174
HF-181	-2.035E+00		4.957E+00	1.986E+01	3.983E-01	-0.102
BI-207	1.866E+00		4.572E+00	1.888E+01	3.803E-01	0.099
TL-208	-2.809E-01		4.705E+00	1.893E+01	3.816E-01	-0.015
BI-210M	7.760E+00		1.228E+01	4.903E+01	9.833E-01	0.158
BI-212	2.024E+01		5.422E+01	2.349E+02	7.174E+00	0.086
PB-212	1.369E+01		1.377E+01	5.505E+01	1.107E+00	0.249
BI-214	7.007E+00		1.152E+01	4.790E+01	9.670E-01	0.146
PB-214	-1.015E+01		1.744E+01	6.123E+01	1.225E+00	-0.166
RA-223	-7.870E+01		4.862E+01	1.619E+02	3.247E+00	-0.486
RA-224DA	1.398E+01		1.406E+01	5.622E+01	1.130E+00	0.249
RA-226DA	7.109E+00		1.153E+01	4.796E+01	9.683E-01	0.148
AC-227DA	-5.916E+01		5.869E+01	1.984E+02	3.990E+00	-0.298
AC-228	1.341E+01		1.427E+01	6.389E+01	1.315E+00	0.210
RA-228DA	1.350E+01		1.437E+01	6.434E+01	1.324E+00	0.210
TH-228DA	-7.984E-01		1.337E+01	5.381E+01	1.085E+00	-0.015
TH-232DA	-2.797E+00		4.319E+01	1.636E+02	3.273E+00	-0.017
TH-234DA	1.744E+02		4.536E+02	2.062E+03	4.268E+01	0.085
U-234DA	4.595E+01		3.331E+01	1.371E+02	2.746E+00	0.335
U-235HP	-3.473E+00		7.056E+01	2.550E+02	5.237E+00	-0.014
NP-237DA	-1.202E+01		1.685E+01	5.997E+01	1.200E+00	-0.200
U-238DA	-1.015E+01		1.744E+01	6.123E+01	1.225E+00	-0.166
U-238DHP	-1.273E+02		1.965E+02	6.853E+02	1.509E+01	-0.186
AM-241HP	2.897E+01		1.949E+01	8.020E+01	1.778E+00	0.361

2/21/2008 2:01:15 PM Balance Id: 1120373922 *W*

1418995, Landwell Company Pipet #: *2/26/08*

Landwell Company Sep1 DT/Tm Tech: *10:00*

AnalyDueDate: 02/22/2008 Sep2 DT/Tm Tech:

Sample Preparation/Analysis PM, Quote: JAE, 78254

D9 Ra-226/228 PrpRC5013/5032, SepRC5005

TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow

01 STANDARD TEST SET

Batch: 8042378 pCi/g

SEQ Batch, Test: 8042380, D9TF

Prep Tech: ,Barcott

Work Order, Lot, Sample Date/Time	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 KF5A2-1-AE		1.01g.in	RATA30161			9"				
F8A250205-1-SAMP			01/31/08							
01/24/2008 10:15			#Containers: 1							Beta: 2.65E+01pCi/g
2 KF5FV-1-AE		1.02g.in	RATA30162							
F8A250205-2-SAMP			01/31/08							
01/24/2008 09:55			#Containers: 1							Beta:
3 KF5FX-1-AE		1.03g.in	RATA30163							
F8A250205-3 SAMP			01/31/08							
01/24/2008 11:00			#Containers: 1							Beta: 2.39E+01pCi/g
4 KF5F0-1-AE		1.02g.in	RATA30164							
F8A250205-4-SAMP			01/31/08							
01/24/2008 11:30			#Containers: 1							Beta:

TAL Richland Key In - Initial Amt. In - Final Amt. Di - Diluted Amt. S1 - Sep1, S2 - Sep2 Page 1

Richland Wa. Pd - Prep Dt. R - Reference Dt. Ec - Enrichment Cell. Ct - Cocktail Added

ISV - Insufficient Volume for Analysis

WO Cnt: 4

Prep SamplePrep v4.8.32

2/21/2008 2:01:16 PM Balance Id: 1120373922
 1418995, Landwell Company Pipet #:
 Landwell Company
 D9 Ra-226/228 PrpRC5013/5032, SepRC5005
 TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
 01 STANDARD TEST SET
 AnalyDueDate: 02/22/2008
 Sep1 DT/Tm Tech:
 Sep2 DT/Tm Tech:
 PM, Quote: JAE, 78254
 Prep Tech: Barcoli

Sample Preparation/Analysis
 Batch: 8042378
 SEQ Batch, Test: 8042380, D9TF
 pCi/g

Work Order, Lot, Sample Date/Time	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, Int/Date	Comments
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5 KF5F1-1-AE 1.02g.in RATA30165 01/31/08
 64 1305 2/26/08
 F8A250205-5-SAMP 7.5392 \checkmark 1.0000
 7.976

01/24/2008 10:45 AmtRec: SL #Containers: 1 Scr: Alpha: Beta:
 RATA30166 01/31/08
 67 1306 2/26/08 12:48 SB
 9MA 3-4-08 10:27 SB
 (127)

F8A250205-6-SAMP 1.02g.in RATA30166 01/31/08
 7.5392 \checkmark 1.0000
 8.03
 2/27/08 12:48 SB

01/24/2008 11:55 AmtRec: SL #Containers: 1 Scr: Alpha: Beta:
 RATA30167 01/31/08
 610 1306 2/26/08
 ASB 3-4-08 10:34 SB
 (015)

7 KF5F4-1-AE 1.02g.in RATA30167 01/31/08
 7.5220 \checkmark 1.1400
 6.598
 2-27-08 12:48 SB
 BMC 3-4-08 10:20 SB
 (068)

01/24/2008 12:30 AmtRec: SL #Containers: 1 Scr: Alpha: Beta:
 RATA30168 01/31/08
 61 1306 2/26/08
 CUA 3-4-08 10:27 SB
 (046)

8 KF5F7-1-AE 1.00g.in RATA30168 01/31/08
 7.5277 \checkmark 1.0000
 8.642
 2-27-08 12:48 SB

01/24/2008 12:45 AmtRec: SL #Containers: 1 Scr: Alpha: Beta:

TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2
 Richland Wa pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 8
 Prep. SamplePrep v4.8.32

2/21/2008 2:01:16 PM Balance Id: 1120373922
 1418995, Landwell Company Pipet #:
 Landwell Company Sep1 DT/Tm Tech:
Analyte Due Date: 02/22/2008 Sep2 DT/Tm Tech:

Sample Preparation/Analysis PM, Quote: JAE, 78254
 D9 Ra-226/228 PrpRC5013/5032, SepRC5005
 TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
 01 STANDARD TEST SET

Batch: 8042378 Prep Tech: Barcoli
 SEQ Batch, Test: 8042380, D9TF

Work Order, Lot, Sample Date Time	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
9 KF5F8-1-AE		1.01g.in	RATA30169 01/31/08	7.5105 = 1.0000 7.650			66	136	JAE	2-27-08 14:00 SB
F8A250205-9-SAMP										
10 KF5F9-1-AE		1.01g.in	RATA30170 01/31/08	7.5277 = 1.0000 7.525 7.5277 7.525			613	1304	JAE	DUD (026) Alpha 2-27-08 14:00 SB 3-4-08 11:03 SB
F8A250205-10-SAMP										
11 KF5GC-1-AE		1.00g.in	RATA30171 01/31/08	7.5277 = 1.0000 7.53			91	1347	JAE	EHA (057) Alpha 2-27-08 14:00 SB 3-4-08 10:56 SB
F8A250205-11-SAMP										
01/24/2008 08:05		1.02g.in	RATA30172 01/31/08	7.5449 = 1.0000 7.390 8.201			616	1346	JAE	FRM (073) Alpha 2-27-08 14:00 SB 3-4-08 11:03 SB
F8A250205-12-SAMP										
01/24/2008 08:05		1.02g.in	RATA30172 01/31/08	7.5449 = 1.0000 7.390 8.201			65	0808	JAE	GAB (060) Alpha 2-27-08 14:00 SB 3-4-08 11:03 SB

2/21/2008 2:01:16 PM

Sample Preparation/Analysis

Balance Id: 1120373922

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:

AnalyDueDate: 02/22/2008

Batch: 8042378 pCi/g PM, Quote: JAE, 78254

SEQ Batch, Test: 8042380, D9TF 8042380, D9TF

Prep Tech: Barcoti

Work Order, Lot, Sample Date Time	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
F8A250205-14-SAMP 135%		1.00g.in	RATA30173 01/31/08	7.5335	✓ 1.0000	57	1746	2126/09MC		
				10.16		61	0804	2-27-08 14:00 SB		
				10.16				HSB 3-4-08 11:09 SB		
01/24/2008 09:00			#Containers: 2			Scr:		Alpha:		Beta:
F8A250205-14-MS		1.02g.in	RASA0259 01/08/08	7.5881	✓ 1.0000	64	1747	2126/09MC		
				8.305				JUA 3-4-08 11:10 SB		
01/24/2008 09:00			#Containers: 2			Scr:		Alpha:		Beta:
15 KF5GJ-1-AQ-X		1.01g.in	RATA30174 01/31/08	7.5048	✓ 1.0000	617	1747	2126/09MC		
				8.056				KME 3-4-08 11:11 SB		
01/24/2008 09:00			#Containers: 2			Scr:		Alpha:		Beta:
J8B110000-378-BLK		1.03g.in	RATA30175 01/31/08	7.4991	✓ 1.0000	64	0804	2126/09MC		
				9.623				LMD 3-4-08 11:05 SB		
01/24/2008 10:15			#Containers: 1			Scr:		Alpha:		Beta:

2/21/2008 2:01:17 PM Balance Id:1120373922
Sample Preparation/Analysis
 D9 Ra-226/228 PrpRC5013/5032, SepRC5005
 TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
 01 STANDARD TEST SET
 Analyze Date: 02/22/2008
 Batch: 8042378
 SEQ Batch, Test: None
 pCi/g
 Prep Tech: ,Barcotl

Work Order, Lot, Sample Date/Time	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:
17 KGXH01AC-C	1.02g.in		RASC4698 01/21/08				55	1749	2/21/08	
J8B110000-378-LCS				7.5644 = 1.0000 7.778					2-27-08	14.20 44.00 SB
									PMB 3-4-08 9.41	SB

01/24/2008 10:15 AmtRec: #Containers:1 Scr: Beta:
 Comments:

All Clients for Batch:
 1418995, Landwell Company , JAE, 78254
 KFS211AE-SAMP Constituent List:
 KFSGJ1AN-MS:
 KGXH01AA-BLK:
 Ba-133 RDL: pCi/g LCL:20 UCL:115 RPD:35 Ra-226 RDL:1 pCi/g LCL:70 UCL:130 RPD:35
 KGXH01AC-LCS:
 Ba-133 RDL: pCi/g LCL:20 UCL:115 RPD:35 Ra-226 RDL:1 pCi/g LCL:70 UCL:130 RPD:35

KFS211AE-SAMP Calc Info:
 Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B
 KFSGJ1AN-MS:
 Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B
 KGXH01AA-BLK:
 Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B
 KGXH01AC-LCS:
 Uncert Level (#s): 4 Decay to SaDt: N Blk Subt.: N Sci.Not.: N ODRs: B

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Ra-226 by ASC-7			Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt. *CntU: 0+1, + *SystU, `MDCCConst:2.71													
Calc	TE	SOIL	KF5A21AE	RA-226	1.23E+00	(1.59E-01)		pCi/g	R	6.90E-02	1.56E-01 ✓					97%
Calc	TE	SOIL	KF5FV1AE	RA-226	1.10E+00	(1.43E-01)		pCi/g	R	8.15E-02	1.79E-01 ✓					99%
Calc	TE	SOIL	KF5FX1AE	RA-226	1.49E+00	(1.76E-01)		pCi/g	R	5.54E-02	1.26E-01 ✓					100%
Calc	TE	SOIL	KF5F01AE	RA-226	9.15E-01	(1.17E-01)		pCi/g	R	5.13E-02	1.17E-01 ✓					100%
Calc	TE	SOIL	KF5F11AE	RA-226	8.29E-01	(1.07E-01)		pCi/g	R	3.87E-02	9.22E-02 ✓					100%
Calc	TE	SOIL	KF5F31AE	RA-226	7.41E-01	(1.06E-01)		pCi/g	R	4.34E-02	1.04E-01 ✓					100%
Calc	TE	SOIL	KF5F41AE	RA-226	1.23E+00	(1.54E-01)		pCi/g	R	4.69E-02	1.13E-01 ✓					88%
Calc	TE	SOIL	KF5F71AE	RA-226	1.59E+00	(2.01E-01)		pCi/g	R	4.81E-02	1.14E-01 ✓					100%
Calc	TE	SOIL	KF5F81AE	RA-226	8.76E-01	(1.19E-01)		pCi/g	R	4.65E-02	1.10E-01 ✓					100%
Calc	TE	SOIL	KF5F91AE	RA-226	1.12E+00	(1.49E-01)		pCi/g	R	5.76E-02	1.31E-01 ✓					100%
Calc	TE	SOIL	KF5GC1AE	RA-226	1.02E+00	(1.27E-01)		pCi/g	R	3.91E-02	9.40E-02 ✓					100%
Calc	TE	SOIL	KF5GF1AE	RA-226	7.34E-01	(1.00E-01)		pCi/g	R	4.08E-02	9.72E-02 ✓					100%
Calc	TE	SOIL	KF5GJ1AL	RA-226	9.09E-01	(1.30E-01)		pCi/g	R	6.30E-02	1.45E-01 ✓					100%
Calc	TE	SOIL	KF5GJ1AN	RA-226	3.61E+00	(3.74E-01)		pCi/g	R	4.35E-02	1.02E-01 W				100%	73%
Calc	TE	SOIL	KF5GJ1AN	RA-226	3.79E+00	(3.93E-01)		pCi/g	R	4.39E-02	1.03E-01 W				100%	77%
Calc	TE	SOIL	KF5GJ1AN	RA-226	3.70E+00	(2.71E-01)		pCi/g	A	3.09E-02	7.23E-02 W				100%	75%
Calc	TE	SOIL	KF5GJ1AN	RA-226	2.79E+00	(3.01E-01)		pCi/g	AN	3.09E-02	7.23E-02 W ✓				100%	57% W
Calc	TE	SOIL	KF5GJ1AQ	RA-226	1.17E+00	(1.43E-01)		pCi/g	R	3.26E-02	8.08E-02 ✓ R					100%
Calc	TE	SOIL	KGXH01AA	RA-226	8.81E-01	(1.16E-01)		pCi/g	R	3.76E-02	9.11E-02 ✓ S				100%	66% W
Calc	TE	SOIL	KGXH01AC	RA-226	5.67E-02	(2.61E-02)		pCi/g	R	3.13E-02	7.78E-02 ✓ B					100%

Results for LCS + Blank recalculated.
 Believe samples were switched during process.

T-Dm

Tom D M... 3/6/08

(i) - (1s Uncertainties)
 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 Regardless of Significant
 Date/Time - mm/dd/yy hh:mm, 24hr Time

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	SOIL	*STLE	Ra226WoBS	KF5A21AE	✓	pCi/g				01/24/08 10:15	03/04/08 14:23	02/27/08 12:48	03/04/08 10:23	✓	RATA30161	1	g							
									SOIL											1.01 g	✓					
																					97%					
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fcv/Vol/Adj	Decay	Abn
0	03/04/08	14:23	RA-226	201	✓	23	ASC4UA	ASC	N	N	2.1273E+00	1.0000E+00	0.0000E+00	N	97%	N	1.5717E+00	N					4.5045E-01	1.0000E+00		
				50		60			Y		(6.425E-02)	(0.0000E+00)			8%		(0.0000E+00)						0.990099			
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act	Total	U	Q	Net	Cnt	Rt	Vol	Used	Trc	Yld	Ent	Fct	Ent	Blk	Value	IDC/ILcC	BikLcC/MDC	StdDvMDC/LcC		
	03/04/08	RA-226		R	1.231396								1.01 G		0.156216		97%									
					(0.158981)								(0.325208)		(0.017321)											
2	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5FV1AE	✓	pCi/g				01/24/08 09:55	03/04/08 14:15	02/27/08 12:48	03/04/08 10:15	✓	RATA30162	1	g							
									SOIL																	
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fcv/Vol/Adj	Decay	Abn
0	03/04/08	14:15	RA-226	217	✓	41	ASC5HB	ASC	N	N	2.3299E+00	1.0000E+00	0.0000E+00	N	99%	N	1.5725E+00	N					4.5045E-01	1.0000E+00		
				50		60			Y		(6.151E-02)	(0.0000E+00)			8%		(0.0000E+00)						0.9800392			
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act	Total	U	Q	Net	Cnt	Rt	Vol	Used	Trc	Yld	Ent	Fct	Ent	Blk	Value	IDC/ILcC	BikLcC/MDC	StdDvMDC/LcC		
	03/04/08	RA-226		R	1.095525								1.02 G		0.179101		99%									
					(0.143008)								(0.298089)		(0.0102)											
3	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5FX1AE	✓	pCi/g				01/24/08 11:00	03/04/08 14:29	02/27/08 12:48	03/04/08 10:29	✓	RATA30163	1	g							
									SOIL																	
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fcv/Vol/Adj	Decay	Abn
0	03/04/08	14:29	RA-226	286	✓	22	ASC6RD	ASC	N	N	2.4702E+00	1.0000E+00	0.0000E+00	N	100%	N	1.5711E+00	N					4.5045E-01	1.0000E+00		
				50		60			Y		(7.164E-02)	(0.0000E+00)			8%		(0.0000E+00)						0.970874			
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act	Total	U	Q	Net	Cnt	Rt	Vol	Used	Trc	Yld	Ent	Fct	Ent	Blk	Value	IDC/ILcC	BikLcC/MDC	StdDvMDC/LcC		
	03/04/08	RA-226		R	1.489078								1.03 G		0.12584		100%									
					(0.17648)								(0.364267)		(0.0103)											
4	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5F01AE	✓	pCi/g				01/24/08 11:30	03/04/08 14:31	02/27/08 12:48	03/04/08 10:31	✓	RATA30164	1	g							
									SOIL																	
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fcv/Vol/Adj	Decay	Abn
0	03/04/08	14:31	RA-226	181	✓	19	ASC8HC	ASC	N	N	2.5053E+00	1.0000E+00	0.0000E+00	N	100%	N	1.5709E+00	N					4.5045E-01	1.0000E+00		
				50		60			Y		(2.656E-02)	(0.0000E+00)			8%		(0.0000E+00)						0.9800392			
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act	Total	U	Q	Net	Cnt	Rt	Vol	Used	Trc	Yld	Ent	Fct	Ent	Blk	Value	IDC/ILcC	BikLcC/MDC	StdDvMDC/LcC		
	03/04/08	RA-226		R	1.489078								1.03 G		0.12584		100%									
					(0.17648)								(0.364267)		(0.0103)											

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 8042378

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

3/6/2008 10:15:06 AM

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
03/04/08	RA-226			R	0.914745 (0.116539)		3.30333E+00 (2.7871E-01)	2.071266 (0.241823)	2.071266 (0.241823)	1.02 G (0.0102)	100%		0.117484 0.051268		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5F11AE	✓	pCi/g		01/24/08 10:45	03/04/08 14:27	02/27/08 12:48	✓	RATA30165	1	1.02 G	
								SOIL				03/04/08 10:27		RATA30165	Alq	100%	1.02 G
0																	

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
03/04/08	RA-226			R	0.828632 (0.106639)		3.01667E+00 (2.5895E-01)	1.876281 (0.221701)	1.876281 (0.221701)	1.02 G (0.0102)	100%		0.092231 0.038695		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5F31AE	✓	pCi/g		01/24/08 11:55	03/04/08 14:34	02/27/08 12:48	✓	RATA30166	1	1.02 G	
								SOIL				03/04/08 10:34		RATA30166	Alq	100%	1.02 G
0																	

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
03/04/08	RA-226			R	0.741431 (0.106407)		2.29333E+00 (2.2799E-01)	1.678829 (0.225219)	1.678829 (0.225219)	1.02 G (0.0102)	100%		0.104318 0.043423		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5F41AE	✓	pCi/g		01/24/08 12:30	03/04/08 14:20	02/27/08 12:48	✓	RATA30167	1	1.02 G	
								SOIL				03/04/08 10:20		RATA30167	Alq	88%	1.02 G
0																	

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
03/04/08	RA-226			R	1.225606 (0.154417)		3.51333E+00 (2.7637E-01)	2.775153 (0.319735)	2.775153 (0.319735)	1.02 G (0.0102)	88%		0.112561 0.046855		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5F71AE	✓	pCi/g		01/24/08 12:45	03/04/08 14:27	02/27/08 12:48		RATA30168	1	1.00 G	
								SOIL				03/04/08 10:27		RATA30168	Alq	100%	1.00 G
0																	

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
03/04/08	RA-226			R	1.225606 (0.154417)		3.51333E+00 (2.7637E-01)	2.775153 (0.319735)	2.775153 (0.319735)	1.02 G (0.0102)	88%		0.112561 0.046855		

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:8 RADCALC v4.8.29
 TA Richland

Batch Nbr: 8042378

Alpha Beta, Ra-226 by ASC-7, Calculated Results

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0	03/04/08 14:27	RA-226	253	12	ASCCUA	ASC	N	N	2.1637E+00	1.0000E+00	N	100%	N	1.5713E+00	4.5045E-01	1.0000E+00
			50	60			Y		(1.090E-01)	(0.000E+00)		8%		(0.000E+00)	1.00	
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMDC/LcC		
	03/04/08	RA-226	R	1.589873		4.86000E+00	3.529378	3.529378	1.00G	100%	0.113938	0.048132				
				(0.20089)		(3.2332E-01)	(0.408034)	(0.408034)	(0.01)							

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate	PptWt	QC/Tracer	Vial	Mult/EntYld	Total/Analy	Vol	Final/Count	Vol						
9	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5F81AE	v	pC/g	01/24/08	13:00	03/04/08	15:03	02/27/08	14:00	✓	RATA30169	1	g									
								SOIL																			
								.F8A250205-9																			
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Bik	Value	Ingr	Fct	Conv	Fcv/VolAdj	Decay	Abn	
0	03/04/08	15:03	RA-226	155	✓	13	ASCDUD	ASC	N	N	2.3111E+00	1.0000E+00	N	100%	N	1.5750E+00	4.5045E-01	1.0000E+00									
				50		60			Y		(9.221E-02)	(0.000E+00)		8%		(0.000E+00)	0.990099										
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMDC/LcC													
	03/04/08	RA-226	R	0.876409		2.88333E+00	1.965006	1.965006	1.01G	100%	0.109516	0.046548															
				(0.119153)		(2.5615E-01)	(0.247653)	(0.247653)	(0.0101)																		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate	PptWt	QC/Tracer	Vial	Mult/EntYld	Total/Analy	Vol	Final/Count	Vol						
10	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5F91AE	✓	pC/g	01/24/08	13:10	03/04/08	14:56	02/27/08	14:00	✓	RATA30170	1	g									
								SOIL																			
								.F8A250205-10																			
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Bik	Value	Ingr	Fct	Conv	Fcv/VolAdj	Decay	Abn	
0	03/04/08	14:56	RA-226	207	✓	21	ASCEHA	ASC	N	N	2.3774E+00	1.0000E+00	N	100%	N	1.5757E+00	4.5045E-01	1.0000E+00									
				50		60			Y		(1.182E-01)	(0.000E+00)		8%		(0.000E+00)	0.990099										
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMDC/LcC													
	03/04/08	RA-226	R	1.120829		3.79000E+00	2.513023	2.513023	1.01G	100%	0.131083	0.057561															
				(0.148866)		(2.9771E-01)	(0.308197)	(0.308197)	(0.0101)																		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	AnalysisDate	PptWt	QC/Tracer	Vial	Mult/EntYld	Total/Analy	Vol	Final/Count	Vol					
11	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5G61AE	✓	pC/g	01/24/08	08:05	03/04/08	15:03	02/27/08	14:00	✓	RATA30171	1	g								
								SOIL																		
								.F8A250205-11																		
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Bik	Value	Ingr	Fct	Conv	Fcv/VolAdj	Decay	Abn
0	03/04/08	15:03	RA-226	164	✓	10	ASCFRM	ASC	N	N	2.4350E+00	1.0000E+00	N	100%	N	1.5750E+00	4.5045E-01	1.0000E+00								
				50		60			Y		(4.310E-02)	(0.000E+00)		8%		(0.000E+00)	1.00									
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMDC/LcC												
	03/04/08	RA-226	R	1.023697		3.51333E+00	2.272516	2.272516	1.00G	100%	0.094017	0.039136														
				(0.127453)		(2.7637E-01)	(0.258118)	(0.258118)	(0.01)																	

Batch Nbr: 8042378

Alpha Beta, Ra-226 by ASC-7, Calculated Results

3/6/2008 10:15:07 AM

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	Analysis	Date/Ppt	Wt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/Ent	Yld	Total/Analy	Vol	Final/Count	Vol									
12	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GF1AE	pc/g					02/27/08	14:00				02/27/08	14:00	RATA30172	1	100%	1.02 G	1.02 G	1.0000E+00	1.0000E+00									
1418995	TSB	HJ-07-0	FD									03/04/08	11:03				03/04/08	11:03	RATA30172	Alq	100%	1.02 G	1.02 G	0.980392	0.980392									
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol	Adj	Decay	Abn							
0	03/04/08	15:03	RA-226	136	11	ASC	GAB	ASC	N	N	2.4026E+00	1.0000E+00	1.0000E+00	N	100%	100%	N	1.5750E+00	4.5045E-01	1.0000E+00	1.0000E+00	0.980392	0.980392											
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act	Total	U	Q	Net	Cnt	Rt							TrcYld	EnFct	LCSYld	EFctU	IDC	ILcC	BIkLcC	MDC	StdDv	MdC	LcC					
03/04/08	RA-226	R	0.734382	2.53667E+00	1.662869	1.662869	1.02 G	100%	0.097208										0.097208															
				(0.100156)	(2.3970E-01)	(0.210337)	(0.210337)	(0.0102)	0.040783																									
13	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GJ1AL	pc/g					02/27/08	14:00				02/27/08	14:00	RATA30173	1	100%	1.00 G	1.00 G	1.0000E+00	1.0000E+00									
1418995	TSB	HR-08-0										03/04/08	11:09				03/04/08	11:09	RATA30173	Alq	100%	1.00 G	1.00 G	0.980392	0.980392									
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol	Adj	Decay	Abn							
0	03/04/08	15:09	RA-226	145	18	ASC	HSB	ASC	N	N	2.0281E+00	1.0000E+00	1.0000E+00	N	100%	100%	N	1.5744E+00	4.5045E-01	1.0000E+00	1.0000E+00	0.980392	0.980392											
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act	Total	U	Q	Net	Cnt	Rt							TrcYld	EnFct	LCSYld	EFctU	IDC	ILcC	BIkLcC	MDC	StdDv	MdC	LcC					
03/04/08	RA-226	R	0.909192	2.60000E+00	2.018327	2.018327	1.00 G	100%	0.144907										0.144907															
				(0.130178)	(2.5100E-01)	(0.270037)	(0.270037)	(0.01)	0.063014																									
14	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GJ1AN	pc/g					02/27/08	14:00				02/27/08	14:00	RASA0259	1	100%	1.02 G	1.02 G	1.0000E+00	1.0000E+00									
1418995	TSB	HR-08-0										03/04/08	11:10				03/04/08	11:10	RASA0259	Alq	100%	1.02 G	1.02 G	0.980392	0.980392									
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol	Adj	Decay	Abn							
0	03/04/08	15:10	RA-226	671	14	ASC	JUA	ASC	N	N	2.5427E+00	1.0000E+00	1.0000E+00	N	100%	100%	N	1.5743E+00	4.5045E-01	1.0000E+00	1.0000E+00	0.980392	0.980392											
1	03/04/08	16:35	RA-226	698	14	ASC	JUA	ASC	N	N	2.5427E+00	1.0000E+00	1.0000E+00	N	100%	100%	N	1.5914E+00	4.5045E-01	1.0000E+00	1.0000E+00	0.980392	0.980392											
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act	Total	U	Q	Net	Cnt	Rt							TrcYld	EnFct	LCSYld	EFctU	IDC	ILcC	BIkLcC	MDC	StdDv	MdC	LcC					
03/05/08	RA-226	R	3.605727	1.31867E+01	8.164484	8.164484	1.02 G	100%	0.101679										0.101679															
				(0.374204)	(5.2181E-01)	(0.737989)	(0.737989)	(0.0102)	0.043455																									
03/05/08	RA-226	R	3.794124	1.37267E+01	8.591074	8.591074	1.02 G	100%	0.102783																									
				(0.392594)	(5.3206E-01)	(0.773527)	(0.773527)	(0.0102)	0.043927																									
03/05/08	RA-226	A	3.699925	1.34567E+01	8.377779	8.377779	1.02 G	100%	0.072288																									
				(0.271182)	(3.7262E-01)	(0.534549)	(0.534549)	(0.007212)	0.030894																									
03/05/08	RA-226	AN	2.790733	1.34567E+01	8.377779	8.377779	1.02 G	100%	0.072288																									
				(0.300809)	(3.7262E-01)	(0.534549)	(0.534549)	(0.007212)	0.030894																									

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:15 RADCALC v4.8.29
 TA Richland

Batch Nbr: 8042378

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

3/6/2008 10:15:07 AM

Sq	Calc	TE	SOIL	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	Analysis	Date/PptWt	Sep1/Sep2	Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol	
15	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GJ1AQ	✓	pCi/g	R	01/24/08	09:00	03/04/08	15:11	02/27/08	14:00	03/04/08	11:11	03/04/08	11:11	RATA30174	Alq	100%	1.01 G	g		
F8A250205-14 SOIL																										
Sq	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Vol	Used	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn
0	RA-226	207	✓	7	ASCKME	ASC	N	N	2.4235E+00	1.0000E+00	1.0000E+00	N	100%	N	1.5742E+00	4.5045E-01	1.0000E+00	8%	(0.000E+00)	(0.000E+00)	0.990099					
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm	Blk	Vol	Used	Trc	Yld,EntFct	LCSYld,EFctU	IDC	ILcC	BlkLcC/MDC	StdDv	MdC/LcC	
03/04/08	RA-226	R	1.165579	4.02333E+00	2.613358	2.613358	1.01 G	100%	0.080774																	
			(0.143396)	(2.9111E-01)	(0.292594)	(0.292594)	(0.0101)																			
16	Calc	TE	SOIL	*STLE	Ra226WoBS	KGXH01AA	✓	pCi/g	S	01/24/08	10:15	03/04/08	15:05	02/27/08	14:00	03/04/08	11:05	03/04/08	11:05	RASC4698	Alq	100%	1.02 G	g		
J8B110000-378 SOIL																										
Sq	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Vol	Used	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn
0	RA-226	157	✓	9	ASCLMD	ASC	N	N	2.3593E+00	1.0000E+00	1.0000E+00	N	100%	N	1.5748E+00	4.5045E-01	1.0000E+00	8%	(0.000E+00)	(0.000E+00)	0.980392					
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm	Blk	Vol	Used	Trc	Yld,EntFct	LCSYld,EFctU	IDC	ILcC	BlkLcC/MDC	StdDv	MdC/LcC	
03/06/08	RA-226	R	0.881418	2.99000E+00	1.995805	1.995805	1.02 G	100%	0.091058																	
			(0.116157)	(2.5554E-01)	(0.242529)	(0.242529)	(0.0102)																			
17	Calc	TE	SOIL	*STLE	Ra226WoBS	KGXH01AC	✓	pCi/g	B	01/24/08	10:15	03/04/08	13:41	02/27/08	14:20	03/04/08	09:41	03/04/08	09:41	RATA30175	Alq	100%	1.03 G	g		
J8B110000-378 SOIL																										
Sq	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Vol	Used	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn
0	RA-226	16	✓	7	ASCPMB	ASC	N	N	2.4863E+00	1.0000E+00	1.0000E+00	N	100%	N	1.5858E+00	4.5045E-01	1.0000E+00	8%	(0.000E+00)	(0.000E+00)	0.970874					
Sq	CalcDate,TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm	Blk	Vol	Used	Trc	Yld,EntFct	LCSYld,EFctU	IDC	ILcC	BlkLcC/MDC	StdDv	MdC/LcC	
03/06/08	RA-226	R	0.056719	2.03333E-01	0.129689	0.129689	1.03 G	100%	0.077775																	
			(0.026084)	(9.1348E-02)	(0.059274)	(0.059274)	(0.0103)																			

Alpha Beta, Ra-226 by ASC-7 , Results

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc Yld	LCS Yld	
Ra-226 by ASC-7														
Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt. *CntU: 0+1, + *SystU, `MDCConst:2.71														
Calc	TE	SOIL	KF5A21AE	RA-226	1.23E+00	(1.59E-01)		pCi/g	R	6.90E-02	1.56E-01		97%	
Calc	TE	SOIL	KF5FV1AE	RA-226	1.10E+00	(1.43E-01)		pCi/g	R	8.15E-02	1.79E-01		99%	
Calc	TE	SOIL	KF5FX1AE	RA-226	1.49E+00	(1.76E-01)		pCi/g	R	5.54E-02	1.26E-01		100%	
Calc	TE	SOIL	KF5F01AE	RA-226	9.15E-01	(1.17E-01)		pCi/g	R	5.13E-02	1.17E-01		100%	
Calc	TE	SOIL	KF5F11AE	RA-226	8.29E-01	(1.07E-01)		pCi/g	R	3.87E-02	9.22E-02		100%	
Calc	TE	SOIL	KF5F31AE	RA-226	7.41E-01	(1.06E-01)		pCi/g	R	4.34E-02	1.04E-01		100%	
Calc	TE	SOIL	KF5F41AE	RA-226	1.23E+00	(1.54E-01)		pCi/g	R	4.69E-02	1.13E-01		88%	
Calc	TE	SOIL	KF5F71AE	RA-226	1.59E+00	(2.01E-01)		pCi/g	R	4.81E-02	1.14E-01		100%	
Calc	TE	SOIL	KF5F81AE	RA-226	8.76E-01	(1.19E-01)		pCi/g	R	4.65E-02	1.10E-01		100%	
Calc	TE	SOIL	KF5F91AE	RA-226	1.12E+00	(1.49E-01)		pCi/g	R	5.76E-02	1.31E-01		100%	
Calc	TE	SOIL	KF5GC1AE	RA-226	1.02E+00	(1.27E-01)		pCi/g	R	3.91E-02	9.40E-02		100%	
Calc	TE	SOIL	KF5GF1AE	RA-226	7.34E-01	(1.00E-01)		pCi/g	R	4.08E-02	9.72E-02		100%	
Calc	TE	SOIL	KF5GJ1AL	RA-226	9.09E-01	(1.30E-01)		pCi/g	R	6.30E-02	1.45E-01		100%	
Calc	TE	SOIL	KF5GJ1AN	RA-226	3.61E+00	(3.74E-01)		pCi/g	R	4.35E-02	1.02E-01	W	100%	73%
Calc	TE	SOIL	KF5GJ1AN	RA-226	3.79E+00	(3.93E-01)		pCi/g	R	4.39E-02	1.03E-01	W	100%	77%
Calc	TE	SOIL	KF5GJ1AN	RA-226	3.70E+00	(2.71E-01)		pCi/g	A	3.09E-02	7.23E-02	W	100%	75%
Calc	TE	SOIL	KF5GJ1AN	RA-226	2.79E+00	(3.01E-01)		pCi/g	AN	3.09E-02	7.23E-02	W	100%	57%
Calc	TE	SOIL	KF5GJ1AQ	RA-226	1.17E+00	(1.43E-01)		pCi/g	R	3.26E-02	8.08E-02	R	100%	
Calc	TE	SOIL	KGXH01AA	RA-226	8.73E-01	(1.15E-01)		pCi/g	R	3.72E-02	9.02E-02	B	100%	
Calc	TE	SOIL	KGXH01AC	RA-226	5.73E-02	(2.63E-02)		pCi/g	R	3.17E-02	7.85E-02	S	100%	4%

(I) - (1s Uncertainties)
 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 Regardless of Significant
 Date/Time - mm/dd/yy hh:mm, 24hr Time

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	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
1	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5A21AE	pCi/g		01/24/08 10:15	03/04/08 14:23	02/27/08 12:48	RATA30161	1	9				
							SOIL				03/04/08 10:23	RATA30161	Alq	97%	1.01 g			
.F8A250205-1																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 14:23	RA-226	201	23	ASC4UA	ASC	N	N	2.1273E+00	1.0000E+00	N	97%	N	1.5717E+00	4.5045E-01	1.0000E+00		
			50	60			Y		(6.425E-02)	(0.000E+00)	8%			(0.000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BlkLcC/MDC	StdDwMdc/LcC				
	03/04/08	RA-226	R	1.231396		3.63667E+00	2.760928	2.760928	1.01 G	97%	0.156216							
				(0.158981)		(2.9460E-01)	(0.325208)	(0.325208)	(0.017321)		0.068973							
2	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5FV1AE	pCi/g		01/24/08 09:55	03/04/08 14:15	02/27/08 12:48	RATA30162	1	9				
							SOIL				03/04/08 10:15	RATA30162	Alq	99%	1.02 G			
.F8A250205-2																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 14:15	RA-226	217	41	ASC5HB	ASC	N	N	2.3299E+00	1.0000E+00	N	99%	N	1.5725E+00	4.5045E-01	1.0000E+00		
			50	60			Y		(6.151E-02)	(0.000E+00)	8%			(0.000E+00)	0.980392			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BlkLcC/MDC	StdDwMdc/LcC				
	03/04/08	RA-226	R	1.095525		3.65667E+00	2.480608	2.480608	1.02 G	99%	0.179101							
				(0.143008)		(3.1335E-01)	(0.298089)	(0.298089)	(0.0102)		0.08148							
3	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5FX1AE	pCi/g		01/24/08 11:00	03/04/08 14:29	02/27/08 12:48	RATA30163	1	9				
							SOIL				03/04/08 10:29	RATA30163	Alq	100%	1.03 G			
.F8A250205-3																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 14:29	RA-226	286	22	ASC6RD	ASC	N	N	2.4702E+00	1.0000E+00	N	100%	N	1.5711E+00	4.5045E-01	1.0000E+00		
			50	60			Y		(7.164E-02)	(0.000E+00)	8%			(0.000E+00)	0.970874			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BlkLcC/MDC	StdDwMdc/LcC				
	03/04/08	RA-226	R	1.489078		5.35333E+00	3.404792	3.404792	1.03 G	100%	0.12584							
				(0.17648)		(3.4715E-01)	(0.364267)	(0.364267)	(0.0103)		0.055415							
4	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5F01AE	pCi/g		01/24/08 11:30	03/04/08 14:31	02/27/08 12:48	RATA30164	1	9				
							SOIL				03/04/08 10:31	RATA30164	Alq	100%	1.02 G			
.F8A250205-4																		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 14:31	RA-226	181	19	ASC8HC	ASC	N	N	2.5053E+00	1.0000E+00	N	100%	N	1.5709E+00	4.5045E-01	1.0000E+00		
			50	60			Y		(2.656E-02)	(0.000E+00)	8%			(0.000E+00)	0.980392			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BlkLcC/MDC	StdDwMdc/LcC				
	03/04/08	RA-226	R	1.489078		5.35333E+00	3.404792	3.404792	1.03 G	100%	0.12584							
				(0.17648)		(3.4715E-01)	(0.364267)	(0.364267)	(0.0103)		0.055415							

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yyyy hh:mm. 24hr Time

Alpha Beta, Ra-226 by ASC-7, Calculated Results

Batch Nbr: 8042378

3/5/2008 8:28:20 AM

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcCMDC	StdDvMdC/LcC				
03/04/08	RA-226		R	0.914745		3.30333E+00	2.071266	2.071266	1.02 G	100%	0.117484							
				(0.116539)		(2.7871E-01)	(0.241823)	(0.241823)	(0.0102)		0.051268							
Sq	Status Method Matrix	Protocol Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol						
5	Calc TE SOIL	*STLE Ra226WoBS	KF5F11AE	pCi/g		01/24/08 10:45	03/04/08 14:27	02/27/08 12:48	RATA30165	1	g							
	1418995,TSB-HR-04-0'			SOIL				03/04/08 10:27	RATA30165	Alq	1.02 G							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 14:27	RA-226	160	11	ASC9MA	ASC	N	N	2.5263E+00	1.0000E+00	N	100%	N	1.5713E+00	4.5045E-01	1.0000E+00		
			50	60			Y		(3.512E-02)	(0.000E+00)		8%		(0.000E+00)	0.980392			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcCMDC	StdDvMdC/LcC				
03/04/08	RA-226		R	0.828632		3.01667E+00	1.876281	1.876281	1.02 G	100%	0.092231							
				(0.106639)		(2.5895E-01)	(0.221701)	(0.221701)	(0.0102)		0.038695							
Sq	Status Method Matrix	Protocol Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol						
6	Calc TE SOIL	*STLE Ra226WoBS	KF5F31AE	pCi/g		01/24/08 11:55	03/04/08 14:34	02/27/08 12:48	RATA30166	1	g							
	1418995,TSB-HJ-04-10'			SOIL				03/04/08 10:34	RATA30166	Alq	1.02 G							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 14:34	RA-226	123	10	ASCASB	ASC	N	N	2.1454E+00	1.0000E+00	N	100%	N	1.5705E+00	4.5045E-01	1.0000E+00		
			50	60			Y		(8.882E-02)	(0.000E+00)		8%		(0.000E+00)	0.980392			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcCMDC	StdDvMdC/LcC				
03/04/08	RA-226		R	0.741431		2.29333E+00	1.678829	1.678829	1.02 G	100%	0.104318							
				(0.106407)		(2.2799E-01)	(0.225219)	(0.225219)	(0.0102)		0.043423							
Sq	Status Method Matrix	Protocol Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol						
7	Calc TE SOIL	*STLE Ra226WoBS	KF5F41AE	pCi/g		01/24/08 12:30	03/04/08 14:20	02/27/08 12:48	RATA30167	1	g							
	1418995,TSB-HR-07-0'			SOIL				03/04/08 10:20	RATA30167	Alq	1.02 G							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 14:20	RA-226	184	10	ASCBMC	ASC	N	N	2.2688E+00	1.0000E+00	N	88%	N	1.5720E+00	4.5045E-01	1.0000E+00		
			50	60			Y		(5.944E-02)	(0.000E+00)		7%		(0.000E+00)	0.980392			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BkLcCMDC	StdDvMdC/LcC				
03/04/08	RA-226		R	1.225606		3.51333E+00	2.775153	2.775153	1.02 G	88%	0.112561							
				(0.154417)		(2.7637E-01)	(0.319735)	(0.319735)	(0.0102)		0.046855							
Sq	Status Method Matrix	Protocol Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol						
8	Calc TE SOIL	*STLE Ra226WoBS	KF5F71AE	pCi/g		01/24/08 12:45	03/04/08 14:27	02/27/08 12:48	RATA30168	1	g							
	1418995,TSB-HR-07-10'			SOIL				03/04/08 10:27	RATA30168	Alq	1.00 G							
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration
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Page 2

RecCnt:8 RADCALC v4.8.29
 TA Richland

Batch Nbr: 8042378 Alpha Beta, Ra-226 by ASC-7, Calculated Results 3/5/2008 8:28:20 AM

0 03/04/08 14:27 RA-226 253 ASCCUA ASC N N 2.1637E+00 1.0009E+00 N 100% N 1.5713E+00 4.5045E-01 1.0000E+00
 50 60 Y (1.090E-01) (0.000E+00) 8% (0.000E+00) 1.00

Sq CalcDate,TrcAct Parameter Avg Sa Act, Total U Q Net Cnt Rt Dpm Wo Blk Dpm-Blk Vol Used TrcYld,EnFct LOSYld,EFctU IDC/LeC BlkLcC/MDC StdDvMdc/LcC
 03/04/08 RA-226 R 1.589873 4.86000E+00 3.529378 3.529378 1.00 G 100% 0.113938
 (0.20089) (3.2332E-01) (0.408034) (0.408034) (0.01) 0.048132

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol
 9 Calc TE SOIL *STLE Ra226WoBS KF5F81AE pCi/g 01/24/08 13:00 03/04/08 15:03 02/27/08 14:00 RATA30169 1 9
 1418995,TSB-HR-06-0' ,F8A250205-9 SOIL 03/04/08 11:03 RATA30169 Alq 100% 1.01 G

Sq Cnt Date Parameter Sample Cnt Bkgnd Cnt Instr Geom Trc/Av Ent EfficiencyY1 Efficiency 2 Ent Trc Yld Fct Ent Blk Value Ingr Fct Conv Fct/VolAdj Decay Abn
 0 03/04/08 15:03 RA-226 155 13 ASCDUD ASC N N 2.3111E+00 1.0000E+00 N 100% N 1.5750E+00 4.5045E-01 1.0000E+00
 50 60 Y (9.221E-02) (0.000E+00) 8% (0.000E+00) 0.990099

Sq CalcDate,TrcAct Parameter Avg Sa Act, Total U Q Net Cnt Rt Dpm Wo Blk Dpm-Blk Vol Used TrcYld,EnFct LOSYld,EFctU IDC/LeC BlkLcC/MDC StdDvMdc/LcC
 03/04/08 RA-226 R 0.876409 2.88333E+00 1.965006 1.965006 1.01 G 100% 0.109516
 (0.119153) (2.5615E-01) (0.247653) (0.247653) (0.0101) 0.046548

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol
 10 Calc TE SOIL *STLE Ra226WoBS KF5F91AE pCi/g 01/24/08 13:10 03/04/08 14:56 02/27/08 14:00 RATA30170 1 9
 1418995,TSB-HR-06-10' ,F8A250205-10 SOIL 03/04/08 10:56 RATA30170 Alq 100% 1.01 G

Sq Cnt Date Parameter Sample Cnt Bkgnd Cnt Instr Geom Trc/Av Ent EfficiencyY1 Efficiency 2 Ent Trc Yld Fct Ent Blk Value Ingr Fct Conv Fct/VolAdj Decay Abn
 0 03/04/08 14:56 RA-226 207 21 ASCEHA ASC N N 2.3774E+00 1.0000E+00 N 100% N 1.5757E+00 4.5045E-01 1.0000E+00
 50 60 Y (1.182E-01) (0.000E+00) 8% (0.000E+00) 0.990099

Sq CalcDate,TrcAct Parameter Avg Sa Act, Total U Q Net Cnt Rt Dpm Wo Blk Dpm-Blk Vol Used TrcYld,EnFct LOSYld,EFctU IDC/LeC BlkLcC/MDC StdDvMdc/LcC
 03/04/08 RA-226 R 1.120829 3.79000E+00 2.513023 2.513023 1.01 G 100% 0.131083
 (0.148866) (2.9771E-01) (0.308197) (0.308197) (0.0101) 0.057561

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol
 11 Calc TE SOIL *STLE Ra226WoBS KF5GC1AE pCi/g 01/24/08 08:05 03/04/08 15:03 02/27/08 14:00 RATA30171 1 9
 1418995,TSB-HJ-07-0' ,F8A250205-11 SOIL 03/04/08 11:03 RATA30171 Alq 100% 1.00 G

Sq Cnt Date Parameter Sample Cnt Bkgnd Cnt Instr Geom Trc/Av Ent EfficiencyY1 Efficiency 2 Ent Trc Yld Fct Ent Blk Value Ingr Fct Conv Fct/VolAdj Decay Abn
 0 03/04/08 15:03 RA-226 184 10 ASCFRM ASC N N 2.4350E+00 1.0000E+00 N 100% N 1.5750E+00 4.5045E-01 1.0000E+00
 50 60 Y (4.310E-02) (0.000E+00) 8% (0.000E+00) 1.00

Sq CalcDate,TrcAct Parameter Avg Sa Act, Total U Q Net Cnt Rt Dpm Wo Blk Dpm-Blk Vol Used TrcYld,EnFct LOSYld,EFctU IDC/LeC BlkLcC/MDC StdDvMdc/LcC
 03/04/08 RA-226 R 1.023697 3.51333E+00 2.272516 2.272516 1.00 G 100% 0.094017
 (0.127453) (2.7637E-01) (0.258118) (0.258118) (0.01) 0.039136

0 - (1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Batch Nbr: 8042378 Alpha Beta, Ra-226 by ASC-7 , Calculated Results 3/5/2008 8:28:20 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PtWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analyt Vol	Final/Count Vol
12	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GF1AE	pCi/g		01/24/08 08:05	03/04/08 15:03	02/27/08 14:00	RATA30172	1		g	
							SOIL				03/04/08 11:03	RATA30172	Alq	100%	1.02 G	
0		03/04/08 15:03	RA-226	136	11	ASCGAB	ASC	N	N	2.4026E+00	1.0000E+00	100%	N	1.5750E+00	4.5045E-01	1.0000E+00
				50	60			Y	(6.223E-02)	(0.000E+00)	8%			(0.000E+00)	0.980392	
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKlLcC/MDC	StdDvMdc/LcC		
	03/04/08	RA-226	R	0.734382		2.53667E+00	1.662869	1.662869	1.02 G	100%		0.097208				
				(0.100156)		(2.3970E-01)	(0.210337)	(0.210337)	(0.0102)			0.040783				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PtWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analyt Vol	Final/Count Vol
13	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GJ1AL	pCi/g		01/24/08 09:00	03/04/08 15:09	02/27/08 14:00	RATA30173	1		g	
							SOIL				03/04/08 11:09	RATA30173	Alq	100%	1.00 G	
0		03/04/08 15:09	RA-226	145	18	ASCHSB	ASC	N	N	2.0281E+00	1.0000E+00	100%	N	1.5744E+00	4.5045E-01	1.0000E+00
				50	60			Y	(9.471E-02)	(0.000E+00)	8%			(0.000E+00)	1.00	
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKlLcC/MDC	StdDvMdc/LcC		
	03/04/08	RA-226	R	0.909192		2.6000E+00	2.018327	2.018327	1.00 G	100%		0.144907				
				(0.130178)		(2.5100E-01)	(0.270037)	(0.270037)	(0.01)			0.063014				
Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PtWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analyt Vol	Final/Count Vol
14	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GJ1AN	pCi/g		01/24/08 09:00	03/04/08 16:35	02/27/08 14:00	RASA0259	1		g	
							SOIL				03/04/08 11:10	RASA0259	Alq	100%	1.02 G	
0		03/04/08 15:10	RA-226	671	14	ASCJUA	ASC	N	N	2.5427E+00	1.0000E+00	100%	N	1.5743E+00	4.5045E-01	1.0000E+00
				50	60			Y	(3.636E-02)	(0.000E+00)	8%			(0.000E+00)	0.980392	
1		03/04/08 16:35	RA-226	698	14	ASCJUA	ASC	N	N	2.5427E+00	1.0000E+00	100%	N	1.5914E+00	4.5045E-01	1.0000E+00
				50	60			Y	(3.636E-02)	(0.000E+00)	8%			(0.000E+00)	0.980392	
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKlLcC/MDC	StdDvMdc/LcC		
	03/05/08	RA-226	R	3.605727		1.31867E+01	8.164484	8.164484	1.02 G	100%		0.101679				
				(0.374204)		(5.2181E-01)	(0.737989)	(0.737989)	(0.0102)			0.043455				
	03/05/08	RA-226	R	3.794124		1.37267E+01	8.591074	8.591074	1.02 G	100%		0.102783				
				(0.392594)		(5.3206E-01)	(0.773527)	(0.773527)	(0.0102)			0.043927				
	03/05/08	RA-226	A	3.699925		1.34567E+01	8.377779	8.377779	1.02 G	100%		0.072288				
				(0.271182)		(3.7262E-01)	(0.534549)	(0.534549)	(0.007212)			0.030894				
	03/05/08	RA-226	AN	2.790733		1.34567E+01	8.377779	8.377779	1.02 G	100%		0.072288				
				(0.300809)		(3.7262E-01)	(0.534549)	(0.534549)	(0.007212)			0.030894				

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:15 RADCALC v4.8.29
 TA Richland

Batch Nbr: 8042378

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

3/5/2008 8:28:20 AM

Sq	Calc	TE	SOIL	Protocol	Equation Set	Wrk Ord	Units/Matrix	GC/BB	Sa/On Date	AnalysisDate/PtWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol		
15	Calc	TE	SOIL	*STLE	Ra226WoBS	KF5GJ1AQ	pCi/g	R	01/24/08 09:00	03/04/08 15:11	02/27/08 14:00	RATA30174	1	100%	1.01 G	9		
							SOIL				03/04/08 11:11	RATA30174	Alq	100%	1.01 G			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:11	RA-226	207	7	ASCKME	ASC	N	N	2.4235E+00	1.0000E+00	N	100%	N	1.5742E+00	4.5045E-01	1.0000E+00		
			50	60			Y	Y	(7.270E-02)	(0.0000E+00)		8%		(0.0000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm	Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKLCc/MDC	StdDvMdc/LcC			
	03/04/08	RA-226	R	1.165579		4.02333E+00	2.613358	2.613358	2.613358	1.01 G	100%	0.080774						
				(0.143396)		(2.9111E-01)	(0.292594)	(0.292594)	(0.292594)	(0.0101)		0.032556						
16	Calc	TE	SOIL	*STLE	Ra226WoBS	KGXH01AA	pCi/g	B	01/24/08 10:15	03/04/08 15:05	02/27/08 14:00	RATA30175	1	100%	1.03 G	9		
							SOIL				03/04/08 11:05	RATA30175	Alq	100%	1.03 G			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:05	RA-226	157	9	ASCLMD	ASC	N	N	2.3593E+00	1.0000E+00	N	100%	N	1.5748E+00	4.5045E-01	1.0000E+00		
			50	60			Y	Y	(7.691E-02)	(0.0000E+00)		8%		(0.0000E+00)	0.970874			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm	Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKLCc/MDC	StdDvMdc/LcC			
	03/04/08	RA-226	R	0.872861		2.99000E+00	1.995805	1.995805	1.995805	1.03 G	100%	0.090174						
				(0.115029)		(2.5554E-01)	(0.242529)	(0.242529)	(0.242529)	(0.0103)		0.037198						
17	Calc	TE	SOIL	*STLE	Ra226WoBS	KGXH01AC	pCi/g	S	01/24/08 10:15	03/04/08 13:41	02/27/08 14:20	RASC4698	1	100%	1.02 G	9		
							SOIL				03/04/08 09:41	RASC4698	Alq	100%	1.02 G			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 13:41	RA-226	16	7	ASCPMB	ASC	N	N	2.4863E+00	1.0000E+00	N	100%	N	1.5858E+00	4.5045E-01	1.0000E+00		
			50	60			Y	Y	(6.390E-02)	(0.0000E+00)		8%		(0.0000E+00)	0.980392			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm	Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKLCc/MDC	StdDvMdc/LcC			
	03/04/08	RA-226	R	0.057275		2.03333E-01	0.129689	0.129689	0.129689	1.02 G	100%	0.078538						
				(0.02634)		(9.1348E-02)	(0.059274)	(0.059274)	(0.059274)	(0.0102)		0.031654						

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KGXH01AC Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB

Analysis Size: 1.02 Analysis Unit: G

 Report Date: 4-MAR-2008 14:31:00.68
 First Separation Date: 27-FEB-2008 14:20:00.00
 Second Separation Date: 4-MAR-2008 09:41:00.00

Detector ID: 23 Cell ID: PMB

Bkg Date: 13-FEB-2008 08:41:42.98
 Bkg Counts: 000007 Bkg Duration: 000060.0

Count Date: 4-MAR-2008 13:41:00.27
 Counts: 000016 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KGXH01AC Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 4-MAR-2008 16:26:23.22
 First Separation Date: 27-FEB-2008 14:20:00.00
 Second Separation Date: 4-MAR-2008 09:41:00.00
Detector ID: 23 Cell ID: PMB
Bkg Date: 13-FEB-2008 08:41:42.98
 Bkg Counts: 000007 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 15:36:22.82
 Counts: 000015 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5A21AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0276
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 4-MAR-2008 15:13:00.62
 First Separation Date: 27-FEB-2008 12:48:00.00
 Second Separation Date: 4-MAR-2008 10:23:00.00
Detector ID: 4 Cell ID: 4UA
Bkg Date: 3-MAR-2008 16:58:07.55
 Bkg Counts: 000023 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 14:23:00.28
 Counts: 000201 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5FV1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0051
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 4-MAR-2008 15:05:00.71
 First Separation Date: 27-FEB-2008 12:48:00.00
 Second Separation Date: 4-MAR-2008 10:15:00.00
Detector ID: 5 Cell ID: 5HB
Bkg Date: 21-FEB-2008 09:06:14.98
 Bkg Counts: 000041 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 14:15:00.35
 Counts: 000217 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5FX1AE

Isotope: RA-226

Client: STL

Matrix Code: 341

Batch Nbr: 8042378

Activity Unit: PCI/G

Multiplier: 1.0

Technician: SB

Analysis Size: 1.03

Analysis Unit: G

Report Date: 4-MAR-2008 15:19:00.61

First Separation Date: 27-FEB-2008 12:48:00.00

Second Separation Date: 4-MAR-2008 10:29:00.00

Detector ID: 6

Cell ID: 6RD

Bkg Date: 21-FEB-2008 09:06:21.98

Bkg Counts: 000022

Bkg Duration: 000060.0

Count Date: 4-MAR-2008 14:29:00.28

Counts: 000286

Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F01AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
Report Date: 4-MAR-2008 15:21:00.59
First Separation Date: 27-FEB-2008 12:48:00.00
Second Separation Date: 4-MAR-2008 10:31:00.00
Detector ID: 8 Cell ID: 8HC
Bkg Date: 26-FEB-2008 08:44:42.22
Bkg Counts: 000019 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 14:31:00.26
Counts: 000181 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F11AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 4-MAR-2008 15:17:00.98
 First Separation Date: 27-FEB-2008 12:48:00.00
 Second Separation Date: 4-MAR-2008 10:27:00.00
Detector ID: 9 Cell ID: 9MA
Bkg Date: 14-FEB-2008 09:30:18.15
 Bkg Counts: 000011 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 14:27:00.45
 Counts: 000160 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F31AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 4-MAR-2008 15:24:00.69
 First Separation Date: 27-FEB-2008 12:48:00.00
 Second Separation Date: 4-MAR-2008 10:34:00.00
Detector ID: 10 Cell ID: ASB
Bkg Date: 26-FEB-2008 08:44:58.63
 Bkg Counts: 000010 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 14:34:00.26
 Counts: 000123 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F41AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.1400
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 4-MAR-2008 15:10:00.71
 First Separation Date: 27-FEB-2008 12:48:00.00
 Second Separation Date: 4-MAR-2008 10:20:00.00
Detector ID: 11 Cell ID: BMC
Bkg Date: 21-FEB-2008 09:07:00.80
 Bkg Counts: 000010 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 14:20:00.28
 Counts: 000184 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F71AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 4-MAR-2008 15:17:00.88
 First Separation Date: 27-FEB-2008 12:48:00.00
 Second Separation Date: 4-MAR-2008 10:27:00.00
Detector ID: 12 Cell ID: CUA
Bkg Date: 21-FEB-2008 09:07:58.53
 Bkg Counts: 000012 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 14:27:00.42
 Counts: 000253 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F81AE

Isotope: RA-226

Client: STL

Matrix Code: 341

Batch Nbr: 8042378

Activity Unit: PCI/G

Multiplier: 1.0

Technician: SB

Analysis Size: 1.01

Analysis Unit: G

Report Date: 4-MAR-2008 15:53:01.15

First Separation Date: 27-FEB-2008 14:00:00.00

Second Separation Date: 4-MAR-2008 11:03:00.00

Detector ID: 13

Cell ID: DUD

Bkg Date: 21-FEB-2008 09:08:07.65

Bkg Counts: 000013

Bkg Duration: 000060.0

Count Date: 4-MAR-2008 15:03:00.56

Counts: 000155

Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5F91AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0004
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 4-MAR-2008 15:46:00.76
 First Separation Date: 27-FEB-2008 14:00:00.00
 Second Separation Date: 4-MAR-2008 10:56:00.00
Detector ID: 14 Cell ID: EHA
Bkg Date: 20-FEB-2008 09:02:00.26
 Bkg Counts: 000021 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 14:56:00.36
 Counts: 000207 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GC1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 4-MAR-2008 15:53:03.22
 First Separation Date: 27-FEB-2008 14:00:00.00
 Second Separation Date: 4-MAR-2008 11:03:00.00
Detector ID: 15 Cell ID: FRM
Bkg Date: 20-FEB-2008 09:02:11.39
 Bkg Counts: 000010 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 15:03:02.68
 Counts: 000184 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GF1AE Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 4-MAR-2008 15:53:01.14
 First Separation Date: 27-FEB-2008 14:00:00.00
 Second Separation Date: 4-MAR-2008 11:03:00.00
Detector ID: 16 Cell ID: GAB
Bkg Date: 21-FEB-2008 09:08:41.50
 Bkg Counts: 000011 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 15:03:00.64
 Counts: 000136 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GJ1AL Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.00 Analysis Unit: G
 Report Date: 4-MAR-2008 15:59:00.59
 First Separation Date: 27-FEB-2008 14:00:00.00
 Second Separation Date: 4-MAR-2008 11:09:00.00
Detector ID: 17 Cell ID: HSB
Bkg Date: 21-FEB-2008 09:08:53.36
 Bkg Counts: 000018 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 15:09:00.27
 Counts: 000145 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GJ1AN Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.02 Analysis Unit: G
 Report Date: 4-MAR-2008 16:00:00.65
 First Separation Date: 27-FEB-2008 14:00:00.00
 Second Separation Date: 4-MAR-2008 11:10:00.00
Detector ID: 18 Cell ID: JUA
Bkg Date: 21-FEB-2008 09:09:03.81
 Bkg Counts: 000014 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 15:10:00.29
 Counts: 000671 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GJ1AN

Isotope: RA-226

Client: STL

Matrix Code: 341

Batch Nbr: 8042378

Activity Unit: PCI/G

Multiplier: 1.0

Technician: SB

Analysis Size: 1.02

Analysis Unit: G

Report Date: 4-MAR-2008 17:25:45.98

First Separation Date: 27-FEB-2008 14:00:00.00

Second Separation Date: 4-MAR-2008 11:10:00.00

Detector ID: 18

Cell ID: JUA

Bkg Date: 21-FEB-2008 09:09:03.81

Bkg Counts: 000014

Bkg Duration: 000060.0

Count Date: 4-MAR-2008 16:35:45.63

Counts: 000698

Count Duration: 000050.0

End of Report ✓

*Account
TMM 3/6/08*

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: KF5GJ1AQ Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.01 Analysis Unit: G
 Report Date: 4-MAR-2008 16:01:00.90
 First Separation Date: 27-FEB-2008 14:00:00.00
 Second Separation Date: 4-MAR-2008 11:11:00.00
Detector ID: 19 Cell ID: KME
Bkg Date: 20-FEB-2008 09:03:29.79
 Bkg Counts: 000007 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 15:11:00.28
 Counts: 000207 Count Duration: 000050.0

End of Report ✓

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

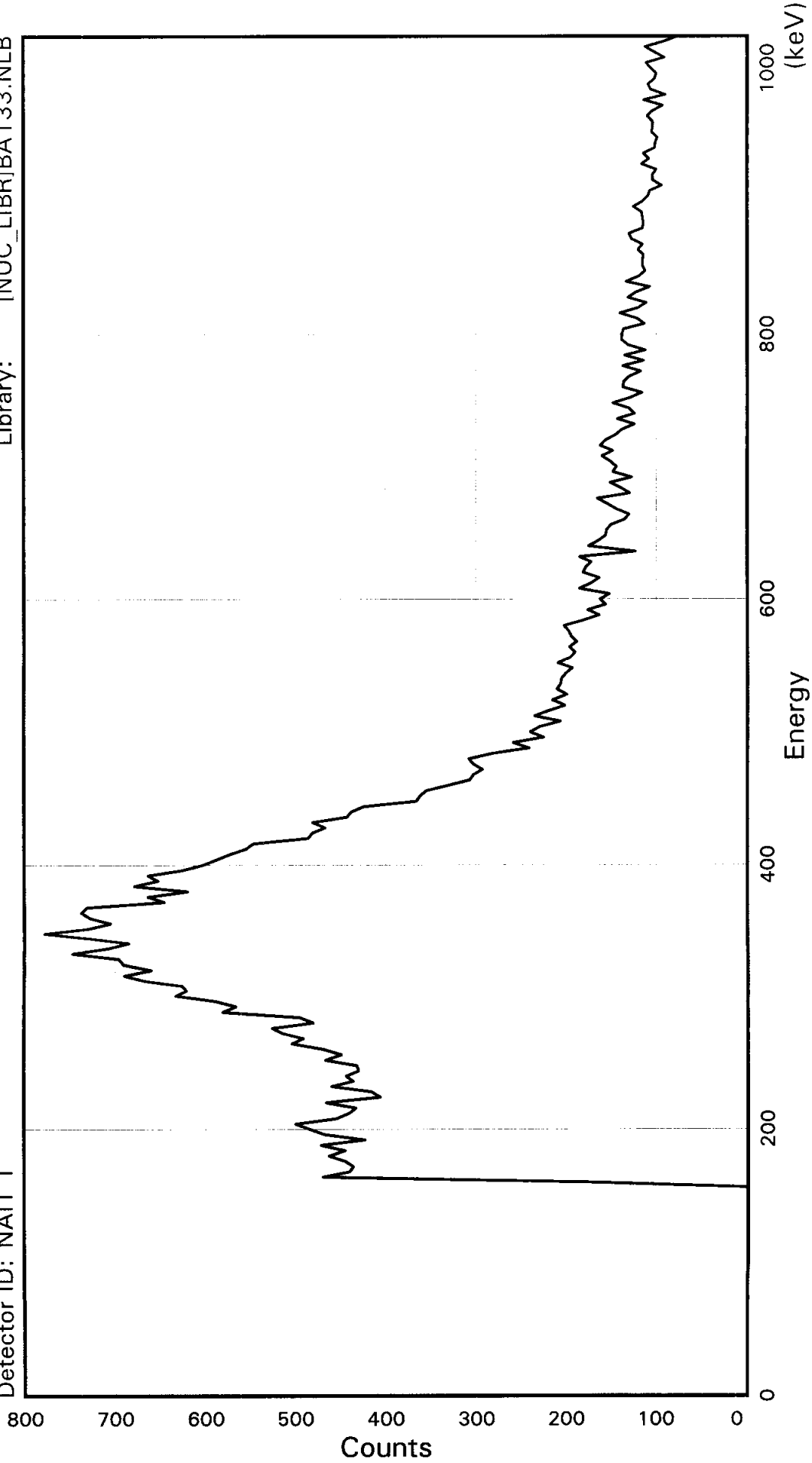
Sample ID: KGXH01AA Isotope: RA-226
Client: STL Matrix Code: 341
Batch Nbr: 8042378 Activity Unit: PCI/G Multiplier: 1.0
Technician: SB
Analysis Size: 1.03 Analysis Unit: G
 Report Date: 4-MAR-2008 15:55:00.71
 First Separation Date: 27-FEB-2008 14:00:00.00
 Second Separation Date: 4-MAR-2008 11:05:00.00
Detector ID: 20 Cell ID: LMD ✓
Bkg Date: 14-FEB-2008 11:15:50.52
 Bkg Counts: 000009 Bkg Duration: 000060.0
Count Date: 4-MAR-2008 15:05:00.33
 Counts: 000157 Count Duration: 000050.0

End of Report ✓

TAL Richland WA.
BA133

Sample ID: KF5A21AE
Detector ID: NAI1 1

BatchID: 8042378
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 26-FEB-2008 12:34:40
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: KF5A21AE

CONFIGURATION ID: NAI1:KF5A21AE_260281234
TITLE : BA133
SAMPLE ID : KF5A21AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 12:34:40
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 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/C²
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

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF5A21AE_260281234.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:34:40
Sample ID : KF5A21AE 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:	4.1	4.4	3.8	5.9	4.1	1.7	2.6	4.0
88:	2.3	0.4	-0.3	0.4	1.8	-2.6	-0.9	-3.2
96:	0.2	-0.4	0.4	-1.4	-4.3	-2.4	-2.7	-2.4
104:	-2.8	-4.8	-4.1	-3.7	-2.4	-3.3	-2.5	-2.8
112:	-4.7	-4.8						

List of Suspicious Channels

81 82 83 87

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	9.91E+00	0.00E+00	1.02E+00
2	5.17E+00	0.00E+00	1.04E+00
3	2.63E+00	0.00E+00	1.05E+00
4	1.19E+00	0.00E+00	1.07E+00

Brief Report

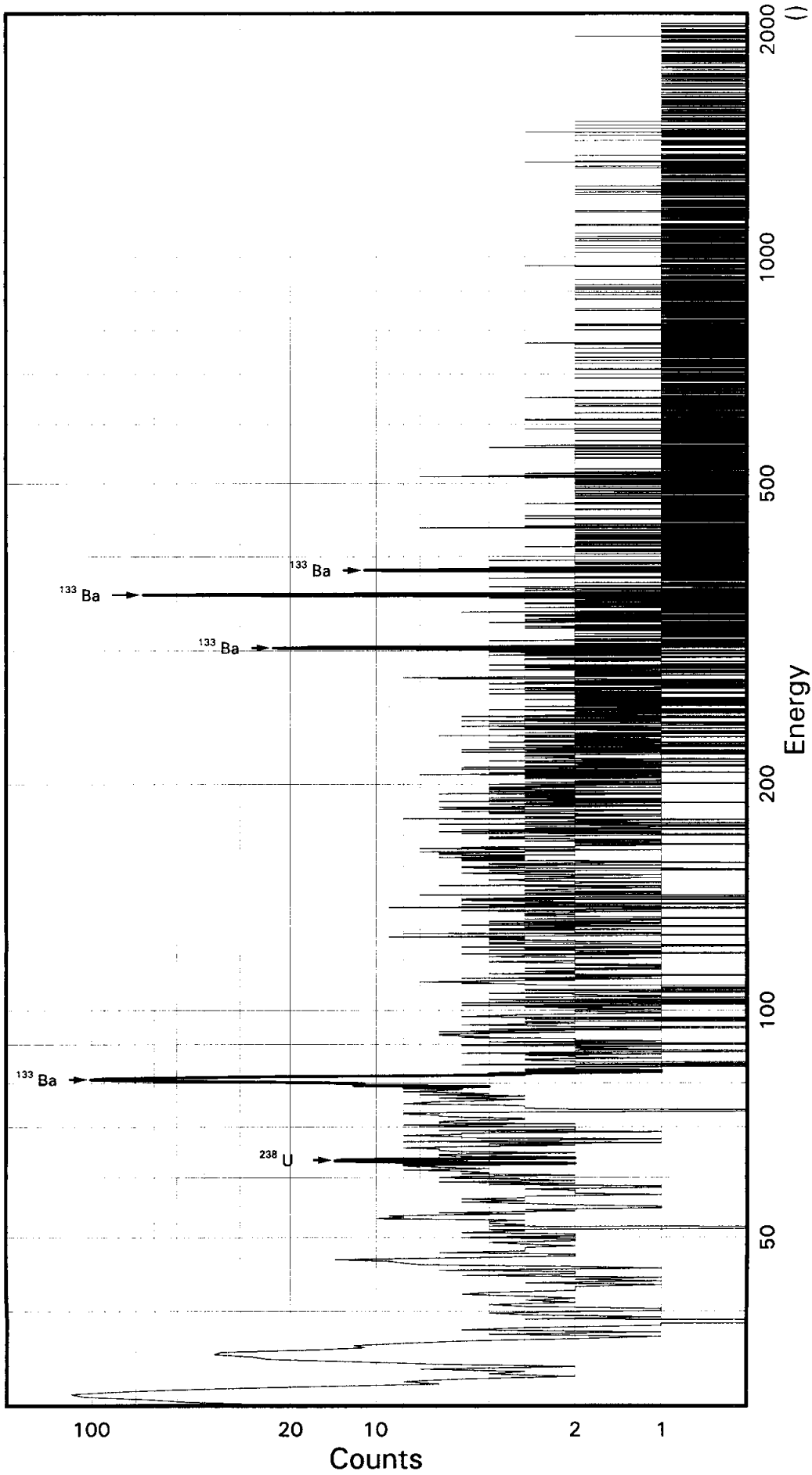
Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	732.	10.0

Total Activity :	732.	

TAL Richland WA.
BA 133

Batch ID: 8042378

Sample ID: KF5FV1AE
Detector ID: GER5 1



Acquisition Start: 26-FEB-2008 12:35:14.22
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -3.59498E-01
Slope: 2.49379E-01
Quadrature: -3.84442E-09

SAMPLE IDENTIFICATION: KF5FV1AE

CONFIGURATION ID: GER5:KF5FV1AE_260281235
TITLE : BA133
SAMPLE ID : KF5FV1AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 12:35:14
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:52:15.35
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: -.3595E+00 keV
ENERGY SLOPE: 2.4938E-01 keV/C
ENERGY Q COEFF: -.3844E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.6258E-01 keV
FWHM SLOPE: 2.5570E-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 26-FEB-2008 13:05:30

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]KF5FV1AE_260281235.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:35:14
Sample ID         : KF5FV1AE 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      : 19.59 End energy : 2042.29
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.93	483	81	0.86	125.48	118	16	2.69E-01	6.2	
2	0	35.20	151	72	1.02	142.57	134	20	8.41E-02	15.8	
3	0	46.73*	14	28	0.72	188.84	185	13	7.97E-03	86.6	
4	0	53.31	39	21	1.17	215.23	208	14	2.19E-02	29.4	
5	0	63.38*	3	32	0.52	255.59	251	7	1.87E-03	318.0	
6	0	80.98	390	78	0.85	326.16	316	20	2.17E-01	7.6	
7	0	302.87	103	10	1.19	1215.97	1209	13	5.73E-02	11.7	
8	0	355.99	287	0	0.94	1428.97	1421	18	1.59E-01	5.9	
9	0	383.65	57	0	1.41	1539.91	1533	13	3.17E-02	13.2	
10	0	436.77	15	4	0.41	1752.91	1744	13	8.42E-03	35.9	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]KF5FV1AE_260281235.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:35:14
Sample ID         : KF5FV1AE 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	390	33.00	1.919E+00	2.052E+03	2.061E+03	9.32
	276.40	-----	6.90	2.072E+00	-----	Line Not Found	-----
	302.84	103	17.80	2.074E+00	9.310E+02	9.354E+02	12.85
	356.00	287	62.05*	2.076E+00	7.426E+02	7.461E+02	7.99
	383.85	57	8.70	2.076E+00	1.052E+03	1.057E+03	14.30

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5FV1AE

Page : 2
Acquisition date : 26-FEB-2008 12:35:14

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.93	483	81	0.86	125.48	118	16	2.69E-01	6.2	1.68E+00	
0	35.20	151	72	1.02	142.57	134	20	8.41E-02	15.8	1.71E+00	
0	46.73	14	28	0.72	188.84	185	13	7.97E-03	86.6	1.79E+00	
0	53.31	39	21	1.17	215.23	208	14	2.19E-02	29.4	1.82E+00	
0	63.38	3	32	0.52	255.59	251	7	1.87E-03	****	1.87E+00	T
0	436.77	15	4	0.41	1752.91	1744	13	8.42E-03	35.9	2.07E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5FV1AE

Page : 3
Acquisition date : 26-FEB-2008 12:35:14

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
U-238DHP	4.47E+09Y	0.00	63.28*	3.80	1.582E+02	318.07	Abun.
			92.59	5.41	---	Not Found	---
% Abundances Found =				41.26			

Flag: "*" = Keyline

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KF5FV1AE_260281235.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 : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:35:14
 Sample ID : KF5FV1AE 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	7.461E+02	5.961E+01	4.656E+01	9.313E-01	16.023

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.926E+01	7.804E+01	3.066E+02	6.152E+00	-0.063
NA-22	3.223E+00	4.221E+00	2.057E+01	4.362E-01	0.157
NA-24	2.674E+06	2.678E+06	Half-Life too short		
K-40	6.946E+01	7.506E+01	3.690E+02	7.928E+00	0.188
SC-46	4.636E+00	4.256E+00	2.299E+01	4.821E-01	0.202
CR-51	8.975E+01	1.740E+02	6.766E+02	1.354E+01	0.133
MN-54	-1.770E+00	4.630E+00	1.878E+01	3.856E-01	-0.094
CO-57	6.789E+01	1.378E+02	5.050E+02	1.044E+01	0.134
CO-58	-5.936E+00	7.744E+00	2.839E+01	5.819E-01	-0.209
FE-59	1.379E+01	1.325E+01	6.280E+01	1.315E+00	0.220
CO-60	3.004E+00	5.454E+00	2.402E+01	5.114E-01	0.125
ZN-65	-3.372E+00	6.072E+00	2.624E+01	5.501E-01	-0.128
SE-75	5.608E+00	2.138E+01	7.989E+01	1.603E+00	0.070
SR-85	-3.296E+01	1.611E+01	5.041E+01	1.013E+00	-0.654
Y-88	-2.176E+00	3.692E+00	1.550E+01	3.414E-01	-0.140
NB-94	-5.050E+00	3.746E+00	1.215E+01	2.501E-01	-0.416
NB-95	-2.269E+00	1.187E+01	4.577E+01	9.349E-01	-0.050
TC-95M	-1.403E+01	2.401E+01	8.527E+01	1.725E+00	-0.165
ZR-95	1.710E+01	1.131E+01	5.651E+01	1.154E+00	0.303
ZRNB-95	-3.590E+00	1.878E+01	7.241E+01	1.479E+00	-0.050
MO-99	-5.655E-03	5.162E-03	Half-Life too short		
RH-101	2.064E+01	1.813E+01	7.013E+01	1.420E+00	0.294
RH-102M	-3.357E+00	5.949E+00	2.259E+01	4.531E-01	-0.149
RU-103	-6.977E+00	1.203E+01	4.443E+01	8.922E-01	-0.157
RU-106DA	1.016E+02	6.133E+01	2.897E+02	5.860E+00	0.351
AG-108M	5.501E+00	8.394E+00	3.114E+01	6.237E-01	0.177
AG-110M	-2.581E+00	5.537E+00	2.272E+01	4.682E-01	-0.114

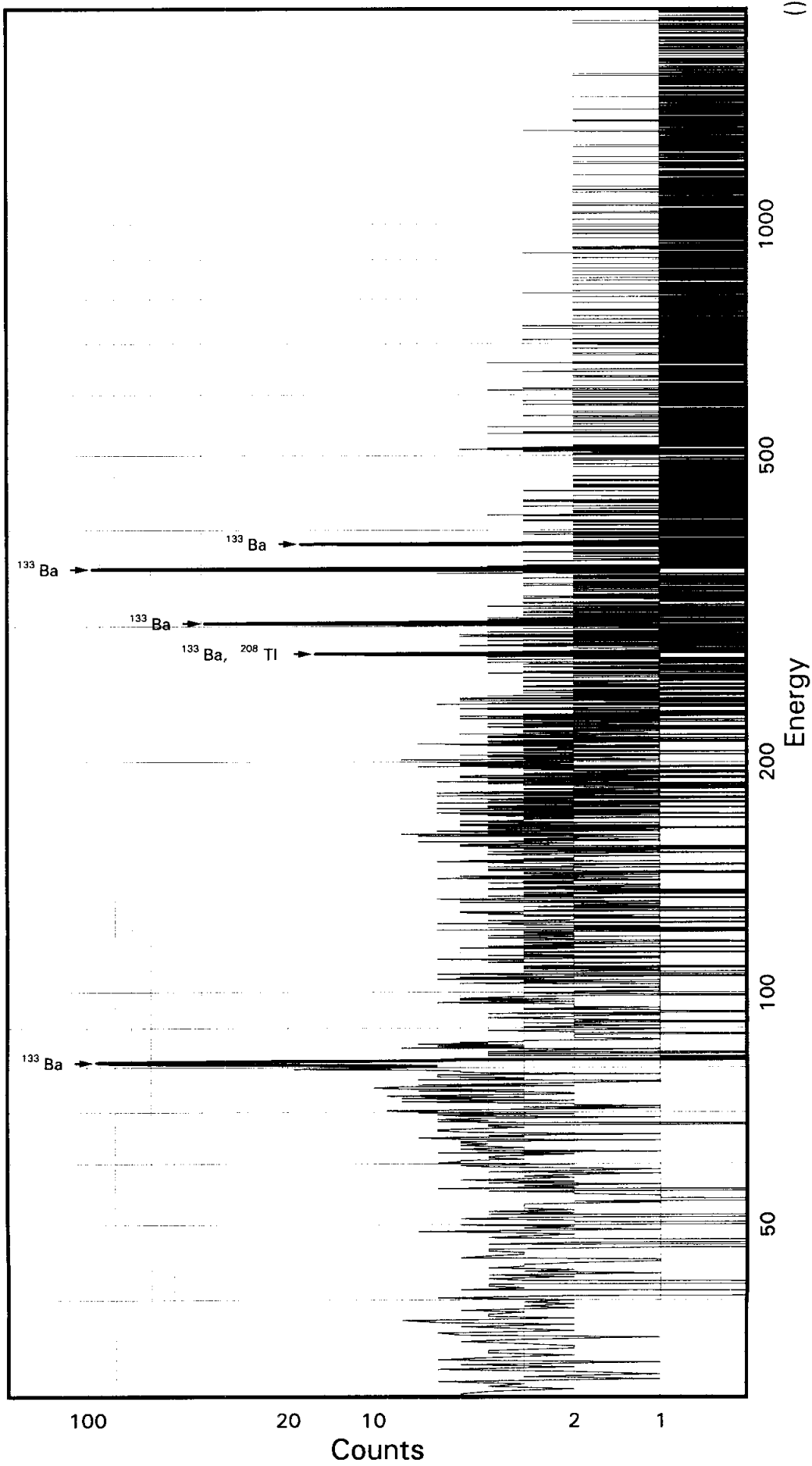
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	4.230E+00		1.298E+01	5.246E+01	1.050E+00	0.081
SB-124	-1.047E+01		8.551E+00	2.864E+01	5.786E-01	-0.366
SB-125	-4.278E+00		2.513E+01	9.676E+01	1.938E+00	-0.044
SN-126DA	-3.438E+00		5.375E+00	2.055E+01	4.169E-01	-0.167
I-131	-2.212E+01		8.857E+01	3.387E+02	6.773E+00	-0.065
CS-134	-7.148E+00		6.306E+00	2.201E+01	4.506E-01	-0.325
CS-137DA	-3.345E+00		5.252E+00	2.061E+01	4.179E-01	-0.162
LA-138	-5.483E+00		5.332E+00	1.898E+01	4.071E-01	-0.289
CE-139	-1.306E+01		1.829E+01	6.467E+01	1.321E+00	-0.202
BA-140	-9.561E+01		1.156E+02	4.112E+02	8.273E+00	-0.233
BALA-140	3.026E+01		2.976E+01	1.608E+02	3.487E+00	0.188
LA-140	7.895E-02		7.765E-02	Half-Life too short		
CE-141	1.102E+01		4.598E+01	1.670E+02	3.437E+00	0.066
CE-144	-1.022E+02		1.241E+02	4.219E+02	8.735E+00	-0.242
CEPR-144	-2.056E+02		2.481E+02	8.432E+02	1.746E+01	-0.244
PM-144	-1.483E+01		7.197E+00	2.066E+01	4.178E-01	-0.718
PM-146	2.550E-01		8.565E+00	3.514E+01	7.043E-01	0.007
EU-152	-2.432E+01		3.145E+01	1.097E+02	2.194E+00	-0.222
EU-154	9.192E+00		1.177E+01	5.743E+01	1.218E+00	0.160
EU-155	2.206E+01		5.372E+01	2.033E+02	4.289E+00	0.109
HF-181	-2.301E-01		1.184E+01	4.693E+01	9.417E-01	-0.005
BI-207	5.818E+00		5.729E+00	2.579E+01	5.200E-01	0.226
TL-208	7.348E+00		7.881E+00	3.579E+01	7.221E-01	0.205
BI-210M	5.760E+00		2.152E+01	8.065E+01	1.618E+00	0.071
BI-212	2.928E+00		6.926E+01	2.983E+02	9.119E+00	0.010
PB-212	-3.126E+01		2.414E+01	8.933E+01	1.797E+00	-0.350
BI-214	1.990E+01		1.546E+01	7.043E+01	1.423E+00	0.283
PB-214	-1.737E+00		2.630E+01	8.939E+01	1.788E+00	-0.019
RA-223	-1.716E+02		8.006E+01	2.457E+02	4.929E+00	-0.698
RA-224DA	-3.208E+01		2.478E+01	9.167E+01	1.844E+00	-0.350
RA-226DA	1.990E+01		1.546E+01	7.043E+01	1.423E+00	0.283
AC-227DA	-7.719E+01		9.484E+01	3.310E+02	6.661E+00	-0.233
AC-228	2.386E+01		2.002E+01	9.839E+01	2.031E+00	0.243
RA-228DA	2.407E+01		2.019E+01	9.924E+01	2.049E+00	0.243
TH-228DA	2.099E+01		2.251E+01	1.022E+02	2.063E+00	0.205
TH-232DA	-1.308E+01		7.778E+01	2.832E+02	5.665E+00	-0.046
TH-234DA	-1.472E+02		7.075E+02	3.081E+03	6.403E+01	-0.048
U-234DA	-8.704E+01		5.715E+01	1.854E+02	3.713E+00	-0.469
U-235HP	1.086E+01		1.249E+02	4.483E+02	9.235E+00	0.024
NP-237DA	-5.600E+00		2.296E+01	8.486E+01	1.698E+00	-0.066
U-238DA	-1.737E+00		2.630E+01	8.939E+01	1.788E+00	-0.019
U-238DHP	1.582E+02	+	5.031E+02	2.052E+03	4.569E+01	0.077
AM-241HP	-1.234E+01		4.683E+01	1.595E+02	3.578E+00	-0.077

TAL Richland WA.
BA133

Sample ID: KF5FX1AE
Detector ID: GER11 1

Batch ID: 8042378



Energy Coefficients:
Offset: -1.02763E + 00
Slope: 2.31726E-01
Quadrature: 2.99654E-08

Acquisition Start: 26-FEB-2008 12:35:30.24
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5FX1AE

CONFIGURATION ID: GER11:KF5FX1AE_260281235
TITLE : BA133
SAMPLE ID : KF5FX1AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 12:35:30
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:53:04.78
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.1028E+01 keV
ENERGY SLOPE: 2.3173E-01 keV/C
ENERGY Q COEFF: 2.9965E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.1716E-01 keV
FWHM SLOPE: 4.0024E-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 26-FEB-2008 13:05:52

```

Configuration      : $DISK1:[GER11.SAMPLE]KF5FX1AE_260281235.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:35:30
Sample ID        : KF5FX1AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.96 0.1%
Start energy     : 1.29 End energy : 1899.28
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.16	261	25	0.62	354.65	351	9	1.45E-01	7.2	
2	0	276.42	68	15	1.06	1197.15	1189	16	3.80E-02	17.7	
3	0	302.73	169	4	0.68	1310.65	1303	16	9.38E-02	8.1	
4	0	355.84	480	21	1.06	1539.72	1531	17	2.67E-01	5.1	
5	0	383.69	90	0	1.08	1659.87	1653	16	5.00E-02	10.5	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER11.SAMPLE]KF5FX1AE_260281235.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:35:30
Sample ID        : KF5FX1AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.96 0.1%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	261	33.00	2.880E+00	9.140E+02	9.183E+02	9.06
	276.40	68	6.90	3.084E+00	1.071E+03	1.076E+03	18.53
	302.84	169	17.80	3.088E+00	1.024E+03	1.029E+03	9.76
	356.00	480	62.05*	3.090E+00	8.341E+02	8.380E+02	7.39
	383.85	90	8.70	3.090E+00	1.116E+03	1.121E+03	11.84

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5FX1AE

Page : 2
Acquisition date : 26-FEB-2008 12:35:30

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5FX1AE

Page : 3
Acquisition date : 26-FEB-2008 12:35:30

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	1.087E+03	18.53	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

```

Configuration      : $DISK1:[GER11.SAMPLE]KF5FX1AE 260281235.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       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:35:30
Sample ID        : KF5FX1AE Sample quantity   : 1.0000 SAMPL
Sample type      : Sample geometry    : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.96 0.1%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio  : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.380E+02	6.197E+01	4.374E+01	8.747E-01	19.162

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	6.079E+00	4.729E+01	1.975E+02	3.961E+00	0.031
NA-22	-6.701E+00	3.210E+00	8.524E+00	1.797E-01	-0.786
K-40	-3.672E+01	4.633E+01	2.198E+02	4.687E+00	-0.167
SC-46	4.165E+00	3.708E+00	1.828E+01	3.815E-01	0.228
CR-51	-8.218E+01	1.163E+02	4.129E+02	8.260E+00	-0.199
MN-54	7.048E+00	3.711E+00	1.855E+01	3.798E-01	0.380
CO-57	1.673E+01	6.553E+01	2.451E+02	5.050E+00	0.068
CO-58	-5.517E+00	3.986E+00	1.328E+01	2.714E-01	-0.415
FE-59	1.295E+01	8.637E+00	4.296E+01	8.952E-01	0.302
CO-60	-2.361E+00	2.260E+00	8.229E+00	1.741E-01	-0.287
ZN-65	-4.844E+00	6.780E+00	2.567E+01	5.355E-01	-0.189
SE-75	4.073E+00	9.842E+00	3.990E+01	8.002E-01	0.102
SR-85	-1.412E+01	8.270E+00	2.613E+01	5.249E-01	-0.540
Y-88	1.063E-01	2.752E+00	1.301E+01	2.838E-01	0.008
NB-94	3.308E+00	2.939E+00	1.450E+01	2.976E-01	0.228
NB-95	-3.164E+00	5.666E+00	2.212E+01	4.508E-01	-0.143
TC-95M	-4.567E+00	1.491E+01	5.360E+01	1.083E+00	-0.085
ZR-95	-1.950E+00	7.676E+00	3.161E+01	6.439E-01	-0.062
ZRNB-95	-5.005E+00	8.964E+00	3.499E+01	7.131E-01	-0.143
RH-101	9.206E-01	1.193E+01	4.407E+01	8.912E-01	0.021
RH-102M	4.215E-01	3.367E+00	1.442E+01	2.891E-01	0.029
RU-103	1.432E+01	5.306E+00	2.961E+01	5.943E-01	0.484
RU-106DA	-3.425E+01	2.583E+01	8.585E+01	1.734E+00	-0.399
AG-108M	-1.061E+01	5.644E+00	1.774E+01	3.552E-01	-0.598
AG-110M	-3.555E+00	5.205E+00	1.951E+01	4.008E-01	-0.182
SN-113DA	7.491E-01	8.748E+00	3.477E+01	6.956E-01	0.022
SB-124	-3.114E+00	5.843E+00	2.207E+01	4.453E-01	-0.141

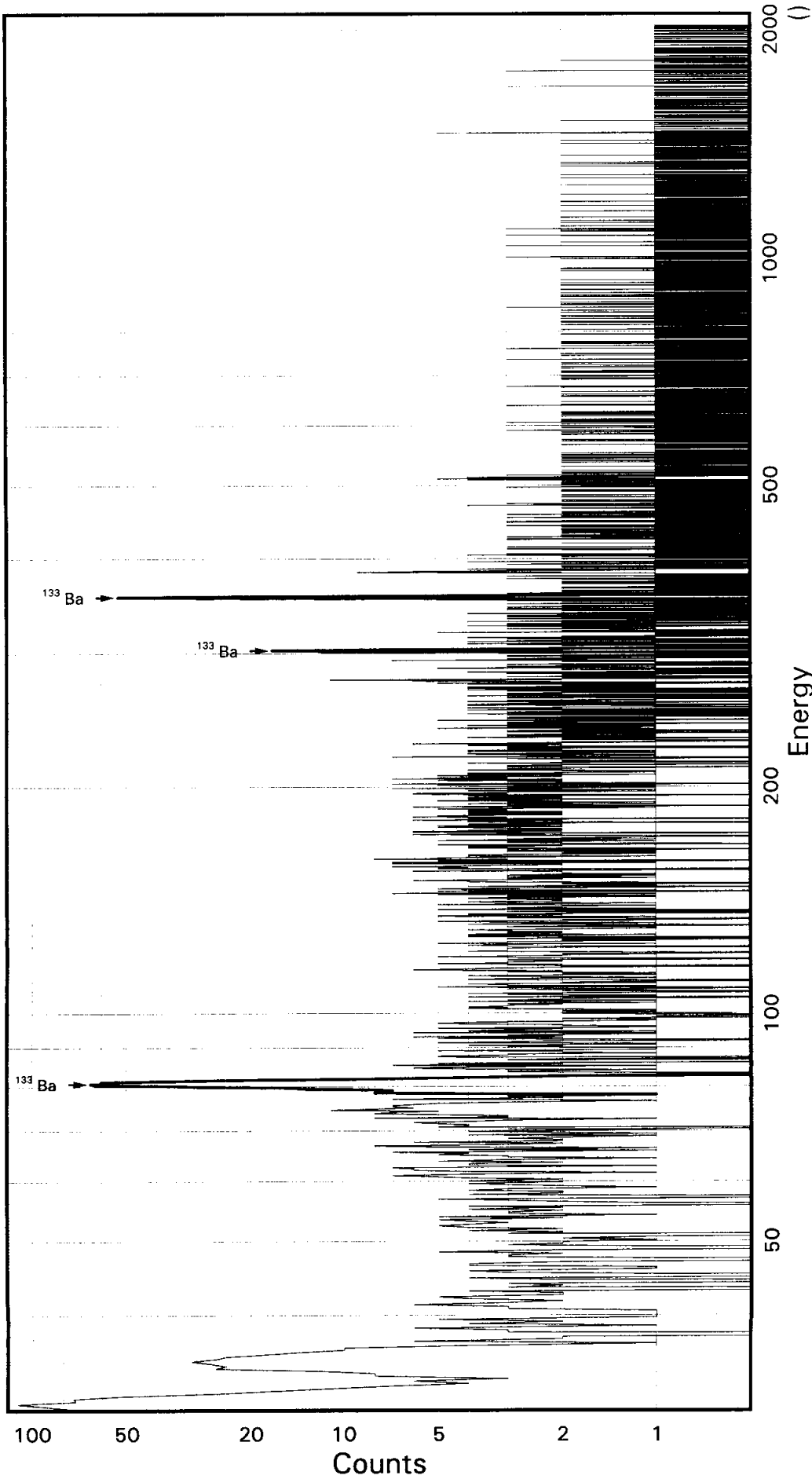
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-4.104E-01		1.545E+01	6.120E+01	1.225E+00	-0.007
SN-126DA	2.109E+00		4.112E+00	1.733E+01	3.510E-01	0.122
I-131	-5.148E+00		4.830E+01	1.881E+02	3.762E+00	-0.027
CS-134	-6.270E+00		4.294E+00	1.421E+01	2.902E-01	-0.441
CS-137DA	6.348E+00		5.631E+00	2.418E+01	4.896E-01	0.263
LA-138	-3.548E+00		3.501E+00	1.266E+01	2.696E-01	-0.280
CE-139	5.149E-01		1.106E+01	4.117E+01	8.390E-01	0.013
BA-140	-1.331E+02		8.959E+01	2.877E+02	5.786E+00	-0.463
BALA-140	-4.440E+00		1.846E+01	8.390E+01	1.804E+00	-0.053
CE-141	4.230E+01		2.475E+01	1.036E+02	2.127E+00	0.408
CE-144	7.845E+01		7.490E+01	2.892E+02	5.965E+00	0.271
CEPR-144	1.588E+02		1.500E+02	5.792E+02	1.195E+01	0.274
PM-144	3.147E+00		4.078E+00	1.796E+01	3.627E-01	0.175
PM-146	-6.976E+00		5.712E+00	1.961E+01	3.929E-01	-0.356
EU-152	-1.595E+00		1.950E+01	7.405E+01	1.481E+00	-0.022
EU-154	-1.861E+01		8.916E+00	2.368E+01	4.990E-01	-0.786
EU-155	3.421E+01		3.628E+01	1.420E+02	2.978E+00	0.241
HF-181	-2.500E+00		6.632E+00	2.585E+01	5.184E-01	-0.097
BI-207	5.938E+00		3.686E+00	1.782E+01	3.589E-01	0.333
TL-208	1.225E+01		5.063E+00	2.460E+01	4.959E-01	0.498
BI-210M	7.055E-01		1.059E+01	4.145E+01	8.313E-01	0.017
BI-212	-9.392E+01		6.196E+01	1.962E+02	5.994E+00	-0.479
PB-212	1.617E+01		1.413E+01	5.666E+01	1.139E+00	0.285
BI-214	2.169E+01		1.217E+01	5.275E+01	1.065E+00	0.411
PB-214	1.222E+01		1.961E+01	7.135E+01	1.427E+00	0.171
RA-223	-1.332E+01		4.191E+01	1.573E+02	3.154E+00	-0.085
RA-224DA	1.660E+01		1.450E+01	5.814E+01	1.169E+00	0.285
RA-226DA	2.169E+01		1.217E+01	5.275E+01	1.065E+00	0.411
AC-227DA	-1.164E+02		6.210E+01	1.909E+02	3.839E+00	-0.610
AC-228	-1.063E+00		1.136E+01	4.731E+01	9.736E-01	-0.022
RA-228DA	-1.073E+00		1.146E+01	4.772E+01	9.820E-01	-0.022
TH-228DA	3.500E+01		1.446E+01	7.027E+01	1.416E+00	0.498
TH-232DA	-1.717E+01		5.036E+01	1.828E+02	3.657E+00	-0.094
TH-234DA	-7.924E+01		4.567E+02	1.933E+03	4.001E+01	-0.041
U-234DA	-3.564E+00		3.131E+01	1.193E+02	2.389E+00	-0.030
U-235HP	-7.971E+01		6.585E+01	2.296E+02	4.716E+00	-0.347
NP-237DA	-1.188E+01		1.527E+01	5.432E+01	1.087E+00	-0.219
U-238DA	1.222E+01		1.961E+01	7.135E+01	1.427E+00	0.171
U-238DHP	1.495E+02		2.414E+02	8.832E+02	1.945E+01	0.169
AM-241HP	2.908E+00		2.282E+01	8.238E+01	1.827E+00	0.035

TAL Richland WA.
BA133

Sample ID: KF5F01AE
Detector ID: GER14 1

Batch ID: 8042378



Acquisition Start: 26-FEB-2008 12:35:35.81
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -7.02954E-01
Slope: 2.48255E-01
Quadrature: -4.45494E-09

SAMPLE IDENTIFICATION: KF5F01AE

CONFIGURATION ID: GER14:KF5F01AE_260281235
TITLE : BA133
SAMPLE ID : KF5F01AE

REPORT DATE: 26-FEB-08	SAMPLE DATE: 31-JAN-2008 12:00:00.00
ACQUIRE DATE: 26-FEB-08 12:35:35	CALIB DATE: 26-FEB-2008 04:53:33.62
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY: BA133T15	SAMPLE TYPE:

ENERGY OFFSET: -.7030E+00 keV	FWHM OFFSET: 1.1393E+00 keV
ENERGY SLOPE: 2.4826E-01 keV/C	FWHM SLOPE: 2.3225E-02 sqr keV
ENERGY Q COEFF: -.4455E-08 keV/C ²	ITERATIONS: 10
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 1.500 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 26-FEB-2008 13:06:08

```

Configuration      : $DISK1:[GER14.SAMPLE]KF5F01AE_260281235.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:35:35
Sample ID        : KF5F01AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.43 0.0%
Start energy     : 19.16 End energy : 2032.71
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.60	542	131	1.26	126.08	119	18	3.01E-01	6.6	
2	0	34.97	204	52	1.75	143.70	136	20	1.13E-01	11.6	
3	0	80.73	415	34	1.35	328.01	316	22	2.30E-01	6.1	
4	0	302.70	94	3	1.49	1222.16	1213	18	5.22E-02	11.0	
5	0	355.95	301	28	1.36	1436.68	1426	21	1.67E-01	6.9	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER14.SAMPLE]KF5F01AE_260281235.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:35:35
Sample ID        : KF5F01AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.43 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	415	33.00	1.818E+00	2.305E+03	2.316E+03	8.14
	276.40	-----	6.90	1.945E+00	-----	Line Not Found	-----
	302.84	94	17.80	1.948E+00	9.038E+02	9.081E+02	12.21
	356.00	301	62.05*	1.949E+00	8.296E+02	8.335E+02	8.72
	383.85	-----	8.70	1.949E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F01AE

Page : 2
Acquisition date : 26-FEB-2008 12:35:35

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.60	542	131	1.26	126.08	119	18	3.01E-01	6.6	1.61E+00	
0	34.97	204	52	1.75	143.70	136	20	1.13E-01	11.6	1.64E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5F01AE

Page : 3
Acquisition date : 26-FEB-2008 12:35:35

Flag: "*" = Keyline

Configuration : \$DISK1:[GER14.SAMPLE]KF5F01AE_260281235.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 : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:35:35
 Sample ID : KF5F01AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.43 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.335E+02	7.272E+01	7.518E+01	1.504E+00	11.087

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.794E+02	1.224E+02	4.038E+02	8.099E+00	-0.444
NA-22	8.658E+00	6.007E+00	2.864E+01	6.031E-01	0.302
K-40	8.254E+00	1.035E+02	4.988E+02	1.063E+01	0.017
SC-46	-2.348E+00	8.230E+00	3.384E+01	7.056E-01	-0.069
CR-51	-1.060E+02	2.209E+02	7.808E+02	1.562E+01	-0.136
MN-54	-9.158E+00	7.634E+00	2.613E+01	5.348E-01	-0.350
CO-57	-2.603E+00	1.598E+02	5.800E+02	1.194E+01	-0.004
CO-58	-1.341E+01	7.146E+00	2.105E+01	4.300E-01	-0.637
FE-59	-1.743E+01	1.597E+01	5.667E+01	1.180E+00	-0.308
CO-60	4.518E+00	5.318E+00	2.478E+01	5.238E-01	0.182
ZN-65	-9.992E+00	1.527E+01	5.674E+01	1.183E+00	-0.176
SE-75	2.098E+01	2.580E+01	9.777E+01	1.961E+00	0.215
SR-85	1.559E+01	1.762E+01	6.721E+01	1.350E+00	0.232
Y-88	-4.542E+00	4.380E+00	1.595E+01	3.474E-01	-0.285
NB-94	-1.504E-01	7.010E+00	2.771E+01	5.685E-01	-0.005
NB-95	-1.113E+01	1.080E+01	3.826E+01	7.796E-01	-0.291
TC-95M	-5.426E-01	3.574E+01	1.273E+02	2.571E+00	-0.004
ZR-95	-2.009E+01	1.365E+01	4.490E+01	9.143E-01	-0.448
ZRNB-95	-1.724E+01	1.713E+01	6.090E+01	1.241E+00	-0.283
RH-101	1.424E+01	2.425E+01	8.876E+01	1.795E+00	0.160
RH-102M	2.159E+00	9.876E+00	3.813E+01	7.646E-01	0.057
RU-103	2.123E+00	1.455E+01	5.678E+01	1.140E+00	0.037
RU-106DA	6.906E+01	7.980E+01	3.355E+02	6.776E+00	0.206
AG-108M	6.658E+00	1.056E+01	4.192E+01	8.394E-01	0.159
AG-110M	-6.865E-02	8.241E+00	3.405E+01	6.992E-01	-0.002
SN-113DA	-1.341E+01	1.981E+01	7.056E+01	1.412E+00	-0.190
SB-124	-2.734E+01	1.180E+01	3.368E+01	6.795E-01	-0.812

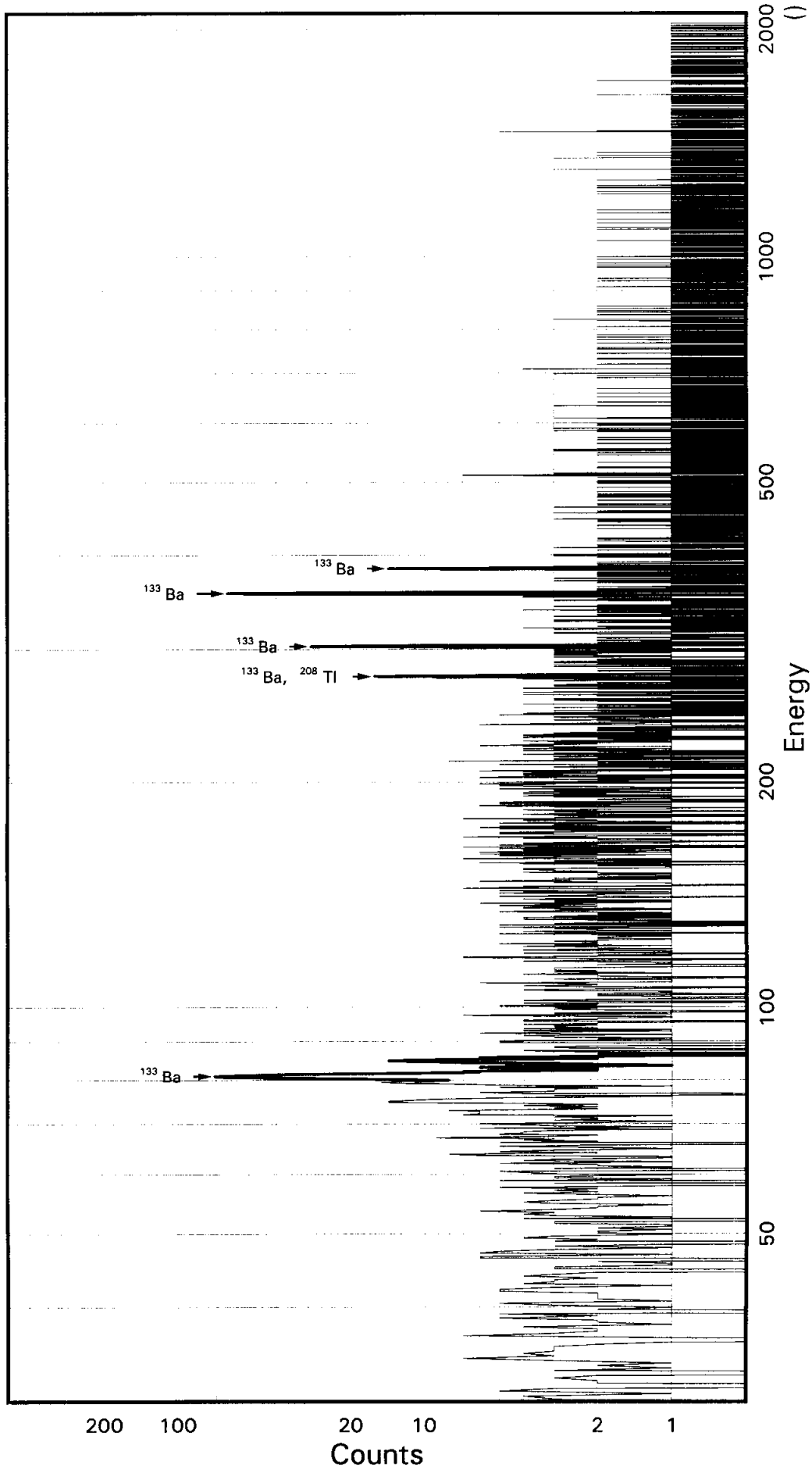
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	1.899E+00		3.220E+01	1.231E+02	2.464E+00	0.015
SN-126DA	1.071E+01		6.426E+00	3.016E+01	6.107E-01	0.355
I-131	1.413E+01		1.031E+02	4.007E+02	8.014E+00	0.035
CS-134	-3.948E+00		7.773E+00	2.950E+01	6.023E-01	-0.134
CS-137DA	-7.018E+00		8.136E+00	2.871E+01	5.813E-01	-0.244
LA-138	-5.637E+00		6.761E+00	2.530E+01	5.382E-01	-0.223
CE-139	-2.510E+00		2.246E+01	8.074E+01	1.645E+00	-0.031
BA-140	8.111E+01		1.300E+02	5.304E+02	1.066E+01	0.153
BALA-140	-1.735E+01		2.800E+01	1.153E+02	2.476E+00	-0.151
CE-141	6.982E+01		5.787E+01	2.210E+02	4.533E+00	0.316
CE-144	1.991E+02		1.518E+02	5.867E+02	1.210E+01	0.339
CEPR-144	3.954E+02		3.034E+02	1.172E+03	2.418E+01	0.337
PM-144	1.122E+01		7.506E+00	3.359E+01	6.783E-01	0.334
PM-146	1.640E+01		1.543E+01	6.240E+01	1.250E+00	0.263
EU-152	5.753E+01		3.954E+01	1.606E+02	3.213E+00	0.358
EU-154	2.220E+01		1.639E+01	7.798E+01	1.642E+00	0.285
EU-155	-1.076E+02		7.795E+01	2.553E+02	5.351E+00	-0.422
HF-181	9.734E+00		1.520E+01	6.180E+01	1.240E+00	0.158
BI-207	9.609E-01		6.845E+00	2.756E+01	5.550E-01	0.035
TL-208	1.253E+01		9.337E+00	4.026E+01	8.114E-01	0.311
BI-210M	-5.988E+00		2.833E+01	1.008E+02	2.020E+00	-0.059
BI-212	5.569E+00		9.735E+01	3.963E+02	1.211E+01	0.014
PB-212	-8.641E-01		3.325E+01	1.194E+02	2.400E+00	-0.007
BI-214	-4.748E+00		1.963E+01	8.154E+01	1.646E+00	-0.058
PB-214	7.320E+00		3.788E+01	1.292E+02	2.585E+00	0.057
RA-223	7.139E+01		1.086E+02	4.026E+02	8.072E+00	0.177
RA-224DA	-8.867E-01		3.412E+01	1.225E+02	2.463E+00	-0.007
RA-226DA	-4.748E+00		1.963E+01	8.154E+01	1.646E+00	-0.058
AC-227DA	-4.646E+01		1.266E+02	4.476E+02	8.999E+00	-0.104
AC-228	-1.841E+01		2.606E+01	1.019E+02	2.096E+00	-0.181
RA-228DA	-1.856E+01		2.628E+01	1.028E+02	2.114E+00	-0.181
TH-228DA	3.579E+01		2.667E+01	1.150E+02	2.318E+00	0.311
TH-232DA	1.592E+01		9.402E+01	3.465E+02	6.930E+00	0.046
TH-234DA	1.049E+03		1.031E+03	4.532E+03	9.377E+01	0.231
U-234DA	1.396E+02		6.302E+01	2.593E+02	5.192E+00	0.538
U-235HP	4.333E+01		1.602E+02	5.853E+02	1.202E+01	0.074
NP-237DA	-1.617E+01		3.559E+01	1.249E+02	2.500E+00	-0.129
U-238DA	7.320E+00		3.788E+01	1.292E+02	2.585E+00	0.057
U-238DHP	-1.484E+02		5.442E+02	1.901E+03	4.178E+01	-0.078
AM-241HP	1.340E+01		5.323E+01	1.916E+02	4.241E+00	0.070

TAL Richland WA.
BA133

Batch ID: 8042378

Sample ID: KF5F11AE
Detector ID: GER4 1



Acquisition Start: 26-FEB-2008 12:36:00.79
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.13203E-01
Slope: 2.48749E-01
Quadrature: 9.77908E-10

SAMPLE IDENTIFICATION: KF5F11AE

CONFIGURATION ID: GER4:KF5F11AE_260281236
TITLE : BA133
SAMPLE ID : KF5F11AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 12:36:00
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:51:57.84
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: -.1132E+00 keV
ENERGY SLOPE: 2.4875E-01 keV/C
ENERGY Q COEFF: 9.7791E-10 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.4250E-01 keV
FWHM SLOPE: 4.3049E-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 26-FEB-2008 13:06:26

Configuration : \$DISK1:[GER4.SAMPLE]KF5F11AE_260281236.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:00
 Sample ID : KF5F11AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
 Start energy : 19.79 End energy : 2037.70
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	75.13*	9	22	0.94	302.47	297	10	5.25E-03	118.0	
2	1	81.02	222	80	0.80	326.16	321	28	1.23E-01	9.9	1.09E+00
3	1	84.96*	19	19	0.81	342.01	321	28	1.04E-02	81.2	
4	0	276.23	71	4	1.00	1110.92	1104	15	3.94E-02	13.3	
5	0	302.80	104	13	0.91	1217.72	1211	13	5.78E-02	12.1	
6	0	355.99	328	0	1.19	1431.57	1423	18	1.82E-01	5.5	
7	0	384.00	53	12	1.06	1544.17	1535	16	2.93E-02	20.1	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER4.SAMPLE]KF5F11AE_260281236.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:00
Sample ID        : KF5F11AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	222	33.00	2.054E+00	1.090E+03	1.095E+03	11.35
	276.40	71	6.90	2.214E+00	1.549E+03	1.556E+03	14.39
	302.84	104	17.80	2.217E+00	8.783E+02	8.824E+02	13.33
	356.00	328	62.05*	2.220E+00	7.939E+02	7.976E+02	7.72
	383.85	53	8.70	2.219E+00	9.112E+02	9.155E+02	20.85

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F11AE

Page : 2
Acquisition date : 26-FEB-2008 12:36:00

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	75.13	9	22	0.94	302.47	297	10	5.25E-03	***	2.04E+00	
1	84.96	19	19	0.81	342.01	321	28	1.04E-02	81.2	2.06E+00	

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.572E+03	14.39	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline

Configuration : \$DISK1:[GER4.SAMPLE]KF5F11AE_260281236.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 : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:00
 Sample ID : KF5F11AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.976E+02	6.154E+01	4.724E+01	9.477E-01	16.886

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.548E+02	8.435E+01	3.876E+02	7.776E+00	0.399
NA-22	-1.008E+01	4.742E+00	1.193E+01	2.527E-01	-0.845
K-40	5.640E+01	8.522E+01	4.124E+02	8.850E+00	0.137
SC-46	9.930E+00	7.008E+00	3.249E+01	6.807E-01	0.306
CR-51	2.846E+02	1.410E+02	6.317E+02	1.466E+01	0.451
MN-54	2.809E+00	4.425E+00	2.068E+01	4.243E-01	0.136
CO-57	1.692E+01	1.199E+02	4.383E+02	1.050E+01	0.039
CO-58	-4.399E+00	5.064E+00	1.853E+01	3.795E-01	-0.237
FE-59	6.796E+00	1.131E+01	5.254E+01	1.099E+00	0.129
CO-60	-2.739E+00	3.902E+00	1.534E+01	3.264E-01	-0.179
ZN-65	-1.286E+01	9.293E+00	3.096E+01	6.483E-01	-0.416
SE-75	-6.646E+00	1.420E+01	5.164E+01	1.202E+00	-0.129
SR-85	-2.693E+01	1.248E+01	3.834E+01	7.705E-01	-0.703
Y-88	1.749E+00	3.372E+00	1.795E+01	3.947E-01	0.097
NB-94	7.692E+00	5.079E+00	2.436E+01	5.012E-01	0.316
NB-95	-1.422E-01	5.212E+00	2.385E+01	4.870E-01	-0.006
TC-95M	1.774E+01	2.438E+01	9.269E+01	2.174E+00	0.191
ZR-95	-3.343E+00	1.246E+01	4.898E+01	9.995E-01	-0.068
ZRNB-95	-2.252E-01	8.246E+00	3.773E+01	7.704E-01	-0.006
RH-101	1.839E+01	1.727E+01	6.732E+01	1.581E+00	0.273
RH-102M	-1.045E+01	6.901E+00	2.283E+01	4.580E-01	-0.458
RU-103	7.248E+00	1.017E+01	4.378E+01	8.790E-01	0.166
RU-106DA	5.683E+01	4.902E+01	2.345E+02	4.742E+00	0.242
AG-108M	-4.252E+00	6.511E+00	2.358E+01	4.724E-01	-0.180
AG-110M	9.256E+00	6.461E+00	3.227E+01	6.645E-01	0.287
SN-113DA	-1.426E+00	8.526E+00	3.438E+01	6.878E-01	-0.041
SB-124	-9.168E+00	6.887E+00	2.250E+01	4.543E-01	-0.408

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-9.210E+00		1.583E+01	5.980E+01	1.198E+00	-0.154
SN-126DA	6.389E+00		4.821E+00	2.302E+01	4.668E-01	0.278
I-131	-1.077E+02		7.415E+01	2.437E+02	4.875E+00	-0.442
CS-134	-5.927E+00		5.037E+00	1.710E+01	3.499E-01	-0.347
CS-137DA	-9.251E+00		6.246E+00	2.061E+01	4.178E-01	-0.449
LA-138	4.843E+00		4.821E+00	2.594E+01	5.557E-01	0.187
CE-139	1.262E+01		1.519E+01	5.783E+01	1.370E+00	0.218
BA-140	1.024E+02		7.943E+01	3.754E+02	7.553E+00	0.273
BALA-140	-1.498E+01		2.479E+01	1.027E+02	2.223E+00	-0.146
CE-141	-3.817E+01		4.347E+01	1.479E+02	3.530E+00	-0.258
CE-144	1.913E+01		1.018E+02	3.797E+02	9.115E+00	0.050
CEPR-144	3.825E+01		2.035E+02	7.594E+02	1.823E+01	0.050
PM-144	4.302E-01		4.957E+00	2.109E+01	4.264E-01	0.020
PM-146	3.808E+00		9.460E+00	3.925E+01	7.867E-01	0.097
EU-152	-2.245E+01		2.634E+01	9.399E+01	2.181E+00	-0.239
EU-154	-2.799E+01		1.317E+01	3.313E+01	7.018E-01	-0.845
EU-155	-3.703E+01		4.736E+01	1.687E+02	4.126E+00	-0.219
HF-181	-4.588E+00		1.286E+01	4.849E+01	9.729E-01	-0.095
BI-207	-1.285E+00		4.824E+00	1.921E+01	3.872E-01	-0.067
TL-208	-1.425E+01		7.833E+00	2.700E+01	5.446E-01	-0.528
BI-210M	-2.210E+01		1.750E+01	5.790E+01	1.347E+00	-0.382
BI-212	4.905E+01		6.652E+01	3.076E+02	9.404E+00	0.159
PB-212	-2.666E+00		2.024E+01	8.131E+01	1.897E+00	-0.033
BI-214	1.435E+01		1.368E+01	6.359E+01	1.285E+00	0.226
PB-214	3.374E+01		2.753E+01	9.942E+01	2.307E+00	0.339
RA-223	4.678E+01		6.106E+01	2.420E+02	5.630E+00	0.193
RA-224DA	-2.736E+00		2.077E+01	8.345E+01	1.947E+00	-0.033
RA-226DA	1.448E+01		1.370E+01	6.368E+01	1.287E+00	0.227
AC-227DA	-1.400E+02		7.835E+01	2.485E+02	5.801E+00	-0.563
AC-228	4.454E+01		2.419E+01	1.124E+02	2.320E+00	0.396
RA-228DA	4.492E+01		2.440E+01	1.134E+02	2.340E+00	0.396
TH-228DA	-4.070E+01		2.237E+01	7.711E+01	1.556E+00	-0.528
TH-232DA	1.375E+01		7.061E+01	2.700E+02	6.266E+00	0.051
TH-234DA	8.648E+02		7.548E+02	3.534E+03	7.340E+01	0.245
U-234DA	7.367E+01		5.295E+01	2.140E+02	4.973E+00	0.344
U-235HP	2.339E+02		1.088E+02	4.421E+02	1.056E+01	0.529
NP-237DA	-3.794E+01		2.067E+01	6.622E+01	1.538E+00	-0.573
U-238DA	3.374E+01		2.753E+01	9.942E+01	2.307E+00	0.339
U-238DHP	1.280E+02		3.178E+02	1.203E+03	3.101E+01	0.106
AM-241HP	3.114E+01		2.871E+01	1.146E+02	2.977E+00	0.272

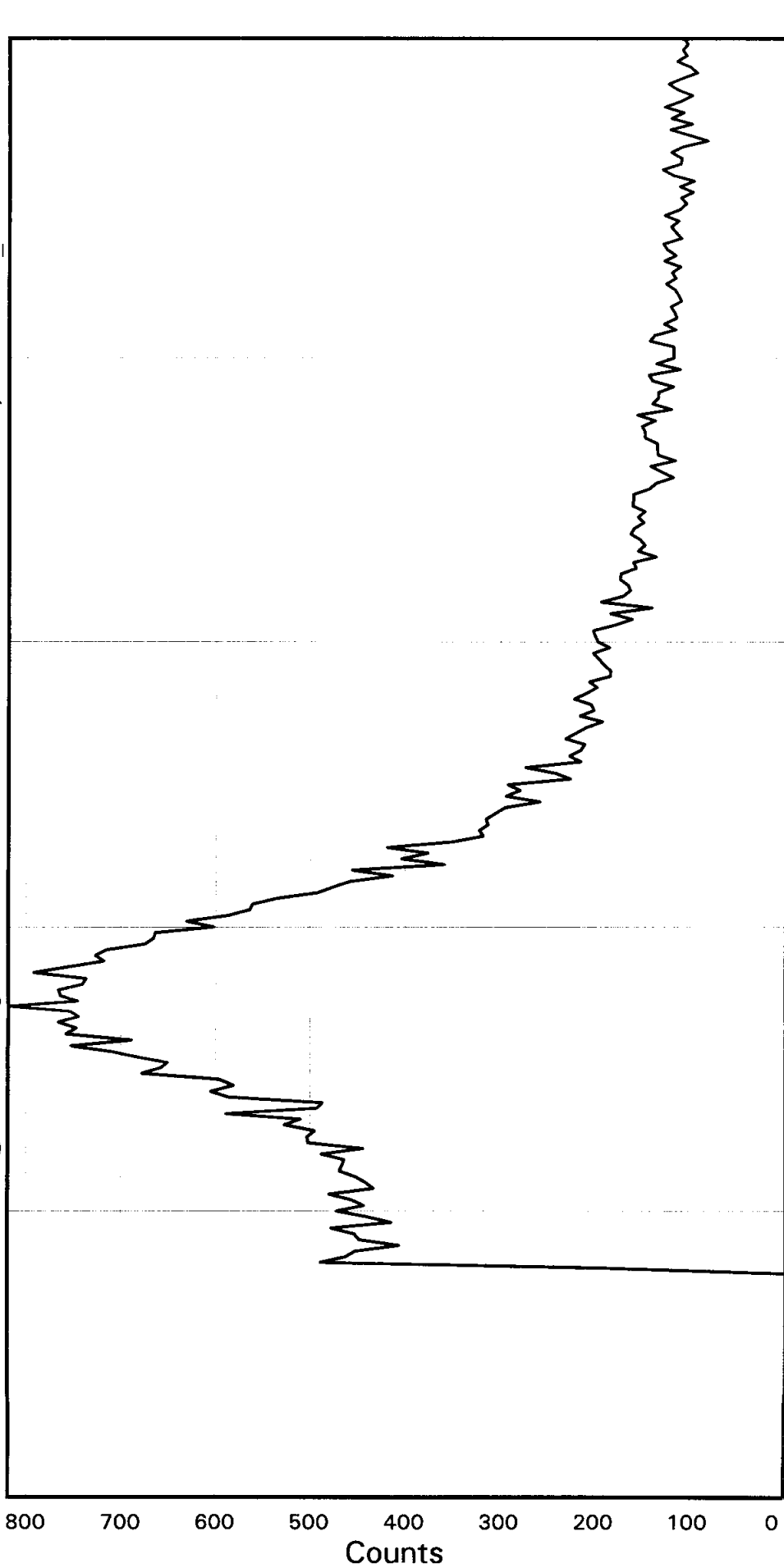
TAL Richland WA.

BA133

Sample ID: KF5F31AE
Detector ID: NAI1 1

2nd Count

BatchID: 8042378
Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 27-FEB-2008 07:38:45.48
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: KF5F31AE

CONFIGURATION ID: NAI1:KF5F31AE_270280738
TITLE : BA133
SAMPLE ID : KF5F31AE

REPORT DATE: 27-FEB-08
ACQUIRE DATE: 27-FEB-08 07:38:45
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 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/C²
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

Configuration : RDND06\$DKA100: [NAI1.SAMPLE] KF5F31AE_270280738.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:38:45
Sample ID : KF5F31AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.69 0.0%
Sample Multiplier: 1.00 Rejection Coeff. : 0.00
Gain shift type : ITER Threshold Shift : No
Weighting type : DERIVED Calculated counts: No
Iterations : 5

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	4.4	5.9	4.1	4.9	4.3	2.3	4.6	1.1
88:	1.8	0.8	-1.5	-0.8	2.3	-1.1	0.0	0.3
96:	-1.1	-3.3	-1.5	-1.0	-5.1	-1.3	-2.3	-3.3
104:	-4.1	-3.7	-5.2	-4.5	-4.0	-6.1	-3.6	-6.1
112:	-3.3	-4.7						

List of Suspicious Channels

81 82 83 84 85

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.21E+01	0.00E+00	1.03E+00
2	3.92E+00	0.00E+00	1.06E+00
3	9.94E-01	0.00E+00	1.07E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	803.	9.48

Total Activity :	803.	

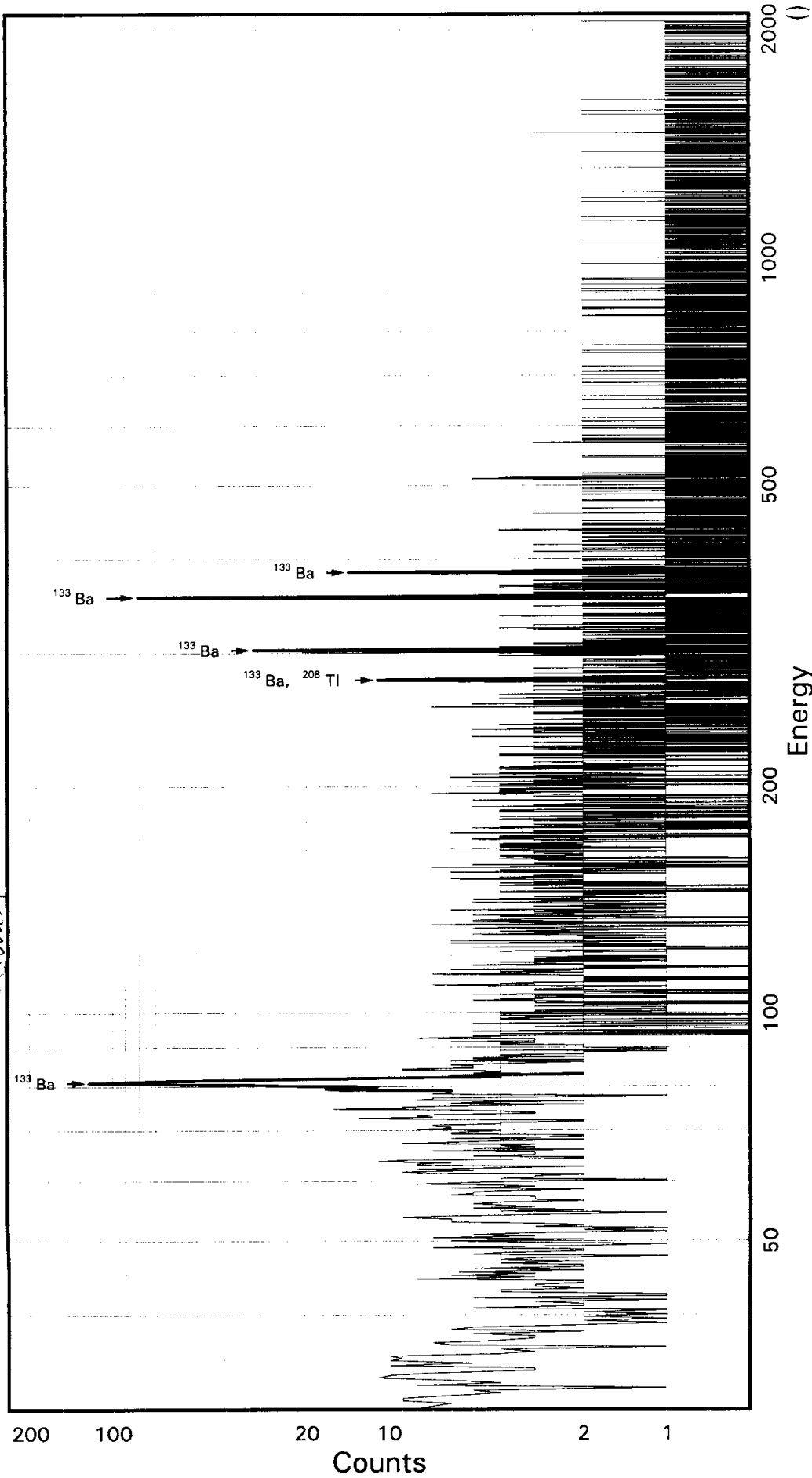
TAL Richland WA.

BA133

Batch ID: 8042378

Sample ID: KF5F31AE
Detector ID: GER7 1

1st Count



Acquisition Start: 26-FEB-2008 12:36:06.92
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 6.74902E-01
Slope: 2.49142E-01
Quadrature: 1.63405E-07

SAMPLE IDENTIFICATION: KF5F31AE

CONFIGURATION ID: GER7:KF5F31AE_260281236
TITLE : BA133
SAMPLE ID : KF5F31AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 12:36:06
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:52:31.64
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 6.7490E-01 keV
ENERGY SLOPE: 2.4914E-01 keV/C
ENERGY Q COEFF: 1.6341E-07 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.2803E-01 keV
FWHM SLOPE: 3.8593E-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 26-FEB-2008 13:06:42

Configuration : \$DISK1:[GER7.SAMPLE]KF5F31AE_260281236.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:06
 Sample ID : KF5F31AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 0.0%
 Start energy : 20.61 End energy : 2052.61
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.95	473	81	0.82	322.15	313	18	2.63E-01	6.4	
2	0	276.51	48	14	0.88	1106.33	1099	14	2.67E-02	21.9	
3	0	302.77	157	10	1.16	1211.56	1201	20	8.72E-02	9.4	
4	0	355.95	416	20	1.31	1424.67	1415	20	2.31E-01	5.6	
5	0	383.84	47	15	0.95	1536.41	1529	15	2.60E-02	23.3	

Flag: "*" = Peak area was modified by background subtraction


```

Configuration      : $DISK1:[GER7.SAMPLE]KF5F31AE_260281236.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:06
Sample ID        : KF5F31AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	473	33.00	1.909E+00	2.505E+03	2.517E+03	8.41
	276.40	48	6.90	2.061E+00	1.125E+03	1.131E+03	22.60
	302.84	157	17.80	2.064E+00	1.425E+03	1.431E+03	10.82
	356.00	416	62.05*	2.065E+00	1.081E+03	1.086E+03	7.75
	383.85	47	8.70	2.065E+00	8.675E+02	8.716E+02	23.87

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F31AE

Page : 2
Acquisition date : 26-FEB-2008 12:36:06

None

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity 1-Sigma (DPM/SAMPL)	%Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.142E+03	22.60	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

Configuration : \$DISK1:[GER7.SAMPLE]KF5F31AE_260281236.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 : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:06
 Sample ID : KF5F31AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.21 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	1.086E+03	8.415E+01	5.990E+01	1.198E+00	18.134

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	3.936E+01		8.264E+01	3.453E+02	6.927E+00	0.114
NA-22	1.670E+00		3.068E+00	1.619E+01	3.433E-01	0.103
K-40	2.469E+01		6.213E+01	3.057E+02	6.568E+00	0.081
SC-46	3.937E+00		5.880E+00	2.719E+01	5.702E-01	0.145
CR-51	1.932E+02		1.593E+02	6.632E+02	1.327E+01	0.291
MN-54	3.567E+00		4.949E+00	2.300E+01	4.721E-01	0.155
CO-57	1.094E+02		1.229E+02	4.744E+02	9.808E+00	0.231
CO-58	-8.367E+00		5.188E+00	1.578E+01	3.235E-01	-0.530
FE-59	2.240E+01		1.009E+01	5.869E+01	1.229E+00	0.382
CO-60	8.672E+00		3.907E+00	2.272E+01	4.838E-01	0.382
ZN-65	-3.509E+00		9.465E+00	3.860E+01	8.090E-01	-0.091
SE-75	1.261E+01		1.830E+01	7.216E+01	1.448E+00	0.175
SR-85	-3.658E+01		1.370E+01	3.835E+01	7.707E-01	-0.954
Y-88	4.216E+00		4.255E+00	2.279E+01	5.022E-01	0.185
NB-94	4.971E+00		4.407E+00	2.176E+01	4.479E-01	0.228
NB-95	1.105E+01		5.558E+00	3.316E+01	6.774E-01	0.333
TC-95M	-1.607E+00		2.376E+01	8.511E+01	1.721E+00	-0.019
ZR-95	1.018E+01		9.945E+00	4.959E+01	1.012E+00	0.205
ZRNB-95	1.748E+01		8.793E+00	5.246E+01	1.072E+00	0.333
RH-101	4.917E+00		1.948E+01	7.002E+01	1.418E+00	0.070
RH-102M	6.296E-01		7.167E+00	2.833E+01	5.683E-01	0.022
RU-103	-6.925E+00		1.182E+01	4.321E+01	8.678E-01	-0.160
RU-106DA	1.551E-01		4.278E+01	1.881E+02	3.805E+00	0.001
AG-108M	-3.068E+01		1.079E+01	2.995E+01	5.998E-01	-1.025
AG-110M	1.235E+00		6.316E+00	2.816E+01	5.802E-01	0.044
SN-113DA	1.204E+01		1.347E+01	5.643E+01	1.129E+00	0.213
SB-124	-4.077E-01		8.273E+00	3.318E+01	6.703E-01	-0.012

---- Non-Identified Nuclides ----

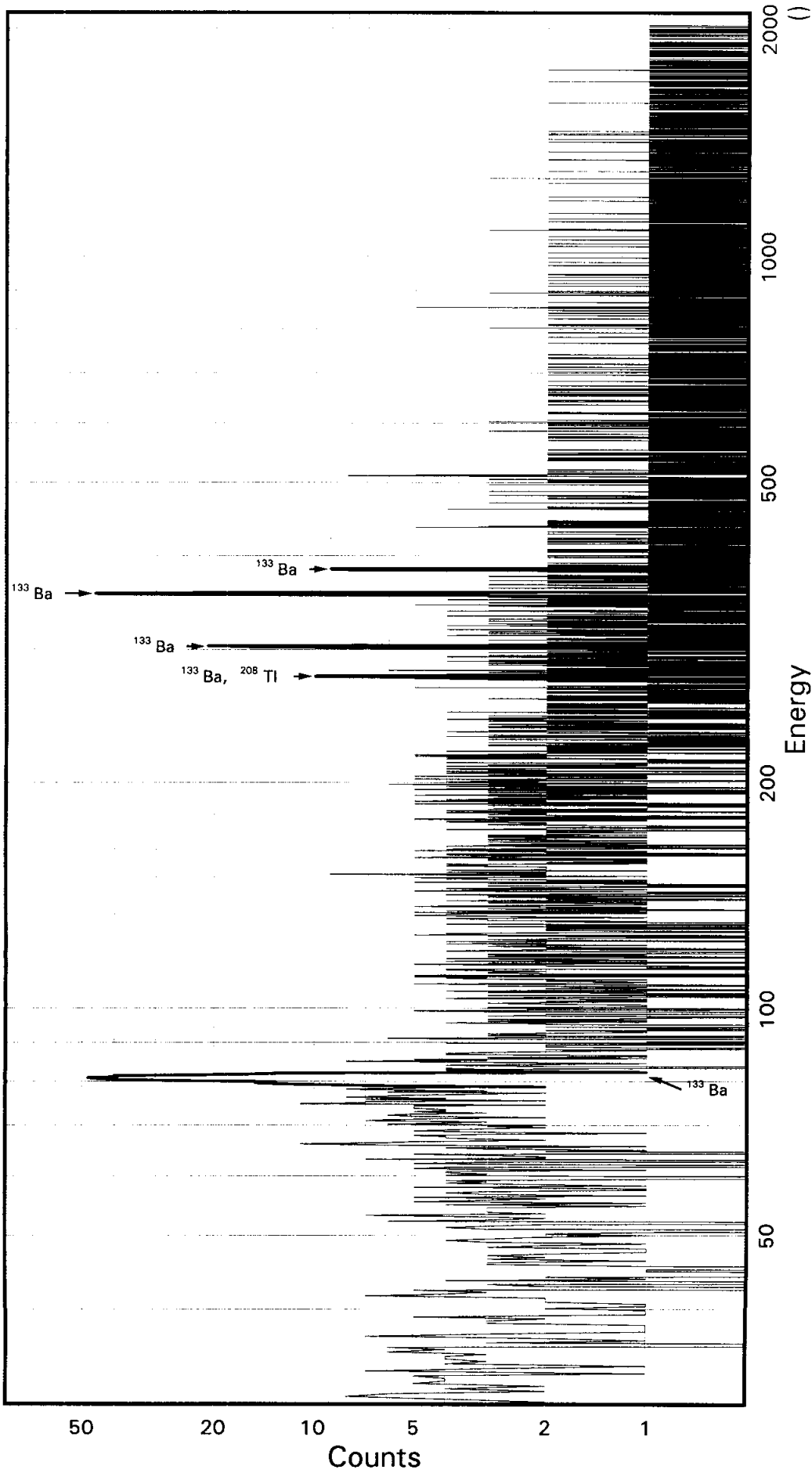
Nuclide	Key-Line Activity (DPM/SAMPL) Ided	K.L.	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-1.129E+01		2.240E+01	8.401E+01	1.682E+00	-0.134
SN-126DA	3.179E+00		4.669E+00	2.145E+01	4.352E-01	0.148
I-131	-3.429E+00		1.082E+02	4.098E+02	8.195E+00	-0.008
CS-134	-1.438E+00		4.447E+00	1.900E+01	3.890E-01	-0.076
CS-137DA	1.826E+00		5.134E+00	2.312E+01	4.688E-01	0.079
LA-138	7.180E-03		5.186E+00	2.408E+01	5.165E-01	0.000
CE-139	1.301E+01		1.903E+01	7.104E+01	1.451E+00	0.183
BA-140	8.712E+01		7.933E+01	3.785E+02	7.616E+00	0.230
BALA-140	-1.561E+01		1.563E+01	4.062E+01	8.809E-01	-0.384
CE-141	-2.591E+01		3.944E+01	1.392E+02	2.866E+00	-0.186
CE-144	1.966E+01		1.309E+02	4.813E+02	9.964E+00	0.041
CEPR-144	3.801E+01		2.617E+02	9.620E+02	1.992E+01	0.040
PM-144	-1.688E+00		5.178E+00	2.077E+01	4.199E-01	-0.081
PM-146	-5.256E+00		8.009E+00	3.009E+01	6.030E-01	-0.175
EU-152	4.492E+00		3.195E+01	1.212E+02	2.425E+00	0.037
EU-154	4.638E+00		8.521E+00	4.498E+01	9.537E-01	0.103
EU-155	5.294E+01		5.511E+01	2.188E+02	4.616E+00	0.242
HF-181	-1.144E+01		8.910E+00	2.961E+01	5.941E-01	-0.386
BI-207	5.256E+00		5.948E+00	2.643E+01	5.329E-01	0.199
TL-208	3.609E-01		7.644E+00	3.066E+01	6.185E-01	0.012
BI-210M	8.309E+00		1.785E+01	6.991E+01	1.403E+00	0.119
BI-212	6.560E+01		9.146E+01	3.935E+02	1.203E+01	0.167
PB-212	-3.081E+01		2.540E+01	9.113E+01	1.833E+00	-0.338
BI-214	1.426E+01		1.316E+01	5.865E+01	1.185E+00	0.243
PB-214	-3.897E+01		2.521E+01	7.576E+01	1.515E+00	-0.514
RA-223	1.092E+02		6.008E+01	2.619E+02	5.253E+00	0.417
RA-224DA	-3.161E+01		2.607E+01	9.351E+01	1.881E+00	-0.338
RA-226DA	1.426E+01		1.316E+01	5.865E+01	1.185E+00	0.243
AC-227DA	-7.033E+01		9.355E+01	3.312E+02	6.664E+00	-0.212
AC-228	2.555E+01		1.745E+01	8.638E+01	1.783E+00	0.296
RA-228DA	2.577E+01		1.760E+01	8.712E+01	1.799E+00	0.296
TH-228DA	1.031E+00		2.184E+01	8.757E+01	1.767E+00	0.012
TH-232DA	-1.203E+02		7.197E+01	2.258E+02	4.517E+00	-0.533
TH-234DA	-4.123E+01		6.030E+02	2.673E+03	5.556E+01	-0.015
U-234DA	-1.487E+02		4.785E+01	1.334E+02	2.672E+00	-1.114
U-235HP	-5.334E+01		1.099E+02	3.918E+02	8.072E+00	-0.136
NP-237DA	3.458E+00		2.389E+01	9.099E+01	1.821E+00	0.038
U-238DA	-3.897E+01		2.521E+01	7.576E+01	1.515E+00	-0.514
U-238DHP	2.964E+02		4.962E+02	1.845E+03	4.107E+01	0.161
AM-241HP	-4.871E+01		4.727E+01	1.602E+02	3.596E+00	-0.304

TAL Richland WA.

BA133

Batch ID: 8042378

Sample ID: KF5F41AE
Detector ID: GER10 1



Acquisition Start: 26-FEB-2008 12:36:13.08
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.46425E+01
Slope: 2.47248E-01
Quadrature: 2.05587E-09

SAMPLE IDENTIFICATION: KF5F41AE

CONFIGURATION ID: GER10:KF5F41AE_260281236
TITLE : BA133
SAMPLE ID : KF5F41AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 12:36:13
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 05:34:18.65
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: 1.4643E+01 keV
ENERGY SLOPE: 2.4725E-01 keV/C
ENERGY Q COEFF: 2.0559E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.2291E+00 keV
FWHM SLOPE: 2.1883E-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 26-FEB-2008 13:06:56

Configuration : \$DISK1:[GER10.SAMPLE]KF5F41AE_260281236.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:13
 Sample ID : KF5F41AE 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 : 17.12 End energy : 2040.24
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.81	289	59	1.40	267.63	259	18	1.61E-01	8.5	
2	0	276.48	53	12	0.98	1058.99	1049	18	2.94E-02	19.0	
3	0	302.89	116	12	1.52	1165.80	1156	17	6.45E-02	11.2	
4	0	356.03	323	15	1.62	1380.73	1369	22	1.79E-01	6.1	
5	0	383.62	61	9	1.70	1492.31	1482	18	3.41E-02	16.1	

Flag: "*" = Peak area was modified by background subtraction


```

Configuration      : $DISK1:[GER10.SAMPLE]KF5F41AE_260281236.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:13
Sample ID        : KF5F41AE 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	289	33.00	2.477E+00	1.179E+03	1.185E+03	10.13
	276.40	53	6.90	2.637E+00	9.710E+02	9.755E+02	19.71
	302.84	116	17.80	2.640E+00	8.233E+02	8.272E+02	12.40
	356.00	323	62.05*	2.642E+00	6.567E+02	6.598E+02	8.16
	383.85	61	8.70	2.641E+00	8.900E+02	8.942E+02	16.93

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F41AE

Page : 2
Acquisition date : 26-FEB-2008 12:36:13

None

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity 1-Sigma (DPM/SAMPL)	%Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	9.852E+02	19.71	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

Configuration : \$DISK1:[GER10.SAMPLE]KF5F41AE_260281236.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 : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:13
 Sample ID : KF5F41AE 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	6.598E+02	5.383E+01	3.109E+01	6.218E-01	21.222

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.023E+02	7.372E+01	3.227E+02	6.470E+00	0.317
NA-22	2.893E+00	2.768E+00	1.480E+01	3.104E-01	0.195
K-40	1.812E+00	4.110E+01	2.113E+02	4.479E+00	0.009
SC-46	1.666E+00	4.288E+00	1.952E+01	4.057E-01	0.085
CR-51	-1.458E+02	1.614E+02	5.614E+02	1.123E+01	-0.260
MN-54	8.085E+00	4.782E+00	2.274E+01	4.646E-01	0.356
CO-57	-4.526E+01	1.203E+02	4.224E+02	8.679E+00	-0.107
CO-58	8.281E+00	5.056E+00	2.507E+01	5.114E-01	0.330
FE-59	2.459E-01	1.196E+01	4.894E+01	1.016E+00	0.005
CO-60	4.826E+00	3.204E+00	1.703E+01	3.583E-01	0.283
ZN-65	-1.363E+01	8.333E+00	2.596E+01	5.395E-01	-0.525
SE-75	4.259E+00	1.545E+01	5.901E+01	1.183E+00	0.072
SR-85	-2.274E+01	1.394E+01	4.473E+01	8.982E-01	-0.508
Y-88	1.221E+00	1.411E+00	1.095E+01	2.369E-01	0.111
NB-94	1.113E+00	4.357E+00	1.824E+01	3.735E-01	0.061
NB-95	-4.457E+00	6.857E+00	2.583E+01	5.255E-01	-0.173
TC-95M	-1.987E+01	2.452E+01	8.314E+01	1.678E+00	-0.239
ZR-95	1.224E+01	8.745E+00	4.334E+01	8.813E-01	0.282
ZRNB-95	-7.051E+00	1.085E+01	4.086E+01	8.313E-01	-0.173
RH-101	-6.783E+00	1.638E+01	6.014E+01	1.215E+00	-0.113
RH-102M	-1.024E+01	6.946E+00	2.255E+01	4.521E-01	-0.454
RU-103	-7.969E+00	1.105E+01	3.916E+01	7.858E-01	-0.203
RU-106DA	-6.451E+01	5.567E+01	1.928E+02	3.891E+00	-0.335
AG-108M	-3.942E+00	7.996E+00	2.875E+01	5.757E-01	-0.137
AG-110M	1.561E+00	6.456E+00	2.697E+01	5.527E-01	0.058
SN-113DA	-5.824E+00	1.061E+01	3.882E+01	7.766E-01	-0.150
SB-124	1.791E+00	9.273E+00	3.597E+01	7.252E-01	0.050

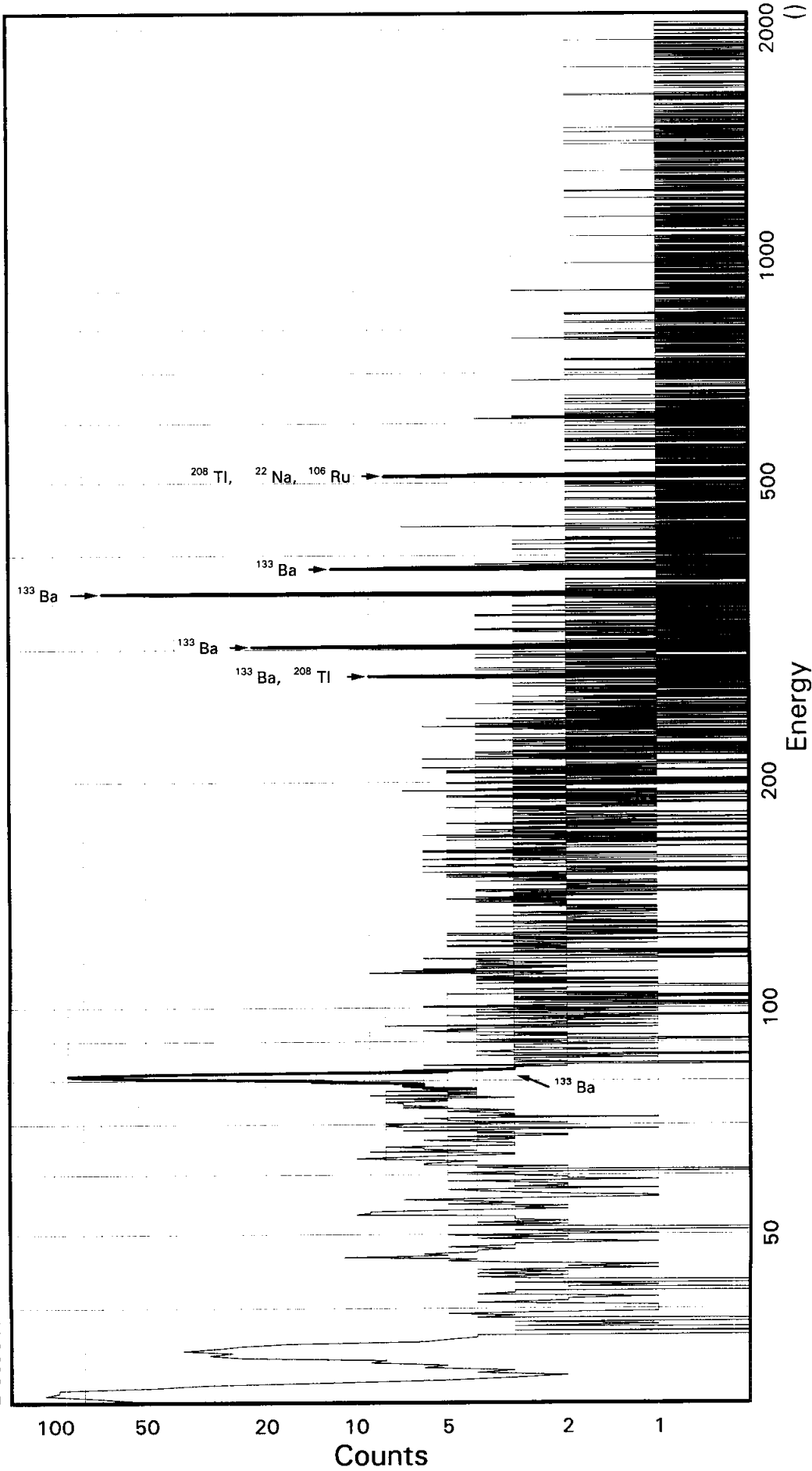
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-5.950E-01		1.984E+01	7.652E+01	1.532E+00	-0.008
SN-126DA	1.525E+00		5.835E+00	2.322E+01	4.698E-01	0.066
I-131	7.930E+01		7.400E+01	3.072E+02	6.144E+00	0.258
CS-134	4.542E+00		4.662E+00	2.173E+01	4.430E-01	0.209
CS-137DA	-2.587E+00		6.700E+00	2.518E+01	5.093E-01	-0.103
LA-138	1.921E+00		3.517E+00	1.858E+01	3.933E-01	0.103
CE-139	-2.210E+01		1.596E+01	5.260E+01	1.070E+00	-0.420
BA-140	4.902E+01		9.123E+01	3.766E+02	7.569E+00	0.130
BALA-140	1.155E+01		2.559E+01	1.239E+02	2.646E+00	0.093
CE-141	-2.056E+01		4.118E+01	1.438E+02	2.944E+00	-0.143
CE-144	2.510E+02		1.164E+02	4.580E+02	9.421E+00	0.548
CEPR-144	5.031E+02		2.328E+02	9.163E+02	1.885E+01	0.549
PM-144	2.662E+00		5.945E+00	2.425E+01	4.894E-01	0.110
PM-146	2.042E-01		7.513E+00	2.991E+01	5.993E-01	0.007
EU-152	7.492E+01		2.951E+01	1.275E+02	2.550E+00	0.588
EU-154	3.626E+00		8.439E+00	4.032E+01	8.457E-01	0.090
EU-155	-6.667E+01		5.130E+01	1.723E+02	3.600E+00	-0.387
HF-181	-1.522E+01		1.225E+01	4.086E+01	8.194E-01	-0.372
BI-207	-6.146E+00		5.243E+00	1.822E+01	3.668E-01	-0.337
TL-208	-2.357E+00		5.966E+00	2.286E+01	4.605E-01	-0.103
BI-210M	1.747E+01		1.504E+01	6.118E+01	1.227E+00	0.286
BI-212	-3.683E+01		6.210E+01	2.365E+02	7.219E+00	-0.156
PB-212	-3.084E+01		2.365E+01	8.011E+01	1.610E+00	-0.385
BI-214	-1.439E+01		1.291E+01	4.812E+01	9.705E-01	-0.299
PB-214	4.586E+01		2.629E+01	9.840E+01	1.968E+00	0.466
RA-223	-4.281E+01		5.714E+01	1.972E+02	3.952E+00	-0.217
RA-224DA	-3.165E+01		2.427E+01	8.221E+01	1.652E+00	-0.385
RA-226DA	-1.450E+01		1.290E+01	4.804E+01	9.689E-01	-0.302
AC-227DA	1.526E+02		8.499E+01	3.373E+02	6.780E+00	0.452
AC-228	2.003E+01		1.676E+01	7.583E+01	1.556E+00	0.264
RA-228DA	2.021E+01		1.690E+01	7.649E+01	1.570E+00	0.264
TH-228DA	-6.734E+00		1.704E+01	6.530E+01	1.315E+00	-0.103
TH-232DA	6.558E+01		6.115E+01	2.458E+02	4.917E+00	0.267
TH-234DA	-4.068E+02		5.505E+02	2.107E+03	4.347E+01	-0.193
U-234DA	5.261E+01		4.583E+01	1.809E+02	3.622E+00	0.291
U-235HP	8.764E+01		1.043E+02	3.920E+02	8.032E+00	0.224
NP-237DA	2.434E+01		2.220E+01	8.870E+01	1.775E+00	0.274
U-238DA	4.586E+01		2.629E+01	9.840E+01	1.968E+00	0.466
U-238DHP	-5.514E+02		3.747E+02	1.255E+03	2.740E+01	-0.439
AM-241HP	-1.604E+01		3.831E+01	1.317E+02	2.893E+00	-0.122

TAL Richland WA.
BA133

Batch ID: 8042378

Sample ID: KF5F71AE
Detector ID: GER8 1



Energy Coefficients:
Offset: 1.60532E-01
Slope: 2.49936E-01
Quadrature: 2.00131E-08

Acquisition Start: 26-FEB-2008 12:36:20.55
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5F71AE

CONFIGURATION ID: GER8:KF5F71AE_260281236
TITLE : BA133
SAMPLE ID : KF5F71AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 12:36:20
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:52:48.76
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: 1.6053E-01 keV
ENERGY SLOPE: 2.4994E-01 keV/C
ENERGY Q COEFF: 2.0013E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.7445E-01 keV
FWHM SLOPE: 2.0293E-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 26-FEB-2008 13:07:11

Configuration : \$DISK1:[GER8.SAMPLE]KF5F71AE_260281236.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:20
 Sample ID : KF5F71AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
 Start energy : 20.16 End energy : 2048.98
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	30.82	502	93	1.15	122.66	114	35	2.79E-01	5.9	7.11E-01
2	3	35.11	184	46	1.46	139.82	114	35	1.02E-01	14.0	
3	0	55.98	54	67	2.68	223.35	209	35	3.02E-02	49.7	
4	0	80.92	442	78	1.15	323.11	311	22	2.46E-01	6.9	
5	0	276.55	36	11	0.88	1105.75	1101	13	2.03E-02	24.3	
6	0	302.86	101	4	0.85	1211.00	1203	17	5.62E-02	11.0	
7	0	355.92	370	0	1.31	1423.26	1413	18	2.06E-01	5.2	
8	0	383.86	52	0	1.04	1535.02	1527	14	2.89E-02	13.9	
9	0	437.40	14	3	0.32	1749.15	1742	13	7.63E-03	38.2	
10	0	510.90*	10	9	1.86	2043.16	2035	17	5.69E-03	93.5	

Flag: "*" = Peak area was modified by background subtraction


```

Configuration      : $DISK1:[GER8.SAMPLE]KF5F71AE_260281236.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:20
Sample ID        : KF5F71AE 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	442	33.00	2.140E+00	2.087E+03	2.097E+03	8.83
	276.40	36	6.90	2.306E+00	7.644E+02	7.680E+02	24.91
	302.84	101	17.80	2.309E+00	8.200E+02	8.238E+02	12.22
	356.00	370	62.05*	2.311E+00	8.602E+02	8.642E+02	7.49
	383.85	52	8.70	2.310E+00	8.624E+02	8.665E+02	14.88

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F71AE

Page : 2
Acquisition date : 26-FEB-2008 12:36:20

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	30.82	502	93	1.15	122.66	114	35	2.79E-01	5.9	1.87E+00	
3	35.11	184	46	1.46	139.82	114	35	1.02E-01	14.0	1.92E+00	
0	55.98	54	67	2.68	223.35	209	35	3.02E-02	49.7	2.05E+00	
0	437.40	14	3	0.32	1749.15	1742	13	7.63E-03	38.2	2.31E+00	
0	510.90	10	9	1.86	2043.16	2035	17	5.69E-03	93.5	2.30E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.03	511.00	179.68	8.422E+00	93.63	Abun.
			1274.54*	99.94	---	Not Found	---
		% Abundances	Found =	64.26			
RU-106DA	368.20D	0.07	511.85	20.60	7.569E+01	93.63	Abun.
			621.84*	9.80	---	Not Found	---
		% Abundances	Found =	67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	7.756E+02	24.91	Abun.
			510.84	21.60	6.874E+01	93.63	
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
		% Abundances	Found =	22.71			

Flag: "*" = Keyline

Configuration : \$DISK1:[GER8.SAMPLE]KF5F71AE_260281236.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 : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:20
 Sample ID : KF5F71AE 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	8.642E+02	6.469E+01	3.899E+01	7.798E-01	22.166

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	4.602E+01	6.623E+01	2.936E+02	5.891E+00	0.157
NA-22	-3.206E+00	3.165E+00	1.145E+01	2.424E-01	-0.280
K-40	1.476E+00	3.644E+01	1.899E+02	4.072E+00	0.008
SC-46	-3.511E+00	4.683E+00	2.015E+01	4.220E-01	-0.174
CR-51	2.228E+02	1.599E+02	6.611E+02	1.323E+01	0.337
MN-54	-1.847E+00	4.819E+00	1.887E+01	3.870E-01	-0.098
CO-57	-1.856E+02	1.205E+02	3.901E+02	8.057E+00	-0.476
CO-58	-6.736E-02	2.760E+00	1.410E+01	2.887E-01	-0.005
FE-59	9.100E-02	7.953E+00	3.711E+01	7.759E-01	0.002
CO-60	-9.098E-02	3.141E+00	1.436E+01	3.052E-01	-0.006
ZN-65	-3.149E+00	5.519E+00	2.355E+01	4.930E-01	-0.134
SE-75	-3.892E+00	1.427E+01	5.352E+01	1.074E+00	-0.073
SR-85	2.822E+01	1.044E+01	4.512E+01	9.066E-01	0.626
Y-88	1.877E+00	3.280E+00	1.753E+01	3.851E-01	0.107
NB-94	-3.186E+00	3.082E+00	1.091E+01	2.243E-01	-0.292
NB-95	-2.035E+01	8.793E+00	2.290E+01	4.676E-01	-0.888
TC-95M	6.258E+00	2.387E+01	8.872E+01	1.794E+00	0.071
ZR-95	1.403E+01	8.706E+00	4.621E+01	9.428E-01	0.304
ZRNB-95	-3.219E+01	1.391E+01	3.623E+01	7.397E-01	-0.888
RH-101	7.264E+00	1.628E+01	6.115E+01	1.238E+00	0.119
RH-102M	8.113E+00	5.900E+00	2.692E+01	5.400E-01	0.301
RU-103	-8.960E+00	1.117E+01	4.068E+01	8.167E-01	-0.220
RU-106DA	-1.423E+01	5.597E+01	2.203E+02	4.453E+00	-0.065
AG-108M	6.720E+00	7.231E+00	2.771E+01	5.549E-01	0.243
AG-110M	-2.314E+00	2.317E+00	5.942E+00	1.223E-01	-0.389
SN-113DA	1.592E+00	1.321E+01	5.064E+01	1.013E+00	0.031
SB-124	8.179E+00	6.930E+00	3.185E+01	6.431E-01	0.257

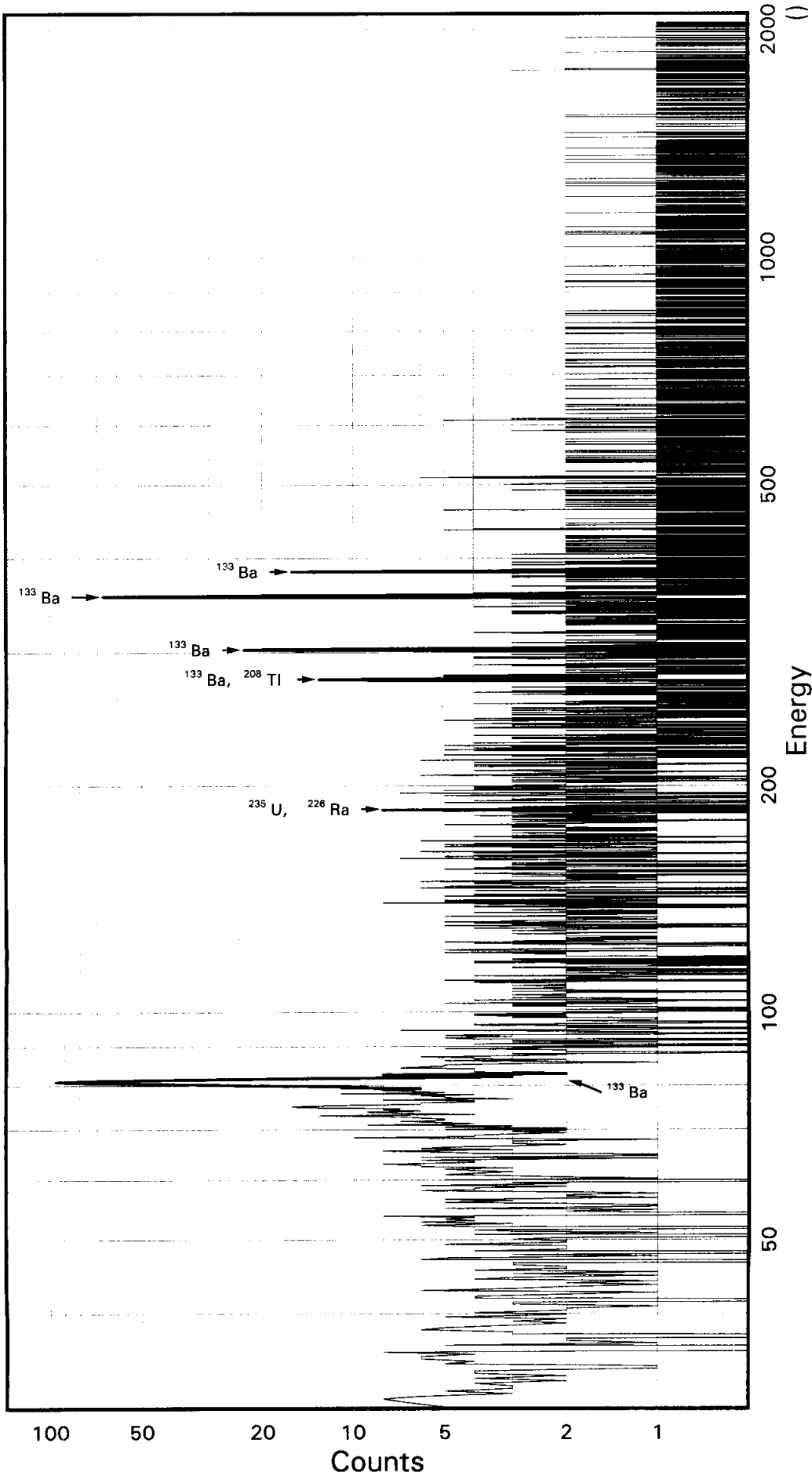
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-6.625E+00		1.853E+01	7.065E+01	1.415E+00	-0.094
SN-126DA	-4.386E+00		2.543E+00	3.955E+00	8.019E-02	-1.109
I-131	-2.783E-01		6.811E+01	2.680E+02	5.359E+00	-0.001
CS-134	-5.588E+00		4.798E+00	1.642E+01	3.359E-01	-0.340
CS-137DA	5.170E+00		4.559E+00	2.254E+01	4.570E-01	0.229
LA-138	-2.529E+00		4.137E+00	1.702E+01	3.644E-01	-0.149
CE-139	-3.408E+01		1.770E+01	5.527E+01	1.128E+00	-0.617
BA-140	-6.531E+01		7.719E+01	2.856E+02	5.747E+00	-0.229
BALA-140	-1.305E+01		1.307E+01	3.622E+01	7.837E-01	-0.360
CE-141	-3.924E+01		4.105E+01	1.388E+02	2.854E+00	-0.283
CE-144	4.631E+01		1.080E+02	4.021E+02	8.317E+00	0.115
CEPR-144	9.261E+01		2.160E+02	8.042E+02	1.663E+01	0.115
PM-144	1.278E-01		5.319E+00	2.179E+01	4.405E-01	0.006
PM-146	-2.964E+00		8.343E+00	3.171E+01	6.355E-01	-0.093
EU-152	6.466E+01		2.588E+01	1.192E+02	2.384E+00	0.542
EU-154	-8.906E+00		8.792E+00	3.180E+01	6.733E-01	-0.280
EU-155	-4.405E+00		5.676E+01	2.051E+02	4.320E+00	-0.021
HF-181	3.386E+00		8.664E+00	3.770E+01	7.565E-01	0.090
BI-207	6.922E+00		5.635E+00	2.539E+01	5.118E-01	0.273
TL-208	-9.143E-01		5.791E+00	2.435E+01	4.912E-01	-0.038
BI-210M	1.353E+01		1.531E+01	6.236E+01	1.251E+00	0.217
BI-212	1.806E+01		7.413E+01	3.120E+02	9.537E+00	0.058
PB-212	3.156E+00		2.514E+01	9.547E+01	1.920E+00	0.033
BI-214	5.268E+00		1.537E+01	6.632E+01	1.340E+00	0.079
PB-214	-6.133E+00		2.049E+01	8.321E+01	1.664E+00	-0.074
RA-223	1.391E+01		6.068E+01	2.332E+02	4.676E+00	0.060
RA-224DA	3.238E+00		2.580E+01	9.797E+01	1.970E+00	0.033
RA-226DA	5.142E+00		1.536E+01	6.625E+01	1.338E+00	0.078
AC-227DA	1.089E+02		9.275E+01	3.650E+02	7.343E+00	0.298
AC-228	1.952E+01		1.460E+01	7.329E+01	1.512E+00	0.266
RA-228DA	1.968E+01		1.473E+01	7.392E+01	1.525E+00	0.266
TH-228DA	-2.612E+00		1.654E+01	6.956E+01	1.403E+00	-0.038
TH-232DA	1.048E+01		5.098E+01	2.025E+02	4.051E+00	0.052
TH-234DA	-2.166E+02		3.913E+02	1.694E+03	3.517E+01	-0.128
U-234DA	-1.879E+01		4.876E+01	1.881E+02	3.766E+00	-0.100
U-235HP	-6.653E+01		1.090E+02	3.774E+02	7.768E+00	-0.176
NP-237DA	8.121E+00		1.966E+01	7.812E+01	1.563E+00	0.104
U-238DA	-6.133E+00		2.049E+01	8.321E+01	1.664E+00	-0.074
U-238DHP	7.695E+01		5.505E+02	1.818E+03	4.037E+01	0.042
AM-241HP	-1.261E+02		5.386E+01	1.353E+02	3.026E+00	-0.932

TAL Richland WA.
BA133

Batch ID: 8042378

Sample ID: KF5F81AE
Detector ID: GER6 1



Acquisition Start: 26-FEB-2008 12:36:44.26
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 2.34458E-01
Slope: 2.49271E-01
Quadrature: 2.11481E-08

SAMPLE IDENTIFICATION: KF5F81AE

CONFIGURATION ID: GER6:KF5F81AE_260281236
TITLE : BA133
SAMPLE ID : KF5F81AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 12:36:44
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:52:15.47
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 2.3446E-01 keV
ENERGY SLOPE: 2.4927E-01 keV/C
ENERGY Q COEFF: 2.1148E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.9169E-02 keV
FWHM SLOPE: 7.4177E-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 26-FEB-2008 13:07:26

Configuration : \$DISK1:[GER6.SAMPLE]KF5F81AE_260281236.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:44
 Sample ID : KF5F81AE 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 : 20.18 End energy : 2043.68
 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	390	83	0.90	323.85	315	18	2.17E-01	7.5	
2	0	186.45*	4	11	0.35	746.99	738	12	2.29E-03	188.5	
3	0	276.84	39	39	1.11	1109.54	1101	20	2.17E-02	40.8	
4	0	302.84	100	16	1.09	1213.83	1204	16	5.56E-02	13.4	
5	0	355.99	320	14	0.94	1427.02	1418	19	1.78E-01	6.3	
6	0	383.87	58	10	0.50	1538.81	1529	19	3.19E-02	18.4	

Flag: "*" = Peak area was modified by background subtraction


```

Configuration      : $DISK1:[GER6.SAMPLE]KF5F81AE_260281236.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:44
Sample ID        : KF5F81AE 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	390	33.00	2.090E+00	1.885E+03	1.894E+03	9.28
	276.40	39	6.90	2.253E+00	8.362E+02	8.401E+02	41.15
	302.84	100	17.80	2.256E+00	8.301E+02	8.341E+02	14.46
	356.00	320	62.05*	2.258E+00	7.614E+02	7.650E+02	8.26
	383.85	58	8.70	2.257E+00	9.759E+02	9.805E+02	19.19

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F81AE

Page : 2
Acquisition date : 26-FEB-2008 12:36:44

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	186.45	4	11	0.35	746.99	738	12	2.29E-03	****	2.22E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	8.484E+02	41.15	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	1.767E+02	188.55	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	---
			185.71	54.00	1.145E+01	188.55	Abun.
			205.31	4.70	---	Not Found	---
			% Abundances Found =			78.03	

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER6.SAMPLE]KF5F81AE_260281236.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       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:44
Sample ID        : KF5F81AE 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	7.650E+02	6.319E+01	6.291E+01	1.258E+00	12.160

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.205E+02	8.910E+01	3.878E+02	7.780E+00	0.311
NA-22	-4.827E+00	3.594E+00	1.172E+01	2.482E-01	-0.412
K-40	-1.814E+01	6.603E+01	3.246E+02	6.964E+00	-0.056
SC-46	1.843E+00	6.383E+00	2.702E+01	5.661E-01	0.068
CR-51	2.156E+02	1.532E+02	6.415E+02	1.283E+01	0.336
MN-54	6.022E+00	4.490E+00	2.225E+01	4.566E-01	0.271
CO-57	-4.853E+01	1.045E+02	3.658E+02	7.555E+00	-0.133
CO-58	-9.674E+00	6.489E+00	2.111E+01	4.324E-01	-0.458
FE-59	4.158E-02	1.417E+01	5.770E+01	1.207E+00	0.001
CO-60	-2.323E-01	5.084E+00	2.076E+01	4.413E-01	-0.011
ZN-65	9.763E+00	1.091E+01	4.920E+01	1.030E+00	0.198
SE-75	1.629E+01	1.789E+01	6.999E+01	1.404E+00	0.233
SR-85	4.213E+00	1.339E+01	5.007E+01	1.006E+00	0.084
Y-88	1.842E+00	5.153E+00	2.321E+01	5.104E-01	0.079
NB-94	6.355E+00	4.401E+00	2.174E+01	4.472E-01	0.292
NB-95	5.506E-01	8.594E+00	3.560E+01	7.269E-01	0.015
TC-95M	-3.196E+01	2.055E+01	6.876E+01	1.390E+00	-0.465
ZR-95	2.472E+01	1.318E+01	6.275E+01	1.280E+00	0.394
ZRNB-95	8.705E-01	1.360E+01	5.632E+01	1.150E+00	0.015
RH-101	1.106E+01	1.656E+01	6.137E+01	1.242E+00	0.180
RH-102M	-1.419E+00	7.229E+00	2.760E+01	5.535E-01	-0.051
RU-103	-2.685E+01	1.198E+01	3.451E+01	6.929E-01	-0.778
RU-106DA	7.953E+01	4.271E+01	2.254E+02	4.558E+00	0.353
AG-108M	-9.697E+00	9.150E+00	3.095E+01	6.198E-01	-0.313
AG-110M	2.172E+00	3.945E+00	2.088E+01	4.300E-01	0.104
SN-113DA	-8.832E+00	1.476E+01	5.301E+01	1.060E+00	-0.167
SB-124	-1.753E-01	7.739E+00	3.085E+01	6.230E-01	-0.006

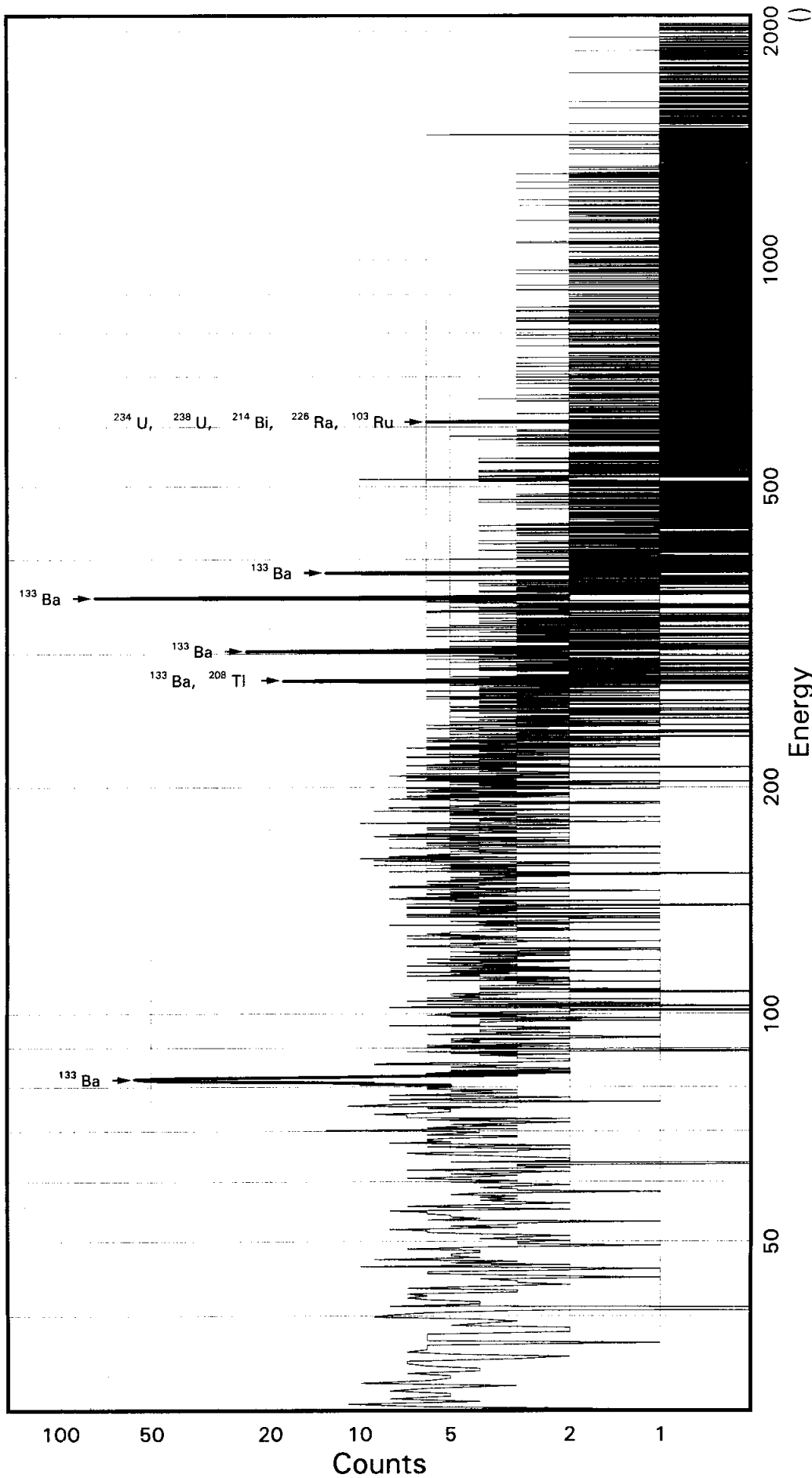
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-7.096E+00		2.295E+01	8.571E+01	1.716E+00	-0.083
SN-126DA	-3.247E-01		5.042E+00	2.057E+01	4.172E-01	-0.016
I-131	4.566E+01		8.661E+01	3.476E+02	6.953E+00	0.131
CS-134	-3.641E+00		7.571E+00	2.844E+01	5.818E-01	-0.128
CS-137DA	3.522E-01		6.497E+00	2.643E+01	5.358E-01	0.013
LA-138	2.345E+00		5.312E+00	2.549E+01	5.459E-01	0.092
CE-139	-2.356E+00		1.570E+01	5.703E+01	1.164E+00	-0.041
BA-140	2.449E+02		1.131E+02	5.159E+02	1.038E+01	0.475
BALA-140	2.001E+01		1.661E+01	1.141E+02	2.471E+00	0.175
CE-141	-6.998E+01		3.939E+01	1.300E+02	2.675E+00	-0.538
CE-144	9.885E+00		1.103E+02	3.997E+02	8.269E+00	0.025
CEPR-144	1.857E+01		2.205E+02	7.989E+02	1.653E+01	0.023
PM-144	-1.510E+01		6.657E+00	1.858E+01	3.756E-01	-0.813
PM-146	-3.015E+00		9.661E+00	3.704E+01	7.424E-01	-0.081
EU-152	-1.684E+01		3.260E+01	1.157E+02	2.314E+00	-0.146
EU-154	-1.341E+01		9.983E+00	3.256E+01	6.895E-01	-0.412
EU-155	5.062E+00		4.549E+01	1.733E+02	3.651E+00	0.029
HF-181	-2.742E+00		1.127E+01	4.336E+01	8.700E-01	-0.063
BI-207	-5.226E+00		7.153E+00	2.583E+01	5.205E-01	-0.202
TL-208	1.798E+00		5.296E+00	2.317E+01	4.673E-01	0.078
BI-210M	2.428E+01		1.854E+01	7.421E+01	1.489E+00	0.327
BI-212	-5.175E+01		8.602E+01	3.192E+02	9.758E+00	-0.162
PB-212	-1.542E+01		2.192E+01	8.092E+01	1.627E+00	-0.191
BI-214	-1.876E+01		1.690E+01	6.059E+01	1.224E+00	-0.310
PB-214	-2.672E+01		3.029E+01	8.727E+01	1.745E+00	-0.306
RA-223	-2.872E+01		6.669E+01	2.447E+02	4.908E+00	-0.117
RA-224DA	-1.582E+01		2.249E+01	8.304E+01	1.670E+00	-0.191
RA-226DA	-1.876E+01		1.691E+01	6.059E+01	1.224E+00	-0.310
AC-227DA	-2.116E+02		7.983E+01	2.285E+02	4.597E+00	-0.926
AC-228	-3.710E+01		1.954E+01	5.914E+01	1.220E+00	-0.627
RA-228DA	-3.742E+01		1.971E+01	5.965E+01	1.231E+00	-0.627
TH-228DA	5.135E+00		1.513E+01	6.617E+01	1.335E+00	0.078
TH-232DA	2.943E+01		6.329E+01	2.470E+02	4.940E+00	0.119
TH-234DA	5.086E+01		5.970E+02	2.623E+03	5.447E+01	0.019
U-234DA	5.095E+01		4.734E+01	1.899E+02	3.802E+00	0.268
U-235HP	-3.772E+01		1.010E+02	3.696E+02	7.608E+00	-0.102
NP-237DA	-2.465E+01		2.190E+01	7.472E+01	1.495E+00	-0.330
U-238DA	-2.672E+01		3.029E+01	8.727E+01	1.745E+00	-0.306
U-238DHP	5.016E+02		3.359E+02	1.333E+03	2.962E+01	0.376
AM-241HP	-2.504E+01		3.015E+01	1.079E+02	2.415E+00	-0.232

TAL Richland WA.
BA133

Batch ID: 8042378

Sample ID: KF5F91AE
Detector ID: GER13 1



Energy Coefficients:
Offset: -5.01566E-01
Slope: 2.50796E-01
Quadrature: -1.02767E-07

Acquisition Start: 26-FEB-2008 12:36:50.21
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5F91AE

CONFIGURATION ID: GER13:KF5F91AE_260281236
TITLE : BA133
SAMPLE ID : KF5F91AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 12:36:50
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:53:19.02
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: -.5016E+00 keV
ENERGY SLOPE: 2.5080E-01 keV/C
ENERGY Q COEFF: -.1028E-06 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.0668E-01 keV
FWHM SLOPE: 3.7686E-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 26-FEB-2008 13:07:40

```

Configuration      : $DISK1:[GER13.SAMPLE]KF5F91AE_260281236.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:50
Sample ID        : KF5F91AE 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     : 19.56 End energy : 2047.12
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.92	214	74	0.99	328.68	321	16	1.19E-01	11.4	
2	0	276.87	55	46	0.82	1106.48	1096	18	3.06E-02	32.7	
3	0	302.72	135	8	1.05	1209.66	1201	19	7.48E-02	10.2	
4	0	355.85	401	55	1.37	1421.71	1414	19	2.23E-01	6.7	
5	0	384.11	51	26	1.24	1534.53	1524	17	2.86E-02	26.5	
6	0	609.32*	5	3	1.72	2433.99	2426	15	3.00E-03	125.4	

Flag: "*" = Peak area was modified by background subtraction


```

Configuration      : $DISK1:[GER13.SAMPLE]KF5F91AE_260281236.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:50
Sample ID        : KF5F91AE 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	214	33.00	2.677E+00	8.066E+02	8.104E+02	12.61
	276.40	55	6.90	2.869E+00	9.274E+02	9.318E+02	33.11
	302.84	135	17.80	2.872E+00	8.776E+02	8.817E+02	11.53
	356.00	401	62.05*	2.875E+00	7.490E+02	7.525E+02	8.62
	383.85	51	8.70	2.874E+00	6.860E+02	6.893E+02	27.00

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5F91AE

Page : 2
Acquisition date : 26-FEB-2008 12:36:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	609.32	5	3	1.72	2433.99	2426	15	3.00E-03	****	2.85E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life		Energy	%Abund	Activity 1-Sigma		Rejected by	
		Ratio				(DPM/SAMPL)	%Error		
RU-103	39.35D	0.66		497.08*	89.00	---	Not Found	---	Abun.
				610.33	5.60	1.788E+02	125.50		
			% Abundances	Found =	5.92				
TL-208	1.41E+10Y	0.00		277.35	6.80	9.410E+02	33.11		Abun.
				510.84	21.60	---	Not Found	---	
				583.14*	84.20	---	Not Found	---	
				860.37	12.46	---	Not Found	---	
% Abundances	Found =	5.44							
BI-214	4.47E+09Y	0.00		609.31*	46.30	1.367E+01	125.50		Abun.
				768.36	5.04	---	Not Found	---	
				1120.29	15.10	---	Not Found	---	
				1764.49	15.80	---	Not Found	---	
% Abundances	Found =	56.30							
RA-226DA	1600.00Y	0.00		186.21	3.50	---	Not Found	---	Abun.
				241.98	7.49	---	Not Found	---	
				295.22	19.20	---	Not Found	---	
				351.92	37.20	---	Not Found	---	
				609.32*	46.30	1.367E+01	125.50		
				1120.28	15.10	---	Not Found	---	
				1238.11	5.94	---	Not Found	---	
	1764.49	15.80	---	Not Found	---				
% Abundances	Found =	30.76							
U-234DA	4.47E+09Y	0.00		241.98	7.49	---	Not Found	---	Abun.
				295.22*	19.20	---	Not Found	---	
				351.92	37.20	---	Not Found	---	
				609.31	46.30	1.367E+01	125.50		
% Abundances	Found =	42.02							
U-238DA	4.47E+09Y	0.00		241.98	7.49	---	Not Found	---	Abun.
				295.22	19.20	---	Not Found	---	
				351.92*	37.20	---	Not Found	---	
				609.31	46.30	1.367E+01	125.50		
% Abundances	Found =	42.02							

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER13.SAMPLE]KF5F91AE_260281236.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       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 12:36:50
Sample ID        : KF5F91AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.38 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.525E+02	6.484E+01	5.700E+01	1.140E+00	13.201

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.558E+02	9.379E+01	3.037E+02	6.091E+00	-0.513
NA-22	8.618E+00	4.517E+00	2.165E+01	4.568E-01	0.398
K-40	-1.601E+02	9.261E+01	4.242E+02	9.059E+00	-0.377
SC-46	1.211E+01	7.481E+00	3.369E+01	7.035E-01	0.359
CR-51	-8.641E+01	1.827E+02	6.424E+02	1.285E+01	-0.134
MN-54	-2.008E+00	6.232E+00	2.347E+01	4.808E-01	-0.086
CO-57	5.577E+01	1.090E+02	4.055E+02	8.359E+00	0.138
CO-58	-8.908E+00	6.124E+00	1.969E+01	4.028E-01	-0.452
FE-59	-2.436E+00	1.284E+01	5.040E+01	1.051E+00	-0.048
CO-60	-3.952E+00	4.539E+00	1.624E+01	3.439E-01	-0.243
ZN-65	-8.730E+00	1.125E+01	4.096E+01	8.552E-01	-0.213
SE-75	7.155E+00	2.022E+01	7.456E+01	1.496E+00	0.096
SR-85	-2.695E+01	1.386E+01	4.395E+01	8.829E-01	-0.613
Y-88	1.086E-01	3.655E+00	1.624E+01	3.549E-01	0.007
NB-94	3.148E+00	4.157E+00	1.836E+01	3.771E-01	0.171
NB-95	-5.611E+00	8.903E+00	3.222E+01	6.569E-01	-0.174
TC-95M	2.478E+00	2.391E+01	8.465E+01	1.710E+00	0.029
ZR-95	-6.888E+00	9.863E+00	3.635E+01	7.407E-01	-0.189
ZRNB-95	-9.253E+00	1.404E+01	5.066E+01	1.033E+00	-0.183
RH-101	1.026E+01	1.639E+01	5.951E+01	1.204E+00	0.172
RH-102M	8.305E+00	6.419E+00	2.695E+01	5.405E-01	0.308
RU-103	-1.263E+01	1.020E+01	3.445E+01	6.915E-01	-0.367
RU-106DA	-3.231E+01	5.353E+01	1.991E+02	4.022E+00	-0.162
AG-108M	-8.360E-01	7.893E+00	2.945E+01	5.897E-01	-0.028
AG-110M	-1.327E+01	9.205E+00	3.071E+01	6.312E-01	-0.432
SN-113DA	8.088E+00	1.196E+01	4.664E+01	9.331E-01	0.173
SB-124	1.105E+01	7.541E+00	3.289E+01	6.639E-01	0.336

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	2.165E+00		2.092E+01	8.099E+01	1.622E+00	0.027
SN-126DA	-4.313E+00		5.477E+00	1.967E+01	3.986E-01	-0.219
I-131	1.135E+02		9.471E+01	3.700E+02	7.399E+00	0.307
CS-134	5.476E+00		7.134E+00	2.881E+01	5.886E-01	0.190
CS-137DA	2.462E+00		7.189E+00	2.824E+01	5.719E-01	0.087
LA-138	-5.826E+00		5.903E+00	2.138E+01	4.558E-01	-0.273
CE-139	1.416E+00		1.603E+01	5.764E+01	1.175E+00	0.025
BA-140	7.341E+01		1.031E+02	4.098E+02	8.243E+00	0.179
BALA-140	4.286E+01		2.638E+01	1.405E+02	3.026E+00	0.305
CE-141	-6.633E+01		4.359E+01	1.451E+02	2.980E+00	-0.457
CE-144	-9.612E+01		1.016E+02	3.527E+02	7.280E+00	-0.273
CEPR-144	-1.970E+02		2.029E+02	7.035E+02	1.452E+01	-0.280
PM-144	9.250E+00		5.122E+00	2.357E+01	4.761E-01	0.393
PM-146	-4.582E+00		9.276E+00	3.404E+01	6.822E-01	-0.135
EU-152	-6.254E+01		3.564E+01	1.138E+02	2.276E+00	-0.549
EU-154	2.767E+01		1.211E+01	6.032E+01	1.273E+00	0.459
EU-155	6.865E+01		5.256E+01	1.985E+02	4.169E+00	0.346
HF-181	6.284E+00		1.269E+01	4.926E+01	9.881E-01	0.128
BI-207	3.992E-01		6.376E+00	2.406E+01	4.848E-01	0.017
TL-208	-6.913E+00		9.230E+00	3.333E+01	6.720E-01	-0.207
BI-210M	-1.438E+01		2.059E+01	7.201E+01	1.444E+00	-0.200
BI-212	5.434E+01		8.674E+01	3.507E+02	1.071E+01	0.155
PB-212	1.888E+01		2.333E+01	9.043E+01	1.818E+00	0.209
BI-214	1.367E+01	+	1.716E+01	7.123E+01	1.438E+00	0.192
PB-214	5.007E+01		3.208E+01	1.143E+02	2.286E+00	0.438
RA-223	7.587E+00		7.202E+01	2.637E+02	5.288E+00	0.029
RA-224DA	1.937E+01		2.394E+01	9.280E+01	1.866E+00	0.209
RA-226DA	1.367E+01	+	1.716E+01	7.123E+01	1.438E+00	0.192
AC-227DA	-1.738E+02		9.136E+01	2.840E+02	5.712E+00	-0.612
AC-228	1.631E+01		2.328E+01	1.013E+02	2.085E+00	0.161
RA-228DA	1.645E+01		2.348E+01	1.021E+02	2.103E+00	0.161
TH-228DA	-1.975E+01		2.637E+01	9.522E+01	1.920E+00	-0.207
TH-232DA	3.283E+01		6.832E+01	2.559E+02	5.118E+00	0.128
TH-234DA	-2.692E+01		7.903E+02	3.077E+03	6.375E+01	-0.009
U-234DA	-4.424E+01		5.010E+01	1.749E+02	3.503E+00	-0.253
U-235HP	1.562E+02		1.115E+02	4.248E+02	8.730E+00	0.368
NP-237DA	2.903E+01		2.441E+01	9.486E+01	1.898E+00	0.306
U-238DA	5.007E+01		3.208E+01	1.143E+02	2.286E+00	0.438
U-238DHP	-3.161E+02		2.749E+02	9.368E+02	2.067E+01	-0.337
AM-241HP	1.067E+01		2.924E+01	1.090E+02	2.422E+00	0.098

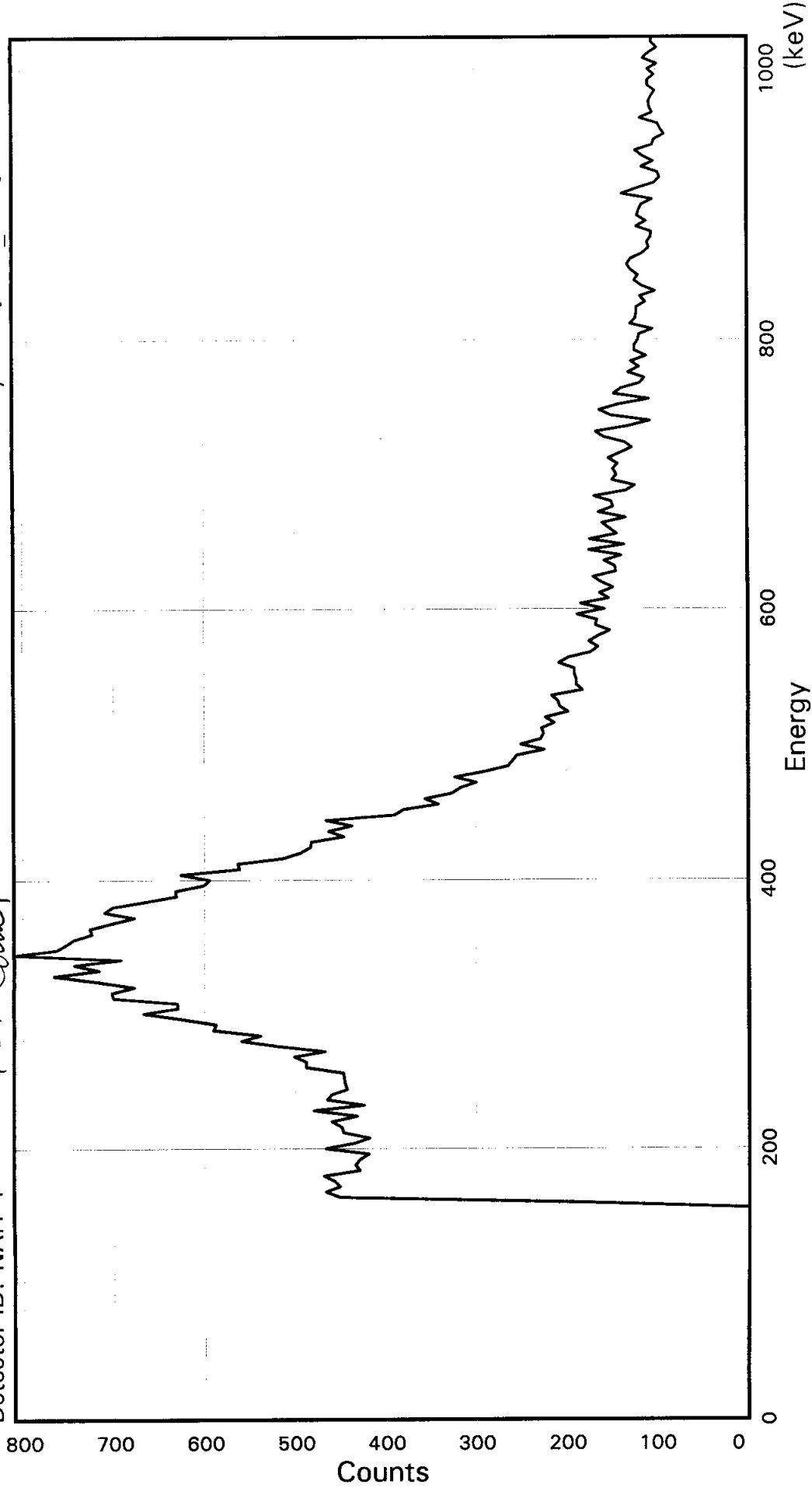
TAL Richland WA.

BA133

Sample ID: KF5GC1AE
Detector ID: NAI1 1

Batch ID: 8042378
Library: [NUC_LIBR]BA133.NLB

1st Count



Acquisition Start: 26-FEB-2008 13:15:54.48
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: lter

SAMPLE IDENTIFICATION:

KF5GC1AE

CONFIGURATION ID: NAI1:KF5GC1AE_260281315

TITLE : BA133

SAMPLE ID : KF5GC1AE

REPORT DATE: 26-FEB-08

ACQUIRE DATE: 26-FEB-08 13:15:54

ELAPSED LIVE TIME: 1800.0 Sec

PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 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/C²

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

Configuration : RDND06\$DKA100:[NAI1.SAMPLE]KF5GC1AE_260281315.CNF;1
Analyses by : NAI V3.0
Sample title : BA133
Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:15:54
Sample ID : KF5GC1AE Sample quantity : 1.0000 sampl
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.66 0.0%
Sample Multiplier: 1.00 Rejection Coeff. : 0.00
Gain shift type : ITER Threshold Shift : No
Weighting type : DERIVED Calculated counts: No
Iterations : 5

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	4.8	6.0	6.4	3.6	5.2	2.0	5.5	3.0
88:	2.5	1.4	-0.3	-0.5	-0.5	-2.3	1.0	0.2
96:	-1.0	-2.8	-2.1	-3.2	-4.9	-0.4	-2.9	-2.4
104:	-4.9	-5.2	-4.8	-4.2	-4.4	-2.8	-3.3	-1.4
112:	-3.7	-4.1						

List of Suspicious Channels

81 82 83 87

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.16E+01	0.00E+00	1.02E+00
2	5.58E+00	0.00E+00	1.05E+00
3	1.81E+00	0.00E+00	1.07E+00
4	9.74E-01	0.00E+00	1.08E+00

Brief Report

	Nuclide	Activity DPM/sampl	1-Sigma Error
	BA-133	753.	9.13

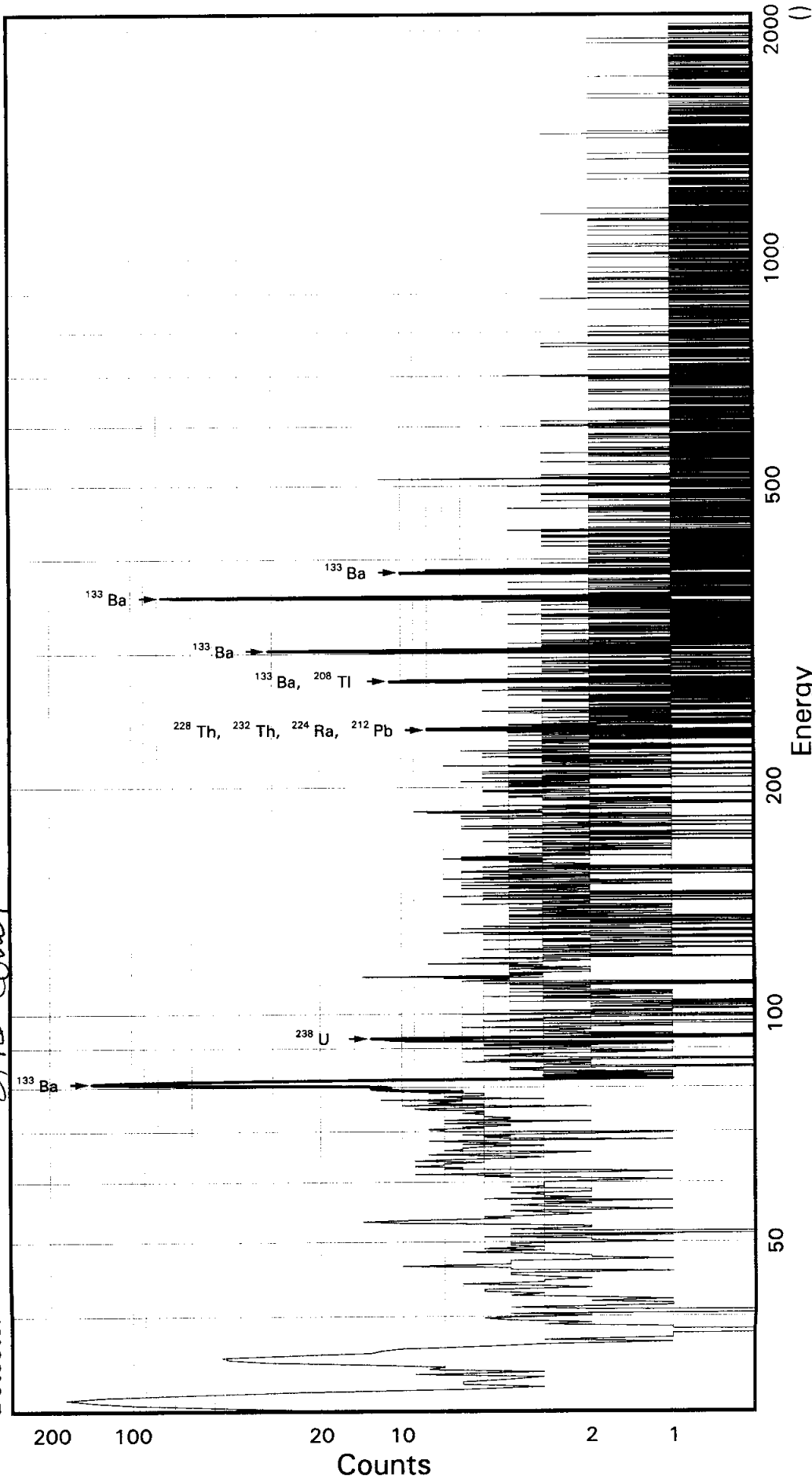
Total Activity :		753.	

TAL Richland WA.
BA133

Batch ID: 8042378

Sample ID: KF5GF1AE
Detector ID: GER5 1

Ino Count



Energy Coefficients:
Offset: -3.43606E-01
Slope: 2.49355E-01
Quadrature: 1.99985E-09

Acquisition Start: 27-FEB-2008 07:38:55.32
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5GF1AE

CONFIGURATION ID: GER5:KF5GF1AE_270280738
TITLE : BA133
SAMPLE ID : KF5GF1AE

REPORT DATE: 27-FEB-08
ACQUIRE DATE: 27-FEB-08 07:38:55
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 27-FEB-2008 05:26:02.76
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: -.3436E+00 keV
ENERGY SLOPE: 2.4936E-01 keV/C
ENERGY Q COEFF: 1.9998E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.6237E-01 keV
FWHM SLOPE: 2.6796E-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 27-FEB-2008 08:09:11

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]KF5GF1AE_270280738.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:38:55
Sample ID         : KF5GF1AE Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Start energy      : 19.60 End energy : 2042.51
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.87	712	86	0.92	125.18	115	17	3.95E-01	4.8	
2	0	35.24	194	45	0.82	142.70	135	17	1.08E-01	10.8	
3	0	53.40	31	29	0.57	215.51	208	13	1.72E-02	40.3	
4	0	80.99	498	76	0.84	326.19	317	18	2.77E-01	6.1	
5	0	92.90*	2	25	0.85	373.95	366	11	1.28E-03	497.4	
6	0	238.21*	35	8	2.57	956.67	948	17	1.94E-02	27.5	
7	0	276.45	45	11	1.26	1110.02	1102	14	2.52E-02	21.3	
8	0	302.88	130	3	0.82	1216.02	1209	16	7.20E-02	9.4	
9	0	356.00	315	18	0.83	1429.05	1420	18	1.75E-01	6.5	
10	0	384.61	78	6	3.79	1543.77	1532	24	4.33E-02	14.0	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]KF5GF1AE_270280738.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:38:55
Sample ID        : KF5GF1AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	498	33.00	1.919E+00	2.624E+03	2.637E+03	8.16
	276.40	45	6.90	2.072E+00	1.056E+03	1.061E+03	21.94
	302.84	130	17.80	2.074E+00	1.169E+03	1.175E+03	10.85
	356.00	315	62.05*	2.076E+00	8.161E+02	8.201E+02	8.40
	383.85	78	8.70	2.076E+00	1.439E+03	1.446E+03	15.05

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
PB-212	238.63	35	44.60*	2.064E+00	1.267E+02	1.267E+02	27.98
	300.09	-----	3.41	2.074E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GF1AE

Page : 2
Acquisition date : 27-FEB-2008 07:38:55

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.87	712	86	0.92	125.18	115	17	3.95E-01	4.8	1.67E+00	
0	35.24	194	45	0.82	142.70	135	17	1.08E-01	10.8	1.71E+00	
0	53.40	31	29	0.57	215.51	208	13	1.72E-02	40.3	1.82E+00	
0	92.90	2	25	0.85	373.95	366	11	1.28E-03	****	1.95E+00	T

Flags: "T" = Tentatively associated

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	1.072E+03	21.94	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	0.04	238.63*	44.60	1.301E+02	27.98	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	0.04	238.63	44.60	1.301E+02	27.98	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	1.267E+02	27.98	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		---
% Abundances Found =			32.61					
U-238DHP	4.47E+09Y	0.00	63.28*	3.80	---	Not Found	Abun.	
			92.59	5.41	7.287E+01	497.40		
% Abundances Found =			58.74					

Flag: "*" = Keyline

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KF5GF1AE_270280738.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 : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:38:55
 Sample ID : KF5GF1AE Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.201E+02	6.891E+01	6.364E+01	1.273E+00	12.886
PB-212	1.267E+02	3.544E+01	1.099E+02	2.211E+00	1.152

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.556E+01	6.982E+01	2.627E+02	5.271E+00	-0.173
NA-22	-1.914E+00	3.965E+00	1.612E+01	3.417E-01	-0.119
NA-24	-1.238E+07	8.777E+06	Half-Life too short		
K-40	-2.023E+01	7.121E+01	3.348E+02	7.193E+00	-0.060
SC-46	8.420E+00	7.289E+00	3.332E+01	6.985E-01	0.253
CR-51	-2.659E+01	1.619E+02	6.009E+02	1.202E+01	-0.044
MN-54	4.276E+00	4.503E+00	2.198E+01	4.512E-01	0.195
CO-57	1.161E+02	1.284E+02	4.844E+02	1.001E+01	0.240
CO-58	-4.430E+00	4.374E+00	1.582E+01	3.243E-01	-0.280
FE-59	-2.237E+01	1.193E+01	3.317E+01	6.945E-01	-0.674
CO-60	-3.482E+00	2.606E+00	6.879E+00	1.465E-01	-0.506
ZN-65	-1.069E+01	8.001E+00	2.630E+01	5.513E-01	-0.406
SE-75	6.192E+00	1.816E+01	6.954E+01	1.395E+00	0.089
SR-85	-5.295E+01	1.661E+01	4.576E+01	9.196E-01	-1.157
Y-88	4.142E+00	4.291E+00	2.279E+01	5.021E-01	0.182
NB-94	-4.261E+00	3.216E+00	1.009E+01	2.076E-01	-0.422
NB-95	5.526E+00	8.853E+00	3.935E+01	8.038E-01	0.140
TC-95M	3.711E+01	2.936E+01	1.123E+02	2.271E+00	0.330
ZR-95	1.583E+01	1.124E+01	5.583E+01	1.140E+00	0.284
ZRNB-95	8.680E+00	1.390E+01	6.180E+01	1.262E+00	0.140
MO-99	-4.507E-03	5.957E-03	Half-Life too short		
RH-101	2.544E+01	1.889E+01	7.313E+01	1.481E+00	0.348
RH-102M	-8.886E+00	5.229E+00	1.582E+01	3.174E-01	-0.562
RU-103	-1.518E+01	1.145E+01	3.806E+01	7.643E-01	-0.399
RU-106DA	7.122E+01	4.890E+01	2.456E+02	4.966E+00	0.290
AG-108M	-1.939E+01	9.971E+00	3.116E+01	6.241E-01	-0.622

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
AG-110M	1.196E+01		8.260E+00	3.891E+01	8.018E-01	0.307
SN-113DA	3.803E+00		1.376E+01	5.471E+01	1.095E+00	0.070
SB-124	-2.067E+00		9.464E+00	3.683E+01	7.439E-01	-0.056
SB-125	4.111E+01		2.693E+01	1.166E+02	2.334E+00	0.353
SN-126DA	1.593E+00		6.181E+00	2.553E+01	5.179E-01	0.062
I-131	1.288E+02		9.280E+01	4.030E+02	8.060E+00	0.320
CS-134	-1.216E+01		7.997E+00	2.584E+01	5.289E-01	-0.470
CS-137DA	4.003E+00		5.364E+00	2.510E+01	5.090E-01	0.159
LA-138	3.632E+00		5.913E+00	2.895E+01	6.209E-01	0.125
CE-139	-2.013E+01		1.787E+01	6.134E+01	1.253E+00	-0.328
BA-140	2.422E+02		1.289E+02	5.728E+02	1.153E+01	0.423
BALA-140	-1.564E+01		1.567E+01	4.218E+01	9.146E-01	-0.371
LA-140	-5.430E-02		5.438E-02	Half-Life	too short	
CE-141	-5.553E+01		5.141E+01	1.775E+02	3.653E+00	-0.313
CE-144	-1.367E+02		1.283E+02	4.264E+02	8.827E+00	-0.321
CEPR-144	-2.733E+02		2.566E+02	8.527E+02	1.765E+01	-0.321
PM-144	-6.429E+00		4.725E+00	1.600E+01	3.234E-01	-0.402
PM-146	-2.670E-01		9.962E+00	3.937E+01	7.890E-01	-0.007
EU-152	-1.231E+01		2.967E+01	1.112E+02	2.224E+00	-0.111
EU-154	-5.315E+00		1.101E+01	4.475E+01	9.488E-01	-0.119
EU-155	4.266E+01		5.578E+01	2.142E+02	4.519E+00	0.199
HF-181	1.471E+01		1.393E+01	5.873E+01	1.178E+00	0.250
BI-207	-2.158E+00		5.672E+00	2.177E+01	4.388E-01	-0.099
TL-208	3.729E+00		7.487E+00	3.335E+01	6.728E-01	0.112
BI-210M	-2.159E+01		2.024E+01	6.856E+01	1.375E+00	-0.315
BI-212	-7.381E+01		5.541E+01	1.827E+02	5.586E+00	-0.404
BI-214	9.057E-01		1.576E+01	6.591E+01	1.332E+00	0.014
PB-214	3.356E+00		3.608E+01	1.191E+02	2.382E+00	0.028
RA-223	7.716E+01		7.327E+01	2.909E+02	5.833E+00	0.265
RA-224DA	1.301E+02	+	3.640E+01	1.308E+02	2.632E+00	0.994
RA-226DA	9.058E-01		1.576E+01	6.591E+01	1.332E+00	0.014
AC-227DA	7.629E+01		1.052E+02	3.569E+02	7.182E+00	0.214
AC-228	1.886E+01		2.128E+01	9.963E+01	2.057E+00	0.189
RA-228DA	1.903E+01		2.147E+01	1.005E+02	2.075E+00	0.189
TH-228DA	1.066E+01		2.140E+01	9.533E+01	1.923E+00	0.112
TH-232DA	6.162E+01		7.364E+01	2.969E+02	5.938E+00	0.208
TH-234DA	-9.229E+01		5.832E+02	2.761E+03	5.738E+01	-0.033
U-234DA	1.018E+01		4.849E+01	1.830E+02	3.665E+00	0.056
U-235HP	-1.487E+01		1.258E+02	4.606E+02	9.488E+00	-0.032
NP-237DA	4.302E+00		2.595E+01	9.734E+01	1.948E+00	0.044
U-238DA	3.356E+00		3.608E+01	1.191E+02	2.382E+00	0.028
U-238DHP	-2.487E+02		5.156E+02	1.907E+03	4.245E+01	-0.130
AM-241HP	-5.849E+01		4.231E+01	1.416E+02	3.177E+00	-0.413

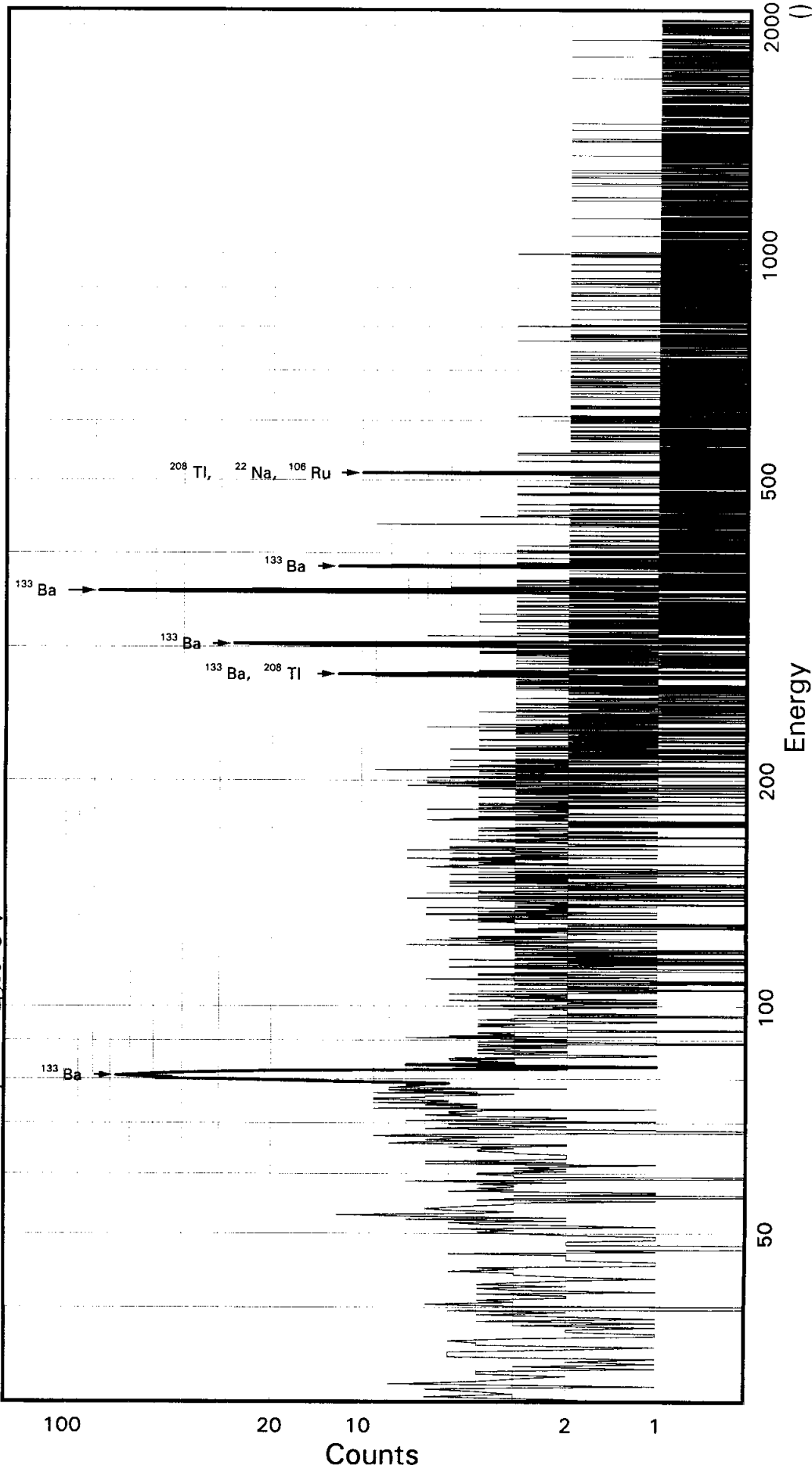
TAL Richland WA.

BA133

Batch ID: 8042378

Sample ID: KF5GF1AE
Detector ID: GER10 1

1st Count



Acquisition Start: 26-FEB-2008 13:16:18.36
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.46425E+01
Slope: 2.47248E-01
Quadrature: 2.05587E-09

SAMPLE IDENTIFICATION: KF5GF1AE

CONFIGURATION ID: GER10:KF5GF1AE_260281316
TITLE : BA133
SAMPLE ID : KF5GF1AE

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 13:16:18
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 05:34:18.65
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: 1.4643E+01 keV
ENERGY SLOPE: 2.4725E-01 keV/C
ENERGY Q COEFF: 2.0559E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.2291E+00 keV
FWHM SLOPE: 2.1883E-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 26-FEB-2008 13:46:35

```

Configuration      : $DISK1:[GER10.SAMPLE]KF5GF1AE_260281316.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:16:18
Sample ID         : KF5GF1AE Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Start energy      : 17.12 End energy : 2040.24
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.95	400	104	1.68	268.19	259	22	2.22E-01	8.3	
2	0	276.49	50	32	1.70	1059.04	1049	19	2.79E-02	26.8	
3	0	303.07	143	39	1.52	1166.55	1155	21	7.96E-02	12.4	
4	0	356.07	460	28	1.44	1380.90	1370	24	2.55E-01	5.3	
5	0	383.78	76	3	1.71	1492.97	1480	23	4.20E-02	12.8	
6	0	510.96*	1	7	1.21	2007.35	1996	20	6.21E-04	845.6	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER10.SAMPLE]KF5GF1AE_260281316.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:16:18
Sample ID        : KF5GF1AE Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	400	33.00	2.478E+00	1.631E+03	1.639E+03	9.94
	276.40	50	6.90	2.637E+00	9.212E+02	9.256E+02	27.38
	302.84	143	17.80	2.640E+00	1.017E+03	1.022E+03	13.53
	356.00	460	62.05*	2.642E+00	9.346E+02	9.390E+02	7.58
	383.85	76	8.70	2.641E+00	1.098E+03	1.103E+03	13.88

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GF1AE

Page : 2
Acquisition date : 26-FEB-2008 13:16:18

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	510.96	1	7	1.21	2007.35	1996	20	6.21E-04	****	2.63E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.03	511.00	179.68	8.027E-01	845.61	Abun.
			1274.54*	99.94	---	Not Found	---
		% Abundances	Found =	64.26			
RU-106DA	368.20D	0.07	511.85	20.60	7.215E+00	845.61	Abun.
			621.84*	9.80	---	Not Found	---
		% Abundances	Found =	67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	9.348E+02	27.38	Abun.
			510.84	21.60	6.552E+00	845.61	
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
		% Abundances	Found =	22.71			

Flag: "*" = Keyline


```

Configuration      : $DISK1:[GER10.SAMPLE]KF5GF1AE_260281316.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       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:16:18
Sample ID         : KF5GF1AE Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	9.390E+02	7.114E+01	5.479E+01	1.096E+00	17.138

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.967E+01	8.264E+01	3.048E+02	6.111E+00	-0.097
NA-22	-9.644E+00	4.565E+00	1.252E+01	2.626E-01	-0.770
K-40	-9.039E+01	3.808E+01	1.616E+02	3.425E+00	-0.559
SC-46	4.031E-02	3.968E+00	1.750E+01	3.636E-01	0.002
CR-51	1.392E+02	1.612E+02	6.320E+02	1.264E+01	0.220
MN-54	6.178E-01	4.500E+00	1.870E+01	3.820E-01	0.033
CO-57	-7.281E+01	1.258E+02	4.361E+02	8.959E+00	-0.167
CO-58	-2.617E+00	5.500E+00	2.112E+01	4.308E-01	-0.124
FE-59	7.071E+00	9.791E+00	4.551E+01	9.447E-01	0.155
CO-60	-6.022E-01	3.222E+00	1.372E+01	2.888E-01	-0.044
ZN-65	1.122E+01	9.624E+00	4.409E+01	9.161E-01	0.255
SE-75	7.199E+00	1.774E+01	6.709E+01	1.345E+00	0.107
SR-85	4.022E+01	1.019E+01	4.579E+01	9.194E-01	0.878
Y-88	1.185E+00	3.564E+00	1.695E+01	3.667E-01	0.070
NB-94	2.064E+00	4.088E+00	1.787E+01	3.659E-01	0.115
NB-95	3.354E+00	1.008E+01	4.003E+01	8.144E-01	0.084
TC-95M	-5.127E+00	2.528E+01	8.840E+01	1.784E+00	-0.058
ZR-95	4.872E-01	1.080E+01	4.398E+01	8.944E-01	0.011
ZRNB-95	4.892E+00	1.590E+01	6.302E+01	1.282E+00	0.078
RH-101	6.819E+00	1.877E+01	6.974E+01	1.409E+00	0.098
RH-102M	-6.034E+00	6.493E+00	2.255E+01	4.521E-01	-0.268
RU-103	-7.691E+00	9.520E+00	3.378E+01	6.778E-01	-0.228
RU-106DA	-5.170E+01	5.394E+01	1.923E+02	3.881E+00	-0.269
AG-108M	-1.849E+01	9.234E+00	2.864E+01	5.735E-01	-0.646
AG-110M	-3.015E+00	6.378E+00	2.436E+01	4.991E-01	-0.124
SN-113DA	1.048E+01	1.225E+01	4.939E+01	9.881E-01	0.212
SB-124	-1.120E+00	8.996E+00	3.416E+01	6.887E-01	-0.033

Sample ID : KF5GF1AE

Acquisition date : 26-FEB-2008 13:16:18

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL) Ided	K.L.	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	9.657E+00		2.095E+01	8.364E+01	1.675E+00	0.115
SN-126DA	8.596E+00		5.219E+00	2.374E+01	4.803E-01	0.362
I-131	-2.937E+01		9.521E+01	3.453E+02	6.905E+00	-0.085
CS-134	-4.825E+00		5.182E+00	1.851E+01	3.773E-01	-0.261
CS-137DA	-4.366E+00		5.381E+00	1.967E+01	3.979E-01	-0.222
LA-138	-1.626E-01		4.087E+00	1.858E+01	3.933E-01	-0.009
CE-139	-2.687E+01		1.755E+01	5.730E+01	1.166E+00	-0.469
BA-140	-7.537E+01		7.593E+01	2.728E+02	5.484E+00	-0.276
BALA-140	2.361E+01		2.824E+01	1.391E+02	2.971E+00	0.170
CE-141	-1.661E+01		4.246E+01	1.489E+02	3.049E+00	-0.112
CE-144	1.006E+02		1.280E+02	4.714E+02	9.696E+00	0.213
CEPR-144	2.043E+02		2.561E+02	9.437E+02	1.941E+01	0.217
PM-144	-1.044E+01		5.341E+00	1.621E+01	3.270E-01	-0.644
PM-146	-1.417E+00		8.324E+00	3.190E+01	6.392E-01	-0.044
EU-152	1.596E+01		3.130E+01	1.199E+02	2.398E+00	0.133
EU-154	-2.679E+01		1.268E+01	3.478E+01	7.295E-01	-0.770
EU-155	-4.426E+01		5.630E+01	1.949E+02	4.070E+00	-0.227
HF-181	1.499E+01		1.025E+01	4.499E+01	9.023E-01	0.333
BI-207	6.773E+00		5.315E+00	2.359E+01	4.748E-01	0.287
TL-208	1.528E+01		6.413E+00	3.034E+01	6.111E-01	0.504
BI-210M	-2.153E+01		1.859E+01	6.355E+01	1.274E+00	-0.339
BI-212	-1.986E+01		6.468E+01	2.550E+02	7.783E+00	-0.078
PB-212	-6.164E+00		2.252E+01	8.140E+01	1.636E+00	-0.076
BI-214	-1.131E+01		1.574E+01	5.876E+01	1.185E+00	-0.192
PB-214	-3.529E+00		2.741E+01	8.752E+01	1.750E+00	-0.040
RA-223	9.158E+00		7.000E+01	2.535E+02	5.081E+00	0.036
RA-224DA	-6.326E+00		2.311E+01	8.353E+01	1.678E+00	-0.076
RA-226DA	-1.142E+01		1.573E+01	5.870E+01	1.184E+00	-0.195
AC-227DA	1.742E+01		9.723E+01	3.491E+02	7.016E+00	0.050
AC-228	-1.053E+01		1.517E+01	5.610E+01	1.151E+00	-0.188
RA-228DA	-1.062E+01		1.530E+01	5.659E+01	1.161E+00	-0.188
TH-228DA	4.364E+01		1.832E+01	8.666E+01	1.746E+00	0.504
TH-232DA	-4.081E+01		5.886E+01	2.095E+02	4.191E+00	-0.195
TH-234DA	3.246E+02		6.704E+02	2.912E+03	6.008E+01	0.111
U-234DA	7.468E+01		5.415E+01	2.089E+02	4.182E+00	0.358
U-235HP	-1.075E+02		1.156E+02	3.931E+02	8.054E+00	-0.273
NP-237DA	6.958E+01		2.333E+01	1.011E+02	2.024E+00	0.688
U-238DA	-3.529E+00		2.741E+01	8.752E+01	1.750E+00	-0.040
U-238DHP	-6.393E+02		3.960E+02	1.317E+03	2.874E+01	-0.485
AM-241HP	5.535E+00		3.854E+01	1.362E+02	2.992E+00	0.041

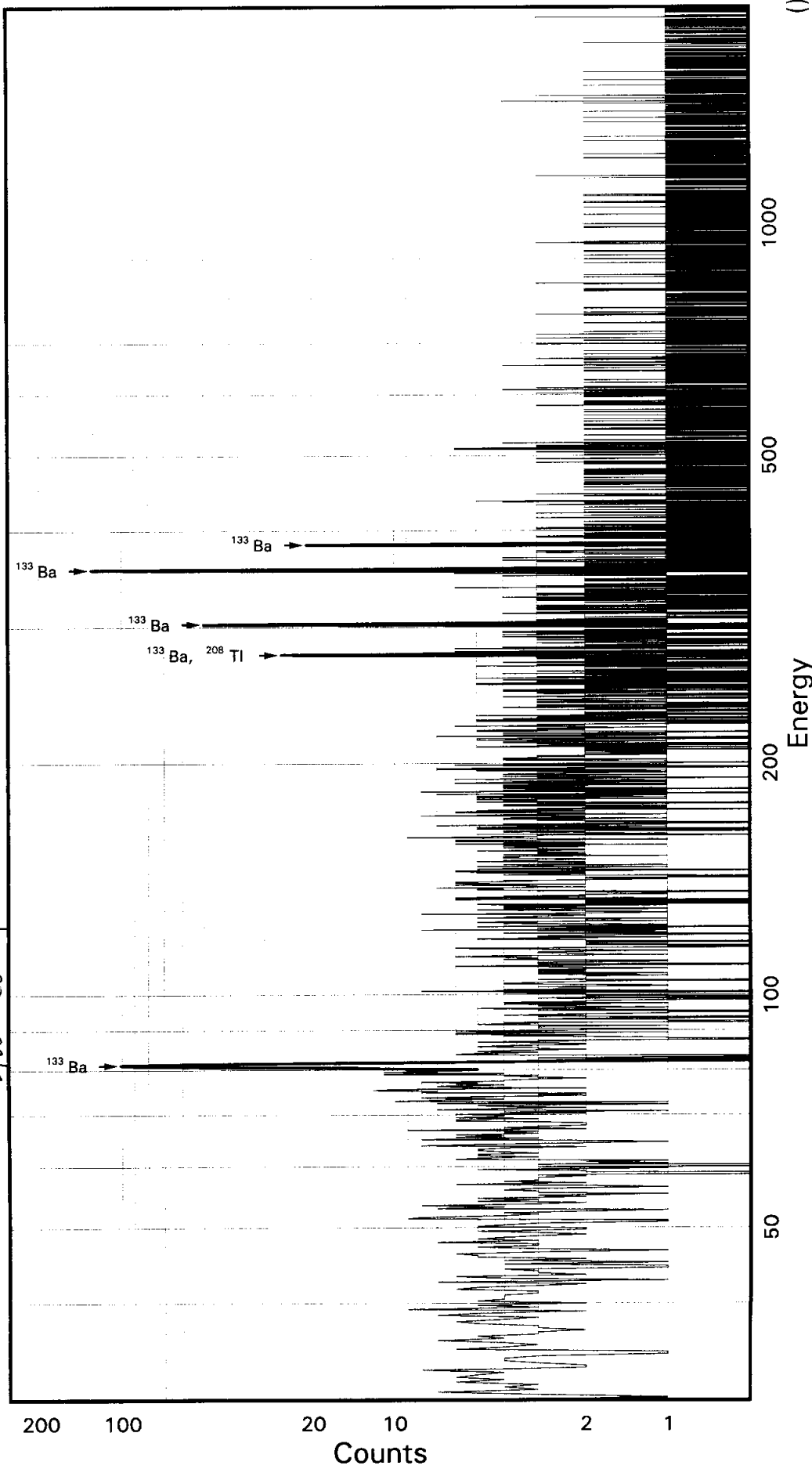
TAL Richland WA.

BA133

Batch ID: 8042378

Sample ID: KF5GJ1AL
Detector ID: GER11 1

Asd Count



Energy Coefficients:
Offset: -1.02792E+00
Slope: 2.31718E-01
Quadrature: 3.04542E-08

Acquisition Start: 27-FEB-2008 07:39:02.30
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5GJ1AL

CONFIGURATION ID: GER11:KF5GJ1AL_270280739
TITLE : BA133
SAMPLE ID : KF5GJ1AL

REPORT DATE: 27-FEB-08
ACQUIRE DATE: 27-FEB-08 07:39:02
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 27-FEB-2008 05:17:56.46
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: -.1028E+01 keV
ENERGY SLOPE: 2.3172E-01 keV/C
ENERGY Q COEFF: 3.0454E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.9724E-01 keV
FWHM SLOPE: 4.0762E-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 27-FEB-2008 08:09:20

```

Configuration      : $DISK1:[GER11.SAMPLE]KF5GJ1AL_270280739.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:39:02
Sample ID        : KF5GJ1AL Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.97 0.1%
Start energy     : 1.29 End energy : 1899.25
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.21	319	60	0.73	354.89	348	13	1.77E-01	7.5	
2	0	276.26	105	11	0.76	1196.46	1189	15	5.82E-02	12.0	
3	0	302.76	178	34	0.77	1310.78	1304	16	9.89E-02	10.6	
4	0	355.84	582	5	1.05	1539.80	1532	18	3.23E-01	4.2	
5	0	383.70	97	4	0.97	1659.97	1652	15	5.39E-02	11.0	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER11.SAMPLE]KF5GJ1AL_270280739.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:39:02
Sample ID         : KF5GJ1AL Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.97 0.1%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	319	33.00	2.880E+00	1.119E+03	1.124E+03	9.30
	276.40	105	6.90	3.084E+00	1.640E+03	1.648E+03	13.16
	302.84	178	17.80	3.088E+00	1.080E+03	1.085E+03	11.89
	356.00	582	62.05*	3.090E+00	1.012E+03	1.016E+03	6.85
	383.85	97	8.70	3.090E+00	1.204E+03	1.210E+03	12.29

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GJ1AL

Page : 2
Acquisition date : 27-FEB-2008 07:39:02

None

Flags: "T" = Tentatively associated

Nuclide	Half-Life		Energy	%Abund	Activity 1-Sigma		Rejected by
	Half-life	Ratio			(DPM/SAMPL)	%Error	
TL-208	1.41E+10Y	0.00	277.35	6.80	1.664E+03	13.16	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
	% Abundances Found =			5.44			

Flag: "*" = Keyline


```

Configuration      : $DISK1:[GER11.SAMPLE]KF5GJ1AL_270280739.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       : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:39:02
Sample ID        : KF5GJ1AL Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.97 0.1%
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	1.016E+03	6.964E+01	3.095E+01	6.190E-01	32.845

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-7.301E-01	5.899E+01	2.331E+02	4.675E+00	-0.003
NA-22	3.576E+00	3.454E+00	1.635E+01	3.445E-01	0.219
K-40	-1.132E+02	3.690E+01	1.653E+02	3.526E+00	-0.685
SC-46	1.374E+00	3.156E+00	1.511E+01	3.153E-01	0.091
CR-51	-1.079E+02	1.031E+02	3.573E+02	7.148E+00	-0.302
MN-54	6.805E+00	4.650E+00	2.104E+01	4.307E-01	0.323
CO-57	-9.984E+01	7.983E+01	2.605E+02	5.368E+00	-0.383
CO-58	-1.375E+00	2.461E+00	1.060E+01	2.168E-01	-0.130
FE-59	-2.298E-02	7.400E+00	3.245E+01	6.763E-01	-0.001
CO-60	-1.143E+00	1.144E+00	3.114E+00	6.587E-02	-0.367
ZN-65	-9.654E+00	4.855E+00	6.465E+00	1.349E-01	-1.493
SE-75	-1.403E+01	1.033E+01	3.541E+01	7.102E-01	-0.396
SR-85	-3.144E+01	9.776E+00	2.585E+01	5.193E-01	-1.216
Y-88	-1.364E+00	1.366E+00	3.809E+00	8.309E-02	-0.358
NB-94	4.419E+00	2.725E+00	1.450E+01	2.976E-01	0.305
NB-95	-6.248E+00	6.865E+00	2.499E+01	5.093E-01	-0.250
TC-95M	1.531E+01	1.506E+01	5.900E+01	1.192E+00	0.260
ZR-95	-9.666E+00	8.116E+00	2.857E+01	5.820E-01	-0.338
ZRNB-95	-1.019E+01	1.073E+01	3.886E+01	7.920E-01	-0.262
RH-101	-7.255E+00	1.130E+01	4.035E+01	8.160E-01	-0.180
RH-102M	-7.003E+00	4.663E+00	1.518E+01	3.044E-01	-0.461
RU-103	9.533E+00	6.519E+00	3.086E+01	6.195E-01	0.309
RU-106DA	1.515E+01	2.665E+01	1.298E+02	2.622E+00	0.117
AG-108M	-1.070E+01	5.850E+00	1.860E+01	3.725E-01	-0.575
AG-110M	-3.425E+00	5.245E+00	1.973E+01	4.053E-01	-0.174
SN-113DA	-5.252E-01	9.227E+00	3.481E+01	6.965E-01	-0.015
SB-124	-2.443E+00	6.990E+00	2.639E+01	5.324E-01	-0.093

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	6.893E+00		1.260E+01	5.510E+01	1.103E+00	0.125
SN-126DA	8.199E+00		4.344E+00	2.022E+01	4.096E-01	0.405
I-131	-5.184E+01		6.900E+01	2.421E+02	4.842E+00	-0.214
CS-134	2.233E+00		3.104E+00	1.528E+01	3.121E-01	0.146
CS-137DA	4.798E+00		5.445E+00	2.311E+01	4.679E-01	0.208
LA-138	1.373E+01		5.509E+00	2.867E+01	6.106E-01	0.479
CE-139	1.928E+01		1.055E+01	4.355E+01	8.876E-01	0.443
BA-140	-3.659E+01		5.539E+01	2.073E+02	4.168E+00	-0.177
BALA-140	2.111E+01		2.537E+01	1.248E+02	2.684E+00	0.169
CE-141	4.385E+00		3.078E+01	1.104E+02	2.265E+00	0.040
CE-144	5.034E+01		7.391E+01	2.805E+02	5.787E+00	0.179
CEPR-144	9.880E+01		1.477E+02	5.601E+02	1.156E+01	0.176
PM-144	-4.380E+00		2.318E+00	5.084E+00	1.027E-01	-0.862
PM-146	5.705E-01		5.331E+00	2.241E+01	4.490E-01	0.025
EU-152	7.616E+00		1.761E+01	7.141E+01	1.428E+00	0.107
EU-154	9.928E+00		9.589E+00	4.539E+01	9.566E-01	0.219
EU-155	-2.864E+01		3.251E+01	1.135E+02	2.381E+00	-0.252
HF-181	1.816E+00		4.512E+00	2.157E+01	4.326E-01	0.084
BI-207	5.547E-01		3.785E+00	1.588E+01	3.199E-01	0.035
TL-208	2.192E+00		5.271E+00	2.184E+01	4.403E-01	0.100
BI-210M	-1.271E+01		1.076E+01	3.756E+01	7.532E-01	-0.338
BI-212	4.411E+01		6.105E+01	2.627E+02	8.026E+00	0.168
PB-212	-1.093E+01		1.402E+01	4.842E+01	9.734E-01	-0.226
BI-214	2.531E+01		1.165E+01	5.220E+01	1.054E+00	0.485
PB-214	2.696E+01		2.167E+01	8.206E+01	1.641E+00	0.329
RA-223	-4.329E+00		4.635E+01	1.753E+02	3.515E+00	-0.025
RA-224DA	-1.122E+01		1.440E+01	4.973E+01	9.997E-01	-0.226
RA-226DA	2.531E+01		1.165E+01	5.220E+01	1.054E+00	0.485
AC-227DA	1.937E+01		5.308E+01	2.035E+02	4.093E+00	0.095
AC-228	-4.734E+00		1.217E+01	4.787E+01	9.850E-01	-0.099
RA-228DA	-4.776E+00		1.228E+01	4.829E+01	9.938E-01	-0.099
TH-228DA	6.265E+00		1.507E+01	6.245E+01	1.259E+00	0.100
TH-232DA	5.929E+01		5.058E+01	2.049E+02	4.098E+00	0.289
TH-234DA	-2.797E+02		5.353E+02	2.091E+03	4.328E+01	-0.134
U-234DA	2.774E+01		3.727E+01	1.464E+02	2.931E+00	0.189
U-235HP	9.510E+01		6.840E+01	2.716E+02	5.578E+00	0.350
NP-237DA	1.491E+01		1.301E+01	5.620E+01	1.125E+00	0.265
U-238DA	2.696E+01		2.167E+01	8.206E+01	1.641E+00	0.329
U-238DHP	3.371E+02		2.300E+02	8.941E+02	1.969E+01	0.377
AM-241HP	1.066E+00		1.769E+01	6.607E+01	1.465E+00	0.016

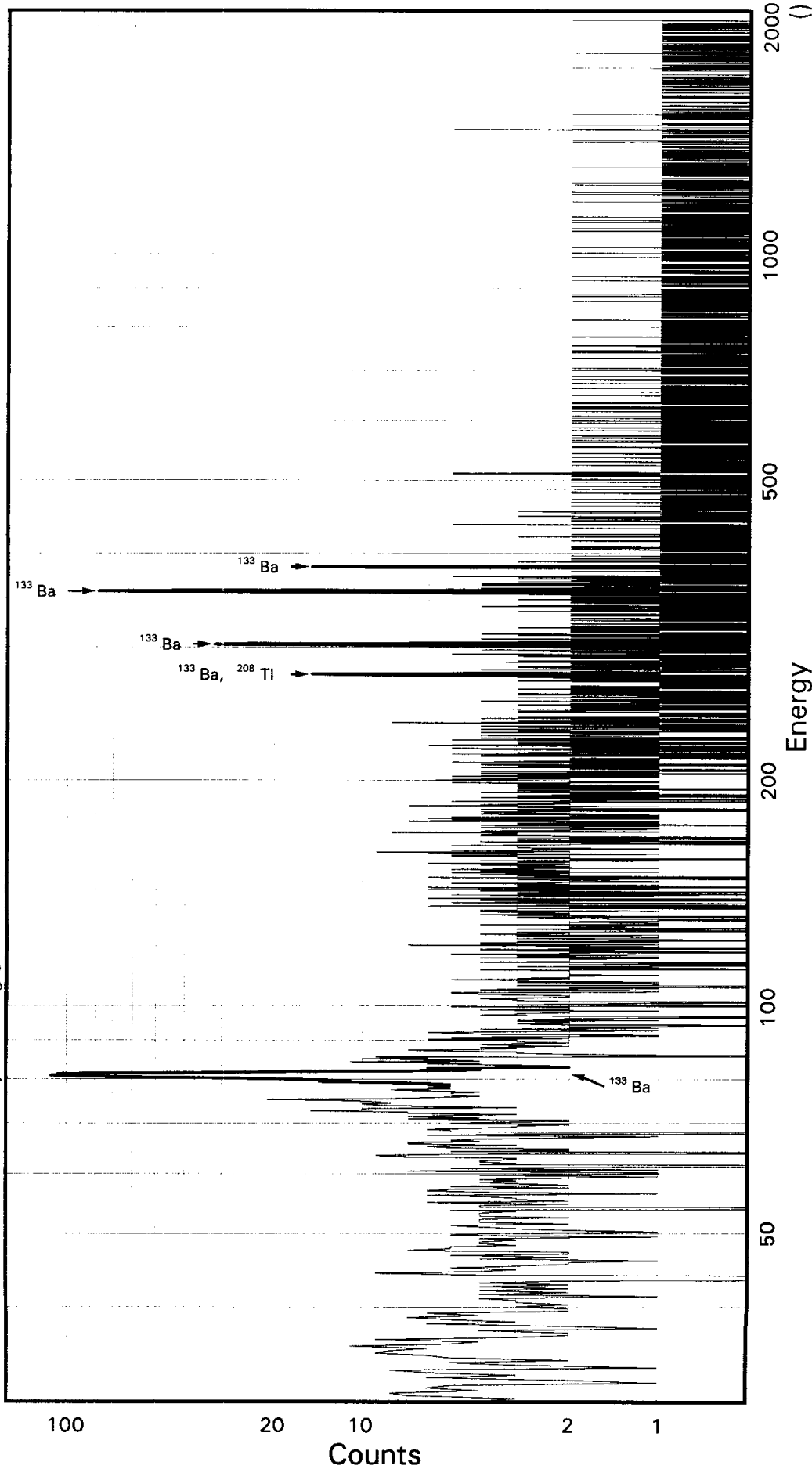
TAL Richland WA.

BA133

Sample ID: KF5GJ1AL
Detector ID: GER7 1

1st Count

Batch ID: 8042378



Acquisition Start: 26-FEB-2008 13:16:50.38
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 6.74902E-01
Slope: 2.49142E-01
Quadrature: 1.63405E-07

SAMPLE IDENTIFICATION: KF5GJ1AL

CONFIGURATION ID: GER7:KF5GJ1AL_260281316
TITLE : BA133
SAMPLE ID : KF5GJ1AL

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 13:16:50
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:52:31.64
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 6.7490E-01 keV
ENERGY SLOPE: 2.4914E-01 keV/C
ENERGY Q COEFF: 1.6341E-07 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.2803E-01 keV
FWHM SLOPE: 3.8593E-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 26-FEB-2008 13:47:06

```

Configuration      : $DISK1:[GER7.SAMPLE]KF5GJ1AL_260281316.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:16:50
Sample ID         : KF5GJ1AL Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy      : 20.61 End energy : 2052.61
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.01	529	70	1.05	322.37	313	19	2.94E-01	5.8	
2	0	276.24	56	16	0.99	1105.27	1096	17	3.09E-02	21.6	
3	0	302.84	141	12	1.05	1211.84	1206	15	7.83E-02	9.9	
4	0	355.92	424	13	1.35	1424.53	1414	18	2.36E-01	5.3	
5	0	383.90	56	8	0.84	1536.62	1531	13	3.12E-02	17.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 26-FEB-2008 13:47:06

Configuration : \$DISK1:[GER7.SAMPLE]KF5GJ1AL_260281316.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:16:50
 Sample ID : KF5GJ1AL 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	Decay Corr	1-Sigma
					DPM/SAMPL	DPM/SAMPL	%Error
BA-133	81.00	529	33.00	1.909E+00	2.800E+03	2.814E+03	7.95
	276.40	56	6.90	2.061E+00	1.303E+03	1.310E+03	22.26
	302.84	141	17.80	2.064E+00	1.279E+03	1.285E+03	11.28
	356.00	424	62.05*	2.065E+00	1.103E+03	1.109E+03	7.53
	383.85	56	8.70	2.065E+00	1.041E+03	1.046E+03	18.24

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GJ1AL

Page : 2
Acquisition date : 26-FEB-2008 13:16:50

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5GJ1AL

Page : 3
Acquisition date : 26-FEB-2008 13:16:50

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	1.323E+03	22.26	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


```

Configuration      : $DISK1:[GER7.SAMPLE]KF5GJ1AL_260281316.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       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:16:50
Sample ID        : KF5GJ1AL 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	1.109E+03	8.344E+01	7.201E+01	1.440E+00	15.394

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.799E+00	6.261E+01	2.615E+02	5.246E+00	-0.011
NA-22	-3.134E-01	4.350E+00	1.865E+01	3.955E-01	-0.017
K-40	-7.732E+00	5.291E+01	2.706E+02	5.814E+00	-0.029
SC-46	1.051E+01	6.317E+00	3.150E+01	6.605E-01	0.334
CR-51	-2.271E+01	1.769E+02	6.531E+02	1.307E+01	-0.035
MN-54	1.793E+00	3.910E+00	1.888E+01	3.877E-01	0.095
CO-57	-7.336E+01	1.281E+02	4.525E+02	9.354E+00	-0.162
CO-58	-8.281E+00	6.708E+00	2.310E+01	4.733E-01	-0.359
FE-59	1.432E-01	1.092E+01	4.821E+01	1.009E+00	0.003
CO-60	5.203E+00	3.017E+00	1.866E+01	3.973E-01	0.279
ZN-65	-2.137E+01	1.136E+01	3.330E+01	6.979E-01	-0.642
SE-75	2.014E+01	1.843E+01	7.449E+01	1.494E+00	0.270
SR-85	-4.401E+01	1.463E+01	3.955E+01	7.949E-01	-1.113
Y-88	-2.205E-02	3.013E+00	1.558E+01	3.434E-01	-0.001
NB-94	-5.020E+00	5.003E+00	1.787E+01	3.678E-01	-0.281
NB-95	-2.332E+00	7.154E+00	2.974E+01	6.075E-01	-0.078
TC-95M	1.690E+01	2.403E+01	9.029E+01	1.826E+00	0.187
ZR-95	2.421E+01	1.360E+01	6.577E+01	1.343E+00	0.368
ZRNB-95	8.105E-01	1.056E+01	4.743E+01	9.688E-01	0.017
RH-101	-1.283E+01	1.905E+01	6.487E+01	1.314E+00	-0.198
RH-102M	-2.050E+00	5.845E+00	2.271E+01	4.555E-01	-0.090
RU-103	7.867E+00	1.137E+01	4.798E+01	9.635E-01	0.164
RU-106DA	-3.457E+01	6.536E+01	2.465E+02	4.985E+00	-0.140
AG-108M	-1.708E+01	9.327E+00	2.931E+01	5.870E-01	-0.583
AG-110M	9.781E+00	7.824E+00	3.694E+01	7.612E-01	0.265
SN-113DA	2.368E+01	1.472E+01	6.347E+01	1.270E+00	0.373
SB-124	-1.159E+01	7.973E+00	2.626E+01	5.305E-01	-0.441

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-3.807E+00		2.192E+01	8.565E+01	1.715E+00	-0.044
SN-126DA	8.089E-01		4.230E+00	1.878E+01	3.809E-01	0.043
I-131	2.522E+02		1.160E+02	4.948E+02	9.896E+00	0.510
CS-134	2.192E+00		5.875E+00	2.596E+01	5.313E-01	0.084
CS-137DA	1.910E+00		5.843E+00	2.535E+01	5.141E-01	0.075
LA-138	7.180E-03		5.186E+00	2.408E+01	5.165E-01	0.000
CE-139	-2.561E+01		1.754E+01	5.732E+01	1.171E+00	-0.447
BA-140	-1.507E+01		1.072E+02	4.228E+02	8.508E+00	-0.036
BALA-140	-1.563E+01		1.565E+01	4.068E+01	8.822E-01	-0.384
CE-141	3.583E+01		4.551E+01	1.733E+02	3.568E+00	0.207
CE-144	1.310E+02		1.217E+02	4.741E+02	9.816E+00	0.276
CEPR-144	2.581E+02		2.431E+02	9.466E+02	1.960E+01	0.273
PM-144	7.700E+00		6.574E+00	2.938E+01	5.941E-01	0.262
PM-146	1.241E+01		8.377E+00	3.974E+01	7.965E-01	0.312
EU-152	-3.741E+01		3.316E+01	1.108E+02	2.216E+00	-0.338
EU-154	-2.612E+00		1.173E+01	4.938E+01	1.047E+00	-0.053
EU-155	-1.937E+01		5.519E+01	2.027E+02	4.276E+00	-0.096
HF-181	1.177E+01		8.569E+00	4.220E+01	8.469E-01	0.279
BI-207	-1.310E+00		5.913E+00	2.349E+01	4.736E-01	-0.056
TL-208	2.166E+00		6.892E+00	2.898E+01	5.847E-01	0.075
BI-210M	3.223E+00		1.677E+01	6.496E+01	1.303E+00	0.050
BI-212	7.000E+01		8.447E+01	3.748E+02	1.146E+01	0.187
PB-212	-2.441E+00		2.540E+01	9.777E+01	1.967E+00	-0.025
BI-214	1.570E+01		1.507E+01	6.480E+01	1.309E+00	0.242
PB-214	-4.134E+01		2.965E+01	8.869E+01	1.774E+00	-0.466
RA-223	-4.272E+01		5.893E+01	2.111E+02	4.234E+00	-0.202
RA-224DA	-2.505E+00		2.606E+01	1.003E+02	2.018E+00	-0.025
RA-226DA	1.556E+01		1.506E+01	6.470E+01	1.308E+00	0.241
AC-227DA	-1.610E+02		9.727E+01	3.195E+02	6.430E+00	-0.504
AC-228	-2.314E-01		1.214E+01	5.580E+01	1.152E+00	-0.004
RA-228DA	-2.334E-01		1.225E+01	5.629E+01	1.162E+00	-0.004
TH-228DA	6.187E+00		1.969E+01	8.278E+01	1.670E+00	0.075
TH-232DA	-9.241E+01		7.178E+01	2.359E+02	4.719E+00	-0.392
TH-234DA	9.055E+02		6.968E+02	3.492E+03	7.257E+01	0.259
U-234DA	-1.617E+01		5.520E+01	2.050E+02	4.106E+00	-0.079
U-235HP	5.904E+01		1.239E+02	4.629E+02	9.535E+00	0.128
NP-237DA	4.427E+00		2.570E+01	9.709E+01	1.943E+00	0.046
U-238DA	-4.134E+01		2.965E+01	8.869E+01	1.774E+00	-0.466
U-238DHP	-1.154E+01		4.264E+02	1.576E+03	3.510E+01	-0.007
AM-241HP	-2.719E+01		3.976E+01	1.387E+02	3.112E+00	-0.196

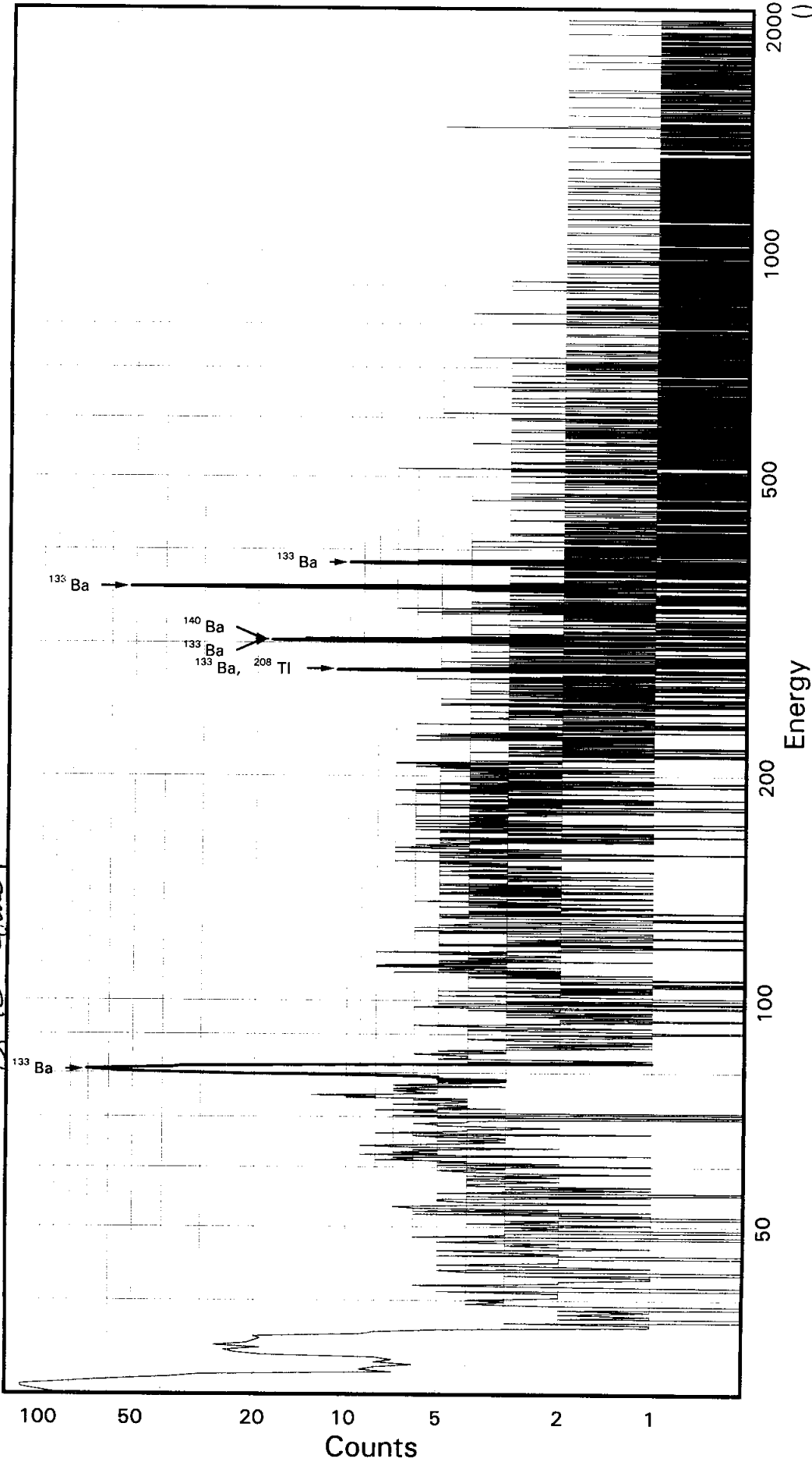
TAL Richland WA.

BA133

Sample ID: KF5GJ1AN
Detector ID: GER14 1

2nd Count

Batch ID: 8042378



Acquisition Start: 27-FEB-2008 07:39:14.03
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -6.35809E-01
Slope: 2.48204E-01
Quadrature: 5.65885E-09

SAMPLE IDENTIFICATION: KF5GJ1AN

CONFIGURATION ID: GER14:KF5GJ1AN_270280739
TITLE : BA133
SAMPLE ID : KF5GJ1AN

REPORT DATE: 27-FEB-08
ACQUIRE DATE: 27-FEB-08 07:39:14
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 8-JAN-2008 12:00:00.00
CALIB DATE: 27-FEB-2008 05:30:40.65
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: -.6358E+00 keV
ENERGY SLOPE: 2.4820E-01 keV/C
ENERGY Q COEFF: 5.6588E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.2158E+00 keV
FWHM SLOPE: 2.2712E-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 27-FEB-2008 08:09:36

```

Configuration      : $DISK1:[GER14.SAMPLE]KF5GJ1AN_270280739.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 8-JAN-2008 12:00:00   Acquisition date : 27-FEB-2008 07:39:14
Sample ID        : KF5GJ1AN               Sample quantity  : 1.0000 SAMPL
Sample type      :                        Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00          Elapsed real time: 0 00:30:00.46   0.0%
Start energy     : 19.22                   End energy       : 2033.04
Sensitivity      : 5.00                    Gaussian         : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.55	721	161	1.40	125.65	112	24	4.00E-01	6.0	
2	0	35.01	171	75	2.16	143.61	135	18	9.51E-02	14.4	
3	0	80.87	402	73	1.37	328.37	317	19	2.23E-01	6.9	
4	0	277.06	49	17	0.67	1118.80	1109	23	2.73E-02	24.0	
5	1	302.43	94	20	1.61	1221.00	1213	24	5.25E-02	14.0	6.43E+00
6	1	303.67	69	25	1.61	1226.00	1213	24	3.83E-02	21.5	
7	0	356.04	299	16	1.59	1436.98	1426	20	1.66E-01	6.4	
8	0	383.98	51	20	1.27	1549.53	1537	21	2.82E-02	23.6	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER14.SAMPLE]KF5GJ1AN_270280739.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 8-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:39:14
 Sample ID : KF5GJ1AN Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.46 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	402	33.00	1.818E+00	2.232E+03	2.252E+03	8.79
	276.40	49	6.90	1.945E+00	1.221E+03	1.232E+03	24.61
	302.84	94	17.80	1.948E+00	9.083E+02	9.165E+02	14.97
	356.00	299	62.05*	1.949E+00	8.230E+02	8.305E+02	8.40
	383.85	51	8.70	1.949E+00	9.993E+02	1.008E+03	24.25

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GJ1AN

Page : 2
Acquisition date : 27-FEB-2008 07:39:14

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.55	721	161	1.40	125.65	112	24	4.00E-01	6.0	1.61E+00	
0	35.01	171	75	2.16	143.61	135	18	9.51E-02	14.4	1.64E+00	
1	303.67	69	25	1.61	1226.00	1213	24	3.83E-02	21.5	1.95E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
BA-140	12.79D	3.90	162.64	6.70	---	Not Found	---
			304.84	4.50	3.902E+04	22.15	
			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	1.239E+03	24.61	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


```

Configuration      : $DISK1:[GER14.SAMPLE]KF5GJ1AN_270280739.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       : 8-JAN-2008 12:00:00   Acquisition date  : 27-FEB-2008 07:39:14
Sample ID        : KF5GJ1AN               Sample quantity   : 1.0000 SAMPL
Sample type      :                          Sample geometry   : BA133T15
Elapsed live time: 0 00:30:00.00          Elapsed real time: 0 00:30:00.46   0.0%
Peak Width (FWHM):      3.00              Confidence level  :      5.00 %
Energy tolerance  :      1.50              Half life ratio  :      8.00
Errors propagated: Yes                    Systematic Error  :      5.00 %
Efficiency type   : Empirical              Efficiencies at   : Peak Energy
Abundance limit   :      80.00            WTM error limit  :      3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.305E+02	6.976E+01	8.328E+01	1.666E+00	9.972

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.634E+01	1.750E+02	6.505E+02	1.305E+01	-0.025
NA-22	-1.927E-01	5.970E+00	2.448E+01	5.154E-01	-0.008
K-40	-8.364E+01	9.203E+01	4.509E+02	9.607E+00	-0.185
SC-46	1.113E+00	1.072E+01	4.483E+01	9.347E-01	0.025
CR-51	-4.972E+02	4.291E+02	1.460E+03	2.921E+01	-0.341
MN-54	9.384E+00	8.625E+00	3.677E+01	7.525E-01	0.255
CO-57	1.444E+00	1.880E+02	6.702E+02	1.380E+01	0.002
CO-58	-1.230E+01	1.162E+01	4.018E+01	8.210E-01	-0.306
FE-59	3.004E+01	1.442E+01	8.509E+01	1.772E+00	0.353
CO-60	5.300E+00	6.176E+00	2.761E+01	5.835E-01	0.192
ZN-65	-1.239E+01	1.449E+01	5.253E+01	1.095E+00	-0.236
SE-75	-2.116E+01	3.105E+01	1.092E+02	2.190E+00	-0.194
SR-85	1.655E+01	2.097E+01	7.994E+01	1.606E+00	0.207
Y-88	2.545E+00	4.516E+00	2.404E+01	5.236E-01	0.106
NB-94	-7.524E+00	6.237E+00	2.105E+01	4.319E-01	-0.357
NB-95	4.366E+00	1.560E+01	6.588E+01	1.342E+00	0.066
TC-95M	-2.564E+01	5.180E+01	1.774E+02	3.582E+00	-0.145
ZR-95	-1.134E+01	2.175E+01	8.104E+01	1.650E+00	-0.140
ZRNB-95	5.573E+00	1.992E+01	8.412E+01	1.714E+00	0.066
RH-101	5.159E+00	2.444E+01	8.718E+01	1.763E+00	0.059
RH-102M	7.376E+00	1.112E+01	4.329E+01	8.682E-01	0.170
RU-103	-4.979E+01	2.627E+01	8.102E+01	1.626E+00	-0.615
RU-106DA	9.031E+01	8.706E+01	3.705E+02	7.484E+00	0.244
AG-108M	-4.008E+00	1.254E+01	4.513E+01	9.038E-01	-0.089
AG-110M	-9.466E-02	1.068E+01	4.225E+01	8.674E-01	-0.002
SN-113DA	-2.939E+01	2.578E+01	8.710E+01	1.742E+00	-0.337
SB-124	-1.632E+01	1.524E+01	5.306E+01	1.070E+00	-0.308

---- Non-Identified Nuclides ----

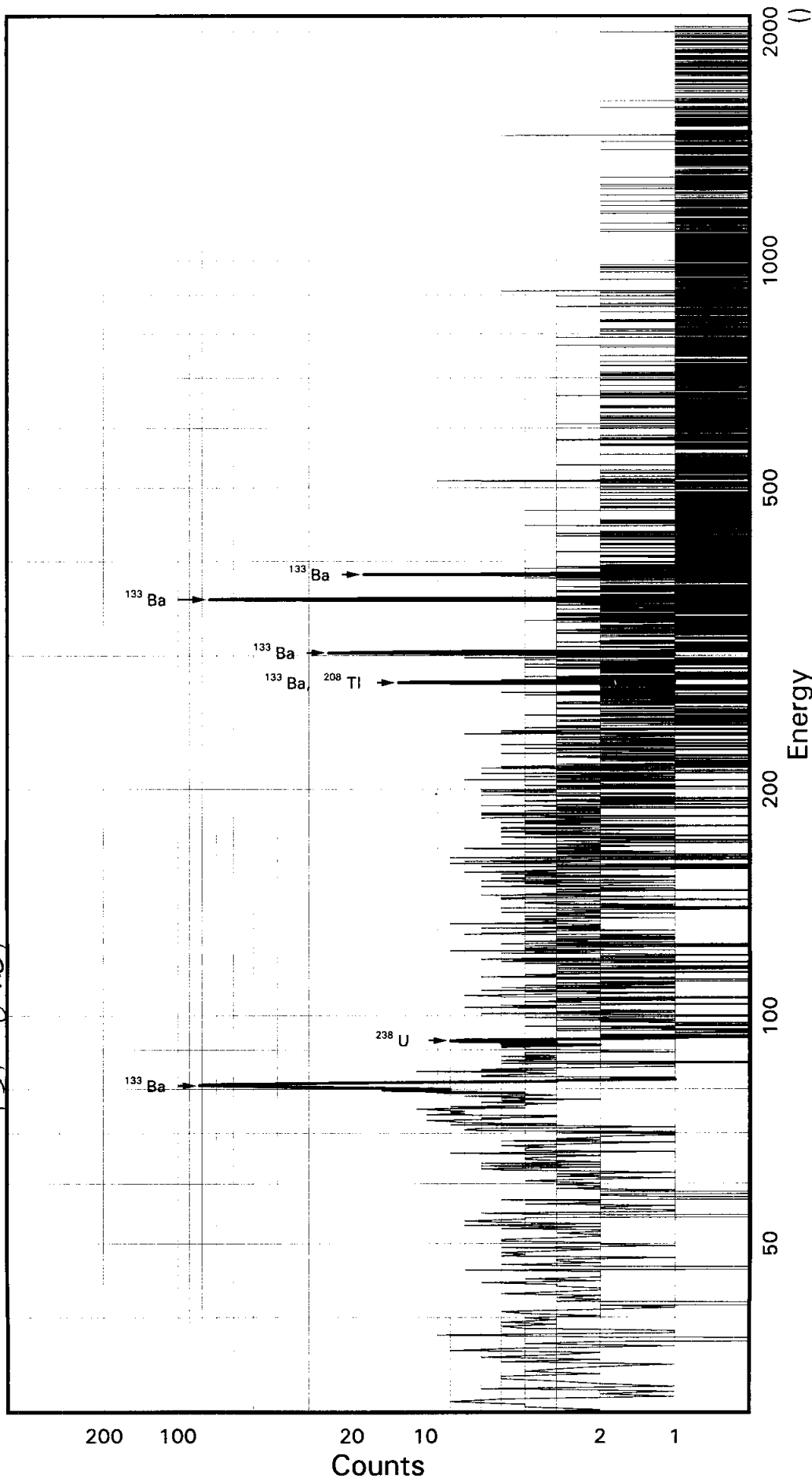
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-5.458E+01		3.646E+01	1.190E+02	2.383E+00	-0.459
SN-126DA	-1.594E+00		6.675E+00	2.600E+01	5.264E-01	-0.061
I-131	-1.226E+03		1.093E+03	3.710E+03	7.420E+01	-0.330
CS-134	1.239E+01		8.044E+00	3.705E+01	7.563E-01	0.334
CS-137DA	6.235E+00		7.334E+00	3.235E+01	6.550E-01	0.193
LA-138	1.973E+00		7.862E+00	3.452E+01	7.343E-01	0.057
CE-139	-5.319E+01		2.848E+01	9.127E+01	1.859E+00	-0.583
BA-140	-6.406E+02		4.998E+02	1.710E+03	3.437E+01	-0.375
BALA-140	-1.123E+02		1.136E+02	4.210E+02	9.044E+00	-0.267
CE-141	-1.002E+01		1.086E+02	3.836E+02	7.870E+00	-0.026
CE-144	-1.132E+02		1.832E+02	6.341E+02	1.307E+01	-0.179
CEPR-144	-2.975E+02		3.703E+02	1.269E+03	2.616E+01	-0.234
PM-144	-8.953E+00		9.469E+00	3.336E+01	6.736E-01	-0.268
PM-146	-3.170E+01		1.252E+01	3.391E+01	6.796E-01	-0.935
EU-152	-5.071E+01		3.987E+01	1.344E+02	2.688E+00	-0.377
EU-154	5.269E+00		1.562E+01	6.775E+01	1.427E+00	0.078
EU-155	-1.859E+02		7.607E+01	2.356E+02	4.938E+00	-0.789
HF-181	-3.329E+01		2.004E+01	6.281E+01	1.260E+00	-0.530
BI-207	-4.273E+00		9.659E+00	3.553E+01	7.155E-01	-0.120
TL-208	-6.770E+00		9.499E+00	3.454E+01	6.962E-01	-0.196
BI-210M	-1.474E+01		2.770E+01	9.830E+01	1.971E+00	-0.150
BI-212	-4.683E+01		1.250E+02	4.652E+02	1.421E+01	-0.101
PB-212	4.785E+01		3.300E+01	1.264E+02	2.540E+00	0.379
BI-214	-9.909E+00		2.253E+01	8.950E+01	1.807E+00	-0.111
PB-214	-9.753E+00		4.197E+01	1.342E+02	2.684E+00	-0.073
RA-223	1.190E+02		9.844E+01	3.841E+02	7.701E+00	0.310
RA-224DA	5.028E+01		3.467E+01	1.328E+02	2.669E+00	0.379
RA-226DA	-9.910E+00		2.253E+01	8.951E+01	1.807E+00	-0.111
AC-227DA	-1.515E+02		1.294E+02	4.288E+02	8.622E+00	-0.353
AC-228	6.146E+01		3.251E+01	1.458E+02	3.000E+00	0.421
RA-228DA	6.248E+01		3.305E+01	1.483E+02	3.049E+00	0.421
TH-228DA	-1.980E+01		2.778E+01	1.010E+02	2.036E+00	-0.196
TH-232DA	-3.216E+01		1.055E+02	3.783E+02	7.566E+00	-0.085
TH-234DA	6.852E+02		6.876E+02	3.410E+03	7.055E+01	0.201
U-234DA	-3.384E+01		6.870E+01	2.444E+02	4.894E+00	-0.138
U-235HP	-1.543E+02		1.744E+02	5.933E+02	1.218E+01	-0.260
NP-237DA	-6.667E+01		3.171E+01	9.926E+01	1.986E+00	-0.672
U-238DA	-9.753E+00		4.197E+01	1.342E+02	2.684E+00	-0.073
U-238DHP	1.162E+03		6.374E+02	2.341E+03	5.146E+01	0.497
AM-241HP	-3.864E+01		6.128E+01	2.073E+02	4.589E+00	-0.186

TAL Richland WA.
BA133

Batch ID: 8042378

Sample ID: KF5GJ1AN
Detector ID: GER4 1

1st Count



Energy Coefficients:
Offset: -1.13203E-01
Slope: 2.48749E-01
Quadrature: 9.77908E-10

Acquisition Start: 26-FEB-2008 13:17:17.40
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: KF5GJ1AN

CONFIGURATION ID: GER4:KF5GJ1AN_260281317
TITLE : BA133
SAMPLE ID : KF5GJ1AN

REPORT DATE: 26-FEB-08	SAMPLE DATE: 8-JAN-2008 12:00:00.00
ACQUIRE DATE: 26-FEB-08 13:17:17	CALIB DATE: 26-FEB-2008 04:51:57.84
ELAPSED LIVE TIME: 1800.0 Sec	ELAPSED LIVE TIME: 0 00:30:00
PRESET LIVE TIME: 0 00:30:00	ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00	UNITS: SAMPL
SAMPLE GEOMETRY: BA133T15	SAMPLE TYPE:

ENERGY OFFSET: -.1132E+00 keV	FWHM OFFSET: 3.4250E-01 keV
ENERGY SLOPE: 2.4875E-01 keV/C	FWHM SLOPE: 4.3049E-02 sqr keV
ENERGY Q COEFF: 9.7791E-10 keV/C ²	ITERATIONS: 10
PEAK SENSITIVITY: 5.000	GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %	HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 1.500 keV	ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00	LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 26-FEB-2008 13:47:33

```

Configuration      : $DISK1:[GER4.SAMPLE]KF5GJ1AN_260281317.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 8-JAN-2008 12:00:00   Acquisition date : 26-FEB-2008 13:17:17
Sample ID        : KF5GJ1AN               Sample quantity  : 1.0000 SAMPL
Sample type      :                        Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.41   0.0%
Start energy     :      19.79             End energy       :      2037.70
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	306	37	0.72	325.72	318	15	1.70E-01	7.2	
2	0	92.77*	7	31	0.71	373.39	366	13	3.62E-03	199.2	
3	0	276.35	45	17	1.17	1111.43	1104	13	2.48E-02	26.1	
4	0	302.88	127	22	1.19	1218.05	1206	21	7.07E-02	12.7	
5	0	356.04	371	17	1.14	1431.76	1425	17	2.06E-01	5.8	
6	0	383.88	73	0	0.54	1543.70	1535	17	4.06E-02	11.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 26-FEB-2008 13:47:34

Configuration : \$DISK1:[GER4.SAMPLE]KF5GJ1AN_260281317.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 8-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:17:17
 Sample ID : KF5GJ1AN Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	306	33.00	2.054E+00	1.504E+03	1.517E+03	9.11
	276.40	45	6.90	2.214E+00	9.734E+02	9.820E+02	26.71
	302.84	127	17.80	2.217E+00	1.074E+03	1.084E+03	13.81
	356.00	371	62.05*	2.220E+00	8.980E+02	9.060E+02	7.90
	383.85	73	8.70	2.219E+00	1.260E+03	1.272E+03	12.88

Flag: "*" = Keyline

Unidentified Energy Lines

Sample ID : KF5GJ1AN

Page : 2

Acquisition date : 26-FEB-2008 13:17:17

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.77	7	31	0.71	373.39	366	13	3.62E-03	****	2.08E+00	T

Flags: "T" = Tentatively associated

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	9.877E+02	26.71	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
		% Abundances Found =		5.44			
U-238DHP	4.47E+09Y	0.00	63.28*	3.80	---	Not Found	---
			92.59	5.41	1.927E+02	199.33	Abun.
		% Abundances Found =		58.74			

Flag: "*" = Keyline


```

Configuration      : $DISK1:[GER4.SAMPLE]KF5GJ1AN_260281317.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       : 8-JAN-2008 12:00:00   Acquisition date  : 26-FEB-2008 13:17:17
Sample ID        : KF5GJ1AN               Sample quantity   : 1.0000 SAMPL
Sample type      :                          Sample geometry   : BA133T15
Elapsed live time: 0 00:30:00.00          Elapsed real time: 0 00:30:00.41   0.0%
Peak Width (FWHM):      3.00              Confidence level  :      5.00 %
Energy tolerance  :      1.50              Half life ratio   :      8.00
Errors propagatd: 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	9.060E+02	7.159E+01	5.725E+01	1.149E+00	15.825

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.839E+01	9.288E+01	3.579E+02	7.180E+00	-0.135
NA-22	-1.998E-01	4.737E+00	1.980E+01	4.194E-01	-0.010
K-40	5.640E+01	8.522E+01	4.124E+02	8.850E+00	0.137
SC-46	9.599E+00	7.433E+00	3.542E+01	7.420E-01	0.271
CR-51	1.239E+02	2.701E+02	1.075E+03	2.496E+01	0.115
MN-54	4.749E+00	5.507E+00	2.516E+01	5.162E-01	0.189
CO-57	4.053E+01	1.195E+02	4.451E+02	1.067E+01	0.091
CO-58	9.372E+00	9.547E+00	4.166E+01	8.534E-01	0.225
FE-59	5.331E-01	1.438E+01	6.408E+01	1.340E+00	0.008
CO-60	1.688E+00	2.782E+00	1.508E+01	3.208E-01	0.112
ZN-65	-6.226E+00	1.001E+01	3.893E+01	8.154E-01	-0.160
SE-75	9.901E-01	1.970E+01	7.333E+01	1.707E+00	0.014
SR-85	-5.163E+01	1.635E+01	4.416E+01	8.875E-01	-1.169
Y-88	4.573E+00	3.243E+00	2.121E+01	4.666E-01	0.216
NB-94	1.687E-01	4.310E+00	1.854E+01	3.815E-01	0.009
NB-95	2.409E+01	1.295E+01	6.425E+01	1.312E+00	0.375
TC-95M	-3.058E+01	2.809E+01	9.665E+01	2.267E+00	-0.316
ZR-95	-4.327E-01	1.349E+01	5.657E+01	1.154E+00	-0.008
ZRNB-95	3.097E+01	1.665E+01	8.260E+01	1.687E+00	0.375
RH-101	1.866E+00	1.717E+01	6.413E+01	1.506E+00	0.029
RH-102M	-9.145E+00	6.012E+00	1.978E+01	3.968E-01	-0.462
RU-103	1.228E+01	1.201E+01	5.666E+01	1.138E+00	0.217
RU-106DA	2.135E+01	5.508E+01	2.395E+02	4.843E+00	0.089
AG-108M	3.394E-01	8.284E+00	3.143E+01	6.295E-01	0.011
AG-110M	-1.075E+01	8.828E+00	3.042E+01	6.264E-01	-0.353
SN-113DA	2.118E+00	1.513E+01	5.851E+01	1.171E+00	0.036
SB-124	1.543E+00	1.154E+01	4.541E+01	9.171E-01	0.034

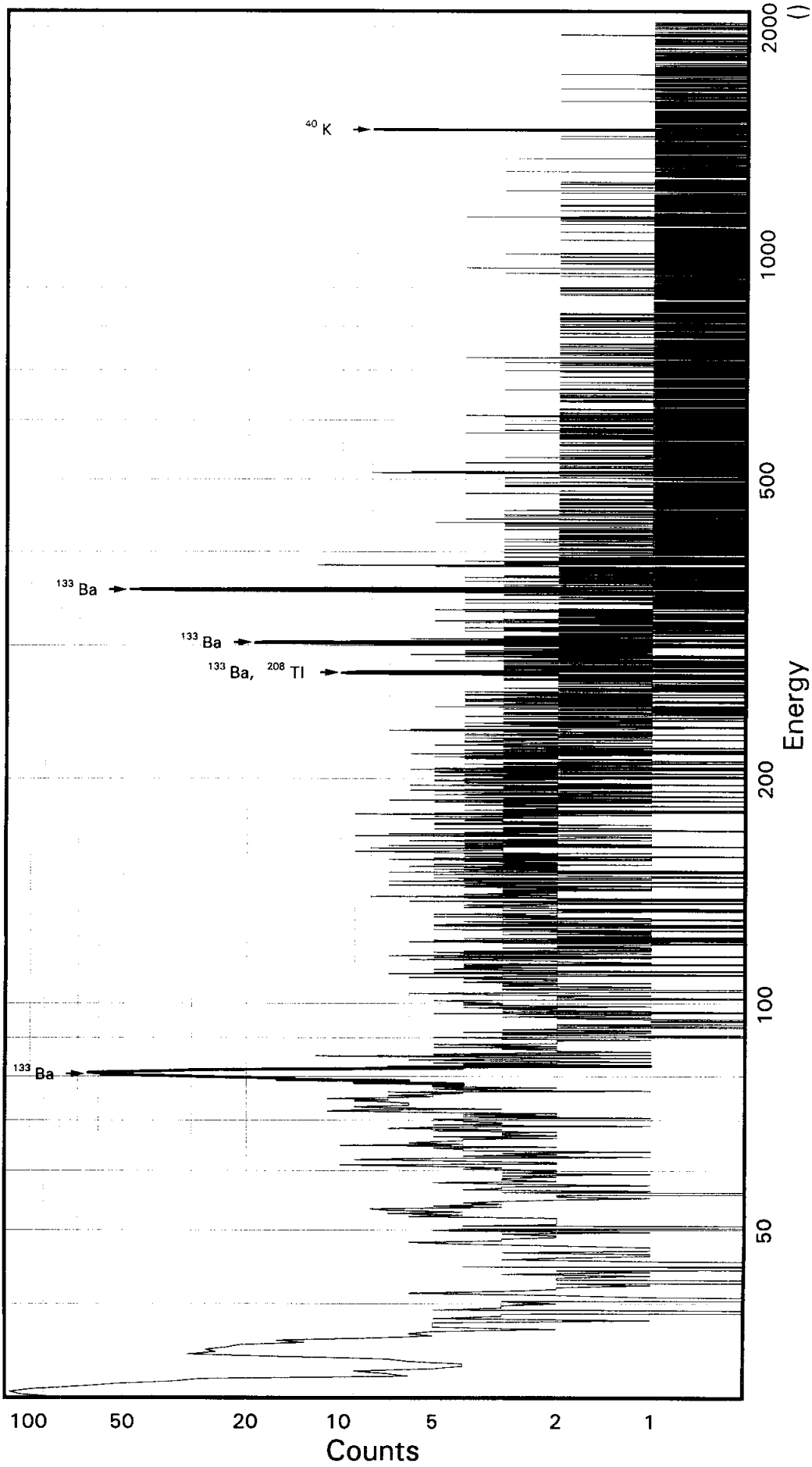
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	2.999E+01		2.434E+01	1.035E+02	2.073E+00	0.290
SN-126DA	4.829E+00		5.028E+00	2.295E+01	4.654E-01	0.210
I-131	-1.550E+02		6.593E+02	2.460E+03	4.919E+01	-0.063
CS-134	2.208E+00		5.864E+00	2.533E+01	5.182E-01	0.087
CS-137DA	-1.184E+01		8.093E+00	2.693E+01	5.459E-01	-0.440
LA-138	-9.540E+00		5.892E+00	1.775E+01	3.803E-01	-0.537
CE-139	3.287E+01		1.805E+01	7.183E+01	1.701E+00	0.458
BA-140	8.410E+01		3.582E+02	1.441E+03	2.900E+01	0.058
BALA-140	4.864E+01		4.871E+01	3.577E+02	7.745E+00	0.136
CE-141	1.062E+01		6.945E+01	2.531E+02	6.040E+00	0.042
CE-144	9.341E+01		1.287E+02	4.843E+02	1.162E+01	0.193
CEPR-144	1.855E+02		2.572E+02	9.681E+02	2.324E+01	0.192
PM-144	-8.782E+00		6.132E+00	2.067E+01	4.178E-01	-0.425
PM-146	-1.045E+01		9.397E+00	3.313E+01	6.640E-01	-0.315
EU-152	-2.100E+01		3.298E+01	1.182E+02	2.743E+00	-0.178
EU-154	-5.475E-01		1.300E+01	5.435E+01	1.151E+00	-0.010
EU-155	7.106E+01		5.602E+01	2.224E+02	5.437E+00	0.320
HF-181	2.889E+01		1.568E+01	7.357E+01	1.476E+00	0.393
BI-207	6.429E+00		6.363E+00	2.742E+01	5.526E-01	0.234
TL-208	-9.722E+00		8.722E+00	3.205E+01	6.464E-01	-0.303
BI-210M	-1.070E+01		2.043E+01	7.173E+01	1.669E+00	-0.149
BI-212	9.695E+01		7.458E+01	3.527E+02	1.078E+01	0.275
PB-212	-2.524E+01		2.528E+01	9.173E+01	2.140E+00	-0.275
BI-214	-1.198E+01		1.308E+01	5.208E+01	1.052E+00	-0.230
PB-214	-1.681E+01		2.762E+01	8.570E+01	1.989E+00	-0.196
RA-223	5.702E+01		7.393E+01	2.840E+02	6.607E+00	0.201
RA-224DA	-2.650E+01		2.654E+01	9.631E+01	2.247E+00	-0.275
RA-226DA	-1.211E+01		1.306E+01	5.197E+01	1.050E+00	-0.233
AC-227DA	-2.040E+02		1.005E+02	3.148E+02	7.349E+00	-0.648
AC-228	4.454E+01		2.419E+01	1.124E+02	2.320E+00	0.396
RA-228DA	4.527E+01		2.459E+01	1.143E+02	2.358E+00	0.396
TH-228DA	-2.841E+01		2.549E+01	9.365E+01	1.889E+00	-0.303
TH-232DA	1.252E+01		7.813E+01	2.942E+02	6.828E+00	0.043
TH-234DA	2.199E+02		6.426E+02	2.880E+03	5.982E+01	0.076
U-234DA	-7.342E+01		4.575E+01	1.525E+02	3.542E+00	-0.481
U-235HP	-5.764E+00		1.187E+02	4.254E+02	1.016E+01	-0.014
NP-237DA	1.855E+01		2.232E+01	9.083E+01	2.109E+00	0.204
U-238DA	-1.681E+01		2.762E+01	8.570E+01	1.989E+00	-0.196
U-238DHP	2.506E+02		3.326E+02	1.274E+03	3.284E+01	0.197
AM-241HP	2.723E+01		2.674E+01	1.077E+02	2.798E+00	0.253

TAL Richland WA.
BA133

Batch ID: 8042378

Sample ID: KF5GJ1AQ
Detector ID: GER14 1



Acquisition Start: 26-FEB-2008 13:17:40.85
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -7.02954E-01
Slope: 2.48255E-01
Quadrature: -4.45494E-09

SAMPLE IDENTIFICATION: KF5GJ1AQ

CONFIGURATION ID: GER14:KF5GJ1AQ_260281317
TITLE : BA133
SAMPLE ID : KF5GJ1AQ

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 13:17:40
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:53:33.62
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: -.7030E+00 keV
ENERGY SLOPE: 2.4826E-01 keV/C
ENERGY Q COEFF: -.4455E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.1393E+00 keV
FWHM SLOPE: 2.3225E-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 26-FEB-2008 13:48:00

```

Configuration      : $DISK1:[GER14.SAMPLE]KF5GJ1AQ_260281317.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:17:40
Sample ID         : KF5GJ1AQ Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.43 0.0%
Start energy      : 19.16 End energy : 2032.71
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.61	641	157	1.31	126.12	115	22	3.56E-01	6.4	
2	0	34.99	155	76	1.32	143.79	137	20	8.62E-02	15.5	
3	0	80.66	405	61	1.38	327.75	315	22	2.25E-01	7.0	
4	0	276.38	58	23	1.94	1116.14	1106	20	3.21E-02	21.8	
5	0	303.04	89	31	1.08	1223.55	1213	21	4.93E-02	17.1	
6	0	355.96	291	13	1.46	1436.73	1427	20	1.62E-01	6.4	
7	0	1460.38*	2	0	0.76	5886.03	5873	22	1.13E-03	278.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 26-FEB-2008 13:48:00

```

Configuration      : $DISK1:[GER14.SAMPLE]KF5GJ1AQ_260281317.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:17:40
Sample ID        : KF5GJ1AQ           Sample quantity  : 1.0000 SAMPL
Sample type      :                     Sample geometry   : BA133T15
Elapsed live time: 0 00:30:00.00      Elapsed real time: 0 00:30:00.43    0.0%
Energy tolerance : 1.50                Half life ratio   : 8.00
Errors propagated: Yes                 Systematic Error  : 5.00 %
Efficiency type  : Empirical           Efficiencies at   : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
K-40	1460.81	2	10.67*	1.830E+00	3.479E+01	3.479E+01	278.10

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	405	33.00	1.818E+00	2.250E+03	2.260E+03	8.85
	276.40	58	6.90	1.945E+00	1.436E+03	1.443E+03	22.45
	302.84	89	17.80	1.948E+00	8.531E+02	8.571E+02	17.93
	356.00	291	62.05*	1.949E+00	8.018E+02	8.056E+02	8.38
	383.85	-----	8.70	1.949E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KF5GJ1AQ

Page : 2
Acquisition date : 26-FEB-2008 13:17:40

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.61	641	157	1.31	126.12	115	22	3.56E-01	6.4	1.61E+00	
0	34.99	155	76	1.32	143.79	137	20	8.62E-02	15.5	1.64E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KF5GJ1AQ

Page : 3
Acquisition date : 26-FEB-2008 13:17:40

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.457E+03	22.45	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline


```

Configuration      : $DISK1:[GER14.SAMPLE]KF5GJ1AQ_260281317.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       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:17:40
Sample ID        : KF5GJ1AQ Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.43 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
K-40	3.479E+01	9.676E+01	4.614E+01	9.830E-01	0.754
BA-133	8.056E+02	6.748E+01	6.082E+01	1.216E+00	13.246

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.395E+02	1.131E+02	4.780E+02	9.585E+00	0.292
NA-22	-5.234E-01	4.359E+00	1.896E+01	3.993E-01	-0.028
SC-46	1.100E+01	1.034E+01	4.493E+01	9.368E-01	0.245
CR-51	-3.024E+02	2.434E+02	8.060E+02	1.613E+01	-0.375
MN-54	-3.864E+00	6.373E+00	2.406E+01	4.923E-01	-0.161
CO-57	-1.102E+02	1.665E+02	5.837E+02	1.202E+01	-0.189
CO-58	-8.852E+00	8.443E+00	2.972E+01	6.073E-01	-0.298
FE-59	-3.290E+00	1.539E+01	6.223E+01	1.296E+00	-0.053
CO-60	-1.829E+00	5.475E+00	2.190E+01	4.628E-01	-0.084
ZN-65	-3.552E+01	1.816E+01	5.674E+01	1.183E+00	-0.626
SE-75	-1.452E+01	2.289E+01	8.025E+01	1.610E+00	-0.181
SR-85	-4.347E+01	1.783E+01	5.400E+01	1.085E+00	-0.805
Y-88	-2.185E+00	3.827E+00	1.632E+01	3.555E-01	-0.134
NB-94	5.250E+00	5.274E+00	2.472E+01	5.071E-01	0.212
NB-95	-8.458E+00	7.629E+00	2.712E+01	5.525E-01	-0.312
TC-95M	4.327E+01	3.205E+01	1.224E+02	2.471E+00	0.354
ZR-95	1.223E+01	1.592E+01	6.885E+01	1.402E+00	0.178
ZRNB-95	-8.489E+00	1.125E+01	4.347E+01	8.858E-01	-0.195
RH-101	2.728E+01	2.328E+01	8.764E+01	1.772E+00	0.311
RH-102M	1.565E+00	8.741E+00	3.427E+01	6.873E-01	0.046
RU-103	1.130E+01	1.286E+01	5.469E+01	1.098E+00	0.207
RU-106DA	1.283E+01	7.771E+01	3.082E+02	6.226E+00	0.042
AG-108M	-1.208E+00	1.148E+01	4.274E+01	8.558E-01	-0.028
AG-110M	2.833E+00	8.689E+00	3.692E+01	7.580E-01	0.077
SN-113DA	1.063E+01	1.893E+01	7.379E+01	1.476E+00	0.144
SB-124	-9.290E+00	1.251E+01	4.410E+01	8.899E-01	-0.211

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	2.399E+01		3.214E+01	1.292E+02	2.586E+00	0.186
SN-126DA	2.265E+00		6.129E+00	2.605E+01	5.276E-01	0.087
I-131	7.708E+01		1.191E+02	4.695E+02	9.390E+00	0.164
CS-134	-1.061E+01		8.515E+00	2.906E+01	5.932E-01	-0.365
CS-137DA	-5.620E+00		9.786E+00	3.522E+01	7.130E-01	-0.160
LA-138	-5.683E+00		7.800E+00	2.933E+01	6.239E-01	-0.194
CE-139	-2.810E+01		2.577E+01	8.758E+01	1.784E+00	-0.321
BA-140	3.640E+02		1.539E+02	6.781E+02	1.364E+01	0.537
BALA-140	7.898E+01		3.558E+01	2.069E+02	4.445E+00	0.382
CE-141	1.402E+02		5.891E+01	2.342E+02	4.804E+00	0.599
CE-144	6.686E+00		1.550E+02	5.651E+02	1.165E+01	0.012
CEPR-144	1.337E+01		3.101E+02	1.130E+03	2.330E+01	0.012
PM-144	-1.726E+00		8.229E+00	3.110E+01	6.280E-01	-0.055
PM-146	8.402E+00		1.423E+01	5.657E+01	1.133E+00	0.149
EU-152	7.878E+01		4.349E+01	1.768E+02	3.536E+00	0.446
EU-154	-3.304E+00		1.171E+01	4.996E+01	1.052E+00	-0.066
EU-155	-8.226E+01		7.824E+01	2.618E+02	5.488E+00	-0.314
HF-181	-9.705E+00		1.516E+01	5.497E+01	1.103E+00	-0.177
BI-207	8.014E+00		9.578E+00	3.843E+01	7.740E-01	0.209
TL-208	6.167E+00		1.043E+01	4.154E+01	8.372E-01	0.148
BI-210M	-2.922E+01		2.358E+01	7.878E+01	1.580E+00	-0.371
BI-212	1.889E+02		1.085E+02	4.969E+02	1.518E+01	0.380
PB-212	-6.777E+00		3.054E+01	1.093E+02	2.196E+00	-0.062
BI-214	-2.974E+01		2.235E+01	8.267E+01	1.669E+00	-0.360
PB-214	2.060E+01		3.313E+01	1.211E+02	2.421E+00	0.170
RA-223	9.068E+01		8.939E+01	3.434E+02	6.885E+00	0.264
RA-224DA	-6.955E+00		3.134E+01	1.121E+02	2.254E+00	-0.062
RA-226DA	-2.989E+01		2.234E+01	8.258E+01	1.667E+00	-0.362
AC-227DA	-1.749E+01		1.337E+02	4.767E+02	9.586E+00	-0.037
AC-228	-3.263E+01		2.431E+01	8.947E+01	1.840E+00	-0.365
RA-228DA	-3.291E+01		2.452E+01	9.025E+01	1.856E+00	-0.365
TH-228DA	1.762E+01		2.978E+01	1.187E+02	2.391E+00	0.148
TH-232DA	-2.285E+02		9.436E+01	2.767E+02	5.533E+00	-0.826
TH-234DA	-8.399E+02		1.149E+03	4.133E+03	8.551E+01	-0.203
U-234DA	1.349E+02		7.591E+01	2.960E+02	5.927E+00	0.456
U-235HP	-2.139E+02		1.633E+02	5.514E+02	1.132E+01	-0.388
NP-237DA	-2.932E+01		3.541E+01	1.211E+02	2.424E+00	-0.242
U-238DA	2.060E+01		3.313E+01	1.211E+02	2.421E+00	0.170
U-238DHP	2.932E+02		5.465E+02	1.973E+03	4.337E+01	0.149
AM-241HP	3.091E+01		5.256E+01	1.922E+02	4.253E+00	0.161

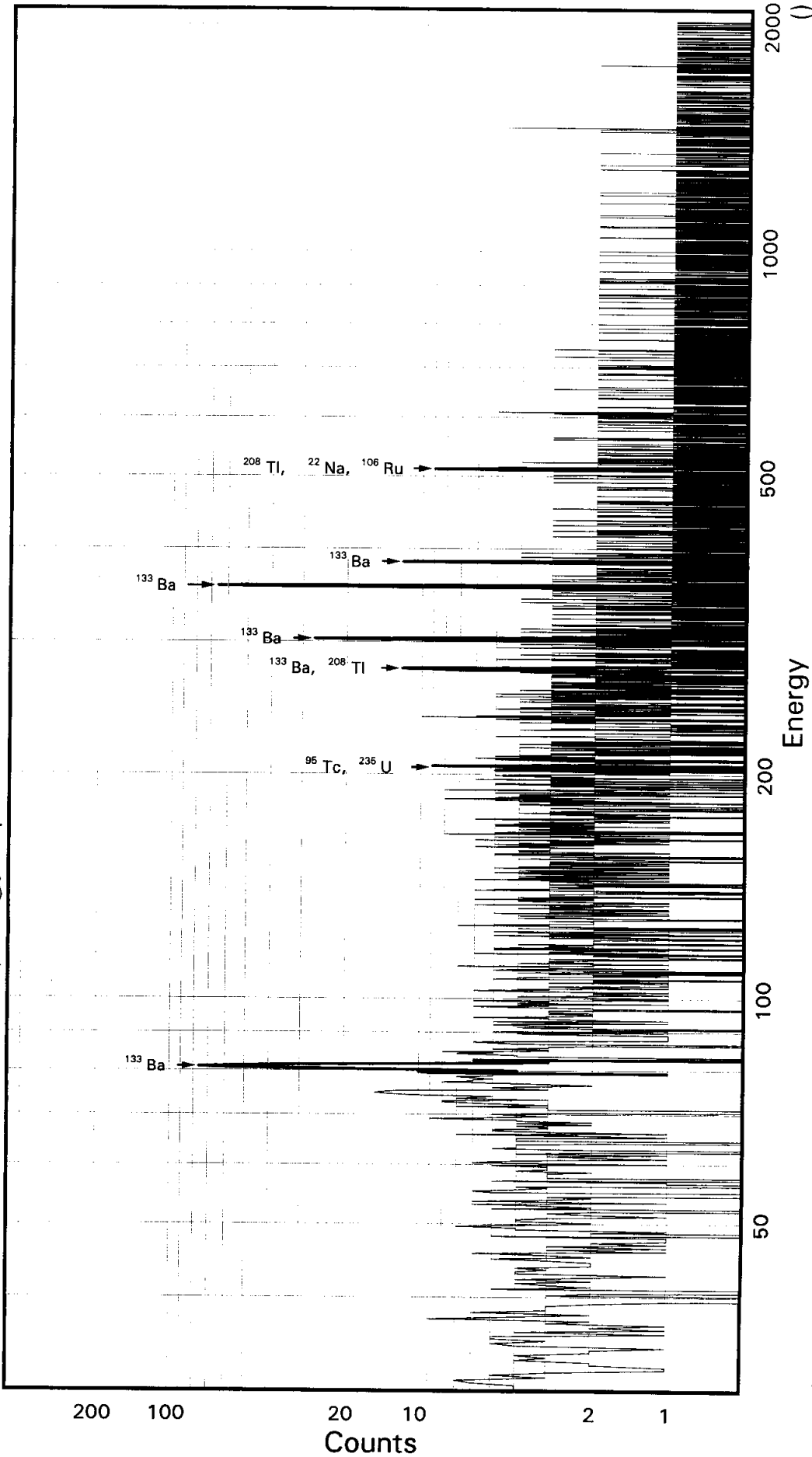
TAL Richland WA.

BA133

Batch ID: 8042378

Sample ID: KGXH01AA
Detector ID: GER4 1

Ind Count



Acquisition Start: 27-FEB-2008 07:39:19.94
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -8.44608E-02
Slope: 2.48687E-01
Quadrature: 1.21954E-08

SAMPLE IDENTIFICATION: KGXH01AA

CONFIGURATION ID: GER4:KGXH01AA_270280739
TITLE : BA133
SAMPLE ID : KGXH01AA

REPORT DATE: 27-FEB-08
ACQUIRE DATE: 27-FEB-08 07:39:19
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 27-FEB-2008 05:29:19.66
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: -.8446E-01 keV
ENERGY SLOPE: 2.4869E-01 keV/C
ENERGY Q COEFF: 1.2195E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.3070E-01 keV
FWHM SLOPE: 4.5570E-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 27-FEB-2008 08:09:51

```

Configuration      : $DISK1:[GER4.SAMPLE]KGXH01AA_270280739.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:39:19
Sample ID        : KGXH01AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.40 0.0%
Start energy     : 19.81 End energy : 2037.98
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.04	287	21	0.83	326.20	319	16	1.60E-01	7.0	
2	0	204.17	30	3	2.65	821.29	814	14	1.64E-02	22.8	
3	0	276.51	69	10	1.73	1112.15	1105	17	3.83E-02	16.7	
4	0	302.75	118	8	0.76	1217.67	1209	16	6.56E-02	10.7	
5	0	355.94	325	4	1.18	1431.51	1424	16	1.80E-01	5.7	
6	0	383.77	52	7	1.19	1543.42	1536	14	2.89E-02	17.6	
7	0	511.61*	11	4	2.53	2057.36	2050	18	5.86E-03	84.7	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER4.SAMPLE]KGXH01AA_270280739.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:39:19
 Sample ID : KGXH01AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.40 0.0%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	287	33.00	2.054E+00	1.412E+03	1.419E+03	8.96
	276.40	69	6.90	2.214E+00	1.504E+03	1.512E+03	17.62
	302.84	118	17.80	2.217E+00	9.965E+02	1.001E+03	11.99
	356.00	325	62.05*	2.220E+00	7.860E+02	7.899E+02	7.86
	383.85	52	8.70	2.219E+00	8.978E+02	9.022E+02	18.38

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KGXH01AA

Page : 2
Acquisition date : 27-FEB-2008 07:39:19

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	204.17	30	3	2.65	821.29	814	14	1.64E-02	22.8	2.20E+00	T
0	511.61	11	4	2.53	2057.36	2050	18	5.86E-03	84.7	2.21E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.03	511.00	179.68	9.039E+00	84.87	Abun.
			1274.54*	99.94	---	Not Found	---
			% Abundances Found =		64.26		
TC-95M	61.00D	0.44	204.12*	66.20	9.192E+01	23.43	Abun.
			582.07	29.30	---	Not Found	---
			835.13	26.10	---	Not Found	---
% Abundances Found =		54.44					
RU-106DA	368.20D	0.07	511.85	20.60	8.131E+01	84.87	Abun.
			621.84*	9.80	---	Not Found	---
			% Abundances Found =		67.76		
TL-208	1.41E+10Y	0.00	277.35	6.80	1.526E+03	17.62	Abun.
			510.84	21.60	7.373E+01	84.87	
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =		22.71					
U-235HP	7.04E+08Y	0.00	143.76*	10.50	---	Not Found	---
			185.71	54.00	---	Not Found	---
			205.31	4.70	9.545E+02	23.43	Abun.
			% Abundances Found =		6.79		

Flag: "*" = Keyline


```

Configuration      : $DISK1:[GER4.SAMPLE]KGXH01AA_270280739.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       : 31-JAN-2008 12:00:00 Acquisition date : 27-FEB-2008 07:39:19
Sample ID        : KGXH01AA Sample quantity   : 1.0000 SAMPL
Sample type      : Sample geometry    : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.40 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio  : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.899E+02	6.210E+01	4.625E+01	9.280E-01	17.077

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	4.099E+01	7.097E+01	3.073E+02	6.164E+00	0.133
NA-22	-1.493E+00	4.827E+00	1.948E+01	4.127E-01	-0.077
K-40	-6.214E+01	7.635E+01	3.626E+02	7.781E+00	-0.171
SC-46	9.716E+00	6.567E+00	3.114E+01	6.524E-01	0.312
CR-51	-3.755E-01	1.510E+02	5.789E+02	1.344E+01	-0.001
MN-54	-1.573E+00	5.407E+00	2.143E+01	4.397E-01	-0.073
CO-57	1.626E+02	1.166E+02	4.562E+02	1.094E+01	0.356
CO-58	4.205E+00	6.923E+00	3.020E+01	6.185E-01	0.139
FE-59	-1.294E+01	1.409E+01	5.062E+01	1.059E+00	-0.256
CO-60	-3.740E-03	2.283E+00	1.186E+01	2.522E-01	0.000
ZN-65	-2.049E+01	1.077E+01	3.103E+01	6.498E-01	-0.660
SE-75	1.591E+01	1.786E+01	6.989E+01	1.627E+00	0.228
SR-85	4.199E+01	1.055E+01	5.020E+01	1.009E+00	0.836
Y-88	-1.914E+00	3.392E+00	1.455E+01	3.200E-01	-0.132
NB-94	3.138E+00	4.927E+00	2.188E+01	4.502E-01	0.143
NB-95	-6.999E+00	9.192E+00	3.421E+01	6.984E-01	-0.205
TC-95M	9.192E+01 +	2.153E+01	8.715E+01	2.044E+00	1.055
ZR-95	2.199E+01	1.264E+01	6.112E+01	1.247E+00	0.360
ZRNB-95	-1.099E+01	1.444E+01	5.373E+01	1.097E+00	-0.205
RH-101	1.828E+01	1.651E+01	6.471E+01	1.520E+00	0.282
RH-102M	-3.207E+00	5.587E+00	2.114E+01	4.240E-01	-0.152
RU-103	2.342E+00	1.193E+01	4.731E+01	9.499E-01	0.050
RU-106DA	8.231E+01	5.399E+01	2.584E+02	5.225E+00	0.319
AG-108M	-8.239E+00	7.795E+00	2.733E+01	5.473E-01	-0.301
AG-110M	1.118E+00	8.208E+00	3.359E+01	6.918E-01	0.033
SN-113DA	-1.036E+01	1.522E+01	5.329E+01	1.066E+00	-0.194
SB-124	-5.487E+00	1.039E+01	3.825E+01	7.726E-01	-0.143

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-9.191E+00		1.613E+01	6.268E+01	1.255E+00	-0.147
SN-126DA	-1.600E+00		4.597E+00	1.829E+01	3.709E-01	-0.087
I-131	-2.565E+01		9.530E+01	3.525E+02	7.051E+00	-0.073
CS-134	-7.145E+00		4.440E+00	1.356E+01	2.775E-01	-0.527
CS-137DA	-3.647E+00		5.095E+00	1.928E+01	3.908E-01	-0.189
LA-138	1.206E+01		5.433E+00	3.159E+01	6.768E-01	0.382
CE-139	-1.515E+00		1.610E+01	5.957E+01	1.411E+00	-0.025
BA-140	4.345E+01		1.056E+02	4.308E+02	8.667E+00	0.101
BALA-140	-1.452E+01		2.523E+01	1.072E+02	2.321E+00	-0.136
CE-141	2.883E+01		4.298E+01	1.608E+02	3.837E+00	0.179
CE-144	7.482E+00		1.119E+02	4.081E+02	9.795E+00	0.018
CEPR-144	1.497E+01		2.238E+02	8.161E+02	1.959E+01	0.018
PM-144	2.270E+00		5.379E+00	2.319E+01	4.689E-01	0.098
PM-146	1.746E+01		1.025E+01	4.598E+01	9.215E-01	0.380
EU-152	-1.700E+01		2.762E+01	9.980E+01	2.316E+00	-0.170
EU-154	-4.144E+00		1.340E+01	5.409E+01	1.146E+00	-0.077
EU-155	-2.039E+00		4.851E+01	1.814E+02	4.434E+00	-0.011
HF-181	-8.615E+00		1.166E+01	4.230E+01	8.488E-01	-0.204
BI-207	1.544E+00		3.973E+00	1.834E+01	3.697E-01	0.084
TL-208	-9.460E+00		7.089E+00	2.700E+01	5.446E-01	-0.350
BI-210M	-1.184E+01		1.764E+01	6.135E+01	1.428E+00	-0.193
BI-212	-2.554E+01		9.900E+01	3.743E+02	1.144E+01	-0.068
PB-212	3.023E+01		2.920E+01	1.143E+02	2.667E+00	0.264
BI-214	5.360E+01		2.193E+01	9.563E+01	1.932E+00	0.560
PB-214	1.124E+01		2.479E+01	8.434E+01	1.957E+00	0.133
RA-223	2.440E+01		6.347E+01	2.490E+02	5.793E+00	0.098
RA-224DA	3.105E+01		2.999E+01	1.174E+02	2.739E+00	0.264
RA-226DA	5.373E+01		2.194E+01	9.569E+01	1.933E+00	0.561
AC-227DA	-6.517E+01		1.126E+02	3.896E+02	9.095E+00	-0.167
AC-228	2.058E+00		2.054E+01	8.678E+01	1.791E+00	0.024
RA-228DA	2.076E+00		2.073E+01	8.755E+01	1.806E+00	0.024
TH-228DA	-2.704E+01		2.027E+01	7.717E+01	1.557E+00	-0.350
TH-232DA	2.292E+01		6.876E+01	2.650E+02	6.149E+00	0.087
TH-234DA	2.534E+02		5.307E+02	2.581E+03	5.361E+01	0.098
U-234DA	8.647E+01		4.930E+01	2.048E+02	4.759E+00	0.422
U-235HP	2.901E+01		1.084E+02	3.980E+02	9.506E+00	0.073
NP-237DA	2.037E+01		2.363E+01	9.495E+01	2.204E+00	0.215
U-238DA	1.124E+01		2.479E+01	8.434E+01	1.957E+00	0.133
U-238DHP	-2.126E+02		3.098E+02	1.093E+03	2.819E+01	-0.194
AM-241HP	3.262E+01		3.344E+01	1.291E+02	3.353E+00	0.253

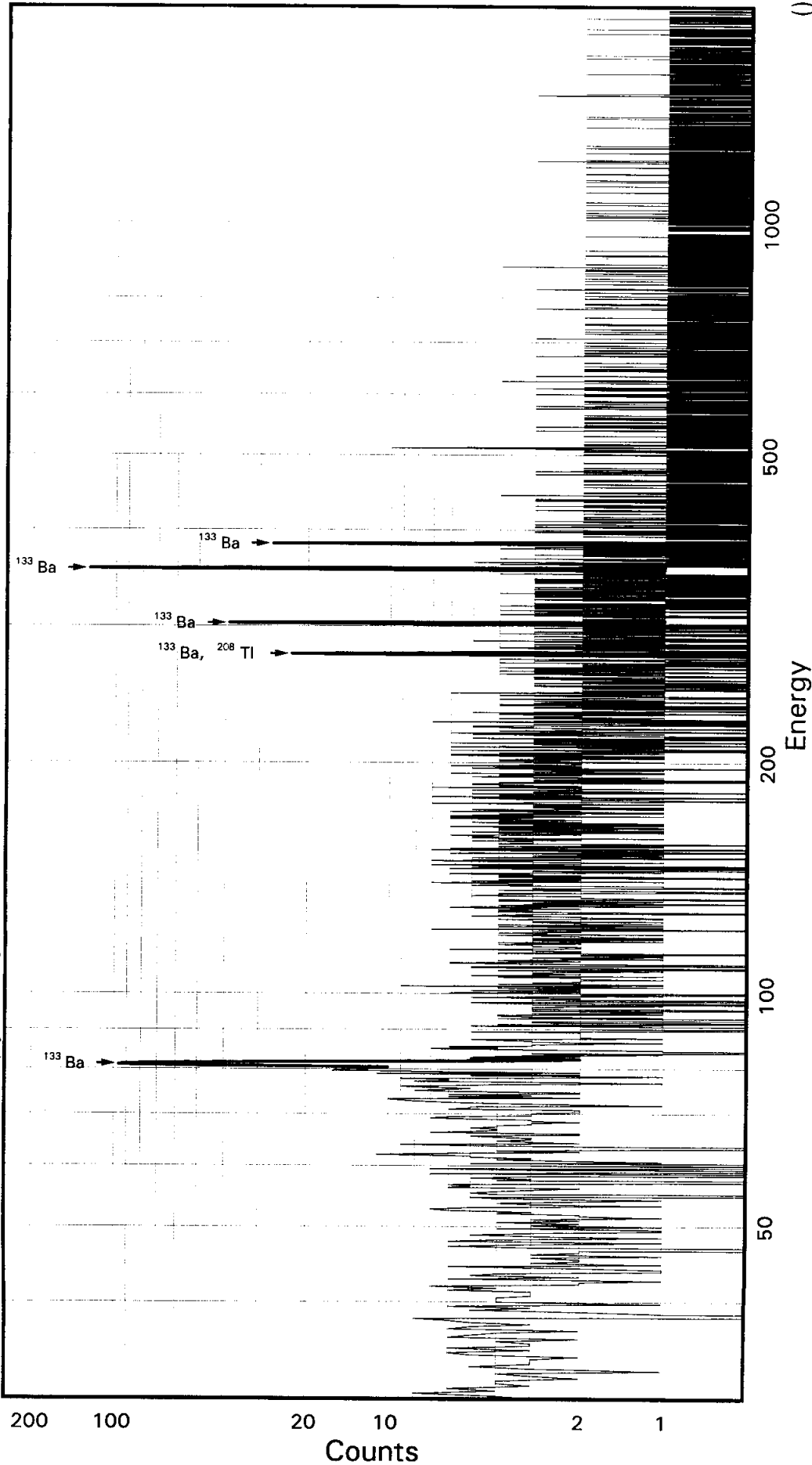
TAL Richland WA.

BA133

Sample ID: KGXH01AA
Detector ID: GER11 1

1st Count

Batch ID: 8042378



Acquisition Start: 26-FEB-2008 13:18:13.51
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.02763E+00
Slope: 2.31726E-01
Quadrature: 2.99654E-08

SAMPLE IDENTIFICATION: KGXH01AA

CONFIGURATION ID: GER11:KGXH01AA_260281318
TITLE : BA133
SAMPLE ID : KGXH01AA

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 13:18:13
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 31-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:53:04.78
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.1028E+01 keV
ENERGY SLOPE: 2.3173E-01 keV/C
ENERGY Q COEFF: 2.9965E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 2.1716E-01 keV
FWHM SLOPE: 4.0024E-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 26-FEB-2008 13:48:30

Configuration : \$DISK1:[GER11.SAMPLE]KGXH01AA_260281318.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:18:13
 Sample ID : KGXH01AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.98 0.1%
 Start energy : 1.29 End energy : 1899.28
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.24	286	90	0.70	355.01	350	14	1.59E-01	9.8	
2	0	225.88	13	8	0.38	979.09	973	11	7.22E-03	50.8	
3	0	276.30	93	3	0.84	1196.61	1190	13	5.16E-02	11.1	
4	0	302.75	170	16	0.89	1310.72	1304	18	9.42E-02	9.3	
5	0	355.91	551	34	0.93	1540.03	1533	18	3.06E-01	5.0	
6	0	362.98	9	4	0.36	1570.52	1565	9	4.91E-03	54.4	
7	0	383.66	102	0	0.74	1659.74	1654	14	5.67E-02	9.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 26-FEB-2008 13:48:30

Configuration : \$DISK1:[GER11.SAMPLE]KGXH01AA_260281318.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:18:13
 Sample ID : KGXH01AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.98 0.1%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	286	33.00	2.880E+00	1.005E+03	1.009E+03	11.17
	276.40	93	6.90	3.084E+00	1.454E+03	1.461E+03	12.36
	302.84	170	17.80	3.088E+00	1.028E+03	1.033E+03	10.72
	356.00	551	62.05*	3.090E+00	9.578E+02	9.623E+02	7.32
	383.85	102	8.70	3.090E+00	1.265E+03	1.271E+03	11.27

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KGXH01AA

Page : 2
Acquisition date : 26-FEB-2008 13:18:13

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	225.88	13	8	0.38	979.09	973	11	7.22E-03	50.8	3.07E+00	
0	362.98	9	4	0.36	1570.52	1565	9	4.91E-03	54.4	3.09E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : KGXH01AA

Page : 3
Acquisition date : 26-FEB-2008 13:18:13

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.475E+03	12.36	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


```

Configuration      : $DISK1:[GER11.SAMPLE]KGXH01AA_260281318.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       : 31-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:18:13
Sample ID         : KGXH01AA Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.98 0.1%
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	9.623E+02	7.046E+01	4.192E+01	8.384E-01	22.956

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	6.445E+01	5.167E+01	2.363E+02	4.739E+00	0.273
NA-22	1.453E-01	3.228E+00	1.391E+01	2.933E-01	0.010
K-40	-6.355E+01	4.591E+01	2.099E+02	4.476E+00	-0.303
SC-46	2.781E+00	2.802E+00	1.502E+01	3.134E-01	0.185
CR-51	1.251E+02	1.160E+02	4.729E+02	9.461E+00	0.264
MN-54	1.236E+00	4.503E+00	1.852E+01	3.793E-01	0.067
CO-57	-4.357E+01	7.134E+01	2.462E+02	5.071E+00	-0.177
CO-58	1.501E+00	3.171E+00	1.540E+01	3.148E-01	0.097
FE-59	2.984E+00	6.668E+00	3.207E+01	6.683E-01	0.093
CO-60	-2.446E+00	3.197E+00	1.210E+01	2.559E-01	-0.202
ZN-65	-2.076E+00	6.406E+00	2.616E+01	5.457E-01	-0.079
SE-75	9.079E+00	1.248E+01	4.969E+01	9.966E-01	0.183
SR-85	-3.559E+01	9.439E+00	2.233E+01	4.486E-01	-1.593
Y-88	2.230E+00	3.779E+00	1.759E+01	3.836E-01	0.127
NB-94	-1.139E+00	3.332E+00	1.329E+01	2.727E-01	-0.086
NB-95	2.105E+00	4.782E+00	2.213E+01	4.511E-01	0.095
TC-95M	5.663E+00	1.598E+01	5.953E+01	1.202E+00	0.095
ZR-95	-5.910E+00	8.617E+00	3.280E+01	6.681E-01	-0.180
ZRNB-95	3.329E+00	7.563E+00	3.500E+01	7.134E-01	0.095
RH-101	1.538E+01	1.170E+01	4.617E+01	9.338E-01	0.333
RH-102M	2.729E+00	4.092E+00	1.777E+01	3.564E-01	0.154
RU-103	-1.071E+01	6.429E+00	1.976E+01	3.965E-01	-0.542
RU-106DA	8.695E+01	5.131E+01	2.299E+02	4.645E+00	0.378
AG-108M	-1.041E+01	5.664E+00	1.791E+01	3.587E-01	-0.581
AG-110M	-1.742E+00	4.956E+00	1.969E+01	4.045E-01	-0.088
SN-113DA	8.429E+00	7.123E+00	3.239E+01	6.480E-01	0.260
SB-124	1.492E+00	6.735E+00	2.689E+01	5.427E-01	0.055

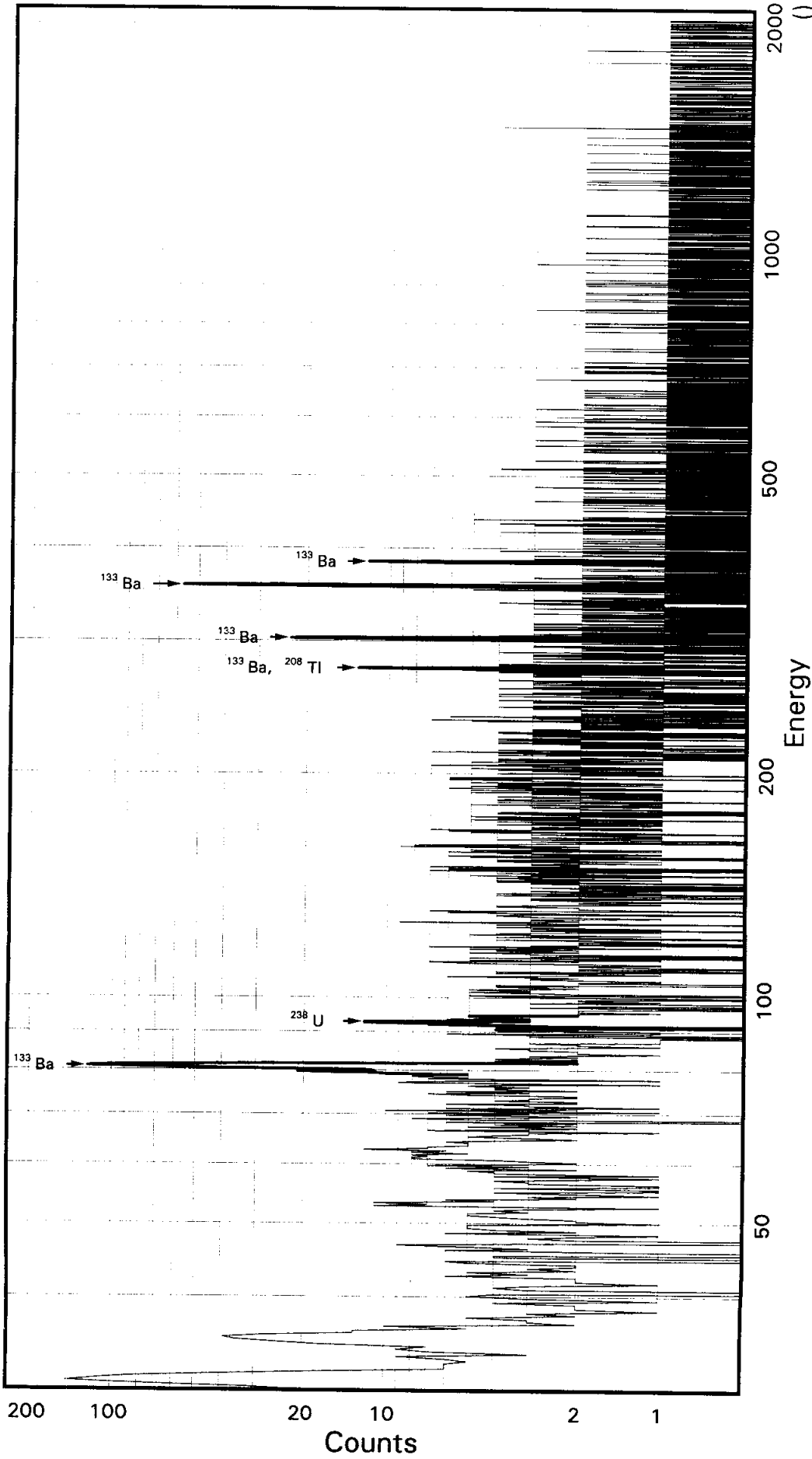
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	2.566E+00		1.581E+01	6.351E+01	1.272E+00	0.040
SN-126DA	2.148E+00		3.107E+00	1.432E+01	2.900E-01	0.150
I-131	-5.401E+01		7.605E+01	2.208E+02	4.416E+00	-0.245
CS-134	6.474E+00		2.945E+00	1.717E+01	3.506E-01	0.377
CS-137DA	-6.700E+00		5.000E+00	1.667E+01	3.376E-01	-0.402
LA-138	3.901E+00		4.357E+00	2.127E+01	4.529E-01	0.183
CE-139	-6.937E+00		1.135E+01	4.047E+01	8.247E-01	-0.171
BA-140	1.551E+02		6.493E+01	3.207E+02	6.449E+00	0.484
BALA-140	1.038E+01		2.213E+01	1.073E+02	2.308E+00	0.097
CE-141	-5.991E+01		2.949E+01	9.618E+01	1.974E+00	-0.623
CE-144	-8.370E+01		7.604E+01	2.509E+02	5.175E+00	-0.334
CEPR-144	-1.684E+02		1.520E+02	5.012E+02	1.034E+01	-0.336
PM-144	-5.524E+00		3.801E+00	1.253E+01	2.530E-01	-0.441
PM-146	-6.388E+00		5.796E+00	2.030E+01	4.068E-01	-0.315
EU-152	2.921E+01		2.176E+01	9.052E+01	1.811E+00	0.323
EU-154	4.042E-01		8.966E+00	3.865E+01	8.146E-01	0.010
EU-155	1.254E+01		3.455E+01	1.313E+02	2.755E+00	0.095
HF-131	1.867E+00		6.678E+00	2.820E+01	5.657E-01	0.066
BI-207	5.681E+00		3.317E+00	1.671E+01	3.365E-01	0.340
TL-208	-5.856E+00		5.189E+00	1.820E+01	3.668E-01	-0.322
BI-210M	-1.043E+01		1.217E+01	4.342E+01	8.707E-01	-0.240
BI-212	3.053E+01		4.799E+01	2.180E+02	6.658E+00	0.140
PB-212	9.822E+00		1.496E+01	5.746E+01	1.155E+00	0.171
BI-214	2.616E+01		1.081E+01	5.009E+01	1.011E+00	0.522
PB-214	-3.163E+01		2.168E+01	6.752E+01	1.350E+00	-0.469
RA-223	-7.027E+01		4.081E+01	1.333E+02	2.673E+00	-0.527
RA-224DA	1.008E+01		1.535E+01	5.896E+01	1.185E+00	0.171
RA-226DA	2.616E+01		1.081E+01	5.009E+01	1.011E+00	0.522
AC-227DA	-1.123E+01		5.820E+01	2.104E+02	4.232E+00	-0.053
AC-228	-1.759E+01		1.518E+01	5.179E+01	1.066E+00	-0.340
RA-228DA	-1.774E+01		1.531E+01	5.224E+01	1.075E+00	-0.340
TH-228DA	-1.673E+01		1.482E+01	5.198E+01	1.048E+00	-0.322
TH-232DA	4.321E+01		4.055E+01	1.705E+02	3.409E+00	0.254
TH-234DA	-3.026E+02		5.306E+02	2.062E+03	4.268E+01	-0.147
U-234DA	3.800E+00		3.100E+01	1.204E+02	2.410E+00	0.032
U-235HP	1.093E+02		7.211E+01	2.941E+02	6.040E+00	0.372
NP-237DA	1.180E+01		1.938E+01	7.478E+01	1.496E+00	0.158
U-238DA	-3.163E+01		2.168E+01	6.752E+01	1.350E+00	-0.469
U-238DHP	-4.723E+02		2.525E+02	7.640E+02	1.682E+01	-0.618
AM-241HP	-1.285E+01		2.037E+01	6.987E+01	1.549E+00	-0.184

TAL Richland WA.
BA133

Batch ID: 8042378

Sample ID: KGXH01AC
Detector ID: GER5 1



Acquisition Start: 26-FEB-2008 13:19:09.54
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -3.59498E-01
Slope: 2.49379E-01
Quadrature: -3.84444E-09

SAMPLE IDENTIFICATION: KGXH01AC

CONFIGURATION ID: GER5:KGXH01AC_260281319
TITLE : BA133
SAMPLE ID : KGXH01AC

REPORT DATE: 26-FEB-08
ACQUIRE DATE: 26-FEB-08 13:19:09
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 21-JAN-2008 12:00:00.00
CALIB DATE: 26-FEB-2008 04:52:15.35
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: -.3595E+00 keV
ENERGY SLOPE: 2.4938E-01 keV/C
ENERGY Q COEFF: -.3844E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.6258E-01 keV
FWHM SLOPE: 2.5570E-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 26-FEB-2008 13:49:24

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KGXH01AC_260281319.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 21-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:19:09
 Sample ID : KGXH01AC Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
 Start energy : 19.59 End energy : 2042.29
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.97	470	112	0.79	125.65	119	15	2.61E-01	6.8	
2	0	35.35	147	77	0.93	143.19	136	17	8.17E-02	16.2	
3	0	53.48	25	31	0.74	215.88	209	12	1.38E-02	50.0	
4	0	80.93	425	64	0.74	325.96	318	15	2.36E-01	6.4	
5	0	92.94*	18	40	0.59	374.12	364	20	9.88E-03	96.2	
6	0	276.20	50	10	0.65	1109.00	1102	14	2.75E-02	19.9	
7	0	302.84	124	4	1.14	1215.84	1207	16	6.87E-02	9.7	
8	0	355.96	299	14	1.32	1428.85	1419	19	1.66E-01	6.5	
9	0	383.57	59	4	1.48	1539.57	1533	14	3.30E-02	14.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2008 13:49:25

Configuration : RDND06\$DKA100: [GER5.SAMPLE] KGXH01AC_260281319.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
 Sample title : BA133
 Sample date : 21-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:19:09
 Sample ID : KGXH01AC Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected	Decay Corr	1-Sigma
					DPM/SAMPL	DPM/SAMPL	%Error
BA-133	81.00	425	33.00	1.919E+00	2.236E+03	2.251E+03	8.37
	276.40	50	6.90	2.071E+00	1.155E+03	1.163E+03	20.58
	302.84	124	17.80	2.074E+00	1.116E+03	1.124E+03	11.10
	356.00	299	62.05*	2.076E+00	7.727E+02	7.778E+02	8.47
	383.85	59	8.70	2.076E+00	1.095E+03	1.102E+03	15.58

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : KGXH01AC

Page : 2
Acquisition date : 26-FEB-2008 13:19:09

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.97	470	112	0.79	125.65	119	15	2.61E-01	6.8	1.68E+00	
0	35.35	147	77	0.93	143.19	136	17	8.17E-02	16.2	1.71E+00	
0	53.48	25	31	0.74	215.88	209	12	1.38E-02	50.0	1.82E+00	
0	92.94	18	40	0.59	374.12	364	20	9.88E-03	96.2	1.95E+00	T

Flags: "T" = Tentatively associated

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	1.172E+03	20.58	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
		% Abundances Found =		5.44			
U-233DHP	4.47E+09Y	0.00	63.28*	3.80	---	Not Found	---
			92.59	5.41	5.634E+02	96.35	Abun.
		% Abundances Found =		58.74			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 26-FEB-2008 13:49:26

Configuration : RDND06\$DKA100:[GER5.SAMPLE]KGXH01AC_260281319.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 : 21-JAN-2008 12:00:00 Acquisition date : 26-FEB-2008 13:19:09
 Sample ID : KGXH01AC Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.24 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.778E+02	6.585E+01	5.555E+01	1.111E+00	14.001

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	7.258E+01	1.012E+02	4.276E+02	8.579E+00	0.170
NA-22	1.708E+00	4.643E+00	2.099E+01	4.450E-01	0.081
NA-24	-5.010E+09	2.599E+11	Half-Life too short		
K-40	-7.058E+00	6.621E+01	3.249E+02	6.981E+00	-0.022
SC-46	4.142E+00	6.252E+00	2.911E+01	6.103E-01	0.142
CR-51	-6.951E+01	2.225E+02	8.098E+02	1.620E+01	-0.086
MN-54	1.755E+00	5.931E+00	2.516E+01	5.165E-01	0.070
CO-57	-5.260E+01	1.236E+02	4.337E+02	8.965E+00	-0.121
CO-58	-9.388E+00	4.721E+00	6.367E+00	1.305E-01	-1.474
FE-59	-4.717E+00	1.143E+01	4.832E+01	1.012E+00	-0.098
CO-60	3.428E+00	3.486E+00	1.863E+01	3.966E-01	0.184
ZN-65	8.698E+00	7.618E+00	4.114E+01	8.622E-01	0.211
SE-75	3.663E+01	1.930E+01	8.163E+01	1.638E+00	0.449
SR-85	-2.206E+01	1.343E+01	4.323E+01	8.689E-01	-0.510
Y-88	2.250E+00	2.253E+00	1.654E+01	3.644E-01	0.136
NB-94	4.934E+00	3.715E+00	1.983E+01	4.082E-01	0.249
NB-95	2.651E+00	9.820E+00	4.292E+01	8.767E-01	0.062
TC-95M	3.191E+01	2.916E+01	1.127E+02	2.280E+00	0.283
ZR-95	8.934E+00	1.066E+01	5.255E+01	1.073E+00	0.170
ZRNB-95	4.414E+00	1.429E+01	6.265E+01	1.280E+00	0.070
MO-99	-6.343E-02	5.204E-02	Half-Life too short		
RH-101	1.896E+01	1.891E+01	7.233E+01	1.465E+00	0.262
RH-102M	5.272E+00	6.246E+00	2.752E+01	5.520E-01	0.192
RU-103	-1.717E+01	1.414E+01	4.818E+01	9.674E-01	-0.356
RU-106DA	-1.054E+01	7.244E+01	2.786E+02	5.634E+00	-0.038
AG-108M	-3.984E+01	1.028E+01	2.344E+01	4.695E-01	-1.700
AG-110M	7.463E+00	6.708E+00	3.299E+01	6.797E-01	0.226

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.277E+00		1.275E+01	5.120E+01	1.024E+00	0.025
SB-124	-5.930E+00		9.641E+00	3.537E+01	7.144E-01	-0.168
SB-125	-3.110E+01		2.819E+01	9.779E+01	1.958E+00	-0.318
SN-126DA	6.671E-01		5.534E+00	2.313E+01	4.693E-01	0.029
I-131	-1.376E+02		2.183E+02	8.029E+02	1.606E+01	-0.171
CS-134	4.044E+00		6.273E+00	2.803E+01	5.738E-01	0.144
CS-137DA	7.769E-02		5.844E+00	2.468E+01	5.006E-01	0.003
LA-138	8.408E-01		4.042E+00	2.101E+01	4.506E-01	0.040
CE-139	-2.786E+01		1.866E+01	6.270E+01	1.281E+00	-0.444
BA-140	-5.082E+01		1.529E+02	5.976E+02	1.203E+01	-0.085
BALA-140	-4.897E+01		6.209E+01	2.389E+02	5.180E+00	-0.205
LA-140	-4.701E+00		5.960E+00	Half-Life too short		
CE-141	-3.247E+01		6.319E+01	2.172E+02	4.471E+00	-0.149
CE-144	-1.769E+02		1.390E+02	4.563E+02	9.447E+00	-0.388
CEPR-144	-3.525E+02		2.782E+02	9.132E+02	1.891E+01	-0.386
PM-144	7.642E-01		7.380E+00	2.901E+01	5.866E-01	0.026
PM-146	1.745E+01		8.303E+00	4.155E+01	8.328E-01	0.420
EU-152	-3.010E+01		3.223E+01	1.104E+02	2.207E+00	-0.273
EU-154	4.719E+00		1.283E+01	5.800E+01	1.230E+00	0.081
EU-155	-6.437E+01		6.375E+01	2.157E+02	4.551E+00	-0.298
HF-181	3.668E+00		1.604E+01	6.359E+01	1.276E+00	0.058
BI-207	5.111E+00		6.574E+00	2.798E+01	5.641E-01	0.183
TL-208	4.082E+00		7.465E+00	3.348E+01	6.755E-01	0.122
BI-210M	-1.055E+01		1.974E+01	7.045E+01	1.413E+00	-0.150
BI-212	7.602E+01		6.535E+01	3.256E+02	9.953E+00	0.233
PB-212	-3.950E+01		2.515E+01	9.058E+01	1.822E+00	-0.436
BI-214	-2.982E+01		1.310E+01	4.205E+01	8.498E-01	-0.709
PB-214	5.412E+01		2.724E+01	1.104E+02	2.208E+00	0.490
RA-223	5.394E+01		7.456E+01	2.900E+02	5.816E+00	0.186
RA-224DA	-4.095E+01		2.607E+01	9.389E+01	1.889E+00	-0.436
RA-226DA	-2.983E+01		1.310E+01	4.205E+01	8.497E-01	-0.709
AC-227DA	1.655E+01		9.551E+01	3.572E+02	7.188E+00	0.046
AC-228	2.402E+01		1.809E+01	9.354E+01	1.931E+00	0.257
RA-228DA	2.430E+01		1.831E+01	9.467E+01	1.954E+00	0.257
TH-228DA	1.178E+01		2.154E+01	9.660E+01	1.949E+00	0.122
TH-232DA	7.292E+01		8.686E+01	3.342E+02	6.685E+00	0.218
TH-234DA	-1.730E+02		8.818E+02	3.617E+03	7.517E+01	-0.048
U-234DA	8.192E+01		4.166E+01	1.832E+02	3.669E+00	0.447
U-235HP	1.378E+02		1.220E+02	4.658E+02	9.595E+00	0.296
NP-237DA	-5.987E+00		2.470E+01	9.055E+01	1.812E+00	-0.066
U-238DA	5.412E+01		2.724E+01	1.104E+02	2.208E+00	0.490
U-238DHP	1.822E+02		5.196E+02	1.982E+03	4.413E+01	0.092
AM-241HP	-4.988E+01		5.061E+01	1.732E+02	3.887E+00	-0.288

RADIUM 226

STANDARDS AND TRACEABILITY

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: Ra22606A100		Ref: 11/1/2001	2.1060E+01	± 3.234E-01	DPM/G	
RASC4699	RA-226	3.0308E+00 ± 4.664E-02 DPM	0.1443 g	1/21/2008 1/21/2008	Armstron	2.1003E+01 ± 3.225E-01 DPM/G

3.0308E+000 ± 3.031E+000 (1) 3.0308E+000 , 3.0308E+000

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: Ra22606A100		Ref: 11/1/2001	2.1060E+01	± 3.234E-01	DPM/G	
RASC4719	RA-226	3.0390E+00 ± 4.676E-02 DPM	0.1447 g	2/27/2008 2/27/2008	Armstron	2.1002E+01 ± 3.225E-01 DPM/G

3.0390E+000 ± 3.039E+000 (1)

3.0390E+000 , 3.0390E+000

RA22606A

RA22606A000
Ref. 6068
422.23 ± 13.93
dpm/g
REF. 11/1/2001



RA22606A100
Ref. 6069
21.12 ± 0.697
dpm/g
DVF 3/21/06

ISOTOPE DILUTION RECORD

1) Prepared by tda 2) Date Prepared 10/14/2005

3) Source Identification Number / Ref. Number RA22606A000 6068

4) Source Activity (dpm ± dpm/g) 4.2223E+02 ± 1.393E+01

5) Percent error of Source Activity 3.3 %

6) Weight of Source Material used (g) 50

7) (% Error) of Weight of Source Material used 0.0096 %

8) Diluent 1 M HNO3

9) Total Weight of the Dilution (g) approx. 750 g

10) (% Error) of Total Weight of the Dilution 0.0400 %

11) Specific Activity of Diluted Solution dpm/g 2.1120E+01 ± 6.970E-01

12) Total Uncertainty 3.300 %

13) Dilution Identification Number / Ref. Number RA22606A100 6069

14) Calibration Reference Date 11/1/2001

15) Isotope Inventory File update by/date tda 3/21/2006

16) Reviewed by/date _____

17) Location QCLAB 18) Exhausted _____

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE RECORD FORM

1) Isotope Ra-226 2) Reference Number 6068
3) Half Life 1600 yrs. 4) Storage Location qclab
5) Source Identification Number Ra22606A000

CALIBRATION DATA

6) Activity as Received Units 195.9 pCi/mL
7) Overall Uncertainty Percent 3.30%
8) Reference Date / Time 11/1/2001
9) Activity dpm/g 422.23 dpm/g
10) Volume or Mass (ml/g) 100 mL
11) Calibrated by IPL
12) Certificate Solution Number 763-63-7

SURVEY DATA

13) Date Received 3/21/2006 from Denver Lab
14) Surveyed by tda
15) Survey Reading (Beta/Gamma) cpm <300 cpm
16) Survey Reading (Alpha) cpm 0

17) Activity Conversion 195.9 pCi/mL x 2.22 dpm/pCi / 1.025 g/mL =
 422.23 dpm/g

18) Remarks _____

19) Isotope File Updated by tda 3/21/2006

20) QC Approved _____

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: RA22806A000		Ref: 12/15/2003	4.4881E+02	± 1.482E+01	DPM/G	
RASC4699	RA-228	1.1167E+01 ± 3.708E-01 DPM	0.0408 g	1/21/2008 1/21/2008	Armstron	2.7370E+02 ± 9.038E+00 DPM/G
		1.1167E+001 ± 1.117E+001 (1)	1.1167E+001 , 1.1167E+001			
<p>STL Richland, SMFractions v4.8.29</p> <p>* - Isotope is an Impurity</p>						

RADIUM 228
SAMPLE AND QC DATA

Lot No., Due Date: F8A250205,F8A260145; 02/28/2008,02/25/2008
Client, Site: 1418995; LANDWELL - Tronox Parcel H
QC Batch No., Method Test: 8042382; RRA228 Ra-228 by GPC
SDG, Matrix: ;

- | | |
|---|-----------------|
| 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 Thomas DME **Date** 3/5/08

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 804 2382

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Non-conformances 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: *Erika Jod* Date: 3/6/18

2/21/2008 1:39:10 PM

1418995, Landwell Company
Landwell Company

AnalyteDueDate: 02/22/2008

Batch: 8042382
SEO Batch, Test: 8042381, D9TE

Sample Preparation/Analysis

D9 Ra-226/228 PrpRC5013/5032, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

PM, Quote: JAE, 78254

pCi/g

Balance Id:11

Pipet #:

Sep1 DT/Tm Tech: 2/25/08 14:55 DL

Sep2 DT/Tm Tech: 3/4/08 11:35 TDM

Prep Tech: ,Barcoti

Work Order, Lot, Sample Date Time	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 KF5GG-1-AF F8A250205-13-SAMP	1.03g.in	1.03g.in	RATA30224 02:07:08	11		3x50	7C	1711	7/4/08/14	
	✓ .9625						4A	0557	3/3/08	
01/24/2008 08:40	AmtRec: SL	#Containers: 1						Scr:	Alpha:	Beta:
2 KF5GL-1-AF F8A250205-15-SAMP	1.03g.in	1.03g.in	RATA30225 02:07:08						7/4/08/14	
	✓ .9282						4B	0557	3/3/08	
01/24/2008 09:30	AmtRec: 500SL	#Containers: 1						Scr:	Alpha:	Beta:
3 KF6EM-1-AF F8A260145-1-SAMP	1.01g.in	1.01g.in	RATA30226 02:07:08						7/4/08/14	
	✓ 1.0000						4C	0557	3/3/08	
01/25/2008 12:10	AmtRec: 500SL	#Containers: 1						Scr:	Alpha:	Beta:
4 KF6EP-1-AF F8A260145-2-SAMP	1.01g.in	1.01g.in	RATA30227 02:07:08						7/4/08/14	
	✓ 1.9453						4D	0557	3/3/08	
01/25/2008 12:50	AmtRec: 500SL	#Containers: 1						Scr:	Alpha:	Beta:

2/21/2008 1:39:11 PM

Sample Preparation/Analysis

Balance Id:11

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

Analyte Due Date: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8042382
SEQ Batch, Test: 8042381, D9TE

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech:

Prep Tech: ,Barcotl

pCi/g

Work Order, Lot, Sample Date/Time	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:
5 KF6EQ-1-AF F8A260145-3-SAMP 1.00g.in RATA30228 02/07/08 ✓ 1.9499		1.00g.in	02/07/08	1"		3:50	1D	1711	J14/CR/RC	
6 KF6ER-1-AF F8A260145-4-SAMP 1.00g.in RATA30229 02/07/08 ✓ 1.9386		1.00g.in	02/07/08				1A	1711	J14/CR/RC	
7 KF6ET-1-AF F8A260145-5-SAMP 1.00g.in RATA30230 02/07/08 ✓ 1.9478		1.00g.in	02/07/08				1C	1711	J14/CR/RC	
8 KF6EV-1-AF F8A260145-6-SAMP 1.00g.in RATA30231 02/07/08 ✓ 1.9416		1.00g.in	02/07/08				1D	1711	J14/CR/RC	

TAL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2

Richland Wa pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 8

Prep_SamplePrep v4.8.32

2/21/2008 1:39:11 PM
 1418995, Landwell Company
 Landwell Company
AnalyteDueDate: 02/22/2008
 SEQ Batch, Test: 8042381, D9TE

Sample Preparation/Analysis
 D9 Ra-226/228 PrpRC5013/5032, SepRC5005
 TF Radium-228 by GPC
 01 STANDARD TEST SET
 Balance Id:11
 Pipet #: _____
 Sep1 DT/Tm Tech: _____
 Sep2 DT/Tm Tech: _____
 Prep Tech: ,Barcoti

PM, Quote: JAE, 78254
 pCi/g
 Work Order, Lot, Sample Date Time: 9 KF6EW-1-AF
 Total Amt/Unit: 1.01g.in
 Initial Aliquot Amt/Unit: 1.01g.in
 QC Tracer Prep Date: RATA30232 02/07/08
 Dish Size: 1
 Ppt or Geometry: 3x50
 Count Time Min: 1711
 Detector Id: 3D
 Count On/Off (24hr) Circle: 1711
 CR Analyst, Init/Date: 3/14/08 MC

30.9
 1.0000
 4A 1711
 Scr: 4A Alpha: 1711 Beta: _____

31.3
 1.9941
 3C 0624
 Scr: 3C Alpha: 0624 Beta: _____

30.7
 1.0000
 4B 1711
 Scr: 4B Alpha: 1711 Beta: _____

30.2
 1.9743
 4C 1711
 Scr: 4C Alpha: 1711 Beta: _____

30.2
 1.9743
 4A 0624
 Scr: 4A Alpha: 0624 Beta: _____

01/25/2008 08:05
 01/25/2008 08:20
 11 KF6E1-1-AF
 01/25/2008 08:40
 12 KF6E2-1-AJ
 01/25/2008 08:55

AmiRec: 500SL #Containers: 1
 RATA30233 02/07/08
 1.01g.in
 AmiRec: 500SL #Containers: 1
 RATA30234 02/07/08
 1.01g.in
 AmiRec: 500SL #Containers: 1
 RATA30235 02/07/08
 1.01g.in
 AmiRec: 2X500SL #Containers: 2

2/21/2008 1:39:11 PM

Sample Preparation/Analysis

Balance Id:11

1418995, Landwell Company
Landwell Company

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

AnalyteDueDate: 02/22/2008

Sep1 DT/Tm Tech:

Batch: 8042382

PM, Quote: JAE, 78254

Sep2 DT/Tm Tech:

SEQ Batch, Test: 8042381, D9TE 8042381, D9TE

pCi/g

1.00g.in

Prep Tech: ,Barcoti

Work Order, Lot, Sample Date Time	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:
13 KF6E2-1-AL-X		1.00g.in	RATA30236	1.5"		3x50	SC	1711	3/4/08	
F8A260145-10-DUP	✓ 1.0000		02/07/08				SA	0557	3/5/08	
01/25/2008 08:55		AmtRec: 2X500SL	#Containers: 2							
14 KF6E2-1-AN-X		1.00g.in	RATA30237					1711	3/14/08	
F8A260145-10-DUP	✓ 1.0000		02/07/08				SC	0557	3/5/08	
01/25/2008 08:55		AmtRec: 2X500SL	#Containers: 2							
15 KF6E5-1-AF		1.00g.in	RATA30238					1711	3/4/08	
F8A260145-11-SAMP	✓ 1.0000		02/07/08				CA	0557	3/5/08	
01/25/2008 09:45		AmtRec: 500SL	#Containers: 1							
16 KGXJE-1-AA-B		1.00g.in	RATA30239					1711	3/4/08	
J8B110000-382-BLK	✓ 9674		02/07/08				LC	0557	3/5/08	
01/24/2008 08:40		AmtRec:	#Containers: 1							

2/21/2008 1:39:11 PM

Sample Preparation/Analysis

Balance Id:11

D9 Ra-226/228 Pprc5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

Analyse Date: 02/22/2008

01 STANDARD TEST SET

Sep1 DT/Tm Tech:

Batch: 8042382

pCi/g

Sep2 DT/Tm Tech:
Prep Tech: ,Barcotl

SEQ Batch, Test: None



Work Order, Lot, Sample Date/Time	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:
17KGXJE-1-AC-C	1.00g in	1.5"	RASC4699	1.5"	3x50	6D	1711	3/4/08		
J8B110000-382-LCS			01/21/08		31.0	6C	055	3/6/08		

1.00g in

1.5"

3x50

1711

3/4/08

J8B110000-382-LCS

01/21/08



31.0

6C

055

3/6/08

✓, 9134

01/24/2008 08:40

AmtRec:

#Containers: 1

Scr.

Alpha:

Beta:

Comments:

All Clients for Batch:

1418995, Landwell Company

Landwell Company

JAE, 78254

KF5GG1AF-SAMP Constituent List:

KGXJE1AA-BLK:

Ba-133 RDL: pCi/g

RA-228DA RDL:2 RDL:2 RDL:2

KGXJE1AC-LCS:

Ba-133 RDL: pCi/g

RA-228 RDL:2 RDL:2 RDL:2

KF5GG1AF-SAMP Calc Info:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci. Not.: N

ODRs: B

KGXJE1AA-BLK:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci. Not.: N

ODRs: B

KGXJE1AC-LCS:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci. Not.: N

ODRs: B

Ba-133 RDL: pCi/g

RA-228DA RDL:2 RDL:2 RDL:2

Ba-133 RDL: pCi/g

RA-228 RDL:2 RDL:2 RDL:2

KF5GG1AF-SAMP Calc Info:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci. Not.: N

ODRs: B

KGXJE1AA-BLK:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci. Not.: N

ODRs: B

KGXJE1AC-LCS:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci. Not.: N

ODRs: B

Approved By

Date:

TAL 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 5

ISV - Insufficient Volume for Analysis

WO Cnt: 17

Prep. SamplePrep v4.8.32

ICOC Fraction Transfer/Status Report

ByDate: 3/6/2007, 3/10/2008, Batch: '8042382', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8042382				
AC	Rev1C	Barcotl	2/21/2008 1:42:55 PM	
SC		wagarr	IsBatched	2/12/2008 7:52:00 AM
SC		Barcotl	InPrep	2/21/2008 1:42:55 PM
SC		Barcotl	Prep1C	2/21/2008 1:43:15 PM
SC		LucasD	Sep1C	2/25/2008 3:04:58 PM
SC		McGinnisT	Sep2C	3/4/2008 1:05:42 PM
SC		ClarkR	InCnt1	3/4/2008 2:33:01 PM
SC		BlackCL	CalcC	3/5/2008 7:30:13 AM
SC		mcginnist	Rev1C	3/5/2008 2:51:07 PM
AC		Barcotl	2/21/2008 1:43:15 PM	
AC		LucasD	2/25/2008 3:04:58 PM	
AC		McGinnisT	3/4/2008 1:05:42 PM	
AC		ClarkR	3/4/2008 2:33:01 PM	
AC		BlackCL	3/5/2008 7:30:13 AM	
AC		mcginnist	3/5/2008 2:51:07 PM	

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 7

ICOCFractions v4.8.32

3/5/2008 2:51:28 PM

Rpt DB Transfer log (Batch Results)

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 Unis	Expected Yield	Volumes	
8030200	9KF5GG10		F8A25020513	TSB-HJ-07-10'	SOLID	1/25/2008 9:15:00	1/24/2008 8:40:00 AM			
RA-226	D9TE	0	3/3/2008 1:33:00 PM	1.4051E+00	9.76E-02	1.743E-01	1.435E-01	pCi/g	0.963	1.03E+0
RA-226	TBD	0	3/3/2008 1:33:00 PM	1.4051E+00	9.76E-02	1.743E-01	1.435E-01	pCi/g	0.963	1.03E+0
RA-228	D9TF	0	3/5/2008 6:02:30 AM	1.3321E+00	1.79E-01	1.95E-01	6.343E-01	pCi/g	0.879	1.03E+0
TH-228	D2S1	0	2/20/2008 9:47:29 AM	1.7082E+00	1.443E-01	2.06E-01	6.866E-02	pCi/g	0.846	1.01E+0
TH-230	D2S1	0	2/20/2008 9:47:29 AM	1.6086E+00	1.38E-01	1.954E-01	5.666E-02	pCi/g	0.846	1.01E+0
TH-232	D2S1	0	2/20/2008 9:47:29 AM	1.1591E+00	1.171E-01	1.538E-01	5.666E-02	pCi/g	0.846	1.01E+0
U-234	KWSR	0	2/20/2008 6:25:07 PM	1.7882E+00	2.179E-01	2.905E-01	1.411E-01	PCI/G	0.233	1.01E+0
U-235	KWSR	0	2/20/2008 6:25:07 PM	5.0729E-02	3.743E-02	3.782E-02	1.064E-01	PCI/G	0.233	1.01E+0
U-238	KWSR	0	2/20/2008 6:25:07 PM	1.3126E+00	1.869E-01	2.341E-01	1.411E-01	PCI/G	0.233	1.01E+0
8030200	9KF5GL10		F8A25020515	TSB-HR-08-10'	SOLID	1/25/2008 9:15:00	1/24/2008 9:30:00 AM			
RA-226	D9TE	0	3/3/2008 1:42:00 PM	1.5878E+00	1.029E-01	1.881E-01	1.05E-01	pCi/g	0.928	1.03E+0
RA-226	TBD	0	3/3/2008 1:42:00 PM	1.5878E+00	1.029E-01	1.881E-01	1.05E-01	pCi/g	0.928	1.03E+0
RA-228	D9TF	0	3/5/2008 6:02:30 AM	1.405E+00	1.722E-01	1.92E-01	5.93E-01	pCi/g	0.842	1.03E+0
TH-228	D2S1	0	2/20/2008 12:48:03 PM	2.3821E+00	1.819E-01	2.733E-01	6.641E-02	pCi/g	0.9	1.0E+0
TH-230	D2S1	0	2/20/2008 12:48:03 PM	1.5522E+00	1.448E-01	1.966E-01	6.465E-02	pCi/g	0.9	1.0E+0
TH-232	D2S1	0	2/20/2008 12:48:03 PM	2.227E+00	1.734E-01	2.578E-01	6.465E-02	pCi/g	0.9	1.0E+0
U-234	KWSR	0	2/21/2008 6:26:27 AM	1.605E+00	1.007E-01	1.676E-01	4.32E-02	PCI/G	0.953	1.0E+0
U-235	KWSR	0	2/21/2008 6:26:27 AM	6.1636E-02	1.993E-02	2.058E-02	3.012E-02	PCI/G	0.953	1.0E+0
U-238	KWSR	0	2/21/2008 6:26:27 AM	1.3925E+00	9.373E-02	1.493E-01	3.97E-02	PCI/G	0.953	1.0E+0
8030213	9KF6E010		F8A2601458	TSB-HR-03-10'	SOLID	1/26/2008 10:15:00	1/25/2008 8:20:00 AM			
RA-226	D9TE	0	3/3/2008 2:35:00 PM	2.0933E+00	1.211E-01	2.478E-01	1.154E-01	pCi/g	0.994	1.01E+0
RA-226	TBD	0	3/3/2008 2:35:00 PM	2.0933E+00	1.211E-01	2.478E-01	1.154E-01	pCi/g	0.994	1.01E+0
RA-228	D9TF	0	3/5/2008 6:56:09 AM	1.2065E+00	1.375E-01	1.579E-01	3.788E-01	pCi/g	0.905	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.0177E+00	1.543E-01	2.234E-01	5.651E-02	pCi/g	0.705	1.01E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	3.0318E+00	1.866E-01	3.062E-01	5.5E-02	pCi/g	0.705	1.01E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.9155E+00	1.484E-01	2.134E-01	5.5E-02	pCi/g	0.705	1.01E+0
U-234	KWSR	0	2/22/2008 2:21:12 PM	3.3576E+00	1.395E-01	3.106E-01	2.778E-02	PCI/G	1.025	1.0E+0
U-235	KWSR	0	2/22/2008 2:21:12 PM	6.9587E-02	2.012E-02	2.093E-02	2.778E-02	PCI/G	1.025	1.0E+0
U-238	KWSR	0	2/22/2008 2:21:12 PM	2.6037E+00	1.229E-01	2.478E-01	2.778E-02	PCI/G	1.025	1.0E+0
8030213	9KF6E110		F8A2601459	TSB-HJ-02-0'	SOLID	1/26/2008 10:15:00	1/25/2008 8:40:00 AM			
RA-226	D9TE	0	3/3/2008 2:39:00 PM	8.2963E-01	9.527E-02	1.294E-01	1.622E-01	pCi/g	1.0	1.01E+0
RA-226	TBD	0	3/3/2008 2:39:00 PM	8.2963E-01	9.527E-02	1.294E-01	1.622E-01	pCi/g	1.0	1.01E+0
RA-228	D9TF	0	3/5/2008 6:56:09 AM	1.5439E+00	1.639E-01	1.904E-01	4.605E-01	pCi/g	0.892	1.01E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	1.8774E+00	1.475E-01	2.104E-01	6.525E-02	pCi/g	0.764	1.02E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.2916E+00	1.205E-01	1.586E-01	5.379E-02	pCi/g	0.764	1.02E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	1.7611E+00	1.407E-01	1.99E-01	5.379E-02	pCi/g	0.764	1.02E+0
U-234	KWSR	0	2/22/2008 2:21:29 PM	9.8107E-01	7.856E-02	1.135E-01	3.012E-02	PCI/G	0.928	1.02E+0
U-235	KWSR	0	2/22/2008 2:21:29 PM	3.7734E-02	1.546E-02	1.577E-02	3.012E-02	PCI/G	0.928	1.02E+0
U-238	KWSR	0	2/22/2008 2:21:29 PM	1.1131E+00	8.368E-02	1.251E-01	3.012E-02	PCI/G	0.928	1.02E+0
8030213	9KF6E210		F8A26014510	TSB-HJ-02-10'	SOLID	1/26/2008 10:15:00	1/25/2008 8:55:00 AM			
RA-226	D9TE	0	3/3/2008 2:34:00 PM	1.579E+00	9.616E-02	1.792E-01	8.26E-02	pCi/g	0.974	1.01E+0
RA-226	TBD	0	3/3/2008 2:34:00 PM	1.579E+00	9.616E-02	1.792E-01	8.26E-02	pCi/g	0.974	1.01E+0
RA-228	D9TF	0	3/5/2008 6:56:15 AM	1.4547E+00	1.601E-01	1.831E-01	4.393E-01	pCi/g	0.855	1.01E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	1.9666E+00	1.437E-01	2.128E-01	7.178E-02	pCi/g	0.871	1.02E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.7869E+00	1.353E-01	1.966E-01	7.932E-02	pCi/g	0.871	1.02E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	1.4901E+00	1.233E-01	1.713E-01	5.744E-02	pCi/g	0.871	1.02E+0
U-234	KWSR	0	2/22/2008 2:21:45 PM	2.1117E+00	1.133E-01	2.091E-01	2.908E-02	PCI/G	1.001	1.03E+0
U-235	KWSR	0	2/22/2008 2:21:45 PM	6.0715E-02	1.924E-02	1.989E-02	2.908E-02	PCI/G	1.001	1.03E+0
U-238	KWSR	0	2/22/2008 2:21:45 PM	1.5519E+00	9.716E-02	1.616E-01	3.431E-02	PCI/G	1.001	1.03E+0
8030213	9KF6E510		F8A26014511	TSB-HR-02-0'	SOLID	1/26/2008 10:15:00	1/25/2008 9:45:00 AM			
RA-226	D9TE	0	3/3/2008 2:33:00 PM	1.2536E+00	8.49E-02	1.476E-01	9.29E-02	pCi/g	1.0	1.0E+0

8042382, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

SDG or Batch Isotope	Rpt Db Id Method	RTst Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot uncert_mqa	Sample Date Units	Expected Yield	Volumes
RA-228	D9TF	0	3/5/2008 5:57:38 AM	2.2397E+00	1.856E-01	2.269E-01	5.372E-01 pCi/g	0.881	1.0E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	2.5836E+00	2.076E-01	2.93E-01	7.983E-02 pCi/g	0.727	1.01E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.4074E+00	1.513E-01	1.886E-01	7.766E-02 pCi/g	0.727	1.01E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	2.0754E+00	1.835E-01	2.475E-01	7.766E-02 pCi/g	0.727	1.01E+0
U-234	KWSR	0	2/22/2008 2:22:10 PM	1.105E+00	8.215E-02	1.233E-01	2.924E-02 PCI/G	0.953	1.01E+0
U-235	KWSR	0	2/22/2008 2:22:10 PM	4.2736E-02	1.62E-02	1.658E-02	2.924E-02 PCI/G	0.953	1.01E+0
U-238	KWSR	0	2/22/2008 2:22:10 PM	1.1478E+00	8.372E-02	1.27E-01	2.924E-02 PCI/G	0.953	1.01E+0
8030213	9KF6EM10		F8A2601451	TSB-HJ-01-10'	SOLID	1/26/2008 10:15:00	1/25/2008 12:10:00 PM		
RA-226	D9TE	0	3/3/2008 1:41:00 PM	1.3657E+00	9.376E-02	1.604E-01	1.367E-01 pCi/g	1.0	1.01E+0
RA-228	D9TF	0	3/5/2008 6:02:30 AM	1.4241E+00	1.707E-01	1.898E-01	5.712E-01 pCi/g	0.916	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.8241E+00	1.378E-01	2.095E-01	5.87E-02 pCi/g	0.857	1.01E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.6482E+00	1.291E-01	1.923E-01	4.843E-02 pCi/g	0.857	1.01E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	2.4147E+00	1.563E-01	2.608E-01	4.843E-02 pCi/g	0.857	1.01E+0
U-234	KWSR	0	2/22/2008 2:19:11 PM	1.6921E+00	1.015E-01	1.736E-01	3.432E-02 PCI/G	0.953	1.02E+0
U-235	KWSR	0	2/22/2008 2:19:11 PM	8.5031E-02	2.276E-02	2.383E-02	2.909E-02 PCI/G	0.953	1.02E+0
U-238	KWSR	0	2/22/2008 2:19:11 PM	1.6144E+00	9.907E-02	1.669E-01	2.909E-02 PCI/G	0.953	1.02E+0
8030213	9KF6EP10		F8A2601452	TSB-HJ-09-0'	SOLID	1/26/2008 10:15:00	1/25/2008 12:50:00 PM		
RA-226	D9TE	0	3/3/2008 1:44:00 PM	1.2501E+00	9.548E-02	1.53E-01	1.553E-01 pCi/g	0.945	1.01E+0
RA-228	D9TF	0	3/5/2008 6:02:30 AM	1.5569E+00	1.74E-01	1.96E-01	5.62E-01 pCi/g	0.857	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.0512E+00	1.457E-01	2.291E-01	7.073E-02 pCi/g	0.901	1.0E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	9.4027E-01	9.783E-02	1.27E-01	7.823E-02 pCi/g	0.901	1.0E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.6199E+00	1.276E-01	1.891E-01	5.665E-02 pCi/g	0.901	1.0E+0
U-234	KWSR	0	2/22/2008 2:19:29 PM	1.014E+00	7.967E-02	1.162E-01	2.998E-02 PCI/G	1.008	1.0E+0
U-235	KWSR	0	2/22/2008 2:19:29 PM	1.1266E-02	8.94E-03	8.989E-03	2.998E-02 PCI/G	1.008	1.0E+0
U-238	KWSR	0	2/22/2008 2:19:29 PM	1.0515E+00	8.114E-02	1.194E-01	2.998E-02 PCI/G	1.008	1.0E+0
8030213	9KF6EQ10		F8A2601453	TSB-HJ-09-10'	SOLID	1/26/2008 10:15:00	1/25/2008 1:00:00 PM		
RA-226	D9TE	0	3/3/2008 1:48:00 PM	1.6981E+00	1.121E-01	2.093E-01	1.298E-01 pCi/g	0.95	1.02E+0
RA-228	D9TF	0	3/5/2008 6:55:47 AM	1.6815E+00	1.75E-01	2.008E-01	5.383E-01 pCi/g	0.837	1.02E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.8173E+00	1.533E-01	2.183E-01	6.182E-02 pCi/g	0.948	1.02E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.4952E+00	1.371E-01	1.875E-01	6.018E-02 pCi/g	0.948	1.02E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.3947E+00	1.324E-01	1.782E-01	6.018E-02 pCi/g	0.948	1.02E+0
U-234	KWSR	0	2/22/2008 2:19:42 PM	2.6374E+00	1.285E-01	2.55E-01	4.291E-02 PCI/G	0.94	1.02E+0
U-235	KWSR	0	2/22/2008 2:19:42 PM	9.9949E-02	2.502E-02	2.637E-02	2.992E-02 PCI/G	0.94	1.02E+0
U-238	KWSR	0	2/22/2008 2:19:42 PM	2.3663E+00	1.218E-01	2.321E-01	4.875E-02 PCI/G	0.94	1.02E+0
8030213	9KF6ER10		F8A2601454	TSB-HJ-03-0'	SOLID	1/26/2008 10:15:00	1/25/2008 7:25:00 AM		
RA-226	D9TE	0	3/3/2008 1:47:00 PM	1.1157E+00	9.528E-02	1.428E-01	1.814E-01 pCi/g	0.939	1.0E+0
RA-228	D9TF	0	3/5/2008 6:55:47 AM	1.5538E+00	1.583E-01	1.829E-01	4.134E-01 pCi/g	0.868	1.0E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.582E+00	1.432E-01	1.974E-01	6.21E-02 pCi/g	0.915	1.03E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	9.5912E-01	1.1E-01	1.374E-01	6.044E-02 pCi/g	0.915	1.03E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.7416E+00	1.483E-01	2.106E-01	6.044E-02 pCi/g	0.915	1.03E+0
U-234	KWSR	0	2/22/2008 2:19:58 PM	1.1651E+00	8.547E-02	1.295E-01	4.586E-02 PCI/G	0.951	1.01E+0
U-235	KWSR	0	2/22/2008 2:19:58 PM	2.9906E-02	1.399E-02	1.421E-02	2.984E-02 PCI/G	0.951	1.01E+0
U-238	KWSR	0	2/22/2008 2:19:58 PM	9.7568E-01	7.809E-02	1.128E-01	3.521E-02 PCI/G	0.951	1.01E+0
8030213	9KF6ET10		F8A2601455	TSB-HJ-03-0' FD	SOLID	1/26/2008 10:15:00	1/25/2008 7:25:00 AM		
RA-226	D9TE	0	3/3/2008 1:43:00 PM	1.049E+00	1.002E-01	1.455E-01	2.045E-01 pCi/g	0.948	1.0E+0
RA-228	D9TF	0	3/5/2008 6:55:47 AM	1.5664E+00	1.763E-01	1.977E-01	5.167E-01 pCi/g	0.81	1.0E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.1485E+00	1.624E-01	2.451E-01	5.88E-02 pCi/g	0.977	1.02E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.3741E+00	1.282E-01	1.738E-01	5.723E-02 pCi/g	0.977	1.02E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	2.1269E+00	1.594E-01	2.418E-01	5.723E-02 pCi/g	0.977	1.02E+0
U-234	KWSR	0	2/22/2008 2:20:15 PM	9.8954E-01	7.584E-02	1.117E-01	3.971E-02 PCI/G	0.924	1.02E+0
U-235	KWSR	0	2/22/2008 2:20:15 PM	6.2424E-02	1.92E-02	1.989E-02	2.769E-02 PCI/G	0.924	1.02E+0
U-238	KWSR	0	2/22/2008 2:20:15 PM	1.0635E+00	7.866E-02	1.181E-01	4.255E-02 PCI/G	0.924	1.02E+0
8030213	9KF6EV10		F8A2601456	TSB-HJ-03-10'	SOLID	1/26/2008 10:15:00	1/25/2008 7:45:00 AM		
RA-226	D9TE	0	3/3/2008 2:37:00 PM	1.2479E+00	1.079E-01	1.635E-01	1.674E-01 pCi/g	0.942	1.0E+0

8042382, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **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 Units	Yield	Volumes
RA-228	D9TF	0	3/5/2008 6:56:09 AM	1.5292E+00	1.585E-01	1.804E-01 4.107E-01	pCi/g	0.857	1.0E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	1.8638E+00	1.357E-01	2.106E-01 4.728E-02	pCi/g	0.884	1.0E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.495E+00	1.2E-01	1.763E-01 5.429E-02	pCi/g	0.884	1.0E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.5737E+00	1.231E-01	1.834E-01 4.602E-02	pCi/g	0.884	1.0E+0
U-234	KWSR	0	2/22/2008 2:20:30 PM	1.5931E+00	1.002E-01	1.665E-01 3.016E-02	PCI/G	0.916	1.02E+0
U-235	KWSR	0	2/22/2008 2:20:30 PM	3.0225E-02	1.414E-02	1.436E-02 3.016E-02	PCI/G	0.916	1.02E+0
U-238	KWSR	0	2/22/2008 2:20:30 PM	1.3274E+00	9.148E-02	1.437E-01 3.016E-02	PCI/G	0.916	1.02E+0
8030213	9KF6EW10		F8A2601457	TSB-HR-03-0'	SOLID	1/26/2008 10:15:00	1/25/2008 8:05:00 AM		
RA-226	D9TE	0	3/3/2008 2:24:00 PM	8.0495E-01	9.936E-02	1.261E-01 1.977E-01	pCi/g	1.0	1.01E+0
RA-228	D9TF	0	3/5/2008 6:56:09 AM	1.0503E+00	1.325E-01	1.461E-01 3.886E-01	pCi/g	0.898	1.01E+0
TH-228	D2S1	0	2/21/2008 3:24:40 PM	2.2854E+00	2.053E-01	2.754E-01 8.827E-02	pCi/g	0.596	1.0E+0
TH-230	D2S1	0	2/21/2008 3:24:40 PM	1.3777E+00	1.574E-01	1.925E-01 8.592E-02	pCi/g	0.596	1.0E+0
TH-232	D2S1	0	2/21/2008 3:24:40 PM	1.7759E+00	1.785E-01	2.285E-01 8.592E-02	pCi/g	0.596	1.0E+0
U-234	KWSR	0	2/22/2008 2:20:42 PM	1.0882E+00	8.213E-02	1.223E-01 2.965E-02	PCI/G	0.974	1.0E+0
U-235	KWSR	0	2/22/2008 2:20:42 PM	4.2093E-02	1.642E-02	1.679E-02 2.965E-02	PCI/G	0.974	1.0E+0
U-238	KWSR	0	2/22/2008 2:20:42 PM	9.5824E-01	7.708E-02	1.11E-01 2.965E-02	PCI/G	0.974	1.0E+0
8030213	KF6E21LR		F8A26014510	TSB-HJ-02-10'	DUP SOLID	1/26/2008 10:15:00	1/25/2008 8:55:00 AM		
RA-228	D9TF	0 R	3/5/2008 5:57:38 AM	8.5781E-01	1.255E-01	1.36E-01 4.382E-01	pCi/g	0.913	1.03E+0
8030213	KF6E21NR		F8A26014510	TSB-HJ-02-10'	DUP SOLID	1/26/2008 10:15:00	1/25/2008 8:55:00 AM		
RA-228	D9TF	0 R	3/5/2008 5:57:38 AM	1.7126E+00	1.628E-01	1.906E-01 4.895E-01	pCi/g	0.904	1.0E+0
8030213	KGXJE1AB		J8B110000382	INTRA-LAB BLANK	SOLID	1/25/2008 9:15:00	1/24/2008 8:40:00 AM		
RA-228	D9TF	0 B	3/5/2008 5:57:46 AM	-1.4479E-01	1.009E-01	1.009E-01 5.156E-01	pCi/g	0.877	1.03E+0
8030213	KGXJE1CS		J8B110000382	INTRA-LAB CHECK	SOLID	1/25/2008 9:15:00	1/24/2008 8:40:00 AM		
RA-228	D9TF	0 S	3/5/2008 5:57:46 AM	5.0867E+00	2.615E-01	3.895E-01 5.822E-01	pCi/g	5.0121E+00 0.823	1.0E+0

8042382, **Samples Inserted | Updated | NotUpdated => 4 | 0 | 13,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
 **Diff RptDb | Qtims => .

Alpha Beta, Ra-228 by GPC , Results

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc	Yld	LCS	Yld
Ra-228 by GPC Ra-226/Ra-228 Deem With Out Blk Subt. *CntU: 0+1, + *SystU, `MDCConst:2.71																
Calc	TF	SOLID	KF5GG1AF	RA-228	1.20E+00	(3.03E-01)		pCi/g	R	4.54E-01	9.86E-01			88%		
Calc	TF	SOLID	KF5GG1AF	RA-228	1.39E+00	(3.41E-01)		pCi/g	R	5.04E-01	1.09E+00			88%		
Calc	TF	SOLID	KF5GG1AF	RA-228	1.40E+00	(3.66E-01)		pCi/g	R	5.59E-01	1.21E+00			88%		
Calc	TF	SOLID	KF5GG1AF	RA-228	1.33E+00	(1.95E-01)		pCi/g	A	2.92E-01	6.34E-01	✓		88%		
Calc	TF	SOLID	KF5GG1AF	RA-228	1.74E+00	(8.16E-01)		pCi/g	R	1.27E+00	2.97E+00			88%		
Calc	TF	SOLID	KF5GL1AF	RA-228	1.73E+00	(3.40E-01)		pCi/g	R	4.22E-01	9.22E-01			84%		
Calc	TF	SOLID	KF5GL1AF	RA-228	1.30E+00	(3.22E-01)		pCi/g	R	4.68E-01	1.02E+00			84%		
Calc	TF	SOLID	KF5GL1AF	RA-228	1.19E+00	(3.35E-01)		pCi/g	R	5.19E-01	1.14E+00			84%		
Calc	TF	SOLID	KF5GL1AF	RA-228	1.41E+00	(1.92E-01)		pCi/g	A	2.71E-01	5.93E-01	✓		84%		
Calc	TF	SOLID	KF5GL1AF	RA-228	1.77E+00	(9.94E-01)		pCi/g	R	1.71E+00	3.88E+00			84%		
Calc	TF	SOLID	KF6EM1AF	RA-228	1.16E+00	(2.81E-01)		pCi/g	R	4.08E-01	8.88E-01			92%		
Calc	TF	SOLID	KF6EM1AF	RA-228	1.11E+00	(2.96E-01)		pCi/g	R	4.53E-01	9.86E-01			92%		
Calc	TF	SOLID	KF6EM1AF	RA-228	2.00E+00	(3.97E-01)		pCi/g	R	5.02E-01	1.09E+00			92%		
Calc	TF	SOLID	KF6EM1AF	RA-228	1.42E+00	(1.90E-01)		pCi/g	A	2.62E-01	5.71E-01	✓		92%		
Calc	TF	SOLID	KF6EM1AF	RA-228	1.69E+00	(8.43E-01)		pCi/g	R	1.36E+00	3.15E+00			92%		
Calc	TF	SOLID	KF6EP1AF	RA-228	1.61E+00	(3.24E-01)		pCi/g	R	3.97E-01	8.74E-01			86%		
Calc	TF	SOLID	KF6EP1AF	RA-228	1.59E+00	(3.42E-01)		pCi/g	R	4.41E-01	9.70E-01			86%		
Calc	TF	SOLID	KF6EP1AF	RA-228	1.47E+00	(3.52E-01)		pCi/g	R	4.89E-01	1.08E+00			86%		
Calc	TF	SOLID	KF6EP1AF	RA-228	1.56E+00	(1.96E-01)		pCi/g	A	2.55E-01	5.62E-01	✓		86%		
Calc	TF	SOLID	KF6EP1AF	RA-228	2.88E+00	(1.05E+00)		pCi/g	R	1.53E+00	3.53E+00			86%		
Calc	TF	SOLID	KF6EQ1AF	RA-228	1.47E+00	(3.07E-01)		pCi/g	R	3.79E-01	8.37E-01			84%		
Calc	TF	SOLID	KF6EQ1AF	RA-228	1.95E+00	(3.72E-01)		pCi/g	R	4.20E-01	9.29E-01			84%		
Calc	TF	SOLID	KF6EQ1AF	RA-228	1.62E+00	(3.61E-01)		pCi/g	R	4.66E-01	1.03E+00			84%		
Calc	TF	SOLID	KF6EQ1AF	RA-228	1.68E+00	(2.01E-01)		pCi/g	A	2.44E-01	5.38E-01	✓		84%		
Calc	TF	SOLID	KF6EQ1AF	RA-228	4.83E+00	(1.40E+00)		pCi/g	R	2.05E+00	4.55E+00			84%		
Calc	TF	SOLID	KF6ER1AF	RA-228	2.08E+00	(3.54E-01)		pCi/g	R	2.76E-01	6.43E-01			87%		
Calc	TF	SOLID	KF6ER1AF	RA-228	1.52E+00	(3.12E-01)		pCi/g	R	3.06E-01	7.13E-01			87%		
Calc	TF	SOLID	KF6ER1AF	RA-228	1.06E+00	(2.80E-01)		pCi/g	R	3.40E-01	7.92E-01			87%		
Calc	TF	SOLID	KF6ER1AF	RA-228	1.55E+00	(1.83E-01)		pCi/g	A	1.77E-01	4.13E-01	✓		87%		
Calc	TF	SOLID	KF6ER1AF	RA-228	1.74E+00	(1.14E+00)	U4	pCi/g	R	2.11E+00	4.67E+00			87%		
Calc	TF	SOLID	KF6ET1AF	RA-228	1.38E+00	(3.04E-01)		pCi/g	R	3.55E-01	8.04E-01			81%		
Calc	TF	SOLID	KF6ET1AF	RA-228	1.57E+00	(3.41E-01)		pCi/g	R	3.94E-01	8.92E-01			81%		
Calc	TF	SOLID	KF6ET1AF	RA-228	1.74E+00	(3.78E-01)		pCi/g	R	4.37E-01	9.90E-01			81%		
Calc	TF	SOLID	KF6ET1AF	RA-228	1.57E+00	(1.98E-01)		pCi/g	A	2.28E-01	5.17E-01	✓		81%		
Calc	TF	SOLID	KF6ET1AF	RA-228	1.14E+00	(1.16E+00)	U4	pCi/g	R	2.26E+00	5.00E+00			81%		
Calc	TF	SOLID	KF6EV1AF	RA-228	1.45E+00	(2.88E-01)		pCi/g	R	2.75E-01	6.39E-01			86%		
Calc	TF	SOLID	KF6EV1AF	RA-228	1.47E+00	(3.05E-01)		pCi/g	R	3.05E-01	7.09E-01			86%		

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Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc	Yld	LCS Yld
Calc	TF	SOLID	KF6EV1AF	RA-228	1.67E+00	(3.42E-01)		pCi/g	R	3.39E-01	7.87E-01		86%	
Calc	TF	SOLID	KF6EV1AF	RA-228	1.53E+00	(1.80E-01)		pCi/g	A	1.77E-01	4.11E-01	✓	86%	
Calc	TF	SOLID	KF6EV1AF	RA-228	9.20E-01	(8.63E-01)	U4	pCi/g	R	1.64E+00	3.80E+00		86%	
Calc	TF	SOLID	KF6EW1AF	RA-228	1.16E+00	(2.50E-01)		pCi/g	R	2.60E-01	6.04E-01		90%	
Calc	TF	SOLID	KF6EW1AF	RA-228	1.15E+00	(2.63E-01)		pCi/g	R	2.89E-01	6.71E-01		90%	
Calc	TF	SOLID	KF6EW1AF	RA-228	8.49E-01	(2.46E-01)		pCi/g	R	3.20E-01	7.44E-01		90%	
Calc	TF	SOLID	KF6EW1AF	RA-228	1.05E+00	(1.46E-01)		pCi/g	A	1.67E-01	3.89E-01	✓	90%	
Calc	TF	SOLID	KF6EW1AF	RA-228	0.00E+00	(8.34E-01)	U4	pCi/g	R	1.83E+00	4.13E+00		90%	
Calc	TF	SOLID	KF6E01AF	RA-228	1.41E+00	(2.81E-01)		pCi/g	R	2.53E-01	5.89E-01		90%	
Calc	TF	SOLID	KF6E01AF	RA-228	9.22E-01	(2.40E-01)		pCi/g	R	2.81E-01	6.54E-01		90%	
Calc	TF	SOLID	KF6E01AF	RA-228	1.29E+00	(2.96E-01)		pCi/g	R	3.12E-01	7.26E-01		90%	
Calc	TF	SOLID	KF6E01AF	RA-228	1.21E+00	(1.58E-01)		pCi/g	A	1.63E-01	3.79E-01	✓	90%	
Calc	TF	SOLID	KF6E01AF	RA-228	1.82E+00	(9.05E-01)		pCi/g	R	1.50E+00	3.48E+00		90%	
Calc	TF	SOLID	KF6E11AF	RA-228	1.32E+00	(2.88E-01)		pCi/g	R	3.15E-01	7.16E-01		89%	
Calc	TF	SOLID	KF6E11AF	RA-228	1.75E+00	(3.51E-01)		pCi/g	R	3.49E-01	7.95E-01		89%	
Calc	TF	SOLID	KF6E11AF	RA-228	1.55E+00	(3.47E-01)		pCi/g	R	3.88E-01	8.82E-01		89%	
Calc	TF	SOLID	KF6E11AF	RA-228	1.54E+00	(1.90E-01)		pCi/g	A	2.02E-01	4.60E-01	✓	89%	
Calc	TF	SOLID	KF6E11AF	RA-228	2.42E+00	(9.99E-01)		pCi/g	R	1.57E+00	3.62E+00		89%	
Calc	TF	SOLID	KF6E21AJ	RA-228	1.36E+00	(2.90E-01)		pCi/g	R	2.96E-01	6.83E-01		86%	
Calc	TF	SOLID	KF6E21AJ	RA-228	1.40E+00	(3.10E-01)		pCi/g	R	3.29E-01	7.58E-01		86%	
Calc	TF	SOLID	KF6E21AJ	RA-228	1.60E+00	(3.48E-01)		pCi/g	R	3.65E-01	8.41E-01		86%	
Calc	TF	SOLID	KF6E21AJ	RA-228	1.45E+00	(1.83E-01)		pCi/g	A	1.90E-01	4.39E-01	✓	86%	
Calc	TF	SOLID	KF6E21AJ	RA-228	2.02E+00	(9.52E-01)		pCi/g	R	1.48E+00	3.46E+00		86%	
Calc	TF	SOLID	KF6E21AL	RA-228	1.00E+00	(2.31E-01)		pCi/g	R	3.08E-01	6.81E-01	R	91%	
Calc	TF	SOLID	KF6E21AL	RA-228	5.19E-01	(2.02E-01)		pCi/g	R	3.42E-01	7.56E-01	R	91%	REC=
Calc	TF	SOLID	KF6E21AL	RA-228	1.05E+00	(2.68E-01)		pCi/g	R	3.79E-01	8.39E-01	R	91%	
Calc	TF	SOLID	KF6E21AL	RA-228	8.58E-01	(1.36E-01)		pCi/g	A	1.98E-01	4.38E-01	✓R	91%	2.60
Calc	TF	SOLID	KF6E21AL	RA-228	6.91E-02	(8.57E-01)	U4	pCi/g	R	1.79E+00	3.92E+00	R	91%	JK
Calc	TF	SOLID	KF6E21AN	RA-228	1.67E+00	(3.08E-01)		pCi/g	R	3.45E-01	7.61E-01	R	90%	
Calc	TF	SOLID	KF6E21AN	RA-228	1.97E+00	(3.53E-01)		pCi/g	R	3.83E-01	8.45E-01	R	90%	REC=
Calc	TF	SOLID	KF6E21AN	RA-228	1.51E+00	(3.28E-01)		pCi/g	R	4.25E-01	9.38E-01	R	90%	
Calc	TF	SOLID	KF6E21AN	RA-228	1.71E+00	(1.91E-01)		pCi/g	A	2.22E-01	4.90E-01	✓R	90%	.98
Calc	TF	SOLID	KF6E21AN	RA-228	2.76E+00	(1.04E+00)		pCi/g	R	1.70E+00	3.74E+00	R	90%	
Calc	TF	SOLID	KF6E51AF	RA-228	2.72E+00	(4.18E-01)		pCi/g	R	3.81E-01	8.35E-01		88%	
Calc	TF	SOLID	KF6E51AF	RA-228	1.72E+00	(3.42E-01)		pCi/g	R	4.23E-01	9.27E-01		88%	
Calc	TF	SOLID	KF6E51AF	RA-228	2.28E+00	(4.14E-01)		pCi/g	R	4.69E-01	1.03E+00		88%	
Calc	TF	SOLID	KF6E51AF	RA-228	2.24E+00	(2.27E-01)		pCi/g	A	2.45E-01	5.37E-01	✓	88%	
Calc	TF	SOLID	KF6E51AF	RA-228	-3.33E-01	(8.84E-01)	U4	pCi/g	R	1.91E+00	4.19E+00		88%	

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Alpha Beta, Ra-228 by GPC , Results Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc	Yld	LCS Yld
Calc	TF	SOLID	KGXJE1AA	RA-228	5.58E-02	(1.71E-01)	U4	pCi/g	R	3.66E-01	8.02E-01	B	88%	
Calc	TF	SOLID	KGXJE1AA	RA-228	-1.71E-01	(1.72E-01)	U4	pCi/g	R	4.06E-01	8.90E-01	B	88%	
Calc	TF	SOLID	KGXJE1AA	RA-228	-3.19E-01	(1.81E-01)	U4	pCi/g	R	4.50E-01	9.87E-01	B	88%	
Calc	TF	SOLID	KGXJE1AA	RA-228	-1.45E-01	(1.01E-01)	U4	pCi/g	A	2.35E-01	5.16E-01	✓B	88%	<i>JK</i>
Calc	TF	SOLID	KGXJE1AA	RA-228	2.35E-01	(9.12E-01)	U4	pCi/g	R	1.96E+00	4.28E+00	B	88%	
Calc	TF	SOLID	KGXJE1AC	RA-228	5.35E+00	(6.81E-01)		pCi/g	R	4.14E-01	9.05E-01	S	82%	107%
Calc	TF	SOLID	KGXJE1AC	RA-228	5.14E+00	(6.79E-01)		pCi/g	R	4.59E-01	1.00E+00	S	82%	102%
Calc	TF	SOLID	KGXJE1AC	RA-228	4.77E+00	(6.65E-01)		pCi/g	R	5.10E-01	1.12E+00	S	82%	95%
Calc	TF	SOLID	KGXJE1AC	RA-228	5.09E+00	(3.90E-01)		pCi/g	A	2.66E-01	5.82E-01	✓S	82%	101%
Calc	TF	SOLID	KGXJE1AC	RA-228	5.11E+00	(1.33E+00)		pCi/g	R	1.92E+00	4.24E+00	S	82%	102%

Tom DME  3/5/08

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

RecCnt:85
 RADCALC v4.8.29
 TA Richland

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	Analysis	Date	Ppt	Wt	Sep1	Sep2	Date	QC/Tracer	Vial	Multi	Ent	Yld	Total	Analy	Vol	Final/Count	Vol																		
1	Calc	TF	SOLID	*STLE	Ra228WoBS	KF5GGLIAF			pCi/g			01/24/08	08:40	03/05/08	06:02		02/25/08	14:55	03/04/08	11:35	RATA30224	✓	1					g																			
1418995									SOLID					31.4	✓							96%	✓	1.03	g	✓																					
	Sq	Cnt	Date	Parameter	Sample	Cnt	Bkg	Cnt	Inst	Geom	Trc	Av	Ent	Efficiency	1	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct	Vol	Adj	Decay	Abn																	
0	03/04/08	86	15:34	RA-228	86	359	400	GPC7C	1	N	N	5.1702E-01	1.0000E+00	N	88%	N	88%			N		1.4970E+00			4.5045E-01		1.0107E+00																				
		50			50	400				Y		(1.248E-02)	(0.000E+00)		7%							(0.000E+00)			0.970874																						
1	03/04/08	88	16:29	RA-228	88	359	400	GPC7C	1	N	N	5.1702E-01	1.0000E+00	N	88%	N	88%			N		1.6613E+00			4.5045E-01		1.0107E+00																				
		50			50	400				Y		(1.248E-02)	(0.000E+00)		7%							(0.000E+00)			0.970874																						
2	03/04/08	84	17:24	RA-228	84	359	400	GPC7C	1	N	N	5.1702E-01	1.0000E+00	N	88%	N	88%			N		1.8436E+00			4.5045E-01		1.0107E+00																				
		50			50	400				Y		(1.248E-02)	(0.000E+00)		7%							(0.000E+00)			0.970874																						
3	03/05/08	23	06:02	RA-228	23	60	250	GPC4A	1	N	N	4.9045E-01	1.0000E+00	N	88%	N	88%			N		7.6882E+00			4.5045E-01		1.0107E+00																				
		50			50	250				N		(2.447E-02)	(0.000E+00)		7%							(0.000E+00)			0.970874																						
	Sq	Calc	Date	TrcAct	Parameter	Avg	Sa	Act,	Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm	Blk	Vol	Used	Trc	Yld	Ent	Fct	Ent	LCS	Yld	Ent	FF	Fct	IDC	IL	LcC	Blk	LcC	MDC	Std	Dv	Mdc	LcC						
03/05/08	RA-228	R	1.198146									8.22500E-01	2.710668	2.710668	1.03	G	88%					0.98648			0.454033																						
			(0.302514)									(1.9143E-01)	(0.670302)	(0.670302)																																	
03/05/08	RA-228	R	1.394333									8.62500E-01	3.154519	3.154519	1.03	G	88%					1.094767			0.503872																						
			(0.341303)									(1.9350E-01)	(0.75522)	(0.75522)																																	
03/05/08	RA-228	R	1.403821									7.82500E-01	3.175984	3.175984	1.03	G	88%					1.214903			0.559166																						
			(0.366399)									(1.8932E-01)	(0.812963)	(0.812963)																																	
03/05/08	RA-228	A	1.3321									8.22500E-01	3.013724	3.013724	1.03	G	88%					0.634344			0.29196																						
			(0.195007)									(1.1052E-01)	(0.432123)	(0.432123)																																	
03/05/08	RA-228	R	1.735053									2.20000E-01	3.925358	3.925358	1.03	G	88%					2.968214			1.271135																						
			(0.816411)									(1.0080E-01)	(1.836159)	(1.836159)																																	
	Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	Ord	Units/Matrix	QC/BB	Sa/On	Date	Analysis	Date	Ppt	Wt	Sep1	Sep2	Date	QC/Tracer	Vial	Multi	Ent	Yld	Total	Analy	Vol	Final/Count	Vol																	
2	Calc	TF	SOLID	*STLE	Ra228WoBS	KF5GGLIAF				pCi/g			01/24/08	09:30	03/05/08	06:02		02/25/08	14:55	03/04/08	11:35	RATA30225	✓	1				g																			
1418995										SOLID					31.2	✓							93%	✓	1.03	g	✓																				
	Sq	Cnt	Date	Parameter	Sample	Cnt	Bkg	Cnt	Inst	Geom	Trc	Av	Ent	Efficiency	1	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct	Vol	Adj	Decay	Abn																	
0	03/04/08	97	15:34	RA-228	97	305	400	GPC1A	1	N	N	5.3617E-01	1.0000E+00	N	84%	N	84%			N		1.4988E+00			4.5045E-01		1.0107E+00																				
		50			50	400				Y		(1.092E-02)	(0.000E+00)		7%							(0.000E+00)			0.970874																						
1	03/04/08	78	16:30	RA-228	78	305	400	GPC1A	1	N	N	5.3617E-01	1.0000E+00	N	84%	N	84%			N		1.6631E+00			4.5045E-01		1.0107E+00																				
		50			50	400				Y		(1.092E-02)	(0.000E+00)		7%							(0.000E+00)			0.970874																						
2	03/04/08	71	17:25	RA-228	71	305	400	GPC1A	1	N	N	5.3617E-01	1.0000E+00	N	84%	N	84%			N		1.8456E+00			4.5045E-01		1.0107E+00																				
		50			50	400				Y		(1.092E-02)	(0.000E+00)		7%							(0.000E+00)			0.970874																						

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKlC/MDC	StdDvMdc/LcC
3	03/05/08	06:02	RA-228	29	93		1.17750E+00 (0.340254)	3.909385 (0.743538)	3.909385 (0.743538)	1.03 G (0.0103)	84%	7.6882E+00 (0.000E+00)	4.5045E-01 0.970874	1.0107E+00	
	03/05/08		RA-228	50	250		7.97500E-01 (0.322006)	2.938406 (0.712937)	2.938406 (0.712937)	1.03 G (0.0103)	84%	1.023454			
	03/05/08		RA-228				6.57500E-01 (0.335088)	2.688419 (0.745609)	2.688419 (0.745609)	1.03 G (0.0103)	84%	1.135765			
	03/05/08		RA-228				8.77500E-01 (0.191991)	3.178737 (0.423879)	3.178737 (0.423879)	1.03 G (0.005947)	84%	0.519213			
	03/05/08		RA-228				2.08000E-01 (0.993957)	4.013409 (2.239408)	4.013409 (2.239408)	1.03 G (0.0103)	84%	0.593023			

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sept/Sept Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	TF	SOLID	*STLE	Ra228WoBS	KF6EM1AF	pc/g	SOLID	'F8A260145-1	01/25/08 12:10	03/05/08 06:02	02/25/08 14:55	03/04/08 11:35	RATA30226	Alq	100%	1.01 g
0	03/04/08	15:34	RA-228	85	336	GPC1B	1	N	N	5.4530E-01	1.0000E+00	N	92%	1.4986E+00 (0.000E+00)	4.5045E-01 0.990099	1.0103E+00	
1	03/04/08	16:30	RA-228	79	336	GPC1B	1	N	N	5.4530E-01	1.0000E+00	N	92%	1.6631E+00 (0.000E+00)	4.5045E-01 0.990099	1.0103E+00	
2	03/04/08	17:25	RA-228	102	336	GPC1B	1	N	N	5.4530E-01	1.0000E+00	N	92%	1.8456E+00 (0.000E+00)	4.5045E-01 0.990099	1.0103E+00	
3	03/05/08	06:02	RA-228	24	67	GPC4C	1	N	N	4.7390E-01	1.0000E+00	N	92%	7.6882E+00 (0.000E+00)	4.5045E-01 0.990099	1.0103E+00	

Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIKlC/MDC	StdDvMdc/LcC
	03/05/08		RA-228				8.60000E-01 (0.281086)	2.581056 (0.609771)	2.581056 (0.609771)	1.01 G (0.0101)	92%	0.88836			
	03/05/08		RA-228				7.40000E-01 (0.296224)	2.464702 (0.645284)	2.464702 (0.645284)	1.01 G (0.0101)	92%	0.985877			
	03/05/08		RA-228				1.20000E+00 (0.396679)	4.435411 (0.8508)	4.435411 (0.8508)	1.01 G (0.0101)	92%	0.452536			
	03/05/08		RA-228				9.33333E-01 (0.189769)	3.16039 (0.409888)	3.16039 (0.409888)	1.01 G (0.005831)	92%	1.094064			
	03/05/08		RA-228				2.12000E-01 (0.843304)	3.755919 (1.861716)	3.755919 (1.861716)	1.01 G (0.0101)	92%	0.502196			

() - (1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4

RADCALC v4.8.29
 TA Richland

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
4	Calc	TF	SOLID	*STLE	Ra228WoBS	KF6EPIAF	✓	pCi/g	✓	01/25/08 12:50	03/05/08 06:02	02/25/08 14:55	✓	1	g			
1418995	TSB-HJ-09-0			.F8A260145-2				SOLID		31.2	03/04/08 11:35	RATA30227	Alq	95%	✓	1.01 g	✓	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:34	RA-228	87	263	GPC1C	1	N	N	5.2932E-01	1.0000E+00	N	86%	N	1.4986E+00	4.5045E-01	1.0103E+00		
			50	400			Y		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/04/08 16:30	RA-228	81	263	GPC1C	1	N	N	5.2932E-01	1.0000E+00	N	86%	N	1.6631E+00	4.5045E-01	1.0103E+00		
			50	400			Y		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/04/08 17:25	RA-228	73	263	GPC1C	1	N	N	5.2932E-01	1.0000E+00	N	86%	N	1.8456E+00	4.5045E-01	1.0103E+00		
			50	400			Y		(1.089E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/05/08 06:02	RA-228	31	72	GPC4D	1	N	N	4.6642E-01	1.0000E+00	N	86%	N	7.6882E+00	4.5045E-01	1.0103E+00		
			50	250			N		(2.247E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EntFct	LCSYld,EFctU	IDC/ILcC	BIKcC/MDC	StdDvMdc/LcC				
03/05/08	RA-228	R	1.610675			1.08250E+00	3.574596	3.574596	1.01 G	86%	0.874052							
			(0.324238)			(1.9090E-01)	(0.69612)	(0.69612)	(0.0101)		0.396939							
03/05/08	RA-228	R	1.589331			9.62500E-01	3.527227	3.527227	1.01 G	86%	0.969998							
			(0.341509)			(1.8451E-01)	(0.736268)	(0.736268)	(0.0101)		0.440512							
03/05/08	RA-228	R	1.470546			8.02500E-01	3.263605	3.263605	1.01 G	86%	1.076443							
			(0.352063)			(1.7562E-01)	(0.763412)	(0.763412)	(0.0101)		0.488852							
03/05/08	RA-228	A	1.556851			9.49167E-01	3.455143	3.455143	1.01 G	86%	0.562049							
			(0.19599)			(1.0611E-01)	(0.422883)	(0.422883)	(0.005831)		0.255247							
03/05/08	RA-228	R	2.876064			3.32000E-01	6.382893	6.382893	1.01 G	86%	3.526732							
			(1.053876)			(1.1641E-01)	(2.316128)	(2.316128)	(0.0101)		1.529511							

Alpha Beta, Ra-228 by GPC , Calculated Results

3/5/2008 7:28:16 AM

Batch Nbr: 8042382

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcTU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	1.466012 (0.307083)	9.92500E-01 (1.8308E-01)	Q	3.285763 (0.66756)	3.285763 (0.66756)	1.02 G (0.0102)	84%	0.837149	0.37877			
03/05/08	RA-228	R	1.954785 (0.372094)	1.19250E+00 (1.9370E-01)	Q	4.381246 (0.803492)	4.381246 (0.803492)	1.02 G (0.0102)	84%	0.929044	0.420349			
03/05/08	RA-228	R	1.623561 (0.360922)	8.92500E-01 (1.7754E-01)	Q	3.638878 (0.787365)	3.638878 (0.787365)	1.02 G (0.0102)	84%	1.030995	0.466476			
03/05/08	RA-228	A	1.681453 (0.200837)	1.02583E+00 (1.0675E-01)	Q	3.768629 (0.43604)	3.768629 (0.43604)	1.02 G (0.005889)	84%	0.538319	0.243564			
03/05/08	RA-228	R	4.830362 (1.400863)	5.73815E-01 (1.5682E-01)	Q	10.826259 (3.090834)	10.826259 (3.090834)	1.02 G (0.0102)	84%	4.547403	2.04679			

Sq Status Method Matrix Protocol Equation Set Wkr 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	SOLID	*STLE	Ra228WoBS	KF6ER1AF	pCi/g	SOLID	01/25/08 07:25	03/05/08 06:55	02/25/08 14:55	03/04/08 11:35	RATA30229	Alq	94%	1.00 g
1418995,TSB-HJ-03-07					F8A260145-4				31.8							

Sq	Cnt Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/AV	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Bik Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:35	RA-228	74	99	GPCSA	1	N	N	4.6673E-01	1.0000E+00	N	87%	N	1.4998E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(4.765E-03)	(0.000E+00)		7%		(0.000E+00)	1.00			
1	03/04/08 16:30	RA-228	53	99	GPCSA	1	N	N	4.6673E-01	1.0000E+00	N	87%	N	1.6644E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(4.765E-03)	(0.000E+00)		7%		(0.000E+00)	1.00			
2	03/04/08 17:25	RA-228	38	99	GPCSA	1	N	N	4.6673E-01	1.0000E+00	N	87%	N	1.8471E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(4.765E-03)	(0.000E+00)		7%		(0.000E+00)	1.00			
3	03/05/08 06:55	RA-228	39	143	GPC1C	1	N	N	5.2709E-01	1.0000E+00	N	87%	N	8.5003E+00	4.5045E-01	1.0104E+00		
			50	249			N		(1.085E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcTU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	2.077511 (0.353771)	1.23250E+00 (1.7384E-01)	Q	4.564662 (0.741633)	4.564662 (0.741633)	1.00 G (0.01)	87%	0.642817	0.275893			
03/05/08	RA-228	R	1.519847 (0.312051)	8.12500E-01 (1.4771E-01)	Q	3.339374 (0.66415)	3.339374 (0.66415)	1.00 G (0.01)	87%	0.713358	0.306168			
03/05/08	RA-228	R	1.063908 (0.280134)	5.12500E-01 (1.2577E-01)	Q	2.337594 (0.603852)	2.337594 (0.603852)	1.00 G (0.01)	87%	0.791665	0.339777			
03/05/08	RA-228	A	1.553755 (0.18288)	8.52500E-01 (8.6831E-02)	Q	3.413877 (0.388123)	3.413877 (0.388123)	1.00 G (0.005774)	87%	0.413352	0.177408			
03/05/08	RA-228	R	1.740111 (1.14452)	2.05703E-01 (1.3381E-01)	U4	3.823333 (2.507146)	3.823333 (2.507146)	1.00 G (0.01)	87%	4.674228	2.109118			

0 - (1s Uncertainties), 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time
 RecCnt:7
 RADCALC v4.8.29
 TA Richland

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk	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	SOLID	*STLE	Ra228WoBS	KF6ETIAF	✓		pCi/g		01/25/08	07:25	03/05/08	06:55	29.4	02/25/08	14:55	✓	1	g	1.00	g	✓											
1418995	TSB-HJ-03-0'	FD		F8A260145-5	SOLID											03/04/08	11:35	RATA30230	Alq	95%	1.00	g	✓											
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/Vol/Adj	Decay	Abn								
0	59	03/04/08	RA-228	154	400	GPC3B	1	N	N	4.8476E-01	1.0000E+00	N	81%	N	1.4998E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00	1.6644E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00	1.8471E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00	8.5003E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00
1	60	03/04/08	RA-228	154	400	GPC3B	1	N	N	4.8476E-01	1.0000E+00	N	81%	N	1.6644E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00	1.8471E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00	8.5003E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00					
2	60	03/04/08	RA-228	154	400	GPC3B	1	N	N	4.8476E-01	1.0000E+00	N	81%	N	1.8471E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00	8.5003E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00	8.5003E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00					
3	37	03/05/08	RA-228	152	249	GPC1D	1	N	N	5.4218E-01	1.0000E+00	N	81%	N	1.4998E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00	1.6644E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00	1.8471E+00	4.5045E-01	1.0104E+00	(0.000E+00)	1.00					
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act	Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm	Blk	Vol	Used	Trc	Yld	EnFct	LCS	Yld	EnFctU	IDC	/ILcC	BIK	LcC/MDC	Std	DvMdc/LcC			
03/05/08	RA-228	R	1.382	7.95000E-01	3.036501	3.036501	1.00 G	81%	0.803535	0.354868	0.891712	0.39381	0.989597	0.43704	0.516698	0.228192	5.003369	2.26431																
03/05/08	RA-228	R	1.572239	8.15000E-01	3.454489	3.454489	1.00 G	81%	0.891712	0.39381	0.989597	0.43704	0.516698	0.228192	5.003369	2.26431																		
03/05/08	RA-228	R	1.744826	8.15000E-01	3.833694	3.833694	1.00 G	81%	0.891712	0.39381	0.989597	0.43704	0.516698	0.228192	5.003369	2.26431																		
03/05/08	RA-228	A	1.566355	8.08333E-01	3.441561	3.441561	1.00 G	81%	0.891712	0.39381	0.989597	0.43704	0.516698	0.228192	5.003369	2.26431																		
03/05/08	RA-228	R	1.141255	1.29558E-01	2.507541	2.507541	1.00 G	81%	0.891712	0.39381	0.989597	0.43704	0.516698	0.228192	5.003369	2.26431																		
03/05/08	RA-228	R	1.162528	1.3135E-01	2.551078	2.551078	1.00 G	81%	0.891712	0.39381	0.989597	0.43704	0.516698	0.228192	5.003369	2.26431																		

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcIU	IDC/ILcC	BIK/LcC/MDC	StdvMdc/LcC
03/05/08	RA-228	R	1.453184	8.82500E-01	3.192918	3.192918	3.192918	(0.611884)	1.00 G	86%	0.638743	0.27491		
			(0.288174)	(1.5311E-01)	(0.611884)	(0.611884)	(0.611884)		(0.01)					
03/05/08	RA-228	R	1.466462	8.02500E-01	3.222093	3.222093	3.222093	(0.648765)	1.00 G	86%	0.708836	0.305078		
			(0.304592)	(1.4780E-01)	(0.648765)	(0.648765)			(0.01)					
03/05/08	RA-228	R	1.667997	8.22500E-01	3.664904	3.664904	3.664904	(0.728415)	1.00 G	86%	0.786646	0.338566		
			(0.342258)	(1.4914E-01)	(0.728415)	(0.728415)			(0.01)					
03/05/08	RA-228	A	1.529214	8.35833E-01	3.359972	3.359972	3.359972	(0.383824)	1.00 G	86%	0.410732	0.176776		
			(0.18042)	(8.6623E-02)	(0.383824)	(0.383824)			(0.005774)					
03/05/08	RA-228	R	0.920046	9.50000E-02	2.021514	2.021514	2.021514	(1.893863)	1.00 G	86%	3.803422	1.64023		
			(0.863224)	(8.8671E-02)	(1.893863)	(1.893863)			(0.01)					

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	TF	SOLID	*STLE Ra228WoBS	KF6EW1AF	PCi/g	SOLID	F8A260145-7	01/25/08 08:05	03/05/08 06:56	02/25/08 14:55	03/04/08 11:35	RATA30232	Alq	100%	g
0	03/04/08 15:35	RA-228	50	103	GPC3D	1	N	N	4.8299E-01	1.0000E+00	N	90%	N	1.4998E+00	4.5045E-01	1.0104E+00
			50	400			Y	Y	(8.182E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099	
1	03/04/08 16:30	RA-228	46	103	GPC3D	1	N	N	4.8299E-01	1.0000E+00	N	90%	N	1.6644E+00	4.5045E-01	1.0104E+00
			50	400			Y	Y	(8.182E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099	
2	03/04/08 17:25	RA-228	35	103	GPC3D	1	N	N	4.8299E-01	1.0000E+00	N	90%	N	1.8471E+00	4.5045E-01	1.0104E+00
			50	400			Y	Y	(8.182E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099	
3	03/05/08 06:56	RA-228	20	160	GPC3B	1	N	N	4.8561E-01	1.0000E+00	N	90%	N	8.5062E+00	4.5045E-01	1.0104E+00
			50	400			N	N	(1.039E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099	

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFcIU	IDC/ILcC	BIK/LcC/MDC	StdvMdc/LcC
03/05/08	RA-228	R	1.156658	7.42500E-01	2.566822	2.566822	2.566822	(0.539229)	1.01 G	90%	0.604267	0.260072		
			(0.250042)	(1.4368E-01)	(0.539229)	(0.539229)			(0.0101)					
03/05/08	RA-228	R	1.145288	6.62500E-01	2.541588	2.541588	2.541588	(0.568748)	1.01 G	90%	0.670577	0.288611		
			(0.262858)	(1.3800E-01)	(0.568748)	(0.568748)			(0.0101)					
03/05/08	RA-228	R	0.848937	4.42500E-01	1.883936	1.883936	1.883936	(0.537744)	1.01 G	90%	0.744188	0.320293		
			(0.246154)	(1.2101E-01)	(0.537744)	(0.537744)			(0.0101)					
03/05/08	RA-228	A	1.050294	6.15833E-01	2.330782	2.330782	2.330782	(0.316826)	1.01 G	90%	0.388563	0.167234		
			(0.146138)	(7.7697E-02)	(0.316826)	(0.316826)			(0.005831)					
03/05/08	RA-228	R	0.00E00	0.00000E+00	0.00E00	0.00E00	0.00E00	(1.849965)	1.01 G	90%	4.130951	1.828427		
			(0.833629)	(9.4868E-02)	(1.849965)	(1.849965)			(0.0101)					

0 - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - Method Decision Level in Conc Units, MDC - Minimum Detectable Concentration
 Si-89 Counts are Derived from the Combination of Each Si-89/90 and Y-90 Count, All Result Digits May Not be Significant, Date/Time - mm/dd/yy hh.mm, 24hr Time

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk 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	SOLID	*STLE	Ra228WoBS	KF6E01AF	✓	pCi/g	01/25/08 08:20	03/05/08 06:56	02/25/08 14:55	✓	1	99%	1.01 g	✓		
1418995	TSB-HR-03-10'					F8A260145-8	SOLID		31.3	30.7	03/04/08 11:35	RATA30233	Alq	99%	1.01 g	✓		
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:35	RA-228	59	102	GPC4A	1	N	N	4.9025E-01	1.0000E+00	N	90%	N	1.5008E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(2.446E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/04/08 16:30	RA-228	40	102	GPC4A	1	N	N	4.9025E-01	1.0000E+00	N	90%	N	1.6655E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(2.446E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/04/08 17:26	RA-228	47	102	GPC4A	1	N	N	4.9025E-01	1.0000E+00	N	90%	N	1.8483E+00	4.5045E-01	1.0104E+00		
			50	400			Y		(2.446E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/05/08 06:56	RA-228	24	109	GPC3C	1	N	N	4.8385E-01	1.0000E+00	N	90%	N	8.5062E+00	4.5045E-01	1.0104E+00		
			50	400			N		(7.224E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			
Sq	CalcDate	TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld, Ent Fct	LCS Yld, Ent Fct	IDC/LcC	BIK/LcC	BIK/LcC/MDC	StdDvMdc/LcC		
03/05/08	RA-228	R	1.410694	9.25000E-01	3.130582	3.130582	1.01 G	90%	(0.603945)	(0.0101)	0.589101	0.253371						
03/05/08	RA-228	R	0.922375	5.45000E-01	2.046915	2.046915	1.01 G	90%	(0.521477)	(0.0101)	0.653747	0.281175						
03/05/08	RA-228	R	1.286576	6.85000E-01	2.85514	2.85514	1.01 G	90%	(0.640435)	(0.0101)	0.725509	0.31204						
03/05/08	RA-228	A	1.206549	7.18333E-01	2.677546	2.677546	1.01 G	90%	(0.341051)	(0.005831)	0.37881	0.162926						
03/05/08	RA-228	R	1.81731	2.07500E-01	4.032934	4.032934	1.01 G	90%	(1.997868)	(0.0101)	3.481197	1.504146						
03/05/08	RA-228	R	0.90503	1.0140E-01	1.997868	1.997868												

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	1.324523 (0.288389)	8.25000E-01 (1.5648E-01)	Q	2.939365 (0.622191)	2.939365 (0.622191)	1.01 G (0.0101)	89%	0.716071	0.314714			
03/05/08	RA-228	R	1.754938 (0.350837)	9.85000E-01 (1.6640E-01)	Q	3.894536 (0.752822)	3.894536 (0.752822)	1.01 G (0.0101)	89%	0.79465	0.349249			
03/05/08	RA-228	R	1.552132 (0.34661)	7.85000E-01 (1.5391E-01)	Q	3.444473 (0.748872)	3.444473 (0.748872)	1.01 G (0.0101)	89%	0.88188	0.387587			
03/05/08	RA-228	A	1.543864 (0.190436)	8.65000E-01 (9.1810E-02)	Q	3.426125 (0.41024)	3.426125 (0.41024)	1.01 G (0.005831)	89%	0.460456	0.202371			
03/05/08	RA-228	R	2.423339 (0.998567)	2.72500E-01 (1.0917E-01)	Q	5.377846 (2.198976)	5.377846 (2.198976)	1.01 G (0.0101)	89%	3.617701	1.568782			

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Multi/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc TF	SOLID	*STILE Ra228WoBS KFB21AJ	1418995,TSB-HJ-02-10'	FBA260145-10	SOLID	01/25/08 08:55	03/05/08 06:56	02/25/08 14:55	03/04/08 11:35	RATA30235 Alq	97%	1.01 g		
0	03/04/08 15:35	RA-228	55	115	GPC4C 1	N	N	4.7084E-01	1.0000E+00	N	86%	N	1.5008E+00	4.5045E-01	1.0104E+00
1	03/04/08 16:30	RA-228	52	400	GPC4C 1	Y	Y	(2.021E-02)	(0.000E+00)	N	7%	N	(0.000E+00)	0.990099	
2	03/04/08 17:26	RA-228	53	400	GPC4C 1	N	N	4.7084E-01	1.0000E+00	N	86%	N	1.6655E+00	4.5045E-01	1.0104E+00
3	03/05/08 06:56	RA-228	23	60	GPC4A 1	N	N	4.8719E-01	1.0000E+00	N	86%	N	8.5078E+00	4.5045E-01	1.0104E+00

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	1.364359 (0.29025)	8.12500E-01 (1.5073E-01)	Q	3.027779 (0.625346)	3.027779 (0.625346)	1.01 G (0.0101)	86%	0.683109	0.296224			
03/05/08	RA-228	R	1.40227 (0.309914)	7.52500E-01 (1.4669E-01)	Q	3.111912 (0.669204)	3.111912 (0.669204)	1.01 G (0.0101)	86%	0.758071	0.328731			
03/05/08	RA-228	R	1.59756 (0.348447)	7.72500E-01 (1.4805E-01)	Q	3.545299 (0.751844)	3.545299 (0.751844)	1.01 G (0.0101)	86%	0.841286	0.364816			
03/05/08	RA-228	A	1.45473 (0.183093)	7.79167E-01 (8.5736E-02)	Q	3.22833 (0.394991)	3.22833 (0.394991)	1.01 G (0.005831)	86%	0.439261	0.190481			
03/05/08	RA-228	R	2.023952 (0.952349)	2.20000E-01 (1.0080E-01)	Q	4.491545 (2.101003)	4.491545 (2.101003)	1.01 G (0.0101)	86%	3.462443	1.482788			

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	Method	Matrix	Protocol	Equation Set	Wk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol			
13	Calc	TF SOLID	*STLE	Ra228WoBS	KF6E21AL	✓	R	01/25/08 08:55	03/05/08 05:57	02/25/08 14:55	✓	1	g					
1418995	TSB-HJ-02-10	DUP							31.4	03/04/08 11:35	RATA30236	Alq	100%	1.03 g				
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	03/04/08 15:35	RA-228	71	238	GPC5C	1.5	N	N	5.9901E-01	1.0000E+00	N	91%	N	1.5017E+00	1.5017E+00	4.5045E-01	1.0104E+00	
			50	400			Y		(1.374E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	0.970874		
1	03/04/08 16:31	RA-228	49	238	GPC5C	1.5	N	N	5.9901E-01	1.0000E+00	N	91%	N	1.6666E+00	1.6666E+00	4.5045E-01	1.0104E+00	
			50	400			Y		(1.374E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	0.970874		
2	03/04/08 17:26	RA-228	65	238	GPC5C	1.5	N	N	5.9901E-01	1.0000E+00	N	91%	N	1.8495E+00	1.8495E+00	4.5045E-01	1.0104E+00	
			50	400			Y		(1.374E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	0.970874		
3	03/05/08 05:57	RA-228	39	173	GPC5A	1.5	N	N	5.9331E-01	1.0000E+00	N	91%	N	7.6180E+00	7.6180E+00	4.5045E-01	1.0104E+00	
			50	225			N		(1.557E-02)	(0.000E+00)		7%		(0.000E+00)	(0.000E+00)	0.970874		
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rtt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EntFct	LCSYld,EFcU	IDC/LcC	BIKlC/MDC	StdDvMdc/LcC				
03/05/08	RA-228	R	1.001202	8.25000E-01	2.26586	2.26586	1.03 G	91%	0.68137									
			(0.231444)	(1.7288E-01)	(0.510888)	(0.510888)	(0.0103)		0.30798									
03/05/08	RA-228	R	0.518516	3.85000E-01	1.173474	1.173474	1.03 G	91%	0.756165									
			(0.202017)	(1.4522E-01)	(0.45326)	(0.45326)	(0.0103)		0.341787									
03/05/08	RA-228	R	1.053717	7.05000E-01	2.38471	2.38471	1.03 G	91%	0.83917									
			(0.268294)	(1.6579E-01)	(0.594888)	(0.594888)	(0.0103)		0.379306									
03/05/08	RA-228	A	0.857812	6.38333E-01	1.941348	1.941348	1.03 G	91%	0.438152									
			(0.135957)	(9.3371E-02)	(0.301909)	(0.301909)	(0.005947)		0.198045									
03/05/08	RA-228	R	0.069062	U4	1.11111E-02	0.156296	1.03 G	91%	3.920974									
			(0.85717)	(1.3790E-01)	(1.93988)	(1.93988)	(0.0103)		1.79311									

Alpha Beta, Ra-228 by GPC, Calculated Results

Batch Nbr: 8042382

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdC/LcC
03/05/08	RA-228	R	1.666769 (0.307987)	1.27500E+00 (2.0003E-01)	Q	3.662263 (0.650441)	3.662263 (0.650441)	3.662263 (0.650441)	1.00 G (0.01)	90%	0.761273	0.345415		
03/05/08	RA-228	R	1.965794 (0.352721)	1.35500E+00 (2.0399E-01)	Q	4.319289 (0.743054)	4.319289 (0.743054)	4.319289 (0.743054)	1.00 G (0.01)	90%	0.84484	0.383332		
03/05/08	RA-228	R	1.505373 (0.328161)	9.35000E-01 (1.8224E-01)	Q	3.30764 (0.701042)	3.30764 (0.701042)	3.30764 (0.701042)	1.00 G (0.01)	90%	0.937579	0.42541		
03/05/08	RA-228	A	1.712645 (0.190601)	1.18833E+00 (1.1296E-01)	Q	3.763064 (0.403686)	3.763064 (0.403686)	3.763064 (0.403686)	1.00 G (0.005774)	90%	0.489534	0.222118		
03/05/08	RA-228	R	2.759667 (1.037214)	4.31111E-01 (1.5647E-01)	Q	6.063604 (2.25792)	6.063604 (2.25792)	6.063604 (2.25792)	1.00 G (0.01)	90%	3.737893	1.696479		

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BBS Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc	TF	SOLID	*STLE Ra228WoBS	KF6E51AF	pCi/g	SOLID	F8A260145-11	01/25/08 09:45	03/05/08 05:57	02/25/08 14:55	03/04/08 11:35	RATA30238	Alq	100%	1.00 g
0	03/04/08 15:36	RA-228	136	289	GPC6A	1.5	N	N	5.7001E-01	1.0000E+00	N	88%	N	1.5030E+00	4.5045E-01	1.0104E+00
1	03/04/08 16:31	RA-228	93	400	GPC6A	1.5	N	Y	(1.252E-02)	(0.000E+00)	N	7%	N	(0.000E+00)	1.00	1.0104E+00
2	03/04/08 17:26	RA-228	104	400	GPC6A	1.5	N	Y	(1.252E-02)	(0.000E+00)	N	7%	N	(0.000E+00)	1.00	1.0104E+00
3	03/05/08 05:57	RA-228	34	164	GPC5D	1.5	N	N	5.7822E-01	1.0000E+00	N	88%	N	7.6180E+00	4.5045E-01	1.0104E+00

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdC/LcC
03/05/08	RA-228	R	2.721489 (0.417808)	1.99750E+00 (2.3708E-01)	Q	5.979788 (0.865914)	5.979788 (0.865914)	5.979788 (0.865914)	1.00 G (0.01)	88%	0.835409	0.381009		
03/05/08	RA-228	R	1.719907 (0.34238)	1.13750E+00 (1.9750E-01)	Q	3.779062 (0.727196)	3.779062 (0.727196)	3.779062 (0.727196)	1.00 G (0.01)	88%	0.927113	0.422832		
03/05/08	RA-228	R	2.277788 (0.414011)	1.35750E+00 (2.0834E-01)	Q	5.004866 (0.873154)	5.004866 (0.873154)	5.004866 (0.873154)	1.00 G (0.01)	88%	1.028852	0.469233		
03/05/08	RA-228	A	2.239728 (0.226861)	1.49750E+00 (1.2411E-01)	Q	4.921239 (0.476214)	4.921239 (0.476214)	4.921239 (0.476214)	1.00 G (0.005774)	88%	0.5372	0.245003		
03/05/08	RA-228	R	-0.332811 (0.883986)	-4.88889E-02 (1.2977E-01)	U4	-0.731268 (1.941979)	-0.731268 (1.941979)	-0.731268 (1.941979)	1.00 G (0.01)	88%	4.190923	1.912114		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16

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RADCALC v4.8.29
TA Richland

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/IBB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
16	Calc	TF	SOLID	*STLE	Ra228WoBS	KGXJEIAA	B	01/24/08 08:40	03/05/08 05:57	02/25/08 14:55	31.2	03/04/08 11:35	RATA30239	Alq	97%	1.03 g		
0	INTRA-LAB	BLANK					JBB110000-382	SOLID										
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:36	RA-228	38	287	GPC6C	1.5	N	N	5.7722E-01	1.0000E+00	N	88%	N	1.5030E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.579E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
1	03/04/08 16:31	RA-228	30	287	GPC6C	1.5	N	N	5.7722E-01	1.0000E+00	N	88%	N	1.6680E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.579E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
2	03/04/08 17:26	RA-228	26	287	GPC6C	1.5	N	N	5.7722E-01	1.0000E+00	N	88%	N	1.8511E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.579E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
3	03/05/08 05:57	RA-228	41	314	GPC6A	1.5	N	N	5.7070E-01	1.0000E+00	N	88%	N	7.6199E+00	4.5045E-01	1.0107E+00		
			50	400			N		(1.253E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total	U	Q	Net Cnt	Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Trc Yld,EntFct	LCSYld,EFctU	IDC/ILcC	BIKLC/MDC	StdDvMdc/LcC		
	03/05/08	RA-228	R	0.05575	U4	4.25000E-02	0.126129	0.126129	0.126129	1.03 G	1.03 G	88%	0.801795					
				(0.171091)		(1.3036E-01)	(0.387021)	(0.387021)	(0.387021)	(0.0103)			0.365566					
	03/05/08	RA-228	R	-0.171053	U4	-1.17500E-01	-0.386987	-0.386987	-0.386987	1.03 G	1.03 G	88%	0.88981					
				(0.171807)		(1.1745E-01)	(0.388193)	(0.388193)	(0.388193)	(0.0103)			0.405694					
	03/05/08	RA-228	R	-0.319065	U4	-1.97500E-01	-0.721848	-0.721848	-0.721848	1.03 G	1.03 G	88%	0.987454					
				(0.181154)		(1.1043E-01)	(0.408185)	(0.408185)	(0.408185)	(0.0103)			0.450214					
	03/05/08	RA-228	A	-0.144789	U4	-9.08335E-02	-0.327569	-0.327569	-0.327569	1.03 G	1.03 G	88%	0.515585					
				(0.100889)		(6.9106E-02)	(0.227814)	(0.227814)	(0.227814)	(0.005947)			0.235073					
	03/05/08	RA-228	R	0.235418	U4	3.50000E-02	0.532607	0.532607	0.532607	1.03 G	1.03 G	88%	4.283561					
				(0.91175)		(1.3551E-01)	(2.06255)	(2.06255)	(2.06255)	(0.0103)			1.960664					
Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/IBB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial <th>Multi/EntYld</th> <th>Total/Analy Vol</th> <th>Final/Count Vol</th>	Multi/EntYld	Total/Analy Vol	Final/Count Vol	
17	Calc	TF	SOLID	*STLE	Ra228WoBS	KGXJEIAC	S	01/24/08 08:40	03/05/08 05:57	02/25/08 14:55	31.0	03/04/08 11:35	RASC4699	Alq	91%	1.00 g		
0	INTRA-LAB	CHECK					JBB110000-382	SOLID										
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/04/08 15:36	RA-228	223	303	GPC6D	1.5	N	N	5.7529E-01	1.0000E+00	N	82%	N	1.5030E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.350E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
1	03/04/08 16:31	RA-228	198	303	GPC6D	1.5	N	N	5.7529E-01	1.0000E+00	N	82%	N	1.6680E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.350E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
2	03/04/08 17:26	RA-228	172	303	GPC6D	1.5	N	N	5.7529E-01	1.0000E+00	N	82%	N	1.8511E+00	4.5045E-01	1.0107E+00		
			50	400			Y		(1.350E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
3	03/05/08 05:57	RA-228	67	256	GPC6C	1.5	N	N	5.7740E-01	1.0000E+00	N	82%	N	7.6199E+00	4.5045E-01	1.0107E+00		
			50	400			N		(1.579E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFet	LCSYld,EFctU	IDC/ILcC	BIKLCc/MDC	StdDvMdc/LcC
03/05/08	RA-228	R	5.350339	(0.680891)		3.70250E+00 (3.0182E-01)	11.751971 (1.370273)	11.751971 (1.370273)	1.00 G (0.01)	82%	107%	0.905399 0.413784		
03/05/08	RA-228	R	5.135811	(0.678575)		3.20250E+00 (2.8477E-01)	11.280761 (1.375019)	11.280761 (1.375019)	1.00 G (0.01)	82%	102%	1.004786 0.459206		
03/05/08	RA-228	R	4.773969	(0.664503)		2.68250E+00 (2.6588E-01)	10.485978 (1.358113)	10.485978 (1.358113)	1.00 G (0.01)	82%	95%	1.115048 0.509597		
03/05/08	RA-228	A	5.086706	(0.389535)		3.19583E+00 (1.6428E-01)	11.172903 (0.789711)	11.172903 (0.789711)	1.00 G (0.005774)	82%	101%	0.582206 0.266079		
03/05/08	RA-228	R	5.109515	(1.329527)		7.00000E-01 (1.6852E-01)	11.223003 (2.863674)	11.223003 (2.863674)	1.00 G (0.01)	82%	102%	4.235697 1.921178		

UST Number: KF5GG1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]KF5GG1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD7.BKGRND]CURRENT.C_1;3555

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00086	0050	01171	1700	4-MAR-2008 15:34:17.13
2	00000	00088	0050	01163	1700	4-MAR-2008 16:29:33.12
3	00000	00084	0050	01175	1700	4-MAR-2008 17:24:48.98

Bkg File: [quad7.bkgrnd]2008-03-04_0024.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00359	0400	0.90	09279	1700	4-MAR-2008 00:24:07.14 ✓

UST Number: KF5GG1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF5GG1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00023	0050	01192	1850	5-MAR-2008 06:02:30.87

Bkg File: [quad4.bkgrnd]2008-03-05_0124.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00060	0250	0.24	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF5GL1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF5GL1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3609

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00097	0050	01188	1650	4-MAR-2008 15:34:51.46
2	00000	00078	0050	01178	1650	4-MAR-2008 16:30:07.39
3	00000	00071	0050	01167	1650	4-MAR-2008 17:25:22.98

Bkg File: [quad1.bkgrnd]2008-03-04_0023.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00305	0400	0.76	09423	1650	4-MAR-2008 00:23:28.63 /

UST Number: KF5GL1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]KF5GL1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.B_1;6076

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00029	0050	01192	1850	5-MAR-2008 06:02:30.87

Bkg File: [quad4.bkgrnd]2008-03-05_0124.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00093	0250	0.37	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF6EM1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-B File: [quad1.sample.B]KF6EM1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.B_1;3608

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00085	0050	01188	1650	4-MAR-2008 15:34:51.46
2	00000	00079	0050	01178	1650	4-MAR-2008 16:30:07.39
3	00000	00102	0050	01167	1650	4-MAR-2008 17:25:22.98

Bkg File: [quad1.bkgrnd]2008-03-04_0023.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00336	0400	0.84	09423	1650	4-MAR-2008 00:23:28.63 ✓

UST Number: KF6EM1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]KF6EM1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;6079

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00024	0050	01192	1850	5-MAR-2008 06:02:30.87

Bkg File: [quad4.bkgrnd]2008-03-05_0124.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00067	0250	0.27	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF6EP1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF6EP1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3605

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00087	0050	01188	1650	4-MAR-2008 15:34:51.46
2	00000	00081	0050	01178	1650	4-MAR-2008 16:30:07.39
3	00000	00073	0050	01167	1650	4-MAR-2008 17:25:22.98

Bkg File: [quad1.bkgrnd]2008-03-04_0023.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00263	0400	0.66	09423	1650	4-MAR-2008 00:23:28.63 /

UST Number: KF6EP1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]KF6EP1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.D_1;6093

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00031	0050	01192	1850	5-MAR-2008 06:02:30.87

Bkg File: [quad4.bkgrnd]2008-03-05_0124.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00072	0250	0.29	06041	1850	5-MAR-2008 01:24:39.63

UST Number: KF6EQ1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF6EQ1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3608

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00080	0050	01188	1650	4-MAR-2008 15:34:51.46
2	00000	00090	0050	01178	1650	4-MAR-2008 16:30:07.39
3	00000	00075	0050	01167	1650	4-MAR-2008 17:25:22.98

Bkg File: [quad1.bkgrnd]2008-03-04_0023.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00243	0400	0.61	09423	1650	4-MAR-2008 00:23:28.63 ✓

UST Number: KF6EQ1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF6EQ1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3610

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00056	0050	01166	1650	5-MAR-2008 06:55:47.75

Bkg File: [quad1.bkgrnd]2008-03-05_0123.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00136	0249	0.55	05800	1650	5-MAR-2008 01:23:53.39

UST Number: KF6ER1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]KF6ER1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;6063

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00074	0050	01256	1920	4-MAR-2008 15:35:17.14
2	00000	00053	0050	01261	1920	4-MAR-2008 16:30:32.69
3	00000	00038	0050	01245	1920	4-MAR-2008 17:25:48.47

Bkg File: [quad3.bkgrnd]2008-03-04_0244.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00099	0400	0.25	10120	1920	4-MAR-2008 02:44:37.86 ✓

UST Number: KF6ER1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF6ER1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3606

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01166	1650	5-MAR-2008 06:55:47.75

Bkg File: [quad1.bkgrnd]2008-03-05_0123.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00143	0249	0.57	05800	1650	5-MAR-2008 01:23:53.39

UST Number: KF6ET1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]KF6ET1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.B_1;6071

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00059	0050	01256	1920	4-MAR-2008 15:35:17.14
2	00000	00060	0050	01261	1920	4-MAR-2008 16:30:32.69
3	00000	00060	0050	01245	1920	4-MAR-2008 17:25:48.47

Bkg File: [quad3.bkgrnd]2008-03-04_0244.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00154	0400	0.39	10120	1920	4-MAR-2008 02:44:37.86 ✓

UST Number: KF6ET1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF6ET1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3609

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00037	0050	01166	1650	5-MAR-2008 06:55:47.75

Bkg File: [quad1.bkgrnd]2008-03-05_0123.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00152	0249	0.61	05800	1650	5-MAR-2008 01:23:53.39

UST Number: KF6EV1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF6EV1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6076

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00057	0050	01256	1920	4-MAR-2008 15:35:17.14
2	00000	00053	0050	01261	1920	4-MAR-2008 16:30:32.69
3	00000	00054	0050	01245	1920	4-MAR-2008 17:25:48.47

Bkg File: [quad3.bkgrnd]2008-03-04_0244.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00103	0400	0.26	10120	1920	4-MAR-2008 02:44:37.86 ✓

UST Number: KF6EV1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]KF6EV1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;6064

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01249	1920	5-MAR-2008 06:56:09.48

Bkg File: [quad3.bkgrnd]2008-03-05_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0400	0.27	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF6EW1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]KF6EW1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;6061

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00050	0050	01256	1920	4-MAR-2008 15:35:17.14
2	00000	00046	0050	01261	1920	4-MAR-2008 16:30:32.69
3	00000	00035	0050	01245	1920	4-MAR-2008 17:25:48.47

Bkg File: [quad3.bkgrnd]2008-03-04_0244.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00103	0400	0.26	10120	1920	4-MAR-2008 02:44:37.86 ✓

UST Number: KF6EW1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]KF6EW1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.B_1;6072

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01249	1920	5-MAR-2008 06:56:09.48

Bkg File: [quad3.bkgrnd]2008-03-05_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00160	0400	0.40	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF6E01AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF6E01AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6076

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00059	0050	01231	1850	4-MAR-2008 15:35:37.26
2	00000	00040	0050	01230	1850	4-MAR-2008 16:30:52.89
3	00000	00047	0050	01210	1850	4-MAR-2008 17:26:08.63

Bkg File: [quad4.bkgrnd]2008-03-04_0244.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00102	0400	0.26	09801	1850	4-MAR-2008 02:44:33.65 ✓

UST Number: KF6E01AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF6E01AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00024	0050	01249	1920	5-MAR-2008 06:56:09.48

Bkg File: [quad3.bkgrnd]2008-03-05_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00109	0400	0.27	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF6E11AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]KF6E11AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.B_1;6075

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00059	0050	01231	1850	4-MAR-2008 15:35:37.26
2	00000	00067	0050	01230	1850	4-MAR-2008 16:30:52.89
3	00000	00057	0050	01210	1850	4-MAR-2008 17:26:08.63

Bkg File: [quad4.bkgrnd]2008-03-04_0244.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00142	0400	0.36	09801	1850	4-MAR-2008 02:44:33.65 ✓

UST Number: KF6E11AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]KF6E11AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;6062

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01249	1920	5-MAR-2008 06:56:09.48

Bkg File: [quad3.bkgrnd]2008-03-05_0355.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00115	0400	0.29	09907	1920	5-MAR-2008 03:55:09.87

UST Number: KF6E21AJ Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]KF6E21AJ.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;6078

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00055	0050	01231	1850	4-MAR-2008 15:35:37.26
2	00000	00052	0050	01230	1850	4-MAR-2008 16:30:52.89
3	00000	00053	0050	01210	1850	4-MAR-2008 17:26:08.63

Bkg File: [quad4.bkgrnd]2008-03-04_0244.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00115	0400	0.29	09801	1850	4-MAR-2008 02:44:33.65 ✓

UST Number: KF6E21AJ Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]KF6E21AJ.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;6077

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00023	0050	01221	1850	5-MAR-2008 06:56:15.13

Bkg File: [quad4.bkgrnd]2008-03-05_0124.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00060	0250	0.24	06041	1850	5-MAR-2008 01:24:39.63

US7 Number: KF6E21AL Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-C File: [quad5.sample.C]KF6E21AL.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.C_15;6134

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00071	0050	01311	1800	4-MAR-2008 15:35:57.83
2	00000	00049	0050	01297	1800	4-MAR-2008 16:31:13.55
3	00000	00065	0050	01280	1800	4-MAR-2008 17:26:29.25

Bkg File: [quad5.bkgrnd]2008-03-04_0244.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00238	0400	0.60	10396	1800	4-MAR-2008 02:44:32.13 ✓

UST Number: KF6E21AL Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-A File: [quad5.sample.A]KF6E21AL.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.A_15;6122

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01258	1800	5-MAR-2008 05:57:38.75

Bkg File: [quad5.bkgrnd]2008-03-05_0059.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00173	0225	0.77	05733	1800	5-MAR-2008 00:59:17.96

UST Number: KF6E21AN Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 5-D File: [quad5.sample.D]KF6E21AN.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.D_15;6187

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00096	0050	01311	1800	4-MAR-2008 15:35:57.83
2	00000	00100	0050	01297	1800	4-MAR-2008 16:31:13.55
3	00000	00079	0050	01280	1800	4-MAR-2008 17:26:29.25

Bkg File: [quad5.bkgrnd]2008-03-04_0244.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00258	0400	0.65	10396	1800	4-MAR-2008 02:44:32.13 ✓

UST Number: KF6E21AN Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-C File: [quad5.sample.C]KF6E21AN.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.C_15;6135

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00054	0050	01258	1800	5-MAR-2008 05:57:38.75

Bkg File: [quad5.bkgrnd]2008-03-05_0059.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00146	0225	0.65	05733	1800	5-MAR-2008 00:59:17.96

UST Number: KF6E51AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 6-A File: [quad6.sample.A]KF6E51AF.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.A_15;6138

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00136	0050	01311	1800	4-MAR-2008 15:36:25.39
2	00000	00093	0050	01289	1800	4-MAR-2008 16:31:41.24
3	00000	00104	0050	01290	1800	4-MAR-2008 17:26:56.96

Bkg File: [quad6.bkgrnd]2008-03-04_0024.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00289	0400	0.72	10497	1800	4-MAR-2008 00:24:01.29 ✓

UST Number: KF6E51AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 5-D File: [quad5.sample.D]KF6E51AF.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD5.BKGRND]CURRENT.D_15;6188

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00034	0050	01258	1800	5-MAR-2008 05:57:38.75

Bkg File: [quad5.bkgrnd]2008-03-05_0059.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00164	0225	0.73	05733	1800	5-MAR-2008 00:59:17.96

UST Number: KGXJE1AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 6-C File: [quad6.sample.C]KGXJE1AA.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.C_15;6141

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00038	0050	01311	1800	4-MAR-2008 15:36:25.39
2	00000	00030	0050	01289	1800	4-MAR-2008 16:31:41.24
3	00000	00026	0050	01290	1800	4-MAR-2008 17:26:56.96

Bkg File: [quad6.bkgrnd]2008-03-04_0024.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00287	0400	0.72	10497	1800	4-MAR-2008 00:24:01.29 ✓

UST Number: KGXJE1AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-A File: [quad6.sample.A]KGXJE1AA.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.A_15;6139

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00041	0050	01284	1800	5-MAR-2008 05:57:46.57

Bkg File: [quad6.bkgrnd]2008-03-05_0356.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00314	0400	0.79	10328	1800	5-MAR-2008 03:56:08.51

JST Number: KGXJE1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 6-D File: [quad6.sample.D] KGXJE1AC.180
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND] CURRENT.D_15;6140

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00223	0050	01311	1800	4-MAR-2008 15:36:25.39
2	00000	00198	0050	01289	1800	4-MAR-2008 16:31:41.24
3	00000	00172	0050	01290	1800	4-MAR-2008 17:26:56.96

Bkg File: [quad6.bkgrnd]2008-03-04_0024.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00303	0400	0.76	10497	1800	4-MAR-2008 00:24:01.29 /

UST Number: KGXJE1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 6-C File: [quad6.sample.C]KGXJE1AC.430
Dish Size: 15 Bkg File: \$DISK1:[QUAD6.BKGRND]CURRENT.C_15;6142

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00067	0050	01284	1800	5-MAR-2008 05:57:46.57

Bkg File: [quad6.bkgrnd]2008-03-05_0356.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00256	0400	0.64	10328	1800	5-MAR-2008 03:56:08.51

Lot No., Due Date: F8A260145; 02/25/2008
Client, Site: 1418995; LANDWELL - Tronox Parcel H
QC Batch No., Method Test: 8042389; RRA228 Ra-228 by GPC
SDG, Matrix: ; ;

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:
 NCM 10-11978

First Level Review

Thomas DMEH

Date 3/13/08

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 804 2389

Review Item	Yes (✓)	No (✓)	NA (✓)
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 within contract acceptance criteria?		✓	
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Non-conformances 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 num

Second Level Review: Erika Ford Date: 3/13/18

Clouseau Nonconformance Memo



NCM #: 10-11978 NCM Initiated By: Tom McGinnis Date Opened: 03/13/2008 Date Closed:	Classification: Deficiency Status: GLREVIEW Production Area: Environmental - Sep Tests: Ra-228 by GPC Lot #'s (Sample #'s): J8B110000 (389), QC Batches: 8042389,
Nonconformance: QC Result Out of Limits Subcategory: Analyte was recovered low in the LCS	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
Tom McGinnis	03/13/2008	LCS was recovered low and outside of criteria. Project manager notified and results accepted with low LCS recovery.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
Tom McGinnis	03/13/2008	QA manager and PM notified of deficiency. PM accepted results with low LCS recovery.

Client Notification Summary

<u>Client</u>	<u>Project Manager</u>	<u>Notified</u>	<u>Response</u>	<u>How Notified</u>	<u>Note</u>
			<u>Response</u>		<u>Response Note</u>

Quality Assurance Verification

<u>Verified By</u>	<u>Due Date</u>	<u>Status</u>	<u>Notes</u>
			This section not yet completed by QA.

Approval History

<u>Date Approved</u>	<u>Approved By</u>	<u>Position</u>
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2/27/2008 1:47:49 PM **Sample Preparation/Analysis** Balance Id: 1120373922
 1418995, Landwell Company D9 Ra-226/228 PprRC5013/5032, SepRC5005 Pipet #:
 Landwell Company TF Radium-228 by GPC Sep1 DT/Tm Tech: 3/12/08 15:28 DL
Analyte Due Date: 02/22/2008 01 STANDARD TEST SET Sep2 DT/Tm Tech: 3/12/08 08:40 m

Batch: 8042389 PM, Quote: JAE, 78254
 SEQ Batch, Test: 8042387, D9TE

Work Order, Lot, Sample Date Time	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 KF6FA-1-AF F8A260145-12-SAMP	1.02g.in	1.02g.in	RATA30240 02/07/08	1.1	3x50	7C	1417	1417	3/12/08 JAE	
01/25/2008 10:00										
2 KF6FD-1-AF F8A260145-13-SAMP	1.02g.in	1.02g.in	RATA30241 02/07/08	1.1	3x50	7C	1417	1417	3/12/08 JAE	
01/25/2008 10:30										
3 KF6FF-1-AF F8A260145-14-SAMP	1.02g.in	1.02g.in	RATA30242 02/07/08	1.1	3x50	7C	1417	1417	3/12/08 JAE	
01/25/2008 10:40										
4 KF6FJ-1-AF F8A260145-15-SAMP	1.01g.in	1.01g.in	RATA30243 02/07/08	1.1	3x50	7C	1417	1417	3/12/08 JAE	
01/25/2008 10:40										

TAL Richland Key In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1
 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 4
 Prep. SamplePrep v4.8.32

2/27/2008 1:47:49 PM

1418995, Landwell Company
Landwell Company

Sample Preparation/Analysis

Balance Id: 1120373922

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

Analyte Date: 02/22/2008

01 STANDARD TEST SET

Sep1 DT/Tm Tech:

Batch: 8042389

PM, Quote: JAE, 78254

pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: 8042387, D9TE

Work Order, Lot, Sample Date Time	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:
5 KF6FK-1-AF		1.00g.in	RATA30244 02/07/08	1 1/2		3 x 50	2A	1413	J/12/08 MC	
F8A260145-16-SAMP		1.0000					3D	604	3/13/08	
01/25/2008 11:30		AmtRec: 500SL	#Containers: 1				Scr: 2B	Alpha: 1413	7/12/08 MC	Beta:
6 KF6FL-1-AF		1.00g.in	RATA30245 02/07/08				4C	604	3/13/08	
F8A260145-17-SAMP		1.9100								
01/25/2008 11:37		AmtRec: 500SL	#Containers: 1				Scr: 2C	Alpha: 1413	7/12/08 MC	Beta:
7 KF6FM-1-AJ		1.03g.in	RATA30246 02/07/08				4D	604	3/13/08	
F8A260145-18-SAMP		1.9495								
01/25/2008 11:50		AmtRec: 2X500SL	#Containers: 2				Scr: 7A	Alpha: 1413	7/12/08 MC	Beta:
8 KGXJ0-1-AA-B		1.01g.in	RATA30247 02/07/08				7A	670	3/13/08	
J8B110000-389-BLK		1.0000								
01/25/2008 10:00		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

2/27/2008 1:47:50 PM

Sample Preparation/Analysis

Balance Id: 1120373922

D9 Ra-226/228 PprRC5013/5032, SepRC5005
TF Radium-228 by GPC

Pipet #:

AnalyDueDate: 02/22/2008

01 STANDARD TEST SET

Sep1 DT/Tm Tech:

Batch: 8042389

pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,Barcotl

Work Order, Lot, Sample Date/Time	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:
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9 KGXJ0-1-AC-C	1.01g in	RAS04700	01/21/08	1 #	3x50	7C	7711	3/11/08		
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J8B110000-389-LCS

1.0000

31.6 | 2B 0706 3/13/08

01/25/2008 10:00

#Containers: 1

Scr:

Alpha:

Beta:

Comments:

All Clients for Batch:

1418995, Landwell Company

Landwell Company

JAE, 78254

KF6FALAF-SAMP Constituent List:

KGXJ01AA-BLK:

Ba-133 RDL: pCi/g

RA-228DA RDL: 2 pCi/g

KGXJ01AC-LCS:

Ba-133 RDL: pCi/g

RA-228 RDL: 2 pCi/g

KF6FALAF-SAMP Calc Info:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

KGXJ01AA-BLK:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

KGXJ01AC-LCS:

Uncert Level (#s): 4

Decay to SaDt: N

Blk Subt.: N

Sci.Not.: N

ODRs: B

Approved By

Date:

TAL Richland

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 3

Page 3

Richland Wa

ISV - Insufficient Volume for Analysis

WO Cnt: 9

Prep SamplePrep v4.8.32

ICOC Fraction Transfer/Status Report

ByDate: 3/14/2007, 3/18/2008, Batch: '8042389', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
8042389				
AC		Rev1C	Barcotl	2/27/2008 1:51:52 PM
SC		wagarr	IsBatched	2/12/2008 7:52:00 AM
SC		Barcotl	InPrep	2/27/2008 1:51:52 PM
SC		Barcotl	Prep1C	2/27/2008 1:52:08 PM
SC		LucasD	Sep1C	3/3/2008 3:39:03 PM
SC		McGinnisT	Sep2C	3/12/2008 10:12:16 AM
SC		ClarkR	InCnt1	3/12/2008 11:32:37 AM
SC		BlackCL	CalcC	3/13/2008 9:23:57 AM
SC		mcginnist	Rev1C	3/13/2008 12:41:48 PM
AC		Barcotl		2/27/2008 1:52:08 PM
AC		LucasD		3/3/2008 3:39:03 PM
AC		McGinnisT		3/12/2008 10:12:16
AC		ClarkR		3/12/2008 11:32:37
AC		BlackCL		3/13/2008 9:23:57
AC		mcginnist		3/13/2008 12:41:48

AC: Accepting Entry; SC: Status Change

Rpt DB Transfer log (Batch Results)

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 Units	Expected Yield	Volumes	
8030213	9KF6FA10		F8A26014512	TSB-HR-02-10'	SOLID	1/26/2008 10:15:00	1/25/2008 10:00:00 AM			
RA-226	D9TE	0	3/11/2008 1:46:00 PM	2.4607E+00	1.212E-01	2.821E-01	1.441E-01	pCi/g	1.0	1.02E+0
RA-226	TBD	0	3/11/2008 1:46:00 PM	2.4607E+00	1.212E-01	2.821E-01	1.441E-01	pCi/g	1.0	1.02E+0
RA-228	D9TF	0	3/13/2008 6:13:12 AM	1.4783E+00	1.806E-01	2.009E-01	6.349E-01	pCi/g	0.927	1.02E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	1.7892E+00	1.558E-01	2.113E-01	6.492E-02	pCi/g	0.903	1.0E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	2.8084E+00	1.924E-01	2.954E-01	6.315E-02	pCi/g	0.903	1.0E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	1.78E+00	1.532E-01	2.089E-01	6.315E-02	pCi/g	0.903	1.0E+0
U-234	KWSR	0	2/22/2008 2:23:12 PM	3.5173E+00	1.469E-01	3.276E-01	3.058E-02	PCI/G	0.93	1.0E+0
U-235	KWSR	0	2/22/2008 2:23:12 PM	1.589E-01	3.126E-02	3.395E-02	2.468E-02	PCI/G	0.93	1.0E+0
U-238	KWSR	0	2/22/2008 2:23:12 PM	2.5666E+00	1.255E-01	2.478E-01	3.274E-02	PCI/G	0.93	1.0E+0
8030213	9KF6FD10		F8A26014513	TSB-HJ-11-10'	SOLID	1/26/2008 10:15:00	1/25/2008 10:30:00 AM			
RA-226	D9TE	0	3/11/2008 1:34:00 PM	1.2552E+00	8.426E-02	1.558E-01	7.537E-02	pCi/g	1.0	1.02E+0
RA-226	TBD	0	3/11/2008 1:34:00 PM	1.2552E+00	8.426E-02	1.558E-01	7.537E-02	pCi/g	1.0	1.02E+0
RA-228	D9TF	0	3/13/2008 6:13:12 AM	2.095E+00	1.791E-01	2.158E-01	5.199E-01	pCi/g	0.936	1.02E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	2.9151E+00	1.864E-01	2.986E-01	5.703E-02	pCi/g	0.719	1.02E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.5245E+00	1.331E-01	1.806E-01	6.546E-02	pCi/g	0.719	1.02E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	2.7431E+00	1.783E-01	2.828E-01	5.548E-02	pCi/g	0.719	1.02E+0
U-234	KWSR	0	2/22/2008 2:23:29 PM	1.2867E+00	9.001E-02	1.403E-01	3.358E-02	PCI/G	0.959	1.03E+0
U-235	KWSR	0	2/22/2008 2:23:29 PM	5.6075E-02	1.887E-02	1.944E-02	2.531E-02	PCI/G	0.959	1.03E+0
U-238	KWSR	0	2/22/2008 2:23:29 PM	1.1673E+00	8.574E-02	1.299E-01	3.358E-02	PCI/G	0.959	1.03E+0
8030213	9KF6FF10		F8A26014514	TSB-HJ-11-10'	SOLID	1/26/2008 10:15:00	1/25/2008 10:40:00 AM			
RA-226	D9TE	0	3/11/2008 1:47:00 PM	2.3229E+00	1.311E-01	2.641E-01	9.426E-02	pCi/g	0.944	1.02E+0
RA-226	TBD	0	3/11/2008 1:47:00 PM	2.3229E+00	1.311E-01	2.641E-01	9.426E-02	pCi/g	0.944	1.02E+0
RA-228	D9TF	0	3/13/2008 6:08:21 AM	1.5864E+00	1.679E-01	1.924E-01	5.288E-01	pCi/g	0.875	1.02E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	2.0864E+00	1.655E-01	2.347E-01	6.285E-02	pCi/g	0.813	1.03E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	3.0227E+00	1.965E-01	3.111E-01	6.114E-02	pCi/g	0.813	1.03E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	1.6211E+00	1.439E-01	1.935E-01	6.114E-02	pCi/g	0.813	1.03E+0
U-234	KWSR	0	2/22/2008 2:23:43 PM	2.6778E+00	1.356E-01	2.619E-01	2.765E-02	PCI/G	1.057	9.9E-1
U-235	KWSR	0	2/22/2008 2:23:43 PM	1.0988E-01	2.748E-02	2.897E-02	2.765E-02	PCI/G	1.057	9.9E-1
U-238	KWSR	0	2/22/2008 2:23:43 PM	1.7919E+00	1.11E-01	1.865E-01	2.765E-02	PCI/G	1.057	9.9E-1
8030213	9KF6FJ10		F8A26014515	TSB-HJ-11-10'	FD SOLID	1/26/2008 10:15:00	1/25/2008 10:40:00 AM			
RA-226	D9TE	0	3/11/2008 1:46:00 PM	1.5527E+00	9.949E-02	1.783E-01	1.359E-01	pCi/g	0.906	1.01E+0
RA-226	TBD	0	3/11/2008 1:46:00 PM	1.5527E+00	9.949E-02	1.783E-01	1.359E-01	pCi/g	0.906	1.01E+0
RA-228	D9TF	0	3/13/2008 6:08:21 AM	1.5879E+00	1.77E-01	2.026E-01	5.712E-01	pCi/g	0.822	1.01E+0
TH-228	D2S1	0	2/22/2008 6:16:09 AM	1.8722E+00	1.419E-01	2.062E-01	5.153E-02	pCi/g	0.758	1.03E+0
TH-230	D2S1	0	2/22/2008 6:16:09 AM	1.4863E+00	1.247E-01	1.722E-01	5.013E-02	pCi/g	0.758	1.03E+0
TH-232	D2S1	0	2/22/2008 6:16:09 AM	1.9866E+00	1.443E-01	2.145E-01	5.013E-02	pCi/g	0.758	1.03E+0
U-234	KWSR	0	2/22/2008 2:23:57 PM	1.3584E+00	1.087E-01	1.601E-01	4.902E-02	PCI/G	1.014	1.01E+0
U-235	KWSR	0	2/22/2008 2:23:57 PM	1.6655E-02	1.229E-02	1.237E-02	3.492E-02	PCI/G	1.014	1.01E+0
U-238	KWSR	0	2/22/2008 2:23:57 PM	1.3005E+00	1.062E-01	1.548E-01	3.492E-02	PCI/G	1.014	1.01E+0
8030213	9KF6FK10		F8A26014516	TSB-HR-01-0'	SOLID	1/26/2008 10:15:00	1/25/2008 11:30:00 AM			
RA-226	D9TE	0	3/11/2008 1:45:00 PM	8.0655E-01	7.937E-02	1.123E-01	1.589E-01	pCi/g	1.0	1.0E+0
RA-226	TBD	0	3/11/2008 1:45:00 PM	8.0655E-01	7.937E-02	1.123E-01	1.589E-01	pCi/g	1.0	1.0E+0
RA-228	D9TF	0	3/13/2008 6:08:21 AM	1.412E+00	1.558E-01	1.77E-01	4.16E-01	pCi/g	0.913	1.0E+0
TH-228	D2S1	0	2/22/2008 6:16:29 AM	1.9142E+00	1.437E-01	2.099E-01	5.157E-02	pCi/g	0.752	1.01E+0
TH-230	D2S1	0	2/22/2008 6:16:29 AM	1.2464E+00	1.143E-01	1.516E-01	5.016E-02	pCi/g	0.752	1.01E+0
TH-232	D2S1	0	2/22/2008 6:16:29 AM	2.0214E+00	1.455E-01	2.175E-01	5.016E-02	pCi/g	0.752	1.01E+0
U-234	KWSR	0	2/22/2008 2:24:09 PM	9.8332E-01	8.003E-02	1.143E-01	3.119E-02	PCI/G	1.1	1.01E+0
U-235	KWSR	0	2/22/2008 2:24:09 PM	2.4746E-02	1.309E-02	1.325E-02	3.119E-02	PCI/G	1.1	1.01E+0
U-238	KWSR	0	2/22/2008 2:24:09 PM	8.3875E-01	7.397E-02	1.016E-01	3.119E-02	PCI/G	1.1	1.01E+0
8030213	9KF6FL10		F8A26014517	TSB-HR-01-10'	SOLID	1/26/2008 10:15:00	1/25/2008 11:37:00 AM			
RA-226	D9TE	0	3/11/2008 1:47:00 PM	1.7996E+00	1.06E-01	2.212E-01	1.085E-01	pCi/g	0.91	1.0E+0

8042389, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 7,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 9 | 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 mqa	Sample Date Units	Expected Yield	Volumes
RA-226	TBD	0	3/11/2008 1:47:00 PM	1.7996E+00	1.06E-01	2.212E-01 1.085E-01	pCi/g	0.91	1.0E+0
RA-228	D9TF	0	3/13/2008 6:08:32 AM	1.8303E+00	1.77E-01	2.076E-01 4.69E-01	pCi/g	0.857	1.0E+0
TH-228	D2S1	0	2/22/2008 6:16:38 AM	1.6007E+00	1.409E-01	1.902E-01 6.981E-02	pCi/g	0.857	1.0E+0
TH-230	D2S1	0	2/22/2008 6:16:38 AM	1.8864E+00	1.506E-01	2.13E-01 5.756E-02	pCi/g	0.857	1.0E+0
TH-232	D2S1	0	2/22/2008 6:16:38 AM	1.7302E+00	1.442E-01	1.997E-01 5.756E-02	pCi/g	0.857	1.0E+0
U-234	KWSR	0	2/25/2008 6:17:05 AM	2.2548E+00	1.15E-01	2.196E-01 2.923E-02	PCI/G	0.954	1.02E+0
U-235	KWSR	0	2/25/2008 6:17:05 AM	5.7197E-02	1.855E-02	1.915E-02 2.923E-02	PCI/G	0.954	1.02E+0
U-238	KWSR	0	2/25/2008 6:17:05 AM	1.7855E+00	1.024E-01	1.801E-01 3.13E-02	PCI/G	0.954	1.02E+0
8030213	9KF6FM10		F8A26014518	TSB-HJ-01-0'	SOLID	1/26/2008 10:15:00	1/25/2008 11:50:00 AM		
RA-226	D9TE	0	3/11/2008 1:52:00 PM	1.0126E+00	9.92E-02	1.457E-01 2.084E-01	pCi/g	0.949	1.03E+0
RA-226	TBD	0	3/11/2008 1:52:00 PM	1.0126E+00	9.92E-02	1.457E-01 2.084E-01	pCi/g	0.949	1.03E+0
RA-228	D9TF	0	3/13/2008 6:08:32 AM	1.8874E+00	1.795E-01	2.104E-01 4.69E-01	pCi/g	0.88	1.03E+0
TH-228	D2S1	0	2/22/2008 6:16:41 AM	1.7296E+00	1.114E-01	1.773E-01 4.046E-02	pCi/g	0.878	1.02E+0
TH-230	D2S1	0	2/22/2008 6:16:41 AM	1.2243E+00	9.24E-02	1.344E-01 3.336E-02	pCi/g	0.878	1.02E+0
TH-232	D2S1	0	2/22/2008 6:16:41 AM	1.5461E+00	1.038E-01	1.611E-01 3.336E-02	pCi/g	0.878	1.02E+0
U-234	KWSR	0	2/25/2008 6:17:14 AM	1.0488E+00	8.036E-02	1.185E-01 3.282E-02	PCI/G	1.04	1.01E+0
U-235	KWSR	0	2/25/2008 6:17:14 AM	2.4086E-02	1.23E-02	1.246E-02 2.474E-02	PCI/G	1.04	1.01E+0
U-238	KWSR	0	2/25/2008 6:17:14 AM	1.0918E+00	8.198E-02	1.222E-01 3.282E-02	PCI/G	1.04	1.01E+0
8030213	KGXJ01AB		J8B110000389	INTRA-LAB BLANK	SOLID	1/26/2008 10:15:00	1/25/2008 10:00:00 AM		
RA-228	D9TF	0 B	3/13/2008 7:09:53 AM	1.2712E-01	8.25E-02	8.687E-02 3.943E-01	pCi/g	0.939	1.01E+0
8030213	KGXJ01CS		J8B110000389	INTRA-LAB CHECK	SOLID	1/26/2008 10:15:00	1/25/2008 10:00:00 AM		
RA-228	D9TF	0 S	3/13/2008 7:09:53 AM	3.5395E+00	2.133E-01	2.928E-01 3.996E-01	pCi/g	4.9107E+00 0.919	1.01E+0

8042389, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 7,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 9 | 0 | 0 | 0.
 **Diff RptDb | Qtims => .

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC Trc	Yld	LCS Yld
Ra-228 by GPC Ra-226/Ra-228 Deem With Out Blk Subst. *CntU: 0+1, + *SystU, `MDCConst:2.71														
Calc	TF	SOLID	KF6FA1AF	RA-228	1.56E+00	(3.33E-01)		pCi/g	R	4.56E-01	9.87E-01		93%	
Calc	TF	SOLID	KF6FA1AF	RA-228	1.46E+00	(3.45E-01)		pCi/g	R	5.06E-01	1.10E+00		93%	
Calc	TF	SOLID	KF6FA1AF	RA-228	1.41E+00	(3.65E-01)		pCi/g	R	5.62E-01	1.22E+00		93%	
Calc	TF	SOLID	KF6FA1AF	RA-228	1.48E+00	(2.01E-01)		pCi/g	A	2.93E-01	6.35E-01	✓	93%	
Calc	TF	SOLID	KF6FA1AF	RA-228	1.43E+00	(1.17E+00)	U4	pCi/g	R	2.21E+00	5.07E+00		93%	
Calc	TF	SOLID	KF6FD1AF	RA-228	2.18E+00	(3.63E-01)		pCi/g	R	3.68E-01	8.08E-01		94%	
Calc	TF	SOLID	KF6FD1AF	RA-228	1.95E+00	(3.59E-01)		pCi/g	R	4.09E-01	8.97E-01		94%	
Calc	TF	SOLID	KF6FD1AF	RA-228	2.16E+00	(3.98E-01)		pCi/g	R	4.54E-01	9.96E-01		94%	
Calc	TF	SOLID	KF6FD1AF	RA-228	2.10E+00	(2.16E-01)		pCi/g	A	2.37E-01	5.20E-01	✓	94%	
Calc	TF	SOLID	KF6FD1AF	RA-228	1.71E+00	(1.18E+00)	U4	pCi/g	R	2.17E+00	4.95E+00		94%	
Calc	TF	SOLID	KF6FF1AF	RA-228	1.88E+00	(3.42E-01)		pCi/g	R	3.72E-01	8.22E-01		88%	
Calc	TF	SOLID	KF6FF1AF	RA-228	1.48E+00	(3.23E-01)		pCi/g	R	4.13E-01	9.13E-01		88%	
Calc	TF	SOLID	KF6FF1AF	RA-228	1.39E+00	(3.35E-01)		pCi/g	R	4.58E-01	1.01E+00		88%	
Calc	TF	SOLID	KF6FF1AF	RA-228	1.59E+00	(1.92E-01)		pCi/g	A	2.39E-01	5.29E-01	✓	88%	
Calc	TF	SOLID	KF6FF1AF	RA-228	3.35E+00	(1.38E+00)		pCi/g	R	2.19E+00	5.02E+00		88%	
Calc	TF	SOLID	KF6FJ1AF	RA-228	1.98E+00	(3.65E-01)		pCi/g	R	4.03E-01	8.88E-01		82%	
Calc	TF	SOLID	KF6FJ1AF	RA-228	9.50E-01	(2.87E-01)		pCi/g	R	4.48E-01	9.86E-01		82%	
Calc	TF	SOLID	KF6FJ1AF	RA-228	1.84E+00	(3.92E-01)		pCi/g	R	4.97E-01	1.09E+00		82%	
Calc	TF	SOLID	KF6FJ1AF	RA-228	1.59E+00	(2.03E-01)		pCi/g	A	2.59E-01	5.71E-01	✓	82%	
Calc	TF	SOLID	KF6FJ1AF	RA-228	3.63E+00	(1.41E+00)		pCi/g	R	2.15E+00	4.97E+00		82%	
Calc	TF	SOLID	KF6FK1AF	RA-228	1.06E+00	(2.50E-01)		pCi/g	R	2.78E-01	6.47E-01		91%	
Calc	TF	SOLID	KF6FK1AF	RA-228	1.88E+00	(3.53E-01)		pCi/g	R	3.09E-01	7.18E-01		91%	
Calc	TF	SOLID	KF6FK1AF	RA-228	1.30E+00	(3.08E-01)		pCi/g	R	3.42E-01	7.97E-01		91%	
Calc	TF	SOLID	KF6FK1AF	RA-228	1.41E+00	(1.77E-01)		pCi/g	A	1.79E-01	4.16E-01	✓	91%	
Calc	TF	SOLID	KF6FK1AF	RA-228	1.91E+00	(1.10E+00)		pCi/g	R	1.91E+00	4.42E+00		91%	
Calc	TF	SOLID	KF6FL1AF	RA-228	1.97E+00	(3.57E-01)		pCi/g	R	3.19E-01	7.29E-01		86%	
Calc	TF	SOLID	KF6FL1AF	RA-228	1.93E+00	(3.69E-01)		pCi/g	R	3.54E-01	8.09E-01		86%	
Calc	TF	SOLID	KF6FL1AF	RA-228	1.59E+00	(3.53E-01)		pCi/g	R	3.92E-01	8.98E-01		86%	
Calc	TF	SOLID	KF6FL1AF	RA-228	1.83E+00	(2.08E-01)		pCi/g	A	2.05E-01	4.69E-01	✓	86%	
Calc	TF	SOLID	KF6FL1AF	RA-228	-3.03E-01	(1.12E+00)	U4	pCi/g	R	2.53E+00	5.72E+00		86%	
Calc	TF	SOLID	KF6FM1AJ	RA-228	1.75E+00	(3.32E-01)		pCi/g	R	3.19E-01	7.29E-01		88%	
Calc	TF	SOLID	KF6FM1AJ	RA-228	1.83E+00	(3.57E-01)		pCi/g	R	3.54E-01	8.09E-01		88%	
Calc	TF	SOLID	KF6FM1AJ	RA-228	2.08E+00	(4.01E-01)		pCi/g	R	3.93E-01	8.98E-01		88%	
Calc	TF	SOLID	KF6FM1AJ	RA-228	1.89E+00	(2.10E-01)		pCi/g	A	2.05E-01	4.69E-01	✓	88%	
Calc	TF	SOLID	KF6FM1AJ	RA-228	4.10E+00	(1.40E+00)		pCi/g	R	1.98E+00	4.59E+00		88%	
Calc	TF	SOLID	KGXJ01AA	RA-228	2.54E-01	(1.52E-01)		pCi/g	R	2.65E-01	6.13E-01	B	94%	
Calc	TF	SOLID	KGXJ01AA	RA-228	4.26E-02	(1.40E-01)	U4	pCi/g	R	2.94E-01	6.81E-01	B	94%	

() - (1s Uncertainties)
 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

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	*Uncert	Q	Units	Av	ILcC	IDC	QC	Trc Yld	LCS Yld
Calc	TF	SOLID	KGXJ01AA	RA-228	8.52E-02	(1.60E-01)	U4	pCi/g	R	3.27E-01	7.55E-01	B	94%	
Calc	TF	SOLID	KGXJ01AA	RA-228	1.27E-01	(8.69E-02)	U4	pCi/g	A	1.70E-01	3.94E-01	B	94%	JK
Calc	TF	SOLID	KGXJ01AA	RA-228	5.28E-01	(1.18E+00)	U4	pCi/g	R	2.46E+00	5.62E+00	B	94%	
Calc	TF	SOLID	KGXJ01AC	RA-228	3.56E+00	(4.92E-01)		pCi/g	R	2.70E-01	6.21E-01	S	92%	72%
Calc	TF	SOLID	KGXJ01AC	RA-228	3.98E+00	(5.50E-01)		pCi/g	R	2.99E-01	6.90E-01	S	92%	81%
Calc	TF	SOLID	KGXJ01AC	RA-228	3.08E+00	(4.76E-01)		pCi/g	R	3.32E-01	7.65E-01	S	92%	63%
Calc	TF	SOLID	KGXJ01AC	RA-228	3.54E+00	(2.93E-01)		pCi/g	A	1.73E-01	4.00E-01	S	92%	72%
Calc	TF	SOLID	KGXJ01AC	RA-228	1.19E+00	(1.27E+00)	U4	pCi/g	R	2.49E+00	5.66E+00	S	92%	24%

LOW LCS

Tom D M... 3/13/08

() - (1s Uncertainties)
 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

Batch Nbr: 8042389

Alpha Beta, Ra-228 by GPC , Calculated Results Detailed Report

3/13/2008 9:15:09 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	Multi/EntYld	Total/Analy	Vol	Final/Count	Vol						
1	Calc	TF	SOLID	*STLE	Ra228WobS	KF6FDA1AF	✓		pCi/g		01/25/08	10:00	03/13/08	06:13	31.9	03/03/08	15:28	✓	RATA30240	1	g	✓							
1418995	TSB	HR	02-10'						SOLID							03/12/08	08:40		RATA30240	Alq	100%	✓	1.02 g						
Sq	Cnt	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/VolAdj	Decay	Abn			
0	03/12/08	12:35	RA-228	106	398	GPC7C	1	N	N	5.1553E-01	1.0000E+00	N	93%	N	1.4862E+00	4.5045E-01	1.0127E+00	(0.000E+00)	0.980392										
1	03/12/08	13:30	RA-228	50	400	GPC7C	1	Y	Y	(1.244E-02)	(0.000E+00)	N	7%	N	1.6493E+00	4.5045E-01	1.0127E+00	(0.000E+00)	0.980392										
2	03/12/08	14:25	RA-228	97	398	GPC7C	1	N	N	5.1553E-01	1.0000E+00	N	93%	N	1.8304E+00	4.5045E-01	1.0127E+00	(0.000E+00)	0.980392										
3	03/13/08	06:13	RA-228	50	400	GPC7C	1	Y	Y	(1.244E-02)	(0.000E+00)	N	7%	N	1.0910E+01	4.5045E-01	1.0127E+00	(0.000E+00)	0.980392										
			RA-228	22	128	GPC2A	1	N	N	4.4268E-01	1.0000E+00	N	93%	N	0.987337														
			RA-228	50	400	GPC2A	1	N	N	(1.088E-02)	(0.000E+00)	N	7%	N	0.456262														
			RA-228	117	282	GPC1A	1	N	N	3.497309	3.497309	1.02 G	93%	N	1.095719														
			RA-228	50	400	GPC1A	1	Y	Y	(0.720559)	(0.720559)	(0.017321)		N	0.506347														
			RA-228	101	282	GPC1A	1	N	N	3.26022	3.26022	1.02 G	93%	N	1.215997														
			RA-228	50	400	GPC1A	1	Y	Y	(0.752087)	(0.752087)	(0.017321)		N	0.56193														
			RA-228	101	282	GPC1A	1	N	N	3.158658	3.158658	1.02 G	93%	N	0.634903														
			RA-228	50	400	GPC1A	1	Y	Y	(0.799819)	(0.799819)	(0.017321)		N	0.293398														
			RA-228	101	282	GPC1A	1	N	N	3.305396	3.305396	1.02 G	93%	N	5.065628														
			RA-228	50	400	GPC1A	1	Y	Y	(0.437741)	(0.437741)	(0.01)		N	2.212029														
			RA-228	101	282	GPC1A	1	N	N	3.189153	3.189153	1.02 G	93%	N															
			RA-228	50	400	GPC1A	1	Y	Y	(2.617575)	(2.617575)	(0.017321)		N															
Sq	CalcDate	TrcAct	Parameter	Avg	Sa	Act, Total	U	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm	Blk	Vol	Used	Trc	Yld, EnFct	LCS	Yld, EFctU	IDC	ILcC	BlkLcC	MDC	StdDv	MdC/LcC	
0	03/13/08	RA-228	RA-228	R	1.564083	(0.332667)			1.12500E+00	3.497309	3.497309	1.02 G	93%	N	0.987337														
1	03/13/08	RA-228	RA-228	R	1.458051	(0.345051)			9.45000E-01	3.26022	3.26022	1.02 G	93%	N	1.095719														
2	03/13/08	RA-228	RA-228	R	1.41263	(0.365394)			8.25000E-01	3.158658	3.158658	1.02 G	93%	N	1.215997														
3	03/13/08	RA-228	RA-228	A	1.478255	(0.200898)			9.65000E-01	3.305396	3.305396	1.02 G	93%	N	0.634903														
4	03/13/08	RA-228	RA-228	R	1.426268	(1.173065)			1.20000E-01	3.189153	3.189153	1.02 G	93%	N	5.065628														
5	03/13/08	RA-228	RA-228	R	1.426268	(1.173065)			9.7980E-02	(2.617575)	(2.617575)	(0.017321)		N	2.212029														

0 - (1s Uncertainties), 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 Significant. Date/Time - mm/dd/yy hh:mm, 24hr Time

Alpha Beta, Ra-228 by GPC, Calculated Results

3/13/2008 9:15:09 AM

Batch Nbr: 8042389

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIKLCc/MDC	StdDVMdC/LcC	
3	03/13/08 06:13	RA-228	25	139	GPC2B 1	N	N	4.6517E-01	1.0000E+00	N	94%	N	1.0910E+01	4.5045E-01	1.0127E+00
			50	400		N		(1.354E-02)	(0.000E+00)	7%			(0.000E+00)	0.980392	
	03/13/08	RA-228	R	2.179973		1.6350E+00	4.87448	4.87448	1.02 G	94%			0.808466		
				(0.363272)		(2.2037E-01)	(0.770427)	(0.770427)	(0.017321)				0.368319		
	03/13/08	RA-228	R	1.945775		1.31500E+00	4.350808	4.350808	1.02 G	94%			0.897212		
				(0.358705)		(2.0534E-01)	(0.768467)	(0.768467)	(0.017321)				0.40875		
	03/13/08	RA-228	R	2.159299		1.31500E+00	4.828251	4.828251	1.02 G	94%			0.99567		
				(0.398068)		(2.0534E-01)	(0.852796)	(0.852796)	(0.017321)				0.453605		
	03/13/08	RA-228	A	2.095016		1.42167E+00	4.684513	4.684513	1.02 G	94%			0.519875		
				(0.215792)		(1.2151E-01)	(0.46084)	(0.46084)	(0.01)				0.236843		
	03/13/08	RA-228	R	1.708812	U4	1.52500E-01	3.820951	3.820951	1.02 G	94%			4.951128		
				(1.180667)		(1.0425E-01)	(2.632284)	(2.632284)	(0.017321)				2.17319		

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sept1/Sept2 Date	QC/Tracer	Viat	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	TF	SOLID	*STLE	Ra228WObS	KF6FFIAF	✓	pcI/g		01/25/08 10:40	03/13/08 06:08	03/03/08 15:28	✓	1	94%	1.02 g	✓
								SOLID			31.9	03/12/08 08:40	RATA30242	Alq			
0	03/12/08 12:35	RA-228	96	246	GPC1C 1	N	N	5.2667E-01	1.0000E+00	N	88%	N	1.4874E+00	4.5045E-01	1.0127E+00		
			50	400		Y		(1.084E-02)	(0.000E+00)	7%			(0.000E+00)	0.980392			
1	03/12/08 13:31	RA-228	77	246	GPC1C 1	N	N	5.2667E-01	1.0000E+00	N	88%	N	1.6507E+00	4.5045E-01	1.0127E+00		
			50	400		Y		(1.084E-02)	(0.000E+00)	7%			(0.000E+00)	0.980392			
2	03/12/08 14:26	RA-228	70	246	GPC1C 1	N	N	5.2667E-01	1.0000E+00	N	88%	N	1.8318E+00	4.5045E-01	1.0127E+00		
			50	400		Y		(1.084E-02)	(0.000E+00)	7%			(0.000E+00)	0.980392			
3	03/13/08 06:08	RA-228	30	125	GPC3A 1	N	N	4.6677E-01	1.0000E+00	N	88%	N	1.0810E+01	4.5045E-01	1.0127E+00		
			50	394		N		(4.766E-03)	(0.000E+00)	7%			(0.000E+00)	0.980392			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Bk	Dpm-Bk	Vol Used	TrcYld,EnrFct	LCSYld,EFctU	IDC/ILcC	BIKLCc/MDC	StdDVMdC/LcC
03/13/08	RA-228	R	1.883029		1.30500E+00	4.210516	4.210516	1.02 G	88%				0.822343	
				(0.342395)		(1.9984E-01)	(0.732611)	(0.732611)	(0.017321)				0.372289	
03/13/08	RA-228	R	1.481228		9.25000E-01	3.312075	3.312075	1.02 G	88%				0.912613	
				(0.322506)		(1.7983E-01)	(0.699605)	(0.699605)	(0.017321)				0.413156	
03/13/08	RA-228	R	1.394986		7.85000E-01	3.119234	3.119234	1.02 G	88%				1.01276	
				(0.334636)		(1.7186E-01)	(0.729904)	(0.729904)	(0.017321)				0.458494	
03/13/08	RA-228	A	1.586414		1.00500E+00	3.547275	3.547275	1.02 G	88%				0.528798	
				(0.192419)		(1.0636E-01)	(0.41619)	(0.41619)	(0.01)				0.239396	
03/13/08	RA-228	R	3.345735		2.82741E-01	7.481173	7.481173	1.02 G	88%				5.024419	
				(1.377342)		(1.1316E-01)	(3.05434)	(3.05434)	(0.017321)				2.192832	

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 RecCnt:4
 RADCALC v4.8.29
 TA Richland

Batch Nbr: 8042389

Alpha Beta, Ra-228 by GPC, Calculated Results

3/13/2008 9:15:09 AM

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/13/08	RA-228	R	1.055437 (0.249996)	6.27500E-01 (1.3502E-01)	Q	2.313743 (0.534194)	2.313743 (0.534194)	1.00 G (0.017321)	91%	0.646961				
03/13/08	RA-228	R	1.880603 (0.353094)	1.00750E+00 (1.6072E-01)	Q	4.122684 (0.742682)	4.122684 (0.742682)	1.00 G (0.017321)	91%	0.717979				
03/13/08	RA-228	R	1.299868 (0.307893)	6.27500E-01 (1.3502E-01)	Q	2.84959 (0.65791)	2.84959 (0.65791)	1.00 G (0.017321)	91%	0.308588				
03/13/08	RA-228	A	1.411969 (0.177003)	7.54167E-01 (8.3196E-02)	Q	3.095339 (0.375616)	3.095339 (0.375616)	1.00 G (0.01)	91%	0.796793				
03/13/08	RA-228	R	1.91193 (1.104826)	1.70964E-01 (9.7380E-02)	Q	4.19136 (2.411839)	4.19136 (2.411839)	1.00 G (0.017321)	91%	0.342462				

Sq Status Method Matrix Protocol Equation Set Wrk Ord Units/Matrix QC/BB Sa/On Date AnalysisDate/PptWt Sep1/Sep2 Date QC/Tracer Vial Mult/EntYld Total/Analy Vol Final/Count Vol

Sq	Calc TF	SOLID	*STLE	Ra228WoBS	KF6FL1AF	pcI/g	SOLID	01/25/08 11:37	03/13/08 06:08	03/03/08 15:28	03/12/08 08:40	RATA30245	Alq	91%	1.00 g
6	1418995	TSB-HR-01-10						32.4							

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	03/12/08 12:36	RA-228	74	129	GPC2B 1	N	N	N	4.6504E-01	1.0000E+00	N	86%	N	1.4902E+00	4.5045E-01	1.0127E+00		
			50	400		Y	Y	Y	(1.353E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
1	03/12/08 13:32	RA-228	67	129	GPC2B 1	N	N	N	4.6504E-01	1.0000E+00	N	86%	N	1.6538E+00	4.5045E-01	1.0127E+00		
			50	400		Y	Y	Y	(1.353E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
2	03/12/08 14:27	RA-228	54	129	GPC2B 1	N	N	N	4.6504E-01	1.0000E+00	N	86%	N	1.8353E+00	4.5045E-01	1.0127E+00		
			50	400		Y	Y	Y	(1.353E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			
3	03/13/08 06:08	RA-228	19	162	GPC4C 1	N	N	N	4.7537E-01	1.0000E+00	N	86%	N	1.0814E+01	4.5045E-01	1.0127E+00		
			50	400		N	N	N	(2.041E-02)	(0.000E+00)		7%		(0.000E+00)	1.00			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
03/13/08	RA-228	R	1.974085 (0.357202)	1.15750E+00 (1.7437E-01)	Q	4.327624 (0.748833)	4.327624 (0.748833)	1.00 G (0.017321)	86%	0.729346				
03/13/08	RA-228	R	1.925807 (0.36899)	1.01750E+00 (1.6615E-01)	Q	4.221789 (0.777447)	4.221789 (0.777447)	1.00 G (0.017321)	86%	0.809407				
03/13/08	RA-228	R	1.59109 (0.352545)	7.57500E-01 (1.4969E-01)	Q	3.488015 (0.750493)	3.488015 (0.750493)	1.00 G (0.017321)	86%	0.353622				
03/13/08	RA-228	A	1.830327 (0.207641)	9.77500E-01 (9.4527E-02)	Q	4.012476 (0.438231)	4.012476 (0.438231)	1.00 G (0.01)	86%	0.898257				
03/13/08	RA-228	R	-0.302683 (1.124051)	-2.50000E-02 (9.2804E-02)	U4	-0.663546 (2.463915)	-0.663546 (2.463915)	1.00 G (0.017321)	86%	0.39244				

RecCnt:7 RADCALC v4.8.29
TA Richland

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh:mm, 24hr Time

Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk 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	SOLID	*STLE	Ra228WoBS	KF6FM1AJ	✓	pCi/g		01/25/08 11:50	03/13/08 06:08	03/03/08 15:28	QC/Tracer	Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol	
								SOLID			31.9	03/12/08 08:40	RATA30246	Alq	95%	1.03 g	✓	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/12/08 12:36	RA-228	69	134	GPC2C	1	N	N	4.4688E-01	1.0000E+00	N	88%	N	1.4902E+00	4.5045E-01	1.0127E+00		
			50	400			Y		(1.174E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
1	03/12/08 13:32	RA-228	66	134	GPC2C	1	N	N	4.4688E-01	1.0000E+00	N	88%	N	1.6538E+00	4.5045E-01	1.0127E+00		
			50	400			Y		(1.174E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
2	03/12/08 14:27	RA-228	67	134	GPC2C	1	N	N	4.4688E-01	1.0000E+00	N	88%	N	1.8353E+00	4.5045E-01	1.0127E+00		
			50	400			Y		(1.174E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
3	03/13/08 06:08	RA-228	31	107	GPC4D	1	N	N	4.6753E-01	1.0000E+00	N	88%	N	1.0814E+01	4.5045E-01	1.0127E+00		
			50	400			N		(2.253E-02)	(0.000E+00)		7%		(0.000E+00)	0.970874			
Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/ILcC	BIK/LcC	BIK/LcC/MDC	StdDvMdc/LcC			
	03/13/08	RA-228	R	1.752756		1.04500E+00	3.957708	3.957708	1.03 G	88%		0.729313						
				(0.332162)		(1.6863E-01)	(0.720375)	(0.720375)	(0.017321)			0.319392						
	03/13/08	RA-228	R	1.833475		9.85000E-01	4.139971	4.139971	1.03 G	88%		0.80937						
				(0.357155)		(1.6504E-01)	(0.776319)	(0.776319)	(0.017321)			0.354452						
	03/13/08	RA-228	R	2.076053		1.00500E+00	4.68771	4.68771	1.03 G	88%		0.898216						
				(0.400606)		(1.6625E-01)	(0.870107)	(0.870107)	(0.017321)			0.393361						
	03/13/08	RA-228	A	1.887428		1.01167E+00	4.261796	4.261796	1.03 G	88%		0.468981						
				(0.21039)		(9.6213E-02)	(0.456885)	(0.456885)	(0.01)			0.205383						
	03/13/08	RA-228	R	4.101047		3.52500E-01	9.260127	9.260127	1.03 G	88%		4.587567						
				(1.400854)		(1.1432E-01)	(3.125167)	(3.125167)	(0.017321)			1.979673						
Sq	Status	Method	Matrix	Protocol	Equation	Set	Wrk 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	SOLID	*STLE	Ra228WoBS	KGXJ01AA	✓	pCi/g		01/25/08 10:00	03/13/08 07:09	03/03/08 15:28	QC/Tracer	Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol	
								SOLID			32.3	03/12/08 08:40	RATA30247	Alq	100%	1.01 g	✓	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/12/08 12:37	RA-228	22	110	GPC3A	1	N	N	4.6694E-01	1.0000E+00	N	94%	N	1.4917E+00	4.5045E-01	1.0127E+00		
			50	400			Y		(4.767E-03)	(0.000E+00)		8%		(0.000E+00)	0.990099			
1	03/12/08 13:32	RA-228	15	110	GPC3A	1	N	N	4.6694E-01	1.0000E+00	N	94%	N	1.6554E+00	4.5045E-01	1.0127E+00		
			50	400			Y		(4.767E-03)	(0.000E+00)		8%		(0.000E+00)	0.990099			
2	03/12/08 14:27	RA-228	16	110	GPC3A	1	N	N	4.6694E-01	1.0000E+00	N	94%	N	1.8372E+00	4.5045E-01	1.0127E+00		
			50	400			Y		(4.767E-03)	(0.000E+00)		8%		(0.000E+00)	0.990099			
3	03/13/08 07:09	RA-228	18	128	GPC2A	1	N	N	4.4267E-01	1.0000E+00	N	94%	N	1.2140E+01	4.5045E-01	1.0127E+00		
			50	400			N		(1.088E-02)	(0.000E+00)		8%		(0.000E+00)	0.990099			

Alpha Beta, Ra-228 by GPC, Calculated Results

3/13/2008 9:15:09 AM

Batch Nbr: 8042389

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIkLcC/MDC	StdDvMdc/LcC
03/13/08	RA-228	R	0.253552	1.65000E-01		0.561388	0.561388	0.561388	1.01 G	94%		0.613218		
			(0.151662)	(9.7404E-02)		(0.33448)	(0.33448)	(0.33448)	(0.017321)			0.265122		
03/13/08	RA-228	R	0.042634	2.50000E-02	U4	0.094396	0.094396	0.094396	1.01 G	94%		0.680531		
			(0.13952)	(8.1777E-02)		(0.308871)	(0.308871)	(0.308871)	(0.017321)			0.294225		
03/13/08	RA-228	R	0.085165	4.50000E-02	U4	0.188564	0.188564	0.188564	1.01 G	94%		0.755235		
			(0.159541)	(8.4187E-02)		(0.353099)	(0.353099)	(0.353099)	(0.017321)			0.326523		
03/13/08	RA-228	A	0.127117	7.83333E-02	U4	0.281449	0.281449	0.281449	1.01 G	94%		0.394327		
			(0.086872)	(5.0840E-02)		(0.192052)	(0.192052)	(0.192052)	(0.01)			0.170486		
03/13/08	RA-228	R	0.527654	4.00000E-02	U4	1.168275	1.168275	1.168275	1.01 G	94%		5.622158		
			(1.181027)	(8.9443E-02)		(2.614171)	(2.614171)	(2.614171)	(0.017321)			2.455051		

Sq	Status Method	Matrix	Protocol	Equation Set	Wk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PpWt	Sep1/Sep2 Date	QC/Tracer	Vial	Multi/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	TF	SOLID	*STLE	Ra228	WoBS	KGXJ01AC	31.6	03/13/08 07:09	03/03/08 15:28	✓	RASC4700	✓	1	g
0	INTRA-LAB	CHECK								03/12/08 08:40		RASC4700	Alq	100%	1.01 g

Sq	Calc Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Trc Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	03/12/08 12:37	RA-228	132	117	GPC3C	1	N	N	4.8377E-01	1.0000E+00	N	92%	N	1.4917E+00	4.5045E-01	1.0127E+00		
			50	400			Y	Y	(7.223E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			
1	03/12/08 13:32	RA-228	133	117	GPC3C	1	N	N	4.8377E-01	1.0000E+00	N	92%	N	1.6554E+00	4.5045E-01	1.0127E+00		
			50	400			Y	Y	(7.223E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			
2	03/12/08 14:27	RA-228	97	117	GPC3C	1	N	N	4.8377E-01	1.0000E+00	N	92%	N	1.8372E+00	4.5045E-01	1.0127E+00		
			50	400			Y	Y	(7.223E-03)	(0.000E+00)		7%		(0.000E+00)	0.990099			
3	03/13/08 07:09	RA-228	22	139	GPC2B	1	N	N	4.6560E-01	1.0000E+00	N	92%	N	1.2140E+01	4.5045E-01	1.0127E+00		
			50	400			N	N	(1.355E-02)	(0.000E+00)		7%		(0.000E+00)	0.990099			

Sq	CalcDate,TrcAct	Parameter	Avg	Sa Act, Total U	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	TrcYld,EnFct	LCSYld,EFctU	IDC/LcC	BIkLcC/MDC	StdDvMdc/LcC
03/13/08	RA-228	R	3.558964	2.34750E+00		7.879868	7.879868	7.879868	1.01 G	92%	72%	0.621369		
			(0.492257)	(2.3137E-01)		(1.007171)	(1.007171)	(1.007171)	(0.017321)			0.26976		
03/13/08	RA-228	R	3.983286	2.36750E+00		8.819358	8.819358	8.819358	1.01 G	92%	81%	0.689578		
			(0.54962)	(2.3223E-01)		(1.124072)	(1.124072)	(1.124072)	(0.017321)			0.299371		
03/13/08	RA-228	R	3.076172	1.64750E+00		6.810924	6.810924	6.810924	1.01 G	92%	63%	0.765274		
			(0.476373)	(1.9882E-01)		(0.991386)	(0.991386)	(0.991386)	(0.017321)			0.332234		
03/13/08	RA-228	A	3.539474	2.12083E+00		7.836716	7.836716	7.836716	1.01 G	92%	72%	0.399569		
			(0.292751)	(1.2780E-01)		(0.601921)	(0.601921)	(0.601921)	(0.01)			0.173468		
03/13/08	RA-228	R	1.185802	9.25000E-02	U4	2.625473	2.625473	2.625473	1.01 G	92%	24%	5.664352		
			(1.266125)	(9.8330E-02)		(2.799878)	(2.799878)	(2.799878)	(0.017321)			2.486244		

() - (1s Uncertainties), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
 IDC - Instrument Detection Level in Conc Units, MLC - 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 Significant, Date/Time - mm/dd/yy hh.mm, 24hr Time

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RecCnt:9

RADCALC v4.8.29
 TA Richland

UST Number: KGXJ01AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KGXJ01AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6085

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00132	0050	01258	1920	12-MAR-2008 12:37:24.65
2	00000	00133	0050	01275	1920	12-MAR-2008 13:32:40.50
3	00000	00097	0050	01258	1920	12-MAR-2008 14:27:56.63

Bkg File: [quad3.bkgrnd]2008-03-12_0303.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00117	0400	0.29	09965	1920	12-MAR-2008 03:03:18.08

UST Number: KGXJ01AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]KGXJ01AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.B_1;4155

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00022	0050	01208	1810	13-MAR-2008 07:09:53.26

Bkg File: [quad2.bkgrnd]2008-03-13_0257.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00139	0400	0.35	09541	1810	13-MAR-2008 02:57:57.97

UST Number: KF6FA1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]KF6FA1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD7.BKGRND]CURRENT.C_1;3564

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00106	0050	01162	1700	12-MAR-2008 12:35:26.86
2	00000	00097	0050	01183	1700	12-MAR-2008 13:30:42.65
3	00000	00091	0050	01168	1700	12-MAR-2008 14:25:58.29

Bkg File: [quad7.bkgrnd]2008-03-12_0300.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00398	0400	1.00	09157	1700	12-MAR-2008 03:00:59.81 ✓

UST Number: KF6FA1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]KF6FA1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.A_1;4158

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00022	0050	01196	1810	13-MAR-2008 06:13:12.10

Bkg File: [quad2.bkgrnd]2008-03-13_0257.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00128	0400	0.32	09541	1810	13-MAR-2008 02:57:57.97

UST Number: KF6FD1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]KF6FD1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.A_1;3617

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00117	0050	01185	1650	12-MAR-2008 12:35:52.54
2	00000	00101	0050	01168	1650	12-MAR-2008 13:31:08.28
3	00000	00101	0050	01181	1650	12-MAR-2008 14:26:23.86

Bkg File: [quad1.bkgrnd]2008-03-12_0302.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00282	0400	0.71	09290	1650	12-MAR-2008 03:02:26.96 ✓

UST Number: KF6FD1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]KF6FD1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.B_1;4155

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00025	0050	01196	1810	13-MAR-2008 06:13:12.10

Bkg File: [quad2.bkgrnd]2008-03-13_0257.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00139	0400	0.35	09541	1810	13-MAR-2008 02:57:57.97

UST Number: KF6FF1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]KF6FF1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3613

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00096	0050	01185	1650	12-MAR-2008 12:35:52.54
2	00000	00077	0050	01168	1650	12-MAR-2008 13:31:08.28
3	00000	00070	0050	01181	1650	12-MAR-2008 14:26:23.86

Bkg File: [quad1.bkgrnd]2008-03-12_0302.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00246	0400	0.62	09290	1650	12-MAR-2008 03:02:26.96 ✓

UST Number: KF6FF1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]KF6FF1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;6073

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00030	0050	01286	1920	13-MAR-2008 06:08:21.48

Bkg File: [quad3.bkgrnd]2008-03-13_0247.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00125	0394	0.32	10041	1920	13-MAR-2008 02:47:59.09

UST Number: KF6FJ1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]KF6FJ1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3616

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00098	0050	01185	1650	12-MAR-2008 12:35:52.54
2	00000	00061	0050	01168	1650	12-MAR-2008 13:31:08.28
3	00000	00082	0050	01181	1650	12-MAR-2008 14:26:23.86

Bkg File: [quad1.bkgrnd]2008-03-12_0302.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00262	0400	0.66	09290	1650	12-MAR-2008 03:02:26.96 ✓

UST Number: KF6FJ1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]KF6FJ1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;6086

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00029	0050	01286	1920	13-MAR-2008 06:08:21.48

Bkg File: [quad3.bkgrnd]2008-03-13_0247.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00112	0394	0.28	10041	1920	13-MAR-2008 02:47:59.09

UST Number: KF6FK1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]KF6FK1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.A_1;4157

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00044	0050	01188	1810	12-MAR-2008 12:36:52.66
2	00000	00063	0050	01188	1810	12-MAR-2008 13:32:08.50
3	00000	00044	0050	01196	1810	12-MAR-2008 14:27:24.10

Bkg File: [quad2.bkgrnd]2008-03-12_0302.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00101	0400	0.25	09330	1810	12-MAR-2008 03:02:33.54 ✓

UST Number: KF6FK1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]KF6FK1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;6071

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00022	0050	01286	1920	13-MAR-2008 06:08:21.48

Bkg File: [quad3.bkgrnd]2008-03-13_0247.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0394	0.27	10041	1920	13-MAR-2008 02:47:59.09

UST Number: KF6FL1AF Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]KF6FL1AF.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.B_1;4154

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00074	0050	01188	1810	12-MAR-2008 12:36:52.66
2	00000	00067	0050	01188	1810	12-MAR-2008 13:32:08.50
3	00000	00054	0050	01196	1810	12-MAR-2008 14:27:24.10

Bkg File: [quad2.bkgrnd]2008-03-12_0302.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00129	0400	0.32	09330	1810	12-MAR-2008 03:02:33.54 ✓

UST Number: KF6FL1AF Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]KF6FL1AF.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;6087

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00019	0050	01231	1850	13-MAR-2008 06:08:32.79

Bkg File: [quad4.bkgrnd]2008-03-13_0253.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00162	0400	0.41	09850	1850	13-MAR-2008 02:53:35.60

UST Number: KF6FM1AJ Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]KF6FM1AJ.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.C_1;4155

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00069	0050	01188	1810	12-MAR-2008 12:36:52.66
2	00000	00066	0050	01188	1810	12-MAR-2008 13:32:08.50
3	00000	00067	0050	01196	1810	12-MAR-2008 14:27:24.10

Bkg File: [quad2.bkgrnd]2008-03-12_0302.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00134	0400	0.34	09330	1810	12-MAR-2008 03:02:33.54 ✓

UST Number: KF6FM1AJ Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]KF6FM1AJ.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.D_1;6101

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00031	0050	01231	1850	13-MAR-2008 06:08:32.79

Bkg File: [quad4.bkgrnd]2008-03-13_0253.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00107	0400	0.27	09850	1850	13-MAR-2008 02:53:35.60

UST Number: KGXJ01AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]KGXJ01AA.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;6072

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00022	0050	01258	1920	12-MAR-2008 12:37:24.65
2	00000	00015	0050	01275	1920	12-MAR-2008 13:32:40.50
3	00000	00016	0050	01258	1920	12-MAR-2008 14:27:56.63

Bkg File: [quad3.bkgrnd]2008-03-12_0303.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00110	0400	0.28	09965	1920	12-MAR-2008 03:03:18.08 ✓

UST Number: KGXJ01AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]KGXJ01AA.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.A_1;4158

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01208	1810	13-MAR-2008 07:09:53.26

Bkg File: [quad2.bkgrnd]2008-03-13_0257.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00128	0400	0.32	09541	1810	13-MAR-2008 02:57:57.97

RADIUM 228

STANDARDS AND TRACEABILITY

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: Ra22606A100		Ref: 11/1/2001	2.1060E+01	± 3.234E-01	DPM/G	
RASC4699	RA-226	3.0308E+00 ± 4.664E-02 DPM	0.1443 g	1/21/2008 1/21/2008	Armstron	2.1003E+01 ± 3.225E-01 DPM/G

3.0308E+000 ± 3.031E+000 (1) 3.0308E+000 , 3.0308E+000

RA22606A

RA22606A000
Ref. 6068
422.23 ± 13.93
dpm/g
REF. 11/1/2001



RA22606A100
Ref. 6069
21.12 ± 0.697
dpm/g
DVF 3/21/06

ISOTOPE DILUTION RECORD

1) Prepared by tda 2) Date Prepared 10/14/2005

3) Source Identification Number / Ref. Number RA22606A000 6068

4) Source Activity (dpm ± dpm/g) 4.2223E+02 ± 1.393E+01

5) Percent error of Source Activity 3.3 %

6) Weight of Source Material used (g) 50

7) (% Error) of Weight of Source Material used 0.0096 %

8) Diluent 1 M HNO3

9) Total Weight of the Dilution (g) approx. 750 g

10) (% Error) of Total Weight of the Dilution 0.0400 %

11) Specific Activity of Diluted Solution dpm/g 2.1120E+01 ± 6.970E-01

12) Total Uncertainty 3.300 %

13) Dilution Identification Number / Ref. Number RA22606A100 6069

14) Calibration Reference Date 11/1/2001

15) Isotope Inventory File update by/date tda 3/21/2006

16) Reviewed by/date _____

17) Location QCLAB 18) Exhausted _____

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

10) % error of Dilution Wt. = $(0.3 / \text{Total Weight of Dilution} * 100)$

11) Specific Activity = $\text{Source Activity} * \text{Wt. of Source Material used} / \text{Total Wt. of the Dilution}$

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: RA22806A000		Ref: 12/15/2003	4.4881E+02	± 1.482E+01	DPM/G	
RASC4699	RA-228	1.1167E+01 ± 3.708E-01 DPM	0.0408 g	1/21/2008 1/21/2008	Armstron	2.7370E+02 ± 9.038E+00 DPM/G
		1.1167E+001 ± 1.117E+001 (1)	1.1167E+001 , 1.1167E+001			
<p>STL Richland, SMFractions v4.8.29</p> <p>* - Isotope is an Impurity</p>						

Ra22806A000

Ra22806A000
Ref. 6076
448.81 ± 14.82
dpm/g
4/11/2007 DVF

ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>7/7/2004</u>
3) Source Identification Number / Ref. Number	<u>new source</u>		
4) Source Activity (dpm ± dpm/g)	<u>4.5507E+04</u>	±	<u>1.502E+03</u>
5) Percent error of Source Activity	<u>3.3</u>	%	
6) Weight of Source Material used (g)	<u>5.0063</u>		
7) (% Error) of Weight of Source Material used	<u>0.0959</u>	%	
8) Diluent	<u>1M HCL</u>		
9) Total Weight of the Dilution (g)	<u>507.61</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.0591</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>4.4881E+02</u>	±	<u>1.482E+01</u>
12) Total Uncertainty	<u>3.302</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22806A000</u>		<u>6076</u>
14) Calibration Reference Date	<u>12/15/2003</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>3/30/2006</u>
16) Reviewed by/date	<u></u>		<u></u>
17) Location	<u>QCLAB</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE RECORD FORM

1) Isotope RA-228 2) Reference Number 6076
3) Half Life 5.75 yrs 4) Storage Location QCLAB
5) Source Identification Number RA22806A000

CALIBRATION DATA

6) Activity as Received Units 3797
7) Overall Uncertainty Percent 3.30%
8) Reference Date / Time 15-Dec-03
9) Activity dpm/g 45507 ± 1502
10) Volume or Mass (ml/g) 5.0063
11) Calibrated by Analytix
12) Certificate Solution Number 67328-288

SURVEY DATA

13) Date Received 3/30/2006
14) Surveyed by tda
15) Survey Reading (Beta/Gamma) cpm >200 cpm
16) Survey Reading (Alpha) cpm background

17) Activity Conversion 3797 dps * 60 s/m / 5.0063g =
45507 ± 1501 dpm/g

18) Remarks From STL Denver

19) Isotope File Updated by tda

20) QC Approved _____

RADIUM 228
CONTINUING CALIBRATION

Ra22806A000

Ra22806A000
Ref. 6076
448.81 ± 14.82
dpm/g
4/11/2007 DVF

ISOTOPE DILUTION RECORD

1) Prepared by	<u>tda</u>	2) Date Prepared	<u>7/7/2004</u>
3) Source Identification Number / Ref. Number	<u>new source</u>		
4) Source Activity (dpm ± dpm/g)	<u>4.5507E+04</u>	±	<u>1.502E+03</u>
5) Percent error of Source Activity	<u>3.3</u>	%	
6) Weight of Source Material used (g)	<u>5.0063</u>		
7) (% Error) of Weight of Source Material used	<u>0.0959</u>	%	
8) Diluent	<u>1M HCL</u>		
9) Total Weight of the Dilution (g)	<u>507.61</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.0591</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>4.4881E+02</u>	±	<u>1.482E+01</u>
12) Total Uncertainty	<u>3.302</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22806A000</u>		<u>6076</u>
14) Calibration Reference Date	<u>12/15/2003</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>3/30/2006</u>
16) Reviewed by/date	<u></u>		<u></u>
17) Location	<u>QCLAB</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = (0.0048 / Weight of Source Material used * 100)

10) % error of Dilution Wt. = (0.3 / Total Weight of Dilution * 100)

11) Specific Activity = Source Activity * Wt. of Source Material used / Total Wt. of the Dilution

12) % Total Uncertainty = $\sqrt{(\% \text{ error of Source Activity})^2 + (\% \text{ error of Wt. Used})^2 + (\% \text{ error of Dilution Wt.})^2}$

Form: CC-006, 7/15/99, Rev 3

ISOTOPE RECORD FORM

1) Isotope RA-228 2) Reference Number 6076
3) Half Life 5.75 yrs 4) Storage Location QCLAB
5) Source Identification Number RA22806A000

CALIBRATION DATA

6) Activity as Received Units 3797
7) Overall Uncertainty Percent 3.30%
8) Reference Date / Time 15-Dec-03
9) Activity dpm/g 45507 ± 1502
10) Volume or Mass (ml/g) 5.0063
11) Calibrated by Analytix
12) Certificate Solution Number 67328-288

SURVEY DATA

13) Date Received 3/30/2006
14) Surveyed by tda
15) Survey Reading (Beta/Gamma) cpm >200 cpm
16) Survey Reading (Alpha) cpm background

17) Activity Conversion 3797 dps * 60 s/m / 5.0063g =
45507 ± 1501 dpm/g

18) Remarks From STL Denver

19) Isotope File Updated by tda

20) QC Approved _____

RADIUM 226
CONTINUING CALIBRATION

Quality Assurance Report.

Generated 26-MAR-2008 15:56:43.02

QA Filename : \$DISK1:[SCINT18.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-18

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 19590.000000 Upper Bound : 21654.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 20622.431641 Std Deviation : 344.169220

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:52	count		20589.0000		
12-FEB-2008 07:26	count		20407.0000		
13-FEB-2008 06:52	count		20588.0000		
14-FEB-2008 08:16	count		20634.0000		
18-FEB-2008 09:06	count		20661.0000		
19-FEB-2008 06:47	count		20526.0000		
20-FEB-2008 06:23	count		20755.0000		
21-FEB-2008 06:45	count		20528.0000		
25-FEB-2008 06:49	count		20395.0000		
26-FEB-2008 06:59	count		20579.0000		
27-FEB-2008 08:00	count		20779.0000		
28-FEB-2008 06:19	count		20747.0000		
3-MAR-2008 06:40	count		20733.0000		
4-MAR-2008 06:56	count		20620.0000		
5-MAR-2008 06:59	count		20763.0000		
6-MAR-2008 06:57	count		20621.0000		
10-MAR-2008 07:21	count		20537.0000		
11-MAR-2008 07:24	count		20808.0000		
12-MAR-2008 07:09	count		20883.0000		
13-MAR-2008 07:16	count		20873.0000		
17-MAR-2008 07:26	count		20967.0000		

18-MAR-2008 06:58	count	20369.0000	
19-MAR-2008 07:11	count	20473.0000	
20-MAR-2008 06:56	count	20732.0000	
24-MAR-2008 06:45	count	20444.0000	
25-MAR-2008 06:32	count	20684.0000	

Quality Assurance Report. Generated 26-MAR-2008 15:56:43.66

QA Filename : \$DISK1:[SCINT18.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-18
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.428571 Std Deviation : 0.786796

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

6-MAR-2008 16:39	count		0.0000		

Quality Assurance Report.

Generated 26-MAR-2008 15:52:52.10

QA Filename : \$DISK1:[SCINT17.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-17

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 23099.000000 Upper Bound : 24152.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 23626.392578 Std Deviation : 175.488617

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:39	count		24038.0000	In	
12-FEB-2008 07:12	count		23681.0000		
13-FEB-2008 06:37	count		23634.0000		
14-FEB-2008 07:12	count		24091.0000	In	
18-FEB-2008 08:49	count		23785.0000		
19-FEB-2008 06:34	count		23898.0000		
20-FEB-2008 06:05	count		23983.0000	In	
21-FEB-2008 06:27	count		23972.0000		
25-FEB-2008 06:35	count		23974.0000		
26-FEB-2008 06:34	count		23980.0000	In	
27-FEB-2008 07:33	count		23751.0000		
28-FEB-2008 06:07	count		23939.0000		
3-MAR-2008 06:22	count		23887.0000		
4-MAR-2008 06:40	count		23750.0000		
5-MAR-2008 06:37	count		24188.0000	Ab Ac	
5-MAR-2008 07:22	count		23668.0000		
6-MAR-2008 06:40	count		23810.0000		
10-MAR-2008 07:07	count		24130.0000	In	
11-MAR-2008 06:54	count		23937.0000		
12-MAR-2008 06:57	count		23696.0000		
13-MAR-2008 07:04	count		23944.0000		

17-MAR-2008 07:01	count	24050.0000	In
18-MAR-2008 06:40	count	24122.0000	In
19-MAR-2008 06:59	count	23855.0000	
20-MAR-2008 06:42	count	23993.0000	In
24-MAR-2008 06:27	count	24055.0000	In
25-MAR-2008 06:19	count	23911.0000	

Quality Assurance Report. Generated 26-MAR-2008 15:52:52.47

QA Filename : \$DISK1:[SCINT17.QA]BKG.QAF;2

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-17
Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
Mean : 5.250000 Std Deviation : 1.544786

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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6-MAR-2008 16:39	count		2.0000	In	
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Quality Assurance Report.

Generated 26-MAR-2008 15:44:13.21

QA Filename : \$DISK1:[SCINT16.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-16

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 22600.000000 Upper Bound : 23976.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 23288.384766 Std Deviation : 229.251007

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:12	count		23259.0000		
12-FEB-2008 06:57	count		23359.0000		
13-FEB-2008 06:14	count		23145.0000		
14-FEB-2008 06:46	count		23211.0000		
18-FEB-2008 08:32	count		23084.0000		
19-FEB-2008 06:21	count		23396.0000		
20-FEB-2008 05:53	count		23298.0000		
21-FEB-2008 06:14	count		23434.0000		
25-FEB-2008 06:19	count		23273.0000		
26-FEB-2008 06:13	count		23113.0000		
27-FEB-2008 07:19	count		23433.0000		
28-FEB-2008 05:28	count		23051.0000		
3-MAR-2008 06:09	count		22996.0000		
4-MAR-2008 06:28	count		22968.0000		
5-MAR-2008 06:21	count		23371.0000		
6-MAR-2008 06:10	count		23253.0000		
10-MAR-2008 06:51	count		23154.0000		
11-MAR-2008 06:41	count		23000.0000		
12-MAR-2008 06:43	count		23593.0000		
13-MAR-2008 06:39	count		22847.0000		
17-MAR-2008 06:30	count		23096.0000		

18-MAR-2008 06:06	count	23041.0000	
19-MAR-2008 06:39	count	23144.0000	
20-MAR-2008 06:29	count	23179.0000	
24-MAR-2008 06:15	count	23309.0000	
25-MAR-2008 06:07	count	22939.0000	

Quality Assurance Report. Generated 26-MAR-2008 15:44:13.75

QA Filename : \$DISK1:[SCINT16.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-16
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 2.250000 Std Deviation : 1.035098

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

6-MAR-2008 16:39	count		1.0000	

Quality Assurance Report.

Generated 26-MAR-2008 15:38:19.47

QA Filename : \$DISK1:[SCINT15.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-15

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 23201.000000 Upper Bound : 25462.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 24332.107422 Std Deviation : 376.982300

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:52	count		24765.0000		
12-FEB-2008 07:26	count		24246.0000		
13-FEB-2008 06:52	count		24439.0000		
14-FEB-2008 08:16	count		24716.0000		
18-FEB-2008 09:06	count		24505.0000		
19-FEB-2008 06:46	count		24115.0000		
20-FEB-2008 06:23	count		24370.0000		
21-FEB-2008 06:44	count		24319.0000		
25-FEB-2008 06:49	count		24446.0000		
26-FEB-2008 06:59	count		24175.0000		
27-FEB-2008 08:00	count		24311.0000		
28-FEB-2008 06:19	count		24425.0000		
3-MAR-2008 06:40	count		24539.0000		
4-MAR-2008 06:56	count		24468.0000		
5-MAR-2008 06:59	count		24393.0000		
6-MAR-2008 06:57	count		24234.0000		
10-MAR-2008 07:21	count		24479.0000		
11-MAR-2008 07:24	count		24485.0000		
12-MAR-2008 07:09	count		24481.0000		
13-MAR-2008 07:16	count		24415.0000		
17-MAR-2008 07:26	count		24440.0000		

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:52	count		24765.0000		
12-FEB-2008 07:26	count		24246.0000		
13-FEB-2008 06:52	count		24439.0000		
14-FEB-2008 08:16	count		24716.0000		
18-FEB-2008 09:06	count		24505.0000		
19-FEB-2008 06:46	count		24115.0000		
20-FEB-2008 06:23	count		24370.0000		
21-FEB-2008 06:44	count		24319.0000		
25-FEB-2008 06:49	count		24446.0000		
26-FEB-2008 06:59	count		24175.0000		
27-FEB-2008 08:00	count		24311.0000		
28-FEB-2008 06:19	count		24425.0000		
3-MAR-2008 06:40	count		24539.0000		
4-MAR-2008 06:56	count		24468.0000		
5-MAR-2008 06:59	count		24393.0000		
6-MAR-2008 06:57	count		24234.0000		
10-MAR-2008 07:21	count		24479.0000		
11-MAR-2008 07:24	count		24485.0000		
12-MAR-2008 07:09	count		24481.0000		
13-MAR-2008 07:16	count		24415.0000		
17-MAR-2008 07:26	count		24440.0000		

18-MAR-2008 06:58	count	24568.0000	
19-MAR-2008 07:11	count	24244.0000	
20-MAR-2008 06:56	count	24491.0000	
24-MAR-2008 06:45	count	24383.0000	
25-MAR-2008 06:32	count	24654.0000	

Quality Assurance Report. Generated 26-MAR-2008 15:38:19.86

QA Filename : \$DISK1:[SCINT15.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-15
Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.428571 Std Deviation : 0.534522

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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6-MAR-2008 16:39	count		2.0000	In
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Quality Assurance Report.

Generated 26-MAR-2008 15:32:45.14

QA Filename : \$DISK1:[SCINT14.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-14

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 17718.000000 Upper Bound : 18641.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 18179.703125 Std Deviation : 153.883514

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:39	count		18232.0000		
12-FEB-2008 07:12	count		18397.0000		
13-FEB-2008 06:37	count		18354.0000		
14-FEB-2008 07:12	count		18199.0000		
18-FEB-2008 08:49	count		18281.0000		
19-FEB-2008 06:34	count		17902.0000		
20-FEB-2008 06:05	count		18109.0000		
21-FEB-2008 06:27	count		17935.0000		
25-FEB-2008 06:31	count		18205.0000		
26-FEB-2008 06:34	count		18319.0000		
27-FEB-2008 07:33	count		18137.0000		
28-FEB-2008 06:07	count		18078.0000		
3-MAR-2008 06:22	count		18274.0000		
4-MAR-2008 06:40	count		18410.0000		
5-MAR-2008 06:37	count		18308.0000		
6-MAR-2008 06:40	count		18583.0000	In	
10-MAR-2008 07:07	count		18168.0000		
11-MAR-2008 06:54	count		18516.0000	In	
12-MAR-2008 06:57	count		18402.0000		
13-MAR-2008 07:04	count		18322.0000		
17-MAR-2008 07:01	count		18520.0000	In	

18-MAR-2008 06:40	count	18142.0000	
19-MAR-2008 06:59	count	18342.0000	
20-MAR-2008 06:42	count	18295.0000	
24-MAR-2008 06:27	count	18159.0000	
25-MAR-2008 06:19	count	18105.0000	

Quality Assurance Report. Generated 26-MAR-2008 15:32:45.52

QA Filename : \$DISK1:[SCINT14.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-14
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

6-MAR-2008 16:39	count		0.0000	

Quality Assurance Report.

Generated 26-MAR-2008 15:01:48.28

QA Filename : \$DISK1:[SCINT13.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-13

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 16153.000000 Upper Bound : 22813.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-MAR-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 20390.955078 Std Deviation : 693.898804

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:12	count		19136.0000		
12-FEB-2008 06:57	count		19179.0000		
13-FEB-2008 06:14	count		19117.0000		
14-FEB-2008 06:46	count		19136.0000		
18-FEB-2008 08:32	count		19076.0000		
19-FEB-2008 06:21	count		18527.0000	In	
20-FEB-2008 05:53	count		18854.0000	In	
21-FEB-2008 06:14	count		18910.0000	In	
25-FEB-2008 06:19	count		18687.0000	In	
26-FEB-2008 06:13	count		18552.0000	In	
27-FEB-2008 07:19	count		18873.0000	In	
28-FEB-2008 05:28	count		19205.0000		
3-MAR-2008 06:09	count		18417.0000	In	
4-MAR-2008 06:28	count		18554.0000	In	
5-MAR-2008 06:21	count		18462.0000	In	
6-MAR-2008 06:09	count		18658.0000	In	
10-MAR-2008 06:51	count		18797.0000	In	
11-MAR-2008 06:41	count		18726.0000	In	
12-MAR-2008 06:43	count		18779.0000	In	
13-MAR-2008 06:39	count		18511.0000	In	
17-MAR-2008 06:29	count		18856.0000	In	

18-MAR-2008 06:06	count	18930.0000	In
19-MAR-2008 06:39	count	18617.0000	In
20-MAR-2008 06:29	count	19326.0000	
24-MAR-2008 06:15	count	18886.0000	In
25-MAR-2008 06:07	count	18945.0000	In

Quality Assurance Report. Generated 26-MAR-2008 15:01:48.64

QA Filename : \$DISK1:[SCINT13.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-13
Parameter Units : counts Parameter Type :

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

6-MAR-2008 16:39	count		0.0000	

Quality Assurance Report.

Generated 26-MAR-2008 14:58:03.71

QA Filename : \$DISK1:[SCINT12.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-12

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 10424.000000 Upper Bound : 11485.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 10954.969727 Std Deviation : 176.697861

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:52	count		10836.0000		
12-FEB-2008 07:26	count		10680.0000		
13-FEB-2008 06:52	count		10800.0000		
14-FEB-2008 08:16	count		10658.0000		
18-FEB-2008 09:06	count		10629.0000		
19-FEB-2008 06:46	count		10563.0000	In	
19-FEB-2008 06:58	count		0.0000	Be Ac	
20-FEB-2008 06:22	count		10755.0000		
21-FEB-2008 06:44	count		10941.0000		
25-FEB-2008 06:49	count		10804.0000		
26-FEB-2008 06:59	count		10738.0000		
27-FEB-2008 08:00	count		10957.0000		
28-FEB-2008 06:19	count		10720.0000		
3-MAR-2008 06:40	count		10467.0000	In	
4-MAR-2008 06:56	count		10763.0000		
5-MAR-2008 06:59	count		10594.0000	In	
6-MAR-2008 06:57	count		10574.0000	In	
10-MAR-2008 07:20	count		10795.0000		
11-MAR-2008 07:24	count		10801.0000		
12-MAR-2008 07:09	count		10862.0000		
13-MAR-2008 07:16	count		10813.0000		

17-MAR-2008 07:26	count	10956.0000	
18-MAR-2008 06:58	count	10692.0000	
19-MAR-2008 07:11	count	10586.0000	In
20-MAR-2008 06:56	count	10821.0000	
24-MAR-2008 06:45	count	10819.0000	
25-MAR-2008 06:32	count	10881.0000	

Quality Assurance Report. Generated 26-MAR-2008 14:58:04.09

QA Filename : \$DISK1:[SCINT12.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-12
Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
Mean : 0.428571 Std Deviation : 0.534522

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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6-MAR-2008 16:39	count		0.0000	
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Quality Assurance Report.

Generated 26-MAR-2008 17:05:47.55

QA Filename : \$DISK1:[SCINT11.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-11

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 6971.000000 Upper Bound : 7601.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 7286.533203 Std Deviation : 105.227036

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:39	count		7196.0000		
12-FEB-2008 07:12	count		7101.0000		
13-FEB-2008 06:37	count		7157.0000		
14-FEB-2008 07:12	count		7093.0000		
18-FEB-2008 08:49	count		7171.0000		
19-FEB-2008 06:34	count		7005.0000	In	
20-FEB-2008 06:05	count		7259.0000		
21-FEB-2008 06:27	count		7226.0000		
25-FEB-2008 06:31	count		7173.0000		
26-FEB-2008 06:34	count		7196.0000		
27-FEB-2008 07:33	count		7165.0000		
28-FEB-2008 06:07	count		7251.0000		
3-MAR-2008 06:22	count		6947.0000	Be Ac	
3-MAR-2008 07:04	count		6952.0000	Be Ac	
4-MAR-2008 06:40	count		7160.0000		
5-MAR-2008 06:37	count		6952.0000	Be Ac	
5-MAR-2008 07:22	count		6891.0000	Be Ac	
6-MAR-2008 06:40	count		7032.0000	In	
10-MAR-2008 07:07	count		7078.0000		
11-MAR-2008 06:54	count		7134.0000		
12-MAR-2008 06:57	count		7219.0000		

13-MAR-2008 07:03	count	7092.0000	
17-MAR-2008 07:01	count	7189.0000	
18-MAR-2008 06:40	count	7194.0000	
19-MAR-2008 06:59	count	7108.0000	
20-MAR-2008 06:42	count	7095.0000	
24-MAR-2008 06:27	count	7283.0000	
25-MAR-2008 06:19	count	7327.0000	

Quality Assurance Report. Generated 26-MAR-2008 17:05:47.94

QA Filename : \$DISK1:[SCINT11.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-11
Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
Mean : 0.250000 Std Deviation : 0.462910

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

6-MAR-2008 16:38	count		0.0000	

Quality Assurance Report.

Generated 26-MAR-2008 14:21:18.50

QA Filename : \$DISK1:[SCINT10.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-10

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 11242.000000 Upper Bound : 12058.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 11650.000000 Std Deviation : 136.252686

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:12	count		11481.0000		
12-FEB-2008 06:57	count		11869.0000		
13-FEB-2008 06:14	count		11552.0000		
14-FEB-2008 06:45	count		11782.0000		
18-FEB-2008 08:32	count		12008.0000	[In]	
19-FEB-2008 06:59	count		11471.0000		
20-FEB-2008 05:53	count		11583.0000		
21-FEB-2008 06:14	count		11541.0000		
25-FEB-2008 06:19	count		11819.0000		
26-FEB-2008 06:13	count		11565.0000		
27-FEB-2008 07:19	count		11559.0000		
28-FEB-2008 05:28	count		11618.0000		
3-MAR-2008 06:09	count		11563.0000		
4-MAR-2008 06:28	count		11857.0000		
5-MAR-2008 06:21	count		11686.0000		
6-MAR-2008 06:09	count		11277.0000	[In]	
10-MAR-2008 06:51	count		11636.0000		
11-MAR-2008 06:41	count		11674.0000		
12-MAR-2008 06:43	count		11786.0000		
13-MAR-2008 06:39	count		11823.0000		
17-MAR-2008 06:29	count		11629.0000		

18-MAR-2008 06:06	count	11563.0000	
19-MAR-2008 06:39	count	11877.0000	
20-MAR-2008 06:29	count	11924.0000	In
24-MAR-2008 06:15	count	11918.0000	
25-MAR-2008 06:07	count	11896.0000	

Quality Assurance Report. Generated 26-MAR-2008 14:21:18.88

QA Filename : \$DISK1:[SCINT10.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-10
Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 1.142857 Std Deviation : 0.899735

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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6-MAR-2008 16:38	count		1.0000	
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Quality Assurance Report.

Generated 26-MAR-2008 14:17:33.96

QA Filename : \$DISK1:[SCINT9.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-9

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 380458.000000 Upper Bound : 424024.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 402241.093750 Std Deviation : 7261.176758

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:52	count		404826.0000		
12-FEB-2008 07:26	count		411959.0000		
13-FEB-2008 06:52	count		402490.0000		
14-FEB-2008 08:16	count		394933.0000		
18-FEB-2008 09:06	count		413183.0000		
19-FEB-2008 06:46	count		438067.0000	Ab Ac	
19-FEB-2008 07:12	count		431535.0000	Ab Ac	
20-FEB-2008 06:22	count		426542.0000	Ab Ac	
20-FEB-2008 06:38	count		425445.0000	Ab Ac	
21-FEB-2008 07:55	count		422912.0000	In	
25-FEB-2008 06:49	count		423480.0000	In	
26-FEB-2008 06:59	count		412899.0000		
27-FEB-2008 08:00	count		425682.0000	Ab Ac	
27-FEB-2008 09:11	count		419320.0000	In	
28-FEB-2008 06:19	count		423122.0000	In	
3-MAR-2008 06:40	count		421192.0000	In	
4-MAR-2008 06:56	count		423716.0000	In	
5-MAR-2008 06:59	count		414341.0000		
6-MAR-2008 06:57	count		419545.0000	In	
10-MAR-2008 07:20	count		428548.0000	Ab Ac	
10-MAR-2008 08:12	count		433902.0000	Ab Ac	

11-MAR-2008 07:19	count	421668.0000	In
12-MAR-2008 07:09	count	429228.0000	Ab Ac
12-MAR-2008 07:59	count	422424.0000	In
13-MAR-2008 07:16	count	430011.0000	Ab Ac
13-MAR-2008 07:29	count	429797.0000	Ab Ac
17-MAR-2008 07:26	count	422483.0000	In
18-MAR-2008 06:58	count	426008.0000	Ab Ac
18-MAR-2008 07:15	count	421019.0000	In
19-MAR-2008 07:11	count	420269.0000	In
20-MAR-2008 06:56	count	421484.0000	In
24-MAR-2008 06:45	count	422535.0000	In
25-MAR-2008 06:32	count	421408.0000	In

Quality Assurance Report. Generated 26-MAR-2008 14:17:34.35

QA Filename : \$DISK1:[SCINT9.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-9

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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20-FEB-2008 09:03	count		0.0000		
6-MAR-2008 16:38	count		0.0000		

Quality Assurance Report.

Generated 26-MAR-2008 14:13:29.10

QA Filename : \$DISK1:[SCINT8.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-8

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 384784.000000 Upper Bound : 426946.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 405865.250000 Std Deviation : 7027.312012

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:39	count		397248.0000		
12-FEB-2008 07:12	count		406947.0000		
13-FEB-2008 06:37	count		392455.0000		
14-FEB-2008 07:12	count		393975.0000		
18-FEB-2008 08:49	count		400233.0000		
19-FEB-2008 06:34	count		401341.0000		
20-FEB-2008 06:05	count		404811.0000		
21-FEB-2008 06:27	count		400686.0000		
25-FEB-2008 06:31	count		395480.0000		
26-FEB-2008 06:34	count		400154.0000		
27-FEB-2008 07:33	count		411757.0000		
28-FEB-2008 06:07	count		399713.0000		
3-MAR-2008 06:22	count		411810.0000		
4-MAR-2008 06:40	count		404554.0000		
5-MAR-2008 06:37	count		401871.0000		
6-MAR-2008 06:40	count		401741.0000		
10-MAR-2008 07:06	count		414556.0000		
11-MAR-2008 06:54	count		405379.0000		
12-MAR-2008 06:57	count		398830.0000		
13-MAR-2008 07:03	count		410225.0000		
17-MAR-2008 07:01	count		398880.0000		

18-MAR-2008 06:40	count	397404.0000	
19-MAR-2008 06:59	count	400202.0000	
20-MAR-2008 06:42	count	402513.0000	
24-MAR-2008 06:27	count	398170.0000	
25-MAR-2008 06:19	count	406726.0000	

Quality Assurance Report. Generated 26-MAR-2008 14:13:29.48

QA Filename : \$DISK1:[SCINT8.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-8
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

6-MAR-2008 16:38	count		0.0000		

Quality Assurance Report.

Generated 26-MAR-2008 14:10:21.08

QA Filename : \$DISK1:[SCINT7.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-7

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 395176.000000 Upper Bound : 430269.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 412722.750000 Std Deviation : 5848.966797

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:12	count		415949.0000		
12-FEB-2008 06:57	count		414995.0000		
13-FEB-2008 06:14	count		415586.0000		
14-FEB-2008 06:45	count		414168.0000		
18-FEB-2008 08:32	count		417533.0000		
19-FEB-2008 06:21	count		415762.0000		
20-FEB-2008 05:52	count		423845.0000		
21-FEB-2008 06:14	count		415313.0000		
25-FEB-2008 06:19	count		409528.0000		
26-FEB-2008 06:13	count		411861.0000		
27-FEB-2008 07:19	count		412878.0000		
28-FEB-2008 05:28	count		414842.0000		
3-MAR-2008 06:09	count		420481.0000		
4-MAR-2008 06:28	count		408866.0000		
5-MAR-2008 06:21	count		412728.0000		
6-MAR-2008 06:09	count		423250.0000		
10-MAR-2008 06:51	count		428553.0000	In	
11-MAR-2008 06:41	count		417826.0000		
12-MAR-2008 06:43	count		413893.0000		
13-MAR-2008 06:39	count		420460.0000		
17-MAR-2008 06:29	count		413212.0000		

18-MAR-2008 06:06	count	412766.0000	
19-MAR-2008 06:39	count	412779.0000	
20-MAR-2008 06:29	count	425178.0000	In
24-MAR-2008 06:15	count	402298.0000	
25-MAR-2008 06:07	count	414514.0000	

Quality Assurance Report. Generated 26-MAR-2008 14:10:21.45

QA Filename : \$DISK1:[SCINT7.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-7
Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.857143 Std Deviation : 2.267787

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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6-MAR-2008 16:38	count		0.0000	
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Quality Assurance Report.

Generated 26-MAR-2008 14:08:18.97

QA Filename : \$DISK1:[SCINT6.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-6

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 23463.000000 Upper Bound : 25491.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 24477.566406 Std Deviation : 338.038757

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:52	count		24680.0000		
12-FEB-2008 07:26	count		24290.0000		
13-FEB-2008 06:52	count		24478.0000		
14-FEB-2008 08:16	count		24281.0000		
18-FEB-2008 09:06	count		24739.0000		
19-FEB-2008 06:46	count		24567.0000		
20-FEB-2008 06:22	count		24772.0000		
21-FEB-2008 06:44	count		24492.0000		
25-FEB-2008 06:49	count		24552.0000		
26-FEB-2008 06:59	count		24281.0000		
27-FEB-2008 07:59	count		24461.0000		
28-FEB-2008 06:19	count		24335.0000		
3-MAR-2008 06:40	count		24682.0000		
4-MAR-2008 06:56	count		24468.0000		
5-MAR-2008 06:59	count		24528.0000		
6-MAR-2008 06:57	count		24090.0000		
10-MAR-2008 07:20	count		24376.0000		
11-MAR-2008 07:19	count		24624.0000		
12-MAR-2008 07:09	count		24634.0000		
13-MAR-2008 07:16	count		24453.0000		
17-MAR-2008 07:25	count		24492.0000		

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:52	count		24680.0000		
12-FEB-2008 07:26	count		24290.0000		
13-FEB-2008 06:52	count		24478.0000		
14-FEB-2008 08:16	count		24281.0000		
18-FEB-2008 09:06	count		24739.0000		
19-FEB-2008 06:46	count		24567.0000		
20-FEB-2008 06:22	count		24772.0000		
21-FEB-2008 06:44	count		24492.0000		
25-FEB-2008 06:49	count		24552.0000		
26-FEB-2008 06:59	count		24281.0000		
27-FEB-2008 07:59	count		24461.0000		
28-FEB-2008 06:19	count		24335.0000		
3-MAR-2008 06:40	count		24682.0000		
4-MAR-2008 06:56	count		24468.0000		
5-MAR-2008 06:59	count		24528.0000		
6-MAR-2008 06:57	count		24090.0000		
10-MAR-2008 07:20	count		24376.0000		
11-MAR-2008 07:19	count		24624.0000		
12-MAR-2008 07:09	count		24634.0000		
13-MAR-2008 07:16	count		24453.0000		
17-MAR-2008 07:25	count		24492.0000		

18-MAR-2008 06:58	count	24562.0000	
19-MAR-2008 07:11	count	24298.0000	
20-MAR-2008 06:56	count	24473.0000	
24-MAR-2008 06:45	count	24648.0000	
25-MAR-2008 06:32	count	24629.0000	

Quality Assurance Report. Generated 26-MAR-2008 14:08:19.35

QA Filename : \$DISK1:[SCINT6.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-6
Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 2.000000 Std Deviation : 1.603567

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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6-MAR-2008 16:38	count		1.0000	
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Quality Assurance Report.

Generated 26-MAR-2008 14:05:37.91

QA Filename : \$DISK1:[SCINT5.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-5

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 16529.000000 Upper Bound : 19187.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 17858.449219 Std Deviation : 443.435150

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:39	count		17802.0000		
12-FEB-2008 07:12	count		18267.0000		
13-FEB-2008 06:37	count		18031.0000		
14-FEB-2008 07:12	count		18175.0000		
18-FEB-2008 08:49	count		17860.0000		
19-FEB-2008 06:34	count		17895.0000		
20-FEB-2008 06:05	count		17977.0000		
21-FEB-2008 06:27	count		18286.0000		
25-FEB-2008 06:31	count		17955.0000		
26-FEB-2008 06:34	count		18176.0000		
27-FEB-2008 07:33	count		18171.0000		
28-FEB-2008 06:07	count		18237.0000		
3-MAR-2008 06:22	count		18071.0000		
4-MAR-2008 06:40	count		18177.0000		
5-MAR-2008 06:36	count		17827.0000		
6-MAR-2008 06:40	count		17706.0000		
10-MAR-2008 07:06	count		17722.0000		
11-MAR-2008 06:54	count		17958.0000		
12-MAR-2008 06:56	count		18384.0000		
13-MAR-2008 07:03	count		18261.0000		
17-MAR-2008 07:01	count		18109.0000		

18-MAR-2008 06:40	count	18149.0000	
19-MAR-2008 06:58	count	17973.0000	
20-MAR-2008 06:42	count	18360.0000	
24-MAR-2008 06:27	count	18103.0000	
25-MAR-2008 06:19	count	18105.0000	

Quality Assurance Report. Generated 26-MAR-2008 14:05:38.29

QA Filename : \$DISK1:[SCINT5.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-5
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : ----- End Date : -----
 Mean : 3557.376709 Std Deviation : 36780.128906

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

6-MAR-2008 16:38	count		0.0000	

Quality Assurance Report.

Generated 26-MAR-2008 14:03:29.79

QA Filename : \$DISK1:[SCINT4.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-4

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 23800.000000 Upper Bound : 25900.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Trend Test Test Parameters ----

N Mean Samples : 10 M Slope Samples: 10

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2007 00:00 End Date : 1-JAN-2008 00:00

Mean : 24822.316406 Std Deviation : 338.039825

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:12	count		25461.0000		
11-FEB-2008 07:06	count		25802.0000	[In]	
12-FEB-2008 06:57	count		25424.0000		
12-FEB-2008 07:39	count		25481.0000		
13-FEB-2008 06:14	count		25334.0000		
14-FEB-2008 06:45	count		25380.0000		
14-FEB-2008 08:28	count		25421.0000		
18-FEB-2008 08:32	count		25423.0000		
18-FEB-2008 09:23	count		25370.0000		
19-FEB-2008 06:21	count		24574.0000		
20-FEB-2008 05:52	count		24939.0000		
21-FEB-2008 06:14	count		25060.0000		
25-FEB-2008 06:19	count		24824.0000		
26-FEB-2008 06:13	count		24642.0000		
27-FEB-2008 07:19	count		24548.0000		
28-FEB-2008 05:28	count		24866.0000		
3-MAR-2008 06:09	count		24564.0000		
4-MAR-2008 06:28	count		24308.0000		

5-MAR-2008 06:21	count	24676.0000			
6-MAR-2008 06:09	count	24899.0000			
10-MAR-2008 06:50	count	24583.0000			
11-MAR-2008 06:41	count	24649.0000			
12-MAR-2008 06:42	count	24718.0000			
13-MAR-2008 06:39	count	24524.0000			
17-MAR-2008 06:29	count	24531.0000			
18-MAR-2008 06:06	count	24831.0000			
19-MAR-2008 06:39	count	24747.0000			
20-MAR-2008 06:29	count	24662.0000			
24-MAR-2008 06:15	count	24947.0000			
25-MAR-2008 06:07	count	24822.0000			

Quality Assurance Report. Generated 26-MAR-2008 14:03:30.72

QA Filename : \$DISK1:[SCINT4.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-4

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : ----- End Date : -----

Mean : 4.084337 Std Deviation : 15.499178

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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6-MAR-2008 16:38	count		1.0000		
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Quality Assurance Report.

Generated 26-MAR-2008 13:59:41.55

QA Filename : \$DISK1:[SCINT3.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-3

Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 254392.000000 Upper Bound : 270567.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 262480.093750 Std Deviation : 2695.693359

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:52	count		256721.0000	In	
12-FEB-2008 07:26	count		257369.0000		
13-FEB-2008 06:52	count		257803.0000		
14-FEB-2008 08:16	count		256607.0000	In	
18-FEB-2008 09:06	count		256133.0000	In	
19-FEB-2008 06:46	count		256680.0000	In	
20-FEB-2008 06:22	count		261761.0000		
21-FEB-2008 06:44	count		260015.0000		
25-FEB-2008 06:49	count		256984.0000	In	
26-FEB-2008 06:59	count		256351.0000	In	
27-FEB-2008 08:00	count		256659.0000	In	
28-FEB-2008 06:19	count		257809.0000		
3-MAR-2008 06:40	count		255932.0000	In	
4-MAR-2008 06:56	count		256207.0000	In	
5-MAR-2008 06:59	count		255094.0000	In	
6-MAR-2008 06:57	count		254613.0000	In	
10-MAR-2008 07:06	count		256581.0000	In	
11-MAR-2008 07:19	count		256952.0000	In	
12-MAR-2008 07:09	count		257608.0000		
13-MAR-2008 07:16	count		258989.0000		
17-MAR-2008 07:25	count		258492.0000		

18-MAR-2008 06:58	count	258594.0000	
19-MAR-2008 07:11	count	256717.0000	In
20-MAR-2008 06:56	count	259465.0000	
24-MAR-2008 06:45	count	257779.0000	
25-MAR-2008 06:32	count	257803.0000	

Quality Assurance Report. Generated 26-MAR-2008 13:59:41.93

QA Filename : \$DISK1:[SCINT3.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-3
Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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6-MAR-2008 16:38	count		0.0000	
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Quality Assurance Report.

Generated 26-MAR-2008 13:48:26.51

QA Filename : \$DISK1:[SCINT2.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-2

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 258046.000000 Upper Bound : 272954.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 265500.343750 Std Deviation : 2484.659180

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
11-FEB-2008 06:39	count		261565.0000		
12-FEB-2008 07:12	count		262223.0000		
13-FEB-2008 06:37	count		264036.0000		
14-FEB-2008 07:12	count		260734.0000		
18-FEB-2008 08:49	count		260513.0000	In	
19-FEB-2008 06:34	count		260501.0000	In	
20-FEB-2008 06:05	count		262768.0000		
21-FEB-2008 06:27	count		265538.0000		
25-FEB-2008 06:31	count		261092.0000		
26-FEB-2008 06:34	count		260457.0000	In	
27-FEB-2008 07:33	count		261775.0000		
28-FEB-2008 06:07	count		262532.0000		
3-MAR-2008 06:22	count		259442.0000	In	
4-MAR-2008 06:40	count		262134.0000		
5-MAR-2008 06:36	count		258660.0000	In	
6-MAR-2008 06:39	count		260309.0000	In	
10-MAR-2008 06:50	count		264148.0000		
11-MAR-2008 06:54	count		260553.0000		
12-MAR-2008 06:56	count		262134.0000		
13-MAR-2008 07:03	count		265013.0000		
17-MAR-2008 07:01	count		263087.0000		

18-MAR-2008 06:40	count	263858.0000	
19-MAR-2008 06:58	count	261911.0000	
20-MAR-2008 06:42	count	264970.0000	
24-MAR-2008 06:27	count	262408.0000	
25-MAR-2008 06:19	count	262829.0000	

Quality Assurance Report. Generated 26-MAR-2008 13:48:26.88

QA Filename : \$DISK1:[SCINT2.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-2
Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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6-MAR-2008 16:38	count		0.0000		
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Quality Assurance Report.

Generated 26-MAR-2008 13:46:43.39

QA Filename : \$DISK1:[SCINT1.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-1

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 261532.000000 Upper Bound : 274615.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2007 00:00 End Date : 1-JUL-2007 00:00

Mean : 268074.031250 Std Deviation : 2180.427979

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:12	count		266888.0000		
12-FEB-2008 06:56	count		267492.0000		
13-FEB-2008 06:14	count		268636.0000		
14-FEB-2008 06:45	count		266577.0000		
18-FEB-2008 08:32	count		266221.0000		
19-FEB-2008 06:21	count		265051.0000		
20-FEB-2008 05:52	count		268949.0000		
21-FEB-2008 06:14	count		269674.0000		
25-FEB-2008 06:19	count		266945.0000		
26-FEB-2008 06:13	count		264647.0000		
27-FEB-2008 07:19	count		267057.0000		
28-FEB-2008 05:28	count		267853.0000		
3-MAR-2008 06:09	count		264349.0000		
4-MAR-2008 06:28	count		268006.0000		
5-MAR-2008 06:21	count		263765.0000		
6-MAR-2008 06:09	count		266388.0000		
10-MAR-2008 07:20	count		268465.0000		
11-MAR-2008 06:41	count		267486.0000		
12-MAR-2008 06:42	count		267981.0000		
13-MAR-2008 06:39	count		270850.0000		
17-MAR-2008 06:29	count		268166.0000		

18-MAR-2008 06:06	count	268542.0000	
19-MAR-2008 06:39	count	267215.0000	
20-MAR-2008 06:29	count	268873.0000	
24-MAR-2008 06:14	count	269270.0000	
25-MAR-2008 06:07	count	268250.0000	

Quality Assurance Report. Generated 26-MAR-2008 13:46:43.76

QA Filename : \$DISK1:[SCINT1.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000min bkg, ascint-1

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUN-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.000000 Std Deviation : 0.000000

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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6-MAR-2008 16:38	count		0.0000	
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Quality Assurance Report.

Generated 26-MAR-2008 16:01:48.88

QA Filename : \$DISK1:[SCINT19.QA]CHK.QAF;1

-- Multi-Test Full Report --

Description : 10 min check, ascint-19

Parameter Units : counts Parameter Type : Generic

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 17475.000000 Upper Bound : 19655.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JUL-2007 00:00 End Date : 1-JAN-2008 00:00

Mean : 18575.429688 Std Deviation : 360.684418

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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11-FEB-2008 06:12	count		18681.0000		
12-FEB-2008 06:57	count		18614.0000		
13-FEB-2008 06:14	count		18681.0000		
14-FEB-2008 06:46	count		18961.0000		
14-FEB-2008 07:15	count		18771.0000		
18-FEB-2008 08:32	count		18882.0000		
18-FEB-2008 08:50	count		18835.0000		
19-FEB-2008 06:21	count		18737.0000		
20-FEB-2008 05:53	count		18871.0000		
20-FEB-2008 06:06	count		18797.0000		
21-FEB-2008 06:14	count		18702.0000		
25-FEB-2008 06:19	count		18687.0000		
26-FEB-2008 06:13	count		18669.0000		
27-FEB-2008 07:19	count		18555.0000		
28-FEB-2008 05:28	count		18215.0000		
3-MAR-2008 06:09	count		18444.0000		
4-MAR-2008 06:28	count		18449.0000		
5-MAR-2008 06:21	count		18466.0000		
6-MAR-2008 06:10	count		18248.0000		
10-MAR-2008 06:51	count		18123.0000		
11-MAR-2008 06:41	count		18567.0000		

12-MAR-2008 06:43	count	18799.0000			
13-MAR-2008 06:39	count	18649.0000			
17-MAR-2008 06:30	count	18332.0000			
18-MAR-2008 06:06	count	18607.0000			
19-MAR-2008 06:39	count	18737.0000			
20-MAR-2008 06:29	count	18856.0000			
20-MAR-2008 06:43	count	18885.0000			
24-MAR-2008 06:15	count	19092.0000			
24-MAR-2008 06:28	count	18980.0000			
25-MAR-2008 06:07	count	19185.0000			
25-MAR-2008 06:20	count	18956.0000			

Quality Assurance Report. Generated 26-MAR-2008 16:01:49.30

QA Filename : \$DISK1:[SCINT19.QA]BKG.QAF;1

-- Multi-Test Full Report --

Description : 1000 min bkg, ascint-19
 Parameter Units : counts Parameter Type : Manual

---- Lower/Upper Bounds Test Parameters ----

Lower Bound : 0.000000 Upper Bound : 5.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : ----- End Date : -----
 Mean : 0.421875 Std Deviation : 1.066141

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
6-MAR-2008 16:39	count		0.0000		

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