

F7E150117_ENSR0512RD

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Analytical Data Package Prepared For
STL ST. LOUIS, ENSR Tronox

Radiochemical Analysis By

STL Richland

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

Assigned Laboratory Code: STL

Data Package Contains _____ Pages

Report No.: 35737

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
ENSR0512RD		EB051107-Z	F7E150117-12	JW0E01AA	9JW0E010	7135307
		EB051107-Z	F7E150117-12	JW0E01AC	9JW0E010	7135309
		M11-F	F7E150117-1	JW0D31AA	9JW0D310	7135307
		M11-F	F7E150117-1	JW0D31AC	9JW0D310	7135309
		M11-Z	F7E150117-2	JW0D71AA	9JW0D710	7135307
		M11-Z	F7E150117-2	JW0D71AC	9JW0D710	7135309
		M12A-F	F7E150117-10	JW0EQ1AA	9JW0EQ10	7135307
		M12A-F	F7E150117-10	JW0EQ1AC	9JW0EQ10	7135309
		M12A-L	F7E150117-9	JW0EN1AA	9JW0EN10	7135307
		M12A-L	F7E150117-9	JW0EN1AC	9JW0EN10	7135309
		M12A-Z	F7E150117-11	JW0EV1AA	9JW0EV10	7135307
		M12A-Z	F7E150117-11	JW0EV1AC	9JW0EV10	7135309
		M89-F	F7E150117-4	JW0EC1AA	9JW0EC10	7135307
		M89-F	F7E150117-4	JW0EC1AC	9JW0EC10	7135309
		M89-L	F7E150117-3	JW0D91AA	9JW0D910	7135307
		M89-L	F7E150117-3	JW0D91AC	9JW0D910	7135309
		M89-Z	F7E150117-5	JW0ED1AA	9JW0ED10	7135307
		M89-Z	F7E150117-5	JW0ED1AC	9JW0ED10	7135309
		M97-F	F7E150117-7	JW0EK1AA	9JW0EK10	7135307
		M97-F	F7E150117-7	JW0EK1AC	9JW0EK10	7135309
		M97-L	F7E150117-6	JW0EF1AA	9JW0EF10	7135307
		M97-L	F7E150117-6	JW0EF1AC	9JW0EF10	7135309
		M97-Z	F7E150117-8	JW0EL1AA	9JW0EL10	7135307
		M97-Z	F7E150117-8	JW0EL1AC	9JW0EL10	7135309



Certificate of Analysis

June 27, 2007

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Attention: Jerry Everett

Date Received at Lab	:	May 14, 2007
Sample Type	:	Twelve (12) Water
Project Name	:	ENSR Tronox
SDG Number	:	ENSR0512RD
Chain-of-Custody	:	051107-1

CASE NARRATIVE

I. Introduction

On May 14, 2007, twelve water samples were received at the STL Richland (STLR) laboratory for radiochemical analysis. Upon receipt at STL St. Louis, the samples were assigned to Lot Number F7E115117 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, and no anomalies were noted during check-in.

III. Analytical Results/Methodology

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

The analysis requested was:

Gas Proportional Detectors

Radium-228 by method STL RICH-RC-5005

Alpha Scintillation

Radium-226 by method STL RICH-RC-5005

IV. Quality Control

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

V. Comments

Gas Proportional Detectors

Radium-228 by method RICH-RC-5005:

There was insufficient sample volume provided to generate a sample duplicate. During processing an incorrect reagent was used; the procedure was then restarted from the beginning. The data is within acceptance limits. Except as noted, the LCS, LCS duplicate, batch blank, matrix spike, matrix spike duplicate, sample and sample duplicate results are within acceptance limits.

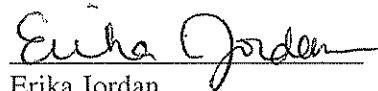
Alpha Scintillation

Radium-226 by method RICH-RC-5005:

There was insufficient sample volume provided to generate a sample duplicate. During processing an incorrect reagent was used; the procedure was then restarted from the beginning. The data is within acceptance limits. Except as noted, the LCS, LCS duplicate, batch blank, matrix spike, matrix spike duplicate, sample and sample duplicate results are within acceptance limits.

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
Manager, Project Management

Drinking Water Method Cross References

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

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,\dots)$. 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 $(\text{Result}/\text{Expected})-1$ 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%. $Lc = (1.645 * \sqrt{2 * (\text{BkgrndCnt}/\text{BkgrndCntMin})/\text{SCntMin}}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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%. $MDC = (4.65 * \sqrt{((\text{BkgrndCnt}/\text{BkgrndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. 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 = $(S-D)/[\sqrt{(\text{TPUs}^2 + \text{TPUd}^2)}]$ 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: 27-Jun-07

STL Richland STL

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

Report No. : 35737

SDG No: ENSR0512RD

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (1s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RER2
7135307	EPA 903.1								
	EB051107-Z								
	JW0E01AA	RADIUM-226	-7.77E-03 +- 4.95E-02	U	pci/l	89%	1.98E-01	2.00E+00	
	M11-F								
	JW0D31AA	RADIUM-226	3.08E-01 +- 9.05E-02	J	pci/l	61%	2.37E-01	2.00E+00	
	M11-Z								
	JW0D71AA	RADIUM-226	3.32E-01 +- 1.27E-01	U	pci/l	60%	3.93E-01	2.00E+00	
	M12A-F								
	JW0EQ1AA	RADIUM-226	3.23E-01 +- 7.12E-02	J	pci/l	81%	1.32E-01	2.00E+00	
	M12A-L								
	JW0EN1AA	RADIUM-226	1.13E+00 +- 1.93E-01	J	pci/l	52%	3.50E-01	2.00E+00	
	M12A-Z								
	JW0EV1AA	RADIUM-226	6.01E-01 +- 1.05E-01	J	pci/l	69%	1.34E-01	2.00E+00	
	M89-F								
	JW0EC1AA	RADIUM-226	2.21E-01 +- 6.99E-02	J	pci/l	76%	1.70E-01	2.00E+00	
	M89-L								
	JW0D91AA	RADIUM-226	1.70E-01 +- 6.29E-02	U	pci/l	79%	1.75E-01	2.00E+00	
	M89-Z								
	JW0ED1AA	RADIUM-226	3.52E-01 +- 1.00E-01	J	pci/l	58%	2.61E-01	2.00E+00	
	M97-F								
	JW0EK1AA	RADIUM-226	3.90E-01 +- 1.26E-01	J	pci/l	53%	3.56E-01	2.00E+00	
	M97-L								
	JW0EF1AA	RADIUM-226	3.90E-01 +- 1.06E-01	J	pci/l	59%	2.64E-01	2.00E+00	
	M97-Z								
	JW0EL1AA	RADIUM-226	3.80E-01 +- 9.49E-02	J	pci/l	55%	2.04E-01	2.00E+00	
7135309	EPA 904.0								
	EB051107-Z								
	JW0E01AC	RADIUM-228	7.19E-01 +- 1.30E-01	J	pci/l	79%	3.83E-01	1.00E+00	
	M11-F								
	JW0D31AC	RADIUM-228	1.30E+00 +- 2.46E-01		pci/l	56%	8.59E-01	1.00E+00	
	M11-Z								
	JW0D71AC	RADIUM-228	1.23E+00 +- 2.48E-01		pci/l	55%	8.72E-01	1.00E+00	
	M12A-F								
	JW0EQ1AC	RADIUM-228	9.50E-01 +- 1.65E-01	J	pci/l	75%	4.72E-01	1.00E+00	
	M12A-L								
	JW0EN1AC	RADIUM-228	1.40E+00 +- 2.50E-01		pci/l	47%	6.80E-01	1.00E+00	
	M12A-Z								
	JW0EV1AC	RADIUM-228	1.45E+00 +- 2.17E-01		pci/l	63%	5.17E-01	1.00E+00	
	M89-F								
	JW0EC1AC	RADIUM-228	1.65E+00 +- 2.15E-01		pci/l	68%	5.17E-01	1.00E+00	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRchSaSum J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 mary2 V5.1.3 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
 A2002 gamma scan software.

Sample Results Summary

Date: 27-Jun-07

STL Richland STL

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

Report No. : 35737

SDG No: ENSR0512RD

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (1s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RER2
7135309	EPA 904.0								
	M89-L								
	JW0D91AC	RADIUM-228	1.92E+00 +- 2.33E-01		pci/l	72%	6.30E-01	1.00E+00	
	M89-Z								
	JW0ED1AC	RADIUM-228	1.27E+00 +- 2.19E-01		pci/l	52%	6.51E-01	1.00E+00	
	M97-F								
	JW0EK1AC	RADIUM-228	1.03E+00 +- 2.20E-01		pci/l	48%	7.39E-01	1.00E+00	
	M97-L								
	JW0EF1AC	RADIUM-228	8.82E-01 +- 1.99E-01	J	pci/l	54%	6.96E-01	1.00E+00	
	M97-Z								
	JW0EL1AC	RADIUM-228	7.88E-01 +- 1.87E-01	J	pci/l	50%	6.25E-01	1.00E+00	
	No. of Results: 24								

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPuD))] as defined by ICPT BOA.
 rptSTLRchSaSummary2 V5.1.3 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 A2002

QC Results Summary

Date: 27-Jun-07

STL Richland STL

Ordered by Method, Batch No, QC Type,.

Report No. : 35737

SDG No.: ENSR0512RD

Batch	Work Order	Parameter	Result +- Uncertainty (1s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC MDA
EPA 903.1									
	7135307	BLANK QC,							
	JW05M1AA	RADIUM-226	7.08E-02 +- 5.03E-02	U	pci/l	97%			1.71E-01
	7135307	LCS,							
	JW05M1AC	RADIUM-226	1.23E+00 +- 1.79E-01		pci/l	93%	88%	-0.1	2.22E-01
EPA 904.0									
	7135309	BLANK QC,							
	JW05P1AA	RADIUM-228	8.07E-01 +- 1.31E-01	J	pci/l	87%			3.81E-01
	7135309	LCS,							
	JW05P1AC	RADIUM-228	5.11E+00 +- 3.87E-01		pci/l	85%	104%	0.0	3.89E-01
No. of Results: 4									

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSummary V5.1.3 A2002 J Qual - No U|< 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

Date: 27-Jun-07

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-12
 Client Sample ID: EB051107-Z

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 2:35:05 PM
 Received Date: 5/12/2007 9:00:00 AM

Matrix: WATER W

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: 7135307	EPA 903.1						Report DB ID: 9JW0E010				
RADIUM-226	-7.77E-03	U	5.0E-02	5.0E-02	1.98E-01	pci/l	89% -0.04	6/22/07 03:01 p	1.0024	1.0024	ASC4UA
							8.63E-02 2.00E+00 -0.16			L	
Batch: 7135309	EPA 904.0						Report DB ID: 9JW0E010				
RADIUM-228	7.19E-01	J	1.2E-01	1.3E-01	3.83E-01	pci/l	79% (1.9)	6/27/07 06:39 a	1.0024	1.0024	GPC4A
							1.62E-01 1.00E+00 (5.5)			L	

No. of Results: 2 Comments:

STL Richland 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.
 V5.1.3 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: 27-Jun-07

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-1
 Client Sample ID: M11-F
 SDG: ENSR0512RD
 Report No.: 35737
 COC No. :
 Collection Date: 5/11/2007 7:00:01 AM
 Received Date: 5/12/2007 9:00:00 AM
 Matrix: WATER W

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: 7135307	EPA 903.1											
RADIUM-226	3.08E-01	J	8.5E-02	9.1E-02	2.37E-01 pci/l	1.02E-01	61% (1.3)	9JW0D310 (1.3)	6/22/07 02:19 p	1.0029	L	ASC6RA
Batch: 7135309	EPA 904.0											
RADIUM-228	1.30E+00		2.2E-01	2.5E-01	8.59E-01 pci/l	3.90E-01	56% (1.5)	9JW0D310 (1.5)	6/27/07 06:42 a	1.0029	L	GPC1B

No. of Results: 2 Comments:

STL Richland 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.
 v5.1.3 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: 27-Jun-07

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-2
 Client Sample ID: M11-Z

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 6:55:00 AM
 Received Date: 5/12/2007 9:00:00 AM

Matrix: WATER W

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/TotalCert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 7135307 EPA 903.1												
Work Order: JW0D71AA Report DB ID: 9JW0D710												
RADIUM-226	3.32E-01	U	1.2E-01	1.3E-01	3.93E-01	pci/l	60%	0.84	6/22/07 02:04 p		1.0024	ASC7HB
							1.80E-01	2.00E+00	(2.6)		L	
Batch: 7135309 EPA 904.0												
Work Order: JW0D71AC Report DB ID: 9JW0D710												
RADIUM-228	1.23E+00		2.2E-01	2.5E-01	8.72E-01	pci/l	55%	(1.4)	6/27/07 06:42 a		1.0024	GPC1C
							3.95E-01	1.00E+00	(4.9)		L	

No. of Results: 2 Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTL_RchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.3 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: 27-Jun-07

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-10
 Client Sample ID: M12A-F

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 1:00:00 PM
 Received Date: 5/12/2007 9:00:00 AM

Matrix: WATER W

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: 7135307 EPA 903.1												
RADIUM-226	3.23E-01	J	6.3E-02	7.1E-02	1.32E-01	pci/l	81%	(2.5)	6/22/07 02:53 p		1.0009	ASC2MA
Work Order: JW0EQ1AA Report DB ID: 9JW0EQ10												
						5.32E-02	2.00E+00	(4.5)			L	
Batch: 7135309 EPA 904.0												
RADIUM-228	9.50E-01	J	1.4E-01	1.7E-01	4.72E-01	pci/l	75%	(2.)	6/27/07 06:38 a		1.0009	GPC3C
Work Order: JW0EQ1AC Report DB ID: 9JW0EQ10												
						2.04E-01	1.00E+00	(5.7)			L	

No. of Results: 2 Comments:

STL Richland 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.
 V5.1.3 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: 27-Jun-07

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-9
 Client Sample ID: M12A-L

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 12:35:01 PM
 Received Date: 5/12/2007 9:00:00 AM

Matrix: WATER W

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/Total Rst/Total	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 7135307	EPA 903.1											
RADIUM-226	1.13E+00	J	1.6E-01	1.9E-01	3.50E-01	pci/l	52%	(3.2)	6/22/07 03:08 p	1.0014	1.0014	ASC1RH
							2.00E+00	(5.8)			L	
Batch: 7135309	EPA 904.0											
RADIUM-228	1.40E+00		2.1E-01	2.5E-01	6.80E-01	pci/l	47%	(2.1)	6/27/07 06:38 a	1.0014	1.0014	GPC3B
							1.00E+00	(5.6)			L	

No. of Results: 2 Comments:

STL Richland 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.
 V5.1.3 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: 27-Jun-07

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-11
 Client Sample ID: M12A-Z

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 12:50:00 PM
 Received Date: 5/12/2007 9:00:00 AM

Matrix: WATER W

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: 7135307	EPA 903.1											
RADIUM-226	6.01E-01	J	8.7E-02	1.0E-01	1.34E-01	pci/l	69% (4.5)	(4.5)	6/22/07 03:01 p		1.0018	ASC3MA
							5.21E-02	2.00E+00 (5.7)			L	
Work Order:	JW0EV1AA											
Report DB ID:	9JW0EV10											
Batch: 7135309	EPA 904.0											
RADIUM-228	1.45E+00		1.8E-01	2.2E-01	5.17E-01	pci/l	63% (2.8)	(2.8)	6/27/07 06:39 a		1.0018	GPC3D
							2.22E-01	1.00E+00 (6.7)			L	
Work Order:	JW0EV1AC											
Report DB ID:	9JW0EV10											

No. of Results: 2 Comments:

STL Richland 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.
 V5.1.3 AZ002 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: 27-Jun-07

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-4
 Client Sample ID: M89-F

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 9:30:00 AM
 Received Date: 5/12/2007 9:00:00 AM

Matrix: WATER W

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	Alliquot Size	Primary Detector
Batch: 7135307 EPA 903.1												
RADIUM-226	2.21E-01	J	6.6E-02	7.0E-02	1.70E-01	pci/l	76%	(1.3)	6/22/07 02:16 p		1.0037	ASC8RD
Work Order: JW0EC1AA Report DB ID: 9JW0EC10												
						6.76E-02	2.00E+00	(3.2)			L	
Batch: 7135309 EPA 904.0												
RADIUM-228	1.65E+00		1.9E-01	2.1E-01	5.17E-01	pci/l	68%	(3.2)	6/27/07 06:42 a		1.0037	GPC2A
Work Order: JW0EC1AC Report DB ID: 9JW0EC10												
						2.20E-01	1.00E+00	(7.7)			L	

No. of Results: 2 Comments:

STL Richland 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.
 V5.1.3 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: 27-Jun-07

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-3
 Client Sample ID: M89-L

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 8:30:00 AM
 Received Date: 5/12/2007 9:00:00 AM

Matrix: WATER W

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
Batch: 7135307 EPA 903.1												
RADIUM-226	1.70E-01	U	6.0E-02	6.3E-02	1.75E-01	pci/l	79%	0.97	6/22/07 02:16 p		1.0013	ASCASB
Work Order: JW0D91AA Report DB ID: 9JW0D910												
						7.30E-02	2.00E+00	(2.7)			L	
Batch: 7135309 EPA 904.0												
RADIUM-228	1.92E+00		2.0E-01	2.3E-01	6.30E-01	pci/l	72%	(3.)	6/27/07 06:42 a		1.0013	GPC1D
Work Order: JW0D91AC Report DB ID: 9JW0D910												
						2.84E-01	1.00E+00	(8.2)			L	

No. of Results: 2 Comments:

STL Richland 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.
 V5.1.3 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: 27-Jun-07

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-5
 Client Sample ID: M89-Z

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 8:50:01 AM
 Received Date: 5/12/2007 9:00:00 AM
 Matrix: WATER W

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(PL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 7135307	EPA 903.1							Report DB ID: 9JW0ED10				
RADIUM-226	3.52E-01	J	9.4E-02	1.0E-01	2.61E-01	pci/l	58%	(1.4)	6/22/07 02:17 p		1.0003	ASCDUA
							1.13E-01	2.00E+00			L	
Batch: 7135309	EPA 904.0							Report DB ID: 9JW0ED10				
RADIUM-228	1.27E+00		2.0E-01	2.2E-01	6.51E-01	pci/l	52%	(1.9)	6/27/07 06:42 a		1.0003	GPC2B
							2.77E-01	1.00E+00			L	

No. of Results: 2 Comments:

STL Richland MDC/MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTL RichSample J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.3 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: 27-Jun-07

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-7
 Client Sample ID: M97-F

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 11:00:01 AM
 Received Date: 5/12/2007 9:00:00 AM

Matrix: WATER W

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: 7135307	EPA 903.1											
RADIUM-226	3.90E-01	J	1.2E-01	1.3E-01	3.56E-01	pci/l	53%	(1.1)	6/22/07 02:17 p		1.0011	ASCCUB
							2.00E+00	(3.1)			L	
Batch: 7135309	EPA 904.0											
RADIUM-228	1.03E+00		2.1E-01	2.2E-01	7.39E-01	pci/l	48%	(1.4)	6/27/07 06:42 a		1.0011	GPC2D
							1.00E+00	(4.7)			L	

No. of Results: 2 Comments:

STL Richland 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.
 V5.1.3 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: 27-Jun-07

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-6
 Client Sample ID: M97-L

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 10:40:01 AM
 Received Date: 5/12/2007 9:00:00 AM

Matrix: WATER W

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
Batch: 7135307	EPA 903.1											
RADIUM-226	3.90E-01	J	9.8E-02	1.1E-01	2.64E-01	pci/l	59%	(1.5)	6/22/07 02:20 p		1.0008	ASCBMC
							2.00E+00	(3.7)			L	
Work Order:	JW0EF1AA											
Report DB ID:	9JW0EF10											
Batch: 7135309	EPA 904.0											
RADIUM-228	8.82E-01	J	1.9E-01	2.0E-01	6.96E-01	pci/l	54%	(1.3)	6/27/07 06:42 a		1.0008	GPC2C
							1.00E+00	(4.4)			L	
Work Order:	JW0EF1AC											
Report DB ID:	9JW0EF10											

No. of Results: 2 Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRichSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.3 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: 27-Jun-07

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: F7E150117-8
 Client Sample ID: M97-Z

SDG: ENSR0512RD
 Report No.: 35737
 COC No.:

Collection Date: 5/11/2007 11:15:00 AM
 Received Date: 5/12/2007 9:00:00 AM
 Matrix: WATER W

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: 7135307 EPA 903.1												
RADIUM-226	3.80E-01	J	8.7E-02	9.5E-02	2.04E-01	pci/l	55%	Report DB ID: 9JW0EL10 (1.9)	6/22/07 02:15 p		1.0004	ASCGAB
						8.34E-02	2.00E+00	(4.)			L	
Batch: 7135309 EPA 904.0												
RADIUM-228	7.88E-01	J	1.7E-01	1.9E-01	6.25E-01	pci/l	50%	Report DB ID: 9JW0EL10 (1.3)	6/27/07 06:38 a		1.0004	GPC3A
						2.63E-01	1.00E+00	(4.2)			L	

No. of Results: 2 Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRichSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.3 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
BLANK RESULTS

Date: 27-Jun-07

Lab Name: STL Richland

SDG: ENSR0512RD

Matrix: WATER

Report No. : 35737

Parameter	Result	Qual	Count Error (1 s)	Total Uncert(1 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 7135307 EPA 903.1												
RADIUM-226	7.08E-02	U	5.0E-02	5.0E-02	1.71E-01	pci/l	97%	0.41	6/22/07 03:07 p		1.0	ASC5UC
					7.13E-02	1.00E+00		(1.4)			L	
Batch: 7135309 EPA 904.0												
RADIUM-228	8.07E-01	J	1.2E-01	1.3E-01	3.81E-01	pci/l	87%	(2.1)	6/27/07 06:39 a		1.0	GPC4B
					1.63E-01	1.00E+00		(6.1)			L	

No. of Results: 2 Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchBlank J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V5.1.3 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
LCS RESULTS

Date: 27-Jun-07

Lab Name: STL Richland
Matrix: WATER

SDG: ENSR0512RD
Report No.: 35737

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: 7135307 EPA 903.1													
Work Order: JW05M1AC Report DB ID: JW05M1CS													
RADIUM-226	1.23E+00		1.2E-01	1.8E-01	2.22E-01	pci/l	93%	1.40E+00	2.15E-02	88%	6/22/07 03:00 p	1.0016	ASCHSB
Rec Limits: 70 130 -0.1 L													
Batch: 7135309 EPA 904.0													
Work Order: JW05P1AC Report DB ID: JW05P1CS													
RADIUM-228	5.11E+00		2.6E-01	3.9E-01	3.89E-01	pci/l	85%	4.93E+00	1.51E-01	104%	6/27/07 06:39 a	1.0016	GPC4C
Rec Limits: 70 130 0.0 L													

No. of Results: 2 Comments:

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

rptSTLRehLcs
V5.1.3 A2002

CHAIN OF CUSTODY

Chain of Custody Record



Severn Trent Laboratories, Inc.

Client Contact		Project Manager: Robert Kennedy		Site Contact: Brian HD		Date: 5-11-07		COC No: 051107-1	
Tel/Fax: (978) 589-3324		Analysis Turnaround Time		Lab Contact: Jerry Everett		Carrier: FE0 EX		Job No. of COCs	
Calendar (C) or Work Days (W)		TAT if different from Below		ISO-U/ISO-Th		Ra-226/Ra-228		SDG No. 04020-023-401	
<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		<input type="checkbox"/> 21 DAYS <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Filtered Sample Ra-226/Ra-228 ISO-U/ISO-Th				Sample Specific Notes:	
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Return To Client	Disposal By Lab	Archive For	Months
M11-F	5/11/07	0700	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M11-Z		0655	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M89-L		0830	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M89-F		0900	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M89-Z		0850	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M97-L		1040	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M97-F		1100	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M97-Z		1115	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M12A-L		1235	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M12A-F		1300	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
M12A-Z		1250	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
E805107-Z		1435	W	W	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For

Special Instructions/QC Requirements & Comments:
 Coordinate sample reception with **Jerry Everett** (STL - St. Louis)

Relinquished by: 206 DIERMIER	Company: ENSR	Date/Time: 5/11/07 16:10	Received by: J. Smith	Company: STL	Date/Time: 5-11-07 06:00
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

1458

Sample Check-in List

Date/Time Received: 5.14.07 06100

Client: F7E150117 SDG #: _____ NA SAF #: _____ NA

Work Order Number: _____ Chain of Custody # _____

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA Yes No
2. Custody Seals dated and signed? NA Yes No
3. Chain of Custody record present? Yes No
4. Cooler temperature: _____ NA 5. Vermiculite/packing materials is NA Wet Dry
6. Number of samples in shipping container: 12
7. Sample holding times exceeded? NA Yes No
8. Samples have:
 _____ tape _____ hazard labels
 _____ custody seals _____ appropriate samples labels
9. Samples are:
 _____ in good condition _____ leaking
 _____ broken _____ have air bubbles
 (Only for samples requiring head space)
10. Sample pH taken? NA pH<2 pH>2 pH>9
11. Sample Location, Sample Collector Listed? * Yes No
 *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes No

13. Description of anomalies (include sample numbers): I updated sample volume in the computer from 2x29 ea sample to LP.

Sample Custodian: S. Smith Date: 5.14.07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

No action necessary; process as is.

Project Manager _____ Date _____

RADIUM 228

SAMPLE AND QC DATA

Lot No., Due Date: F7E150117; 06/11/2007
Client, Site: 456833; PHASE A WELLS Henderson, NV Source Area Inv.
QC Batch No., Method Test: 7135309; RRA228 Ra-228 by GPC
SDG, Matrix: ENSR0512RD; ,,,,,,,,,,

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:

Please see NCM#10-10237

First Level Review John Norton Date 6-27-7



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 7135309

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: See Mem

Second Level Review: Erika Ordo Date: 4/27/17

Clouseau Nonconformance Memo

STL

NCM #: 10-10237 NCM Initiated By: John Norton Date Opened: 06/27/2007 Date Closed:	Classification: Anomaly Status: GLREVIEW Production Area: Environmental - Prep Tests: Ra-228 by GPC Lot #'s (Sample #'s): J7E150000 (309), QC Batches: 7135309,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

<u>Name</u>	<u>Date</u>	<u>Description</u>
John Norton	06/27/2007	The sample volume provided was not sufficient for the creation of a duplicate sample. During the processing of these samples an incorrect reagent was used making it necessary to re-start the sample from the earliest steps of the procedure.

Corrective Action

<u>Name</u>	<u>Date</u>	<u>Corrective Action</u>
John Norton	06/27/2007	The analysts were asked to recheck the contents of the bottles before adding reagents to the samples, and all reagent bottles were emptied, rinsed and re-filled with new reagents, reagent bottles were also relabeled.

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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5/18/2007 4:37:00 PM

456833, ENSR International Corporation
ENSR International Corporation

AnalytDueDate: 06/11/2007

Batch: 7135309 pCi/L
SEQ Batch, Test: 7135307, BUTE 7135307, BUTE

Sample Preparation/Analysis

Balance Id: 1120403183

BU Ra-226/228 Prp/SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #: 6/8/07 15128
Sep1 DT/Tm Tech: AL 5/23/07 10478
Sep2 DT/Tm Tech: AL 6/26/07 1007

PM, Quote: JAE, 75203

Prep Tech: FABREM

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JW0D3-1-AC F7E150117-1-SAMP		1002.90g.in	rata26799 05/17/07	0.7848			31.7		1B	1542	4/24/07
2 JW0D3-1-AE-X F7E150117-1-DUP							31.4		1C	1542	4/26/07
3 JW0D7-1-AC F7E150117-2-SAMP		1002.40g.in	rata26800 05/17/07	0.6499			31.3		1D	1542	4/24/07
4 JW0D9-1-AC F7E150117-3-SAMP		1001.30g.in	rata26801 05/17/07	0.9165			31.3		1D	0639	4/27/07

Amt/Rec: LP	#Containers: 1	Scr.	Alpha:	Beta:

Not used XL
6/11/07

STL RICHLAND
FABREM

5/18/2007 4:37:01 PM Balance Id:1120403183
 456833, ENSR International Corporation Pipet #:
 ENSR International Corporation Sep1 DT/Tm Tech:
Sample Preparation/Analysis PM, Quote: JAE, 75203
 BU Ra-226/228 Prp/SepRC5005 Sep2 DT/Tm Tech:
 TF Radium-228 by GPC
 01 STANDARD TEST SET
 AnalyDueDate: 06/11/2007
 Batch: 7135309
 SEQ Batch, Test: 7135307, BUTE

Prep Tech: FABREM

Work Order Lot, Sample Date Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 JW0EC-1-AC F7E150117-4-SAMP	1003.70g,in	1003.70g,in	rata26802 05/17/07	0.8042	0.7597	in	30.9	3XJ50	2A	1542	6/24/07 r
6 JW0ED-1-AC F7E150117-5-SAMP	1000.30g,in	1000.30g,in	rata26803 05/17/07	0.7647	0.5829		30.9		2B	1542	4/24/07 r
7 JW0EF-1-AC F7E150117-6-SAMP	1000.80g,in	1000.80g,in	rata26804 05/17/07	0.6369	0.5908		31.6		2C	1542	4/24/07 r
8 JW0EK-1-AC F7E150117-7-SAMP	1001.10g,in	1001.10g,in	rata26805 05/17/07	0.5985	0.5255		31.5		2D	1542	4/24/07 r

STL 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 v4.8.26

5/18/2007 4:37:01 PM

456833, ENSR International Corporation
ENSR International Corporation

Sample Preparation/Analysis

Balance Id: 1120403183

BU Ra-226/228 Prp/SepRC5005
TF Radium-228 by GPC

Pipet #:

Analyte Due Date: 06/11/2007

Sep1 DT/Tm Tech:

Batch: 7135309

PM, Quote: JAE, 75203

Sep2 DT/Tm Tech:

pCi/L

SEQ Batch, Test: 7135307, BUTE

Prep Tech: FABREM

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
9 JW0EL-1-AC F7E150117-8-SAMP		1000.40g,in	rata26806 05/17/07	0.6158			31.0	3X50	3A	1542	6/26/07
				Not used at all					3A	0639	6/27/07
10 JW0EN-1-AC F7E150117-9-SAMP		1001.40g,in	rata26807 05/17/07	0.5175			31.2		3B	1542	6/26/07
									3B	0639	6/27/07
11 JW0EQ-1-AC F7E150117-10-SAMP		1000.90g,in	rata26808 05/17/07	0.8130			31.7		3C	1542	6/26/07
									3C	0639	6/27/07
12 JW0EV-1-AC F7E150117-11-SAMP		1001.80g,in	rata26809 05/17/07	0.7766			31.7		3D	1542	6/26/07
									4A	0639	6/27/07

Alpha:	Beta:
3A	6/26/07
3B	6/26/07
3C	6/26/07
3D	6/26/07
4A	6/27/07

5/18/2007 4:37:02 PM
 456833, ENSR International Corporation
 ENSR International Corporation
Analyte Due Date: 06/11/2007
 Balance Id: 1120403183
 Pipet #: _____
 Sep1 DT/Tm Tech: _____
 Sep2 DT/Tm Tech: _____

Sample Preparation/Analysis
 BU Ra-226/228 Prp/SepRC-5005
 TF Radium-228 by GPC
 01 STANDARD TEST SET
 PM, Quote: JAE, 75203
 pCi/L

Batch: 7135309
 SEQ Batch, Test: 7135307, BUTE
 Prep Tech: FABREM

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
13 JW0E0-1-AC F7E150117-12-SAMP		1002.40g,in	rata26810 05/17/07	1.000g			30.6	3K50	4A 1542	6/26/07	
				Not used					4B 1542	6/26/07	
				31.6					4C 1542	6/26/07	
									4D 0639	6/27/07	
05/11/2007 14:35 14 JW05P-1-AA-B J7E150000-309-BLK		1000.00g,in	rata26811 05/17/07	1.000g	0.9711		30.9		4B 1542	6/26/07	
									4C 0639	6/27/07	
05/11/2007 07:00 15 JW05P-1-AC-C J7E150000-309-LCS		1001.60g,in	rasc4436 05/09/07	1.000g	0.9254		31.6		4C 1542	6/26/07	
									4D 0639	6/27/07	

Alpha: Beta:
 Alpha: Beta:
 Alpha: Beta:
 Alpha: Beta:
 Alpha: Beta:
 Alpha: Beta:

Comments: JW0D3-SAMP "Comments ISV - INSUFFICIENT SAMPLE FOR THE DUP ANALYSIS. TRACERS HAVE NOT BEEN VERIFIED FOR BARIUM PURIFICATION"
 BATCH RETURN THROUGH POWERUP AND CANNISTRY WITH NEW SEP TIME

All Clients for Batch:
 456833, ENSR International Corporation
 ENSR International Corporation, JAE, 75203

JW0D3LAC-SAMP Constituent List:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 4
 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added
 ISV - Insufficient Volume for Analysis
 WO Cnt: 15
 Prep_SamplePrep v4.8.26

5/18/2007 4:37:04 PM

Sample Preparation/Analysis

Balance Id:1120403183

BU Ra-226/228 Prp/SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #:

AnalyseDueDate: 06/11/2007

Sep1 DT/Tm Tech:

Batch: 7135309
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

pCi/L

Prep Tech: ,FABREM

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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JW05PIAA-BLK:											
Ba-133	RDL:	pCi/L	LCL:20	UCL:115	RPD:20	RA-228	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:
RA-228DA	RDL:1.00E+00	pCi/L	LCL:	UCL:	RPD:						
JW05PIAC-LCS:											
Ba-133	RDL:	pCi/L	LCL:20	UCL:115	RPD:20	Ra-226	RDL:	pCi/L	LCL:70	UCL:130	RPD:20
RA-228	RDL:3	pCi/L	LCL:70	UCL:130	RPD:20	RA-228DA	RDL:3	pCi/L	LCL:70	UCL:130	RPD:20
JW0D3IAC-SAMP Calc Info:											
Uncert Level (#s):	4	Decay to SaDt:	N	Blk Subt.:	N	Sci.Not.:	N	ODRs:	B		
JW05PIAA-BLK:											
Uncert Level (#s):	4	Decay to SaDt:	N	Blk Subt.:	N	Sci.Not.:	N	ODRs:	B		
JW05PIAC-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: 6/27/2006, 7/2/2007, Batch: '7135309', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7135309				
AC		CalcC	LongA	5/23/2007 12:59:02
SC		wagarr	IsBatched	5/15/2007 11:01:05 AM
SC		LongA	Sep1C	5/23/2007 12:59:02 PM
SC		LongA	Sep2C	6/26/2007 10:27:25 AM
SC		StringerR	InCnt1	6/26/2007 12:55:42 PM
SC		StringerR	CalcC	6/27/2007 8:02:21 AM
AC		LongA		6/26/2007 10:27:25
AC		StringerR		6/26/2007 12:55:42
AC		StringerR		6/27/2007 8:02:21

AC: Accepting Entry; SC: Status Change

STL Richland
Richland Wa.

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld	
Ra-228 by GPC			Ra-226/Ra-228 Deem With Out Blk Subt.												
Calc	TF	Unk	JW0D31AC	RA-228	2.42E+00	(4.93E-01)		pCi/L	R	6.06E-01	1.34E+00		56%		
Calc	TF	Unk	JW0D31AC	RA-228	7.63E-01	(3.72E-01)		pCi/L	R	6.73E-01	1.48E+00		56%		
Calc	TF	Unk	JW0D31AC	RA-228	7.35E-01	(4.03E-01)		pCi/L	R	7.47E-01	1.64E+00		56%		
Calc	TF	Unk	JW0D31AC	RA-228	1.30E+00	(2.46E-01)		pCi/L	A	3.90E-01	8.59E-01	✓	56%		
Calc	TF	Unk	JW0D31AC	RA-228	2.47E+00	(2.10E+00)	U4	pCi/L	R	4.17E+00	9.16E+00		56%		
Calc	TF	Unk	JW0D71AC	RA-228	2.56E+00	(5.16E-01)		pCi/L	R	6.14E-01	1.36E+00		55%		
Calc	TF	Unk	JW0D71AC	RA-228	1.00E+00	(3.99E-01)		pCi/L	R	6.82E-01	1.51E+00		55%		
Calc	TF	Unk	JW0D71AC	RA-228	1.17E-01	(3.55E-01)	U4	pCi/L	R	7.56E-01	1.67E+00		55%		
Calc	TF	Unk	JW0D71AC	RA-228	1.23E+00	(2.48E-01)		pCi/L	A	3.95E-01	8.72E-01		55%		
Calc	TF	Unk	JW0D71AC	RA-228	3.56E-01	(1.93E+00)	U4	pCi/L	R	4.16E+00	9.17E+00	✓	55%		
Calc	TF	Unk	JW0D91AC	RA-228	2.31E+00	(4.20E-01)		pCi/L	R	4.42E-01	9.80E-01		72%		
Calc	TF	Unk	JW0D91AC	RA-228	1.90E+00	(4.01E-01)		pCi/L	R	4.91E-01	1.09E+00		72%		
Calc	TF	Unk	JW0D91AC	RA-228	1.54E+00	(3.91E-01)		pCi/L	R	5.44E-01	1.21E+00		72%		
Calc	TF	Unk	JW0D91AC	RA-228	1.92E+00	(2.33E-01)		pCi/L	A	2.84E-01	6.30E-01	✓	72%		
Calc	TF	Unk	JW0D91AC	RA-228	5.62E-01	(1.46E+00)	U4	pCi/L	R	3.10E+00	6.83E+00		72%		
Calc	TF	Unk	JW0EC1AC	RA-228	2.31E+00	(4.21E-01)		pCi/L	R	3.42E-01	8.05E-01		68%		
Calc	TF	Unk	JW0EC1AC	RA-228	1.33E+00	(3.35E-01)		pCi/L	R	3.80E-01	8.93E-01		68%		
Calc	TF	Unk	JW0EC1AC	RA-228	1.31E+00	(3.54E-01)		pCi/L	R	4.22E-01	9.91E-01		68%		
Calc	TF	Unk	JW0EC1AC	RA-228	1.65E+00	(2.15E-01)		pCi/L	A	2.20E-01	5.17E-01	✓	68%		
Calc	TF	Unk	JW0EC1AC	RA-228	2.04E+00	(1.39E+00)	U4	pCi/L	R	2.50E+00	5.79E+00		68%		
Calc	TF	Unk	JW0ED1AC	RA-228	1.35E+00	(3.64E-01)		pCi/L	R	4.31E-01	1.01E+00		52%		
Calc	TF	Unk	JW0ED1AC	RA-228	1.13E+00	(3.61E-01)		pCi/L	R	4.78E-01	1.12E+00		52%		
Calc	TF	Unk	JW0ED1AC	RA-228	1.32E+00	(4.09E-01)		pCi/L	R	5.31E-01	1.25E+00		52%		
Calc	TF	Unk	JW0ED1AC	RA-228	1.27E+00	(2.19E-01)		pCi/L	A	2.77E-01	6.51E-01	✓	52%		
Calc	TF	Unk	JW0ED1AC	RA-228	8.43E-01	(1.58E+00)	U4	pCi/L	R	3.23E+00	7.48E+00		52%		
Calc	TF	Unk	JW0EF1AC	RA-228	1.27E+00	(3.63E-01)		pCi/L	R	4.65E-01	1.08E+00		54%		
Calc	TF	Unk	JW0EF1AC	RA-228	7.83E-01	(3.32E-01)		pCi/L	R	5.16E-01	1.20E+00		54%		
Calc	TF	Unk	JW0EF1AC	RA-228	5.91E-01	(3.35E-01)		pCi/L	R	5.72E-01	1.33E+00		54%		
Calc	TF	Unk	JW0EF1AC	RA-228	8.82E-01	(1.99E-01)		pCi/L	A	2.99E-01	6.96E-01	✓	54%		
Calc	TF	Unk	JW0EF1AC	RA-228	-5.18E-01	(1.45E+00)	U4	pCi/L	R	3.32E+00	7.67E+00		54%		
Calc	TF	Unk	JW0EK1AC	RA-228	1.63E+00	(4.22E-01)		pCi/L	R	4.89E-01	1.15E+00		48%		
Calc	TF	Unk	JW0EK1AC	RA-228	5.51E-01	(3.21E-01)		pCi/L	R	5.43E-01	1.27E+00		48%		
Calc	TF	Unk	JW0EK1AC	RA-228	9.22E-01	(3.94E-01)		pCi/L	R	6.03E-01	1.41E+00		48%		
Calc	TF	Unk	JW0EK1AC	RA-228	1.03E+00	(2.20E-01)		pCi/L	A	3.15E-01	7.39E-01	✓	48%		
Calc	TF	Unk	JW0EK1AC	RA-228	-1.10E+00	(1.50E+00)	U4	pCi/L	R	3.61E+00	8.36E+00		48%		
Calc	TF	Unk	JW0EL1AC	RA-228	1.11E+00	(3.45E-01)		pCi/L	R	4.12E-01	9.79E-01		50%		
Calc	TF	Unk	JW0EL1AC	RA-228	4.63E-01	(2.75E-01)		pCi/L	R	4.53E-01	1.08E+00		50%		
Calc	TF	Unk	JW0EL1AC	RA-228	7.93E-01	(3.44E-01)		pCi/L	R	5.03E-01	1.19E+00		50%		

() - (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	Yield	RYld
Calc	TF	Unk	JW0EL1AC	RA-228	7.88E-01	(1.87E-01)		pCi/L	A	2.63E-01	6.25E-01		50%	
Calc	TF	Unk	JW0EL1AC	RA-228	-9.10E-01	(1.46E+00)	U4	pCi/L	R	3.36E+00	7.76E+00		50%	
Calc	TF	Unk	JW0EN1AC	RA-228	1.99E+00	(4.92E-01)		pCi/L	R	4.54E-01	1.06E+00		47%	
Calc	TF	Unk	JW0EN1AC	RA-228	1.55E+00	(4.49E-01)		pCi/L	R	4.99E-01	1.17E+00		47%	
Calc	TF	Unk	JW0EN1AC	RA-228	6.68E-01	(3.47E-01)		pCi/L	R	5.54E-01	1.30E+00		47%	
Calc	TF	Unk	JW0EN1AC	RA-228	1.40E+00	(2.50E-01)		pCi/L	A	2.90E-01	6.80E-01		47%	
Calc	TF	Unk	JW0EN1AC	RA-228	-1.07E+00	(1.70E+00)	U4	pCi/L	R	3.87E+00	8.79E+00		47%	
Calc	TF	Unk	JW0EQ1AC	RA-228	1.20E+00	(3.04E-01)		pCi/L	R	3.19E-01	7.38E-01		75%	
Calc	TF	Unk	JW0EQ1AC	RA-228	9.95E-01	(2.91E-01)		pCi/L	R	3.51E-01	8.12E-01		75%	
Calc	TF	Unk	JW0EQ1AC	RA-228	6.51E-01	(2.62E-01)		pCi/L	R	3.89E-01	9.01E-01		75%	
Calc	TF	Unk	JW0EQ1AC	RA-228	9.50E-01	(1.65E-01)		pCi/L	A	2.04E-01	4.72E-01		75%	
Calc	TF	Unk	JW0EQ1AC	RA-228	8.09E-01	(1.13E+00)	U4	pCi/L	R	2.21E+00	5.10E+00		75%	
Calc	TF	Unk	JW0EV1AC	RA-228	2.28E+00	(4.65E-01)		pCi/L	R	3.47E-01	8.10E-01		63%	
Calc	TF	Unk	JW0EV1AC	RA-228	1.18E+00	(3.33E-01)		pCi/L	R	3.81E-01	8.90E-01		63%	
Calc	TF	Unk	JW0EV1AC	RA-228	8.93E-01	(3.14E-01)		pCi/L	R	4.23E-01	9.88E-01		63%	
Calc	TF	Unk	JW0EV1AC	RA-228	1.45E+00	(2.17E-01)		pCi/L	A	2.22E-01	5.17E-01		63%	
Calc	TF	Unk	JW0EV1AC	RA-228	2.27E+00	(1.46E+00)	U4	pCi/L	R	2.60E+00	5.99E+00		63%	
Calc	TF	Unk	JW0E01AC	RA-228	1.10E+00	(2.53E-01)		pCi/L	R	2.51E-01	5.96E-01		79%	
Calc	TF	Unk	JW0E01AC	RA-228	1.57E-01	(1.50E-01)	U4	pCi/L	R	2.79E-01	6.61E-01		79%	
Calc	TF	Unk	JW0E01AC	RA-228	8.95E-01	(2.58E-01)		pCi/L	R	3.10E-01	7.34E-01		79%	
Calc	TF	Unk	JW0E01AC	RA-228	7.19E-01	(1.30E-01)		pCi/L	A	1.62E-01	3.83E-01		79%	
Calc	TF	Unk	JW0E01AC	RA-228	2.36E-01	(9.65E-01)	U4	pCi/L	R	2.05E+00	4.74E+00		79%	
Calc	TF	Unk	JW05P1AA	RA-228	9.79E-01	(2.32E-01)		pCi/L	R	2.53E-01	5.93E-01	B	87%	
Calc	TF	Unk	JW05P1AA	RA-228	5.52E-01	(1.97E-01)		pCi/L	R	2.81E-01	6.58E-01	B	87%	
Calc	TF	Unk	JW05P1AA	RA-228	8.89E-01	(2.50E-01)		pCi/L	R	3.12E-01	7.31E-01	B	87%	
Calc	TF	Unk	JW05P1AA	RA-228	8.07E-01	(1.31E-01)		pCi/L	A	1.63E-01	3.81E-01	B	87%	
Calc	TF	Unk	JW05P1AA	RA-228	-7.11E-01	(8.49E-01)	U4	pCi/L	R	2.04E+00	4.65E+00	B	87%	
Calc	TF	Unk	JW05P1AC	RA-228	5.26E+00	(6.70E-01)		pCi/L	R	2.59E-01	6.05E-01	S	85%	107%
Calc	TF	Unk	JW05P1AC	RA-228	5.16E+00	(6.76E-01)		pCi/L	R	2.87E-01	6.71E-01	S	85%	105%
Calc	TF	Unk	JW05P1AC	RA-228	4.89E+00	(6.67E-01)		pCi/L	R	3.19E-01	7.45E-01	S	85%	99%
Calc	TF	Unk	JW05P1AC	RA-228	5.11E+00	(3.87E-01)		pCi/L	A	1.66E-01	3.89E-01	S	85%	104%
Calc	TF	Unk	JW05P1AC	RA-228	8.22E+00	(1.80E+00)		pCi/L	R	1.76E+00	4.13E+00	S	85%	167%

() - (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 , 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	TF	Unk	*STLE	Ra228WoBS	JW0D31AC		pCi/L		05/11/07 07:00	06/27/07 06:42	06/08/07 15:42			1		g	
456833	M11-F							Unk			31.7	06/26/07 10:07	rate26799	Alq	61%	1002.90	g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/26/07 13:54	RA-228	86	263	GPC1B	1	N	N	5.2328E-01	1.0000E+00	N	56%	N	1.4652E+00	4.5045E+02	1.0094E+00		
			50	400			Y		(1.537E-02)	(0.000E+00)		4%		(0.000E+00)	0.000997			
1	06/26/07 14:50	RA-228	48	263	GPC1B	1	N	N	5.2328E-01	1.0000E+00	N	56%	N	1.6260E+00	4.5045E+02	1.0094E+00		
			50	400			Y		(1.537E-02)	(0.000E+00)		4%		(0.000E+00)	0.000997			
2	06/26/07 15:45	RA-228	46	263	GPC1B	1	N	N	5.2328E-01	1.0000E+00	N	56%	N	1.8045E+00	4.5045E+02	1.0094E+00		
			50	400			Y		(1.537E-02)	(0.000E+00)		4%		(0.000E+00)	0.000997			
3	06/27/07 06:42	RA-228	43	279	GPC1B	1	N	N	5.2328E-01	1.0000E+00	N	56%	N	9.7865E+00	4.5045E+02	1.0094E+00		
			50	400			N		(1.537E-02)	(0.000E+00)		4%		(0.000E+00)	0.000997			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt	Rt	Dpm	Wo	Blk	Dpm-Blk	Vol Used	Yield,EntFct	Chem Yld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC	
06/27/07	RA-228	R	2.41527		1.06250E+00	5.327353		5.327353		1.0029 L		1.335347	56%					
			(0.49316)		(1.8985E-01)	(1.054644)		(1.054644)		(0.173205)		0.60643						
06/27/07	RA-228	R	0.763125		3.02500E-01	1.683222		1.683222		1.0029 L		1.48193	56%					
			(0.371939)		(1.4437E-01)	(0.816056)		(0.816056)		(0.173205)		0.672999						
06/27/07	RA-228	R	0.734886		2.62500E-01	1.620934		1.620934		1.0029 L		1.644552	56%					
			(0.402948)		(1.4158E-01)	(0.885077)		(0.885077)		(0.173205)		0.746851						
06/27/07	RA-228	A	1.304427		5.42500E-01	2.87717		2.87717		1.0029 L		0.858679	56%					
			(0.245835)		(9.2455E-02)	(0.533498)		(0.533498)		(0.10)		0.389958						
06/27/07	RA-228	R	2.467324		1.62500E-01	5.442167		5.442167		1.0029 L		9.161926	56%					
			(2.103977)		(1.3764E-01)	(4.63275)		(4.63275)		(0.173205)		4.171966						

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	TF	Unk	*STLE	Ra228WoBS	JW0D71AC		pCi/L		05/11/07 06:55	06/27/07 06:42	06/08/07 15:42			1		g	
456833	M11-Z							Unk			31.4	06/26/07 10:07	rate26800	Alq	60%	1002.40	g	
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/26/07 13:54	RA-228	85	248	GPC1C	1	N	N	5.1326E-01	1.0000E+00	N	55%	N	1.4652E+00	4.5045E+02	1.0094E+00		
			50	400			Y		(1.852E-02)	(0.000E+00)		4%		(0.000E+00)	0.000998			
1	06/26/07 14:50	RA-228	50	248	GPC1C	1	N	N	5.1326E-01	1.0000E+00	N	55%	N	1.6260E+00	4.5045E+02	1.0094E+00		
			50	400			Y		(1.852E-02)	(0.000E+00)		4%		(0.000E+00)	0.000998			
2	06/26/07 15:45	RA-228	33	248	GPC1C	1	N	N	5.1326E-01	1.0000E+00	N	55%	N	1.8045E+00	4.5045E+02	1.0094E+00		
			50	400			Y		(1.852E-02)	(0.000E+00)		4%		(0.000E+00)	0.000998			

() - (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 v4.8.26
STL Richland

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMidC/LcC
3	06/27/07 06:42	RA-228	33	255		1.08000E+00	5.645318	5.645318	1.0024 L	55%	9.7865E+00	4.5045E+02	1.0094E+00	
			50	400		(1.8855E-01)	(1.103081)	(1.103081)	(0.173205)	4%	(0.000E+00)	0.000998	0.000998	
						3.80000E-01	2.204357	2.204357	1.0024 L	55%				
						(1.4680E-01)	(0.87327)	(0.87327)	(0.173205)					
						4.00000E-02	0.257501	0.257501	1.0024 L	55%				
						(1.2145E-01)	(0.78216)	(0.78216)	(0.173205)					
						5.00000E-01	2.702392	2.702392	1.0024 L	55%				
						(8.9350E-02)	(0.53657)	(0.53657)	(0.10)					
						2.25000E-02	0.785567	0.785567	1.0024 L	55%				
						(1.2163E-01)	(4.247144)	(4.247144)	(0.173205)					

Sq	Status Method	Matrix	Protocol	Equation Set	Wk 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
3	Calc TF	Unk	*STILE	Ra228WoBS	JW0D91AC	pCi/L		05/11/07 08:30	06/27/07 06:42	06/08/07 15:42				
456833	M89-L					Unk		31.3	06/26/07 10:07		rata26801	Alq	79%	1001.30 g

Sq	Calc Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	06/26/07 13:54	RA-228	94	230	GPC1D	1	N	N	5.2275E-01	1.0000E+00	N	72%	N	72%	N	1.4652E+00	4.5045E+02	1.0094E+00		
			50	400			Y	Y	(1.787E-02)	(0.000E+00)		6%		6%		(0.000E+00)	0.000999			
1	06/26/07 14:50	RA-228	77	230	GPC1D	1	N	N	5.2275E-01	1.0000E+00	N	72%	N	72%	N	1.6260E+00	4.5045E+02	1.0094E+00		
			50	400			Y	Y	(1.787E-02)	(0.000E+00)		6%		6%		(0.000E+00)	0.000999			
2	06/26/07 15:45	RA-228	64	230	GPC1D	1	N	N	5.2275E-01	1.0000E+00	N	72%	N	72%	N	1.8045E+00	4.5045E+02	1.0094E+00		
			50	400			Y	Y	(1.787E-02)	(0.000E+00)		6%		6%		(0.000E+00)	0.000999			
3	06/27/07 06:42	RA-228	34	253	GPC1D	1	N	N	5.2275E-01	1.0000E+00	N	72%	N	72%	N	9.7865E+00	4.5045E+02	1.0094E+00		
			50	400			N	N	(1.787E-02)	(0.000E+00)		6%		6%		(0.000E+00)	0.000999			

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdvMidC/LcC
0	06/27/07	RA-228	R	2.312107		1.30500E+00	5.091775	5.091775	1.0013 L	72%				
				(0.419961)		(1.9758E-01)	(0.889115)	(0.889115)	(0.173205)					
				1.897398		9.65000E-01	4.178492	4.178492	1.0013 L	72%				
				(0.401098)		(1.7955E-01)	(0.858244)	(0.858244)	(0.173205)					
				1.538297		7.05000E-01	3.387672	3.387672	1.0013 L	72%				
				(0.390581)		(1.6443E-01)	(0.843303)	(0.843303)	(0.173205)					
				1.915934		9.91667E-01	4.219313	4.219313	1.0013 L	72%				
				(0.233286)		(1.0452E-01)	(0.498695)	(0.498695)	(0.10)					
				0.562117		4.75000E-02	1.237908	1.237908	1.0013 L	72%				
				(1.45919)		(1.2321E-01)	(3.212866)	(3.212866)	(0.173205)					

Batch Nbr: 7135309 Alpha Beta, Ra-228 by GPC, Calculated Results 6/27/2007 8:00:47 AM

Sq	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	Analysis Date/PptWt	Sep1/Sep2 Date	QC/Tracer	Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol			
4	Calc	TF	Unk	*STLE Ra228WoBS JW0ED1AC		pCi/L		05/11/07 09:00	06/27/07 06:42	06/08/07 15:42								
456833	M89-F			.F7E150117-4 v4.8.26		Unk			30.9	06/26/07 10:07	rata26802	Alq	76%	1003.70 g	g			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/26/07 13:55	RA-228	63	88	GPC2A	1	N	N	4.3904E-01	1.0000E+00	N	68%	N	1.4674E+00	1.4674E+00	4.5045E+02	1.0094E+00	
			50	400			Y		(1.079E-02)	(0.000E+00)		5%		(0.000E+00)	(0.000E+00)	0.000996		
1	06/26/07 14:50	RA-228	38	88	GPC2A	1	N	N	4.3904E-01	1.0000E+00	N	68%	N	1.6285E+00	1.6285E+00	4.5045E+02	1.0094E+00	
			50	400			Y		(1.079E-02)	(0.000E+00)		5%		(0.000E+00)	(0.000E+00)	0.000996		
2	06/26/07 15:46	RA-228	35	88	GPC2A	1	N	N	4.3904E-01	1.0000E+00	N	68%	N	1.8073E+00	1.8073E+00	4.5045E+02	1.0094E+00	
			50	400			Y		(1.079E-02)	(0.000E+00)		5%		(0.000E+00)	(0.000E+00)	0.000996		
3	06/27/07 06:42	RA-228	20	105	GPC2A	1	N	N	4.3904E-01	1.0000E+00	N	68%	N	9.7942E+00	9.7942E+00	4.5045E+02	1.0094E+00	
			50	400			N		(1.079E-02)	(0.000E+00)		5%		(0.000E+00)	(0.000E+00)	0.000996		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EntFct	Chem Yld,EFctU	IDC/ILcC	BIKlCc/MDC	StdDvMdc/LcC				
06/27/07	RA-228	R	2.307511			1.04000E+00	5.093868	5.093868	1.0037 L	68%		0.804625						
			(0.421154)			(1.6047E-01)	(0.894137)	(0.894137)	(0.173205)			0.342387						
06/27/07	RA-228	R	1.32961			5.40000E-01	2.935135	2.935135	1.0037 L	68%		0.892922						
			(0.335095)			(1.2550E-01)	(0.725023)	(0.725023)	(0.173205)			0.37996						
06/27/07	RA-228	R	1.311653			4.80000E-01	2.895495	2.895495	1.0037 L	68%		0.99097						
			(0.353551)			(1.2062E-01)	(0.766925)	(0.766925)	(0.173205)			0.421682						
06/27/07	RA-228	A	1.649591			6.86667E-01	3.641499	3.641499	1.0037 L	68%		0.517405						
			(0.214646)			(7.8916E-02)	(0.461075)	(0.461075)	(0.10)			0.220168						
06/27/07	RA-228	R	2.036206		U4	1.37500E-01	4.494958	4.494958	1.0037 L	68%		5.792073						
			(1.39202)			(9.3039E-02)	(3.064676)	(3.064676)	(0.173205)			2.496201						

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: 7135309 **Alpha Beta, Ra-228 by GPC** **Calculated Results** 6/27/2007 8:00:47 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
06/27/07	RA-228	R	1.354552 (0.364015)	4.82500E-01 (1.2060E-01)	2.980059 (0.786861)	2.980059 (0.786861)	1.0003 L (0.173205)	52%	1.0003 L (0.173205)	1.013144				
06/27/07	RA-228	R	1.129344 (0.360967)	3.62500E-01 (1.1020E-01)	2.484595 (0.784363)	2.484595 (0.784363)	1.0003 L (0.173205)	52%	1.0003 L (0.173205)	1.24324				
06/27/07	RA-228	R	1.322504 (0.408658)	3.82500E-01 (1.1200E-01)	2.909553 (0.887214)	2.909553 (0.887214)	1.0003 L (0.173205)	52%	1.0003 L (0.173205)	1.247782				
06/27/07	RA-228	A	1.2688 (0.218532)	4.09167E-01 (6.6023E-02)	2.791402 (0.473934)	2.791402 (0.473934)	1.0003 L (0.10)	52%	1.0003 L (0.10)	0.530507				
06/27/07	RA-228	R	0.843178 (1.579637)	4.50000E-02 (8.4187E-02)	1.85502 (3.474016)	1.85502 (3.474016)	1.0003 L (0.173205)	52%	1.0003 L (0.173205)	0.651492				
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	Unk		*STLE Ra228WoBS JW0EFIAC	pc/IL		05/11/07 10:40	06/27/07 06:42	06/08/07 15:42	1				
456833,M97-L				,F7E150117-6 v4.8.26	Unk		31.6	06/26/07 10:07	06/26/07 10:07	1	ratia26804 Alq	59%	1000.80 g	
0	06/26/07 13:55	RA-228	35	100	GPC2C 1	N	N	4.3498E-01 (1.142E-02)	1.0000E+00 (0.000E+00)	N	54%	4%	1.4674E+00 (0.000E+00)	4.5045E+02 1.000999
1	06/26/07 14:50	RA-228	25	100	GPC2C 1	N	N	4.3498E-01 (1.142E-02)	1.0000E+00 (0.000E+00)	N	54%	4%	1.6285E+00 (0.000E+00)	4.5045E+02 1.000999
2	06/26/07 15:46	RA-228	21	100	GPC2C 1	N	N	4.3498E-01 (1.142E-02)	1.0000E+00 (0.000E+00)	N	54%	4%	1.8073E+00 (0.000E+00)	4.5045E+02 1.000999
3	06/27/07 06:42	RA-228	13	115	GPC2C 1	N	N	4.3498E-01 (1.142E-02)	1.0000E+00 (0.000E+00)	N	54%	4%	9.7942E+00 (0.000E+00)	4.5045E+02 1.000999
Sq Calc Date Parameter Avg Sa Act Q Net Cnt Rt Dpm Wo Blk Dpm-Blk Vol Used Yield,EnFct Chem Yld,EFctU IDC/ILcC BIK/LcC/MDC StdDvMdc/LcC														
06/27/07	RA-228	R	1.270796 (0.363483)	4.50000E-01 (1.2093E-01)	2.797263 (0.787775)	2.797263 (0.787775)	1.0008 L (0.173205)	54%	1.0008 L (0.173205)	1.081602				
06/27/07	RA-228	R	0.783472 (0.33202)	2.50000E-01 (1.0308E-01)	1.724569 (0.725734)	1.724569 (0.725734)	1.0008 L (0.173205)	54%	1.0008 L (0.173205)	0.464547				
06/27/07	RA-228	R	0.591261 (0.335446)	1.70000E-01 (9.5000E-02)	1.301478 (0.735506)	1.301478 (0.735506)	1.0008 L (0.173205)	54%	1.0008 L (0.173205)	1.200294				
06/27/07	RA-228	A	0.881843 (0.198573)	2.90000E-01 (6.1712E-02)	1.941103 (0.433109)	1.941103 (0.433109)	1.0008 L (0.10)	54%	1.0008 L (0.10)	0.515525				
06/27/07	RA-228	R	-0.518328 (1.450952)	-2.75000E-02 (7.6933E-02)	-1.140938 (3.193309)	-1.140938 (3.193309)	1.0008 L (0.173205)	54%	1.0008 L (0.173205)	1.332094				

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-88 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

RecCnt:7 RADCALC v4.8.26
STL Richland

Batch Nbr: 7135309 **Alpha Beta, Ra-228 by GPC** **Calculated Results** 6/27/2007 8:00:47 AM

Sq	Calc	TF	Unk	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	Analysis Date/PrtWt	Sep1/Sep2 Date	QC/Tracer	Vial	Mult/Ent/Yld	Total/Analy Vol	Final/Count Vol		
7	456833.M97-F		Unk	*STLE	Ra228WoBS	JW0EK1AC	pCi/L	Unk	05/11/07 11:00	06/27/07 06:42	06/08/07 15:42							
										31.5	06/26/07 10:07	rate26805	Alq	53%	1001.10 g	9		
Sq	Calc Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/26/07 13:55	RA-228	37	89	GPC2D	1	N	N	4.3930E-01	1.0000E+00	N	48%	N	1.4674E+00	4.5045E+02	1.0093E+00		
			50	400			Y		(1.164E-02)	(0.000E+00)		4%		(0.000E+00)	0.000999			
1	06/26/07 14:50	RA-228	19	89	GPC2D	1	N	N	4.3930E-01	1.0000E+00	N	48%	N	1.6285E+00	4.5045E+02	1.0093E+00		
			50	400			Y		(1.164E-02)	(0.000E+00)		4%		(0.000E+00)	0.000999			
2	06/26/07 15:46	RA-228	23	89	GPC2D	1	N	N	4.3930E-01	1.0000E+00	N	48%	N	1.8073E+00	4.5045E+02	1.0093E+00		
			50	400			Y		(1.164E-02)	(0.000E+00)		4%		(0.000E+00)	0.000999			
3	06/27/07 06:42	RA-228	11	109	GPC2D	1	N	N	4.3930E-01	1.0000E+00	N	48%	N	9.7942E+00	4.5045E+02	1.0093E+00		
			50	400			N		(1.164E-02)	(0.000E+00)		4%		(0.000E+00)	0.000999			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt	Rt	Dpm	Wo Blk	Dpm-Blk	Vol Used	Yield,EntFct	Chem Yld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC		
06/27/07	RA-228	R	1.631523		5.17500E-01	3.592383		1.0011 L		3.592383		48%		1.148825				
			(0.422128)		(1.2392E-01)	(0.911946)		(0.173205)		(0.911946)				0.489265				
06/27/07	RA-228	R	0.55104		1.57500E-01	1.213313		1.0011 L		1.213313		48%		1.274893				
			(0.320552)		(9.0312E-02)	(0.703198)		(0.173205)		(0.703198)				0.542955				
06/27/07	RA-228	R	0.922176		2.37500E-01	2.030501		1.0011 L		2.030501		48%		1.414884				
			(0.394025)		(9.8774E-02)	(0.861626)		(0.173205)		(0.861626)				0.602575				
06/27/07	RA-228	A	1.034913		3.04167E-01	2.278732		1.0011 L		2.278732		48%		0.738739				
			(0.220152)		(6.0799E-02)	(0.479413)		(0.10)		(0.479413)				0.314616				
06/27/07	RA-228	R	-1.104716		-5.25000E-02	-2.432429		1.0011 L		-2.432429		48%		8.363905				
			(1.503851)		(7.1283E-02)	(3.309033)		(0.173205)		(3.309033)				3.613854				
Sq	Calc	TF	Unk	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	Analysis Date/PrtWt	Sep1/Sep2 Date	QC/Tracer	Vial	Mult/Ent/Yld	Total/Analy Vol	Final/Count Vol		
8	456833.M97-Z		Unk	*STLE	Ra228WoBS	JW0EL1AC	pCi/L	Unk	05/11/07 11:15	06/27/07 06:38	06/08/07 15:42							
										31.0	06/26/07 10:07	rate26806	Alq	55%	1000.40 g	9		
Sq	Calc Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	06/26/07 13:51	RA-228	29	77	GPC3A	1	N	N	4.6533E-01	1.0000E+00	N	50%	N	1.4545E+00	4.5045E+02	1.0093E+00		
			50	400			Y		(4.137E-02)	(0.000E+00)		4%		(0.000E+00)	0.001			
1	06/26/07 14:41	RA-228	17	77	GPC3A	1	N	N	4.6533E-01	1.0000E+00	N	50%	N	1.5990E+00	4.5045E+02	1.0093E+00		
			50	400			Y		(4.137E-02)	(0.000E+00)		4%		(0.000E+00)	0.001			
2	06/26/07 15:36	RA-228	21	77	GPC3A	1	N	N	4.6533E-01	1.0000E+00	N	50%	N	1.7745E+00	4.5045E+02	1.0093E+00		
			50	400			Y		(4.137E-02)	(0.000E+00)		4%		(0.000E+00)	0.001			
3	06/27/07 06:38	RA-228	12	82	GPC3A	1	N	N	4.6533E-01	1.0000E+00	N	50%	N	9.7075E+00	4.5045E+02	1.0093E+00		
			50	285			N		(4.137E-02)	(0.000E+00)		4%		(0.000E+00)	0.001			

() - (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:8 RADCALC v4.8.26
 STL Richland

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
06/27/07	RA-228	R	1.107018 (0.345246)	3.87500E-01 (1.0991E-01)	2.435802 (0.749827)	2.435802 (0.749827)	1.0004 L (0.173205)	2.435802 (0.749827)	50%	0.979104				
06/27/07	RA-228	R	0.463237 (0.274633)	1.47500E-01 (6.5330E-02)	1.019272 (0.602129)	1.019272 (0.602129)	1.0004 L (0.173205)	1.019272 (0.602129)	50%	1.076357				
06/27/07	RA-228	R	0.792913 (0.344167)	2.27500E-01 (9.4240E-02)	1.744669 (0.752239)	1.744669 (0.752239)	1.0004 L (0.173205)	1.744669 (0.752239)	50%	0.453338				
06/27/07	RA-228	A	0.787723 (0.186509)	2.54167E-01 (5.6020E-02)	1.733247 (0.406976)	1.733247 (0.406976)	1.0004 L (0.10)	1.733247 (0.406976)	50%	1.194511				
06/27/07	RA-228	R	-0.909855 (1.458057)	-4.77193E-02 (7.6220E-02)	-2.001978 (3.206641)	-2.001978 (3.206641)	1.0004 L (0.173205)	-2.001978 (3.206641)	50%	0.503102				

Sq Status Method Matrix Protocol Equation Set Wrk 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	Unk	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Bik Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
9	456833,M12A-L	Unk	*STLE Ra228WoBS JWOENIAC	92	GPC3B	1	N	N	4.8858E-01	1.0000E+00	N	47%	N	1.4545E+00	1.4545E+00	4.5045E+02	1.0093E+00	
			,F7E150117-9 v4.8.26	400			Y	Y	(5.457E-02)	(0.000E+00)		4%		(0.000E+00)	0.000999			
1	06/26/07 13:51	RA-228	46	400	GPC3B	1	N	N	4.8858E-01	1.0000E+00	N	47%	N	1.5990E+00	1.5990E+00	4.5045E+02	1.0093E+00	
			50	400			Y	Y	(5.457E-02)	(0.000E+00)		4%		(0.000E+00)	0.000999			
2	06/26/07 14:41	RA-228	36	400	GPC3B	1	N	N	4.8858E-01	1.0000E+00	N	47%	N	1.7745E+00	1.7745E+00	4.5045E+02	1.0093E+00	
			50	400			Y	Y	(5.457E-02)	(0.000E+00)		4%		(0.000E+00)	0.000999			
3	06/26/07 15:36	RA-228	21	400	GPC3B	1	N	N	4.8858E-01	1.0000E+00	N	47%	N	9.7075E+00	9.7075E+00	4.5045E+02	1.0093E+00	
			50	400			Y	Y	(5.457E-02)	(0.000E+00)		4%		(0.000E+00)	0.000999			

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
06/27/07	RA-228	R	1.986961 (0.491675)	6.90000E-01 (1.3775E-01)	4.376414 (1.06061)	4.376414 (1.06061)	1.0014 L (0.173205)	4.376414 (1.06061)	47%	1.064258				
06/27/07	RA-228	R	1.551186 (0.448898)	4.90000E-01 (1.2237E-01)	3.416591 (0.973859)	3.416591 (0.973859)	1.0014 L (0.173205)	3.416591 (0.973859)	47%	0.45436				
06/27/07	RA-228	R	0.667506 (0.346841)	1.90000E-01 (9.4736E-02)	1.470226 (0.760395)	1.470226 (0.760395)	1.0014 L (0.173205)	1.470226 (0.760395)	47%	1.169969				
06/27/07	RA-228	A	1.401884 (0.250234)	4.56667E-01 (6.9061E-02)	3.087744 (0.54278)	3.087744 (0.54278)	1.0014 L (0.10)	3.087744 (0.54278)	47%	0.499491				
06/27/07	RA-228	R	-1.065485 (1.695546)	-5.54386E-02 (8.7848E-02)	-2.346802 (3.732708)	-2.346802 (3.732708)	1.0014 L (0.173205)	-2.346802 (3.732708)	47%	1.298399				

Batch Nbr: 7135309 Alpha Beta, Ra-228 by GPC, Calculated Results 6/27/2007 8:00:48 AM

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	Mult/EntYld	Total/Analy	Vol	Final/Count	Vol		
10	456833	M12A-F	Unk	*STLE	Ra228WoBS	JW0EQ1AC	pcil/L		05/11/07	13:00		06/27/07	06:38	06/08/07	15:42		06/26/07	10:07	1000.90	g	Final/Count	Vol			
							Unk					31.7					06/26/07	10:07	81%	1000.90	g	Final/Count	Vol		
Sq	Calc	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/VolAdj	Decay	Abn
0	06/26/07	13:51	RA-228	46	109	400	109	GPC3C	1	N	N	4.7478E-01	1.0000E+00	N	75%	N	N	1.4545E+00	1.4545E+00	0.0000E+00	4.5045E+02	1.0093E+00	Abn		
1	06/26/07	14:41	RA-228	38	109	400	109	GPC3C	1	Y	N	(4.669E-02)	(0.000E+00)	N	6%	N	N	(0.000E+00)	(0.000E+00)	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	Abn	
2	06/26/07	15:36	RA-228	50	400	400	400	GPC3C	1	N	N	4.7478E-01	1.0000E+00	N	75%	N	N	1.5990E+00	1.5990E+00	0.0000E+00	4.5045E+02	1.0093E+00	Abn		
3	06/27/07	06:38	RA-228	18	84	285	109	GPC3C	1	Y	N	(4.669E-02)	(0.000E+00)	N	6%	N	N	(0.000E+00)	(0.000E+00)	0.0000E+00	4.5045E+02	1.0093E+00	Abn		
Sq	Calc	Date	Parameter	Avg	Sa	Act	Q	Net	Cnt	Rt	Dpm	Wo	Blk	Dpm	Blk	Vol	Used	Yield	Ent	Fct	Chem	Yld	Ent	Decay	Abn
06/27/07	RA-228	R	1.202691					6.47500E-01	2.6477	2.6477	1.0009L	1.0009L	0.738299	0.738299	75%										
06/27/07	RA-228	R	0.304457					(1.3813E-01)	(0.657051)	(0.657051)	(0.173205)	(0.173205)	0.319002	0.319002	75%										
06/27/07	RA-228	R	0.995444					4.87500E-01	2.191449	2.191449	1.0009L	1.0009L	0.811633	0.811633	75%										
06/27/07	RA-228	R	0.290893					(1.2602E-01)	(0.630952)	(0.630952)	(0.173205)	(0.173205)	0.350688	0.350688	75%										
06/27/07	RA-228	A	0.651499					2.87500E-01	1.434261	1.434261	1.0009L	1.0009L	0.900727	0.900727	75%										
06/27/07	RA-228	A	0.262477					(1.0900E-01)	(0.57337)	(0.57337)	(0.173205)	(0.173205)	0.389184	0.389184	75%										
06/27/07	RA-228	R	0.949878					4.74167E-01	2.091137	2.091137	1.0009L	1.0009L	0.47163	0.47163	75%										
06/27/07	RA-228	R	0.165397					(7.2145E-02)	(0.358789)	(0.358789)	(0.10)	(0.10)	0.20378	0.20378	75%										
06/27/07	RA-228	R	0.809054					6.52632E-02	1.781116	1.781116	1.0009L	1.0009L	5.097735	5.097735	75%										
06/27/07	RA-228	R	1.130304					(9.0742E-02)	(2.486746)	(2.486746)	(0.173205)	(0.173205)	2.214229	2.214229	75%										

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	Mult/EntYld	Total/Analy	Vol	Final/Count	Vol		
11	456833	M12A-Z	Unk	*STLE	Ra228WoBS	JW0EV1AC	pcil/L		05/11/07	12:50		06/27/07	06:39	06/08/07	15:42		06/26/07	10:07	1001.80	g	Final/Count <td>Vol</td>	Vol			
							Unk					31.7					06/26/07	10:07	69%	1001.80	g	Final/Count	Vol		
Sq	Calc	Date	Parameter	Sample	Cnt	Bkgrnd	Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld	Fct	Ent	Blk	Value	Ingr	Fct	Conv	Fct/VolAdj	Decay	Abn
0	06/26/07	13:51	RA-228	65	96	400	96	GPC3D	1	N	N	4.8495E-01	1.0000E+00	N	63%	N	N	1.4545E+00	1.4545E+00	0.0000E+00	4.5045E+02	1.0093E+00	Abn		
1	06/26/07	14:41	RA-228	37	96	400	96	GPC3D	1	Y	N	(4.586E-02)	(0.000E+00)	N	5%	N	N	(0.000E+00)	(0.000E+00)	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	Abn	
2	06/26/07	15:36	RA-228	29	400	400	400	GPC3D	1	N	N	4.8495E-01	1.0000E+00	N	63%	N	N	1.5990E+00	1.5990E+00	0.0000E+00	4.5045E+02	1.0093E+00	Abn		
3	06/27/07	06:39	RA-228	23	121	400	96	GPC4A	1	Y	N	(4.586E-02)	(0.000E+00)	N	5%	N	N	(0.000E+00)	(0.000E+00)	0.0000E+00	4.5045E+02	1.0093E+00	Abn		
06/27/07	RA-228	R	0.8482E-01					1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	9.7255E+00	9.7255E+00	63%										
06/27/07	RA-228	R	2.056E-02					(0.000E+00)	(0.000E+00)	(0.000E+00)	(0.000E+00)	(0.000E+00)	0.0000E+00	0.0000E+00	63%										

() - (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 hr:mm, 24hr Time
 RecCnt:11 RADCALC v4.8.26
 STL Richland

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
06/27/07	RA-228	R	2.281067		1.06000E+00	5.026226	5.026226	0.809911	1.0018L	63%		0.809911		
			(0.464776)		(1.6310E-01)	(0.992797)	(0.992797)		(0.173205)			0.346844		
06/27/07	RA-228	R	1.182851		5.00000E-01	2.606356	2.606356	0.890359	1.0018L	63%		0.890359		
			(0.333391)		(1.2410E-01)	(0.72296)	(0.72296)		(0.173205)			0.381295		
06/27/07	RA-228	R	0.892632		3.40000E-01	1.966873	1.966873	0.988095	1.0018L	63%		0.988095		
			(0.313539)		(1.1045E-01)	(0.683833)	(0.683833)		(0.173205)			0.423151		
06/27/07	RA-228	A	1.452183		6.33333E-01	3.199818	3.199818	0.517376	1.0018L	63%		0.517376		
			(0.217428)		(7.7603E-02)	(0.468561)	(0.468561)		(0.10)			0.221566		
06/27/07	RA-228	R	2.266893		1.57500E-01	4.994993	4.994993	5.985822	1.0018L	63%		5.985822		
			(1.45516)		(9.9781E-02)	(3.196636)	(3.196636)		(0.173205)			2.604408		

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

Sq	Calc Date	Parameter	Sample Cnt	Bkgnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn	
12	Calc TF	Unk																	
456833	EB051107-Z																		
0	06/26/07 13:51	RA-228	42	79	GPC4A	1	N	N	4.8458E-01	1.0000E+00	N	79%	N	1.4555E+00	4.5045E+02	1.0093E+00			
			50	400			Y		(2.055E-02)	(0.000E+00)		6%		(0.000E+00)	0.000998				
1	06/26/07 14:46	RA-228	14	79	GPC4A	1	N	N	4.8458E-01	1.0000E+00	N	79%	N	1.6152E+00	4.5045E+02	1.0093E+00			
			50	400			Y		(2.055E-02)	(0.000E+00)		6%		(0.000E+00)	0.000998				
2	06/26/07 15:41	RA-228	31	79	GPC4A	1	N	N	4.8458E-01	1.0000E+00	N	79%	N	1.7925E+00	4.5045E+02	1.0093E+00			
			50	400			Y		(2.055E-02)	(0.000E+00)		6%		(0.000E+00)	0.000998				
3	06/27/07 06:39	RA-228	15	112	GPC4B	1	N	N	4.7255E-01	1.0000E+00	N	79%	N	9.7255E+00	4.5045E+02	1.0093E+00			
			50	400			N		(9.016E-03)	(0.000E+00)		6%		(0.000E+00)	0.000998				

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BIK/LcC/MDC	StdDvMdc/LcC
06/27/07	RA-228	R	1.104835		6.42500E-01	2.435969	2.435969	0.595747	1.0024L	79%		0.595747		
			(0.253371)		(1.3151E-01)	(0.545199)	(0.545199)		(0.173205)			0.251422		
06/27/07	RA-228	R	0.157434		8.25000E-02	0.347114	0.347114	0.661123	1.0024L	79%		0.661123		
			(0.149853)		(7.8062E-02)	(0.329944)	(0.329944)		(0.173205)			0.279012		
06/27/07	RA-228	R	0.894756		4.22500E-01	1.972781	1.972781	0.733695	1.0024L	79%		0.733695		
			(0.257668)		(1.1355E-01)	(0.559484)	(0.559484)		(0.173205)			0.30964		
06/27/07	RA-228	A	0.719008		3.82500E-01	1.585288	1.585288	0.383085	1.0024L	79%		0.383085		
			(0.130403)		(6.3492E-02)	(0.282671)	(0.282671)		(0.10)			0.161672		
06/27/07	RA-228	R	0.235654		2.00000E-02	0.519575	0.519575	4.738688	1.0024L	79%		4.738688		
			(0.96472)		(8.1854E-02)	(2.126882)	(2.126882)		(0.173205)			2.051251		

Alpha Beta, Ra-228 by GPC, Calculated Results

Batch Nbr: 7135309

6/27/2007 8:00:48 AM

Sq	Calc	TF	Unk	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			
13	06/26/07	13:51	Unk	*STLE	RA228WoBS	JW05P1AA	pc/IL	B	05/11/07 07:00	06/27/07 06:39	06/08/07 15:42	1	97%	1000.00 g				
0	INTRA-LAB	BLANK					Unk			30.9	06/26/07 10:07	rat28811	Alq	97%	1000.00 g			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Bik Value	Ingr Fct	Conv Fct/Vol/Adj	Decay	Abn
0	06/26/07 13:51	RA-228	42	92	GPC4B	1	N	N	4.7271E-01	1.0000E+00	N	87%	N	1.4555E+00	4.5045E+02	1.0094E+00		
			50	400			Y		(9.019E-03)	(0.000E+00)		7%		(0.000E+00)	0.001			
1	06/26/07 14:46	RA-228	27	92	GPC4B	1	N	N	4.7271E-01	1.0000E+00	N	87%	N	1.6152E+00	4.5045E+02	1.0094E+00		
			50	400			Y		(9.019E-03)	(0.000E+00)		7%		(0.000E+00)	0.001			
2	06/26/07 15:41	RA-228	34	92	GPC4B	1	N	N	4.7271E-01	1.0000E+00	N	87%	N	1.7925E+00	4.5045E+02	1.0094E+00		
			50	400			Y		(9.019E-03)	(0.000E+00)		7%		(0.000E+00)	0.001			
3	06/27/07 06:39	RA-228	14	139	GPC4C	1	N	N	4.8161E-01	1.0000E+00	N	87%	N	9.7255E+00	4.5045E+02	1.0094E+00		
			50	400			N		(1.241E-02)	(0.000E+00)		7%		(0.000E+00)	0.001			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm	Wo Bik	Dpm-Bik	Vol Used	Yield/EntFct	Chem Yld/EFctU	IDC/ILcC	BikLcC/MDC	StdDv/MdC/LcC			
06/27/07	RA-228	R	0.979034			6.10000E-01	2.153207	2.153207	(0.497845)	1.00 L	87%	0.593164						
			(0.231596)			(1.3181E-01)	(0.497845)			(0.173205)		0.253237						
06/27/07	RA-228	R	0.552141			3.10000E-01	1.214333	1.214333	(0.429555)	1.00 L	87%	0.658255						
			(0.197254)			(1.0665E-01)	(0.429555)			(0.173205)		0.281027						
06/27/07	RA-228	R	0.889476			4.50000E-01	1.95624	1.95624	(0.542002)	1.00 L	87%	0.730513						
			(0.250422)			(1.1906E-01)	(0.542002)			(0.173205)		0.311876						
06/27/07	RA-228	A	0.806883			4.56667E-01	1.774593	1.774593	(0.284045)	1.00 L	87%	0.381423						
			(0.131342)			(6.9061E-02)	(0.284045)			(0.10)		0.16284						
06/27/07	RA-228	R	-0.71051			-6.75000E-02	-1.562637	-1.562637	(1.866561)	1.00 L	87%	4.650995						
			(0.849443)			(8.0429E-02)	(1.866561)			(0.173205)		2.041453						
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm	Wo Bik	Dpm-Bik	Vol Used	Yield/EntFct	Chem Yld/EFctU	IDC/ILcC	BikLcC/MDC	StdDv/MdC/LcC			
06/27/07	RA-228	R	0.979034			6.10000E-01	2.153207	2.153207	(0.497845)	1.00 L	87%	0.593164						
			(0.231596)			(1.3181E-01)	(0.497845)			(0.173205)		0.253237						
06/27/07	RA-228	R	0.552141			3.10000E-01	1.214333	1.214333	(0.429555)	1.00 L	87%	0.658255						
			(0.197254)			(1.0665E-01)	(0.429555)			(0.173205)		0.281027						
06/27/07	RA-228	R	0.889476			4.50000E-01	1.95624	1.95624	(0.542002)	1.00 L	87%	0.730513						
			(0.250422)			(1.1906E-01)	(0.542002)			(0.173205)		0.311876						
06/27/07	RA-228	A	0.806883			4.56667E-01	1.774593	1.774593	(0.284045)	1.00 L	87%	0.381423						
			(0.131342)			(6.9061E-02)	(0.284045)			(0.10)		0.16284						
06/27/07	RA-228	R	-0.71051			-6.75000E-02	-1.562637	-1.562637	(1.866561)	1.00 L	87%	4.650995						
			(0.849443)			(8.0429E-02)	(1.866561)			(0.173205)		2.041453						

14 Calc TF Unk
0,INTRA-LAB CHECK

*STLE RA228WoBS JW05P1AC pc/IL Unk

06/27/07 06:39 06/08/07 15:42 rasc4436 1 g

06/26/07 10:07 06/26/07 10:07 rasc4436 Alq 93% 1001.60 g

Sq Cnt Date Parameter Sample Cnt Bkgrnd Cnt Instr Geom Trc/Av Ent Efficiency1 Efficiency2 Ent Yld Fct Ent Ent Bik Value Ingr Fct Conv Fct/Vol/Adj Decay Abn

0 06/26/07 13:51 RA-228 175 95 GPC4C 1 N N 4.8167E-01 1.0000E+00 N 85% N 1.4555E+00 4.5045E+02 1.0094E+00

50 400 Y (1.241E-02) (0.000E+00) 7%

1 06/26/07 14:46 RA-228 156 95 GPC4C 1 N N 4.8167E-01 1.0000E+00 N 85% N 1.6152E+00 4.5045E+02 1.0094E+00

50 400 Y (1.241E-02) (0.000E+00) 7%

2 06/26/07 15:41 RA-228 135 95 GPC4C 1 N N 4.8167E-01 1.0000E+00 N 85% N 1.7925E+00 4.5045E+02 1.0094E+00

50 400 Y (1.241E-02) (0.000E+00) 7%

3 06/27/07 06:39 RA-228 48 91 GPC4D 1 N N 4.6301E-01 1.0000E+00 N 85% N 9.7255E+00 4.5045E+02 1.0094E+00

50 400 N (2.144E-02) (0.000E+00) 7%

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:14
RADCALC v4.8.26
STL Richland

Batch Nbr: 7135309

Alpha Beta, Ra-228 by GPC , Calculated Results

6/27/2007 8:00:48 AM

Sq	Calc Date	Parameter	Avg	Std Act	Q	Net Cnt Rt	Dpm Wo Bik	Dpm-Bik	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LeC	BkLcC/MDC	StdDvMdc/LcC
06/27/07	RA-228	R	5.264693 (0.670002)	3.26250E+00 (2.65689E-01)	11.597261 (1.357221)	11.597261 (1.357221)	11.597261 (1.357221)	1.0016 L (0.173205)	85%	107%	0.604619	0.258732		
06/27/07	RA-228	R	5.161926 (0.6759)	2.88250E+00 (2.5099E-01)	11.370883 (1.376072)	11.370883 (1.376072)	11.370883 (1.376072)	1.0016 L (0.173205)	85%	105%	0.670968	0.287124		
06/27/07	RA-228	R	4.893869 (0.666837)	2.46250E+00 (2.3365E-01)	10.780397 (1.366461)	10.780397 (1.366461)	10.780397 (1.366461)	1.0016 L (0.173205)	85%	99%	0.744622	0.318643		
06/27/07	RA-228	A	5.10683 (0.387358)	2.86917E+00 (1.4460E-01)	11.249514 (0.789011)	11.249514 (0.789011)	11.249514 (0.789011)	1.0016 L (0.10)	85%	104%	0.388789	0.166373		
06/27/07	RA-228	R	8.216466 (1.798026)	7.32500E-01 (1.4060E-01)	18.099536 (3.855985)	18.099536 (3.855985)	18.099536 (3.855985)	1.0016 L (0.173205)	85%	167%	4.126288	1.760208		

() - (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: 14
 RADCALC v4.8.26
 STL - Richland

UST Number: JW0D31AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-B File: [quad1.sample.B]JW0D31AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.B_1;3351

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00086	0050	01154	1650	26-JUN-2007 13:54:53.75
2	00000	00048	0050	01156	1650	26-JUN-2007 14:50:09.37
3	00000	00046	0050	01158	1650	26-JUN-2007 15:45:24.97

Bkg File: [quad1.bkgrnd]2007-06-26_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00263	0400	0.66	09171	1650	26-JUN-2007 03:55:03.42

UST Number: JW0D31AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-B File: [quad1.sample.B]JW0D31AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.B_1;3352

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00043	0050	01151	1650	27-JUN-2007 06:42:33.06

Bkg File: [quad1.bkgrnd]2007-06-27_0226.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00279	0400	0.70	09302	1650	27-JUN-2007 02:26:47.49

UST Number: JW0D71AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]JW0D71AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3348

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00085	0050	01154	1650	26-JUN-2007 13:54:53.75
2	00000	00050	0050	01156	1650	26-JUN-2007 14:50:09.37
3	00000	00033	0050	01158	1650	26-JUN-2007 15:45:24.97

Bkg File: [quad1.bkgrnd]2007-06-26_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00248	0400	0.62	09171	1650	26-JUN-2007 03:55:03.42

UST Number: JW0D71AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]JW0D71AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.C_1;3349

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00033	0050	01151	1650	27-JUN-2007 06:42:33.06

Bkg File: [quad1.bkgrnd]2007-06-27_0226.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00255	0400	0.64	09302	1650	27-JUN-2007 02:26:47.49

UST Number: JW0D91AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]JW0D91AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3351

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00094	0050	01154	1650	26-JUN-2007 13:54:53.75
2	00000	00077	0050	01156	1650	26-JUN-2007 14:50:09.37
3	00000	00064	0050	01158	1650	26-JUN-2007 15:45:24.97

Bkg File: [quad1.bkgrnd]2007-06-26_0355.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00230	0400	0.58	09171	1650	26-JUN-2007 03:55:03.42

UST Number: JW0D91AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]JW0D91AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD1.BKGRND]CURRENT.D_1;3352

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00034	0050	01151	1650	27-JUN-2007 06:42:33.06

Bkg File: [quad1.bkgrnd]2007-06-27_0226.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00253	0400	0.63	09302	1650	27-JUN-2007 02:26:47.49

UST Number: JW0EC1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]JW0EC1AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.A_1;3891

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00063	0050	01159	1810	26-JUN-2007 13:55:42.04
2	00000	00038	0050	01157	1810	26-JUN-2007 14:50:57.71
3	00000	00035	0050	01158	1810	26-JUN-2007 15:46:14.26

Bkg File: [quad2.bkgrnd]2007-06-26_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00088	0400	0.22	09242	1810	26-JUN-2007 03:55:08.03

UST Number: JW0EC1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]JW0EC1AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.A_1;3892

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01155	1810	27-JUN-2007 06:42:58.03

Bkg File: [quad2.bkgrnd]2007-06-27_0226.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00105	0400	0.26	09321	1810	27-JUN-2007 02:26:44.01

UST Number: JW0ED1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]JW0ED1AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.B_1;3888

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00035	0050	01159	1810	26-JUN-2007 13:55:42.04
2	00000	00029	0050	01157	1810	26-JUN-2007 14:50:57.71
3	00000	00030	0050	01158	1810	26-JUN-2007 15:46:14.26

Bkg File: [quad2.bkgrnd]2007-06-26_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00087	0400	0.22	09242	1810	26-JUN-2007 03:55:08.03

UST Number: JW0ED1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]JW0ED1AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.B_1;3889

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00016	0050	01155	1810	27-JUN-2007 06:42:58.03

Bkg File: [quad2.bkgrnd]2007-06-27_0226.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00110	0400	0.28	09321	1810	27-JUN-2007 02:26:44.01

UST Number: JW0EF1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]JW0EF1AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.C_1;3889

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00035	0050	01159	1810	26-JUN-2007 13:55:42.04
2	00000	00025	0050	01157	1810	26-JUN-2007 14:50:57.71
3	00000	00021	0050	01158	1810	26-JUN-2007 15:46:14.26

Bkg File: [quad2.bkgrnd]2007-06-26_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00100	0400	0.25	09242	1810	26-JUN-2007 03:55:08.03

UST Number: JW0EF1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]JW0EF1AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.C_1;3890

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00013	0050	01155	1810	27-JUN-2007 06:42:58.03

Bkg File: [quad2.bkgrnd]2007-06-27_0226.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00115	0400	0.29	09321	1810	27-JUN-2007 02:26:44.01

UST Number: JW0EK1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]JW0EK1AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.D_1;3888

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00037	0050	01159	1810	26-JUN-2007 13:55:42.04
2	00000	00019	0050	01157	1810	26-JUN-2007 14:50:57.71
3	00000	00023	0050	01158	1810	26-JUN-2007 15:46:14.26

Bkg File: [quad2.bkgrnd]2007-06-26_0355.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00089	0400	0.22	09242	1810	26-JUN-2007 03:55:08.03

UST Number: JW0EK1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]JW0EK1AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD2.BKGRND]CURRENT.D_1;3889

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00011	0050	01155	1810	27-JUN-2007 06:42:58.03

Bkg File: [quad2.bkgrnd]2007-06-27_0226.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00109	0400	0.27	09321	1810	27-JUN-2007 02:26:44.01

UST Number: JW0EL1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]JW0EL1AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;5807

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00029	0050	01239	1920	26-JUN-2007 13:51:00.09
2	00000	00017	0050	01237	1920	26-JUN-2007 14:41:15.59
3	00000	00021	0050	01245	1920	26-JUN-2007 15:36:31.28

Bkg File: [quad3.bkgrnd]2007-06-26_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00077	0400	0.19	09913	1920	26-JUN-2007 03:55:10.97

UST Number: JW0EL1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]JW0EL1AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.A_1;5808

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00012	0050	01242	1920	27-JUN-2007 06:38:15.56

Bkg File: [quad3.bkgrnd]2007-06-27_0026.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00082	0285	0.29	07149	1920	27-JUN-2007 00:26:26.84

UST Number: JW0EN1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]JW0EN1AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.B_1;5815

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00046	0050	01239	1920	26-JUN-2007 13:51:00.09
2	00000	00036	0050	01237	1920	26-JUN-2007 14:41:15.59
3	00000	00021	0050	01245	1920	26-JUN-2007 15:36:31.28

Bkg File: [quad3.bkgrnd]2007-06-26_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00092	0400	0.23	09913	1920	26-JUN-2007 03:55:10.97

UST Number: JW0EN1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]JW0EN1AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.B_1;5816

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00016	0050	01242	1920	27-JUN-2007 06:38:15.56

Bkg File: [quad3.bkgrnd]2007-06-27_0026.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00107	0285	0.38	07149	1920	27-JUN-2007 00:26:26.84

UST Number: JW0EQ1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]JW0EQ1AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;5820

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00046	0050	01239	1920	26-JUN-2007 13:51:00.09
2	00000	00038	0050	01237	1920	26-JUN-2007 14:41:15.59
3	00000	00028	0050	01245	1920	26-JUN-2007 15:36:31.28

Bkg File: [quad3.bkgrnd]2007-06-26_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00109	0400	0.27	09913	1920	26-JUN-2007 03:55:10.97

UST Number: JW0EQ1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]JW0EQ1AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.C_1;5821

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01242	1920	27-JUN-2007 06:38:15.56

Bkg File: [quad3.bkgrnd]2007-06-27_0026.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00084	0285	0.30	07149	1920	27-JUN-2007 00:26:26.84

UST Number: JW0EV1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]JW0EV1AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD3.BKGRND]CURRENT.D_1;5805

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00065	0050	01239	1920	26-JUN-2007 13:51:00.09
2	00000	00037	0050	01237	1920	26-JUN-2007 14:41:15.59
3	00000	00029	0050	01245	1920	26-JUN-2007 15:36:31.28

Bkg File: [quad3.bkgrnd]2007-06-26_0355.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00096	0400	0.24	09913	1920	26-JUN-2007 03:55:10.97

UST Number: JW0EV1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]JW0EV1AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;5821

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00023	0050	01194	1850	27-JUN-2007 06:39:14.16

Bkg File: [quad4.bkgrnd]2007-06-27_0222.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00121	0400	0.30	09641	1850	27-JUN-2007 02:22:23.30

UST Number: JW0E01AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]JW0E01AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.A_1;5820

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00042	0050	01193	1850	26-JUN-2007 13:51:22.35
2	00000	00014	0050	01186	1850	26-JUN-2007 14:46:37.95
3	00000	00031	0050	01204	1850	26-JUN-2007 15:41:53.59

Bkg File: [quad4.bkgrnd]2007-06-26_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00079	0400	0.20	09528	1850	26-JUN-2007 03:55:16.91

UST Number: JW0E01AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]JW0E01AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.B_1;5820

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00015	0050	01194	1850	27-JUN-2007 06:39:14.16

Bkg File: [quad4.bkgrnd]2007-06-27_0222.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00112	0400	0.28	09641	1850	27-JUN-2007 02:22:23.30

UST Number: JW05P1AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]JW05P1AA.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.B_1;5819

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00042	0050	01193	1850	26-JUN-2007 13:51:22.35
2	00000	00027	0050	01186	1850	26-JUN-2007 14:46:37.95
3	00000	00034	0050	01204	1850	26-JUN-2007 15:41:53.59

Bkg File: [quad4.bkgrnd]2007-06-26_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00092	0400	0.23	09528	1850	26-JUN-2007 03:55:16.91

UST Number: JW05P1AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]JW05P1AA.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;5823

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00014	0050	01194	1850	27-JUN-2007 06:39:14.16

Bkg File: [quad4.bkgrnd]2007-06-27_0222.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00139	0400	0.35	09641	1850	27-JUN-2007 02:22:23.30

UST Number: JW05P1AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]JW05P1AC.180
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.C_1;5822

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00175	0050	01193	1850	26-JUN-2007 13:51:22.35
2	00000	00156	0050	01186	1850	26-JUN-2007 14:46:37.95
3	00000	00135	0050	01204	1850	26-JUN-2007 15:41:53.59

Bkg File: [quad4.bkgrnd]2007-06-26_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00095	0400	0.24	09528	1850	26-JUN-2007 03:55:16.91

UST Number: JW05P1AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-D File: [quad4.sample.D]JW05P1AC.430
Dish Size: 1 Bkg File: \$DISK1:[QUAD4.BKGRND]CURRENT.D_1;5837

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00048	0050	01194	1850	27-JUN-2007 06:39:14.16

Bkg File: [quad4.bkgrnd]2007-06-27_0222.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00091	0400	0.23	09641	1850	27-JUN-2007 02:22:23.30

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	
RASC4436	RA-226	3.1115E+00 ± 4.787E-02 DPM	0.1481 g	5/9/2007 5/9/2007	Armstron	2.1010E+01 ± 3.226E-01 DPM/G
		3.1115E+000 ± 3.112E+000 (1)	3.1115E+000 , 3.1115E+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	
RASC4436	RA-226	3.1115E+00 ± 4.787E-02 DPM	0.1481 g	5/9/2007 5/9/2007	Armstron	2.1010E+01 ± 3.226E-01 DPM/G
		3.1115E+000 ± 3.112E+000 (1)	3.1115E+000 , 3.1115E+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	<u>tda</u>	2) Date Prepared	<u>10/14/2005</u>
3) Source Identification Number / Ref. Number	<u>RA22606A000</u>	<u>6068</u>	
4) Source Activity (dpm ± dpm/g)	<u>4.2223E+02</u>	±	<u>1.393E+01</u>
5) Percent error of Source Activity	<u>3.3</u>	%	
6) Weight of Source Material used (g)	<u>50</u>		
7) (% Error) of Weight of Source Material used	<u>0.0096</u>	%	
8) Diluent	<u>1 M HNO3</u>		
9) Total Weight of the Dilution (g)	<u>approx. 750 g</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.0400</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>2.1120E+01</u>	±	<u>6.970E-01</u>
12) Total Uncertainty	<u>3.300</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22606A100</u>	<u>6069</u>	
14) Calibration Reference Date	<u>11/1/2001</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>3/21/2006</u>
16) Reviewed by/date	<u></u>		<u></u>
17) Location	<u>QCLAB</u>	18) Exhausted	<u></u>

CALCULATIONS

7) % Error of Wt. used = $(0.0048 / \text{Weight of Source Material used} * 100)$

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: RA22804A110		Ref: 7/19/2004	1.0994E+02	± 3.355E+00	DPM/G	
RASC4436	RA-228	1.1033E+01 ± 3.369E-01 DPM	0.1407 g	5/9/2007 5/9/2007	Armstron	7.8412E+01 ± 2.393E+00 DPM/G
		1.1033E+001 ± 1.103E+001 (1)	1.1033E+001 , 1.1033E+001			

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: RA22804A110		Ref: 7/19/2004	1.0994E+02	± 3.355E+00	DPM/G	
RASC4436	RA-228	1.1033E+01 ± 3.369E-01 DPM	0.1407 g	5/9/2007 5/9/2007	Armstron	7.8412E+01 ± 2.393E+00 DPM/G
		1.1033E+001 ± 1.103E+001 (1)	1.1033E+001 , 1.1033E+001			

Ra22804A000

Ra22804A000
Ref. 5756
2.945E5 ± 9.719E3
dpm/g
7/19/04



Ra22804A100
Ref. 6023
1.408E4 ± 4.667E2
dpm/g
8/12/05



Ra22804A110
Ref. 6024
1.099E2 ± 3.689E2
dpm/g
8/12/05

ISOTOPE DILUTION RECORD

1) Prepared by TDA 2) Date Prepared 10/12/2005

3) Source Identification Number / Ref. Number RA22804A100 6023

4) Source Activity (dpm ± dpm/g) 1.4082E+04 ± 4.667E+02

5) Percent error of Source Activity 3.314 %

6) Weight of Source Material used (g) 1.0212

7) (% Error) of Weight of Source Material used 0.4700 %

8) Diluent 1 M HCL

9) Total Weight of the Dilution (g) 130.8

10) (% Error) of Total Weight of the Dilution 0.2294 %

11) Specific Activity of Diluted Solution dpm/g 1.0994E+02 ± 3.689E+00

12) Total Uncertainty 3.355 %

13) Dilution Identification Number / Ref. Number RA22804A110 6024

14) Calibration Reference Date 7/19/2004

15) Isotope Inventory File update by/date tda 10/12/2005

16) Reviewed by/date sew 10/31/2005

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 DILUTION RECORD

1) Prepared by	<u>TDA</u>	2) Date Prepared	<u>10/12/2005</u>
3) Source Identification Number / Ref. Number	<u>RA22804A000</u>	<u>5756</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.9453E+05</u>	±	<u>9.719E+03</u>
5) Percent error of Source Activity	<u>3.3</u>	%	
6) Weight of Source Material used (g)	<u>4.967</u>		
7) (% Error) of Weight of Source Material used	<u>0.0966</u>	%	
8) Diluent	<u>1 M HCL</u>		
9) Total Weight of the Dilution (g)	<u>103.89</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2888</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>1.4082E+04</u>	±	<u>4.667E+02</u>
12) Total Uncertainty	<u>3.314</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22804A100</u>	<u>6023</u>	
14) Calibration Reference Date	<u>7/19/2004</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>10/12/2005</u>
16) Reviewed by/date	<u>SEW</u>		<u>1/17/2006</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 DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>10/17/2002</u>
3) Source Identification Number / Ref. Number	<u>RA22801A000</u>	<u>5025</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.7299E+04</u>	±	<u>1.092E+03</u>
5) Percent error of Source Activity	<u>4.0</u>	%	
6) Weight of Source Material used (g)	<u>0.3819</u>		
7) (% Error) of Weight of Source Material used	<u>1.2569</u>	%	
8) Diluent	<u>1M HCL-5122</u>		
9) Total Weight of the Dilution (g)	<u>121.17</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2476</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.6040E+01</u>	±	<u>3.614E+00</u>
12) Total Uncertainty	<u>4.200</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22801A200</u>	<u>5307</u>	
14) Calibration Reference Date	<u>10/17/2002</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>10/17/2002</u>
16) Reviewed by/date	<u>SEW</u>		<u>10/31/2002</u>
17) Location <u>QCLAB/STWT0678</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 DILUTION RECORD

1) Prepared by	<u>W.G</u>	2) Date Prepared	<u>3/19/2002</u>
3) Source Identification Number / Ref. Number	<u>RA22801A100</u>	<u>5032</u>	
4) Source Activity (dpm ± dpm/g)	<u>1.9600E+03</u>	±	<u>8.402E+01</u>
5) Percent error of Source Activity	<u>4.287</u>	%	
6) Weight of Source Material used (g)	<u>4.4028</u>		
7) (% Error) of Weight of Source Material used	<u>0.1090</u>	%	
8) Diluent	<u>1M HCL-5122</u>		
9) Total Weight of the Dilution (g)	<u>121.34</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2472</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>7.1118E+01</u>	±	<u>3.055E+00</u>
12) Total Uncertainty	<u>4.296</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22801A110</u>	<u>5123</u>	
14) Calibration Reference Date	<u>3/19/2002</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>3/19/2002</u>
16) Reviewed by/date	<u>SEW</u>		<u>3/20/2002</u>
17) Location <u>QCLAB/STWT0558</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 W.G 2) Date Prepared 10/25/2001

3) Source Identification Number / Ref. Number RA22801A000 5025

4) Source Activity (dpm ± dpm/g) 3.0707E+04 ± 1.228E+02

5) Percent error of Source Activity 4.0 %

6) Weight of Source Material used (g) 1.3397

7) (% Error) of Weight of Source Material used 0.3583 %

8) Diluent 1M HCL-5031

9) Total Weight of the Dilution (g) 20.01

10) (% Error) of Total Weight of the Dilution 1.4993 %

11) Specific Activity of Diluted Solution dpm/g 2.0559E+03 ± 8.813E+01

12) Total Uncertainty 4.287 %

13) Dilution Identification Number / Ref. Number RA22801A100 5032

14) Calibration Reference Date 10/25/2001

15) Isotope Inventory File update by/date W.G 10/25/2001

16) Reviewed by/date RROSS 10/29/2001

17) Location QCLAB/STWT0496 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-228 2) Reference Number 5025
 3) Half Life 5.75 yrs 4) Storage Location PM
 5) Source Identification Number RA22801A000

CALIBRATION DATA

6) Activity as Received Units 2575 dps
 7) Overall Uncertainty Percent 4.0%
 8) Reference Date / Time 10/12/01 12:00 EST (9.00AM)
 9) Activity dpm/g 30839.62 ± 1233.58 dpm/g
 10) Volume or Mass (ml/g) 5.00979 g
 11) Calibrated by ANALYTICS
 12) Certificate Solution Number 62588-310

SURVEY DATA

13) Date Received 10/16/2001
 14) Surveyed by W.G
 15) Survey Reading (Beta/Gamma) cpm <200CPM
 16) Survey Reading (Alpha) cpm <200CPM

17) Activity Conversion 2575.0 dps*60s/m/5.00979g=30839.62 ± 1233.58dpm/g

18) Remarks Transferred to acid leach vial 10/25/01 stwt0495

19) Isotope File Updated by 10/17/10 W.G

20) QC Approved RROSS 10/23/01

RADIUM 226
CONTINUING CALIBRATION

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RADIUM 228
CONTINUING CALIBRATION

Quality Assurance Report.

Generated 27-JUN-2007 19:36:46.16

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 : 42.487423 Std Deviation : 0.569003

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 05:00	CHK		42.6000		
3-APR-2007 04:55	CHK		42.2000		
4-APR-2007 04:58	CHK		42.2000		
5-APR-2007 04:56	CHK		42.4000		
6-APR-2007 04:43	CHK		43.0000		
7-APR-2007 07:46	CHK		43.3000		
9-APR-2007 05:00	CHK		42.2000		
10-APR-2007 05:27	CHK		43.3000		
11-APR-2007 04:58	CHK		44.0000	In	
12-APR-2007 04:54	CHK		42.3000		
13-APR-2007 04:55	CHK		42.6000		
16-APR-2007 05:07	CHK		42.0000		
17-APR-2007 04:54	CHK		42.2000		
18-APR-2007 04:58	CHK		42.5000		
19-APR-2007 04:57	CHK		42.5000		
20-APR-2007 05:26	CHK		42.8000		
21-APR-2007 08:36	CHK		41.9000		
23-APR-2007 04:57	CHK		43.6000		
24-APR-2007 04:49	CHK		43.3000		
25-APR-2007 04:50	CHK		42.7000		
26-APR-2007 04:47	CHK		42.0000		

27-APR-2007 04:55	CHK	42.2000	
28-APR-2007 07:44	CHK	43.0000	
30-APR-2007 05:06	CHK	42.8000	
1-MAY-2007 04:50	CHK	42.7000	
2-MAY-2007 04:54	CHK	43.3000	
3-MAY-2007 04:52	CHK	43.3000	
4-MAY-2007 04:51	CHK	42.0000	
5-MAY-2007 07:38	CHK	42.8000	
7-MAY-2007 05:07	CHK	42.9000	
8-MAY-2007 04:52	CHK	42.0000	
9-MAY-2007 04:58	CHK	42.7000	
10-MAY-2007 05:01	CHK	42.2000	
11-MAY-2007 04:51	CHK	42.6000	
12-MAY-2007 07:47	CHK	41.9000	
14-MAY-2007 05:02	CHK	42.3000	
15-MAY-2007 04:56	CHK	42.6000	
16-MAY-2007 04:44	CHK	42.4000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
17-MAY-2007 04:50	CHK		42.2000	
18-MAY-2007 04:44	CHK		43.7000	In
19-MAY-2007 08:05	CHK		43.1000	
21-MAY-2007 05:05	CHK		43.3000	
22-MAY-2007 04:50	CHK		42.1000	
23-MAY-2007 04:56	CHK		43.3000	
24-MAY-2007 04:52	CHK		42.2000	
25-MAY-2007 05:21	CHK		43.0000	
26-MAY-2007 07:41	CHK		43.2000	
29-MAY-2007 05:15	CHK		42.6000	
30-MAY-2007 04:51	CHK		43.1000	
31-MAY-2007 04:45	CHK		42.6000	
1-JUN-2007 04:50	CHK		42.8000	
2-JUN-2007 07:58	CHK		42.9000	
4-JUN-2007 05:00	CHK		41.8000	
5-JUN-2007 06:26	CHK		43.3000	
6-JUN-2007 04:54	CHK		43.0000	
7-JUN-2007 04:52	CHK		42.4000	
8-JUN-2007 04:53	CHK		43.1000	
9-JUN-2007 07:34	CHK		42.2000	
10-JUN-2007 07:46	CHK		41.8000	
11-JUN-2007 05:23	CHK		42.2000	

12-JUN-2007 05:00	CHK	42.8000			
13-JUN-2007 05:08	CHK	42.9000			
14-JUN-2007 05:01	CHK	42.2000			
15-JUN-2007 04:59	CHK	43.5000			
16-JUN-2007 08:02	CHK	43.4000			
17-JUN-2007 07:47	CHK	42.5000			
18-JUN-2007 04:37	CHK	42.3000			
19-JUN-2007 04:57	CHK	42.6000			
20-JUN-2007 04:55	CHK	43.2000			
21-JUN-2007 05:34	CHK	42.0000			
22-JUN-2007 04:48	CHK	42.2000			
23-JUN-2007 07:35	CHK	41.9000			
25-JUN-2007 05:14	CHK	42.4000			
26-JUN-2007 05:21	CHK	42.8000			

-- 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 : 44.279873 Std Deviation : 0.566555

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 05:00	CHK		43.8000			
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3-APR-2007 04:55	CHK		44.2000			
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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-APR-2007 04:58	CHK		43.8000			
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5-APR-2007 04:56	CHK		44.3000			
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6-APR-2007 04:43	CHK		45.3000			
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7-APR-2007 07:46	CHK		45.0000			
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9-APR-2007 05:00	CHK		44.9000			
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10-APR-2007 05:27	CHK		44.8000			
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11-APR-2007 04:58	CHK	45.1000			
12-APR-2007 04:54	CHK	43.5000			
13-APR-2007 04:55	CHK	44.3000			
16-APR-2007 05:07	CHK	44.0000			
17-APR-2007 04:54	CHK	44.6000			
18-APR-2007 04:58	CHK	44.8000			
19-APR-2007 04:57	CHK	43.9000			
20-APR-2007 05:26	CHK	44.7000			
21-APR-2007 08:36	CHK	44.6000			
23-APR-2007 04:57	CHK	44.4000			
24-APR-2007 04:49	CHK	44.2000			
25-APR-2007 04:50	CHK	43.7000			
26-APR-2007 04:47	CHK	44.1000			
27-APR-2007 04:55	CHK	45.2000			
28-APR-2007 07:44	CHK	45.2000			
30-APR-2007 05:06	CHK	45.3000			
1-MAY-2007 04:50	CHK	44.4000			
2-MAY-2007 04:54	CHK	44.3000			
3-MAY-2007 04:52	CHK	44.4000			
4-MAY-2007 04:51	CHK	43.7000			
5-MAY-2007 07:38	CHK	44.2000			
7-MAY-2007 05:07	CHK	44.8000			
8-MAY-2007 04:52	CHK	44.4000			
9-MAY-2007 04:58	CHK	44.5000			
10-MAY-2007 05:01	CHK	45.2000			
11-MAY-2007 04:51	CHK	44.4000			
12-MAY-2007 07:47	CHK	44.6000			
14-MAY-2007 05:02	CHK	43.9000			
15-MAY-2007 04:56	CHK	44.6000			
16-MAY-2007 04:44	CHK	45.1000			
17-MAY-2007 04:50	CHK	43.7000			
18-MAY-2007 04:44	CHK	44.7000			
19-MAY-2007 08:05	CHK	44.2000			
21-MAY-2007 05:05	CHK	44.2000			
22-MAY-2007 04:50	CHK	43.6000			
23-MAY-2007 04:56	CHK	44.9000			
24-MAY-2007 04:52	CHK	44.8000			
25-MAY-2007 05:21	CHK	45.0000			
26-MAY-2007 07:41	CHK	44.5000			
29-MAY-2007 05:15	CHK	43.7000			
30-MAY-2007 04:51	CHK	45.2000			
31-MAY-2007 04:45	CHK	45.2000			
1-JUN-2007 04:50	CHK	45.0000			

2-JUN-2007 07:58	CHK	44.6000	
4-JUN-2007 05:00	CHK	44.4000	
5-JUN-2007 06:26	CHK	44.3000	
6-JUN-2007 04:54	CHK	44.7000	
7-JUN-2007 04:52	CHK	44.8000	
8-JUN-2007 04:53	CHK	45.2000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
9-JUN-2007 07:34	CHK		45.1000	
10-JUN-2007 07:46	CHK		44.6000	
11-JUN-2007 05:23	CHK		44.3000	
12-JUN-2007 05:00	CHK		44.4000	
13-JUN-2007 05:08	CHK		44.5000	
14-JUN-2007 05:01	CHK		43.7000	
15-JUN-2007 04:59	CHK		44.0000	
16-JUN-2007 08:02	CHK		43.9000	
17-JUN-2007 07:47	CHK		44.4000	
18-JUN-2007 04:37	CHK		44.6000	
19-JUN-2007 04:57	CHK		45.5000	In
20-JUN-2007 04:55	CHK		43.7000	
21-JUN-2007 05:34	CHK		43.4000	
22-JUN-2007 04:48	CHK		43.3000	
23-JUN-2007 07:35	CHK		44.7000	
25-JUN-2007 05:14	CHK		44.7000	
26-JUN-2007 05:21	CHK		44.3000	

-- 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 : 45.762264 Std Deviation : 0.511473

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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2-APR-2007 05:00	CHK	45.2000	
3-APR-2007 04:55	CHK	46.9000	Ab In
4-APR-2007 04:58	CHK	46.8000	Ab In
5-APR-2007 04:56	CHK	45.7000	
6-APR-2007 04:43	CHK	45.7000	
7-APR-2007 07:46	CHK	45.0000	
9-APR-2007 05:00	CHK	45.3000	
10-APR-2007 05:27	CHK	46.7000	
11-APR-2007 04:58	CHK	46.2000	
12-APR-2007 04:54	CHK	45.5000	
13-APR-2007 04:55	CHK	45.9000	
16-APR-2007 05:07	CHK	45.9000	
17-APR-2007 04:54	CHK	46.1000	
18-APR-2007 04:58	CHK	46.0000	
19-APR-2007 04:57	CHK	45.7000	
20-APR-2007 05:26	CHK	46.2000	
21-APR-2007 08:36	CHK	45.4000	
23-APR-2007 04:57	CHK	45.9000	
24-APR-2007 04:49	CHK	45.1000	
25-APR-2007 04:50	CHK	46.4000	
26-APR-2007 04:47	CHK	45.9000	

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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27-APR-2007 04:55	CHK	46.4000	
28-APR-2007 07:44	CHK	45.7000	
30-APR-2007 05:06	CHK	45.3000	
1-MAY-2007 04:50	CHK	45.3000	
2-MAY-2007 04:54	CHK	46.0000	
3-MAY-2007 04:52	CHK	45.4000	
4-MAY-2007 04:51	CHK	45.3000	
5-MAY-2007 07:38	CHK	45.6000	
7-MAY-2007 05:07	CHK	45.9000	
8-MAY-2007 04:52	CHK	46.5000	
9-MAY-2007 04:58	CHK	45.8000	
10-MAY-2007 05:01	CHK	45.2000	
11-MAY-2007 04:51	CHK	45.6000	
12-MAY-2007 07:47	CHK	45.5000	
14-MAY-2007 05:02	CHK	44.6000	In
15-MAY-2007 04:56	CHK	46.7000	
16-MAY-2007 04:44	CHK	45.3000	

17-MAY-2007 04:50	CHK	46.0000			
18-MAY-2007 04:44	CHK	46.0000			
19-MAY-2007 08:05	CHK	45.5000			
21-MAY-2007 05:05	CHK	45.5000			
22-MAY-2007 04:50	CHK	45.5000			
23-MAY-2007 04:56	CHK	45.7000			
24-MAY-2007 04:52	CHK	47.0000	Ab In		
25-MAY-2007 05:21	CHK	46.0000			
26-MAY-2007 07:41	CHK	46.0000			
29-MAY-2007 05:15	CHK	46.4000			
30-MAY-2007 04:51	CHK	45.5000			
31-MAY-2007 04:45	CHK	46.0000			
1-JUN-2007 04:50	CHK	45.8000			
2-JUN-2007 07:58	CHK	46.4000			
4-JUN-2007 05:00	CHK	45.1000			
5-JUN-2007 06:26	CHK	45.2000			
6-JUN-2007 04:54	CHK	46.2000			
7-JUN-2007 04:52	CHK	45.5000			
8-JUN-2007 04:53	CHK	45.9000			
9-JUN-2007 07:34	CHK	45.9000			
10-JUN-2007 07:46	CHK	46.4000			
11-JUN-2007 05:23	CHK	45.1000			
12-JUN-2007 05:00	CHK	45.5000			
13-JUN-2007 05:08	CHK	46.1000			
14-JUN-2007 05:01	CHK	45.8000			
15-JUN-2007 04:59	CHK	46.1000			
16-JUN-2007 08:02	CHK	45.0000			
17-JUN-2007 07:47	CHK	46.1000			
18-JUN-2007 04:37	CHK	46.1000			
19-JUN-2007 04:57	CHK	46.4000			
20-JUN-2007 04:55	CHK	45.5000			
21-JUN-2007 05:34	CHK	45.6000			
22-JUN-2007 04:48	CHK	45.9000			
23-JUN-2007 07:35	CHK	45.5000			
25-JUN-2007 05:14	CHK	45.7000			
26-JUN-2007 05:21	CHK	45.2000			

-- 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 : 46.731678 Std Deviation : 0.558393

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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2-APR-2007 05:00	CHK		46.8000	
3-APR-2007 04:55	CHK		46.8000	
4-APR-2007 04:58	CHK		46.8000	
5-APR-2007 04:56	CHK		46.1000	
6-APR-2007 04:43	CHK		46.7000	
7-APR-2007 07:46	CHK		46.6000	
9-APR-2007 05:00	CHK		47.3000	
10-APR-2007 05:27	CHK		47.2000	
11-APR-2007 04:58	CHK		47.0000	
12-APR-2007 04:54	CHK		46.1000	
13-APR-2007 04:55	CHK		47.6000	
16-APR-2007 05:07	CHK		46.5000	
17-APR-2007 04:54	CHK		46.7000	
18-APR-2007 04:58	CHK		46.4000	
19-APR-2007 04:57	CHK		46.6000	
20-APR-2007 05:26	CHK		47.3000	
21-APR-2007 08:36	CHK		47.1000	
23-APR-2007 04:57	CHK		47.3000	
24-APR-2007 04:49	CHK		46.1000	
25-APR-2007 04:50	CHK		47.2000	
26-APR-2007 04:47	CHK		46.2000	
27-APR-2007 04:55	CHK		47.2000	
28-APR-2007 07:44	CHK		46.8000	
30-APR-2007 05:06	CHK		47.6000	
1-MAY-2007 04:50	CHK		46.9000	
2-MAY-2007 04:54	CHK		47.3000	
3-MAY-2007 04:52	CHK		46.2000	
4-MAY-2007 04:51	CHK		45.8000	
5-MAY-2007 07:38	CHK		46.1000	

7-MAY-2007 05:07	CHK	45.6000	In
8-MAY-2007 04:52	CHK	46.9000	
9-MAY-2007 04:58	CHK	46.9000	
10-MAY-2007 05:01	CHK	46.1000	
11-MAY-2007 04:51	CHK	46.8000	
12-MAY-2007 07:47	CHK	47.5000	
14-MAY-2007 05:02	CHK	46.0000	
15-MAY-2007 04:56	CHK	46.6000	
16-MAY-2007 04:44	CHK	47.0000	
17-MAY-2007 04:50	CHK	47.0000	
18-MAY-2007 04:44	CHK	47.5000	
19-MAY-2007 08:05	CHK	47.9000	In
21-MAY-2007 05:05	CHK	46.6000	
22-MAY-2007 04:50	CHK	46.9000	
23-MAY-2007 04:56	CHK	46.3000	
24-MAY-2007 04:52	CHK	47.0000	
25-MAY-2007 05:21	CHK	46.5000	
26-MAY-2007 07:41	CHK	47.8000	
29-MAY-2007 05:15	CHK	47.4000	
30-MAY-2007 04:51	CHK	46.0000	
31-MAY-2007 04:45	CHK	46.8000	
1-JUN-2007 04:50	CHK	47.2000	
2-JUN-2007 07:58	CHK	46.6000	
4-JUN-2007 05:00	CHK	47.3000	
5-JUN-2007 06:26	CHK	47.3000	
6-JUN-2007 04:54	CHK	47.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample	Analyst	Value	LU SD UD BS	Rej

7-JUN-2007 04:52	CHK			46.6000		
8-JUN-2007 04:53	CHK			46.6000		
9-JUN-2007 07:34	CHK			47.2000		
10-JUN-2007 07:46	CHK			47.6000		
11-JUN-2007 05:23	CHK			46.4000		
12-JUN-2007 05:00	CHK			46.3000		
13-JUN-2007 05:08	CHK			47.0000		
14-JUN-2007 05:01	CHK			47.9000	In	
15-JUN-2007 04:59	CHK			47.6000		
16-JUN-2007 08:02	CHK			47.1000		
17-JUN-2007 07:47	CHK			46.9000		
18-JUN-2007 04:37	CHK			46.5000		
19-JUN-2007 04:57	CHK			46.8000		

20-JUN-2007 04:55	CHK	47.3000			
21-JUN-2007 05:34	CHK	46.7000			
22-JUN-2007 04:48	CHK	46.2000			
23-JUN-2007 07:35	CHK	47.2000			
25-JUN-2007 05:14	CHK	46.1000			
26-JUN-2007 05:21	CHK	47.1000			

Quality Assurance Report.

Generated 27-JUN-2007 19:36:47.17

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 : 0.227901 Std Deviation : 0.047164

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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1-APR-2007 21:17	BKG		0.2200			
3-APR-2007 03:15	BKG		0.1600			
4-APR-2007 02:18	BKG		0.2000			
5-APR-2007 02:41	BKG		0.2200			
6-APR-2007 04:03	BKG		0.2100			
7-APR-2007 02:30	BKG		0.2100			
7-APR-2007 20:34	BKG		0.2000			
8-APR-2007 19:46	BKG		0.2400			
10-APR-2007 05:04	BKG		0.2800			
11-APR-2007 03:14	BKG		0.2500			
12-APR-2007 02:22	BKG		0.2600			
13-APR-2007 02:46	BKG		0.2100			
14-APR-2007 01:38	BKG		0.2100			
14-APR-2007 20:01	BKG		0.2100			
15-APR-2007 20:27	BKG		0.1900			
17-APR-2007 03:27	BKG		0.2800			
18-APR-2007 01:57	BKG		0.2300			
19-APR-2007 01:12	BKG		0.2100			

20-APR-2007 02:19	BKG	0.2600	
21-APR-2007 02:20	BKG	0.1800	
21-APR-2007 19:50	BKG	0.2200	
22-APR-2007 20:18	BKG	0.2200	
24-APR-2007 03:09	BKG	0.2300	
25-APR-2007 03:28	BKG	0.2500	
26-APR-2007 03:17	BKG	0.1900	
27-APR-2007 02:24	BKG	0.2000	
28-APR-2007 02:50	BKG	0.2500	
28-APR-2007 21:12	BKG	0.2000	
29-APR-2007 20:56	BKG	0.2200	
1-MAY-2007 04:26	BKG	0.2500	
2-MAY-2007 01:44	BKG	0.1900	
3-MAY-2007 02:38	BKG	0.1900	
4-MAY-2007 02:28	BKG	0.3200	
5-MAY-2007 02:11	BKG	0.2300	
5-MAY-2007 19:49	BKG	0.2000	
6-MAY-2007 20:11	BKG	0.1900	
8-MAY-2007 02:11	BKG	0.1800	
9-MAY-2007 02:11	BKG	0.2300	
10-MAY-2007 03:11	BKG	0.2500	
11-MAY-2007 02:34	BKG	0.3700	Ac
12-MAY-2007 02:26	BKG	0.2800	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
12-MAY-2007 20:17	BKG		0.2300	
13-MAY-2007 20:17	BKG		0.2100	
15-MAY-2007 01:44	BKG		0.1800	
16-MAY-2007 03:10	BKG		0.2400	
17-MAY-2007 02:42	BKG		0.1700	
18-MAY-2007 04:12	BKG		0.2200	
19-MAY-2007 01:53	BKG		0.3100	
19-MAY-2007 20:38	BKG		0.2100	
20-MAY-2007 21:25	BKG		0.1700	
22-MAY-2007 04:30	BKG		0.2300	
23-MAY-2007 02:44	BKG		0.2100	
24-MAY-2007 02:29	BKG		0.1800	
25-MAY-2007 01:54	BKG		0.2200	
26-MAY-2007 04:22	BKG		0.2200	
26-MAY-2007 19:50	BKG		0.2400	
27-MAY-2007 18:42	BKG		0.2000	

28-MAY-2007 16:31 BKG	0.2000			
30-MAY-2007 04:14 BKG	0.2200			
31-MAY-2007 02:44 BKG	0.1600			
1-JUN-2007 03:39 BKG	0.2600			
2-JUN-2007 04:02 BKG	0.2400			
2-JUN-2007 20:54 BKG	0.2600			
3-JUN-2007 13:56 BKG	0.2500			
3-JUN-2007 20:44 BKG	0.2100			
5-JUN-2007 05:59 BKG	0.2000			
6-JUN-2007 02:17 BKG	0.2400			
7-JUN-2007 02:22 BKG	0.2000			
7-JUN-2007 21:59 BKG	0.0000	Ac		
8-JUN-2007 02:18 BKG	0.2500			
8-JUN-2007 02:18 BKG	0.2300			
9-JUN-2007 02:57 BKG	0.2100			
9-JUN-2007 21:20 BKG	0.2100			
10-JUN-2007 22:01 BKG	0.2400			
12-JUN-2007 03:43 BKG	0.3100			
13-JUN-2007 04:42 BKG	0.3000			
14-JUN-2007 01:52 BKG	0.2200			
15-JUN-2007 03:31 BKG	0.2100			
16-JUN-2007 05:35 BKG	0.1900			
16-JUN-2007 21:28 BKG	0.2200			
17-JUN-2007 21:07 BKG	0.1900			
19-JUN-2007 04:25 BKG	0.2500			
20-JUN-2007 02:21 BKG	0.1800			
21-JUN-2007 05:01 BKG	0.2100			
22-JUN-2007 01:58 BKG	0.2800			
23-JUN-2007 04:11 BKG	0.1800			
23-JUN-2007 21:21 BKG	0.1700			
24-JUN-2007 20:10 BKG	0.1900			
26-JUN-2007 03:55 BKG	0.1900			

-- 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 : 0.267514 Std Deviation : 0.051606

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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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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1-APR-2007 21:17	BKG		0.2300		
3-APR-2007 03:15	BKG		0.2000		
4-APR-2007 02:18	BKG		0.2400		
5-APR-2007 02:41	BKG		0.2600		
6-APR-2007 04:03	BKG		0.2600		
7-APR-2007 02:30	BKG		0.2900		
7-APR-2007 20:34	BKG		0.2300		
8-APR-2007 19:46	BKG		0.3000		
10-APR-2007 05:04	BKG		0.3200		
11-APR-2007 03:14	BKG		0.2500		
12-APR-2007 02:22	BKG		0.3300		
13-APR-2007 02:46	BKG		0.2100		
14-APR-2007 01:38	BKG		0.2300		
14-APR-2007 20:01	BKG		0.2400		
15-APR-2007 20:27	BKG		0.2100		
17-APR-2007 03:27	BKG		0.2800		
18-APR-2007 01:57	BKG		0.2500		
19-APR-2007 01:12	BKG		0.2700		
20-APR-2007 02:19	BKG		0.2600		
21-APR-2007 02:20	BKG		0.2100		
21-APR-2007 19:50	BKG		0.3100		
22-APR-2007 20:18	BKG		0.2300		
24-APR-2007 03:09	BKG		0.2900		
25-APR-2007 03:28	BKG		0.2500		
26-APR-2007 03:17	BKG		0.2600		
27-APR-2007 02:24	BKG		0.3000		
28-APR-2007 02:50	BKG		0.2600		
28-APR-2007 21:12	BKG		0.2500		
29-APR-2007 20:56	BKG		0.2400		
1-MAY-2007 04:26	BKG		0.2600		
2-MAY-2007 01:44	BKG		0.2800		
3-MAY-2007 02:38	BKG		0.2300		
4-MAY-2007 02:28	BKG		0.3200		
5-MAY-2007 02:11	BKG		0.2800		
5-MAY-2007 19:49	BKG		0.2300		
6-MAY-2007 20:11	BKG		0.2600		

8-MAY-2007 02:11	BKG	0.2300	
9-MAY-2007 02:11	BKG	0.2400	
10-MAY-2007 03:11	BKG	0.3000	
11-MAY-2007 02:34	BKG	0.3700	
12-MAY-2007 02:26	BKG	0.2600	
12-MAY-2007 20:17	BKG	0.2900	
13-MAY-2007 20:17	BKG	0.2500	
15-MAY-2007 01:44	BKG	0.2400	
16-MAY-2007 03:10	BKG	0.2700	
17-MAY-2007 02:42	BKG	0.2900	
18-MAY-2007 04:12	BKG	0.2400	
19-MAY-2007 01:53	BKG	0.2800	
19-MAY-2007 20:38	BKG	0.2500	
20-MAY-2007 21:25	BKG	0.3000	
22-MAY-2007 04:30	BKG	0.2700	
23-MAY-2007 02:44	BKG	0.2300	
24-MAY-2007 02:29	BKG	0.2600	
25-MAY-2007 01:54	BKG	0.2200	
26-MAY-2007 04:22	BKG	0.2300	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
26-MAY-2007 19:50	BKG		0.2300	
27-MAY-2007 18:42	BKG		0.2400	
28-MAY-2007 16:31	BKG		0.2500	
30-MAY-2007 04:14	BKG		0.2400	
31-MAY-2007 02:44	BKG		0.2300	
1-JUN-2007 03:39	BKG		0.2600	
2-JUN-2007 04:02	BKG		0.3300	
2-JUN-2007 20:54	BKG		0.2400	
3-JUN-2007 13:56	BKG		0.2300	
3-JUN-2007 20:44	BKG		0.2100	
5-JUN-2007 05:59	BKG		0.2400	
6-JUN-2007 02:17	BKG		0.2500	
7-JUN-2007 02:22	BKG		0.2300	
7-JUN-2007 21:59	BKG		0.6700	Ac
8-JUN-2007 02:18	BKG		0.2800	
8-JUN-2007 02:18	BKG		0.2800	
9-JUN-2007 02:57	BKG		0.2900	
9-JUN-2007 21:20	BKG		0.2800	
10-JUN-2007 22:01	BKG		0.2600	
12-JUN-2007 03:43	BKG		0.3400	

13-JUN-2007 04:42	BKG	0.3200			
14-JUN-2007 01:52	BKG	0.2600			
15-JUN-2007 03:31	BKG	0.2400			
16-JUN-2007 05:35	BKG	0.3000			
16-JUN-2007 21:28	BKG	0.2500			
17-JUN-2007 21:07	BKG	0.2500			
19-JUN-2007 04:25	BKG	0.2800			
20-JUN-2007 02:21	BKG	0.2200			
21-JUN-2007 05:01	BKG	0.2400			
22-JUN-2007 01:58	BKG	0.3100			
23-JUN-2007 04:11	BKG	0.3400			
23-JUN-2007 21:21	BKG	0.2300			
24-JUN-2007 20:10	BKG	0.2200			
26-JUN-2007 03:55	BKG	0.2300			

-- 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 : 0.280663 Std Deviation : 0.046721

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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1-APR-2007 21:17	BKG		0.2600			
3-APR-2007 03:15	BKG		0.2200			
4-APR-2007 02:18	BKG		0.2900			
5-APR-2007 02:41	BKG		0.2400			
6-APR-2007 04:03	BKG		0.3000			
7-APR-2007 02:30	BKG		0.3000			
7-APR-2007 20:34	BKG		0.2700			

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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8-APR-2007 19:46	BKG		0.2600			
10-APR-2007 05:04	BKG		0.2900			
11-APR-2007 03:14	BKG		0.3000			
12-APR-2007 02:22	BKG		0.2800			

13-APR-2007 02:46	BKG	0.2900			
14-APR-2007 01:38	BKG	0.2900			
14-APR-2007 20:01	BKG	0.1900			
15-APR-2007 20:27	BKG	0.2400			
17-APR-2007 03:27	BKG	0.2700			
18-APR-2007 01:57	BKG	0.3500			
19-APR-2007 01:12	BKG	0.2600			
20-APR-2007 02:19	BKG	0.2600			
21-APR-2007 02:20	BKG	0.2500			
21-APR-2007 19:50	BKG	0.2900			
22-APR-2007 20:18	BKG	0.3100			
24-APR-2007 03:09	BKG	0.2600			
25-APR-2007 03:28	BKG	0.2600			
26-APR-2007 03:17	BKG	0.2600			
27-APR-2007 02:24	BKG	0.2100			
28-APR-2007 02:50	BKG	0.3400			
28-APR-2007 21:12	BKG	0.2400			
29-APR-2007 20:56	BKG	0.2300			
1-MAY-2007 04:26	BKG	0.2800			
2-MAY-2007 01:44	BKG	0.2800			
3-MAY-2007 02:38	BKG	0.2300			
4-MAY-2007 02:28	BKG	0.3300			
5-MAY-2007 02:11	BKG	0.2500			
5-MAY-2007 19:49	BKG	0.2600			
6-MAY-2007 20:11	BKG	0.2800			
8-MAY-2007 02:11	BKG	0.2700			
9-MAY-2007 02:11	BKG	0.2600			
10-MAY-2007 03:11	BKG	0.3000			
11-MAY-2007 02:34	BKG	0.3000			
12-MAY-2007 02:26	BKG	0.2400			
12-MAY-2007 20:17	BKG	0.3200			
13-MAY-2007 20:17	BKG	0.2400			
15-MAY-2007 01:44	BKG	0.2700			
16-MAY-2007 03:10	BKG	0.2700			
17-MAY-2007 02:42	BKG	0.2700			
18-MAY-2007 04:12	BKG	0.2600			
19-MAY-2007 01:53	BKG	0.3200			
19-MAY-2007 20:38	BKG	0.3200			
20-MAY-2007 21:25	BKG	0.2900			
22-MAY-2007 04:30	BKG	0.2700			
23-MAY-2007 02:44	BKG	0.2300			
24-MAY-2007 02:29	BKG	0.3700			
25-MAY-2007 01:54	BKG	0.2600			

26-MAY-2007 04:22 BKG	0.3200			
26-MAY-2007 19:50 BKG	0.3000			
27-MAY-2007 18:42 BKG	0.2500			
28-MAY-2007 16:31 BKG	0.2400			
30-MAY-2007 04:14 BKG	0.2900			
31-MAY-2007 02:44 BKG	0.2700			
1-JUN-2007 03:39 BKG	0.2900			
2-JUN-2007 04:02 BKG	0.2900			

Quality Assurance Multi-Test Full Report (continued) Page : 6

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-JUN-2007 20:54 BKG			0.3000	
3-JUN-2007 13:56 BKG			0.2900	
3-JUN-2007 20:44 BKG			0.2300	
5-JUN-2007 05:59 BKG			0.2600	
6-JUN-2007 02:17 BKG			0.2800	
7-JUN-2007 02:22 BKG			0.2500	
7-JUN-2007 21:59 BKG			0.5600	Ac
8-JUN-2007 02:18 BKG			0.3500	
8-JUN-2007 02:18 BKG			0.3200	
9-JUN-2007 02:57 BKG			0.3000	
9-JUN-2007 21:20 BKG			0.2400	
10-JUN-2007 22:01 BKG			0.2400	
12-JUN-2007 03:43 BKG			0.2500	
13-JUN-2007 04:42 BKG			0.3000	
14-JUN-2007 01:52 BKG			0.2500	
15-JUN-2007 03:31 BKG			0.2800	
16-JUN-2007 05:35 BKG			0.2700	
16-JUN-2007 21:28 BKG			0.2900	
17-JUN-2007 21:07 BKG			0.2700	
19-JUN-2007 04:25 BKG			0.2900	
20-JUN-2007 02:21 BKG			0.2200	
21-JUN-2007 05:01 BKG			0.3200	
22-JUN-2007 01:58 BKG			0.3300	
23-JUN-2007 04:11 BKG			0.3200	
23-JUN-2007 21:21 BKG			0.3300	
24-JUN-2007 20:10 BKG			0.2700	
26-JUN-2007 03:55 BKG			0.2700	

-- 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 : 0.251657 Std Deviation : 0.045136

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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1-APR-2007 21:17	BKG		0.1800		
3-APR-2007 03:15	BKG		0.2200		
4-APR-2007 02:18	BKG		0.2400		
5-APR-2007 02:41	BKG		0.2600		
6-APR-2007 04:03	BKG		0.2700		
7-APR-2007 02:30	BKG		0.2200		
7-APR-2007 20:34	BKG		0.2300		
8-APR-2007 19:46	BKG		0.2200		
10-APR-2007 05:04	BKG		0.2700		
11-APR-2007 03:14	BKG		0.2600		
12-APR-2007 02:22	BKG		0.2600		
13-APR-2007 02:46	BKG		0.2900		
14-APR-2007 01:38	BKG		0.2500		
14-APR-2007 20:01	BKG		0.2100		

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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15-APR-2007 20:27	BKG		0.1800		
17-APR-2007 03:27	BKG		0.3100		
18-APR-2007 01:57	BKG		0.2900		
19-APR-2007 01:12	BKG		0.2500		
20-APR-2007 02:19	BKG		0.1900		
21-APR-2007 02:20	BKG		0.2900		
21-APR-2007 19:50	BKG		0.2400		
22-APR-2007 20:18	BKG		0.2400		
24-APR-2007 03:09	BKG		0.2300		
25-APR-2007 03:28	BKG		0.2500		
26-APR-2007 03:17	BKG		0.2400		
27-APR-2007 02:24	BKG		0.2400		
28-APR-2007 02:50	BKG		0.2700		
28-APR-2007 21:12	BKG		0.2000		
29-APR-2007 20:56	BKG		0.2100		

1-MAY-2007 04:26	BKG	0.2500	
2-MAY-2007 01:44	BKG	0.2400	
3-MAY-2007 02:38	BKG	0.2100	
4-MAY-2007 02:28	BKG	0.2800	
5-MAY-2007 02:11	BKG	0.2300	
5-MAY-2007 19:49	BKG	0.2200	
6-MAY-2007 20:11	BKG	0.3000	
8-MAY-2007 02:11	BKG	0.2100	
9-MAY-2007 02:11	BKG	0.2000	
10-MAY-2007 03:11	BKG	0.3000	
11-MAY-2007 02:34	BKG	0.2600	
12-MAY-2007 02:26	BKG	0.2100	
12-MAY-2007 20:17	BKG	0.2300	
13-MAY-2007 20:17	BKG	0.2700	
15-MAY-2007 01:44	BKG	0.2300	
16-MAY-2007 03:10	BKG	0.1800	
17-MAY-2007 02:42	BKG	0.2500	
18-MAY-2007 04:12	BKG	0.2100	
19-MAY-2007 01:53	BKG	0.2800	
19-MAY-2007 20:38	BKG	0.2400	
20-MAY-2007 21:25	BKG	0.2200	
22-MAY-2007 04:30	BKG	0.2400	
23-MAY-2007 02:44	BKG	0.2400	
24-MAY-2007 02:29	BKG	0.3600	In
25-MAY-2007 01:54	BKG	0.2400	
26-MAY-2007 04:22	BKG	0.2600	
26-MAY-2007 19:50	BKG	0.2500	
27-MAY-2007 18:42	BKG	0.2100	
28-MAY-2007 16:31	BKG	0.2300	
30-MAY-2007 04:14	BKG	0.2500	
31-MAY-2007 02:44	BKG	0.2900	
1-JUN-2007 03:39	BKG	0.2800	
2-JUN-2007 04:02	BKG	0.2700	
2-JUN-2007 20:54	BKG	0.2200	
3-JUN-2007 13:56	BKG	0.2200	
3-JUN-2007 20:44	BKG	0.2200	
5-JUN-2007 05:59	BKG	0.2700	
6-JUN-2007 02:17	BKG	0.2200	
7-JUN-2007 02:22	BKG	0.2500	
7-JUN-2007 21:59	BKG	0.3300	

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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8-JUN-2007 02:18 BKG	0.2400			
8-JUN-2007 02:18 BKG	0.2100			
9-JUN-2007 02:57 BKG	0.2200			
9-JUN-2007 21:20 BKG	0.2300			
10-JUN-2007 22:01 BKG	0.2600			
12-JUN-2007 03:43 BKG	0.3000			
13-JUN-2007 04:42 BKG	0.2100			
14-JUN-2007 01:52 BKG	0.2700			
15-JUN-2007 03:31 BKG	0.2500			
16-JUN-2007 05:35 BKG	0.2200			
16-JUN-2007 21:28 BKG	0.2400			
17-JUN-2007 21:07 BKG	0.2500			
19-JUN-2007 04:25 BKG	0.2500			
20-JUN-2007 02:21 BKG	0.2800			
21-JUN-2007 05:01 BKG	0.2600			
22-JUN-2007 01:58 BKG	0.2600			
23-JUN-2007 04:11 BKG	0.3500	In		
23-JUN-2007 21:21 BKG	0.2300			
24-JUN-2007 20:10 BKG	0.2600			
26-JUN-2007 03:55 BKG	0.2400			

Quality Assurance Report.

Generated 27-JUN-2007 19:36:38.92

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
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2-APR-2007 05:00	CHK		45.0000	In	
3-APR-2007 04:55	CHK		42.5000		
4-APR-2007 05:03	CHK		43.7000		
5-APR-2007 04:55	CHK		42.6000		
6-APR-2007 04:43	CHK		43.7000		
7-APR-2007 07:46	CHK		43.6000		
8-APR-2007 07:59	CHK		43.5000		
9-APR-2007 05:00	CHK		44.7000		
10-APR-2007 05:28	CHK		43.9000		
11-APR-2007 04:57	CHK		44.7000		
12-APR-2007 04:54	CHK		43.2000		
13-APR-2007 04:55	CHK		42.9000		
14-APR-2007 07:52	CHK		44.0000		
16-APR-2007 05:07	CHK		42.3000		
17-APR-2007 04:54	CHK		43.2000		
18-APR-2007 04:58	CHK		43.0000		
19-APR-2007 04:57	CHK		43.6000		
20-APR-2007 05:25	CHK		43.0000		
21-APR-2007 08:36	CHK		44.4000		
23-APR-2007 05:02	CHK		45.7000	Ab Ac	
23-APR-2007 05:18	CHK		44.9000	In	

24-APR-2007 04:49	CHK	44.1000	
25-APR-2007 04:50	CHK	43.3000	
26-APR-2007 04:47	CHK	43.1000	
27-APR-2007 04:55	CHK	43.4000	
28-APR-2007 07:39	CHK	43.8000	
30-APR-2007 05:06	CHK	43.4000	
30-APR-2007 05:24	CHK	No Value	
1-MAY-2007 04:50	CHK	44.0000	
2-MAY-2007 04:54	CHK	44.0000	
3-MAY-2007 04:47	CHK	43.5000	
4-MAY-2007 04:51	CHK	43.2000	
5-MAY-2007 07:38	CHK	43.3000	
7-MAY-2007 05:07	CHK	43.4000	
8-MAY-2007 04:52	CHK	43.3000	
9-MAY-2007 04:58	CHK	44.0000	
10-MAY-2007 05:01	CHK	43.6000	
11-MAY-2007 04:48	CHK	42.7000	

Quality Assurance Multi-Test Full Report (continued)

Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
12-MAY-2007 07:47	CHK		42.8000		
14-MAY-2007 05:02	CHK		45.4000	Ab In	
14-MAY-2007 05:19	CHK		44.7000		
15-MAY-2007 04:56	CHK		43.6000		
16-MAY-2007 04:44	CHK		43.9000		
17-MAY-2007 04:50	CHK		44.9000	In	
18-MAY-2007 04:44	CHK		42.8000		
19-MAY-2007 08:05	CHK		43.9000		
21-MAY-2007 05:06	CHK		43.2000		
22-MAY-2007 04:50	CHK		43.6000		
23-MAY-2007 04:56	CHK		43.5000		
24-MAY-2007 04:52	CHK		43.2000		
25-MAY-2007 05:26	CHK		43.4000		
29-MAY-2007 05:10	CHK		43.7000		
30-MAY-2007 04:51	CHK		43.2000		
31-MAY-2007 04:45	CHK		43.8000		
1-JUN-2007 04:50	CHK		44.0000		
2-JUN-2007 08:03	CHK		43.6000		
4-JUN-2007 05:00	CHK		43.2000		
5-JUN-2007 06:26	CHK		43.5000		
6-JUN-2007 04:54	CHK		44.0000		
7-JUN-2007 04:52	CHK		43.5000		

8-JUN-2007 04:58	CHK	43.9000			
9-JUN-2007 07:34	CHK	43.4000			
10-JUN-2007 07:41	CHK	43.4000			
11-JUN-2007 05:23	CHK	44.3000			
12-JUN-2007 05:05	CHK	43.4000			
13-JUN-2007 05:08	CHK	43.4000			
14-JUN-2007 05:06	CHK	43.3000			
15-JUN-2007 04:59	CHK	43.9000			
16-JUN-2007 08:02	CHK	43.7000			
17-JUN-2007 07:46	CHK	43.2000			
18-JUN-2007 04:37	CHK	44.7000			
19-JUN-2007 04:57	CHK	44.0000			
20-JUN-2007 04:50	CHK	43.5000			
21-JUN-2007 05:34	CHK	43.8000			
22-JUN-2007 04:48	CHK	43.2000			
23-JUN-2007 07:35	CHK	43.5000			
25-JUN-2007 05:19	CHK	42.6000			
26-JUN-2007 05:21	CHK	43.0000			

-- 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
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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-APR-2007 05:00	CHK	45.4000			
3-APR-2007 04:55	CHK	45.4000			
4-APR-2007 05:03	CHK	46.0000			
5-APR-2007 04:55	CHK	45.3000			

6-APR-2007 04:43	CHK	45.8000			
7-APR-2007 07:46	CHK	46.2000			
8-APR-2007 07:59	CHK	46.4000			
9-APR-2007 05:00	CHK	45.9000			
10-APR-2007 05:28	CHK	46.7000			
11-APR-2007 04:57	CHK	46.5000			
12-APR-2007 04:54	CHK	46.0000			
13-APR-2007 04:55	CHK	44.9000			
14-APR-2007 07:52	CHK	46.0000			
16-APR-2007 05:07	CHK	45.0000			
17-APR-2007 04:54	CHK	45.7000			
18-APR-2007 04:58	CHK	45.1000			
19-APR-2007 04:57	CHK	45.2000			
20-APR-2007 05:25	CHK	45.6000			
21-APR-2007 08:36	CHK	44.9000			
23-APR-2007 05:02	CHK	45.9000			
23-APR-2007 05:18	CHK	No Value			
24-APR-2007 04:49	CHK	45.7000			
25-APR-2007 04:50	CHK	45.8000			
26-APR-2007 04:47	CHK	46.8000			
27-APR-2007 04:55	CHK	44.5000			
28-APR-2007 07:39	CHK	45.3000			
30-APR-2007 05:06	CHK	44.1000		In	
30-APR-2007 05:24	CHK	45.6000			
1-MAY-2007 04:50	CHK	45.2000			
2-MAY-2007 04:54	CHK	45.4000			
3-MAY-2007 04:47	CHK	45.4000			
4-MAY-2007 04:51	CHK	45.3000			
5-MAY-2007 07:38	CHK	46.2000			
7-MAY-2007 05:07	CHK	46.0000			
8-MAY-2007 04:52	CHK	45.4000			
9-MAY-2007 04:58	CHK	46.6000			
10-MAY-2007 05:01	CHK	45.8000			
11-MAY-2007 04:48	CHK	45.8000			
12-MAY-2007 07:47	CHK	45.6000			
14-MAY-2007 05:02	CHK	46.0000			
14-MAY-2007 05:19	CHK	No Value			
15-MAY-2007 04:56	CHK	44.6000			
16-MAY-2007 04:44	CHK	45.5000			
17-MAY-2007 04:50	CHK	45.6000			
18-MAY-2007 04:44	CHK	45.1000			
19-MAY-2007 08:05	CHK	45.6000			
21-MAY-2007 05:06	CHK	46.2000			

22-MAY-2007 04:50	CHK	45.1000	
23-MAY-2007 04:56	CHK	48.2000	Ab Ac
24-MAY-2007 04:52	CHK	45.7000	
25-MAY-2007 05:26	CHK	45.5000	
29-MAY-2007 05:10	CHK	46.2000	
30-MAY-2007 04:51	CHK	45.8000	
31-MAY-2007 04:45	CHK	45.1000	
1-JUN-2007 04:50	CHK	45.8000	

Quality Assurance Multi-Test Full Report (continued) Page : 4

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
2-JUN-2007 08:03	CHK		45.9000	
4-JUN-2007 05:00	CHK		45.8000	
5-JUN-2007 06:26	CHK		46.1000	
6-JUN-2007 04:54	CHK		46.2000	
7-JUN-2007 04:52	CHK		45.5000	
8-JUN-2007 04:58	CHK		46.0000	
9-JUN-2007 07:34	CHK		45.8000	
10-JUN-2007 07:41	CHK		46.1000	
11-JUN-2007 05:23	CHK		45.7000	
12-JUN-2007 05:05	CHK		46.1000	
13-JUN-2007 05:08	CHK		45.4000	
14-JUN-2007 05:06	CHK		45.1000	
15-JUN-2007 04:59	CHK		45.9000	
16-JUN-2007 08:02	CHK		46.2000	
17-JUN-2007 07:46	CHK		46.7000	
18-JUN-2007 04:37	CHK		45.7000	
19-JUN-2007 04:57	CHK		45.4000	
20-JUN-2007 04:50	CHK		44.7000	
21-JUN-2007 05:34	CHK		45.7000	
22-JUN-2007 04:48	CHK		45.8000	
23-JUN-2007 07:35	CHK		45.7000	
25-JUN-2007 05:19	CHK		45.8000	
26-JUN-2007 05:21	CHK		45.2000	

-- 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
2-APR-2007 05:00	CHK		42.2000		
3-APR-2007 04:55	CHK		42.1000		
4-APR-2007 05:03	CHK		42.1000		
5-APR-2007 04:55	CHK		42.3000		
6-APR-2007 04:43	CHK		41.7000		
7-APR-2007 07:46	CHK		42.9000		
8-APR-2007 07:59	CHK		43.0000		
9-APR-2007 05:00	CHK		41.8000		
10-APR-2007 05:28	CHK		43.4000		
11-APR-2007 04:57	CHK		43.7000		
12-APR-2007 04:54	CHK		43.1000		
13-APR-2007 04:55	CHK		43.2000		
14-APR-2007 07:52	CHK		42.0000		
16-APR-2007 05:07	CHK		43.0000		
17-APR-2007 04:54	CHK		42.6000		

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
18-APR-2007 04:58	CHK		43.4000		
19-APR-2007 04:57	CHK		42.4000		
20-APR-2007 05:25	CHK		42.4000		
21-APR-2007 08:36	CHK		42.8000		
23-APR-2007 05:02	CHK		42.3000		
23-APR-2007 05:18	CHK		No Value		
24-APR-2007 04:49	CHK		41.3000		
25-APR-2007 04:50	CHK		41.6000		
26-APR-2007 04:47	CHK		42.7000		
27-APR-2007 04:55	CHK		41.9000		
28-APR-2007 07:39	CHK		42.9000		
30-APR-2007 05:06	CHK		41.9000		
30-APR-2007 05:24	CHK		No Value		
1-MAY-2007 04:50	CHK		42.1000		
2-MAY-2007 04:54	CHK		43.2000		

3-MAY-2007 04:47	CHK	44.1000	In	
4-MAY-2007 04:51	CHK	42.4000		
5-MAY-2007 07:38	CHK	41.7000		
7-MAY-2007 05:07	CHK	42.0000		
8-MAY-2007 04:52	CHK	42.8000		
9-MAY-2007 04:58	CHK	42.3000		
10-MAY-2007 05:01	CHK	42.1000		
11-MAY-2007 04:48	CHK	43.1000		
12-MAY-2007 07:47	CHK	42.2000		
14-MAY-2007 05:02	CHK	42.1000		
14-MAY-2007 05:19	CHK	No Value		
15-MAY-2007 04:56	CHK	41.5000		
16-MAY-2007 04:44	CHK	42.1000		
17-MAY-2007 04:50	CHK	42.7000		
18-MAY-2007 04:44	CHK	42.2000		
19-MAY-2007 08:05	CHK	43.1000		
21-MAY-2007 05:06	CHK	42.8000		
22-MAY-2007 04:50	CHK	42.8000		
23-MAY-2007 04:56	CHK	41.9000		
24-MAY-2007 04:52	CHK	41.5000		
25-MAY-2007 05:26	CHK	42.9000		
29-MAY-2007 05:10	CHK	41.8000		
30-MAY-2007 04:51	CHK	43.2000		
31-MAY-2007 04:45	CHK	41.9000		
1-JUN-2007 04:50	CHK	42.3000		
2-JUN-2007 08:03	CHK	42.4000		
4-JUN-2007 05:00	CHK	42.3000		
5-JUN-2007 06:26	CHK	42.3000		
6-JUN-2007 04:54	CHK	42.7000		
7-JUN-2007 04:52	CHK	43.0000		
8-JUN-2007 04:58	CHK	42.4000		
9-JUN-2007 07:34	CHK	41.8000		
10-JUN-2007 07:41	CHK	42.2000		
11-JUN-2007 05:23	CHK	42.7000		
12-JUN-2007 05:05	CHK	41.2000		
13-JUN-2007 05:08	CHK	42.8000		
14-JUN-2007 05:06	CHK	42.0000		
15-JUN-2007 04:59	CHK	42.2000		
16-JUN-2007 08:02	CHK	42.4000		
17-JUN-2007 07:46	CHK	42.2000		

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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18-JUN-2007 04:37  CHK          42.5000  | | |
19-JUN-2007 04:57  CHK          42.3000  | | |
20-JUN-2007 04:50  CHK          42.5000  | | |
21-JUN-2007 05:34  CHK          42.9000  | | |
22-JUN-2007 04:48  CHK          42.5000  | | |
23-JUN-2007 07:35  CHK          42.7000  | | |
25-JUN-2007 05:19  CHK          42.1000  | | |
26-JUN-2007 05:21  CHK          41.7000  | | |

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-- 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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2-APR-2007 05:00  CHK          43.6000  | | |
3-APR-2007 04:55  CHK          42.5000  | | |
4-APR-2007 05:03  CHK          43.7000  | | |
5-APR-2007 04:55  CHK          42.8000  | | |
6-APR-2007 04:43  CHK          42.1000  | | |
7-APR-2007 07:46  CHK          42.9000  | | |
8-APR-2007 07:59  CHK          43.3000  | | |
9-APR-2007 05:00  CHK          43.6000  | | |
10-APR-2007 05:28  CHK          43.8000  | | |
11-APR-2007 04:57  CHK          44.1000  | | |
12-APR-2007 04:54  CHK          42.7000  | | |
13-APR-2007 04:55  CHK          43.6000  | | |
14-APR-2007 07:52  CHK          42.4000  | | |
16-APR-2007 05:07  CHK          42.7000  | | |
17-APR-2007 04:54  CHK          43.3000  | | |
18-APR-2007 04:58  CHK          44.2000  |In| |
19-APR-2007 04:57  CHK          43.4000  | | |

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20-APR-2007 05:25	CHK	43.8000	
21-APR-2007 08:36	CHK	43.6000	
23-APR-2007 05:02	CHK	43.7000	
23-APR-2007 05:18	CHK	No Value	
24-APR-2007 04:49	CHK	43.5000	
25-APR-2007 04:50	CHK	44.2000	In
26-APR-2007 04:47	CHK	43.1000	
27-APR-2007 04:55	CHK	42.9000	
28-APR-2007 07:39	CHK	43.2000	
30-APR-2007 05:06	CHK	43.6000	
30-APR-2007 05:24	CHK	No Value	
1-MAY-2007 04:50	CHK	43.1000	
2-MAY-2007 04:54	CHK	43.5000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
3-MAY-2007 04:47	CHK		43.1000	
4-MAY-2007 04:51	CHK		43.2000	
5-MAY-2007 07:38	CHK		43.8000	
7-MAY-2007 05:07	CHK		42.4000	
8-MAY-2007 04:52	CHK		43.3000	
9-MAY-2007 04:58	CHK		43.8000	
10-MAY-2007 05:01	CHK		42.6000	
11-MAY-2007 04:48	CHK		43.4000	
12-MAY-2007 07:47	CHK		42.9000	
14-MAY-2007 05:02	CHK		42.4000	
14-MAY-2007 05:19	CHK		No Value	
15-MAY-2007 04:56	CHK		42.5000	
16-MAY-2007 04:44	CHK		43.3000	
17-MAY-2007 04:50	CHK		43.5000	
18-MAY-2007 04:44	CHK		42.7000	
19-MAY-2007 08:05	CHK		42.2000	
21-MAY-2007 05:06	CHK		43.2000	
22-MAY-2007 04:50	CHK		42.5000	
23-MAY-2007 04:56	CHK		42.4000	
24-MAY-2007 04:52	CHK		43.0000	
25-MAY-2007 05:26	CHK		43.3000	
29-MAY-2007 05:10	CHK		43.2000	
30-MAY-2007 04:51	CHK		42.8000	
31-MAY-2007 04:45	CHK		43.6000	
1-JUN-2007 04:50	CHK		43.0000	
2-JUN-2007 08:03	CHK		42.7000	

4-JUN-2007 05:00	CHK	44.0000	
5-JUN-2007 06:26	CHK	43.7000	
6-JUN-2007 04:54	CHK	44.2000	In
7-JUN-2007 04:52	CHK	43.0000	
8-JUN-2007 04:58	CHK	42.2000	
9-JUN-2007 07:34	CHK	43.3000	
10-JUN-2007 07:41	CHK	43.9000	
11-JUN-2007 05:23	CHK	42.7000	
12-JUN-2007 05:05	CHK	43.6000	
13-JUN-2007 05:08	CHK	43.5000	
14-JUN-2007 05:06	CHK	43.4000	
15-JUN-2007 04:59	CHK	43.8000	
16-JUN-2007 08:02	CHK	42.4000	
17-JUN-2007 07:46	CHK	42.6000	
18-JUN-2007 04:37	CHK	43.8000	
19-JUN-2007 04:57	CHK	43.3000	
20-JUN-2007 04:50	CHK	42.9000	
21-JUN-2007 05:34	CHK	42.5000	
22-JUN-2007 04:48	CHK	44.0000	
23-JUN-2007 07:35	CHK	43.0000	
25-JUN-2007 05:19	CHK	42.3000	
26-JUN-2007 05:21	CHK	42.8000	

Quality Assurance Report.

Generated 27-JUN-2007 19:36:40.17

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
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1-APR-2007 21:17	BKG			0.2400	
3-APR-2007 03:15	BKG			0.2000	
4-APR-2007 01:54	BKG			0.2200	
5-APR-2007 02:41	BKG			0.2400	
6-APR-2007 04:03	BKG			0.2600	
7-APR-2007 02:30	BKG			0.2300	
7-APR-2007 20:34	BKG			0.2100	
8-APR-2007 19:46	BKG			0.2500	

10-APR-2007 05:04	BKG	0.2000	
11-APR-2007 03:14	BKG	0.2200	
12-APR-2007 02:17	BKG	0.2700	
13-APR-2007 02:46	BKG	0.2400	
14-APR-2007 01:38	BKG	0.2500	
14-APR-2007 20:06	BKG	0.2300	
15-APR-2007 20:26	BKG	0.1800	
17-APR-2007 03:27	BKG	0.1600	
18-APR-2007 02:02	BKG	0.2200	
19-APR-2007 01:17	BKG	0.2400	
20-APR-2007 02:19	BKG	0.1800	
21-APR-2007 02:45	BKG	0.2300	
21-APR-2007 19:50	BKG	0.2600	
22-APR-2007 20:18	BKG	0.2600	
24-APR-2007 03:14	BKG	0.2200	
25-APR-2007 03:28	BKG	0.2600	
26-APR-2007 03:22	BKG	0.2200	
27-APR-2007 02:24	BKG	0.2000	
28-APR-2007 04:23	BKG	0.2400	
28-APR-2007 21:11	BKG	0.1900	
29-APR-2007 20:56	BKG	0.2300	
1-MAY-2007 04:26	BKG	0.1900	
2-MAY-2007 01:54	BKG	0.2600	
3-MAY-2007 01:32	BKG	0.2000	
3-MAY-2007 20:46	BKG	0.2500	
4-MAY-2007 02:32	BKG	0.2400	
5-MAY-2007 02:16	BKG	0.2900	
5-MAY-2007 19:48	BKG	0.2000	
6-MAY-2007 20:11	BKG	0.2400	
8-MAY-2007 03:21	BKG	0.2000	
9-MAY-2007 02:16	BKG	0.1900	
10-MAY-2007 02:05	BKG	0.2600	
11-MAY-2007 02:39	BKG	0.2100	
12-MAY-2007 02:16	BKG	0.1800	
12-MAY-2007 20:17	BKG	0.2100	
13-MAY-2007 20:17	BKG	0.1700	
15-MAY-2007 02:09	BKG	0.2500	
16-MAY-2007 03:10	BKG	0.1900	
17-MAY-2007 02:47	BKG	0.2100	

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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18-MAY-2007 04:12	BKG	0.2600			
19-MAY-2007 01:58	BKG	0.2300			
19-MAY-2007 20:43	BKG	0.1900			
20-MAY-2007 21:25	BKG	0.1900			
22-MAY-2007 04:30	BKG	0.1800			
23-MAY-2007 02:49	BKG	0.1800			
24-MAY-2007 02:28	BKG	0.2500			
25-MAY-2007 01:54	BKG	0.2400			
26-MAY-2007 02:36	BKG	0.3000			
26-MAY-2007 13:04	BKG	0.2800			
26-MAY-2007 19:51	BKG	0.2100			
27-MAY-2007 18:42	BKG	0.2100			
28-MAY-2007 16:31	BKG	0.2400			
30-MAY-2007 04:15	BKG	0.2200			
31-MAY-2007 02:49	BKG	0.2100			
1-JUN-2007 03:34	BKG	0.2400			
2-JUN-2007 04:02	BKG	0.2300			
2-JUN-2007 21:39	BKG	0.2100			
3-JUN-2007 20:43	BKG	0.1800			
5-JUN-2007 06:04	BKG	0.2100			
6-JUN-2007 02:11	BKG	0.2200			
7-JUN-2007 02:22	BKG	0.2200			
8-JUN-2007 04:35	BKG	0.2400			
9-JUN-2007 02:57	BKG	0.2000			
9-JUN-2007 21:20	BKG	0.2300			
10-JUN-2007 22:01	BKG	0.2200			
12-JUN-2007 03:43	BKG	0.2600			
13-JUN-2007 04:42	BKG	0.2700			
14-JUN-2007 01:52	BKG	0.2100			
15-JUN-2007 03:31	BKG	0.2400			
16-JUN-2007 02:14	BKG	0.2200			
16-JUN-2007 21:28	BKG	0.2400			
17-JUN-2007 21:07	BKG	0.1800			
19-JUN-2007 04:30	BKG	0.2400			
20-JUN-2007 02:26	BKG	0.2500			
21-JUN-2007 05:01	BKG	0.2100			
21-JUN-2007 19:22	BKG	0.2200			
22-JUN-2007 01:54	BKG	0.2200			
23-JUN-2007 04:11	BKG	0.3000			
23-JUN-2007 21:20	BKG	0.2300			
24-JUN-2007 20:09	BKG	0.2100			
26-JUN-2007 03:55	BKG	0.2200			

-- 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
1-APR-2007 21:17	BKG		0.1800		
3-APR-2007 03:15	BKG		0.2200		
4-APR-2007 01:54	BKG		0.2700		
5-APR-2007 02:41	BKG		0.2500		
6-APR-2007 04:03	BKG		0.2600		

Quality Assurance Multi-Test Full Report (continued)

Page : 3

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
7-APR-2007 02:30	BKG		0.3100		
7-APR-2007 20:34	BKG		0.2700		
8-APR-2007 19:46	BKG		0.2100		
10-APR-2007 05:04	BKG		0.3100		
11-APR-2007 03:14	BKG		0.2600		
12-APR-2007 02:17	BKG		0.2300		
13-APR-2007 02:46	BKG		0.2200		
14-APR-2007 01:38	BKG		0.2400		
14-APR-2007 20:06	BKG		0.2800		
15-APR-2007 20:26	BKG		0.2100		
17-APR-2007 03:27	BKG		0.2200		
18-APR-2007 02:02	BKG		0.2600		
19-APR-2007 01:17	BKG		0.2200		
20-APR-2007 02:19	BKG		0.2500		
21-APR-2007 02:45	BKG		0.2900		
21-APR-2007 19:50	BKG		0.2300		
22-APR-2007 20:18	BKG		0.2300		
24-APR-2007 03:14	BKG		0.2100		
25-APR-2007 03:28	BKG		0.2000		
26-APR-2007 03:22	BKG		0.2700		
27-APR-2007 02:24	BKG		0.2000		
28-APR-2007 04:23	BKG		0.2700		
28-APR-2007 21:11	BKG		0.2000		
29-APR-2007 20:56	BKG		0.2400		
1-MAY-2007 04:26	BKG		0.2400		
2-MAY-2007 01:54	BKG		0.2100		
3-MAY-2007 01:32	BKG		0.2600		

3-MAY-2007 20:46	BKG	0.4400	
4-MAY-2007 02:32	BKG	0.2600	
5-MAY-2007 02:16	BKG	0.2700	
5-MAY-2007 19:48	BKG	0.2700	
6-MAY-2007 20:11	BKG	0.2600	
8-MAY-2007 03:21	BKG	0.2800	
9-MAY-2007 02:16	BKG	0.3000	
10-MAY-2007 02:05	BKG	0.2800	
11-MAY-2007 02:39	BKG	0.3700	
12-MAY-2007 02:16	BKG	0.3100	
12-MAY-2007 20:17	BKG	0.2200	
13-MAY-2007 20:17	BKG	0.2200	
15-MAY-2007 02:09	BKG	0.2300	
16-MAY-2007 03:10	BKG	0.2900	
17-MAY-2007 02:47	BKG	0.2800	
18-MAY-2007 04:12	BKG	0.2800	
19-MAY-2007 01:58	BKG	0.2500	
19-MAY-2007 20:43	BKG	0.2400	
20-MAY-2007 21:25	BKG	0.2000	
22-MAY-2007 04:30	BKG	0.2900	
23-MAY-2007 02:49	BKG	0.2400	
24-MAY-2007 02:28	BKG	0.2600	
25-MAY-2007 01:54	BKG	0.2400	
26-MAY-2007 02:36	BKG	0.2500	
26-MAY-2007 13:04	BKG	0.2900	
26-MAY-2007 19:51	BKG	0.2500	
27-MAY-2007 18:42	BKG	0.2300	
28-MAY-2007 16:31	BKG	0.2100	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
30-MAY-2007 04:15	BKG		0.2400	
31-MAY-2007 02:49	BKG		0.2900	
1-JUN-2007 03:34	BKG		0.2700	
2-JUN-2007 04:02	BKG		0.2500	
2-JUN-2007 21:39	BKG		0.2200	
3-JUN-2007 20:43	BKG		0.2500	
5-JUN-2007 06:04	BKG		0.2500	
6-JUN-2007 02:11	BKG		0.2600	
7-JUN-2007 02:22	BKG		0.2400	
8-JUN-2007 04:35	BKG		0.2500	
9-JUN-2007 02:57	BKG		0.2500	

9-JUN-2007 21:20 BKG	0.2500			
10-JUN-2007 22:01 BKG	0.2700			
12-JUN-2007 03:43 BKG	0.2900			
13-JUN-2007 04:42 BKG	0.2600			
14-JUN-2007 01:52 BKG	0.2800			
15-JUN-2007 03:31 BKG	0.2300			
16-JUN-2007 02:14 BKG	0.2700			
16-JUN-2007 21:28 BKG	0.2800			
17-JUN-2007 21:07 BKG	0.2700			
19-JUN-2007 04:30 BKG	0.2600			
20-JUN-2007 02:26 BKG	0.2400			
21-JUN-2007 05:01 BKG	0.2700			
21-JUN-2007 19:22 BKG	0.3300			
22-JUN-2007 01:54 BKG	0.2900			
23-JUN-2007 04:11 BKG	0.3100			
23-JUN-2007 21:20 BKG	0.2700			
24-JUN-2007 20:09 BKG	0.2300			
26-JUN-2007 03:55 BKG	0.2200			

-- 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
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1-APR-2007 21:17 BKG	0.2500			
3-APR-2007 03:15 BKG	0.1900			
4-APR-2007 01:54 BKG	0.2500			
5-APR-2007 02:41 BKG	0.2300			
6-APR-2007 04:03 BKG	0.2700			
7-APR-2007 02:30 BKG	0.2300			
7-APR-2007 20:34 BKG	0.2300			
8-APR-2007 19:46 BKG	0.2400			
10-APR-2007 05:04 BKG	0.2100			
11-APR-2007 03:14 BKG	0.2700			
12-APR-2007 02:17 BKG	0.2500			
13-APR-2007 02:46 BKG	0.2900			
14-APR-2007 01:38 BKG	0.2000			
14-APR-2007 20:06 BKG	0.2600			
15-APR-2007 20:26 BKG	0.2300			
17-APR-2007 03:27 BKG	0.2300			
18-APR-2007 02:02 BKG	0.2400			

19-APR-2007 01:17 BKG 0.2300 | | |

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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20-APR-2007 02:19 BKG 0.2700 | | |

21-APR-2007 02:45 BKG 0.2100 | | |

21-APR-2007 19:50 BKG 0.2600 | | |

22-APR-2007 20:18 BKG 0.2700 | | |

24-APR-2007 03:14 BKG 0.2500 | | |

25-APR-2007 03:28 BKG 0.2200 | | |

26-APR-2007 03:22 BKG 0.2600 | | |

27-APR-2007 02:24 BKG 0.2100 | | |

28-APR-2007 04:23 BKG 0.2700 | | |

28-APR-2007 21:11 BKG 0.2700 | | |

29-APR-2007 20:56 BKG 0.2100 | | |

1-MAY-2007 04:26 BKG 0.2800 | | |

2-MAY-2007 01:54 BKG 0.2800 | | |

3-MAY-2007 01:32 BKG 0.2100 | | |

3-MAY-2007 20:46 BKG 0.3600 | | |

4-MAY-2007 02:32 BKG 0.2500 | | |

5-MAY-2007 02:16 BKG 0.2500 | | |

5-MAY-2007 19:48 BKG 0.2300 | | |

6-MAY-2007 20:11 BKG 0.2700 | | |

8-MAY-2007 03:21 BKG 0.2500 | | |

9-MAY-2007 02:16 BKG 0.2200 | | |

10-MAY-2007 02:05 BKG 0.2300 | | |

11-MAY-2007 02:39 BKG 0.2100 | | |

12-MAY-2007 02:16 BKG 0.3000 | | |

12-MAY-2007 20:17 BKG 0.2400 | | |

13-MAY-2007 20:17 BKG 0.2300 | | |

15-MAY-2007 02:09 BKG 0.2300 | | |

16-MAY-2007 03:10 BKG 0.2100 | | |

17-MAY-2007 02:47 BKG 0.1900 | | |

18-MAY-2007 04:12 BKG 0.2400 | | |

19-MAY-2007 01:58 BKG 0.2600 | | |

19-MAY-2007 20:43 BKG 0.2300 | | |

20-MAY-2007 21:25 BKG 0.2300 | | |

22-MAY-2007 04:30 BKG 0.2200 | | |

23-MAY-2007 02:49 BKG 0.2300 | | |

24-MAY-2007 02:28 BKG 0.2400 | | |

25-MAY-2007 01:54 BKG 0.2400 | | |

26-MAY-2007 02:36 BKG 0.2400 | | |

26-MAY-2007 13:04 BKG	0.2300			
26-MAY-2007 19:51 BKG	0.2400			
27-MAY-2007 18:42 BKG	0.2200			
28-MAY-2007 16:31 BKG	0.2200			
30-MAY-2007 04:15 BKG	0.2800			
31-MAY-2007 02:49 BKG	0.2500			
1-JUN-2007 03:34 BKG	0.2800			
2-JUN-2007 04:02 BKG	0.2400			
2-JUN-2007 21:39 BKG	0.2500			
3-JUN-2007 20:43 BKG	0.2300			
5-JUN-2007 06:04 BKG	0.2300			
6-JUN-2007 02:11 BKG	0.2600			
7-JUN-2007 02:22 BKG	0.2500			
8-JUN-2007 04:35 BKG	0.2600			
9-JUN-2007 02:57 BKG	0.2400			
9-JUN-2007 21:20 BKG	0.2500			
10-JUN-2007 22:01 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
12-JUN-2007 03:43	BKG		0.3300		
13-JUN-2007 04:42	BKG		0.2700		
14-JUN-2007 01:52	BKG		0.2700		
15-JUN-2007 03:31	BKG		0.2300		
16-JUN-2007 02:14	BKG		0.2500		
16-JUN-2007 21:28	BKG		0.2500		
17-JUN-2007 21:07	BKG		0.1900		
19-JUN-2007 04:30	BKG		0.2300		
20-JUN-2007 02:26	BKG		0.2400		
21-JUN-2007 05:01	BKG		0.2400		
21-JUN-2007 19:22	BKG		1.2200		
22-JUN-2007 01:54	BKG		0.3000		
23-JUN-2007 04:11	BKG		0.2800		
23-JUN-2007 21:20	BKG		0.2400		
24-JUN-2007 20:09	BKG		0.2200		
26-JUN-2007 03:55	BKG		0.2500		

-- 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
1-APR-2007 21:17	BKG		0.2200	
3-APR-2007 03:15	BKG		0.2000	
4-APR-2007 01:54	BKG		0.2700	
5-APR-2007 02:41	BKG		0.1900	
6-APR-2007 04:03	BKG		0.3100	
7-APR-2007 02:30	BKG		0.2500	
7-APR-2007 20:34	BKG		0.2800	
8-APR-2007 19:46	BKG		0.2900	
10-APR-2007 05:04	BKG		0.2500	
11-APR-2007 03:14	BKG		0.2500	
12-APR-2007 02:17	BKG		0.2300	
13-APR-2007 02:46	BKG		0.2100	
14-APR-2007 01:38	BKG		0.2700	
14-APR-2007 20:06	BKG		0.2000	
15-APR-2007 20:26	BKG		0.2100	
17-APR-2007 03:27	BKG		0.1900	
18-APR-2007 02:02	BKG		0.2300	
19-APR-2007 01:17	BKG		0.2400	
20-APR-2007 02:19	BKG		0.1900	
21-APR-2007 02:45	BKG		0.2600	
21-APR-2007 19:50	BKG		0.2200	
22-APR-2007 20:18	BKG		0.2300	
24-APR-2007 03:14	BKG		0.2400	
25-APR-2007 03:28	BKG		0.3000	
26-APR-2007 03:22	BKG		0.2200	
27-APR-2007 02:24	BKG		0.2600	
28-APR-2007 04:23	BKG		0.2400	
28-APR-2007 21:11	BKG		0.2600	
29-APR-2007 20:56	BKG		0.2300	
1-MAY-2007 04:26	BKG		0.2300	
2-MAY-2007 01:54	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
3-MAY-2007 01:32	BKG		0.2200	
3-MAY-2007 20:46	BKG		0.3700	
4-MAY-2007 02:32	BKG		0.2400	
5-MAY-2007 02:16	BKG		0.1900	
5-MAY-2007 19:48	BKG		0.2400	
6-MAY-2007 20:11	BKG		0.2400	

8-MAY-2007 03:21 BKG	0.2600			
9-MAY-2007 02:16 BKG	0.2500			
10-MAY-2007 02:05 BKG	0.2900			
11-MAY-2007 02:39 BKG	0.3000			
12-MAY-2007 02:16 BKG	0.2700			
12-MAY-2007 20:17 BKG	0.2500			
13-MAY-2007 20:17 BKG	0.2300			
15-MAY-2007 02:09 BKG	0.2300			
16-MAY-2007 03:10 BKG	0.2000			
17-MAY-2007 02:47 BKG	0.2700			
18-MAY-2007 04:12 BKG	0.2300			
19-MAY-2007 01:58 BKG	0.2300			
19-MAY-2007 20:43 BKG	0.2400			
20-MAY-2007 21:25 BKG	0.2000			
22-MAY-2007 04:30 BKG	0.2700			
23-MAY-2007 02:49 BKG	0.2200			
24-MAY-2007 02:28 BKG	0.2500			
25-MAY-2007 01:54 BKG	0.2400			
26-MAY-2007 02:36 BKG	0.2500			
26-MAY-2007 13:04 BKG	0.2300			
26-MAY-2007 19:51 BKG	0.2100			
27-MAY-2007 18:42 BKG	0.2700			
28-MAY-2007 16:31 BKG	0.2600			
30-MAY-2007 04:15 BKG	0.2600			
31-MAY-2007 02:49 BKG	0.2900			
1-JUN-2007 03:34 BKG	0.2700			
2-JUN-2007 04:02 BKG	0.2800			
2-JUN-2007 21:39 BKG	0.2700			
3-JUN-2007 20:43 BKG	0.2300			
5-JUN-2007 06:04 BKG	0.2000			
6-JUN-2007 02:11 BKG	0.2800			
7-JUN-2007 02:22 BKG	0.2500			
8-JUN-2007 04:35 BKG	0.2500			
9-JUN-2007 02:57 BKG	0.2000			
9-JUN-2007 21:20 BKG	0.2100			
10-JUN-2007 22:01 BKG	0.2600			
12-JUN-2007 03:43 BKG	0.3100			
13-JUN-2007 04:42 BKG	0.2900			
14-JUN-2007 01:52 BKG	0.2400			
15-JUN-2007 03:31 BKG	0.2500			
16-JUN-2007 02:14 BKG	0.3300			
16-JUN-2007 21:28 BKG	0.2500			
17-JUN-2007 21:07 BKG	0.2500			

19-JUN-2007 04:30	BKG	0.2800	
20-JUN-2007 02:26	BKG	0.2300	
21-JUN-2007 05:01	BKG	0.2300	
21-JUN-2007 19:22	BKG	0.8900	
22-JUN-2007 01:54	BKG	0.3000	
23-JUN-2007 04:11	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
23-JUN-2007 21:20	BKG		0.2400	
24-JUN-2007 20:09	BKG		0.2300	
26-JUN-2007 03:55	BKG		0.2200	

Quality Assurance Report.

Generated 27-JUN-2007 19:36:32.34

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
2-APR-2007 05:00	CHK		55.1000		
3-APR-2007 04:55	CHK		55.6000		
4-APR-2007 05:03	CHK		55.2000		
5-APR-2007 04:55	CHK		55.3000		
6-APR-2007 04:42	CHK		55.5000		
7-APR-2007 07:46	CHK		56.6000		
8-APR-2007 07:59	CHK		55.8000		
9-APR-2007 05:01	CHK		55.3000		
10-APR-2007 05:27	CHK		56.5000		
11-APR-2007 04:57	CHK		55.4000		
12-APR-2007 04:54	CHK		55.8000		
13-APR-2007 04:55	CHK		55.1000		
16-APR-2007 05:12	CHK		54.9000		
17-APR-2007 04:53	CHK		55.5000		
18-APR-2007 04:57	CHK		56.2000		
19-APR-2007 04:57	CHK		56.2000		
20-APR-2007 05:25	CHK		56.4000		
21-APR-2007 08:36	CHK		56.2000		
23-APR-2007 05:02	CHK		55.2000		
24-APR-2007 04:49	CHK		56.0000		
25-APR-2007 04:50	CHK		55.9000		

26-APR-2007 04:47	CHK	55.4000	
27-APR-2007 04:55	CHK	55.0000	
28-APR-2007 07:44	CHK	56.6000	
30-APR-2007 05:06	CHK	54.8000	
1-MAY-2007 04:50	CHK	55.6000	
2-MAY-2007 04:54	CHK	55.3000	
3-MAY-2007 04:52	CHK	54.7000	
4-MAY-2007 04:51	CHK	55.9000	
5-MAY-2007 07:38	CHK	55.1000	
7-MAY-2007 05:07	CHK	55.5000	
8-MAY-2007 04:52	CHK	55.9000	
9-MAY-2007 04:58	CHK	55.9000	
10-MAY-2007 05:01	CHK	55.8000	
11-MAY-2007 04:48	CHK	55.0000	
12-MAY-2007 07:46	CHK	56.3000	
14-MAY-2007 04:57	CHK	56.1000	
15-MAY-2007 04:56	CHK	56.2000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
16-MAY-2007 04:44	CHK		55.2000	
17-MAY-2007 04:50	CHK		55.8000	
18-MAY-2007 04:44	CHK		56.9000	In
19-MAY-2007 08:05	CHK		55.7000	
21-MAY-2007 05:05	CHK		55.6000	
22-MAY-2007 04:55	CHK		55.2000	
23-MAY-2007 04:56	CHK		56.0000	
24-MAY-2007 04:52	CHK		56.1000	
25-MAY-2007 05:26	CHK		56.1000	
29-MAY-2007 05:15	CHK		56.2000	
30-MAY-2007 04:51	CHK		55.1000	
31-MAY-2007 04:45	CHK		55.3000	
1-JUN-2007 04:50	CHK		56.1000	
2-JUN-2007 08:02	CHK		56.1000	
4-JUN-2007 04:55	CHK		56.5000	
5-JUN-2007 06:26	CHK		55.6000	
6-JUN-2007 04:54	CHK		55.3000	
7-JUN-2007 04:52	CHK		55.5000	
8-JUN-2007 04:58	CHK		55.8000	
9-JUN-2007 07:34	CHK		55.2000	
10-JUN-2007 07:46	CHK		55.3000	
11-JUN-2007 05:28	CHK		56.1000	

12-JUN-2007 05:05	CHK	56.1000			
13-JUN-2007 05:08	CHK	55.8000			
14-JUN-2007 05:06	CHK	55.5000			
15-JUN-2007 04:59	CHK	54.9000			
16-JUN-2007 08:01	CHK	56.1000			
17-JUN-2007 07:46	CHK	55.5000			
18-JUN-2007 04:37	CHK	56.0000			
19-JUN-2007 04:57	CHK	55.9000			
20-JUN-2007 04:55	CHK	56.1000			
21-JUN-2007 05:34	CHK	54.9000			
22-JUN-2007 04:48	CHK	55.5000			
23-JUN-2007 07:35	CHK	55.9000			
25-JUN-2007 05:19	CHK	55.9000			
26-JUN-2007 05:21	CHK	55.4000			

-- 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
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2-APR-2007 05:00	CHK		46.2000			
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3-APR-2007 04:55	CHK		46.6000			
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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-APR-2007 05:03	CHK		46.8000			
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5-APR-2007 04:55	CHK		47.3000			
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6-APR-2007 04:42	CHK		47.4000			
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7-APR-2007 07:46	CHK		46.1000			
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8-APR-2007 07:59	CHK		47.4000			
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9-APR-2007 05:01	CHK		46.7000			
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10-APR-2007 05:27	CHK	46.0000			
11-APR-2007 04:57	CHK	46.5000			
12-APR-2007 04:54	CHK	47.1000			
13-APR-2007 04:55	CHK	47.2000			
16-APR-2007 05:12	CHK	46.9000			
17-APR-2007 04:53	CHK	46.7000			
18-APR-2007 04:57	CHK	46.3000			
19-APR-2007 04:57	CHK	46.5000			
20-APR-2007 05:25	CHK	47.4000			
21-APR-2007 08:36	CHK	46.1000			
23-APR-2007 05:02	CHK	46.4000			
24-APR-2007 04:49	CHK	46.7000			
25-APR-2007 04:50	CHK	45.4000	In		
26-APR-2007 04:47	CHK	46.6000			
27-APR-2007 04:55	CHK	47.0000			
28-APR-2007 07:44	CHK	46.9000			
30-APR-2007 05:06	CHK	45.8000			
1-MAY-2007 04:50	CHK	47.3000			
2-MAY-2007 04:54	CHK	46.2000			
3-MAY-2007 04:52	CHK	46.5000			
4-MAY-2007 04:51	CHK	46.2000			
5-MAY-2007 07:38	CHK	46.5000			
7-MAY-2007 05:07	CHK	47.1000			
8-MAY-2007 04:52	CHK	46.0000			
9-MAY-2007 04:58	CHK	45.9000			
10-MAY-2007 05:01	CHK	46.6000			
11-MAY-2007 04:48	CHK	46.5000			
12-MAY-2007 07:46	CHK	47.3000			
14-MAY-2007 04:57	CHK	46.2000			
15-MAY-2007 04:56	CHK	45.7000			
16-MAY-2007 04:44	CHK	46.5000			
17-MAY-2007 04:50	CHK	45.5000	In		
18-MAY-2007 04:44	CHK	45.4000	In		
19-MAY-2007 08:05	CHK	46.5000			
21-MAY-2007 05:05	CHK	46.0000			
22-MAY-2007 04:55	CHK	46.1000			
23-MAY-2007 04:56	CHK	46.9000			
24-MAY-2007 04:52	CHK	46.6000			
25-MAY-2007 05:26	CHK	46.3000			
29-MAY-2007 05:15	CHK	46.5000			
30-MAY-2007 04:51	CHK	46.6000			
31-MAY-2007 04:45	CHK	46.4000			
1-JUN-2007 04:50	CHK	46.3000			

2-JUN-2007 08:02	CHK	46.7000			
4-JUN-2007 04:55	CHK	46.6000			
5-JUN-2007 06:26	CHK	46.1000			
6-JUN-2007 04:54	CHK	46.9000			
7-JUN-2007 04:52	CHK	46.5000			
8-JUN-2007 04:58	CHK	46.6000			

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
9-JUN-2007 07:34	CHK		47.0000		
10-JUN-2007 07:46	CHK		46.3000		
11-JUN-2007 05:28	CHK		46.1000		
12-JUN-2007 05:05	CHK		46.3000		
13-JUN-2007 05:08	CHK		46.9000		
14-JUN-2007 05:06	CHK		46.1000		
15-JUN-2007 04:59	CHK		46.6000		
16-JUN-2007 08:01	CHK		47.0000		
17-JUN-2007 07:46	CHK		46.3000		
18-JUN-2007 04:37	CHK		46.9000		
19-JUN-2007 04:57	CHK		46.4000		
20-JUN-2007 04:55	CHK		46.6000		
21-JUN-2007 05:34	CHK		46.8000		
22-JUN-2007 04:48	CHK		46.3000		
23-JUN-2007 07:35	CHK		46.3000		
25-JUN-2007 05:19	CHK		46.5000		
26-JUN-2007 05:21	CHK		46.6000		

-- 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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2-APR-2007 05:00	CHK	51.6000	
3-APR-2007 04:55	CHK	51.6000	
4-APR-2007 05:03	CHK	50.1000	
5-APR-2007 04:55	CHK	50.8000	
6-APR-2007 04:42	CHK	50.7000	
7-APR-2007 07:46	CHK	51.2000	
8-APR-2007 07:59	CHK	51.1000	
9-APR-2007 05:01	CHK	50.6000	
10-APR-2007 05:27	CHK	52.0000	
11-APR-2007 04:57	CHK	51.7000	
12-APR-2007 04:54	CHK	51.2000	
13-APR-2007 04:55	CHK	50.5000	
16-APR-2007 05:12	CHK	50.8000	
17-APR-2007 04:53	CHK	50.7000	
18-APR-2007 04:57	CHK	51.8000	
19-APR-2007 04:57	CHK	51.2000	
20-APR-2007 05:25	CHK	53.0000	Ac
21-APR-2007 08:36	CHK	51.5000	
23-APR-2007 05:02	CHK	51.7000	
24-APR-2007 04:49	CHK	51.8000	
25-APR-2007 04:50	CHK	51.4000	

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-APR-2007 04:47	CHK	50.0000	
27-APR-2007 04:55	CHK	50.8000	
28-APR-2007 07:44	CHK	51.1000	
30-APR-2007 05:06	CHK	50.4000	
1-MAY-2007 04:50	CHK	51.6000	
2-MAY-2007 04:54	CHK	51.5000	
3-MAY-2007 04:52	CHK	50.5000	
4-MAY-2007 04:51	CHK	51.7000	
5-MAY-2007 07:38	CHK	51.1000	
7-MAY-2007 05:07	CHK	50.9000	
8-MAY-2007 04:52	CHK	51.0000	
9-MAY-2007 04:58	CHK	52.0000	
10-MAY-2007 05:01	CHK	50.3000	
11-MAY-2007 04:48	CHK	49.8000	
12-MAY-2007 07:46	CHK	52.4000	In
14-MAY-2007 04:57	CHK	51.1000	
15-MAY-2007 04:56	CHK	51.2000	

16-MAY-2007 04:44	CHK	52.2000			
17-MAY-2007 04:50	CHK	51.2000			
18-MAY-2007 04:44	CHK	52.0000			
19-MAY-2007 08:05	CHK	51.5000			
21-MAY-2007 05:05	CHK	50.9000			
22-MAY-2007 04:55	CHK	51.1000			
23-MAY-2007 04:56	CHK	51.1000			
24-MAY-2007 04:52	CHK	50.9000			
25-MAY-2007 05:26	CHK	51.5000			
29-MAY-2007 05:15	CHK	50.5000			
30-MAY-2007 04:51	CHK	51.5000			
31-MAY-2007 04:45	CHK	52.4000	In		
1-JUN-2007 04:50	CHK	51.5000			
2-JUN-2007 08:02	CHK	51.0000			
4-JUN-2007 04:55	CHK	51.3000			
5-JUN-2007 06:26	CHK	50.5000			
6-JUN-2007 04:54	CHK	51.0000			
7-JUN-2007 04:52	CHK	51.4000			
8-JUN-2007 04:58	CHK	50.9000			
9-JUN-2007 07:34	CHK	51.7000			
10-JUN-2007 07:46	CHK	50.7000			
11-JUN-2007 05:28	CHK	50.8000			
12-JUN-2007 05:05	CHK	50.5000			
13-JUN-2007 05:08	CHK	52.2000			
14-JUN-2007 05:06	CHK	51.3000			
15-JUN-2007 04:59	CHK	50.9000			
16-JUN-2007 08:01	CHK	50.6000			
17-JUN-2007 07:46	CHK	50.8000			
18-JUN-2007 04:37	CHK	50.6000			
19-JUN-2007 04:57	CHK	51.4000			
20-JUN-2007 04:55	CHK	50.8000			
21-JUN-2007 05:34	CHK	51.8000			
22-JUN-2007 04:48	CHK	51.0000			
23-JUN-2007 07:35	CHK	52.2000			
25-JUN-2007 05:19	CHK	50.8000			
26-JUN-2007 05:21	CHK	51.1000			

-- 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
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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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2-APR-2007 05:00	CHK		47.9000		
3-APR-2007 04:55	CHK		47.7000		
4-APR-2007 05:03	CHK		47.8000		
5-APR-2007 04:55	CHK		48.4000		
6-APR-2007 04:42	CHK		47.9000		
7-APR-2007 07:46	CHK		48.6000		
8-APR-2007 07:59	CHK		48.6000		
9-APR-2007 05:01	CHK		48.4000		
10-APR-2007 05:27	CHK		49.2000	In	
11-APR-2007 04:57	CHK		48.7000		
12-APR-2007 04:54	CHK		48.1000		
13-APR-2007 04:55	CHK		47.5000		
16-APR-2007 05:12	CHK		48.8000		
17-APR-2007 04:53	CHK		47.5000		
18-APR-2007 04:57	CHK		47.9000		
19-APR-2007 04:57	CHK		47.7000		
20-APR-2007 05:25	CHK		48.7000		
21-APR-2007 08:36	CHK		48.0000		
23-APR-2007 05:02	CHK		47.7000		
24-APR-2007 04:49	CHK		47.6000		
25-APR-2007 04:50	CHK		47.2000		
26-APR-2007 04:47	CHK		47.2000		
27-APR-2007 04:55	CHK		48.1000		
28-APR-2007 07:44	CHK		49.0000		
30-APR-2007 05:06	CHK		48.7000		
1-MAY-2007 04:50	CHK		49.2000	In	
2-MAY-2007 04:54	CHK		47.7000		
3-MAY-2007 04:52	CHK		48.0000		
4-MAY-2007 04:51	CHK		48.3000		

5-MAY-2007 07:38	CHK	48.7000	
7-MAY-2007 05:07	CHK	48.6000	
8-MAY-2007 04:52	CHK	48.7000	
9-MAY-2007 04:58	CHK	48.5000	
10-MAY-2007 05:01	CHK	47.2000	
11-MAY-2007 04:48	CHK	48.2000	
12-MAY-2007 07:46	CHK	48.8000	
14-MAY-2007 04:57	CHK	48.1000	
15-MAY-2007 04:56	CHK	48.9000	
16-MAY-2007 04:44	CHK	48.1000	
17-MAY-2007 04:50	CHK	47.3000	
18-MAY-2007 04:44	CHK	48.3000	
19-MAY-2007 08:05	CHK	48.7000	
21-MAY-2007 05:05	CHK	49.1000	
22-MAY-2007 04:55	CHK	49.3000	In
23-MAY-2007 04:56	CHK	48.6000	
24-MAY-2007 04:52	CHK	48.0000	
25-MAY-2007 05:26	CHK	49.2000	In
29-MAY-2007 05:15	CHK	48.0000	
30-MAY-2007 04:51	CHK	48.1000	
31-MAY-2007 04:45	CHK	48.8000	
1-JUN-2007 04:50	CHK	48.8000	
2-JUN-2007 08:02	CHK	48.2000	
4-JUN-2007 04:55	CHK	48.1000	
5-JUN-2007 06:26	CHK	48.4000	
6-JUN-2007 04:54	CHK	48.7000	

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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7-JUN-2007 04:52	CHK			47.8000		
8-JUN-2007 04:58	CHK			48.6000		
9-JUN-2007 07:34	CHK			48.2000		
10-JUN-2007 07:46	CHK			47.7000		
11-JUN-2007 05:28	CHK			47.9000		
12-JUN-2007 05:05	CHK			48.1000		
13-JUN-2007 05:08	CHK			48.2000		
14-JUN-2007 05:06	CHK			47.8000		
15-JUN-2007 04:59	CHK			48.0000		
16-JUN-2007 08:01	CHK			47.8000		
17-JUN-2007 07:46	CHK			47.8000		
18-JUN-2007 04:37	CHK			48.0000		
19-JUN-2007 04:57	CHK			48.5000		

20-JUN-2007 04:55	CHK	47.6000			
21-JUN-2007 05:34	CHK	48.0000			
22-JUN-2007 04:48	CHK	47.6000			
23-JUN-2007 07:35	CHK	47.3000			
25-JUN-2007 05:19	CHK	48.5000			
26-JUN-2007 05:21	CHK	48.1000			

Quality Assurance Report.

Generated 27-JUN-2007 19:36:33.46

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

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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1-APR-2007 21:17	BKG		0.5700			
3-APR-2007 03:15	BKG		0.6100			
4-APR-2007 01:24	BKG		0.6900			
5-APR-2007 02:41	BKG		0.6200			
6-APR-2007 04:03	BKG		0.6600			
7-APR-2007 02:30	BKG		0.6500			
7-APR-2007 20:34	BKG		0.5900			
8-APR-2007 19:46	BKG		0.6100			
10-APR-2007 05:04	BKG		0.6000			
11-APR-2007 03:14	BKG		0.7000			
12-APR-2007 02:27	BKG		0.6300			
13-APR-2007 02:46	BKG		0.6200			
14-APR-2007 01:38	BKG		0.6700			
14-APR-2007 20:06	BKG		0.6400			
15-APR-2007 20:26	BKG		0.6200			
17-APR-2007 03:27	BKG		0.6400			
18-APR-2007 02:02	BKG		0.6000			
19-APR-2007 01:17	BKG		0.6800			

20-APR-2007 02:19	BKG	0.6100			
21-APR-2007 03:30	BKG	0.6100			
21-APR-2007 19:50	BKG	0.5800			
22-APR-2007 20:18	BKG	0.6100			
24-APR-2007 03:14	BKG	0.5400			
25-APR-2007 03:28	BKG	0.6600			
26-APR-2007 03:22	BKG	0.6200			
27-APR-2007 02:24	BKG	0.6100			
28-APR-2007 04:23	BKG	0.6000			
28-APR-2007 21:11	BKG	0.6100			
29-APR-2007 20:56	BKG	0.6000			
1-MAY-2007 04:25	BKG	0.6900			
2-MAY-2007 03:49	BKG	0.6300			
3-MAY-2007 02:37	BKG	0.6300			
4-MAY-2007 02:32	BKG	0.6500			
5-MAY-2007 02:16	BKG	0.6000			
5-MAY-2007 19:48	BKG	0.5800			
6-MAY-2007 20:11	BKG	0.5900			
8-MAY-2007 03:21	BKG	0.5900			
9-MAY-2007 02:16	BKG	0.6100			
10-MAY-2007 03:15	BKG	0.6300			
11-MAY-2007 02:39	BKG	0.6600			
12-MAY-2007 03:26	BKG	0.7700			

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
12-MAY-2007 20:17	BKG		0.6200		
13-MAY-2007 20:17	BKG		0.6500		
15-MAY-2007 03:14	BKG		0.6400		
16-MAY-2007 03:10	BKG		0.7000		
17-MAY-2007 02:47	BKG		0.6200		
18-MAY-2007 04:12	BKG		0.5800		
19-MAY-2007 01:58	BKG		0.6600		
19-MAY-2007 20:43	BKG		0.6300		
20-MAY-2007 21:25	BKG		0.6300		
22-MAY-2007 04:30	BKG		0.5700		
23-MAY-2007 02:49	BKG		0.6100		
24-MAY-2007 02:28	BKG		0.6900		
25-MAY-2007 01:54	BKG		0.6500		
26-MAY-2007 04:26	BKG		0.6700		
26-MAY-2007 19:50	BKG		0.5800		
27-MAY-2007 18:42	BKG		0.6700		

28-MAY-2007 16:31 BKG	0.6400			
30-MAY-2007 04:19 BKG	0.6600			
31-MAY-2007 02:49 BKG	0.6300			
1-JUN-2007 03:39 BKG	0.6500			
2-JUN-2007 04:07 BKG	0.6600			
2-JUN-2007 21:38 BKG	0.6000			
3-JUN-2007 20:42 BKG	0.6700			
5-JUN-2007 02:18 BKG	0.6500			
5-JUN-2007 02:18 BKG	0.5900			
6-JUN-2007 02:11 BKG	0.5900			
7-JUN-2007 02:21 BKG	0.6600			
8-JUN-2007 04:35 BKG	0.6000			
9-JUN-2007 02:57 BKG	0.6400			
9-JUN-2007 21:20 BKG	0.5700			
10-JUN-2007 22:01 BKG	0.6800			
12-JUN-2007 02:37 BKG	0.6200			
13-JUN-2007 04:42 BKG	0.6600			
14-JUN-2007 01:52 BKG	0.6400			
15-JUN-2007 02:25 BKG	0.8000			
16-JUN-2007 05:39 BKG	0.7200			
16-JUN-2007 21:28 BKG	0.6400			
17-JUN-2007 21:06 BKG	0.7700			
19-JUN-2007 04:30 BKG	0.7200			
20-JUN-2007 02:26 BKG	0.6800			
21-JUN-2007 05:01 BKG	0.7100			
22-JUN-2007 01:58 BKG	0.6300			
23-JUN-2007 04:11 BKG	0.6700			
23-JUN-2007 21:20 BKG	0.6900			
24-JUN-2007 20:09 BKG	0.5800			
26-JUN-2007 03:55 BKG	0.6400			

-- 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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Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
1-APR-2007 21:17	BKG		0.6300		
3-APR-2007 03:15	BKG		0.6500		
4-APR-2007 01:24	BKG		0.6000		
5-APR-2007 02:41	BKG		0.7500		
6-APR-2007 04:03	BKG		0.6500		
7-APR-2007 02:30	BKG		0.7000		
7-APR-2007 20:34	BKG		0.6200		
8-APR-2007 19:46	BKG		0.7100		
10-APR-2007 05:04	BKG		0.7000		
11-APR-2007 03:14	BKG		0.7500		
12-APR-2007 02:27	BKG		0.7600		
13-APR-2007 02:46	BKG		0.6300		
14-APR-2007 01:38	BKG		0.7500		
14-APR-2007 20:06	BKG		0.6900		
15-APR-2007 20:26	BKG		0.6400		
17-APR-2007 03:27	BKG		0.6900		
18-APR-2007 02:02	BKG		0.7700		
19-APR-2007 01:17	BKG		0.6400		
20-APR-2007 02:19	BKG		0.6800		
21-APR-2007 03:30	BKG		0.6200		
21-APR-2007 19:50	BKG		0.6400		
22-APR-2007 20:18	BKG		0.7300		
24-APR-2007 03:14	BKG		0.6200		
25-APR-2007 03:28	BKG		0.6800		
26-APR-2007 03:22	BKG		0.6800		
27-APR-2007 02:24	BKG		0.6100		
28-APR-2007 04:23	BKG		0.6400		
28-APR-2007 21:11	BKG		0.6300		
29-APR-2007 20:56	BKG		0.7200		
1-MAY-2007 04:25	BKG		0.6900		
2-MAY-2007 03:49	BKG		0.7000		
3-MAY-2007 02:37	BKG		0.6500		
4-MAY-2007 02:32	BKG		0.6300		
5-MAY-2007 02:16	BKG		0.6400		
5-MAY-2007 19:48	BKG		0.6000		
6-MAY-2007 20:11	BKG		0.5600		
8-MAY-2007 03:21	BKG		0.6800		
9-MAY-2007 02:16	BKG		0.6300		

10-MAY-2007 03:15	BKG	0.7400	
11-MAY-2007 02:39	BKG	0.7000	
12-MAY-2007 03:26	BKG	0.8100	In
12-MAY-2007 20:17	BKG	0.5700	
13-MAY-2007 20:17	BKG	0.5800	
15-MAY-2007 03:14	BKG	0.5600	
16-MAY-2007 03:10	BKG	0.6200	
17-MAY-2007 02:47	BKG	0.7000	
18-MAY-2007 04:12	BKG	0.6200	
19-MAY-2007 01:58	BKG	0.8300	In
19-MAY-2007 20:43	BKG	0.5700	
20-MAY-2007 21:25	BKG	0.6000	
22-MAY-2007 04:30	BKG	0.5900	
23-MAY-2007 02:49	BKG	0.6100	
24-MAY-2007 02:28	BKG	0.6500	
25-MAY-2007 01:54	BKG	0.7000	
26-MAY-2007 04:26	BKG	0.5800	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
26-MAY-2007 19:50	BKG		0.6200	
27-MAY-2007 18:42	BKG		0.6600	
28-MAY-2007 16:31	BKG		0.6400	
30-MAY-2007 04:19	BKG		0.7100	
31-MAY-2007 02:49	BKG		0.6400	
1-JUN-2007 03:39	BKG		0.7400	
2-JUN-2007 04:07	BKG		0.6600	
2-JUN-2007 21:38	BKG		0.6200	
3-JUN-2007 20:42	BKG		0.6800	
5-JUN-2007 02:18	BKG		0.6800	
5-JUN-2007 02:18	BKG		0.6800	
6-JUN-2007 02:11	BKG		0.6300	
7-JUN-2007 02:21	BKG		0.6500	
8-JUN-2007 04:35	BKG		0.6100	
9-JUN-2007 02:57	BKG		0.6800	
9-JUN-2007 21:20	BKG		0.7300	
10-JUN-2007 22:01	BKG		0.6400	
12-JUN-2007 02:37	BKG		0.8100	In
13-JUN-2007 04:42	BKG		0.8000	In
14-JUN-2007 01:52	BKG		0.6600	
15-JUN-2007 02:25	BKG		0.6300	
16-JUN-2007 05:39	BKG		0.7300	

16-JUN-2007 21:28	BKG	0.6300	
17-JUN-2007 21:06	BKG	0.6800	
19-JUN-2007 04:30	BKG	0.8400	In
20-JUN-2007 02:26	BKG	0.7900	In
21-JUN-2007 05:01	BKG	0.6500	
22-JUN-2007 01:58	BKG	0.6400	
23-JUN-2007 04:11	BKG	0.6600	
23-JUN-2007 21:20	BKG	0.6500	
24-JUN-2007 20:09	BKG	0.5700	
26-JUN-2007 03:55	BKG	0.6600	

-- 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
1-APR-2007 21:17	BKG		0.5200	
3-APR-2007 03:15	BKG		0.5300	
4-APR-2007 01:24	BKG		0.6500	
5-APR-2007 02:41	BKG		0.5500	
6-APR-2007 04:03	BKG		0.5200	
7-APR-2007 02:30	BKG		0.5800	
7-APR-2007 20:34	BKG		0.5500	
8-APR-2007 19:46	BKG		0.5000	
10-APR-2007 05:04	BKG		0.5600	

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
11-APR-2007 03:14	BKG		0.5600	
12-APR-2007 02:27	BKG		0.6200	
13-APR-2007 02:46	BKG		0.5500	
14-APR-2007 01:38	BKG		0.5500	
14-APR-2007 20:06	BKG		0.5000	
15-APR-2007 20:26	BKG		0.4400	

17-APR-2007 03:27	BKG	0.5600			
18-APR-2007 02:02	BKG	0.6000			
19-APR-2007 01:17	BKG	0.5000			
20-APR-2007 02:19	BKG	0.5900			
21-APR-2007 03:30	BKG	0.5200			
21-APR-2007 19:50	BKG	0.5600			
22-APR-2007 20:18	BKG	0.5100			
24-APR-2007 03:14	BKG	0.5200			
25-APR-2007 03:28	BKG	0.5300			
26-APR-2007 03:22	BKG	0.5100			
27-APR-2007 02:24	BKG	0.5500			
28-APR-2007 04:23	BKG	0.5800			
28-APR-2007 21:11	BKG	0.5400			
29-APR-2007 20:56	BKG	0.6000			
1-MAY-2007 04:25	BKG	0.5300			
2-MAY-2007 03:49	BKG	0.5700			
3-MAY-2007 02:37	BKG	0.5300			
4-MAY-2007 02:32	BKG	0.6300			
5-MAY-2007 02:16	BKG	0.5400			
5-MAY-2007 19:48	BKG	0.4600			
6-MAY-2007 20:11	BKG	0.5600			
8-MAY-2007 03:21	BKG	0.5200			
9-MAY-2007 02:16	BKG	0.5300			
10-MAY-2007 03:15	BKG	0.5500			
11-MAY-2007 02:39	BKG	0.6600			
12-MAY-2007 03:26	BKG	0.6100			
12-MAY-2007 20:17	BKG	0.5000			
13-MAY-2007 20:17	BKG	0.5200			
15-MAY-2007 03:14	BKG	0.5600			
16-MAY-2007 03:10	BKG	0.5400			
17-MAY-2007 02:47	BKG	0.5700			
18-MAY-2007 04:12	BKG	0.5100			
19-MAY-2007 01:58	BKG	0.6200			
19-MAY-2007 20:43	BKG	0.5500			
20-MAY-2007 21:25	BKG	0.4900			
22-MAY-2007 04:30	BKG	0.6200			
23-MAY-2007 02:49	BKG	0.5300			
24-MAY-2007 02:28	BKG	0.5100			
25-MAY-2007 01:54	BKG	0.5400			
26-MAY-2007 04:26	BKG	0.6000			
26-MAY-2007 19:50	BKG	0.5200			
27-MAY-2007 18:42	BKG	0.5500			
28-MAY-2007 16:31	BKG	0.5700			

30-MAY-2007 04:19	BKG	0.5300	
31-MAY-2007 02:49	BKG	0.5400	
1-JUN-2007 03:39	BKG	0.5500	
2-JUN-2007 04:07	BKG	0.5300	
2-JUN-2007 21:38	BKG	0.5200	
3-JUN-2007 20:42	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
5-JUN-2007 02:18	BKG		0.6300	
5-JUN-2007 02:18	BKG		0.5700	
6-JUN-2007 02:11	BKG		0.5800	
7-JUN-2007 02:21	BKG		0.6400	
8-JUN-2007 04:35	BKG		0.5800	
9-JUN-2007 02:57	BKG		0.5100	
9-JUN-2007 21:20	BKG		0.5200	
10-JUN-2007 22:01	BKG		0.5300	
12-JUN-2007 02:37	BKG		0.6500	
13-JUN-2007 04:42	BKG		0.5900	
14-JUN-2007 01:52	BKG		0.5400	
15-JUN-2007 02:25	BKG		0.6000	
16-JUN-2007 05:39	BKG		0.5600	
16-JUN-2007 21:28	BKG		0.5100	
17-JUN-2007 21:06	BKG		0.5900	
19-JUN-2007 04:30	BKG		0.7300	In
20-JUN-2007 02:26	BKG		0.8600	Ac
21-JUN-2007 05:01	BKG		0.6000	
22-JUN-2007 01:58	BKG		0.6000	
23-JUN-2007 04:11	BKG		0.6100	
23-JUN-2007 21:20	BKG		0.5700	
24-JUN-2007 20:09	BKG		0.5400	
26-JUN-2007 03:55	BKG		0.6200	

-- 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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1-APR-2007 21:17	BKG		0.6600		
3-APR-2007 03:15	BKG		0.6200		
4-APR-2007 01:24	BKG		0.6500		
5-APR-2007 02:41	BKG		0.7100		
6-APR-2007 04:03	BKG		0.6500		
7-APR-2007 02:30	BKG		0.6000		
7-APR-2007 20:34	BKG		0.6300		
8-APR-2007 19:46	BKG		0.6600		
10-APR-2007 05:04	BKG		0.5900		
11-APR-2007 03:14	BKG		0.6100		
12-APR-2007 02:27	BKG		0.6600		
13-APR-2007 02:46	BKG		0.7100		
14-APR-2007 01:38	BKG		0.6800		
14-APR-2007 20:06	BKG		0.6000		
15-APR-2007 20:26	BKG		0.5800		
17-APR-2007 03:27	BKG		0.6400		
18-APR-2007 02:02	BKG		0.5800		
19-APR-2007 01:17	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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20-APR-2007 02:19	BKG		0.7500	In	
21-APR-2007 03:30	BKG		0.6700		
21-APR-2007 19:50	BKG		0.6500		
22-APR-2007 20:18	BKG		0.5900		
24-APR-2007 03:14	BKG		0.5700		
25-APR-2007 03:28	BKG		0.5800		
26-APR-2007 03:22	BKG		0.6200		
27-APR-2007 02:24	BKG		0.6600		
28-APR-2007 04:23	BKG		0.6300		
28-APR-2007 21:11	BKG		0.6000		
29-APR-2007 20:56	BKG		0.6600		
1-MAY-2007 04:25	BKG		0.6400		
2-MAY-2007 03:49	BKG		0.5900		
3-MAY-2007 02:37	BKG		0.6100		
4-MAY-2007 02:32	BKG		0.6400		
5-MAY-2007 02:16	BKG		0.6200		
5-MAY-2007 19:48	BKG		0.4900	In	

6-MAY-2007 20:11 BKG	0.5900	
8-MAY-2007 03:21 BKG	0.6400	
9-MAY-2007 02:16 BKG	0.6500	
10-MAY-2007 03:15 BKG	0.6300	
11-MAY-2007 02:39 BKG	0.6600	
12-MAY-2007 03:26 BKG	0.6600	
12-MAY-2007 20:17 BKG	0.6500	
13-MAY-2007 20:17 BKG	0.6100	
15-MAY-2007 03:14 BKG	0.5500	
16-MAY-2007 03:10 BKG	0.5800	
17-MAY-2007 02:47 BKG	0.5900	
18-MAY-2007 04:12 BKG	0.6000	
19-MAY-2007 01:58 BKG	0.6400	
19-MAY-2007 20:43 BKG	0.6500	
20-MAY-2007 21:25 BKG	0.6300	
22-MAY-2007 04:30 BKG	0.7200	
23-MAY-2007 02:49 BKG	0.5800	
24-MAY-2007 02:28 BKG	0.5900	
25-MAY-2007 01:54 BKG	0.7100	
26-MAY-2007 04:26 BKG	0.7900	[Ac]
26-MAY-2007 19:50 BKG	0.6400	
27-MAY-2007 18:42 BKG	0.6200	
28-MAY-2007 16:31 BKG	0.5700	
30-MAY-2007 04:19 BKG	0.7300	
31-MAY-2007 02:49 BKG	0.6300	
1-JUN-2007 03:39 BKG	0.7300	
2-JUN-2007 04:07 BKG	0.7800	[In]
2-JUN-2007 21:38 BKG	0.6900	
3-JUN-2007 20:42 BKG	0.5600	
5-JUN-2007 02:18 BKG	0.5900	
5-JUN-2007 02:18 BKG	0.5600	
6-JUN-2007 02:11 BKG	0.5900	
7-JUN-2007 02:21 BKG	0.6300	
8-JUN-2007 04:35 BKG	0.6400	
9-JUN-2007 02:57 BKG	0.5600	
9-JUN-2007 21:20 BKG	0.6700	
10-JUN-2007 22:01 BKG	0.6700	
12-JUN-2007 02:37 BKG	0.6400	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
13-JUN-2007 04:42	BKG		0.6800	

14-JUN-2007 01:52	BKG	0.5900			
15-JUN-2007 02:25	BKG	0.6800			
16-JUN-2007 05:39	BKG	0.6500			
16-JUN-2007 21:28	BKG	0.5700			
17-JUN-2007 21:06	BKG	0.6000			
19-JUN-2007 04:30	BKG	0.7600	In		
20-JUN-2007 02:26	BKG	0.8100	Ac		
21-JUN-2007 05:01	BKG	0.6200			
22-JUN-2007 01:58	BKG	0.6600			
23-JUN-2007 04:11	BKG	0.6600			
23-JUN-2007 21:20	BKG	0.6300			
24-JUN-2007 20:09	BKG	0.6600			
26-JUN-2007 03:55	BKG	0.5800			

Quality Assurance Report.

Generated 27-JUN-2007 19:36:52.38

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 : 47.024376 Std Deviation : 0.672903

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 04:55	CHK		46.7000		
3-APR-2007 04:55	CHK		47.1000		
4-APR-2007 05:03	CHK		46.6000		
5-APR-2007 04:56	CHK		46.7000		
6-APR-2007 04:43	CHK		47.6000		
7-APR-2007 07:47	CHK		46.6000		
9-APR-2007 05:00	CHK		46.2000		
10-APR-2007 05:23	CHK		47.4000		
11-APR-2007 04:58	CHK		47.2000		
12-APR-2007 04:54	CHK		46.5000		
13-APR-2007 04:55	CHK		45.3000	In	
16-APR-2007 05:12	CHK		46.7000		
17-APR-2007 04:54	CHK		46.1000		
18-APR-2007 04:58	CHK		46.1000		
19-APR-2007 04:57	CHK		47.0000		
20-APR-2007 05:26	CHK		46.5000		
21-APR-2007 08:36	CHK		48.1000		
23-APR-2007 05:02	CHK		46.6000		
24-APR-2007 04:50	CHK		47.9000		
25-APR-2007 04:51	CHK		47.5000		
26-APR-2007 04:47	CHK		47.2000		

27-APR-2007 04:55	CHK	47.4000			
28-APR-2007 07:44	CHK	46.8000			
30-APR-2007 05:01	CHK	47.2000			
1-MAY-2007 04:50	CHK	47.7000			
2-MAY-2007 04:49	CHK	47.6000			
3-MAY-2007 04:52	CHK	46.3000			
4-MAY-2007 04:51	CHK	47.4000			
5-MAY-2007 07:38	CHK	46.2000			
7-MAY-2007 05:07	CHK	46.8000			
8-MAY-2007 04:52	CHK	47.2000			
9-MAY-2007 04:58	CHK	47.8000			
10-MAY-2007 05:01	CHK	47.6000			
11-MAY-2007 04:49	CHK	46.2000			
12-MAY-2007 07:47	CHK	47.5000			
14-MAY-2007 04:57	CHK	46.1000			
15-MAY-2007 04:56	CHK	47.4000			
16-MAY-2007 04:39	CHK	47.4000			

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
17-MAY-2007 04:45	CHK		47.8000		
18-MAY-2007 04:44	CHK		47.3000		
19-MAY-2007 08:05	CHK		47.6000		
21-MAY-2007 05:01	CHK		47.1000		
22-MAY-2007 04:55	CHK		47.7000		
23-MAY-2007 04:56	CHK		47.8000		
24-MAY-2007 04:52	CHK		47.3000		
25-MAY-2007 05:26	CHK		47.5000		
26-MAY-2007 08:08	CHK		46.3000		
29-MAY-2007 05:16	CHK		47.3000		
30-MAY-2007 04:51	CHK		46.9000		
31-MAY-2007 04:45	CHK		47.1000		
1-JUN-2007 04:50	CHK		47.1000		
2-JUN-2007 08:03	CHK		47.4000		
4-JUN-2007 05:00	CHK		46.6000		
5-JUN-2007 06:26	CHK		47.6000		
6-JUN-2007 04:54	CHK		46.3000		
7-JUN-2007 04:53	CHK		46.8000		
8-JUN-2007 04:58	CHK		46.9000		
9-JUN-2007 07:34	CHK		47.7000		
10-JUN-2007 07:47	CHK		46.5000		
11-JUN-2007 05:28	CHK		46.4000		

12-JUN-2007 05:05	CHK	46.5000			
13-JUN-2007 05:03	CHK	46.9000			
14-JUN-2007 05:06	CHK	46.7000			
15-JUN-2007 04:59	CHK	46.5000			
16-JUN-2007 08:02	CHK	47.2000			
17-JUN-2007 07:47	CHK	47.4000			
18-JUN-2007 04:32	CHK	47.5000			
19-JUN-2007 04:57	CHK	46.4000			
20-JUN-2007 04:50	CHK	47.2000			
21-JUN-2007 05:34	CHK	47.4000			
22-JUN-2007 04:43	CHK	47.4000			
23-JUN-2007 07:36	CHK	47.0000			
25-JUN-2007 05:19	CHK	47.6000			
26-JUN-2007 05:21	CHK	46.4000			

-- 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 : 44.573124 Std Deviation : 0.699031

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 04:55	CHK		44.3000			
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3-APR-2007 04:55	CHK		44.1000			
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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-APR-2007 05:03	CHK		44.9000			
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5-APR-2007 04:56	CHK		43.5000			
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6-APR-2007 04:43	CHK		44.7000			
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7-APR-2007 07:47	CHK		45.2000			
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9-APR-2007 05:00	CHK		44.2000			
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10-APR-2007 05:23	CHK		45.4000			
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11-APR-2007 04:58	CHK	46.0000	In
12-APR-2007 04:54	CHK	44.9000	
13-APR-2007 04:55	CHK	44.2000	
16-APR-2007 05:12	CHK	44.3000	
17-APR-2007 04:54	CHK	44.3000	
18-APR-2007 04:58	CHK	44.5000	
19-APR-2007 04:57	CHK	43.9000	
20-APR-2007 05:26	CHK	44.3000	
21-APR-2007 08:36	CHK	44.1000	
23-APR-2007 05:02	CHK	44.6000	
24-APR-2007 04:50	CHK	44.5000	
25-APR-2007 04:51	CHK	45.0000	
26-APR-2007 04:47	CHK	44.3000	
27-APR-2007 04:55	CHK	45.7000	
28-APR-2007 07:44	CHK	44.8000	
30-APR-2007 05:01	CHK	45.3000	
1-MAY-2007 04:50	CHK	44.5000	
2-MAY-2007 04:49	CHK	45.9000	
3-MAY-2007 04:52	CHK	44.4000	
4-MAY-2007 04:51	CHK	44.5000	
5-MAY-2007 07:38	CHK	44.5000	
7-MAY-2007 05:07	CHK	44.7000	
8-MAY-2007 04:52	CHK	43.8000	
9-MAY-2007 04:58	CHK	45.1000	
10-MAY-2007 05:01	CHK	44.3000	
11-MAY-2007 04:49	CHK	44.0000	
12-MAY-2007 07:47	CHK	45.0000	
14-MAY-2007 04:57	CHK	45.3000	
15-MAY-2007 04:56	CHK	43.9000	
16-MAY-2007 04:39	CHK	44.9000	
17-MAY-2007 04:45	CHK	44.3000	
18-MAY-2007 04:44	CHK	45.1000	
19-MAY-2007 08:05	CHK	44.0000	
21-MAY-2007 05:01	CHK	45.0000	
22-MAY-2007 04:55	CHK	44.1000	
23-MAY-2007 04:56	CHK	44.7000	
24-MAY-2007 04:52	CHK	44.9000	
25-MAY-2007 05:26	CHK	45.9000	
26-MAY-2007 08:08	CHK	45.3000	
29-MAY-2007 05:16	CHK	44.4000	
30-MAY-2007 04:51	CHK	44.8000	
31-MAY-2007 04:45	CHK	45.3000	
1-JUN-2007 04:50	CHK	45.3000	

2-JUN-2007 08:03	CHK	45.2000			
4-JUN-2007 05:00	CHK	45.2000			
5-JUN-2007 06:26	CHK	45.0000			
6-JUN-2007 04:54	CHK	44.3000			
7-JUN-2007 04:53	CHK	44.6000			
8-JUN-2007 04:58	CHK	44.2000			

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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9-JUN-2007 07:34	CHK		44.5000			
10-JUN-2007 07:47	CHK		45.0000			
11-JUN-2007 05:28	CHK		45.1000			
12-JUN-2007 05:05	CHK		44.8000			
13-JUN-2007 05:03	CHK		45.1000			
14-JUN-2007 05:06	CHK		44.0000			
15-JUN-2007 04:59	CHK		45.2000			
16-JUN-2007 08:02	CHK		44.4000			
17-JUN-2007 07:47	CHK		45.8000			
18-JUN-2007 04:32	CHK		44.5000			
19-JUN-2007 04:57	CHK		45.1000			
20-JUN-2007 04:50	CHK		44.1000			
21-JUN-2007 05:34	CHK		44.2000			
22-JUN-2007 04:43	CHK		45.3000			
23-JUN-2007 07:36	CHK		44.3000			
25-JUN-2007 05:19	CHK		44.2000			
26-JUN-2007 05:21	CHK		44.6000			

-- 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 : 43.103748 Std Deviation : 0.840701

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 04:55	CHK	43.2000	
3-APR-2007 04:55	CHK	41.8000	
4-APR-2007 05:03	CHK	42.0000	
5-APR-2007 04:56	CHK	42.3000	
6-APR-2007 04:43	CHK	42.7000	
7-APR-2007 07:47	CHK	42.8000	
9-APR-2007 05:00	CHK	43.5000	
10-APR-2007 05:23	CHK	43.0000	
11-APR-2007 04:58	CHK	44.1000	
12-APR-2007 04:54	CHK	43.0000	
13-APR-2007 04:55	CHK	42.8000	
16-APR-2007 05:12	CHK	43.0000	
17-APR-2007 04:54	CHK	41.9000	
18-APR-2007 04:58	CHK	42.9000	
19-APR-2007 04:57	CHK	43.0000	
20-APR-2007 05:26	CHK	43.9000	
21-APR-2007 08:36	CHK	43.2000	
23-APR-2007 05:02	CHK	43.3000	
24-APR-2007 04:50	CHK	43.2000	
25-APR-2007 04:51	CHK	43.3000	
26-APR-2007 04:47	CHK	43.8000	

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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27-APR-2007 04:55	CHK	44.1000			
28-APR-2007 07:44	CHK	42.9000			
30-APR-2007 05:01	CHK	43.1000			
1-MAY-2007 04:50	CHK	42.8000			
2-MAY-2007 04:49	CHK	43.1000			
3-MAY-2007 04:52	CHK	43.0000			
4-MAY-2007 04:51	CHK	43.3000			
5-MAY-2007 07:38	CHK	42.6000			
7-MAY-2007 05:07	CHK	43.2000			
8-MAY-2007 04:52	CHK	43.3000			
9-MAY-2007 04:58	CHK	43.7000			
10-MAY-2007 05:01	CHK	46.0000	Ab Ac		
11-MAY-2007 04:49	CHK	43.4000			
12-MAY-2007 07:47	CHK	42.6000			
14-MAY-2007 04:57	CHK	42.6000			
15-MAY-2007 04:56	CHK	42.7000			
16-MAY-2007 04:39	CHK	43.1000			

17-MAY-2007 04:45	CHK	42.8000	
18-MAY-2007 04:44	CHK	43.1000	
19-MAY-2007 08:05	CHK	43.0000	
21-MAY-2007 05:01	CHK	43.5000	
22-MAY-2007 04:55	CHK	42.9000	
23-MAY-2007 04:56	CHK	42.2000	
24-MAY-2007 04:52	CHK	43.2000	
25-MAY-2007 05:26	CHK	43.5000	
26-MAY-2007 08:08	CHK	43.6000	
29-MAY-2007 05:16	CHK	42.8000	
30-MAY-2007 04:51	CHK	43.1000	
31-MAY-2007 04:45	CHK	42.9000	
1-JUN-2007 04:50	CHK	43.7000	
2-JUN-2007 08:03	CHK	43.5000	
4-JUN-2007 05:00	CHK	46.9000	Ab Ac
5-JUN-2007 06:26	CHK	43.4000	
6-JUN-2007 04:54	CHK	43.3000	
7-JUN-2007 04:53	CHK	43.5000	
8-JUN-2007 04:58	CHK	42.9000	
9-JUN-2007 07:34	CHK	43.4000	
10-JUN-2007 07:47	CHK	43.8000	
11-JUN-2007 05:28	CHK	43.6000	
12-JUN-2007 05:05	CHK	43.2000	
13-JUN-2007 05:03	CHK	43.2000	
14-JUN-2007 05:06	CHK	42.6000	
15-JUN-2007 04:59	CHK	42.8000	
16-JUN-2007 08:02	CHK	43.7000	
17-JUN-2007 07:47	CHK	45.0000	In
18-JUN-2007 04:32	CHK	43.7000	
19-JUN-2007 04:57	CHK	43.4000	
20-JUN-2007 04:50	CHK	42.6000	
21-JUN-2007 05:34	CHK	43.1000	
22-JUN-2007 04:43	CHK	43.8000	
23-JUN-2007 07:36	CHK	43.1000	
25-JUN-2007 05:19	CHK	42.9000	
26-JUN-2007 05:21	CHK	43.1000	

-- 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 : 43.676399 Std Deviation : 0.686979

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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2-APR-2007 04:55	CHK		43.5000		
3-APR-2007 04:55	CHK		43.2000		
4-APR-2007 05:03	CHK		42.6000		
5-APR-2007 04:56	CHK		43.7000		
6-APR-2007 04:43	CHK		43.8000		
7-APR-2007 07:47	CHK		43.8000		
9-APR-2007 05:00	CHK		44.3000		
10-APR-2007 05:23	CHK		44.9000		
11-APR-2007 04:58	CHK		44.6000		
12-APR-2007 04:54	CHK		43.6000		
13-APR-2007 04:55	CHK		43.4000		
16-APR-2007 05:12	CHK		43.5000		
17-APR-2007 04:54	CHK		43.5000		
18-APR-2007 04:58	CHK		43.7000		
19-APR-2007 04:57	CHK		43.9000		
20-APR-2007 05:26	CHK		43.7000		
21-APR-2007 08:36	CHK		44.9000		
23-APR-2007 05:02	CHK		43.2000		
24-APR-2007 04:50	CHK		42.8000		
25-APR-2007 04:51	CHK		44.5000		
26-APR-2007 04:47	CHK		43.7000		
27-APR-2007 04:55	CHK		43.9000		
28-APR-2007 07:44	CHK		43.7000		
30-APR-2007 05:01	CHK		43.7000		
1-MAY-2007 04:50	CHK		43.6000		
2-MAY-2007 04:49	CHK		43.8000		
3-MAY-2007 04:52	CHK		44.0000		
4-MAY-2007 04:51	CHK		43.7000		
5-MAY-2007 07:38	CHK		43.0000		

7-MAY-2007 05:07	CHK	43.2000	
8-MAY-2007 04:52	CHK	43.7000	
9-MAY-2007 04:58	CHK	43.9000	
10-MAY-2007 05:01	CHK	43.8000	
11-MAY-2007 04:49	CHK	43.3000	
12-MAY-2007 07:47	CHK	44.2000	
14-MAY-2007 04:57	CHK	43.0000	
15-MAY-2007 04:56	CHK	43.6000	
16-MAY-2007 04:39	CHK	43.7000	
17-MAY-2007 04:45	CHK	44.5000	
18-MAY-2007 04:44	CHK	44.2000	
19-MAY-2007 08:05	CHK	43.9000	
21-MAY-2007 05:01	CHK	45.0000	
22-MAY-2007 04:55	CHK	44.3000	
23-MAY-2007 04:56	CHK	43.4000	
24-MAY-2007 04:52	CHK	44.6000	
25-MAY-2007 05:26	CHK	44.3000	
26-MAY-2007 08:08	CHK	43.4000	
29-MAY-2007 05:16	CHK	43.8000	
30-MAY-2007 04:51	CHK	43.8000	
31-MAY-2007 04:45	CHK	43.6000	
1-JUN-2007 04:50	CHK	44.4000	
2-JUN-2007 08:03	CHK	44.0000	
4-JUN-2007 05:00	CHK	44.5000	
5-JUN-2007 06:26	CHK	43.7000	
6-JUN-2007 04:54	CHK	44.2000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample	Analyst	Value	LU SD UD BS Rej
7-JUN-2007 04:53	CHK			44.7000	
8-JUN-2007 04:58	CHK			43.6000	
9-JUN-2007 07:34	CHK			44.4000	
10-JUN-2007 07:47	CHK			43.6000	
11-JUN-2007 05:28	CHK			43.9000	
12-JUN-2007 05:05	CHK			43.6000	
13-JUN-2007 05:03	CHK			44.6000	
14-JUN-2007 05:06	CHK			44.1000	
15-JUN-2007 04:59	CHK			45.1000	In
16-JUN-2007 08:02	CHK			44.4000	
17-JUN-2007 07:47	CHK			45.1000	In
18-JUN-2007 04:32	CHK			44.4000	
19-JUN-2007 04:57	CHK			43.1000	

20-JUN-2007 04:50	CHK	43.7000			
21-JUN-2007 05:34	CHK	43.8000			
22-JUN-2007 04:43	CHK	44.1000			
23-JUN-2007 07:36	CHK	44.0000			
25-JUN-2007 05:19	CHK	43.7000			
26-JUN-2007 05:21	CHK	43.1000			

Quality Assurance Report.

Generated 27-JUN-2007 19:36:53.45

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-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.345842 Std Deviation : 0.075943

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej	
1-APR-2007 21:17	BKG		0.2200			
3-APR-2007 03:15	BKG		0.2600			
4-APR-2007 01:38	BKG		0.2300			
5-APR-2007 02:41	BKG		0.3300			
6-APR-2007 04:03	BKG		0.3000			
7-APR-2007 00:30	BKG		0.3100			
7-APR-2007 20:34	BKG		0.3100			
8-APR-2007 19:47	BKG		0.3100			
10-APR-2007 04:59	BKG		0.4400			
11-APR-2007 03:14	BKG		0.3600			
12-APR-2007 02:22	BKG		0.3000			
13-APR-2007 02:47	BKG		0.3200			
14-APR-2007 01:33	BKG		0.3100			
14-APR-2007 20:06	BKG		0.2300			
15-APR-2007 20:27	BKG		0.2400			
17-APR-2007 03:27	BKG		0.3400			
18-APR-2007 02:02	BKG		0.2400			
19-APR-2007 01:19	BKG		0.3000			

20-APR-2007 02:14	BKG	0.2600	
21-APR-2007 03:25	BKG	0.2900	
21-APR-2007 19:50	BKG	0.2700	
22-APR-2007 20:18	BKG	0.3000	
24-APR-2007 03:09	BKG	0.2500	
25-APR-2007 03:28	BKG	0.2600	
26-APR-2007 03:22	BKG	0.2500	
27-APR-2007 02:24	BKG	0.3100	
28-APR-2007 04:21	BKG	0.3500	
28-APR-2007 21:12	BKG	0.2600	
29-APR-2007 20:56	BKG	0.2700	
1-MAY-2007 04:26	BKG	0.2800	
2-MAY-2007 01:19	BKG	0.3400	
3-MAY-2007 00:17	BKG	0.2500	
4-MAY-2007 02:28	BKG	0.2600	
5-MAY-2007 02:11	BKG	0.2800	
5-MAY-2007 19:49	BKG	0.2900	
6-MAY-2007 20:11	BKG	0.2700	
8-MAY-2007 03:17	BKG	0.2500	
9-MAY-2007 02:16	BKG	0.2800	
10-MAY-2007 03:11	BKG	0.2800	
11-MAY-2007 02:39	BKG	0.3600	
12-MAY-2007 03:22	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
12-MAY-2007 20:12	BKG		0.2600	
13-MAY-2007 20:17	BKG		0.2300	
15-MAY-2007 03:14	BKG		0.2500	
16-MAY-2007 03:10	BKG		0.2400	
17-MAY-2007 02:42	BKG		0.3000	
18-MAY-2007 04:12	BKG		0.2900	
19-MAY-2007 01:58	BKG		0.4000	
19-MAY-2007 20:43	BKG		0.2800	
20-MAY-2007 21:26	BKG		0.2500	
22-MAY-2007 04:31	BKG		0.3300	
23-MAY-2007 02:49	BKG		0.2700	
24-MAY-2007 02:29	BKG		0.3200	
25-MAY-2007 01:54	BKG		0.2800	
26-MAY-2007 04:22	BKG		0.3300	
26-MAY-2007 19:45	BKG		0.3400	
27-MAY-2007 18:42	BKG		0.2800	

28-MAY-2007 16:32 BKG	0.2500			
30-MAY-2007 04:09 BKG	0.3000			
31-MAY-2007 02:44 BKG	0.3000			
1-JUN-2007 03:39 BKG	0.3400			
2-JUN-2007 04:07 BKG	0.3700			
2-JUN-2007 21:34 BKG	0.3200			
3-JUN-2007 20:43 BKG	0.3000			
5-JUN-2007 05:59 BKG	0.3200			
6-JUN-2007 02:17 BKG	0.3100			
7-JUN-2007 01:17 BKG	0.2900			
8-JUN-2007 04:30 BKG	0.3200			
9-JUN-2007 02:57 BKG	0.2900			
9-JUN-2007 21:21 BKG	0.3000			
10-JUN-2007 22:01 BKG	0.2900			
12-JUN-2007 02:38 BKG	0.3600			
13-JUN-2007 04:42 BKG	0.3100			
14-JUN-2007 01:52 BKG	0.2900			
15-JUN-2007 03:31 BKG	0.3300			
16-JUN-2007 05:35 BKG	0.2900			
16-JUN-2007 21:29 BKG	0.2800			
17-JUN-2007 21:07 BKG	0.2900			
19-JUN-2007 04:30 BKG	0.3100			
20-JUN-2007 02:22 BKG	0.3000			
21-JUN-2007 05:01 BKG	0.3400			
22-JUN-2007 01:53 BKG	0.3700			
23-JUN-2007 04:14 BKG	0.3200			
23-JUN-2007 21:21 BKG	0.2600			
24-JUN-2007 20:05 BKG	0.2600			
26-JUN-2007 03:55 BKG	0.2000			

-- 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-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
Mean : 0.259471 Std Deviation : 0.053889

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
1-APR-2007 21:17	BKG		0.2800		
3-APR-2007 03:15	BKG		0.2800		
4-APR-2007 01:38	BKG		0.2900		
5-APR-2007 02:41	BKG		0.2600		
6-APR-2007 04:03	BKG		0.3100		
7-APR-2007 00:30	BKG		0.3100		
7-APR-2007 20:34	BKG		0.3000		
8-APR-2007 19:47	BKG		0.3300		
10-APR-2007 04:59	BKG		0.3000		
11-APR-2007 03:14	BKG		0.2200		
12-APR-2007 02:22	BKG		0.2800		
13-APR-2007 02:47	BKG		0.2500		
14-APR-2007 01:33	BKG		0.3100		
14-APR-2007 20:06	BKG		0.2500		
15-APR-2007 20:27	BKG		0.2500		
17-APR-2007 03:27	BKG		0.2700		
18-APR-2007 02:02	BKG		0.2300		
19-APR-2007 01:19	BKG		0.2600		
20-APR-2007 02:14	BKG		0.2900		
21-APR-2007 03:25	BKG		0.2800		
21-APR-2007 19:50	BKG		0.2600		
22-APR-2007 20:18	BKG		0.2200		
24-APR-2007 03:09	BKG		0.2600		
25-APR-2007 03:28	BKG		0.2700		
26-APR-2007 03:22	BKG		0.2800		
27-APR-2007 02:24	BKG		0.2700		
28-APR-2007 04:21	BKG		0.3100		
28-APR-2007 21:12	BKG		0.2400		
29-APR-2007 20:56	BKG		0.2700		
1-MAY-2007 04:26	BKG		0.2300		
2-MAY-2007 01:19	BKG		0.2500		
3-MAY-2007 00:17	BKG		0.2500		
4-MAY-2007 02:28	BKG		0.3500		
5-MAY-2007 02:11	BKG		0.2800		
5-MAY-2007 19:49	BKG		0.2700		
6-MAY-2007 20:11	BKG		0.2000		
8-MAY-2007 03:17	BKG		0.2300		
9-MAY-2007 02:16	BKG		0.2400		
10-MAY-2007 03:11	BKG		0.3000		

11-MAY-2007 02:39	BKG	0.2900	
12-MAY-2007 03:22	BKG	0.2900	
12-MAY-2007 20:12	BKG	0.2500	
13-MAY-2007 20:17	BKG	0.2300	
15-MAY-2007 03:14	BKG	0.2600	
16-MAY-2007 03:10	BKG	0.2000	
17-MAY-2007 02:42	BKG	0.1700	
18-MAY-2007 04:12	BKG	0.2700	
19-MAY-2007 01:58	BKG	0.2100	
19-MAY-2007 20:43	BKG	0.2600	
20-MAY-2007 21:26	BKG	0.2300	
22-MAY-2007 04:31	BKG	0.2900	
23-MAY-2007 02:49	BKG	0.2900	
24-MAY-2007 02:29	BKG	0.3700	In
25-MAY-2007 01:54	BKG	0.2400	
26-MAY-2007 04:22	BKG	0.3500	

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-MAY-2007 19:45	BKG	0.2400	
27-MAY-2007 18:42	BKG	0.2500	
28-MAY-2007 16:32	BKG	0.2600	
30-MAY-2007 04:09	BKG	0.2400	
31-MAY-2007 02:44	BKG	0.3400	
1-JUN-2007 03:39	BKG	0.2700	
2-JUN-2007 04:07	BKG	0.3000	
2-JUN-2007 21:34	BKG	0.3900	In
3-JUN-2007 20:43	BKG	0.2700	
5-JUN-2007 05:59	BKG	0.2700	
6-JUN-2007 02:17	BKG	0.3000	
7-JUN-2007 01:17	BKG	0.2700	
8-JUN-2007 04:30	BKG	0.2900	
9-JUN-2007 02:57	BKG	0.2800	
9-JUN-2007 21:21	BKG	0.2500	
10-JUN-2007 22:01	BKG	0.2400	
12-JUN-2007 02:38	BKG	0.3100	
13-JUN-2007 04:42	BKG	0.2600	
14-JUN-2007 01:52	BKG	0.2300	
15-JUN-2007 03:31	BKG	0.2700	
16-JUN-2007 05:35	BKG	0.3700	In
16-JUN-2007 21:29	BKG	0.2500	
17-JUN-2007 21:07	BKG	0.2600	

19-JUN-2007 04:30	BKG	0.3000	
20-JUN-2007 02:22	BKG	0.2800	
21-JUN-2007 05:01	BKG	0.2700	
22-JUN-2007 01:53	BKG	0.3100	
23-JUN-2007 04:14	BKG	0.2900	
23-JUN-2007 21:21	BKG	0.2600	
24-JUN-2007 20:05	BKG	0.2600	
26-JUN-2007 03:55	BKG	0.2300	

-- 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-JUL-2005 00:00 End Date : 1-JAN-2006 00:00
 Mean : 0.264286 Std Deviation : 0.037815

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

1-APR-2007 21:17	BKG		0.2600	
3-APR-2007 03:15	BKG		0.2700	
4-APR-2007 01:38	BKG		0.2700	
5-APR-2007 02:41	BKG		0.3000	
6-APR-2007 04:03	BKG		0.3100	
7-APR-2007 00:30	BKG		0.2500	
7-APR-2007 20:34	BKG		0.3000	
8-APR-2007 19:47	BKG		0.2600	
10-APR-2007 04:59	BKG		0.3300	
11-APR-2007 03:14	BKG		0.3000	

Quality Assurance Multi-Test Full Report (continued) Page : 5

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

12-APR-2007 02:22	BKG		0.3200	
13-APR-2007 02:47	BKG		0.3100	
14-APR-2007 01:33	BKG		0.2700	
14-APR-2007 20:06	BKG		0.2700	
15-APR-2007 20:27	BKG		0.2600	
17-APR-2007 03:27	BKG		0.3900	Ac
18-APR-2007 02:02	BKG		0.2800	

19-APR-2007 01:19	BKG	0.3000	
20-APR-2007 02:14	BKG	0.2500	
21-APR-2007 03:25	BKG	0.3300	
21-APR-2007 19:50	BKG	0.3000	
22-APR-2007 20:18	BKG	0.2700	
24-APR-2007 03:09	BKG	0.3100	
25-APR-2007 03:28	BKG	0.2400	
26-APR-2007 03:22	BKG	0.2700	
27-APR-2007 02:24	BKG	0.2800	
28-APR-2007 04:21	BKG	0.3600	In
28-APR-2007 21:12	BKG	0.2800	
29-APR-2007 20:56	BKG	0.2500	
1-MAY-2007 04:26	BKG	0.2700	
2-MAY-2007 01:19	BKG	0.2600	
3-MAY-2007 00:17	BKG	0.2900	
4-MAY-2007 02:28	BKG	0.3300	
5-MAY-2007 02:11	BKG	0.3200	
5-MAY-2007 19:49	BKG	0.2800	
6-MAY-2007 20:11	BKG	0.2300	
8-MAY-2007 03:17	BKG	0.3000	
9-MAY-2007 02:16	BKG	0.2600	
10-MAY-2007 03:11	BKG	0.3400	In
11-MAY-2007 02:39	BKG	0.3200	
12-MAY-2007 03:22	BKG	0.3300	
12-MAY-2007 20:12	BKG	0.3000	
13-MAY-2007 20:17	BKG	0.2700	
15-MAY-2007 03:14	BKG	0.2800	
16-MAY-2007 03:10	BKG	0.3100	
17-MAY-2007 02:42	BKG	0.2400	
18-MAY-2007 04:12	BKG	0.2800	
19-MAY-2007 01:58	BKG	0.2900	
19-MAY-2007 20:43	BKG	0.2900	
20-MAY-2007 21:26	BKG	0.2900	
22-MAY-2007 04:31	BKG	0.3200	
23-MAY-2007 02:49	BKG	0.3000	
24-MAY-2007 02:29	BKG	0.2400	
25-MAY-2007 01:54	BKG	0.2600	
26-MAY-2007 04:22	BKG	0.2900	
26-MAY-2007 19:45	BKG	0.2800	
27-MAY-2007 18:42	BKG	0.2700	
28-MAY-2007 16:32	BKG	0.2700	
30-MAY-2007 04:09	BKG	0.2900	
31-MAY-2007 02:44	BKG	0.3900	Ac

1-JUN-2007 03:39	BKG	0.2500	
2-JUN-2007 04:07	BKG	0.2900	
2-JUN-2007 21:34	BKG	0.2300	
3-JUN-2007 20:43	BKG	0.2900	
5-JUN-2007 05:59	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
6-JUN-2007 02:17	BKG		0.3000	
7-JUN-2007 01:17	BKG		0.2400	
8-JUN-2007 04:30	BKG		0.2900	
9-JUN-2007 02:57	BKG		0.3000	
9-JUN-2007 21:21	BKG		0.3200	
10-JUN-2007 22:01	BKG		0.2700	
12-JUN-2007 02:38	BKG		0.2500	
13-JUN-2007 04:42	BKG		0.3100	
14-JUN-2007 01:52	BKG		0.3100	
15-JUN-2007 03:31	BKG		0.2600	
16-JUN-2007 05:35	BKG		0.2800	
16-JUN-2007 21:29	BKG		0.2400	
17-JUN-2007 21:07	BKG		0.2800	
19-JUN-2007 04:30	BKG		0.2500	
20-JUN-2007 02:22	BKG		0.2900	
21-JUN-2007 05:01	BKG		0.3200	
22-JUN-2007 01:53	BKG		0.5500	Ac
23-JUN-2007 04:14	BKG		0.2500	
23-JUN-2007 21:21	BKG		0.2700	
24-JUN-2007 20:05	BKG		0.3000	
26-JUN-2007 03:55	BKG		0.2400	

-- 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-JUL-2005 00:00 End Date : 1-JAN-2006 00:00

Mean : 0.266878 Std Deviation : 0.031946

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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1-APR-2007 21:17	BKG	0.3000	
3-APR-2007 03:15	BKG	0.2700	
4-APR-2007 01:38	BKG	0.3200	
5-APR-2007 02:41	BKG	0.3200	
6-APR-2007 04:03	BKG	0.3100	
7-APR-2007 00:30	BKG	0.2300	
7-APR-2007 20:34	BKG	0.3000	
8-APR-2007 19:47	BKG	0.2300	
10-APR-2007 04:59	BKG	0.3400	In
11-APR-2007 03:14	BKG	0.3000	
12-APR-2007 02:22	BKG	0.3200	
13-APR-2007 02:47	BKG	0.2900	
14-APR-2007 01:33	BKG	0.3100	
14-APR-2007 20:06	BKG	0.2600	
15-APR-2007 20:27	BKG	0.2900	
17-APR-2007 03:27	BKG	0.3400	In
18-APR-2007 02:02	BKG	0.2900	
19-APR-2007 01:19	BKG	0.2900	
20-APR-2007 02:14	BKG	0.3100	
21-APR-2007 03:25	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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21-APR-2007 19:50	BKG	0.2600	
22-APR-2007 20:18	BKG	0.2100	
24-APR-2007 03:09	BKG	0.2700	
25-APR-2007 03:28	BKG	0.3000	
26-APR-2007 03:22	BKG	0.2900	
27-APR-2007 02:24	BKG	0.3000	
28-APR-2007 04:21	BKG	0.3000	
28-APR-2007 21:12	BKG	0.3100	
29-APR-2007 20:56	BKG	0.2700	
1-MAY-2007 04:26	BKG	0.2700	
2-MAY-2007 01:19	BKG	0.3000	
3-MAY-2007 00:17	BKG	0.2600	
4-MAY-2007 02:28	BKG	0.3400	In
5-MAY-2007 02:11	BKG	0.2400	
5-MAY-2007 19:49	BKG	0.2400	
6-MAY-2007 20:11	BKG	0.2400	
8-MAY-2007 03:17	BKG	0.3100	
9-MAY-2007 02:16	BKG	0.2900	

10-MAY-2007 03:11	BKG	0.2800	
11-MAY-2007 02:39	BKG	0.4300	Ac
12-MAY-2007 03:22	BKG	0.2500	
12-MAY-2007 20:12	BKG	0.3300	
13-MAY-2007 20:17	BKG	0.2800	
15-MAY-2007 03:14	BKG	0.3100	
16-MAY-2007 03:10	BKG	0.2800	
17-MAY-2007 02:42	BKG	0.3300	
18-MAY-2007 04:12	BKG	0.2600	
19-MAY-2007 01:58	BKG	0.2900	
19-MAY-2007 20:43	BKG	0.2600	
20-MAY-2007 21:26	BKG	0.2900	
22-MAY-2007 04:31	BKG	0.3000	
23-MAY-2007 02:49	BKG	0.3300	
24-MAY-2007 02:29	BKG	0.3600	In
25-MAY-2007 01:54	BKG	0.2400	
26-MAY-2007 04:22	BKG	0.3300	
26-MAY-2007 19:45	BKG	0.3000	
27-MAY-2007 18:42	BKG	0.2600	
28-MAY-2007 16:32	BKG	0.3700	Ac
30-MAY-2007 04:09	BKG	0.2700	
31-MAY-2007 02:44	BKG	0.2500	
1-JUN-2007 03:39	BKG	0.2600	
2-JUN-2007 04:07	BKG	0.3300	
2-JUN-2007 21:34	BKG	0.2400	
3-JUN-2007 20:43	BKG	0.2700	
5-JUN-2007 05:59	BKG	0.2600	
6-JUN-2007 02:17	BKG	0.2500	
7-JUN-2007 01:17	BKG	0.2700	
8-JUN-2007 04:30	BKG	0.2600	
9-JUN-2007 02:57	BKG	0.2800	
9-JUN-2007 21:21	BKG	0.3100	
10-JUN-2007 22:01	BKG	0.2700	
12-JUN-2007 02:38	BKG	0.3400	In
13-JUN-2007 04:42	BKG	0.2900	
14-JUN-2007 01:52	BKG	0.2600	
15-JUN-2007 03:31	BKG	0.2300	

Quality Assurance Multi-Test Full Report (continued)

Page : 8

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
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16-JUN-2007 05:35	BKG		0.2600	
16-JUN-2007 21:29	BKG		0.2700	

17-JUN-2007 21:07 BKG	0.2800			
19-JUN-2007 04:30 BKG	0.2500			
20-JUN-2007 02:22 BKG	0.2600			
21-JUN-2007 05:01 BKG	0.2700			
22-JUN-2007 01:53 BKG	0.3200			
23-JUN-2007 04:14 BKG	0.2400			
23-JUN-2007 21:21 BKG	0.2400			
24-JUN-2007 20:05 BKG	0.2500			
26-JUN-2007 03:55 BKG	0.2700			

RADIUM 226
SAMPLE AND QC DATA

Lot No., Due Date: F7E150117; 06/11/2007
 Client, Site: 456833; PHASE A WELLS Henderson, NV Source Area Inv.
 QC Batch No., Method Test: 7135307; RRA2267 Ra-226 by ASC-7
 SDG, Matrix: ENSR0512RD; ,,,,,,,,,,

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:
 See NCM 10-10219.

First Level Review

Angela Long

Date

6/25/07



STL

Data Review Checklist RADIOCHEMISTRY Second Level Review

QC Batch Number: 7135307

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?		✓	
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: See non

Second Level Review: Erika Orde Date: 6/26/12

Clouseau Nonconformance Memo

STL

NCM #: 10-10219 NCM Initiated By: angela long Date Opened: 06/25/2007 Date Closed:	Classification: Anomaly Status: GLREVIEW Production Area: Environmental - Prep Tests: Ra-226 by ASC-7 Lot #'s (Sample #'s): J7E150000 (307), QC Batches: 7135307,
Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)	

Problem Description / Root Cause

Name	Date	Description
angela long	06/25/2007	There was not enough sample for a duplicate. The batch had the incorrect reagent added to it which caused the sample to be abnormal during the chemistry process. We reran the samples through the pour-up and chemistry again and they acted normal. The batch will be accepted based on the acceptable QC.

Corrective Action

Name	Date	Corrective Action
angela long	06/25/2007	The analysts were asked to triple check the bottles before adding the reagents to them. All reagents bottles were emptied and rinsed with reagent water. All reagents were remade. All reagent bottles were relabeled.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
	Response	Response Note			

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position
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05/18/2007 4:36:50 PM

Sample Preparation/Analysis

Balance Id: 1120403183

456833, ENSR International Corporation

BU Ra-226/228 Prp/SepRC5005

TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow

Pipet #: 6/8/07 15429

ENSR International Corporation

01 STANDARD TEST SET

Sep1 DT/Tm Tech: ~~AL~~ 5/23/07 10479

Sep2 DT/Tm Tech:

PM, Quote: JAE, 75203

pCi/L

Batch: 7135307

SEQ Batch, Test: 7135309, BUTF 7135309, BUTF

Prep Tech: FABREM

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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1 JW0D3-1-AA	1002.90g.in	1002.90g.in	05/17/07	7.4414 5.84	7.4414 4.509	1.6503	1590 1309	94 64	6/18/07	1314P	5/23/07 6/9/07
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05/11/2007 07:00 AmtRec: LP #Containers: 1 Alpha: 684 123 Beta:

2 JW0D3-1-AD-X F7E150117-1-DUP

Not used XL 6/11/07

05/11/2007 07:00 AmtRec: LP #Containers: 1 Alpha: 64 65 Beta: 5/23/07 6/9/07

3 JW0D7-1-AA	1002.40g.in	1002.40g.in	05/17/07	7.5346 4.817	7.5346 4.508	1.6714	1542 1309	64 65	6/18/07	1314P	5/23/07 6/9/07
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05/11/2007 06:55 AmtRec: LP #Containers: 1 Alpha: 7HB 019 Beta: 5/23/07 6/9/07

4 JW0D9-1-AA	1001.30g.in	1001.30g.in	05/17/07	7.5625 6.431	7.5625 5.970	1.2667	1543 1312	66 66	6/18/07	1314P	5/23/07 6/9/07
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05/11/2007 08:30 AmtRec: LP #Containers: 1 Alpha: ASB 104 Beta: 6/22/07 1016P

5/18/2007 4:36:56 PM

456833, ENSR International Corporation
ENSR International Corporation

Sample Preparation/Analysis

Balance Id: 1120403183

BU Ra-226/228 Prp/SepRC5005
TE Ba-133 by Nal & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

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

AnalysDueDate: 06/11/2007

PM, Quote: JAE, 75203

Prep Tech: FABREM

pCi/L

Batch: 7135307
SEQ Batch, Test: 7135309, BUTF

Work Order, Lot, Sample Date Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 JW0EC-1-AA F7E150117-4-SAMP		1003.70g.in	rata26802 05/17/07	7.5439 6.067	7.5439 5.731	1.3163	1544 1312	67 67	1544 1312	5/23/07 N 6/9/07 N	
05/11/2007 09:00		AmtRec: LP	#Containers: 1	114 114	8RD	6/22/07	10:14				Beta:
6 JW0ED-1-AA F7E150117-5-SAMP		1000.30g.in	rata26803 05/17/07	7.5532 5.776	7.5532 4.403	1.7155	1544 1312	610 68	1544 1312	5/23/07 N 6/9/07 N	
05/11/2007 08:50		AmtRec: LP	#Containers: 1	114 114	DVA	6-22-07	10:17 SB				Beta:
7 JW0EF-1-AA F7E150117-6-SAMP		1000.80g.in	rata26804 05/17/07	7.5439 4.805	7.5439 4.457	1.6928	1545 1313	611 610	1545 1313	5/23/07 N 6/9/07 N	
05/11/2007 10:40		AmtRec: LP	#Containers: 1	114 114	BAY	6-22-07	10:20 SB				Beta:
F7E150117-7-SAMP		1001.10g.in	rata26805 05/17/07	7.4973 4.487	7.4973 3.940	1.9029	1545 1313	612 611	1545 1313	5/23/07 N 6/9/07 N	
05/11/2007 11:00		AmtRec: LP	#Containers: 1	114 114		6/18/07	1314P				Beta:

5/18/2007 4:36:56 PM

Sample Preparation/Analysis

Balance Id: 1120403183

456833, ENSR International Corporation
ENSR International Corporation

BU Ra-226/228 Prp/SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 06/11/2007

Sep1 DT/Tm Tech:

Batch: 7135307

PM, Quote: JAE, 75203

Sep2 DT/Tm Tech:

SEQ Batch, Test: 7135309, BUTF

pCi/L

Prep Tech: FABREM

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On/Off (24hr) Circle	CR Analyst, Init/Date	Comments:
F7E150117-8-SAMP		1000.40g, in	rata26806 05/17/07	7.5346 4.640 1.6238	7.5346 3.367 4.158		1.8121	G13 G12 G14	1547 1313 2100	5/23/07 4/9/07 4/16/07	
05/11/2007 11:15		Amt/Rec: LP	#Containers: 1					(044) G13	6/18/07	1314 P	Beta: 10:15 58
10 JW0EN-1-AA		1001.40g, in	rata26807 05/17/07	7.5346 4.434				G14 G13	1547 1314	5/23/07 4/9/07	
F7E150117-9-SAMP				1.6993	7.5346 3.899			12H 030	6/18/07	1352 P	
05/11/2007 12:35		Amt/Rec: LP	#Containers: 1						6/22/07	1108 P	
11 JW0EQ-1-AA		1000.90g, in	rata26808 05/17/07	7.5252 6.317				G11 G14	1625 1314	5/23/07 4/9/07	
F7E150117-10-SAMP				1.1913	7.5252 6.118			ZMA 059	6/18/07 6/22/07	1352 P 1053 P	
05/11/2007 13:00		Amt/Rec: LP	#Containers: 1						6/22/07	1053 P	
12 JW0EV-1-AA		1001.80g, in	rata26809 05/17/07	7.5625 6.873				G12 G4	1627 1400	5/23/07 6/9/07	
F7E150117-11-SAMP				1.2877	7.5625 5.191			ZMA 072	6/18/07 6/22/07	1352 P 1101 P	
05/11/2007 12:50		Amt/Rec: LP	#Containers: 1						6/22/07	1101 P	

5/18/2007 4:36:56 PM

456833, ENSR International Corporation
ENSR International Corporation

Sample Preparation/Analysis

Balance Id: 1120403183

BU Ra-226/228 Prp/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:

AnalytDueDate: 06/11/2007

PM, Quote: JAE, 75203

pCi/L

Prep Tech: FABREM

Batch: 7135307

SEQ Batch, Test: 7135309, BUTF

Work Order, Lot, Sample Date Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:	
F7E150117-12-SAMP	1002.40g.in	1002.40g.in	rata26810 05/17/07	7.9718 7.66 1.0007	7.5718 6.743	1.0298	1.0298	914 911 65	1028 1504 1400	5/23/07 OP 5/24/07 * 6/9/07 *		
05/11/2007 14:35			AmtRec: LP	#Containers: 1				40A Scr: 022	6/18/07 6/22/07	1352 P 1101 P	Beta:	
14 JW05M-1-AA-B	1000.00g.in	1000.00g.in	rata26811 05/17/07	7.5159 7.840 1.0007	7.5159 7.298	1.0298	1.0298	94 66	1628 1401	5/23/07 OP 6/9/07 *		
J7E150000-307-BLK								51C (130) Scr:	6-22-07	11:07 SB	Beta:	
05/11/2007 07:00			AmtRec:	#Containers: 1				97 65 911 67 (H5B) (690) Scr:	1628 1504 0847 1401 6-22-07	5/23/07 OP 5/24/07 * 5/25/07 * 6/9/07 *	Beta:	
J7E150000-307-LCS	1001.60g.in	1001.60g.in	rasc4436 05/09/07	7.4617 7.97 1.0007	7.4617 6.905	1.0806	1.0806	67	1401	6/18/07 6-22-07	1352 P 11:00 SR	Beta:
05/11/2007 07:00			AmtRec:	#Containers: 1					6-22-07			Beta:

Comments: JW0D3-SAMP "Comments ISV - INSUFFICIENT SAMPLE FOR THE DUP ANALYSIS. TRACERS HAVE NOT BEEN VERIFIED FOR BARIUM PURIFICATION"

BATCH RETURN THROUGH POUVERT & CHEMISTRY WITH NEW SEP TIME 6/9/07 JT

All Clients for Batch:

456833, ENSR International Corporation

ENSR International Corporation, JAE, 75203

JW0D31AA-SAMP Constituent List:

STL Richland
Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 4

ISV - Insufficient Volume for Analysis

WO Cnt: 15

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Prep_SamplePrep v4.8.26

Sample Preparation/Analysis

Balance Id:1120403183

BU Ra-226/228 Prp/SepRC5005
 TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
 01 STANDARD TEST SET

Pipet #:

AnalytDueDate: 06/11/2007

Sep1 DT/Tm Tech:

Batch: 7135307

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,FABREM



Work Order Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
JW05M1AA-BLK: Ba-133	RDL:	pCi/L	LCL:20	UCL:115	RPD:20	Ra-226	RDL:2.00E+00	pCi/L	LCL:	UCL:	RPD:
JW05M1AC-LCS: Ba-133	RDL:	pCi/L	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1	pCi/L	LCL:70	UCL:130	RPD:20
JW0D31AA-SAMP Calc Info: Uncert Level (#s): 4	Decay to Sadt: N	Blk Subt.: N	Sci.Not.: N	ODRs: B							
JW05M1AA-BLK: Uncert Level (#s): 4	Decay to Sadt: N	Blk Subt.: N	Sci.Not.: N	ODRs: B							
JW05M1AC-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: 6/25/2006, 6/30/2007, Batch: '7135307', User: *ALL. Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7135307				
AC	CalcC	FABREM	5/18/2007 3:39:48 PM	
SC		wagarr	IsBatched	5/15/2007 11:01:05 AM
SC		FABREM	InPrep	5/18/2007 3:39:48 PM
SC		LongA	Sep1C	5/23/2007 12:58:52 PM
SC		StringerR	InCnt1	5/23/2007 1:32:17 PM
SC		DAWKINSO	Cnt1C	5/23/2007 4:47:57 PM
SC		StringerR	InCnt1	6/9/2007 12:31:54 PM
SC		StringerR	Cnt1C	6/9/2007 2:11:54 PM
SC		PetersonJ	InSep2	6/18/2007 1:56:24 PM
SC		BairdS	CalcC	6/25/2007 8:11:05 AM
AC		LongA		5/23/2007 12:58:52
AC		StringerR		5/23/2007 1:32:17 PM
AC		DAWKINSO		5/23/2007 4:47:57 PM
AC		StringerR		6/9/2007 12:31:54 PM
AC		StringerR		6/9/2007 2:11:54 PM
AC		PetersonJ		6/18/2007 1:56:24 PM
AC		BairdS		6/25/2007 8:11:05

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

6/25/2007 2:31:10 PM

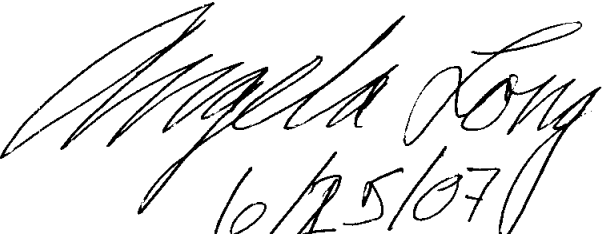
Rpt DB Transfer log (Batch Results)

SDG or Batch	Rpt Db Id	LotSample	Client Id	Matrix	Received Date	Sample Date				
Isotope	Method	RTst Qc	Analysis Date	Result	Cnt Uncert	Tot uncert	mqa	Units	Expected Yield	Volumes
ENSR0512RD	9JW0D310	F7E1501171	M11-F	WATER	5/12/2007 9:00:00	5/11/2007 7:00:01 AM				
RA-226	BUTE	0	6/22/2007 2:19:00 PM	3.085E-01	8.508E-02	9.055E-02	2.367E-01	PCi/L	0.606	1.003E+0
ENSR0512RD	9JW0D710	F7E1501172	M11-Z	WATER	5/12/2007 9:00:00	5/11/2007 6:55:00 AM				
RA-226	BUTE	0	6/22/2007 2:04:00 PM	3.3178E-01	1.228E-01	1.27E-01	3.933E-01	PCi/L	0.598	1.002E+0
ENSR0512RD	9JW0D910	F7E1501173	M89-L	WATER	5/12/2007 9:00:00	5/11/2007 8:30:00 AM				
RA-226	BUTE	0	6/22/2007 2:16:00 PM	1.7021E-01	6.044E-02	6.293E-02	1.753E-01	PCi/L	0.789	1.001E+0
ENSR0512RD	9JW0E010	F7E15011712	EB051107-Z	WATER	5/12/2007 9:00:00	5/11/2007 2:35:05 PM				
RA-226	BUTE	0	6/22/2007 3:01:01 PM	-7.7717E-03	4.952E-02	4.953E-02	1.978E-01	PCi/L	0.891	1.002E+0
ENSR0512RD	9JW0EC10	F7E1501174	M89-F	WATER	5/12/2007 9:00:00	5/11/2007 9:30:00 AM				
RA-226	BUTE	0	6/22/2007 2:16:00 PM	2.2099E-01	6.65E-02	6.993E-02	1.704E-01	PCi/L	0.76	1.004E+0
ENSR0512RD	9JW0ED10	F7E1501175	M89-Z	WATER	5/12/2007 9:00:00	5/11/2007 8:50:01 AM				
RA-226	BUTE	0	6/22/2007 2:17:00 PM	3.5219E-01	9.37E-02	1.001E-01	2.606E-01	PCi/L	0.583	1.0E+0
ENSR0512RD	9JW0EF10	F7E1501176	M97-L	WATER	5/12/2007 9:00:00	5/11/2007 10:40:01 AM				
RA-226	BUTE	0	6/22/2007 2:20:00 PM	3.8962E-01	9.756E-02	1.061E-01	2.64E-01	PCi/L	0.591	1.001E+0
ENSR0512RD	9JW0EK10	F7E1501177	M97-F	WATER	5/12/2007 9:00:00	5/11/2007 11:00:01 AM				
RA-226	BUTE	0	6/22/2007 2:17:01 PM	3.8964E-01	1.195E-01	1.264E-01	3.564E-01	PCi/L	0.526	1.001E+0
ENSR0512RD	9JW0EL10	F7E1501178	M97-Z	WATER	5/12/2007 9:00:00	5/11/2007 11:15:00 AM				
RA-226	BUTE	0	6/22/2007 2:15:00 PM	3.7973E-01	8.737E-02	9.494E-02	2.044E-01	PCi/L	0.552	1.0E+0
ENSR0512RD	9JW0EN10	F7E1501179	M12A-L	WATER	5/12/2007 9:00:00	5/11/2007 12:35:01 PM				
RA-226	BUTE	0	6/22/2007 3:08:01 PM	1.1258E+00	1.562E-01	1.934E-01	3.5E-01	PCi/L	0.517	1.001E+0
ENSR0512RD	9JW0EQ10	F7E15011710	M12A-F	WATER	5/12/2007 9:00:00	5/11/2007 1:00:00 PM				
RA-226	BUTE	0	6/22/2007 2:53:00 PM	3.2323E-01	6.336E-02	7.116E-02	1.319E-01	PCi/L	0.813	1.001E+0
ENSR0512RD	9JW0EV10	F7E15011711	M12A-Z	WATER	5/12/2007 9:00:00	5/11/2007 12:50:00 PM				
RA-226	BUTE	0	6/22/2007 3:01:00 PM	6.0107E-01	8.664E-02	1.047E-01	1.338E-01	PCi/L	0.686	1.002E+0
7135307	JW05M1AB	J7E150000307	INTRA-LAB BLANK	WATER	5/12/2007 9:00:00	5/11/2007 7:00:00 AM				
RA-226	BUTE	0	6/22/2007 3:07:00 PM	7.0817E-02	4.976E-02	5.027E-02	1.714E-01	pCi/L	0.971	1.0E+0
7135307	JW05M1CS	J7E150000307	INTRA-LAB CHECK	WATER	5/12/2007 9:00:00	5/11/2007 7:00:00 AM				
RA-226	BUTE	0	6/22/2007 3:00:00 PM	1.2308E+00	1.236E-01	1.791E-01	2.215E-01	pCi/L	1.3993E+00	0.925

7135307, **Samples Inserted | Updated | NotUpdated => 14 | 0 | 0,
 **Results Inserted | ReTestInserted | Updated | NotInserted => 14 | 0 | 0 | 0.
 **Diff RptDb | Qtimes => .

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	Yield	RYld	
Ra-226 by ASC-7			Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt. CRDL												
Calc	TE	WATER	JW0D31AA	RA-226	3.08E-01	(9.05E-02)		PCI/L	R 1.02E-01	2.37E-01			61%		
Calc	TE	WATER	JW0D71AA	RA-226	3.32E-01	(1.27E-01)		PCI/L	R 1.80E-01	3.93E-01			60%		
Calc	TE	WATER	JW0D91AA	RA-226	1.70E-01	(6.29E-02)		PCI/L	R 7.30E-02	1.75E-01			79%		
Calc	TE	WATER	JW0EC1AA	RA-226	2.21E-01	(6.99E-02)		PCI/L	R 6.76E-02	1.70E-01			76%		
Calc	TE	WATER	JW0ED1AA	RA-226	3.52E-01	(1.00E-01)		PCI/L	R 1.13E-01	2.61E-01			58%		
Calc	TE	WATER	JW0EF1AA	RA-226	3.90E-01	(1.06E-01)		PCI/L	R 1.14E-01	2.64E-01			59%		
Calc	TE	WATER	JW0EK1AA	RA-226	3.90E-01	(1.26E-01)		PCI/L	R 1.58E-01	3.56E-01			53%		
Calc	TE	WATER	JW0EL1AA	RA-226	3.80E-01	(9.49E-02)		PCI/L	R 8.34E-02	2.04E-01			55%		
Calc	TE	WATER	JW0EN1AA	RA-226	1.13E+00	(1.93E-01)		PCI/L	R 1.56E-01	3.50E-01			52%		
Calc	TE	WATER	JW0EQ1AA	RA-226	3.23E-01	(7.12E-02)		PCI/L	R 5.32E-02	1.32E-01			81%		
Calc	TE	WATER	JW0EV1AA	RA-226	6.01E-01	(1.05E-01)		PCI/L	R 5.21E-02	1.34E-01			69%		
Calc	TE	WATER	JW0E01AA	RA-226	-7.77E-03	(4.95E-02)	U4	PCI/L	R 8.63E-02	1.98E-01			89%		
Calc	TE	WATER	JW05M1AA	RA-226	7.08E-02	(5.03E-02)	U4	pCi/L	R 7.13E-02	1.71E-01		B	97%		
Calc	TE	WATER	JW05M1AC	RA-226	1.23E+00	(1.79E-01)		pCi/L	R 9.76E-02	2.22E-01		S	93%	88%	


 6/25/07

() - (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	WATER	*STLE	Ra226WoBS	JW0D31AA	PC/I/L		05/11/07 07:00	06/22/07 14:19	06/18/07 13:14	rata26799	1	61%	1002.90 g			
							WATER				06/22/07 10:19	rata26799	Alq	61%	1002.90 g			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 14:19	RA-226	39	16	ASC6RA	ASC	N	2.5216E+00	1.0000E+00	1.0000E+00	N	61%	N	2.0443E+00	2.0443E+00	4.5045E+02	1.0000E+00	
			50	60			Y	(8.674E-02)	(0.0000E+00)	(0.0000E+00)	5%			(0.0000E+00)	(0.0000E+00)	0.000997		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC				
	06/25/07	RA-226	R	0.308496		5.13333E-01	0.686816	0.686816	1.0029 L	61%		0.236653						
				(0.090548)		(1.4158E-01)	(0.198643)	(0.198643)	(0.173205)			0.102101						

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	TE	WATER	*STLE	Ra226WoBS	JW0D71AA	PC/I/L		05/11/07 06:55	06/22/07 14:04	06/18/07 13:14	rata26800	1	60%	1002.40 g			
							WATER				06/22/07 10:04	rata26800	Alq	60%	1002.40 g			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 14:04	RA-226	66	47	ASC7HB	ASC	N	2.4884E+00	1.0000E+00	1.0000E+00	N	60%	N	2.0481E+00	2.0481E+00	4.5045E+02	1.0000E+00	
			50	60			Y	(6.544E-02)	(0.0000E+00)	(0.0000E+00)	5%			(0.0000E+00)	(0.0000E+00)	0.000998		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC				
	06/25/07	RA-226	R	0.331779		5.36667E-01	0.738284	0.738284	1.0024 L	60%		0.393328						
				(0.127026)		(1.9863E-01)	(0.280242)	(0.280242)	(0.173205)			0.180017						

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		
3	Calc	TE	WATER	*STLE	Ra226WoBS	JW0D91AA	PC/I/L		05/11/07 08:30	06/22/07 14:16	06/18/07 13:14	rata26801	1	79%	1001.30 g			
							WATER				06/22/07 10:16	rata26801	Alq	79%	1001.30 g			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 14:16	RA-226	24	10	ASCASB	ASC	N	2.1454E+00	1.0000E+00	1.0000E+00	N	79%	N	2.0451E+00	2.0451E+00	4.5045E+02	1.0000E+00	
			50	60			Y	(8.882E-02)	(0.0000E+00)	(0.0000E+00)	6%			(0.0000E+00)	(0.0000E+00)	0.000999		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC				
	06/25/07	RA-226	R	0.170208		3.13333E-01	0.378335	0.378335	1.0013 L	79%		0.175278						
				(0.062928)		(1.1126E-01)	(0.138591)	(0.138591)	(0.173205)			0.072961						

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	TE	WATER	*STLE	Ra226WoBS	JW0E1AA	PC/I/L		05/11/07 09:30	06/22/07 14:16	06/18/07 13:14	rata26802	1	76%	1003.70 g			
							WATER				06/22/07 10:16	rata26802	Alq	76%	1003.70 g			
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 14:16	RA-226	22	6	ASC8RD	ASC	N	1.8588E+00	1.0000E+00	1.0000E+00	N	76%	N	2.0451E+00	2.0451E+00	4.5045E+02	1.0000E+00	
			50	60			Y	(4.851E-02)	(0.0000E+00)	(0.0000E+00)	6%			(0.0000E+00)	(0.0000E+00)	0.000996		
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC				
	06/25/07	RA-226	R	0.170208		3.13333E-01	0.378335	0.378335	1.0013 L	79%		0.175278						
				(0.062928)		(1.1126E-01)	(0.138591)	(0.138591)	(0.173205)			0.072961						

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

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BIKlCc/MDC	StdDvMdc/LcC		
06/25/07	RA-226		R	0.220989 (0.069926)	3.40000E-01 (1.0231E-01)	0.492389 (0.153846)	0.492389 (0.153846)	1.0037 L (0.173205)	76%			0.170392 0.067622				
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				PCI/L		05/11/07 08:50	06/22/07 14:17	06/18/07 13:14 06/22/07 10:17	rata26603 rata26603 Alq	1 58%	1000.30 g			
		WATER														
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 14:17	RA-226	43	18	ASCDUA	ASC	N	2.5119E+00	1.0000E+00	1.0000E+00	N	58%	2.0448E+00 (0.000E+00)	4.5045E+02 0.001	1.0000E+00	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct <td>Chem Yld,EFctU</td> <td>IDC/ILcC</td> <td>BIKlCc/MDC</td> <td>StdDvMdc/LcC</td>	Chem Yld,EFctU	IDC/ILcC	BIKlCc/MDC	StdDvMdc/LcC		
06/25/07	RA-226		R	0.352186 (0.100073)	5.60000E-01 (1.4900E-01)	0.782053 (0.218752)	0.782053 (0.218752)	1.0003 L (0.173205)	58%			0.26061 0.113329				
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				PCI/L		05/11/07 10:40	06/22/07 14:20	06/18/07 13:14 06/22/07 10:20	rata26804 rata26804 Alq	1 59%	1000.80 g			
		WATER														
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 14:20	RA-226	44	17	ASCBMC	ASC	N	2.3847E+00	1.0000E+00	1.0000E+00	N	59%	2.0441E+00 (0.000E+00)	4.5045E+02 0.000999	1.0000E+00	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct <td>Chem Yld,EFctU</td> <td>IDC/ILcC</td> <td>BIKlCc/MDC</td> <td>StdDvMdc/LcC</td>	Chem Yld,EFctU	IDC/ILcC	BIKlCc/MDC	StdDvMdc/LcC		
06/25/07	RA-226		R	0.389618 (0.106103)	5.96667E-01 (1.4941E-01)	0.865606 (0.23172)	0.865606 (0.23172)	1.0008 L (0.173205)	59%			0.263965 0.114354				
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				PCI/L		05/11/07 11:00	06/22/07 14:17	06/18/07 13:14 06/22/07 10:17	rata26805 rata26805 Alq	1 53%	1001.10 g			
		WATER														
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 14:17	RA-226	47	25	ASCCUB	ASC	N	2.3517E+00	1.0000E+00	1.0000E+00	N	53%	2.0448E+00 (0.000E+00)	4.5045E+02 0.000999	1.0000E+00	
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct <td>Chem Yld,EFctU</td> <td>IDC/ILcC</td> <td>BIKlCc/MDC</td> <td>StdDvMdc/LcC</td>	Chem Yld,EFctU	IDC/ILcC	BIKlCc/MDC	StdDvMdc/LcC		
06/25/07	RA-226		R	0.389638 (0.126432)	5.23333E-01 (1.6045E-01)	0.86591 (0.27762)	0.86591 (0.27762)	1.0011 L (0.173205)	53%			0.356396 0.158115				
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				PCI/L		05/11/07 11:15	06/22/07 14:15	06/18/07 13:14 06/22/07 10:15	rata26806 rata26806 Alq	1 55%	1000.40 g			
		WATER														
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency2	Ent	Yld Fct	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

() - (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

Page 2
 RecCnt:8 RADCALC v4.8.26
 STL Richland

1	06/22/07 14:15	RA-226	34	8	ASCGAB ASC	N	2.4026E+00	1.0000E+00	N	55%	N	2.0453E+00	4.5045E+02	1.0000E+00
	50	60				Y	(6.223E-02)	(0.000E+00)		4%		(0.000E+00)	0.001	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
	06/25/07	RA-226	R	0.379727		5.46667E-01	0.843294	0.843294	1.0004 L	55%		0.204445		
				(0.094944)		(1.2579E-01)	(0.206591)	(0.206591)	(0.173205)			0.083448		

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	WATER	*STLE	Ra226WoBS	JW0EN1AA	PCI/L	05/11/07 12:35	06/22/07 15:08	06/18/07 13:52	rata26807	1	52%	1001.40 g	
							WATER			06/22/07 11:08	rata26807	Alq	52%	1001.40 g	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 15:08	RA-226	100	26	ASC1RH ASC	N	2.4697E+00	N	1.0000E+00	N	52%	N	2.0415E+00	4.5045E+02	1.0000E+00		
			50	60		Y	(9.113E-02)	(0.000E+00)		4%			(0.000E+00)	0.000999			

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
	06/25/07	RA-226	R	1.125769		1.56667E+00	2.502596	2.502596	1.0014 L	52%		0.350012		
				(0.193361)		(2.1731E-01)	(0.411227)	(0.411227)	(0.173205)			0.155625		

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	WATER	*STLE	Ra226WoBS	JW0EQ1AA	PCI/L	05/11/07 13:00	06/22/07 14:53	06/18/07 13:52	rata26808	1	81%	1000.90 g	
							WATER			06/22/07 10:53	rata26808	Alq	81%	1000.90 g	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 14:53	RA-226	40	7	ASC2MA ASC	N	2.3937E+00	N	1.0000E+00	N	81%	N	2.0453E+00	4.5045E+02	1.0000E+00		
			50	60		Y	(8.067E-02)	(0.000E+00)		7%			(0.000E+00)	0.000999			

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
	06/25/07	RA-226	R	0.32323		6.83333E-01	0.718186	0.718186	1.0009 L	81%		0.131886		
				(0.071159)		(1.3399E-01)	(0.153975)	(0.153975)	(0.173205)			0.053156		

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	WATER	*STLE	Ra226WoBS	JW0EV1AA	PCI/L	05/11/07 12:50	06/22/07 15:01	06/18/07 13:52	rata26809	1	69%	1001.80 g	
							WATER			06/22/07 11:01	rata26809	Alq	69%	1001.80 g	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 15:01	RA-226	59	5	ASC3MA ASC	N	2.4421E+00	N	1.0000E+00	N	69%	N	2.0433E+00	4.5045E+02	1.0000E+00		
			50	60		Y	(6.350E-02)	(0.000E+00)		5%			(0.000E+00)	0.000998			

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BikLcC/MDC	StdDvMdc/LcC
	06/25/07	RA-226	R	0.601071		1.09667E+00	1.33672	1.33672	1.0018 L	69%		0.133753		
				(0.10472)		(1.5808E-01)	(0.223091)	(0.223091)	(0.173205)			0.052054		

Sq	Calc	TE	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	TE	WATER	*STLE	Ra226WoBS	JW0E01AA	PCI/L		05/11/07 14:35	06/22/07 15:01	06/18/07 13:52	rata26810	1	89%	1002.40 g		
							WATER				06/22/07 11:01	rata26810 Alq					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Q	Geom	Trc/Av	Ent	Efficiency1	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 15:01	RA-226	15	19	ASC4UA	ASC	N	2.2112E+00	N	1.0000E+00	89%	N	2.0433E+00	4.5045E+02	1.0000E+00		
			50	60			Y	(6.457E-02)	(0.000E+00)	(0.000E+00)	7%		(0.000E+00)	0.000998			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	IDC/LcC	Chem Yld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC		
	06/25/07	RA-226	R	-0.007772	U4	-1.66667E-02	-0.017294	-0.017294	1.0024 L	89%					0.197833		
				(0.049526)		(1.0620E-01)	(0.110203)	(0.110203)	(0.173205)						0.086331		

Sq	Calc	TE	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	TE	WATER	*STLE	Ra226WoBS	JW05M1AA	pCi/L		05/11/07 07:00	06/22/07 15:07	06/18/07 13:52	rata26811	1	97%	1000.00 g		
							WATER				06/22/07 11:07	rata26811 Alq					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Q	Geom	Trc/Av	Ent	Efficiency1	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 15:07	RA-226	15	10	ASC5UC	ASC	N	1.7833E+00	N	1.0000E+00	97%	N	2.0418E+00	4.5045E+02	1.0000E+00		
			50	60			Y	(6.438E-02)	(0.000E+00)	(0.000E+00)	8%		(0.000E+00)	0.001			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	IDC/LcC	Chem Yld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC		
	06/25/07	RA-226	R	0.070817	U4	1.33333E-01	0.157207	0.157207	1.00 L	97%					0.171378		
				(0.050273)		(9.3690E-02)	(0.111324)	(0.111324)	(0.173205)						0.071338		

Sq	Calc	TE	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	TE	WATER	*STLE	Ra226WoBS	JW05M1AC	pCi/L		05/11/07 07:00	06/22/07 15:00	06/18/07 13:52	rasc4436	1	93%	1001.60 g		
							WATER				06/22/07 11:00	rasc4436 Alq					
Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Q	Geom	Trc/Av	Ent	Efficiency1	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	06/22/07 15:00	RA-226	144	22	ASCHSB	ASC	N	2.0281E+00	N	1.0000E+00	93%	N	2.0436E+00	4.5045E+02	1.0000E+00		
			50	60			Y	(9.471E-02)	(0.000E+00)	(0.000E+00)	7%		(0.000E+00)	0.000998			
Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	IDC/LcC	Chem Yld,EFctU	IDC/LcC	BIK/LcC/MDC	StdDvMdc/LcC		
	06/25/07	RA-226	R	1.230785		2.51333E+00	2.736592	2.736592	1.0016 L	93%					0.221542		
				(0.179065)		(2.5241E-01)	(0.373891)	(0.373891)	(0.173205)						0.097558		

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW0D31AA Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.6503 ✓
Technician: SB

Analysis Size: 1002.9 Analysis Unit: G

 Report Date: 22-JUN-2007 15:09:00.65
First Separation Date: 18-JUN-2007 13:14:00.00
Second Separation Date: 22-JUN-2007 10:19:00.00

Detector ID: 6 Cell ID: 6RA

Bkg Date: 21-JUN-2007 10:41:05.81
 Bkg Counts: 000016 Bkg Duration: 000060.0

Count Date: 22-JUN-2007 14:19:00.31
 Counts: 000039 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW0D71AA Isotope: RA-226
Client: STL Matrix Code: 103
Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.6714 ✓
Technician: SB
Analysis Size: 1002.4 Analysis Unit: G
 Report Date: 22-JUN-2007 14:54:00.65
 First Separation Date: 18-JUN-2007 13:14:00.00
 Second Separation Date: 22-JUN-2007 10:04:00.00
Detector ID: 7 Cell ID: 7HB
Bkg Date: 20-JUN-2007 09:15:50.67
 Bkg Counts: 000047 Bkg Duration: 000060.0
Count Date: 22-JUN-2007 14:04:00.29
 Counts: 000066 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW0D91AA Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.2667 ✓
Technician: SB

Analysis Size: 1001.3 Analysis Unit: G

 Report Date: 22-JUN-2007 15:06:00.96
First Separation Date: 18-JUN-2007 13:14:00.00
Second Separation Date: 22-JUN-2007 10:16:00.00

Detector ID: 10 Cell ID: ASB

Bkg Date: 21-JUN-2007 10:41:46.39
 Bkg Counts: 000010 Bkg Duration: 000060.0

Count Date: 22-JUN-2007 14:16:00.43
 Counts: 000024 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW0EC1AA Isotope: RA-226
Client: STL Matrix Code: 103
Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.3163 ✓
Technician: SB

Analysis Size: 1003.7 Analysis Unit: G

Report Date: 22-JUN-2007 15:06:01.04
First Separation Date: 18-JUN-2007 13:14:00.00
Second Separation Date: 22-JUN-2007 10:16:00.00

Detector ID: 8 Cell ID: 8RD

Bkg Date: 19-JUN-2007 09:14:13.40
Bkg Counts: 000006 Bkg Duration: 000060.0

Count Date: 22-JUN-2007 14:16:00.49
Counts: 000022 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW0ED1AA Isotope: RA-226
Client: STL Matrix Code: 103
Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.7155 ✓
Technician: SB
Analysis Size: 1000.3 Analysis Unit: G
 Report Date: 22-JUN-2007 15:07:00.96
 First Separation Date: 18-JUN-2007 13:14:00.00
 Second Separation Date: 22-JUN-2007 10:17:00.00
Detector ID: 13 Cell ID: DUA
Bkg Date: 20-JUN-2007 09:16:37.18
 Bkg Counts: 000018 Bkg Duration: 000060.0
Count Date: 22-JUN-2007 14:17:00.48
 Counts: 000043 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW0EK1AA Isotope: RA-226
Client: STL Matrix Code: 103
Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.9029
Technician: SB

Analysis Size: 1001.1 Analysis Unit: G

 Report Date: 22-JUN-2007 15:07:01.05
 First Separation Date: 18-JUN-2007 13:14:00.00
 Second Separation Date: 22-JUN-2007 10:17:00.00

Detector ID: 12 Cell ID: CUB

Bkg Date: 20-JUN-2007 09:16:23.49
 Bkg Counts: 000025 Bkg Duration: 000060.0

Count Date: 22-JUN-2007 14:17:00.54
 Counts: 000047 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW0EL1AA Isotope: RA-226
Client: STL Matrix Code: 103
Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.8121
Technician: SB

Analysis Size: 1000.4 Analysis Unit: G

Report Date: 22-JUN-2007 15:05:00.73
First Separation Date: 18-JUN-2007 13:14:00.00
Second Separation Date: 22-JUN-2007 10:15:00.00

Detector ID: 16 Cell ID: GAB

Bkg Date: 20-JUN-2007 09:17:10.06
Bkg Counts: 000008 Bkg Duration: 000060.0

Count Date: 22-JUN-2007 14:15:00.29
Counts: 000034 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW0EN1AA Isotope: RA-226
Client: STL Matrix Code: 103
Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.9324
Technician: SB

Analysis Size: 1001.4 Analysis Unit: G

Report Date: 22-JUN-2007 15:58:01.34
First Separation Date: 18-JUN-2007 13:52:00.00
Second Separation Date: 22-JUN-2007 11:08:00.00

Detector ID: 1 Cell ID: 1RH

Bkg Date: 21-JUN-2007 10:40:03.86
Bkg Counts: 000026 Bkg Duration: 000060.0

Count Date: 22-JUN-2007 15:08:00.54
Counts: 000100 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW0EQ1AA Isotope: RA-226
Client: STL Matrix Code: 103
Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.2300
Technician: SB
Analysis Size: 1000.9 Analysis Unit: G
 Report Date: 22-JUN-2007 15:43:01.10
 First Separation Date: 18-JUN-2007 13:52:00.00
 Second Separation Date: 22-JUN-2007 10:53:00.00
Detector ID: 2 Cell ID: 2MA
Bkg Date: 22-JUN-2007 09:19:11.27
 Bkg Counts: 000007 Bkg Duration: 000060.0
Count Date: 22-JUN-2007 14:53:00.45
 Counts: 000040 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: JW05M1AA Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.0298 ✓
Technician: SB

Analysis Size: 1000.0 Analysis Unit: G

 Report Date: 22-JUN-2007 15:57:00.66
 First Separation Date: 18-JUN-2007 13:52:00.00
 Second Separation Date: 22-JUN-2007 11:07:00.00

Detector ID: 5 Cell ID: 5UC

Bkg Date: 21-JUN-2007 10:40:51.93
 Bkg Counts: 000010 Bkg Duration: 000060.0

Count Date: 22-JUN-2007 15:07:00.30
 Counts: 000015 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

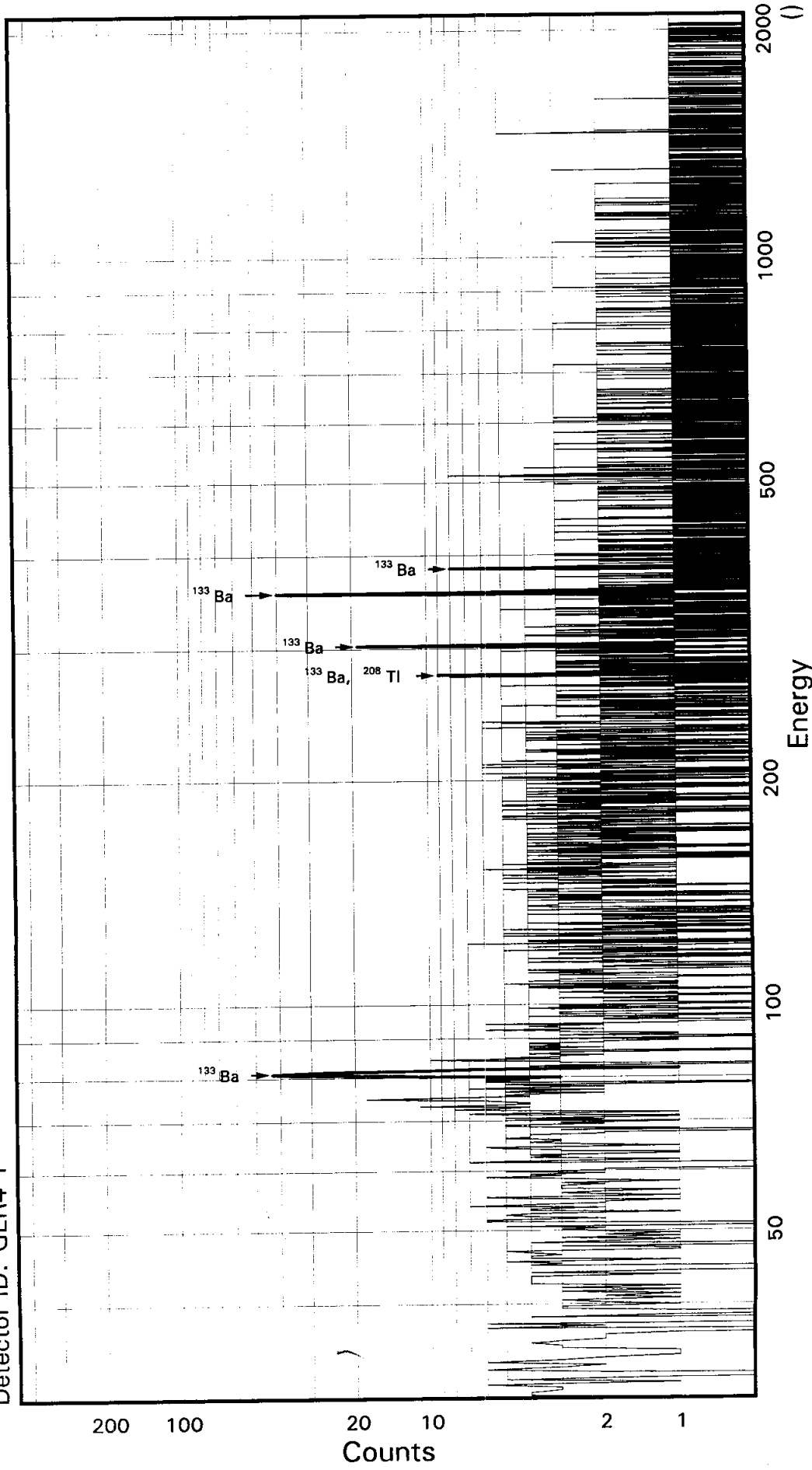
Sample ID: JW05M1AC Isotope: RA-226
Client: STL Matrix Code: 103
Batch Nbr: 7135307 Activity Unit: PCI/L Multiplier: 1.0806
Technician: SB
Analysis Size: 1001.6 Analysis Unit: G
 Report Date: 22-JUN-2007 15:50:01.04
 First Separation Date: 18-JUN-2007 13:52:00.00
 Second Separation Date: 22-JUN-2007 11:00:00.00
Detector ID: 17 Cell ID: HSB
Bkg Date: 20-JUN-2007 09:17:25.86
 Bkg Counts: 000022 Bkg Duration: 000060.0
Count Date: 22-JUN-2007 15:00:00.30
 Counts: 000144 Count Duration: 000050.0

End of Report

STL Richland WA.
BA133

Batch ID: 7135307

Sample ID: JW0D31AA
Detector ID: GER4 1



Energy Coefficients:
Offset: -1.06236E-01
Slope: 2.48764E-01
Quadrature: 5.65486E-09

Acquisition Start: 9-JUN-2007 12:39:49.84
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW0D31AA

CONFIGURATION ID: GER4:JW0D31AA_090671239
TITLE : BA133
SAMPLE ID : JW0D31AA

REPORT DATE: 09-JUN-07	SAMPLE DATE: 17-MAY-2007 00:00:00.00
ACQUIRE DATE: 09-JUN-07 12:39:49	CALIB DATE: 9-JUN-2007 09:45:00.71
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: -.1062E+00 keV	FWHM OFFSET: 3.0882E-01 keV
ENERGY SLOPE: 2.4876E-01 keV/C	FWHM SLOPE: 4.3594E-02 sqr keV
ENERGY Q COEFF: 5.6549E-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 9-JUN-2007 13:10:09

```

Configuration      : $DISK1:[GER4.SAMPLE]JW0D31AA_090671239.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:39:49
Sample ID         : JW0D31AA Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.39 0.0%
Start energy      : 19.79 End energy : 2038.15
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.09	159	36	0.95	326.41	320	12	8.85E-02	10.9	
2	0	276.55	29	17	1.18	1112.08	1103	17	1.61E-02	37.4	
3	0	302.89	61	13	0.60	1217.97	1212	13	3.39E-02	17.7	
4	0	356.05	186	17	0.93	1431.66	1424	18	1.03E-01	9.1	
5	0	383.87	36	0	0.89	1543.50	1536	15	2.00E-02	16.7	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER4.SAMPLE]JW0D31AA_090671239.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:39:49
Sample ID         : JW0D31AA Sample 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	159	33.00	2.054E+00	7.837E+02	7.870E+02	12.27
	276.40	29	6.90	2.215E+00	6.336E+02	6.363E+02	37.85
	302.84	61	17.80	2.217E+00	5.152E+02	5.173E+02	18.52
	356.00	186	62.05*	2.220E+00	4.490E+02	4.509E+02	10.55
	383.85	36	8.70	2.219E+00	6.216E+02	6.242E+02	17.52

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0D31AA

Page : 2
Acquisition date : 9-JUN-2007 12:39:49

None

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life		Energy	%Abund	Activity 1-Sigma		Rejected by
		Ratio				(DPM/SAMPL)	%Error	
TL-208	1.41E+10Y	0.00		277.35	6.80	6.429E+02	37.85	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 9-JUN-2007 13:10:12

```

Configuration      : $DISK1:[GER4.SAMPLE]JWOD31AA_090671239.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:39:49
Sample ID        : JWOD31AA Sample 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	4.509E+02	4.756E+01	5.647E+01	1.133E+00	7.985

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-5.994E+00	7.479E+01	2.995E+02	6.009E+00	-0.020
NA-22	-1.692E+00	2.848E+00	1.191E+01	2.522E-01	-0.142
K-40	-5.270E+01	7.983E+01	3.776E+02	8.103E+00	-0.140
SC-46	4.058E+00	5.974E+00	2.694E+01	5.643E-01	0.151
CR-51	-8.078E+01	1.359E+02	5.019E+02	1.165E+01	-0.161
MN-54	-3.742E+00	5.297E+00	1.949E+01	3.999E-01	-0.192
CO-57	9.514E+01	1.025E+02	4.025E+02	9.646E+00	0.236
CO-58	-4.164E-01	6.886E+00	2.749E+01	5.632E-01	-0.015
FE-59	6.103E+00	1.207E+01	5.401E+01	1.130E+00	0.113
CO-60	1.477E+00	3.663E+00	1.733E+01	3.685E-01	0.085
ZN-65	-9.183E+00	1.077E+01	3.976E+01	8.327E-01	-0.231
SE-75	-2.818E+01	1.522E+01	4.729E+01	1.101E+00	-0.596
SR-85	-4.069E+01	1.301E+01	3.605E+01	7.244E-01	-1.129
Y-88	1.937E+00	1.940E+00	1.424E+01	3.132E-01	0.136
NB-94	2.123E+00	4.100E+00	1.900E+01	3.910E-01	0.112
NB-95	2.432E+01	1.050E+01	4.918E+01	1.004E+00	0.494
TC-95M	-1.207E+00	1.926E+01	7.216E+01	1.693E+00	-0.017
ZR-95	-4.732E+00	1.063E+01	4.176E+01	8.522E-01	-0.113
ZRNB-95	3.934E+01	1.698E+01	7.957E+01	1.625E+00	0.494
RH-101	1.067E+01	1.289E+01	5.147E+01	1.209E+00	0.207
RH-102M	-8.675E+00	6.617E+00	2.269E+01	4.552E-01	-0.382
RU-103	5.332E-01	8.731E+00	3.614E+01	7.257E-01	0.015
RU-106DA	-2.171E+01	4.982E+01	1.929E+02	3.900E+00	-0.113
AG-108M	-2.188E+00	6.668E+00	2.523E+01	5.052E-01	-0.087
AG-110M	4.765E+00	6.360E+00	2.979E+01	6.135E-01	0.160
SN-113DA	6.896E+00	1.093E+01	4.574E+01	9.151E-01	0.151
SB-124	1.187E+01	7.717E+00	3.537E+01	7.144E-01	0.336

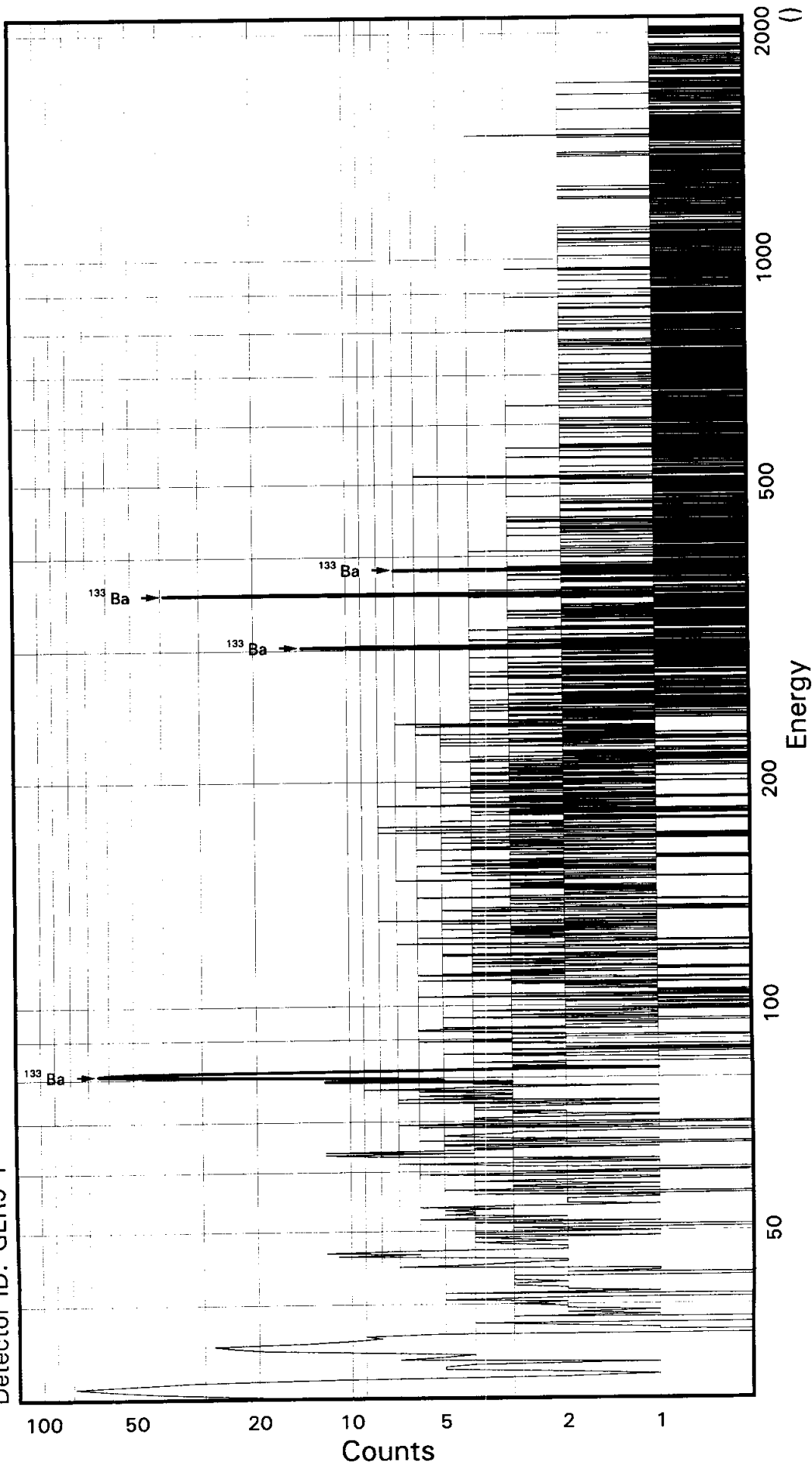
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	3.349E+01		2.022E+01	9.295E+01	1.861E+00	0.360
SN-126DA	5.927E+00		6.305E+00	2.720E+01	5.516E-01	0.218
I-131	-4.411E+01		6.026E+01	2.194E+02	4.387E+00	-0.201
CS-134	-9.375E+00		6.296E+00	2.014E+01	4.121E-01	-0.466
CS-137DA	-4.451E+00		6.803E+00	2.548E+01	5.166E-01	-0.175
LA-138	2.483E+00		5.363E+00	2.594E+01	5.557E-01	0.096
CE-139	-5.916E-01		1.440E+01	5.243E+01	1.242E+00	-0.011
BA-140	6.347E+01		7.142E+01	3.230E+02	6.499E+00	0.196
BALA-140	-2.550E+01		2.499E+01	8.968E+01	1.942E+00	-0.284
CE-141	-5.084E+01		3.464E+01	1.139E+02	2.720E+00	-0.446
CE-144	-4.074E+01		8.655E+01	3.153E+02	7.568E+00	-0.129
CEPR-144	-8.026E+01		1.732E+02	6.312E+02	1.515E+01	-0.127
PM-144	1.175E+00		4.296E+00	1.901E+01	3.843E-01	0.062
PM-146	1.869E+00		6.345E+00	2.797E+01	5.606E-01	0.067
EU-152	1.175E+01		3.037E+01	1.196E+02	2.776E+00	0.098
EU-154	-4.705E+00		7.921E+00	3.311E+01	7.014E-01	-0.142
EU-155	3.362E+01		4.727E+01	1.879E+02	4.595E+00	0.179
HF-181	-1.326E+00		1.196E+01	4.655E+01	9.340E-01	-0.028
BI-207	-1.318E-01		4.947E+00	2.032E+01	4.096E-01	-0.006
TL-208	5.927E+00		7.497E+00	3.415E+01	6.890E-01	0.174
BI-210M	2.683E+01		1.704E+01	7.108E+01	1.654E+00	0.378
BI-212	-4.560E+01		8.030E+01	3.044E+02	9.306E+00	-0.150
PB-212	2.254E+01		2.282E+01	9.469E+01	2.210E+00	0.238
BI-214	-5.814E+00		1.538E+01	6.256E+01	1.264E+00	-0.093
PB-214	-3.167E+01		2.653E+01	8.362E+01	1.940E+00	-0.379
RA-223	-1.336E+02		6.699E+01	2.060E+02	4.793E+00	-0.649
RA-224DA	2.307E+01		2.336E+01	9.693E+01	2.262E+00	0.238
RA-226DA	-6.078E+00		1.535E+01	6.239E+01	1.261E+00	-0.097
AC-227DA	-1.433E+02		8.878E+01	2.905E+02	6.781E+00	-0.493
AC-228	4.767E+01		2.469E+01	1.185E+02	2.444E+00	0.402
RA-228DA	4.804E+01		2.488E+01	1.194E+02	2.463E+00	0.402
TH-228DA	1.689E+01		2.136E+01	9.731E+01	1.963E+00	0.174
TH-232DA	6.993E+01		7.145E+01	2.944E+02	6.832E+00	0.238
TH-234DA	-1.049E+03		7.611E+02	2.499E+03	5.191E+01	-0.420
U-234DA	-2.702E+01		5.023E+01	1.789E+02	4.156E+00	-0.151
U-235HP	-2.408E+01		9.376E+01	3.416E+02	8.159E+00	-0.071
NP-237DA	3.335E+01		2.408E+01	1.002E+02	2.327E+00	0.333
U-238DA	-3.167E+01		2.653E+01	8.362E+01	1.940E+00	-0.379
U-238DHP	-2.997E+02		3.030E+02	1.067E+03	2.752E+01	-0.281
AM-241HP	5.281E+01		2.979E+01	1.234E+02	3.207E+00	0.428

STL Richland WA.
BA133

Batch ID: 7135307

Sample ID: JW0D71AA
Detector ID: GER5 1



Energy Coefficients:
Offset: -3.83896E-01
Slope: 2.49391E-01
Quadrature: -5.25694E-09

Acquisition Start: 9-JUN-2007 12:39:39.20
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW0D71AA

CONFIGURATION ID: GER5:JW0D71AA_090671239
TITLE : BA133
SAMPLE ID : JW0D71AA

REPORT DATE: 09-JUN-07
ACQUIRE DATE: 09-JUN-07 12:39:39
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 17-MAY-2007 12:00:00.00
CALIB DATE: 9-JUN-2007 09:43:53.05
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: -.3839E+00 keV
ENERGY SLOPE: 2.4939E-01 keV/C
ENERGY Q COEFF: -.5257E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.3858E-01 keV
FWHM SLOPE: 2.7913E-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 9-JUN-2007 13:09:54

Configuration : RDND06\$DKA100:[GER5.SAMPLE]JWOD71AA_090671239.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 17-MAY-2007 12:00:00 Acquisition date : 9-JUN-2007 12:39:39
 Sample ID : JWOD71AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 0.0%
 Start energy : 19.57 End energy : 2042.27
 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	304	58	0.93	125.55	117	15	1.69E-01	7.9	
2	0	35.28	123	20	0.82	142.98	136	14	6.82E-02	12.0	
3	0	80.90	286	50	1.02	325.92	316	18	1.59E-01	8.3	
4	0	302.91	59	10	1.27	1216.15	1211	11	3.26E-02	17.0	
5	0	355.93	174	10	0.97	1428.78	1418	19	9.64E-02	8.7	
6	0	384.33	19	21	0.88	1542.67	1533	17	1.06E-02	59.7	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]JW0D71AA_090671239.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title      : BA133
Sample date       : 17-MAY-2007 12:00:00 Acquisition date : 9-JUN-2007 12:39:39
Sample ID         : JW0D71AA Sample quantity : 1.0000 SAMPL
Sample type       : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	286	33.00	1.919E+00	1.507E+03	1.513E+03	9.89
	276.40	-----	6.90	2.072E+00	-----	Line Not Found	-----
	302.84	59	17.80	2.074E+00	5.293E+02	5.315E+02	17.83
	356.00	174	62.05*	2.076E+00	4.489E+02	4.508E+02	10.24
	383.85	19	8.70	2.076E+00	3.530E+02	3.545E+02	59.93

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JWOD71AA

Page : 2
Acquisition date : 9-JUN-2007 12:39:39

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.93	304	58	0.93	125.55	117	15	1.69E-01	7.9	1.68E+00	
0	35.28	123	20	0.82	142.98	136	14	6.82E-02	12.0	1.71E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW0D71AA

Page : 3
Acquisition date : 9-JUN-2007 12:39:39

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 9-JUN-2007 13:09:55

Configuration : RDND06\$DKA100:[GER5.SAMPLE]JW0D71AA_090671239.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 : 17-MAY-2007 12:00:00 Acquisition date : 9-JUN-2007 12:39:39
 Sample ID : JW0D71AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	4.508E+02	4.614E+01	4.215E+01	8.431E-01	10.694

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-6.645E+01	8.129E+01	2.924E+02	5.866E+00	-0.227
NA-22	-3.766E+00	4.371E+00	1.607E+01	3.408E-01	-0.234
NA-24	2.920E+05	2.146E+05	Half-Life too short		
K-40	7.577E+01	7.173E+01	3.626E+02	7.790E+00	0.209
SC-46	4.048E+00	5.003E+00	2.444E+01	5.125E-01	0.166
CR-51	6.295E+02	1.695E+02	7.808E+02	1.562E+01	0.806
MN-54	7.706E+00	5.700E+00	2.684E+01	5.509E-01	0.287
CO-57	-8.985E+01	1.223E+02	4.184E+02	8.650E+00	-0.215
CO-58	-1.078E+01	7.026E+00	2.231E+01	4.571E-01	-0.483
FE-59	1.700E+01	1.477E+01	6.744E+01	1.412E+00	0.252
CO-60	-6.557E+00	4.100E+00	1.267E+01	2.698E-01	-0.517
ZN-65	-3.592E+00	7.940E+00	3.284E+01	6.883E-01	-0.109
SE-75	6.979E+00	1.723E+01	6.664E+01	1.337E+00	0.105
SR-85	-2.423E+01	1.493E+01	4.806E+01	9.659E-01	-0.504
Y-88	-1.942E+00	3.510E+00	1.520E+01	3.348E-01	-0.128
NB-94	-3.648E-01	5.342E+00	2.165E+01	4.456E-01	-0.017
NB-95	5.028E+00	9.737E+00	4.107E+01	8.389E-01	0.122
TC-95M	4.506E+00	2.455E+01	9.074E+01	1.835E+00	0.050
ZR-95	1.726E+01	1.118E+01	5.554E+01	1.134E+00	0.311
ZRNB-95	1.318E+01	1.536E+01	6.737E+01	1.376E+00	0.196
MO-99	2.027E-03	1.969E-03	Half-Life too short		
RH-101	1.328E+01	1.771E+01	6.734E+01	1.364E+00	0.197
RH-102M	5.053E+00	6.241E+00	2.728E+01	5.473E-01	0.185
RU-103	-5.199E-01	1.028E+01	4.071E+01	8.175E-01	-0.013
RU-106DA	-1.231E+01	6.101E+01	2.438E+02	4.931E+00	-0.050
AG-108M	-1.231E+01	8.564E+00	2.838E+01	5.683E-01	-0.434
AG-110M	-1.017E+00	8.575E+00	3.393E+01	6.991E-01	-0.030

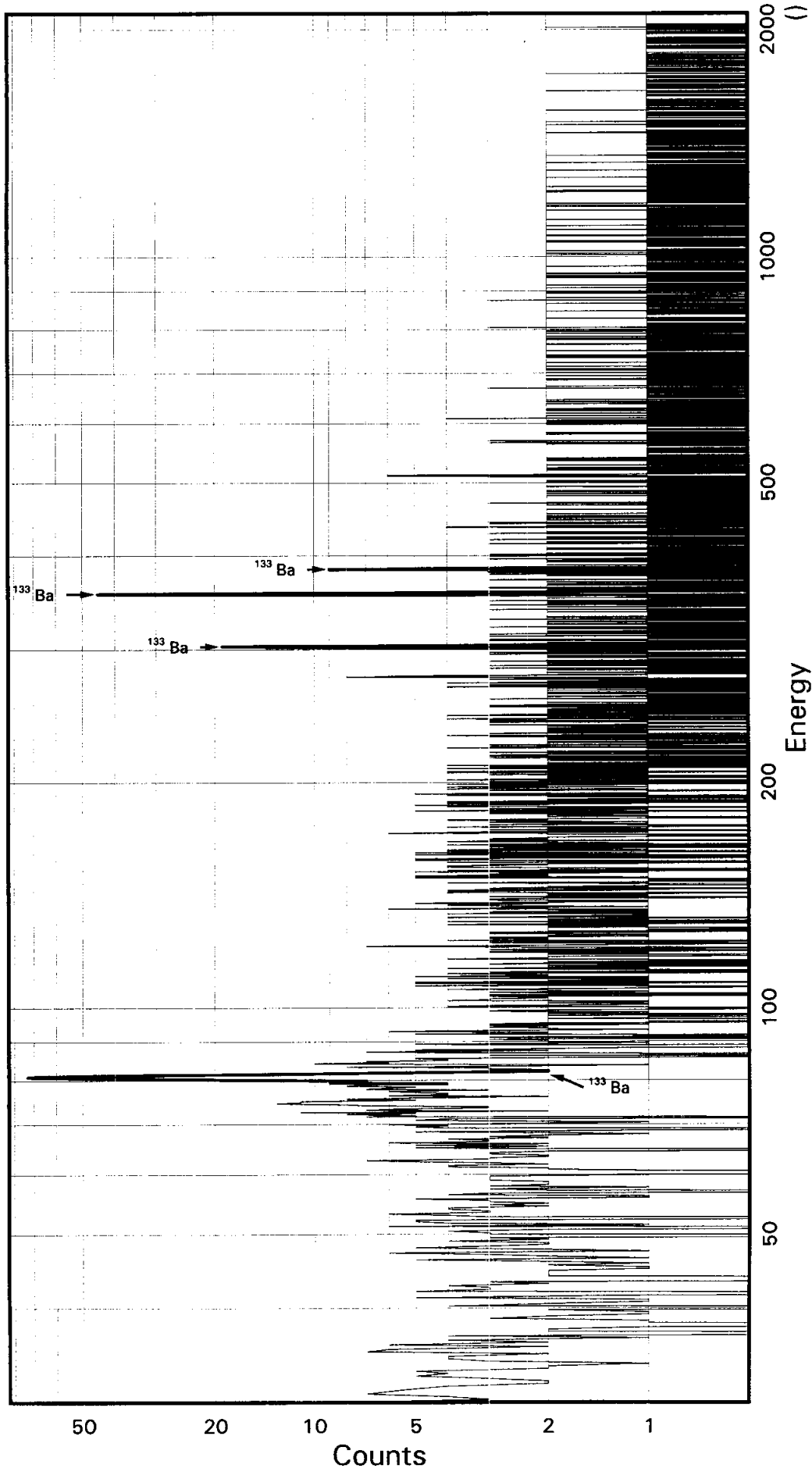
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-4.521E+00		1.254E+01	4.753E+01	9.509E-01	-0.095
SB-124	-1.084E+01		7.973E+00	2.713E+01	5.481E-01	-0.400
SB-125	-6.402E+00		2.521E+01	9.582E+01	1.919E+00	-0.067
SN-126DA	-1.386E+00		5.331E+00	2.134E+01	4.329E-01	-0.065
I-131	-5.192E+01		5.247E+01	1.888E+02	3.775E+00	-0.275
CS-134	1.810E+00		5.949E+00	2.575E+01	5.271E-01	0.070
CS-137DA	5.848E+00		5.040E+00	2.509E+01	5.089E-01	0.233
LA-138	-5.024E+00		5.101E+00	1.898E+01	4.071E-01	-0.265
CE-139	1.049E+01		1.770E+01	6.732E+01	1.375E+00	0.156
BA-140	-8.164E+01		7.570E+01	2.614E+02	5.259E+00	-0.312
BALA-140	-1.288E+01		1.290E+01	3.434E+01	7.448E-01	-0.375
LA-140	-1.145E-02		1.146E-02	Half-Life too short		
CE-141	-3.777E+00		4.233E+01	1.508E+02	3.104E+00	-0.025
CE-144	7.587E+01		1.109E+02	4.215E+02	8.726E+00	0.180
CEPR-144	1.531E+02		2.219E+02	8.435E+02	1.746E+01	0.181
PM-144	9.174E+00		5.693E+00	2.746E+01	5.552E-01	0.334
PM-146	-4.729E+00		1.002E+01	3.765E+01	7.545E-01	-0.126
EU-152	-7.577E+00		2.892E+01	1.103E+02	2.206E+00	-0.069
EU-154	-1.048E+01		1.216E+01	4.471E+01	9.480E-01	-0.234
EU-155	-1.607E+02		5.858E+01	1.681E+02	3.546E+00	-0.956
HF-181	8.324E+00		9.469E+00	4.255E+01	8.537E-01	0.196
BI-207	-5.590E-01		5.908E+00	2.337E+01	4.711E-01	-0.024
TL-208	2.672E+00		7.216E+00	3.203E+01	6.462E-01	0.083
BI-210M	4.488E+00		1.896E+01	7.190E+01	1.442E+00	0.062
BI-212	-4.106E+01		8.711E+01	3.338E+02	1.021E+01	-0.123
PB-212	4.150E+01		3.020E+01	1.218E+02	2.450E+00	0.341
BI-214	5.082E+00		1.642E+01	6.578E+01	1.329E+00	0.077
PB-214	2.167E+01		2.617E+01	9.675E+01	1.935E+00	0.224
RA-223	-9.008E+01		7.154E+01	2.384E+02	4.782E+00	-0.378
RA-224DA	4.246E+01		3.090E+01	1.246E+02	2.507E+00	0.341
RA-226DA	5.223E+00		1.644E+01	6.587E+01	1.331E+00	0.079
AC-227DA	-7.422E+01		1.116E+02	3.891E+02	7.829E+00	-0.191
AC-228	7.259E+00		1.623E+01	8.431E+01	1.741E+00	0.086
RA-228DA	7.315E+00		1.635E+01	8.496E+01	1.754E+00	0.086
TH-228DA	7.609E+00		2.055E+01	9.122E+01	1.840E+00	0.083
TH-232DA	8.833E+01		7.386E+01	3.043E+02	6.086E+00	0.290
TH-234DA	5.323E+02		7.199E+02	3.362E+03	6.988E+01	0.158
U-234DA	-6.759E+01		4.796E+01	1.564E+02	3.133E+00	-0.432
U-235HP	2.106E+00		1.105E+02	3.998E+02	8.237E+00	0.005
NP-237DA	-4.198E+01		2.699E+01	8.634E+01	1.728E+00	-0.486
U-238DA	2.167E+01		2.617E+01	9.675E+01	1.935E+00	0.224
U-238DHP	3.543E+02		4.593E+02	1.829E+03	4.072E+01	0.194
AM-241HP	-3.120E+01		3.679E+01	1.288E+02	2.889E+00	-0.242

STL Richland WA.
BA133

Batch ID: 7135307

Sample ID: JWOD91AA
Detector ID: GER6 1



Acquisition Start: 9-JUN-2007 12:42:01.02
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 9.39205E-02
Slope: 2.49368E-01
Quadrature: 1.12335E-08

SAMPLE IDENTIFICATION: JW0D91AA

CONFIGURATION ID: GER6:JW0D91AA_090671242
TITLE : BA133
SAMPLE ID : JW0D91AA

REPORT DATE: 09-JUN-07 SAMPLE DATE: 17-MAY-2007 00:00:00.00
ACQUIRE DATE: 09-JUN-07 12:42:01 CALIB DATE: 9-JUN-2007 09:45:17.68
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: 9.3921E-02 keV FWHM OFFSET: 1.6536E-01 keV
ENERGY SLOPE: 2.4937E-01 keV/C FWHM SLOPE: 6.7094E-02 sqr keV
ENERGY Q COEFF: 1.1233E-08 keV/C² 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 9-JUN-2007 13:12:23

```

Configuration      : $DISK1:[GER6.SAMPLE]JW0D91AA_090671242.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:42:01
Sample ID         : JW0D91AA Sample 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      : 20.04 End energy : 2043.67
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.92	254	65	0.82	324.11	317	16	1.41E-01	9.6	
2	0	303.06	65	24	1.06	1214.88	1203	17	3.63E-02	20.5	
3	0	356.05	250	15	1.20	1427.36	1418	21	1.39E-01	7.5	
4	0	383.96	37	8	1.01	1539.24	1529	16	2.06E-02	23.7	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER6.SAMPLE]JW0D91AA_090671242.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:42:01
Sample ID        : JW0D91AA Sample 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	254	33.00	2.090E+00	1.226E+03	1.232E+03	11.02
	276.40	-----	6.90	2.253E+00	-----	Line Not Found	-----
	302.84	65	17.80	2.256E+00	5.428E+02	5.451E+02	21.18
	356.00	250	62.05*	2.258E+00	5.945E+02	5.970E+02	9.20
	383.85	37	8.70	2.257E+00	6.280E+02	6.307E+02	24.32

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0D91AA

Page : 2
Acquisition date : 9-JUN-2007 12:42:01

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW0D91AA

Page : 3
Acquisition date : 9-JUN-2007 12:42:01

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 9-JUN-2007 13:12:26

Configuration : \$DISK1:[GER6.SAMPLE]JW0D91AA_090671242.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 : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:42:01
 Sample ID : JW0D91AA Sample 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	5.970E+02	5.494E+01	4.854E+01	9.709E-01	12.298

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.535E+01	7.636E+01	2.894E+02	5.805E+00	-0.122
NA-22	-1.805E+00	4.846E+00	1.910E+01	4.045E-01	-0.095
K-40	-6.695E+01	7.581E+01	3.409E+02	7.313E+00	-0.196
SC-46	3.881E+00	4.556E+00	2.255E+01	4.723E-01	0.172
CR-51	-3.728E+01	1.427E+02	5.272E+02	1.055E+01	-0.071
MN-54	-3.023E+00	3.844E+00	1.481E+01	3.038E-01	-0.204
CO-57	1.081E+02	1.100E+02	4.299E+02	8.879E+00	0.252
CO-58	-6.367E+00	7.087E+00	2.509E+01	5.139E-01	-0.254
FE-59	1.139E+01	1.320E+01	5.910E+01	1.236E+00	0.193
CO-60	7.969E+00	4.751E+00	2.375E+01	5.051E-01	0.335
ZN-65	-1.705E+01	1.007E+01	3.021E+01	6.326E-01	-0.564
SE-75	-1.648E+01	1.627E+01	5.711E+01	1.146E+00	-0.289
SR-85	5.388E+00	1.464E+01	5.430E+01	1.091E+00	0.099
Y-88	-9.137E-02	4.699E+00	2.047E+01	4.500E-01	-0.004
NB-94	-1.504E+01	6.093E+00	1.633E+01	3.360E-01	-0.921
NB-95	-5.071E+00	9.072E+00	3.389E+01	6.919E-01	-0.150
TC-95M	-2.520E+01	1.930E+01	6.530E+01	1.320E+00	-0.386
ZR-95	1.333E+01	1.313E+01	5.806E+01	1.185E+00	0.230
ZRNB-95	-8.205E+00	1.468E+01	5.483E+01	1.119E+00	-0.150
RH-101	2.045E+01	1.483E+01	5.918E+01	1.198E+00	0.346
RH-102M	-5.045E+00	6.745E+00	2.455E+01	4.923E-01	-0.206
RU-103	-1.845E+01	1.150E+01	3.709E+01	7.448E-01	-0.497
RU-106DA	-6.812E-01	6.385E+01	2.524E+02	5.104E+00	-0.003
AG-108M	-8.556E+00	7.450E+00	2.516E+01	5.039E-01	-0.340
AG-110M	8.940E+00	5.495E+00	2.928E+01	6.029E-01	0.305
SN-113DA	-2.658E+00	1.199E+01	4.557E+01	9.118E-01	-0.058
SB-124	-5.665E+00	9.547E+00	3.484E+01	7.037E-01	-0.163

---- Non-Identified Nuclides ----

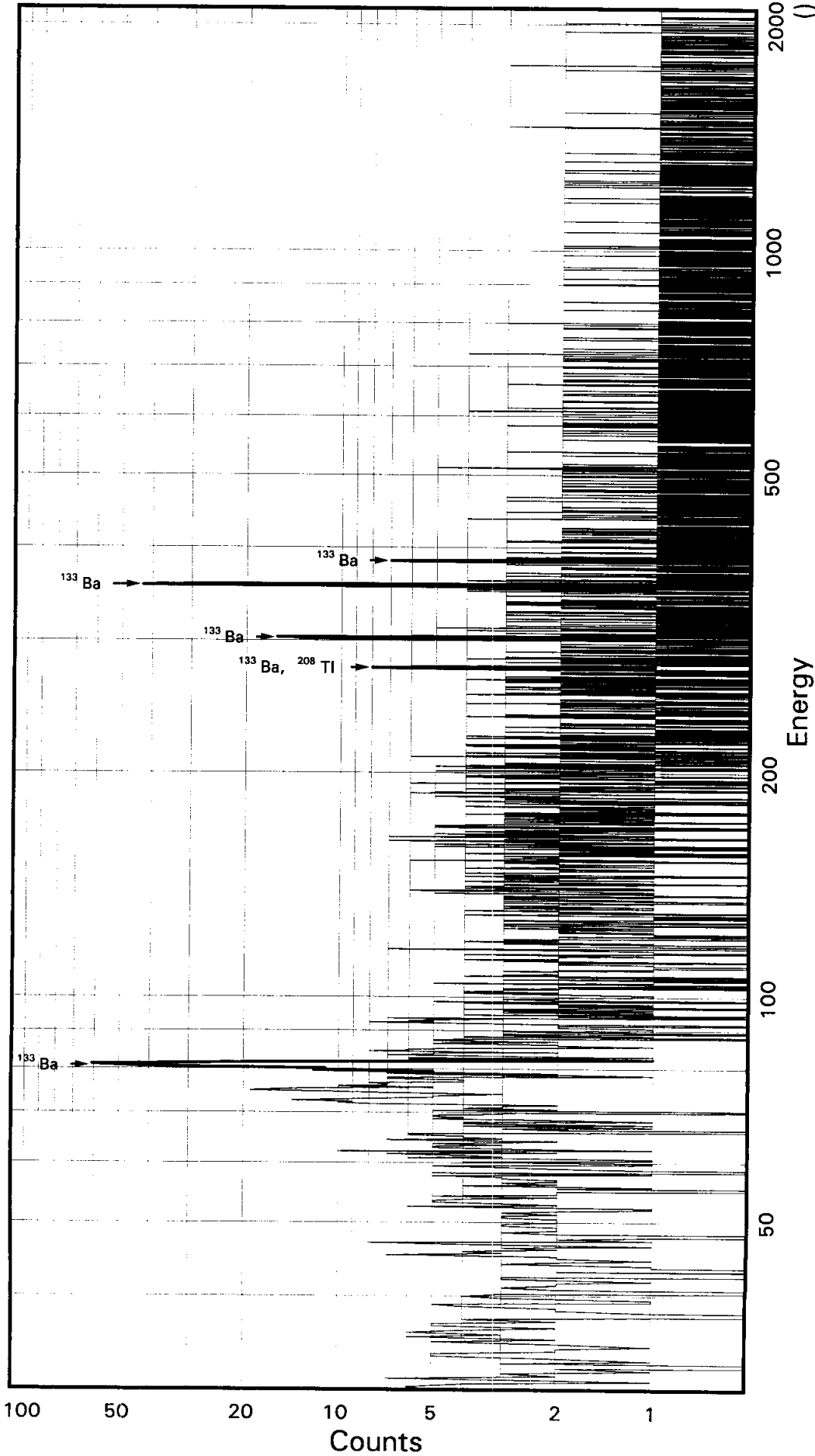
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	4.019E+01		2.080E+01	9.634E+01	1.929E+00	0.417
SN-126DA	6.374E+00		3.795E+00	2.007E+01	4.070E-01	0.318
I-131	-9.389E+00		7.046E+01	2.680E+02	5.361E+00	-0.035
CS-134	1.044E+01		8.192E+00	3.518E+01	7.199E-01	0.297
CS-137DA	-3.823E+00		5.092E+00	1.894E+01	3.840E-01	-0.202
LA-138	2.242E+00		6.320E+00	2.845E+01	6.092E-01	0.079
CE-139	-1.300E+00		1.489E+01	5.398E+01	1.102E+00	-0.024
BA-140	9.415E+01		9.826E+01	4.101E+02	8.251E+00	0.230
BALA-140	1.190E+01		2.082E+01	1.112E+02	2.407E+00	0.107
CE-141	-3.696E+01		3.172E+01	1.084E+02	2.230E+00	-0.341
CE-144	-4.932E+01		9.768E+01	3.541E+02	7.325E+00	-0.139
CEPR-144	-9.983E+01		1.953E+02	7.076E+02	1.464E+01	-0.141
PM-144	5.687E-01		6.761E+00	2.669E+01	5.396E-01	0.021
PM-146	-2.068E+00		9.168E+00	3.581E+01	7.177E-01	-0.058
EU-152	-2.199E+01		3.223E+01	1.127E+02	2.254E+00	-0.195
EU-154	-5.019E+00		1.348E+01	5.312E+01	1.125E+00	-0.094
EU-155	-5.358E+01		4.853E+01	1.640E+02	3.455E+00	-0.327
HF-181	2.970E+00		1.138E+01	4.576E+01	9.181E-01	0.065
BI-207	-2.156E+00		6.038E+00	2.325E+01	4.686E-01	-0.093
TL-208	1.431E+01		7.074E+00	3.327E+01	6.710E-01	0.430
BI-210M	-2.631E+00		1.777E+01	6.652E+01	1.334E+00	-0.040
BI-212	2.399E+01		7.543E+01	3.219E+02	9.840E+00	0.075
PB-212	-3.661E+01		2.176E+01	7.329E+01	1.474E+00	-0.499
BI-214	1.302E+01		1.641E+01	6.672E+01	1.348E+00	0.195
PB-214	-4.931E+01		2.626E+01	6.335E+01	1.267E+00	-0.778
RA-223	1.695E+02		7.091E+01	3.020E+02	6.056E+00	0.561
RA-224DA	-3.747E+01		2.228E+01	7.502E+01	1.509E+00	-0.499
RA-226DA	1.302E+01		1.641E+01	6.672E+01	1.348E+00	0.195
AC-227DA	-1.865E+01		8.108E+01	2.951E+02	5.937E+00	-0.063
AC-228	-1.159E+01		2.074E+01	7.748E+01	1.598E+00	-0.150
RA-228DA	-1.168E+01		2.090E+01	7.808E+01	1.611E+00	-0.150
TH-228DA	4.079E+01		2.016E+01	9.478E+01	1.912E+00	0.430
TH-232DA	8.435E+01		5.894E+01	2.502E+02	5.004E+00	0.337
TH-234DA	-3.490E+02		6.784E+02	2.670E+03	5.544E+01	-0.131
U-234DA	-8.416E+01		4.542E+01	1.441E+02	2.886E+00	-0.584
U-235HP	1.643E+02		9.636E+01	3.945E+02	8.121E+00	0.416
NP-237DA	-3.302E+01		2.286E+01	7.508E+01	1.502E+00	-0.440
U-238DA	-4.931E+01		2.626E+01	6.335E+01	1.267E+00	-0.778
U-238DHP	1.706E+02		3.168E+02	1.200E+03	2.665E+01	0.142
AM-241HP	-1.400E+01		2.702E+01	9.655E+01	2.161E+00	-0.145

STL Richland WA.

BA133

Batch ID: 7135307

Sample ID: JW0EC1AA
Detector ID: GER7 1



Energy Coefficients:
Offset: 6.01917E-01
Slope: 2.49266E-01
Quadrature: 1.43795E-07

Acquisition Start: 9-JUN-2007 12:42:34.09
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW0EC1AA

CONFIGURATION ID: GER7:JW0EC1AA_090671242
TITLE : BA133
SAMPLE ID : JW0EC1AA

REPORT DATE: 09-JUN-07	SAMPLE DATE: 17-MAY-2007 00:00:00.00
ACQUIRE DATE: 09-JUN-07 12:42:34	CALIB DATE: 9-JUN-2007 09:45:36.16
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: 6.0192E-01 keV	FWHM OFFSET: 6.2750E-01 keV
ENERGY SLOPE: 2.4927E-01 keV/C	FWHM SLOPE: 3.5639E-02 sqr keV
ENERGY Q COEFF: 1.4380E-07 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 9-JUN-2007 13:12:50

```

Configuration      : $DISK1:[GER7.SAMPLE]JW0EC1AA_090671242.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:42:34
Sample ID         : JW0EC1AA Sample 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      : 20.54 End energy : 2052.24
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	75.37*	20	55	0.73	299.89	294	13	1.10E-02	87.3	
2	0	80.79	257	39	0.92	321.64	313	16	1.43E-01	8.3	
3	0	276.22	34	12	1.33	1105.03	1096	16	1.91E-02	28.1	
4	0	302.81	102	0	1.35	1211.53	1203	18	5.67E-02	9.9	
5	0	355.93	219	13	1.30	1424.33	1415	16	1.22E-01	7.6	
6	0	383.82	29	3	1.21	1536.04	1530	12	1.61E-02	22.1	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER7.SAMPLE]JW0EC1AA_090671242.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:42:34
Sample ID        : JW0EC1AA Sample 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	257	33.00	1.908E+00	1.361E+03	1.366E+03	9.93
	276.40	34	6.90	2.061E+00	8.080E+02	8.115E+02	28.64
	302.84	102	17.80	2.064E+00	9.256E+02	9.296E+02	11.27
	356.00	219	62.05*	2.065E+00	5.707E+02	5.731E+02	9.34
	383.85	29	8.70	2.065E+00	5.386E+02	5.409E+02	22.70

Flag: "*" = Keyline

Unidentified Energy Lines

Sample ID : JW0EC1AA

Acquisition date : 9-JUN-2007 12:42:34

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	75.37	20	55	0.73	299.89	294	13	1.10E-02	87.3	1.89E+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	8.199E+02	28.64	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER7.SAMPLE]JW0EC1AA_090671242.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:42:34
Sample ID         : JW0EC1AA Sample 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	5.731E+02	5.351E+01	6.253E+01	1.251E+00	9.166

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.190E+02	8.180E+01	4.036E+02	8.098E+00	0.543
NA-22	-4.402E-01	4.304E+00	1.842E+01	3.906E-01	-0.024
K-40	-1.344E+02	5.381E+01	2.438E+02	5.239E+00	-0.551
SC-46	6.175E+00	4.605E+00	2.467E+01	5.174E-01	0.250
CR-51	2.474E+02	1.314E+02	5.962E+02	1.193E+01	0.415
MN-54	8.738E+00	5.255E+00	2.619E+01	5.378E-01	0.334
CO-57	1.265E-01	1.199E+02	4.348E+02	8.989E+00	0.000
CO-58	-6.211E+00	3.601E+00	5.662E+00	1.160E-01	-1.097
FE-59	-1.702E+01	1.051E+01	3.169E+01	6.634E-01	-0.537
CO-60	-6.589E+00	4.794E+00	1.608E+01	3.424E-01	-0.410
ZN-65	-7.027E+00	1.005E+01	3.833E+01	8.033E-01	-0.183
SE-75	1.022E+01	1.891E+01	7.274E+01	1.459E+00	0.140
SR-85	-4.150E+01	1.324E+01	3.657E+01	7.350E-01	-1.135
Y-88	1.096E-02	4.164E+00	1.935E+01	4.262E-01	0.001
NB-94	-3.375E+00	3.353E+00	1.221E+01	2.514E-01	-0.276
NB-95	1.806E+01	6.961E+00	3.916E+01	7.999E-01	0.461
TC-95M	2.231E+01	2.268E+01	8.856E+01	1.791E+00	0.252
ZR-95	-3.345E+00	9.983E+00	4.134E+01	8.439E-01	-0.081
ZRNB-95	2.871E+01	1.116E+01	6.290E+01	1.285E+00	0.456
RH-101	2.279E+01	1.643E+01	6.524E+01	1.321E+00	0.349
RH-102M	-7.103E+00	7.273E+00	2.512E+01	5.040E-01	-0.283
RU-103	-3.235E+00	8.698E+00	3.473E+01	6.974E-01	-0.093
RU-106DA	-8.896E+01	5.851E+01	1.872E+02	3.787E+00	-0.475
AG-108M	-1.540E+00	7.624E+00	2.912E+01	5.832E-01	-0.053
AG-110M	-2.558E+00	5.519E+00	2.268E+01	4.674E-01	-0.113
SN-113DA	-8.160E+00	1.191E+01	4.346E+01	8.694E-01	-0.188
SB-124	9.011E-02	9.308E+00	3.651E+01	7.375E-01	0.002

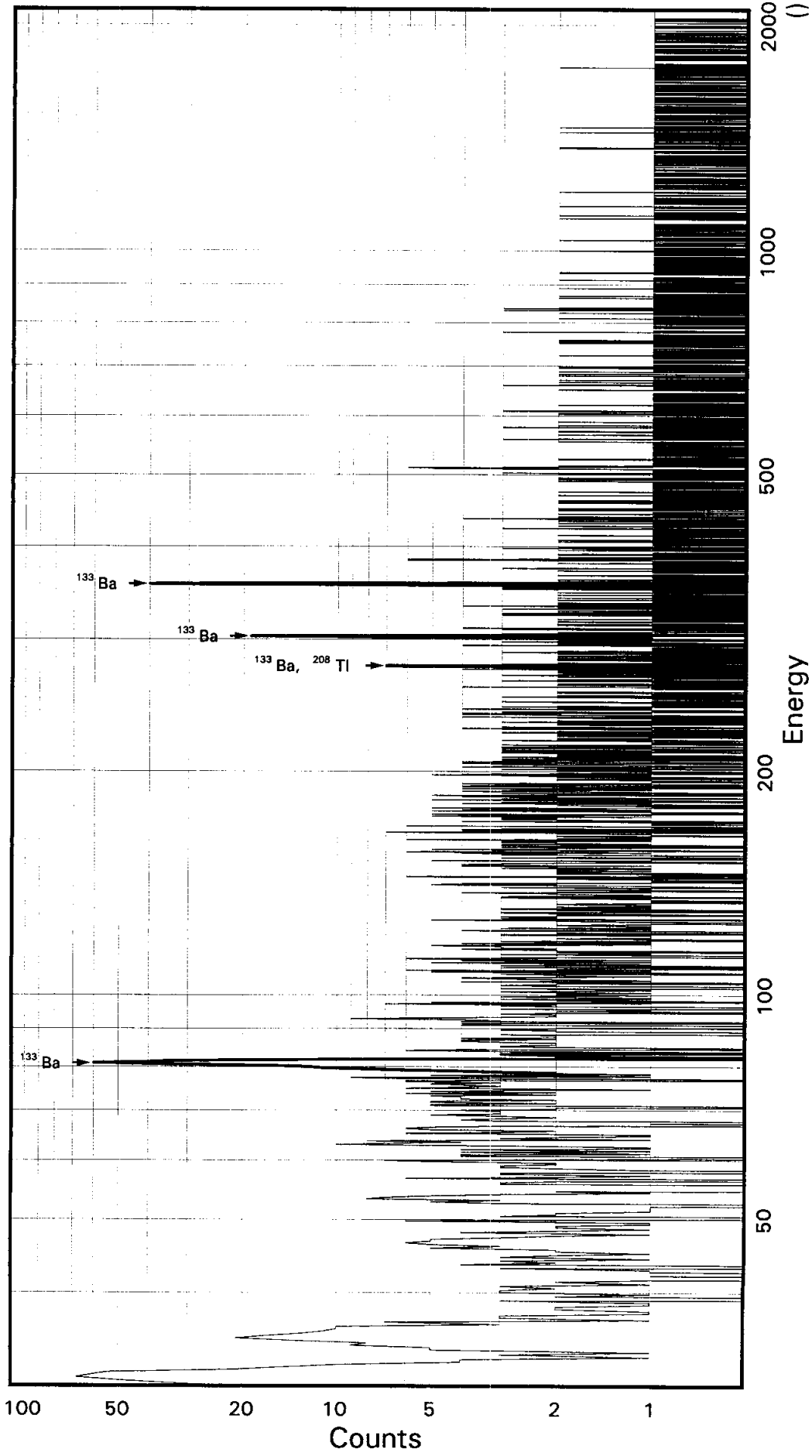
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-2.358E+01		1.978E+01	6.720E+01	1.346E+00	-0.351
SN-126DA	-7.119E+00		6.704E+00	2.308E+01	4.681E-01	-0.308
I-131	-8.187E+01		7.401E+01	2.559E+02	5.117E+00	-0.320
CS-134	2.217E+00		7.595E+00	3.134E+01	6.416E-01	0.071
CS-137DA	1.528E+01		6.758E+00	3.352E+01	6.797E-01	0.456
LA-138	2.415E-01		3.732E+00	1.958E+01	4.200E-01	0.012
CE-139	1.859E+01		1.772E+01	6.906E+01	1.411E+00	0.269
BA-140	1.648E+02		8.380E+01	4.049E+02	8.147E+00	0.407
BALA-140	-6.951E+00		3.143E+01	1.331E+02	2.886E+00	-0.052
CE-141	1.956E+01		4.240E+01	1.571E+02	3.233E+00	0.125
CE-144	-2.374E+01		1.129E+02	4.058E+02	8.403E+00	-0.058
CEPR-144	-4.748E+01		2.259E+02	8.117E+02	1.681E+01	-0.058
PM-144	-3.609E+00		6.491E+00	2.427E+01	4.907E-01	-0.149
PM-146	1.274E+01		9.266E+00	4.221E+01	8.459E-01	0.302
EU-152	1.945E+01		2.340E+01	1.018E+02	2.035E+00	0.191
EU-154	-1.224E+00		1.197E+01	5.123E+01	1.086E+00	-0.024
EU-155	-2.092E+01		5.329E+01	1.924E+02	4.058E+00	-0.109
HF-181	8.827E+00		1.157E+01	4.881E+01	9.795E-01	0.181
BI-207	8.201E-01		5.842E+00	2.415E+01	4.868E-01	0.034
TL-208	-1.993E+00		7.892E+00	3.220E+01	6.496E-01	-0.062
BI-210M	1.894E+00		2.069E+01	7.663E+01	1.537E+00	0.025
BI-212	-1.399E+01		1.064E+02	4.160E+02	1.272E+01	-0.034
PB-212	3.682E+01		2.077E+01	9.301E+01	1.871E+00	0.396
BI-214	3.775E+01		1.774E+01	8.302E+01	1.678E+00	0.455
PB-214	1.707E+01		3.249E+01	1.085E+02	2.169E+00	0.157
RA-223	-2.051E+01		7.002E+01	2.540E+02	5.094E+00	-0.081
RA-224DA	3.769E+01		2.126E+01	9.521E+01	1.915E+00	0.396
RA-226DA	3.434E+01		1.808E+01	8.309E+01	1.679E+00	0.413
AC-227DA	-5.407E+01		7.960E+01	2.830E+02	5.694E+00	-0.191
AC-228	5.807E+00		1.665E+01	8.476E+01	1.750E+00	0.069
RA-228DA	5.852E+00		1.678E+01	8.542E+01	1.764E+00	0.069
TH-228DA	-5.680E+00		2.249E+01	9.174E+01	1.851E+00	-0.062
TH-232DA	1.406E+02		7.142E+01	3.089E+02	6.179E+00	0.455
TH-234DA	-4.749E+02		6.159E+02	2.394E+03	4.976E+01	-0.198
U-234DA	9.816E+00		4.053E+01	1.573E+02	3.150E+00	0.062
U-235HP	-7.579E+01		1.232E+02	4.250E+02	8.754E+00	-0.178
NP-237DA	6.698E+00		2.261E+01	8.957E+01	1.792E+00	0.075
U-238DA	1.707E+01		3.249E+01	1.085E+02	2.169E+00	0.157
U-238DHP	-2.788E+02		4.719E+02	1.624E+03	3.617E+01	-0.172
AM-241HP	-9.984E+01		4.281E+01	1.277E+02	2.866E+00	-0.782

STL Richland WA.
BA133

Batch ID: 7135307

Sample ID: JW0ED1AA
Detector ID: GER8 1



Acquisition Start: 9-JUN-2007 12:42:53.67
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 3.25049E-01
Slope: 2.49713E-01
Quadrature: 1.44718E-08

SAMPLE IDENTIFICATION: JW0ED1AA

CONFIGURATION ID: GER8:JW0ED1AA_090671242
TITLE : BA133
SAMPLE ID : JW0ED1AA

REPORT DATE: 09-JUN-07 SAMPLE DATE: 17-MAY-2007 00:00:00.00
ACQUIRE DATE: 09-JUN-07 12:42:53 CALIB DATE: 9-JUN-2007 09:45:55.91
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: 3.2505E-01 keV FWHM OFFSET: 9.8972E-01 keV
ENERGY SLOPE: 2.4971E-01 keV/C FWHM SLOPE: 1.9893E-02 sqr keV
ENERGY Q COEFF: 1.4472E-08 keV/C² 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 9-JUN-2007 13:13:13

```

Configuration      : $DISK1:[GER8.SAMPLE]JW0ED1AA_090671242.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:42:53
Sample ID         : JW0ED1AA Sample 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      : 20.30 End energy : 2046.94
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.83	345	46	1.15	122.16	114	17	1.92E-01	7.0	
2	0	80.90	267	26	0.96	322.66	313	21	1.48E-01	7.8	
3	0	276.86	13	15	0.55	1107.35	1100	10	7.22E-03	62.3	
4	0	303.07	81	4	0.84	1212.27	1204	17	4.50E-02	12.5	
5	0	355.99	189	13	1.04	1424.17	1415	18	1.05E-01	8.6	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER8.SAMPLE]JWOED1AA_090671242.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:42:53
Sample ID         : JWOED1AA Sample 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 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 DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	267	33.00	2.140E+00	1.261E+03	1.267E+03	9.49
	276.40	13	6.90	2.306E+00	2.724E+02	2.736E+02	62.49
	302.84	81	17.80	2.309E+00	6.568E+02	6.596E+02	13.65
	356.00	189	62.05*	2.311E+00	4.384E+02	4.403E+02	10.14
	383.85	-----	8.70	2.310E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0ED1AA

Page : 2
Acquisition date : 9-JUN-2007 12:42:53

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.83	345	46	1.15	122.16	114	17	1.92E-01	7.0	1.87E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW0ED1AA

Page : 3
Acquisition date : 9-JUN-2007 12:42:53

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	2.764E+02	62.49	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
		% Abundances Found =		5.44			

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER8.SAMPLE]JWOED1AA_090671242.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:42:53
Sample ID        : JWOED1AA Sample 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	4.403E+02	4.466E+01	4.744E+01	9.487E-01	9.281

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-6.698E+01	5.797E+01	2.052E+02	4.117E+00	-0.326
NA-22	-1.587E+00	1.590E+00	4.201E+00	8.894E-02	-0.378
K-40	1.397E+00	3.931E+01	2.043E+02	4.380E+00	0.007
SC-46	-1.795E+00	4.841E+00	1.974E+01	4.133E-01	-0.091
CR-51	-2.423E+02	1.228E+02	3.729E+02	7.461E+00	-0.650
MN-54	9.387E-01	6.941E+00	2.714E+01	5.568E-01	0.035
CO-57	1.475E+02	9.719E+01	3.916E+02	8.087E+00	0.377
CO-58	1.654E+00	5.034E+00	2.246E+01	4.599E-01	0.074
FE-59	-1.140E+01	8.561E+00	2.829E+01	5.915E-01	-0.403
CO-60	-1.784E+00	4.719E+00	1.856E+01	3.945E-01	-0.096
ZN-65	1.594E+01	9.567E+00	4.772E+01	9.990E-01	0.334
SE-75	5.641E+00	1.505E+01	5.881E+01	1.180E+00	0.096
SR-85	-4.014E+01	1.374E+01	4.014E+01	8.066E-01	-1.000
Y-88	1.858E+00	1.861E+00	1.366E+01	3.002E-01	0.136
NB-94	1.094E+00	5.040E+00	2.091E+01	4.300E-01	0.052
NB-95	1.065E+01	6.955E+00	3.440E+01	7.022E-01	0.310
TC-95M	6.088E+00	1.974E+01	7.480E+01	1.512E+00	0.081
ZR-95	-4.433E-01	1.100E+01	4.498E+01	9.176E-01	-0.010
ZRNB-95	1.769E+01	1.133E+01	5.606E+01	1.144E+00	0.316
RH-101	1.916E+01	1.304E+01	5.323E+01	1.078E+00	0.360
RH-102M	-2.358E+00	5.233E+00	2.046E+01	4.104E-01	-0.115
RU-103	-1.125E+01	9.286E+00	3.227E+01	6.479E-01	-0.349
RU-106DA	3.154E+01	5.369E+01	2.332E+02	4.715E+00	0.135
AG-108M	-1.161E+01	8.767E+00	2.879E+01	5.766E-01	-0.403
AG-110M	1.820E+00	5.917E+00	2.621E+01	5.395E-01	0.069
SN-113DA	1.221E+01	1.073E+01	4.644E+01	9.291E-01	0.263
SB-124	7.885E+00	6.162E+00	2.929E+01	5.914E-01	0.269

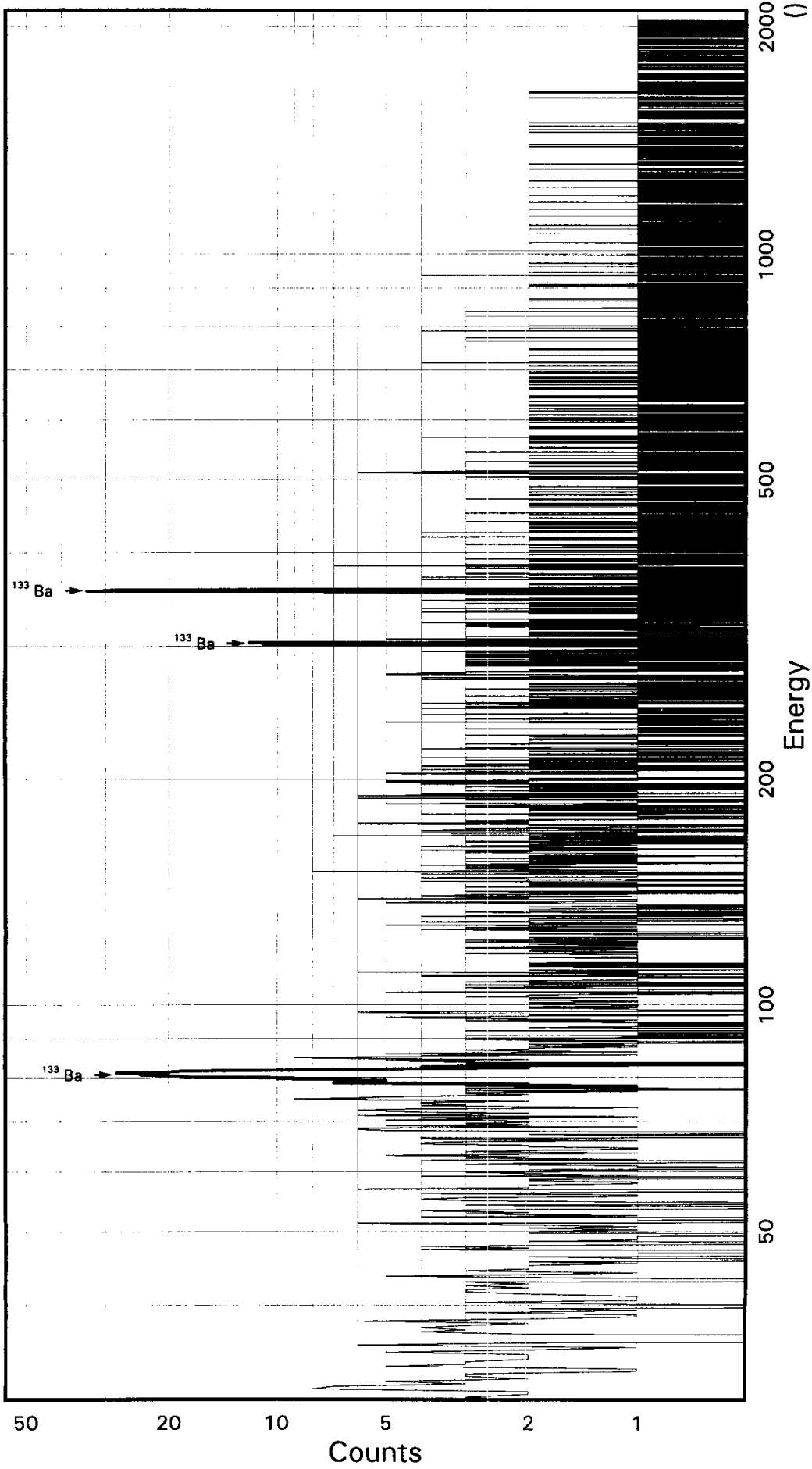
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	1.301E+01		1.833E+01	7.876E+01	1.577E+00	0.165
SN-126DA	1.230E+00		4.829E+00	2.042E+01	4.141E-01	0.060
I-131	1.007E+01		5.973E+01	2.353E+02	4.707E+00	0.043
CS-134	-5.760E+00		5.416E+00	1.887E+01	3.861E-01	-0.305
CS-137DA	5.144E+00		6.215E+00	2.728E+01	5.530E-01	0.189
LA-138	4.650E-01		6.858E+00	2.881E+01	6.167E-01	0.016
CE-139	1.992E+01		1.389E+01	5.522E+01	1.127E+00	0.361
BA-140	1.053E+02		6.219E+01	3.119E+02	6.276E+00	0.337
BALA-140	-1.111E+01		1.994E+01	8.608E+01	1.862E+00	-0.129
CE-141	2.784E+01		3.464E+01	1.327E+02	2.729E+00	0.210
CE-144	-9.419E+01		9.345E+01	3.166E+02	6.548E+00	-0.298
CEPR-144	-1.896E+02		1.868E+02	6.325E+02	1.308E+01	-0.300
PM-144	1.607E+00		5.523E+00	2.308E+01	4.664E-01	0.070
PM-146	-1.307E+01		9.583E+00	3.119E+01	6.252E-01	-0.419
EU-152	1.250E+01		2.092E+01	8.841E+01	1.768E+00	0.141
EU-154	-4.414E+00		4.421E+00	1.168E+01	2.474E-01	-0.378
EU-155	1.704E+01		5.554E+01	2.053E+02	4.324E+00	0.083
HF-181	3.414E+00		7.606E+00	3.401E+01	6.824E-01	0.100
BI-207	2.282E-01		5.511E+00	2.235E+01	4.504E-01	0.010
TL-208	-8.282E+00		7.052E+00	2.435E+01	4.912E-01	-0.340
BI-210M	8.605E+00		1.597E+01	6.295E+01	1.263E+00	0.137
BI-212	6.529E+01		7.462E+01	3.349E+02	1.024E+01	0.195
PB-212	1.833E+01		2.320E+01	9.028E+01	1.816E+00	0.203
BI-214	3.113E+00		1.283E+01	5.876E+01	1.187E+00	0.053
PB-214	1.828E+01		2.411E+01	9.254E+01	1.851E+00	0.197
RA-223	8.546E+00		5.865E+01	2.247E+02	4.506E+00	0.038
RA-224DA	1.876E+01		2.375E+01	9.241E+01	1.859E+00	0.203
RA-226DA	3.239E+00		1.285E+01	5.885E+01	1.189E+00	0.055
AC-227DA	-1.930E+02		8.423E+01	2.587E+02	5.205E+00	-0.746
AC-228	5.852E+00		1.180E+01	5.778E+01	1.192E+00	0.101
RA-228DA	5.898E+00		1.189E+01	5.823E+01	1.201E+00	0.101
TH-228DA	-2.360E+01		2.009E+01	6.938E+01	1.400E+00	-0.340
TH-232DA	-7.023E+01		5.559E+01	1.865E+02	3.730E+00	-0.377
TH-234DA	2.001E+02		7.452E+02	3.187E+03	6.617E+01	0.063
U-234DA	-6.366E+01		4.157E+01	1.415E+02	2.834E+00	-0.450
U-235HP	-1.350E+02		1.034E+02	3.396E+02	6.990E+00	-0.398
NP-237DA	8.075E+00		2.208E+01	8.567E+01	1.715E+00	0.094
U-238DA	1.828E+01		2.411E+01	9.254E+01	1.851E+00	0.197
U-238DHP	-8.344E+02		4.280E+02	1.466E+03	3.255E+01	-0.569
AM-241HP	-2.252E+01		3.885E+01	1.361E+02	3.045E+00	-0.165

STL Richland WA.
BA133

Sample ID: JW0EF1AA
Detector ID: GER10 1

Batch ID: 7135307



Acquisition Start: 9-JUN-2007 12:43:11.21
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.46547E+01
Slope: 2.47231E-01
Quadrature: 1.40855E-10

SAMPLE IDENTIFICATION: JW0EF1AA

CONFIGURATION ID: GER10:JW0EF1AA_090671243
TITLE : BA133
SAMPLE ID : JW0EF1AA

REPORT DATE: 09-JUN-07
ACQUIRE DATE: 09-JUN-07 12:43:11
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 17-MAY-2007 00:00:00.00
CALIB DATE: 9-JUN-2007 09:46:11.95
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: 1.4655E+01 keV
ENERGY SLOPE: 2.4723E-01 keV/C
ENERGY Q COEFF: 1.4085E-10 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.1705E+00 keV
FWHM SLOPE: 1.9818E-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 9-JUN-2007 13:13:28

```

Configuration      : $DISK1:[GER10.SAMPLE]JW0EF1AA_090671243.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:43:11
Sample ID        : JW0EF1AA Sample 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     : 17.13 End energy : 2039.98
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.72	189	29	1.66	267.22	256	23	1.05E-01	10.4	
2	0	302.86	65	11	1.54	1165.75	1156	17	3.59E-02	16.1	
3	0	356.11	218	12	1.47	1381.10	1369	20	1.21E-01	7.4	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER10.SAMPLE]JW0EF1AA_090671243.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:43:11
 Sample ID : JW0EF1AA Sample 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	189	33.00	2.477E+00	7.709E+02	7.742E+02	11.70
	276.40	-----	6.90	2.637E+00	-----	Line Not Found	-----
	302.84	65	17.80	2.640E+00	4.587E+02	4.607E+02	16.96
	356.00	218	62.05*	2.642E+00	4.438E+02	4.457E+02	9.18
	383.85	-----	8.70	2.641E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0EF1AA

Page : 2
Acquisition date : 9-JUN-2007 12:43:11

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW0EF1AA

Page : 3
Acquisition date : 9-JUN-2007 12:43:11

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER10.SAMPLE]JW0EF1AA_090671243.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:43:11
Sample ID         : JW0EF1AA Sample 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	4.457E+02	4.092E+01	4.863E+01	9.726E-01	9.164

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	6.407E+01	6.060E+01	2.712E+02	5.437E+00	0.236
NA-22	-1.866E-01	2.720E+00	1.235E+01	2.590E-01	-0.015
K-40	-3.745E+01	3.824E+01	1.766E+02	3.745E+00	-0.212
SC-46	1.267E+01	6.427E+00	2.997E+01	6.228E-01	0.423
CR-51	8.072E+01	1.660E+02	6.231E+02	1.247E+01	0.130
MN-54	1.725E+00	5.167E+00	2.153E+01	4.399E-01	0.080
CO-57	-1.210E+02	9.656E+01	3.295E+02	6.769E+00	-0.367
CO-58	2.111E-01	3.908E+00	1.754E+01	3.578E-01	0.012
FE-59	-5.338E-02	6.708E+00	3.100E+01	6.434E-01	-0.002
CO-60	1.339E+00	1.341E+00	9.845E+00	2.072E-01	0.136
ZN-65	-1.680E+01	8.853E+00	2.562E+01	5.323E-01	-0.656
SE-75	-4.864E+00	1.462E+01	5.318E+01	1.066E+00	-0.091
SR-85	-1.346E+01	1.372E+01	4.700E+01	9.437E-01	-0.286
Y-88	4.802E+00	2.785E+00	1.722E+01	3.726E-01	0.279
NB-94	2.463E-01	4.404E+00	1.820E+01	3.727E-01	0.014
NB-95	-4.887E+00	8.396E+00	3.073E+01	6.253E-01	-0.159
TC-95M	2.858E+01	1.787E+01	7.183E+01	1.450E+00	0.398
ZR-95	-1.906E+01	1.074E+01	3.220E+01	6.548E-01	-0.592
ZRNB-95	-7.907E+00	1.358E+01	4.972E+01	1.012E+00	-0.159
RH-101	2.740E+01	1.333E+01	5.416E+01	1.094E+00	0.506
RH-102M	-4.995E+00	5.646E+00	2.029E+01	4.067E-01	-0.246
RU-103	3.603E+00	7.256E+00	3.147E+01	6.315E-01	0.114
RU-106DA	-5.783E+00	5.737E+01	2.226E+02	4.493E+00	-0.026
AG-108M	-1.793E+00	6.772E+00	2.568E+01	5.143E-01	-0.070
AG-110M	6.800E-01	7.048E+00	2.877E+01	5.896E-01	0.024
SN-113DA	-3.417E+00	1.005E+01	3.733E+01	7.468E-01	-0.092
SB-124	8.553E+00	7.851E+00	3.325E+01	6.704E-01	0.257

---- Non-Identified Nuclides ----

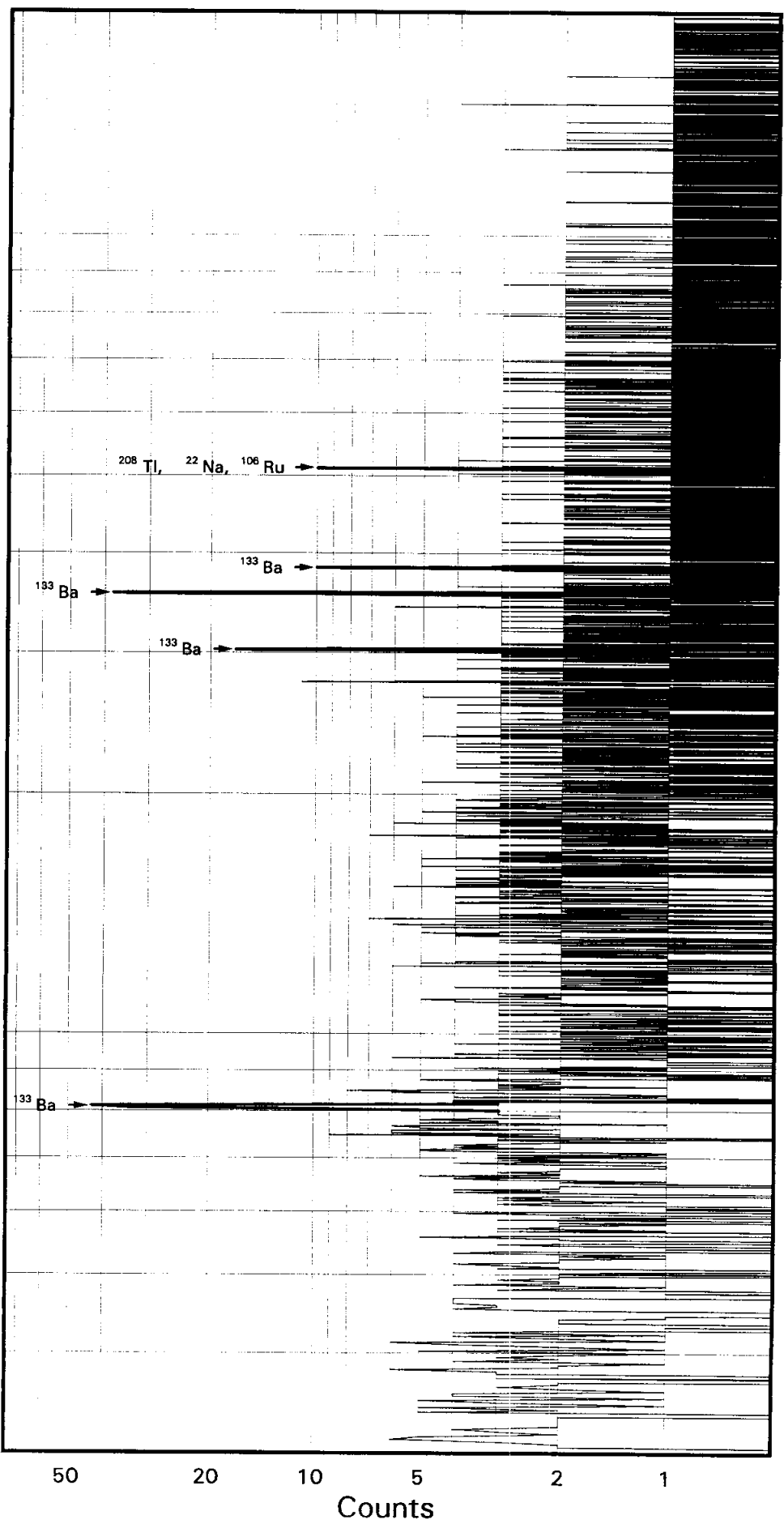
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-1.882E+01		2.302E+01	8.232E+01	1.648E+00	-0.229
SN-126DA	-4.014E+00		4.296E+00	1.533E+01	3.101E-01	-0.262
I-131	-8.121E+01		5.946E+01	1.950E+02	3.901E+00	-0.416
CS-134	4.798E+00		4.767E+00	2.207E+01	4.498E-01	0.217
CS-137DA	8.893E+00		5.670E+00	2.614E+01	5.287E-01	0.340
LA-138	1.001E+01		4.510E+00	2.623E+01	5.553E-01	0.382
CE-139	-2.278E+01		1.365E+01	4.489E+01	9.133E-01	-0.508
BA-140	-7.084E+01		6.759E+01	2.380E+02	4.783E+00	-0.298
BALA-140	-1.998E+01		2.013E+01	7.432E+01	1.588E+00	-0.269
CE-141	1.080E+01		3.138E+01	1.188E+02	2.431E+00	0.091
CE-144	-9.870E+01		8.936E+01	2.980E+02	6.129E+00	-0.331
CEPR-144	-1.984E+02		1.786E+02	5.954E+02	1.225E+01	-0.333
PM-144	2.090E-01		5.764E+00	2.262E+01	4.565E-01	0.009
PM-146	4.699E+00		8.647E+00	3.561E+01	7.134E-01	0.132
EU-152	1.107E+01		3.189E+01	1.196E+02	2.392E+00	0.093
EU-154	-4.149E+00		8.561E+00	3.476E+01	7.291E-01	-0.119
EU-155	-1.222E+01		4.695E+01	1.673E+02	3.494E+00	-0.073
HF-181	-2.942E+00		8.425E+00	3.265E+01	6.548E-01	-0.090
BI-207	6.252E+00		5.935E+00	2.515E+01	5.063E-01	0.249
TL-208	5.754E+00		6.379E+00	2.716E+01	5.471E-01	0.212
BI-210M	2.239E+01		1.460E+01	6.066E+01	1.216E+00	0.369
BI-212	-3.925E+01		6.944E+01	2.595E+02	7.921E+00	-0.151
PB-212	1.591E+01		1.740E+01	6.900E+01	1.386E+00	0.231
BI-214	5.363E+00		1.103E+01	4.577E+01	9.231E-01	0.117
PB-214	-3.493E+00		2.334E+01	7.188E+01	1.438E+00	-0.049
RA-223	-1.220E+01		5.982E+01	2.183E+02	4.376E+00	-0.056
RA-224DA	1.629E+01		1.781E+01	7.063E+01	1.419E+00	0.231
RA-226DA	5.363E+00		1.103E+01	4.577E+01	9.231E-01	0.117
AC-227DA	-8.555E+01		6.919E+01	2.336E+02	4.695E+00	-0.366
AC-228	-1.943E+00		1.419E+01	5.854E+01	1.201E+00	-0.033
RA-228DA	-1.959E+00		1.430E+01	5.900E+01	1.211E+00	-0.033
TH-228DA	1.639E+01		1.818E+01	7.738E+01	1.559E+00	0.212
TH-232DA	2.042E+01		6.257E+01	2.370E+02	4.740E+00	0.086
TH-234DA	-5.726E+02		6.638E+02	2.423E+03	4.999E+01	-0.236
U-234DA	4.008E+00		4.353E+01	1.613E+02	3.228E+00	0.025
U-235HP	-1.354E+02		9.208E+01	3.088E+02	6.326E+00	-0.438
NP-237DA	2.850E+00		2.045E+01	7.713E+01	1.543E+00	0.037
U-238DA	-3.493E+00		2.334E+01	7.188E+01	1.438E+00	-0.049
U-238DHP	1.583E+02		2.923E+02	1.089E+03	2.376E+01	0.145
AM-241HP	-3.478E+01		3.030E+01	1.021E+02	2.243E+00	-0.340

Not Used

STL Richland WA.
BA133

Sample ID: JW0EK1AA
Detector ID: GER11 1

Batch ID: 7135307



Energy Coefficients:
Offset: -1.02286E+00
Slope: 2.31786E-01
Quadrature: 3.25812E-08

Acquisition Start: 9-JUN-2007 12:43:35.60
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW0EK1AA

CONFIGURATION ID: GER11:JW0EK1AA_090671243
TITLE : BA133
SAMPLE ID : JW0EK1AA

REPORT DATE: 09-JUN-07 SAMPLE DATE: 17-MAY-2007 00:00:00.00
ACQUIRE DATE: 09-JUN-07 12:43:35 CALIB DATE: 9-JUN-2007 10:16:42.77
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: -.1023E+01 keV FWHM OFFSET: 1.8686E-01 keV
ENERGY SLOPE: 2.3179E-01 keV/C FWHM SLOPE: 4.0608E-02 sqr keV
ENERGY Q COEFF: 3.2581E-08 keV/C² 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

```

Configuration      : $DISK1:[GER11.SAMPLE]JW0EK1AA_090671243.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:43:35
Sample ID         : JW0EK1AA Sample 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 : 1899.95
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.14	149	22	0.73	354.46	348	14	8.26E-02	10.8	
2	0	302.71	69	17	0.95	1310.16	1300	17	3.83E-02	18.2	
3	0	355.84	194	3	1.05	1539.29	1533	15	1.08E-01	7.5	
4	0	383.48	54	4	0.93	1658.47	1648	19	2.99E-02	16.7	
5	0	512.25	10	27	0.26	2213.76	2206	10	5.62E-03	110.4	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER11.SAMPLE]JW0EK1AA_090671243.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:43:35
Sample ID        : JW0EK1AA Sample 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	Decay Corr	1-Sigma
					DPM/SAMPL	DPM/SAMPL	%Error
BA-133	81.00	149	33.00	2.880E+00	5.217E+02	5.239E+02	12.07
	276.40	-----	6.90	3.084E+00	-----	Line Not Found	-----
	302.84	69	17.80	3.088E+00	4.185E+02	4.203E+02	19.01
	356.00	194	62.05*	3.090E+00	3.370E+02	3.385E+02	9.23
	383.85	54	8.70	3.090E+00	6.667E+02	6.696E+02	17.54

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0EK1AA

Page : 2
Acquisition date : 9-JUN-2007 12:43:35

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	512.25	10	27	0.26	2213.76	2206	10	5.62E-03	****	3.08E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life		Energy	%Abund	Activity 1-Sigma		Rejected by
		Ratio				(DPM/SAMPL)	%Error	
NA-22	2.60Y	0.02		511.00	179.68	6.200E+00	110.52	Abun.
				1274.54*	99.94	---	Not Found	---
		% Abundances		Found =	64.26			
RU-106DA	368.20D	0.06		511.85	20.60	5.556E+01	110.52	Abun.
				621.84*	9.80	---	Not Found	---
		% Abundances		Found =	67.76			
TL-208	1.41E+10Y	0.00		277.35	6.80	---	Not Found	---
				510.84	21.60	5.069E+01	110.52	Abun.
				583.14*	84.20	---	Not Found	---
				860.37	12.46	---	Not Found	---
		% Abundances		Found =	17.27			

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER11.SAMPLE]JW0EK1AA_090671243.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:43:35
Sample ID        : JW0EK1AA Sample 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 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	3.385E+02	3.123E+01	3.439E+01	6.879E-01	9.841

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.256E+02	5.468E+01	1.515E+02	3.039E+00	-0.829
NA-22	-1.071E+00	1.956E+00	8.508E+00	1.793E-01	-0.126
K-40	-3.740E+01	3.868E+01	2.028E+02	4.325E+00	-0.184
SC-46	-4.006E-03	4.325E+00	1.791E+01	3.737E-01	0.000
CR-51	3.231E+01	9.108E+01	3.652E+02	7.307E+00	0.088
MN-54	1.240E+00	3.050E+00	1.397E+01	2.859E-01	0.089
CO-57	4.890E+01	6.628E+01	2.579E+02	5.314E+00	0.190
CO-58	7.174E+00	4.998E+00	2.326E+01	4.754E-01	0.308
FE-59	-1.698E+01	1.071E+01	3.441E+01	7.170E-01	-0.493
CO-60	4.137E-02	2.281E+00	1.068E+01	2.259E-01	0.004
ZN-65	-7.093E+00	6.275E+00	2.199E+01	4.587E-01	-0.323
SE-75	-2.209E+00	1.021E+01	3.757E+01	7.536E-01	-0.059
SR-85	1.922E+01	6.911E+00	3.092E+01	6.211E-01	0.622
Y-88	2.705E+00	2.790E+00	1.484E+01	3.237E-01	0.182
NB-94	-5.509E+00	2.934E+00	8.139E+00	1.670E-01	-0.677
NB-95	2.687E-01	5.837E+00	2.379E+01	4.849E-01	0.011
TC-95M	-7.819E+00	1.056E+01	3.785E+01	7.645E-01	-0.207
ZR-95	-1.166E+01	1.063E+01	3.613E+01	7.359E-01	-0.323
ZRNB-95	1.170E+00	9.554E+00	3.921E+01	7.992E-01	0.030
RH-101	1.197E+00	8.874E+00	3.514E+01	7.106E-01	0.034
RH-102M	1.274E+01	4.808E+00	2.324E+01	4.660E-01	0.548
RU-103	-1.143E+01	7.417E+00	2.393E+01	4.803E-01	-0.478
RU-106DA	-2.649E+01	4.195E+01	1.580E+02	3.191E+00	-0.168
AG-108M	-3.992E+00	5.973E+00	2.178E+01	4.362E-01	-0.183
AG-110M	2.667E+00	4.511E+00	2.073E+01	4.258E-01	0.129
SN-113DA	-6.966E-01	4.795E+00	2.019E+01	4.040E-01	-0.034
SB-124	8.935E+00	5.022E+00	2.428E+01	4.900E-01	0.368

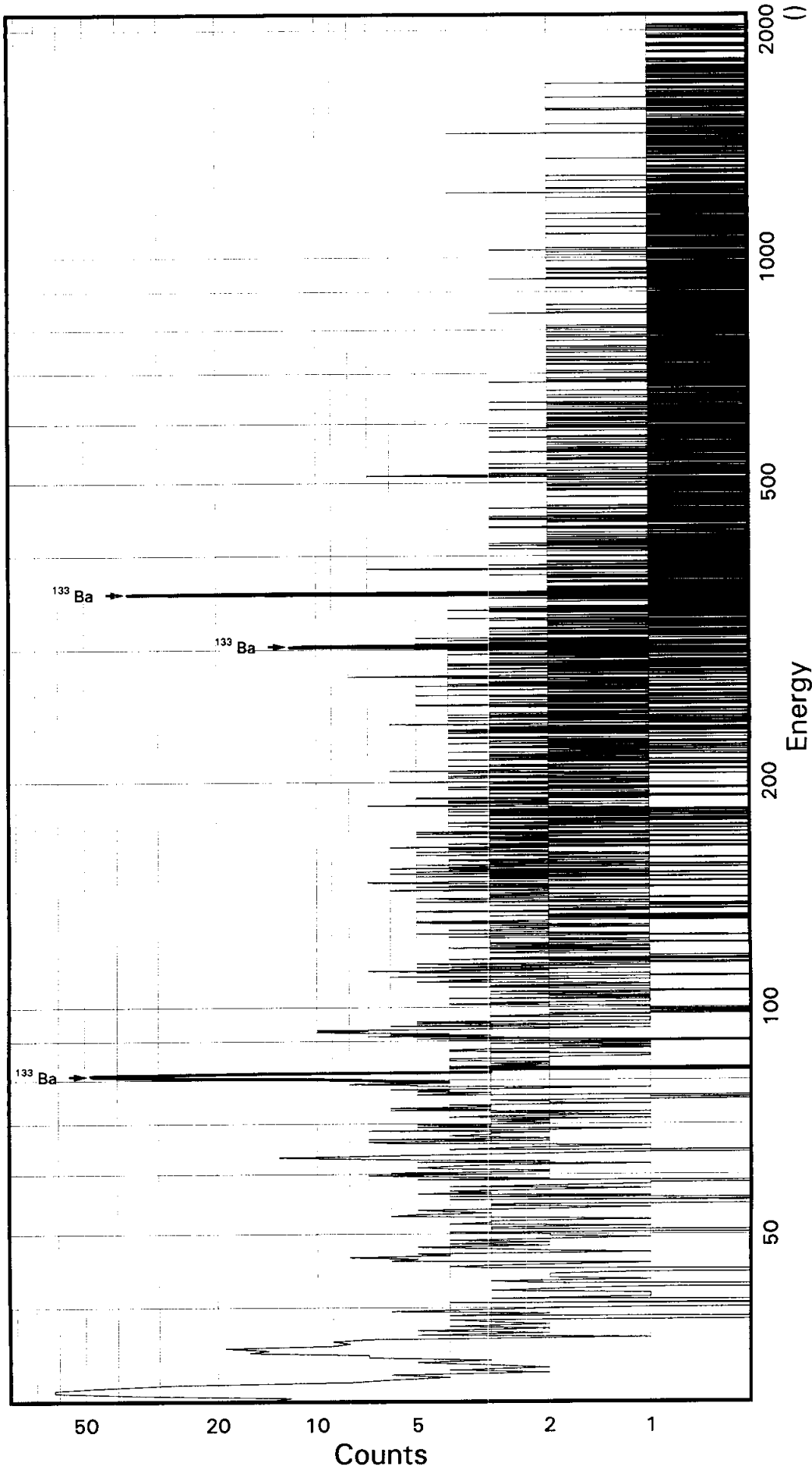
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	5.069E+00		1.416E+01	5.932E+01	1.188E+00	0.085
SN-126DA	-3.274E+00		2.895E+00	1.014E+01	2.054E-01	-0.323
I-131	5.004E+01		4.254E+01	1.845E+02	3.690E+00	0.271
CS-134	6.811E+00		4.706E+00	2.195E+01	4.482E-01	0.310
CS-137DA	7.726E+00		5.812E+00	2.583E+01	5.231E-01	0.299
LA-138	3.418E+00		3.462E+00	1.852E+01	3.944E-01	0.185
CE-139	9.926E+00		8.612E+00	3.564E+01	7.264E-01	0.278
BA-140	-3.508E+01		5.045E+01	1.865E+02	3.750E+00	-0.188
BALA-140	6.341E-01		2.105E+01	9.359E+01	2.013E+00	0.007
CE-141	-1.458E+01		2.089E+01	7.248E+01	1.487E+00	-0.201
CE-144	1.670E+02		6.906E+01	2.930E+02	6.045E+00	0.570
CEPR-144	3.322E+02		1.380E+02	5.853E+02	1.207E+01	0.568
PM-144	2.447E+00		3.592E+00	1.620E+01	3.273E-01	0.151
PM-146	5.640E+00		6.463E+00	2.813E+01	5.638E-01	0.200
EU-152	-2.977E+01		2.299E+01	7.677E+01	1.535E+00	-0.388
EU-154	-2.979E+00		5.439E+00	2.366E+01	4.988E-01	-0.126
EU-155	1.517E+01		2.702E+01	1.091E+02	2.289E+00	0.139
HF-181	3.559E+00		7.135E+00	3.018E+01	6.054E-01	0.118
BI-207	6.934E+00		4.643E+00	2.062E+01	4.153E-01	0.336
TL-208	-7.101E+00		4.305E+00	1.389E+01	2.800E-01	-0.511
BI-210M	-1.070E+01		1.133E+01	3.835E+01	7.692E-01	-0.279
BI-212	-5.246E+01		3.849E+01	1.225E+02	3.743E+00	-0.428
PB-212	-4.315E+00		1.299E+01	4.729E+01	9.508E-01	-0.091
BI-214	1.566E+01		1.052E+01	4.637E+01	9.361E-01	0.338
PB-214	-2.375E+01		1.714E+01	5.357E+01	1.071E+00	-0.443
RA-223	1.657E+01		3.990E+01	1.604E+02	3.216E+00	0.103
RA-224DA	-4.417E+00		1.329E+01	4.841E+01	9.733E-01	-0.091
RA-226DA	1.566E+01		1.052E+01	4.637E+01	9.361E-01	0.338
AC-227DA	8.700E+00		5.337E+01	2.019E+02	4.060E+00	0.043
AC-228	-1.233E+01		1.074E+01	3.718E+01	7.650E-01	-0.332
RA-228DA	-1.243E+01		1.082E+01	3.747E+01	7.710E-01	-0.332
TH-228DA	-2.023E+01		1.227E+01	3.957E+01	7.977E-01	-0.511
TH-232DA	3.678E+01		3.735E+01	1.594E+02	3.188E+00	0.231
TH-234DA	1.251E+02		4.314E+02	1.977E+03	4.092E+01	0.063
U-234DA	-3.525E+01		3.138E+01	1.088E+02	2.179E+00	-0.324
U-235HP	4.319E+01		5.474E+01	2.185E+02	4.487E+00	0.198
NP-237DA	6.551E+00		1.450E+01	5.819E+01	1.165E+00	0.113
U-238DA	-2.375E+01		1.714E+01	5.357E+01	1.071E+00	-0.443
U-238DHP	1.121E+02		1.616E+02	6.395E+02	1.408E+01	0.175
AM-241HP	6.136E+00		1.482E+01	5.914E+01	1.311E+00	0.104

STL Richland WA.
BA133

Batch ID: 7135307

Sample ID: JW0EK1AA
Detector ID: GER5 1



Energy Coefficients:
Offset: -3.53346E-01
Slope: 2.49366E-01
Quadrature: -3.03361E-09

Acquisition Start: 15-JUN-2007 20:27:55.95
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW0EK1AA

CONFIGURATION ID: GER5:JW0EK1AA_150672027
TITLE : BA133
SAMPLE ID : JW0EK1AA

REPORT DATE: 15-JUN-07
ACQUIRE DATE: 15-JUN-07 20:27:55
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 17-MAY-2007 12:00:00.00
CALIB DATE: 15-JUN-2007 05:06:35.18
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: -.3533E+00 keV
ENERGY SLOPE: 2.4937E-01 keV/C
ENERGY Q COEFF: -.3034E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 6.9982E-01 keV
FWHM SLOPE: 3.1333E-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 15-JUN-2007 20:58:10

Configuration : RDND06\$DKA100:[GER5.SAMPLE]JW0EK1AA_150672027.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 17-MAY-2007 12:00:00 Acquisition date : 15-JUN-2007 20:27:55
 Sample ID : JW0EK1AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 0.0%
 Start energy : 19.60 End energy : 2042.25
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.93	261	66	0.90	125.43	116	19	1.45E-01	9.7	
2	0	35.27	69	45	0.83	142.87	134	15	3.83E-02	24.4	
3	0	81.01	191	42	0.93	326.27	320	15	1.06E-01	10.5	
4	0	303.14	66	9	1.14	1217.08	1210	18	3.67E-02	16.3	
5	0	356.02	150	8	0.95	1429.15	1421	15	8.34E-02	9.1	

Flag: "*" = Peak area was modified by background subtraction

Configuration : RDND06\$DKA100:[GER5.SAMPLE]JWOEK1AA_150672027.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
 Sample title : BA133
 Sample date : 17-MAY-2007 12:00:00 Acquisition date : 15-JUN-2007 20:27:55
 Sample ID : JWOEK1AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 0.0%
 Energy tolerance : 1.50 Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 5.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma
					DPM/SAMPL	DPM/SAMPL	%Error
BA-133	81.00	191	33.00	1.919E+00	1.005E+03	1.010E+03	11.83
	276.40	-----	6.90	2.072E+00	-----	Line Not Found	-----
	302.84	66	17.80	2.074E+00	5.958E+02	5.990E+02	17.15
	356.00	150	62.05*	2.076E+00	3.883E+02	3.904E+02	10.57
	383.85	-----	8.70	2.076E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0EK1AA

Page : 2
Acquisition date : 15-JUN-2007 20:27:55

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.93	261	66	0.90	125.43	116	19	1.45E-01	9.7	1.68E+00	
0	35.27	69	45	0.83	142.87	134	15	3.83E-02	24.4	1.71E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW0EK1AA

Page : 3
Acquisition date : 15-JUN-2007 20:27:55

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 15-JUN-2007 20:58:11

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]JW0EK1AA_150672027.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       : 17-MAY-2007 12:00:00 Acquisition date : 15-JUN-2007 20:27:55
Sample ID        : JW0EK1AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	3.904E+02	4.125E+01	5.470E+01	1.094E+00	7.137

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.948E+01	8.973E+01	3.614E+02	7.250E+00	0.054
NA-22	-3.451E+00	3.470E+00	1.279E+01	2.713E-01	-0.270
NA-24	-3.550E+06	2.162E+08	Half-Life too short		
K-40	-6.207E+00	8.270E+01	3.798E+02	8.160E+00	-0.016
SC-46	-7.925E+00	6.593E+00	2.308E+01	4.840E-01	-0.343
CR-51	-6.834E+01	1.959E+02	7.257E+02	1.452E+01	-0.094
MN-54	-4.913E+00	5.163E+00	1.892E+01	3.884E-01	-0.260
CO-57	-2.195E+02	1.186E+02	3.683E+02	7.614E+00	-0.596
CO-58	-6.057E+00	6.441E+00	2.373E+01	4.863E-01	-0.255
FE-59	1.479E+01	1.282E+01	6.265E+01	1.312E+00	0.236
CO-60	-1.741E+00	1.744E+00	4.669E+00	9.940E-02	-0.373
ZN-65	7.856E+00	1.120E+01	5.078E+01	1.064E+00	0.155
SE-75	-3.335E-01	1.969E+01	7.265E+01	1.458E+00	-0.005
SR-85	-4.020E+01	1.682E+01	4.987E+01	1.002E+00	-0.806
Y-88	-5.127E-02	3.082E+00	1.584E+01	3.489E-01	-0.003
NB-94	3.455E+00	5.181E+00	2.329E+01	4.793E-01	0.148
NB-95	9.693E+00	9.174E+00	4.259E+01	8.699E-01	0.228
TC-95M	-4.690E+00	2.549E+01	9.232E+01	1.867E+00	-0.051
ZR-95	-8.920E-01	1.316E+01	5.335E+01	1.089E+00	-0.017
ZRNB-95	1.434E+01	1.399E+01	6.488E+01	1.325E+00	0.221
MO-99	2.767E-03	1.041E-02	Half-Life too short		
RH-101	-6.659E+00	1.714E+01	6.129E+01	1.241E+00	-0.109
RH-102M	-5.870E+00	7.299E+00	2.593E+01	5.201E-01	-0.226
RU-103	1.409E+01	1.352E+01	5.715E+01	1.147E+00	0.247
RU-106DA	-6.405E+01	7.438E+01	2.662E+02	5.385E+00	-0.241
AG-108M	-2.093E+00	7.869E+00	2.979E+01	5.967E-01	-0.070
AG-110M	-2.171E+00	5.504E+00	2.320E+01	4.780E-01	-0.094

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	2.125E+01		1.481E+01	6.313E+01	1.263E+00	0.337
SB-124	1.136E+01		7.634E+00	3.652E+01	7.377E-01	0.311
SB-125	1.753E+01		2.195E+01	9.405E+01	1.883E+00	0.186
SN-126DA	8.029E+00		4.901E+00	2.437E+01	4.943E-01	0.330
I-131	-2.314E+01		1.007E+02	3.911E+02	7.822E+00	-0.059
CS-134	8.141E+00		5.552E+00	2.790E+01	5.712E-01	0.292
CS-137DA	6.473E+00		5.230E+00	2.587E+01	5.246E-01	0.250
LA-138	2.416E+00		5.848E+00	2.777E+01	5.955E-01	0.087
CE-139	-4.052E+01		1.881E+01	5.991E+01	1.224E+00	-0.676
BA-140	-1.188E+01		1.129E+02	4.560E+02	9.175E+00	-0.026
BALA-140	5.409E+01		3.997E+01	2.149E+02	4.660E+00	0.252
LA-140	3.316E-01		3.127E-01	Half-Life too short		
CE-141	1.518E+01		5.336E+01	1.924E+02	3.961E+00	0.079
CE-144	8.872E+01		1.187E+02	4.494E+02	9.304E+00	0.197
CEPR-144	1.788E+02		2.376E+02	8.994E+02	1.862E+01	0.199
PM-144	1.394E+01		6.950E+00	3.259E+01	6.589E-01	0.428
PM-146	-1.615E+00		1.284E+01	4.815E+01	9.650E-01	-0.034
EU-152	-3.091E+01		2.940E+01	1.030E+02	2.061E+00	-0.300
EU-154	-9.568E+00		9.623E+00	3.548E+01	7.523E-01	-0.270
EU-155	-2.264E+01		5.797E+01	2.063E+02	4.352E+00	-0.110
HF-181	1.456E+00		1.145E+01	4.641E+01	9.313E-01	0.031
BI-207	9.591E-01		5.271E+00	2.243E+01	4.523E-01	0.043
TL-208	-2.292E+01		8.198E+00	2.576E+01	5.198E-01	-0.890
BI-210M	-2.371E+01		2.131E+01	7.156E+01	1.436E+00	-0.331
BI-212	1.364E+02		7.775E+01	3.848E+02	1.176E+01	0.354
PB-212	-2.598E+00		2.522E+01	9.845E+01	1.980E+00	-0.026
BI-214	-4.408E+00		1.621E+01	6.725E+01	1.359E+00	-0.066
PB-214	3.380E+01		2.419E+01	9.303E+01	1.861E+00	0.363
RA-223	1.031E+02		8.161E+01	3.213E+02	6.444E+00	0.321
RA-224DA	-2.675E+00		2.597E+01	1.014E+02	2.039E+00	-0.026
RA-226DA	-4.127E+00		1.624E+01	6.744E+01	1.363E+00	-0.061
AC-227DA	-1.803E+02		1.062E+02	3.419E+02	6.880E+00	-0.527
AC-228	3.608E+01		2.076E+01	9.963E+01	2.057E+00	0.362
RA-228DA	3.643E+01		2.097E+01	1.006E+02	2.077E+00	0.362
TH-228DA	-6.567E+01		2.350E+01	7.383E+01	1.490E+00	-0.890
TH-232DA	1.249E+02		8.189E+01	3.360E+02	6.722E+00	0.372
TH-234DA	1.473E+03		7.209E+02	3.796E+03	7.889E+01	0.388
U-234DA	-4.220E+01		5.355E+01	1.851E+02	3.708E+00	-0.228
U-235HP	4.374E+01		1.297E+02	4.699E+02	9.679E+00	0.093
NP-237DA	-1.814E+01		2.618E+01	9.434E+01	1.888E+00	-0.192
U-238DA	3.380E+01		2.419E+01	9.303E+01	1.861E+00	0.363
U-238DHP	-4.440E+02		4.525E+02	1.683E+03	3.748E+01	-0.264
AM-241HP	1.937E+00		4.090E+01	1.503E+02	3.373E+00	0.013

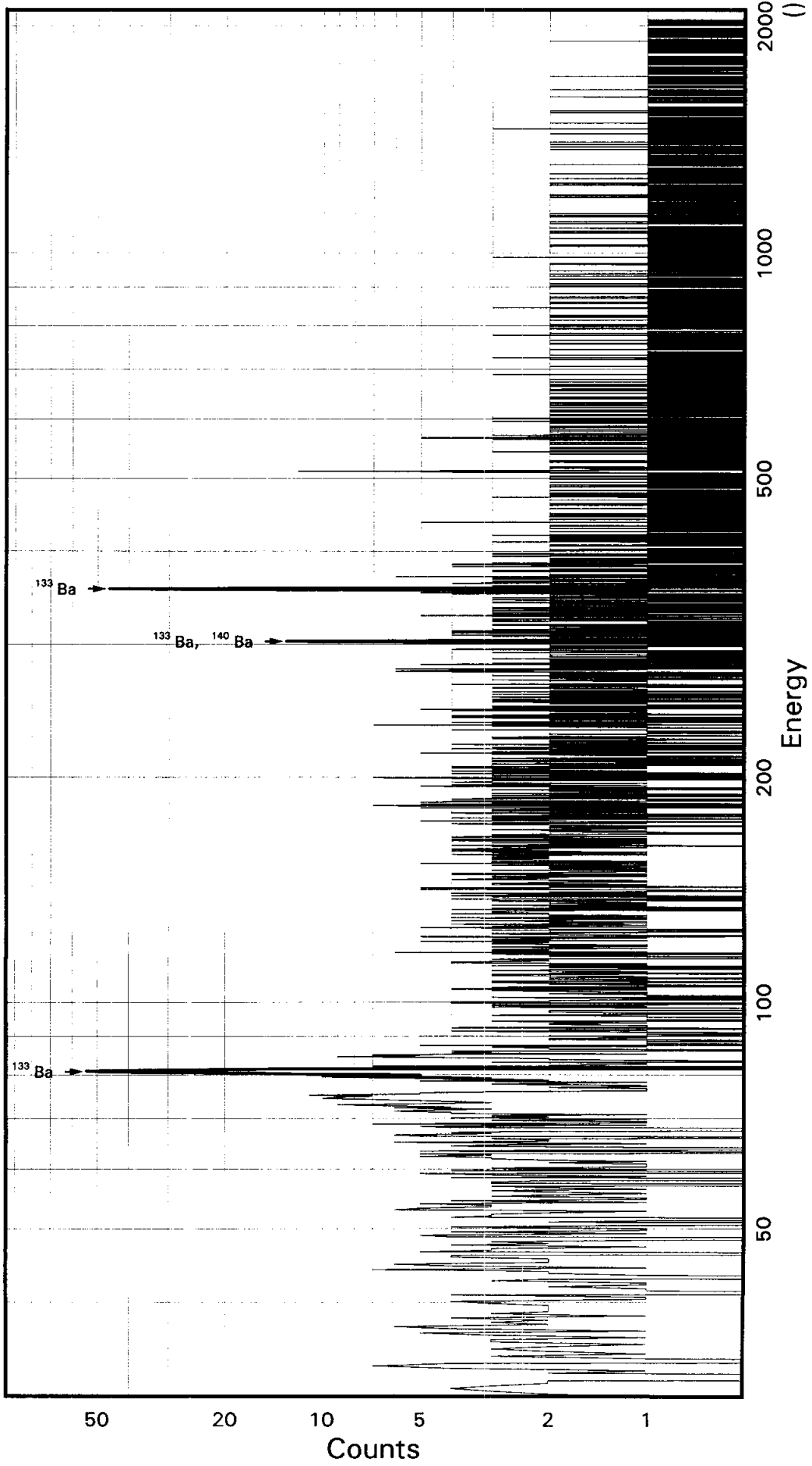
Not Used

STL Richland WA.

BA133

Batch ID: 7135307

Sample ID: JWOEL1AA
Detector ID: GER12 1



Energy Coefficients:
Offset: 1.14014E+01
Slope: 2.47593E-01
Quadrature: 3.43593E-09

Acquisition Start: 9-JUN-2007 12:43:55.06
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW0EL1AA

CONFIGURATION ID: GER12:JW0EL1AA_090671243
TITLE : BA133
SAMPLE ID : JW0EL1AA

REPORT DATE: 09-JUN-07 SAMPLE DATE: 17-MAY-2007 00:00:00.00
ACQUIRE DATE: 09-JUN-07 12:43:55 CALIB DATE: 9-JUN-2007 09:46:40.48
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: 1.1401E+01 keV FWHM OFFSET: 3.6755E-01 keV
ENERGY SLOPE: 2.4759E-01 keV/C FWHM SLOPE: 3.7231E-02 sqr keV
ENERGY Q COEFF: 3.4359E-09 keV/C² ITERATIONS: 10
PEAK SENSITIVITY: 5.000 GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 % HALF-LIFE RATIO: 8.00
ENERGY TOLERANCE: 2.000 keV ACTIVITY MULTIPLIER: 2.2200E+06
VARIABLE PEAK WIDTH: 3.00 LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 9-JUN-2007 13:14:13

Configuration : \$DISK1:[GER12.SAMPLE]JW0EL1AA_090671243.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
 Sample title : BA133
 Sample date : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:43:55
 Sample ID : JW0EL1AA Sample quantity : 1.0000 SAMPL
 Sample type : Sample geometry : BA133T15
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.31 0.0%
 Start energy : 11.65 End energy : 2039.92
 Sensitivity : 5.00 Gaussian : 10.00
 Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.82	168	35	0.66	280.37	273	12	9.33E-02	10.5	
2	0	303.01	51	13	0.89	1177.76	1170	13	2.81E-02	20.4	
3	0	355.99	193	24	0.96	1391.72	1382	19	1.07E-01	9.4	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER12.SAMPLE]JW0EL1AA_090671243.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:43:55
Sample ID        : JW0EL1AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.31 0.0%
Energy tolerance : 2.00 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00
    
```

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	168	33.00	2.915E+00	5.819E+02	5.844E+02	11.82
	276.40	-----	6.90	3.094E+00	-----	Line Not Found	-----
	302.84	51	17.80	3.097E+00	3.055E+02	3.068E+02	21.10
	356.00	193	62.05*	3.100E+00	3.350E+02	3.364E+02	10.83
	383.85	-----	8.70	3.099E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0EL1AA

Page : 2
Acquisition date : 9-JUN-2007 12:43:55

None

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
BA-140	12.79D	1.84	162.64	6.70	---	Not Found	---
			304.84	4.50	4.328E+03	21.10	Abun.
			423.70	3.20	---	Not Found	---
			537.32*	25.00	---	Not Found	---
% Abundances Found =				11.42			

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER12.SAMPLE]JW0EL1AA_090671243.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:43:55
Sample ID        : JW0EL1AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.31 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 2.00 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	3.364E+02	3.643E+01	3.385E+01	6.769E-01	9.940

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-2.928E+01	6.055E+01	2.242E+02	4.495E+00	-0.131
NA-22	1.018E+00	3.480E+00	1.501E+01	3.141E-01	0.068
K-40	-1.561E+00	4.868E+01	2.331E+02	4.929E+00	-0.007
SC-46	5.512E+00	4.268E+00	2.034E+01	4.220E-01	0.271
CR-51	-1.121E+01	1.028E+02	3.840E+02	7.682E+00	-0.029
MN-54	4.549E+00	3.946E+00	1.816E+01	3.707E-01	0.250
CO-57	2.284E+01	5.746E+01	2.270E+02	4.659E+00	0.101
CO-58	-6.509E+00	4.489E+00	1.493E+01	3.044E-01	-0.436
FE-59	7.019E+00	7.142E+00	3.544E+01	7.345E-01	0.198
CO-60	-1.049E-01	2.330E+00	1.057E+01	2.219E-01	-0.010
ZN-65	-4.248E+00	8.674E+00	3.311E+01	6.868E-01	-0.128
SE-75	9.277E-01	1.197E+01	4.537E+01	9.097E-01	0.020
SR-85	-4.699E+01	1.176E+01	2.954E+01	5.930E-01	-1.591
Y-88	0.000E+00	0.000E+00	3.675E+00	7.924E-02	0.000
NB-94	2.452E+00	2.731E+00	1.346E+01	2.752E-01	0.182
NB-95	8.620E+00	4.678E+00	2.458E+01	4.998E-01	0.351
TC-95M	7.221E+00	1.463E+01	5.464E+01	1.102E+00	0.132
ZR-95	6.961E+00	9.393E+00	4.042E+01	8.214E-01	0.172
ZRNB-95	1.395E+01	7.568E+00	3.977E+01	8.086E-01	0.351
RH-101	-4.964E-01	1.129E+01	4.177E+01	8.434E-01	-0.012
RH-102M	7.655E-01	5.316E+00	2.078E+01	4.165E-01	0.037
RU-103	1.916E+00	7.299E+00	2.954E+01	5.927E-01	0.065
RU-106DA	-2.142E+01	4.285E+01	1.631E+02	3.290E+00	-0.131
AG-108M	-1.422E+01	6.101E+00	1.790E+01	3.584E-01	-0.794
AG-110M	3.477E-02	3.950E+00	1.741E+01	3.563E-01	0.002
SN-113DA	-8.080E+00	7.731E+00	2.742E+01	5.486E-01	-0.295
SB-124	4.741E+00	6.576E+00	2.732E+01	5.506E-01	0.174

---- Non-Identified Nuclides ----

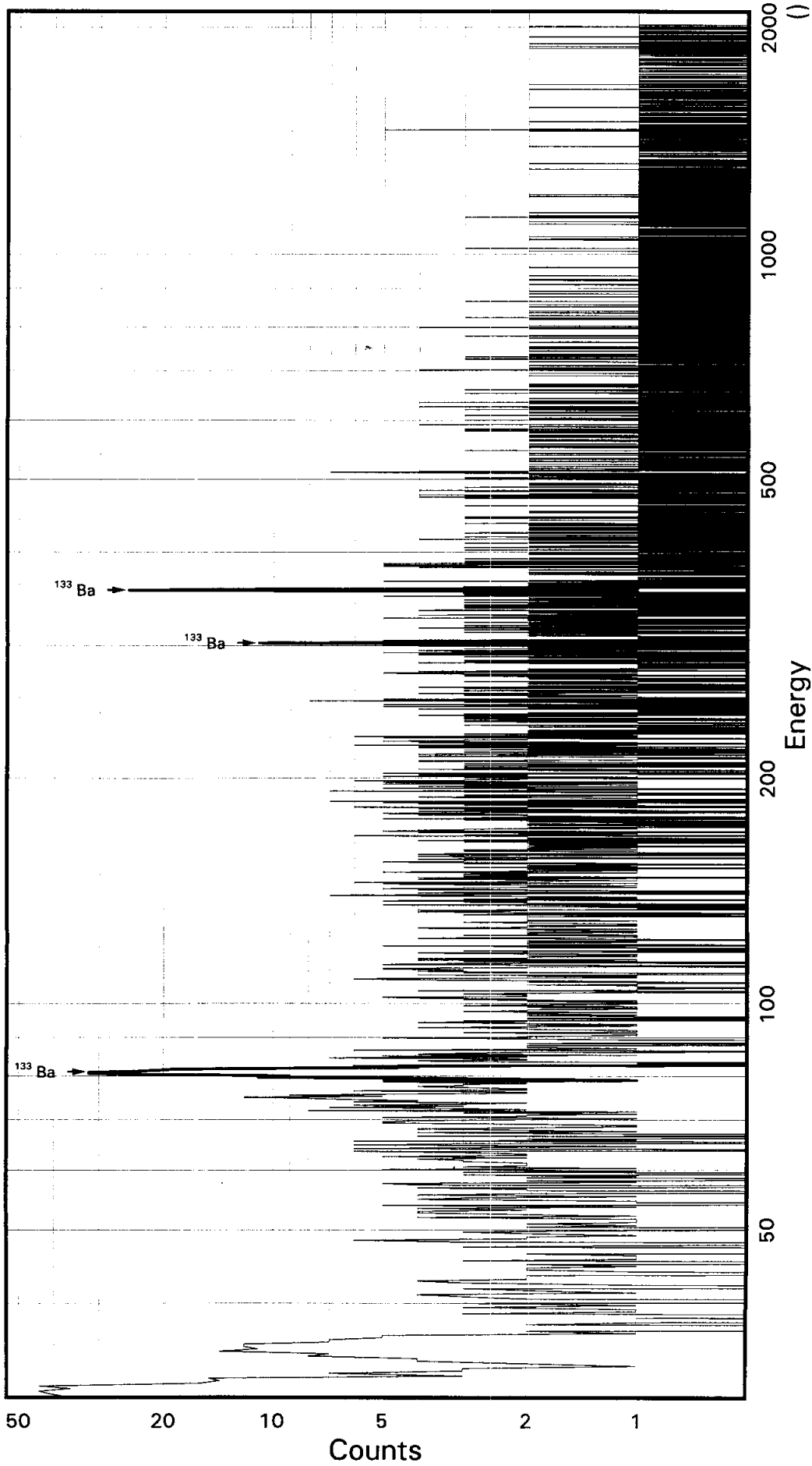
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	7.002E+00		1.376E+01	5.847E+01	1.171E+00	0.120
SN-126DA	-5.187E-01		4.020E+00	1.590E+01	3.216E-01	-0.033
I-131	6.725E-01		5.250E+01	2.030E+02	4.061E+00	0.003
CS-134	-6.014E+00		4.588E+00	1.573E+01	3.203E-01	-0.382
CS-137DA	-4.717E+00		5.190E+00	1.845E+01	3.729E-01	-0.256
LA-138	5.177E+00		4.487E+00	2.230E+01	4.710E-01	0.232
CE-139	7.285E+00		9.712E+00	3.771E+01	7.667E-01	0.193
BA-140	-4.573E+00		5.064E+01	2.033E+02	4.085E+00	-0.022
BALA-140	-2.652E+01		1.960E+01	6.317E+01	1.345E+00	-0.420
CE-141	6.429E+00		2.348E+01	8.921E+01	1.825E+00	0.072
CE-144	1.084E+01		6.601E+01	2.510E+02	5.156E+00	0.043
CEPR-144	2.255E+01		1.321E+02	5.024E+02	1.032E+01	0.045
PM-144	-7.303E-01		4.414E+00	1.737E+01	3.504E-01	-0.042
PM-146	-2.189E+00		4.938E+00	1.945E+01	3.896E-01	-0.113
EU-152	-2.995E+01		1.984E+01	6.322E+01	1.264E+00	-0.474
EU-154	2.830E+00		9.680E+00	4.174E+01	8.737E-01	0.068
EU-155	-9.335E+00		2.879E+01	1.089E+02	2.271E+00	-0.086
HF-181	3.423E+00		6.679E+00	2.857E+01	5.729E-01	0.120
BI-207	-3.418E+00		6.109E+00	2.232E+01	4.491E-01	-0.153
TL-208	-8.889E-01		4.184E+00	1.693E+01	3.409E-01	-0.052
BI-210M	-4.110E+00		1.243E+01	4.569E+01	9.160E-01	-0.090
BI-212	-5.423E+01		5.644E+01	1.990E+02	6.072E+00	-0.273
PB-212	-2.767E+01		1.403E+01	4.461E+01	8.962E-01	-0.620
BI-214	-6.423E+00		9.515E+00	3.514E+01	7.084E-01	-0.183
PB-214	2.121E+01		2.048E+01	7.503E+01	1.501E+00	0.283
RA-223	1.351E+01		4.145E+01	1.623E+02	3.253E+00	0.083
RA-224DA	-2.832E+01		1.436E+01	4.566E+01	9.174E-01	-0.620
RA-226DA	-6.423E+00		9.516E+00	3.514E+01	7.084E-01	-0.183
AC-227DA	1.229E+02		5.980E+01	2.528E+02	5.081E+00	0.486
AC-228	4.377E-01		1.269E+01	5.266E+01	1.080E+00	0.008
RA-228DA	4.411E-01		1.279E+01	5.307E+01	1.088E+00	0.008
TH-228DA	-2.533E+00		1.192E+01	4.824E+01	9.715E-01	-0.052
TH-232DA	-8.347E+01		4.758E+01	1.478E+02	2.956E+00	-0.565
TH-234DA	-5.458E+02		4.650E+02	1.582E+03	3.259E+01	-0.345
U-234DA	5.528E+01		3.495E+01	1.431E+02	2.865E+00	0.386
U-235HP	-4.498E+00		6.687E+01	2.478E+02	5.071E+00	-0.018
NP-237DA	5.042E+01		1.757E+01	7.778E+01	1.556E+00	0.648
U-238DA	2.121E+01		2.048E+01	7.503E+01	1.501E+00	0.283
U-238DHP	1.484E+00		2.003E+02	7.411E+02	1.611E+01	0.002
AM-241HP	1.693E+01		1.822E+01	7.359E+01	1.610E+00	0.230

STL Richland WA.

BA133

Batch ID: 7135307

Sample ID: JWOEL1AA
Detector ID: GER14 1



Acquisition Start: 15-JUN-2007 20:30:27.03
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -7.05793E-01
Slope: 2.48253E-01
Quadrature: 3.54435E-09

SAMPLE IDENTIFICATION: JW0EL1AA

CONFIGURATION ID: GER14:JW0EL1AA_150672030
TITLE : BA133
SAMPLE ID : JW0EL1AA

REPORT DATE: 15-JUN-07 SAMPLE DATE: 17-MAY-2007 12:00:00.00
ACQUIRE DATE: 15-JUN-07 20:30:27 CALIB DATE: 15-JUN-2007 05:10:01.26
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: -.7058E+00 keV FWHM OFFSET: 1.0404E+00 keV
ENERGY SLOPE: 2.4825E-01 keV/C FWHM SLOPE: 3.0230E-02 sqr keV
ENERGY Q COEFF: 3.5444E-09 keV/C² 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 15-JUN-2007 21:00:43

```

Configuration      : $DISK1:[GER14.SAMPLE]JW0EL1AA_150672030.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 12:00:00 Acquisition date : 15-JUN-2007 20:30:27
Sample ID        : JW0EL1AA Sample 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     : 19.15 End energy : 2033.22
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	30.64	256	45	1.61	126.25	116	37	1.42E-01	8.8	1.17E+00
2	3	34.98	79	8	1.62	143.74	116	37	4.37E-02	20.8	
3	0	81.14	175	44	1.44	329.69	320	18	9.73E-02	11.7	
4	0	302.71	53	23	0.99	1222.19	1213	17	2.96E-02	22.2	
5	0	356.09	150	18	1.35	1437.22	1424	28	8.34E-02	10.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 15-JUN-2007 21:00:43

```

Configuration      : $DISK1:[GER14.SAMPLE]JWOEL1AA_150672030.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 17-MAY-2007 12:00:00 Acquisition date : 15-JUN-2007 20:30:27
Sample ID        : JWOEL1AA Sample 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 Decay Corr		1-Sigma %Error
					DPM/SAMPL	DPM/SAMPL	
BA-133	81.00	175	33.00	1.819E+00	9.726E+02	9.778E+02	12.92
	276.40	-----	6.90	1.945E+00	-----	Line Not Found	-----
	302.84	53	17.80	1.948E+00	5.128E+02	5.155E+02	22.85
	356.00	150	62.05*	1.949E+00	4.136E+02	4.158E+02	11.93
	383.85	-----	8.70	1.949E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0EL1AA

Page : 2
Acquisition date : 15-JUN-2007 20:30:27

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	30.64	256	45	1.61	126.25	116	37	1.42E-01	8.8	1.61E+00	
3	34.98	79	8	1.62	143.74	116	37	4.37E-02	20.8	1.64E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW0EL1AA

Page : 3
Acquisition date : 15-JUN-2007 20:30:27

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER14.SAMPLE]JWOEL1AA_150672030.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       : 17-MAY-2007 12:00:00 Acquisition date : 15-JUN-2007 20:30:27
Sample ID        : JWOEL1AA Sample 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	4.158E+02	4.960E+01	7.353E+01	1.471E+00	5.654

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-9.368E+00	1.292E+02	4.842E+02	9.710E+00	-0.019
NA-22	-7.199E+00	5.163E+00	1.708E+01	3.597E-01	-0.421
K-40	-3.291E+01	1.029E+02	4.736E+02	1.009E+01	-0.069
SC-46	1.635E+00	9.619E+00	3.967E+01	8.271E-01	0.041
CR-51	-2.645E+02	2.489E+02	8.605E+02	1.722E+01	-0.307
MN-54	1.531E+00	7.006E+00	2.894E+01	5.923E-01	0.053
CO-57	-9.324E+01	1.593E+02	5.469E+02	1.126E+01	-0.171
CO-58	-8.300E-01	9.583E+00	3.715E+01	7.592E-01	-0.022
FE-59	-4.048E+01	1.787E+01	4.729E+01	9.847E-01	-0.856
CO-60	9.132E+00	4.114E+00	2.393E+01	5.057E-01	0.382
ZN-65	6.217E+00	1.542E+01	6.313E+01	1.316E+00	0.098
SE-75	-2.991E+01	2.400E+01	7.987E+01	1.602E+00	-0.375
SR-85	-3.467E+00	2.025E+01	7.157E+01	1.438E+00	-0.048
Y-88	-1.827E-02	3.221E+00	1.668E+01	3.632E-01	-0.001
NB-94	3.777E-01	6.922E+00	2.781E+01	5.705E-01	0.014
NB-95	1.209E+01	1.094E+01	4.946E+01	1.008E+00	0.244
TC-95M	-1.312E+00	2.925E+01	1.060E+02	2.141E+00	-0.012
ZR-95	1.682E+01	1.516E+01	6.861E+01	1.397E+00	0.245
ZRNB-95	1.856E+01	1.679E+01	7.592E+01	1.547E+00	0.244
RH-101	4.128E+00	2.304E+01	8.328E+01	1.684E+00	0.050
RH-102M	1.418E+01	1.021E+01	4.227E+01	8.475E-01	0.335
RU-103	-4.451E+01	1.741E+01	4.841E+01	9.716E-01	-0.920
RU-106DA	8.963E+01	9.919E+01	4.036E+02	8.152E+00	0.222
AG-108M	-5.899E+00	9.964E+00	3.589E+01	7.188E-01	-0.164
AG-110M	4.300E-01	9.702E+00	3.937E+01	8.083E-01	0.011
SN-113DA	-2.555E+00	1.904E+01	7.056E+01	1.412E+00	-0.036
SB-124	1.519E+01	1.100E+01	4.812E+01	9.710E-01	0.316

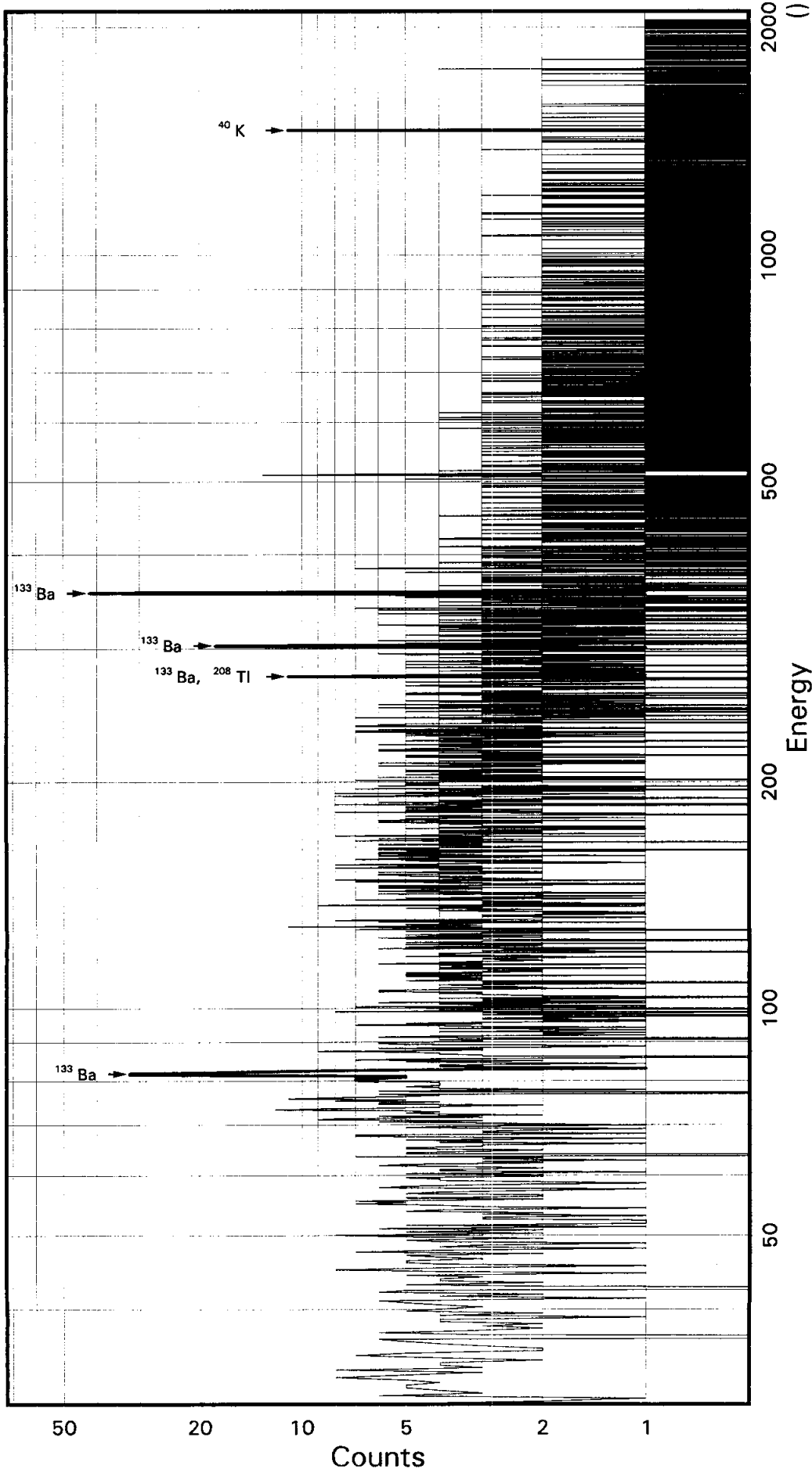
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL) K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-3.573E+01	3.498E+01	1.202E+02	2.406E+00	-0.297
SN-126DA	1.731E+00	8.309E+00	3.259E+01	6.599E-01	0.053
I-131	2.807E+02	1.632E+02	6.784E+02	1.357E+01	0.414
CS-134	8.811E+00	8.093E+00	3.561E+01	7.269E-01	0.247
CS-137DA	-6.972E+00	9.679E+00	3.481E+01	7.047E-01	-0.200
LA-138	-5.628E+00	6.758E+00	2.530E+01	5.382E-01	-0.222
CE-139	-3.968E-01	1.918E+01	7.041E+01	1.435E+00	-0.006
BA-140	-2.158E+02	1.507E+02	5.068E+02	1.019E+01	-0.426
BALA-140	1.945E+01	3.241E+01	1.753E+02	3.765E+00	0.111
CE-141	3.226E+01	6.278E+01	2.275E+02	4.667E+00	0.142
CE-144	-1.441E+02	1.484E+02	4.986E+02	1.028E+01	-0.289
CEPR-144	-2.939E+02	2.964E+02	9.948E+02	2.051E+01	-0.295
PM-144	-1.583E+00	9.128E+00	3.459E+01	6.984E-01	-0.046
PM-146	2.630E+01	1.261E+01	5.663E+01	1.135E+00	0.464
EU-152	2.057E+01	3.966E+01	1.542E+02	3.085E+00	0.133
EU-154	-1.407E+01	1.355E+01	4.876E+01	1.027E+00	-0.288
EU-155	-2.443E+02	7.283E+01	2.013E+02	4.219E+00	-1.214
HF-181	7.529E+00	1.611E+01	6.419E+01	1.288E+00	0.117
BI-207	1.733E+00	8.267E+00	3.276E+01	6.598E-01	0.053
TL-208	1.340E+00	9.116E+00	3.619E+01	7.295E-01	0.037
BI-210M	-1.724E+01	2.306E+01	8.002E+01	1.605E+00	-0.215
BI-212	1.065E+02	1.312E+02	5.346E+02	1.633E+01	0.199
PB-212	-2.428E+01	2.692E+01	9.258E+01	1.861E+00	-0.262
BI-214	-2.712E+01	1.993E+01	7.362E+01	1.486E+00	-0.368
PB-214	9.836E+01	3.754E+01	1.430E+02	2.859E+00	0.688
RA-223	-2.037E+01	8.230E+01	2.973E+02	5.961E+00	-0.069
RA-224DA	-2.500E+01	2.772E+01	9.532E+01	1.916E+00	-0.262
RA-226DA	-2.697E+01	1.994E+01	7.372E+01	1.488E+00	-0.366
AC-227DA	-6.095E+01	8.943E+01	3.165E+02	6.363E+00	-0.193
AC-228	3.873E+01	2.687E+01	1.194E+02	2.456E+00	0.324
RA-228DA	3.911E+01	2.713E+01	1.206E+02	2.480E+00	0.324
TH-228DA	3.840E+00	2.613E+01	1.037E+02	2.091E+00	0.037
TH-232DA	-1.411E+01	9.580E+01	3.518E+02	7.037E+00	-0.040
TH-234DA	-4.435E+00	6.685E+02	2.928E+03	6.057E+01	-0.002
U-234DA	2.063E+01	7.041E+01	2.573E+02	5.152E+00	0.080
U-235HP	5.519E+01	1.629E+02	5.826E+02	1.196E+01	0.095
NP-237DA	1.461E+01	3.083E+01	1.190E+02	2.380E+00	0.123
U-238DA	9.836E+01	3.754E+01	1.430E+02	2.859E+00	0.688
U-238DHP	9.868E+02	4.428E+02	1.759E+03	3.867E+01	0.561
AM-241HP	-5.308E+01	4.395E+01	1.493E+02	3.304E+00	-0.356

STL Richland WA.
BA133

Batch ID: 7135307

Sample ID: JWOEN1AA
Detector ID: GER13 1



Energy Coefficients:
Offset: -5.83340E-01
Slope: 2.50773E-01
Quadrature: -1.02099E-07

Acquisition Start: 9-JUN-2007 12:44:24.81
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW0EN1AA

CONFIGURATION ID: GER13:JW0EN1AA_090671244
TITLE : BA133
SAMPLE ID : JW0EN1AA

REPORT DATE: 09-JUN-07 SAMPLE DATE: 17-MAY-2007 00:00:00.00
ACQUIRE DATE: 09-JUN-07 12:44:24 CALIB DATE: 9-JUN-2007 10:03:38.55
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: -.5833E+00 keV FWHM OFFSET: 5.1012E-01 keV
ENERGY SLOPE: 2.5077E-01 keV/C FWHM SLOPE: 3.9665E-02 sqr keV
ENERGY Q COEFF: -.1021E-06 keV/C² 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 9-JUN-2007 13:14:38

```

Configuration      : $DISK1:[GER13.SAMPLE]JW0EN1AA_090671244.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:44:24
Sample ID        : JW0EN1AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.35 0.0%
Start energy     : 19.48 End energy : 2046.90
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.87	95	67	0.70	328.83	321	16	5.30E-02	21.9	
2	0	276.07	35	9	0.64	1103.71	1099	11	1.97E-02	23.0	
3	0	303.17	80	30	1.20	1211.88	1200	20	4.46E-02	20.1	
4	0	355.92	208	29	1.29	1422.45	1413	22	1.15E-01	9.8	
5	0	1460.67*	3	3	1.91	5840.89	5830	22	1.62E-03	297.1	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER13.SAMPLE]JWOEN1AA.090671244.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:44:24
Sample ID        : JWOEN1AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.35 0.0%
Energy tolerance : 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	3	10.67*	2.692E+00	3.389E+01	3.389E+01	297.15

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	95	33.00	2.677E+00	3.597E+02	3.612E+02	22.52
	276.40	35	6.90	2.869E+00	5.971E+02	5.996E+02	23.65
	302.84	80	17.80	2.872E+00	5.237E+02	5.260E+02	20.78
	356.00	208	62.05*	2.875E+00	3.883E+02	3.899E+02	11.22
	383.85	-----	8.70	2.874E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JWOEN1AA

Page : 2
Acquisition date : 9-JUN-2007 12:44:24

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW0EN1AA

Page : 3
Acquisition date : 9-JUN-2007 12:44:24

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	6.059E+02	23.65	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER13.SAMPLE]JWOEN1AA_090671244.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:44:24
Sample ID        : JWOEN1AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.35 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 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	3.389E+01	1.007E+02	1.526E+02	3.259E+00	0.222
BA-133	3.899E+02	4.376E+01	4.906E+01	9.812E-01	7.948

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	6.997E+01	7.966E+01	3.221E+02	6.461E+00	0.217
NA-22	2.483E-01	3.860E+00	1.631E+01	3.442E-01	0.015
SC-46	-8.311E+00	7.327E+00	2.822E+01	5.893E-01	-0.295
CR-51	5.104E+01	1.786E+02	6.488E+02	1.298E+01	0.079
MN-54	-4.219E+00	5.361E+00	1.935E+01	3.963E-01	-0.218
CO-57	1.135E+02	9.949E+01	3.826E+02	7.887E+00	0.297
CO-58	-4.267E+00	6.469E+00	2.375E+01	4.857E-01	-0.180
FE-59	1.832E+01	1.152E+01	5.349E+01	1.116E+00	0.343
CO-60	-2.388E+00	2.436E+00	9.106E+00	1.929E-01	-0.262
ZN-65	1.178E+00	1.259E+01	4.870E+01	1.017E+00	0.024
SE-75	-3.099E+01	1.799E+01	5.844E+01	1.172E+00	-0.530
SR-85	-5.093E+01	1.521E+01	4.285E+01	8.608E-01	-1.188
Y-88	-4.967E-02	2.996E+00	1.379E+01	3.013E-01	-0.004
NB-94	2.882E+00	5.401E+00	2.197E+01	4.511E-01	0.131
NB-95	1.741E+01	8.603E+00	3.907E+01	7.967E-01	0.446
TC-95M	-1.284E-01	2.181E+01	7.666E+01	1.549E+00	-0.002
ZR-95	1.857E+01	1.173E+01	5.274E+01	1.075E+00	0.352
ZRNB-95	3.459E+01	1.339E+01	6.354E+01	1.296E+00	0.544
RH-101	8.686E+00	1.517E+01	5.505E+01	1.114E+00	0.158
RH-102M	6.942E+00	7.115E+00	2.852E+01	5.719E-01	0.243
RU-103	-3.076E+00	1.012E+01	3.724E+01	7.475E-01	-0.083
RU-106DA	-2.517E+01	6.353E+01	2.345E+02	4.738E+00	-0.107
AG-108M	0.000E+00	0.000E+00	2.751E+01	5.510E-01	0.000
AG-110M	1.461E+01	8.726E+00	3.776E+01	7.760E-01	0.387
SN-113DA	2.028E+01	1.148E+01	4.892E+01	9.788E-01	0.415
SB-124	-3.517E+00	8.740E+00	3.202E+01	6.463E-01	-0.110

----- Non-Identified Nuclides -----

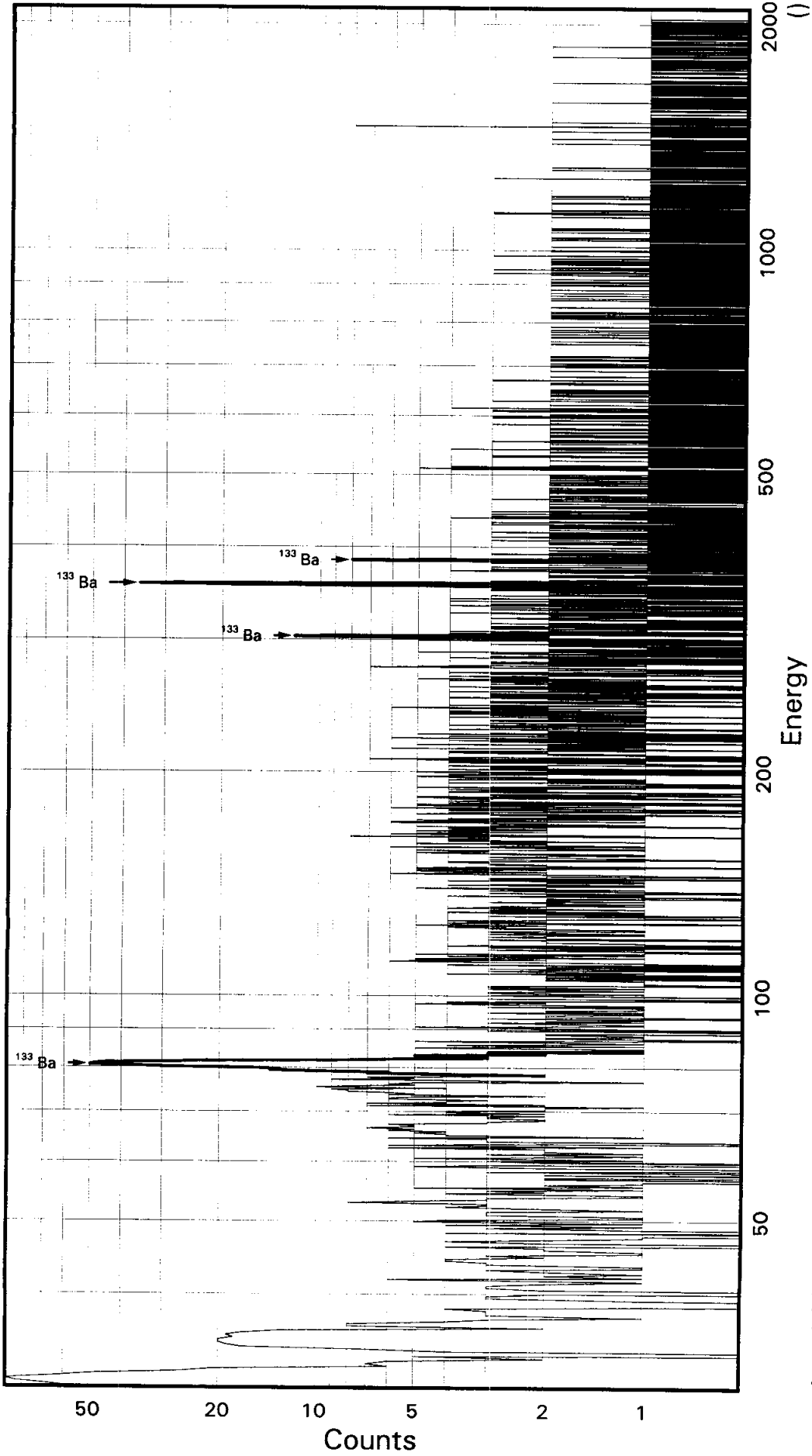
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	7.006E+00		2.328E+01	8.947E+01	1.791E+00	0.078
SN-126DA	7.247E+00		6.092E+00	2.528E+01	5.122E-01	0.287
I-131	2.463E+01		6.476E+01	2.515E+02	5.031E+00	0.098
CS-134	-4.835E+00		6.593E+00	2.388E+01	4.880E-01	-0.202
CS-137DA	-5.552E+00		8.177E+00	2.888E+01	5.849E-01	-0.192
LA-138	-7.458E+00		5.889E+00	1.994E+01	4.251E-01	-0.374
CE-139	-3.999E+00		1.572E+01	5.523E+01	1.126E+00	-0.072
BA-140	-2.607E+00		8.172E+01	3.164E+02	6.364E+00	-0.008
BALA-140	1.692E+00		2.909E+01	1.227E+02	2.643E+00	0.014
CE-141	-3.627E+01		3.920E+01	1.339E+02	2.750E+00	-0.271
CE-144	-2.548E+02		9.739E+01	2.972E+02	6.136E+00	-0.857
CEPR-144	-5.115E+02		1.947E+02	5.936E+02	1.225E+01	-0.862
PM-144	-1.133E+00		6.638E+00	2.485E+01	5.020E-01	-0.046
PM-146	-1.681E+01		1.045E+01	3.377E+01	6.766E-01	-0.498
EU-152	-1.384E+00		2.973E+01	1.077E+02	2.154E+00	-0.013
EU-154	6.913E-01		1.074E+01	4.537E+01	9.574E-01	0.015
EU-155	1.067E+02		4.783E+01	1.904E+02	3.999E+00	0.560
HF-181	-3.793E+00		9.517E+00	3.520E+01	7.060E-01	-0.108
BI-207	-4.103E+00		6.654E+00	2.406E+01	4.847E-01	-0.171
TL-208	-1.430E+01		8.512E+00	3.109E+01	6.267E-01	-0.460
BI-210M	-3.105E+01		1.859E+01	6.059E+01	1.215E+00	-0.512
BI-212	4.058E+01		1.086E+02	4.123E+02	1.260E+01	0.098
PB-212	4.353E+01		2.431E+01	9.643E+01	1.939E+00	0.451
BI-214	-2.092E+01		1.730E+01	6.663E+01	1.345E+00	-0.314
PB-214	-1.919E+01		2.867E+01	9.295E+01	1.859E+00	-0.206
RA-223	1.263E+02		6.895E+01	2.736E+02	5.487E+00	0.462
RA-224DA	4.456E+01		2.489E+01	9.871E+01	1.985E+00	0.451
RA-226DA	-2.082E+01		1.731E+01	6.668E+01	1.346E+00	-0.312
AC-227DA	-1.021E+02		1.005E+02	3.444E+02	6.926E+00	-0.297
AC-228	-2.122E+01		1.896E+01	7.779E+01	1.602E+00	-0.273
RA-228DA	-2.139E+01		1.911E+01	7.839E+01	1.614E+00	-0.273
TH-228DA	-4.073E+01		2.425E+01	8.858E+01	1.786E+00	-0.460
TH-232DA	1.760E+01		6.605E+01	2.435E+02	4.871E+00	0.072
TH-234DA	-6.649E+02		7.216E+02	2.604E+03	5.395E+01	-0.255
U-234DA	1.937E+01		4.903E+01	1.862E+02	3.729E+00	0.104
U-235HP	1.137E+02		1.005E+02	3.823E+02	7.855E+00	0.297
NP-237DA	2.834E+01		2.304E+01	9.008E+01	1.803E+00	0.315
U-238DA	-1.919E+01		2.867E+01	9.295E+01	1.859E+00	-0.206
U-238DHP	-1.488E+02		2.782E+02	9.782E+02	2.158E+01	-0.152
AM-241HP	-3.106E+01		2.891E+01	9.871E+01	2.193E+00	-0.315

STL Richland WA.

BA133

Batch ID: 7135307

Sample ID: JW0EQ1AA
Detector ID: GER14 1



Acquisition Start: 9-JUN-2007 12:44:44.89
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -7.34321E-01
Slope: 2.48285E-01
Quadrature: -3.19261E-09

SAMPLE IDENTIFICATION: JW0EQ1AA

CONFIGURATION ID: GER14:JW0EQ1AA_090671244
TITLE : BA133
SAMPLE ID : JW0EQ1AA

REPORT DATE: 09-JUN-07
ACQUIRE DATE: 09-JUN-07 12:44:44
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 17-MAY-2007 00:00:00.00
CALIB DATE: 9-JUN-2007 09:46:55.48
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: -.7343E+00 keV
ENERGY SLOPE: 2.4829E-01 keV/C
ENERGY Q COEFF: -.3193E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.0715E+00 keV
FWHM SLOPE: 2.7691E-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 9-JUN-2007 13:15:01

```

Configuration      : $DISK1:[GER14.SAMPLE]JW0EQ1AA_090671244.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:44:44
Sample ID        : JW0EQ1AA Sample 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     : 19.13 End energy : 2033.01
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.48	569	76	1.39	125.73	114	24	3.16E-01	5.9	
2	0	35.33	174	20	1.94	145.23	137	23	9.68E-02	10.9	
3	0	80.78	317	53	1.32	328.31	318	24	1.76E-01	8.3	
4	0	303.27	78	19	1.40	1224.45	1213	23	4.33E-02	16.7	
5	0	356.15	221	16	1.68	1437.44	1425	25	1.23E-01	7.9	
6	0	383.70	40	8	1.17	1548.38	1539	17	2.21E-02	21.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 9-JUN-2007 13:15:02

Configuration : \$DISK1:[GER14.SAMPLE]JW0EQ1AA_090671244.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:44:44
 Sample ID : JW0EQ1AA Sample 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	Decay Corr	1-Sigma
					DPM/SAMPL	DPM/SAMPL	
BA-133	81.00	317	33.00	1.818E+00	1.760E+03	1.768E+03	9.94
	276.40	-----	6.90	1.945E+00	-----	Line Not Found	-----
	302.84	78	17.80	1.948E+00	7.499E+02	7.531E+02	17.59
	356.00	221	62.05*	1.949E+00	6.092E+02	6.118E+02	9.58
	383.85	40	8.70	1.949E+00	7.804E+02	7.837E+02	22.06

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0EQ1AA

Page : 2
Acquisition date : 9-JUN-2007 12:44:44

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.48	569	76	1.39	125.73	114	24	3.16E-01	5.9	1.61E+00	
0	35.33	174	20	1.94	145.23	137	23	9.68E-02	10.9	1.65E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW0EQ1AA

Page : 3
Acquisition date : 9-JUN-2007 12:44:44

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER14.SAMPLE]JW0EQ1AA_090671244.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 12:44:44
Sample ID        : JW0EQ1AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.41 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.118E+02	5.859E+01	6.672E+01	1.334E+00	9.169

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	5.482E+00	1.015E+02	3.949E+02	7.919E+00	0.014
NA-22	-5.907E+00	5.645E+00	1.972E+01	4.152E-01	-0.300
K-40	-9.003E+01	8.880E+01	4.269E+02	9.094E+00	-0.211
SC-46	1.712E+01	1.008E+01	4.486E+01	9.355E-01	0.382
CR-51	2.807E+02	2.222E+02	8.693E+02	1.739E+01	0.323
MN-54	-6.047E+00	7.736E+00	2.767E+01	5.663E-01	-0.219
CO-57	-2.203E+02	1.432E+02	4.614E+02	9.501E+00	-0.478
CO-58	-6.524E+00	9.320E+00	3.373E+01	6.892E-01	-0.193
FE-59	4.694E+00	1.367E+01	5.969E+01	1.243E+00	0.079
CO-60	9.259E+00	6.009E+00	2.887E+01	6.102E-01	0.321
ZN-65	-2.774E+01	1.546E+01	4.789E+01	9.982E-01	-0.579
SE-75	1.343E+01	2.754E+01	1.016E+02	2.037E+00	0.132
SR-85	4.412E+00	1.571E+01	5.836E+01	1.172E+00	0.076
Y-88	2.184E+00	2.187E+00	1.606E+01	3.497E-01	0.136
NB-94	-2.344E+00	7.378E+00	2.781E+01	5.705E-01	-0.084
NB-95	1.104E+01	8.836E+00	4.172E+01	8.500E-01	0.265
TC-95M	-3.941E+01	3.062E+01	1.026E+02	2.073E+00	-0.384
ZR-95	7.986E+00	1.412E+01	6.096E+01	1.241E+00	0.131
ZRNB-95	8.785E+00	1.565E+01	6.749E+01	1.375E+00	0.130
RH-101	5.555E+01	2.212E+01	8.817E+01	1.783E+00	0.630
RH-102M	-3.617E+00	9.074E+00	3.345E+01	6.709E-01	-0.108
RU-103	3.161E+00	1.360E+01	5.349E+01	1.074E+00	0.059
RU-106DA	-1.486E+01	6.004E+01	2.413E+02	4.874E+00	-0.062
AG-108M	-5.890E+00	1.090E+01	3.927E+01	7.864E-01	-0.150
AG-110M	2.044E+01	9.072E+00	4.494E+01	9.226E-01	0.455
SN-113DA	-5.274E+00	1.798E+01	6.619E+01	1.324E+00	-0.080
SB-124	-6.525E+00	1.123E+01	4.131E+01	8.336E-01	-0.158

---- Non-Identified Nuclides ----

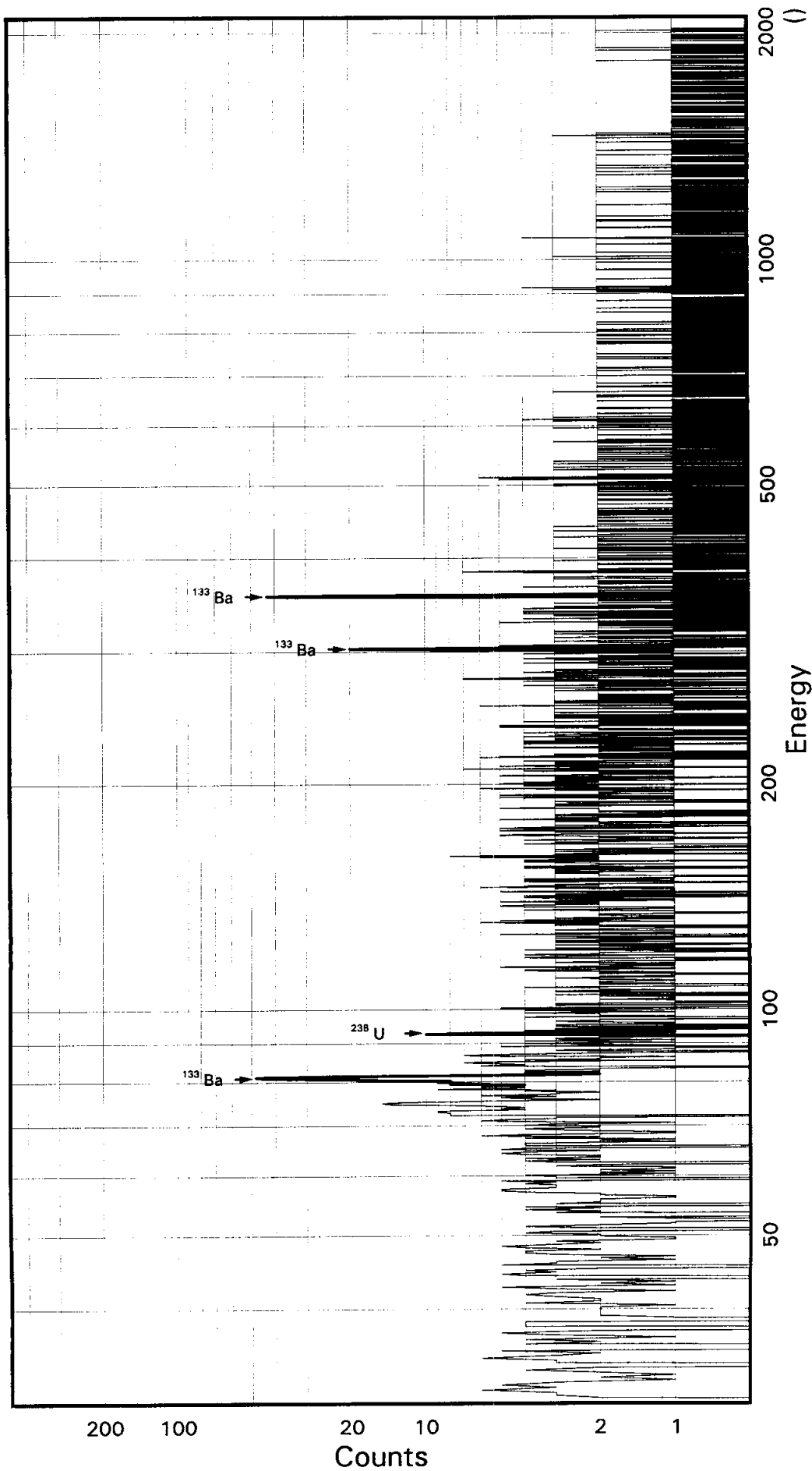
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-1.648E+01		3.190E+01	1.159E+02	2.321E+00	-0.142
SN-126DA	-5.546E+00		8.831E+00	3.202E+01	6.484E-01	-0.173
I-131	1.417E+02		8.777E+01	3.723E+02	7.445E+00	0.381
CS-134	3.949E-01		6.054E+00	2.569E+01	5.245E-01	0.015
CS-137DA	1.564E+01		8.992E+00	4.038E+01	8.175E-01	0.387
LA-138	8.479E+00		4.830E+00	2.973E+01	6.324E-01	0.285
CE-139	2.674E+01		2.527E+01	9.444E+01	1.924E+00	0.283
BA-140	-8.602E+01		1.257E+02	4.465E+02	8.977E+00	-0.193
BALA-140	-3.333E-01		2.772E+01	1.278E+02	2.746E+00	-0.003
CE-141	-1.413E+01		5.597E+01	1.948E+02	3.996E+00	-0.073
CE-144	5.362E+01		1.423E+02	5.198E+02	1.072E+01	0.103
CEPR-144	1.072E+02		2.847E+02	1.040E+03	2.144E+01	0.103
PM-144	-1.379E+01		7.583E+00	2.388E+01	4.821E-01	-0.578
PM-146	1.055E+01		1.064E+01	4.618E+01	9.254E-01	0.228
EU-152	-6.111E+01		3.975E+01	1.322E+02	2.643E+00	-0.462
EU-154	-1.643E+01		1.570E+01	5.484E+01	1.155E+00	-0.300
EU-155	-8.684E+01		6.455E+01	2.133E+02	4.472E+00	-0.407
HF-181	-1.780E-01		1.374E+01	5.318E+01	1.067E+00	-0.003
BI-207	-7.409E+00		8.591E+00	2.994E+01	6.030E-01	-0.247
TL-208	2.056E+01		9.906E+00	4.447E+01	8.963E-01	0.462
BI-210M	4.468E+01		2.898E+01	1.122E+02	2.250E+00	0.398
BI-212	-5.704E-01		1.179E+02	4.591E+02	1.402E+01	-0.001
PB-212	7.262E+00		3.328E+01	1.211E+02	2.433E+00	0.060
BI-214	-6.860E+00		2.115E+01	8.360E+01	1.687E+00	-0.082
PB-214	-3.548E+00		3.611E+01	1.219E+02	2.438E+00	-0.029
RA-223	7.866E+01		1.014E+02	3.812E+02	7.642E+00	0.206
RA-224DA	7.433E+00		3.407E+01	1.239E+02	2.491E+00	0.060
RA-226DA	-7.010E+00		2.114E+01	8.352E+01	1.686E+00	-0.084
AC-227DA	-4.578E+01		1.230E+02	4.353E+02	8.753E+00	-0.105
AC-228	-1.652E+01		2.559E+01	9.527E+01	1.959E+00	-0.173
RA-228DA	-1.665E+01		2.579E+01	9.601E+01	1.975E+00	-0.173
TH-228DA	5.859E+01		2.823E+01	1.267E+02	2.554E+00	0.462
TH-232DA	-1.766E+02		9.498E+01	3.075E+02	6.151E+00	-0.574
TH-234DA	5.761E+02		1.010E+03	4.315E+03	8.927E+01	0.134
U-234DA	-1.121E+01		5.862E+01	2.121E+02	4.246E+00	-0.053
U-235HP	-4.371E+02		1.580E+02	4.636E+02	9.516E+00	-0.943
NP-237DA	-1.283E+01		3.094E+01	1.099E+02	2.200E+00	-0.117
U-238DA	-3.548E+00		3.611E+01	1.219E+02	2.438E+00	-0.029
U-238DHP	-6.715E+02		5.011E+02	1.676E+03	3.684E+01	-0.401
AM-241HP	1.024E+01		4.126E+01	1.530E+02	3.386E+00	0.067

STL Richland WA.

BA 133

Batch ID: 7135307

Sample ID: JW0EV1AA
Detector ID: GER4 1



Energy Coefficients:
Offset: -1.06236E-01
Slope: 2.48764E-01
Quadrature: 5.65486E-09

Acquisition Start: 9-JUN-2007 13:30:42.70
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW0EV1AA

CONFIGURATION ID: GER4:JW0EV1AA_090671330
TITLE : BA133
SAMPLE ID : JW0EV1AA

REPORT DATE: 09-JUN-07
ACQUIRE DATE: 09-JUN-07 13:30:42
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 17-MAY-2007 00:00:00.00
CALIB DATE: 9-JUN-2007 09:45:00.71
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: -.1062E+00 keV
ENERGY SLOPE: 2.4876E-01 keV/C
ENERGY Q COEFF: 5.6549E-09 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.0882E-01 keV
FWHM SLOPE: 4.3594E-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 9-JUN-2007 14:01:01

```

Configuration      : $DISK1:[GER4.SAMPLE]JW0EV1AA_090671330.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 13:30:42
Sample ID        : JW0EV1AA Sample 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 : 2038.15
Sensitivity      : 5.00 Gaussian : 10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.00	149	57	0.67	326.02	318	14	8.30E-02	13.4	
2	0	93.04*	8	9	0.42	374.41	370	11	4.36E-03	94.9	
3	0	302.96	74	19	0.83	1218.27	1210	16	4.09E-02	17.8	
4	0	356.01	214	7	1.26	1431.51	1425	14	1.19E-01	7.3	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER4.SAMPLE]JW0EV1AA_090671330.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 13:30:42
 Sample ID : JW0EV1AA Sample 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	149	33.00	2.054E+00	7.343E+02	7.374E+02	14.55
	276.40	-----	6.90	2.214E+00	-----	Line Not Found	-----
	302.84	74	17.80	2.217E+00	6.223E+02	6.250E+02	18.68
	356.00	214	62.05*	2.220E+00	5.169E+02	5.191E+02	9.10
	383.85	-----	8.70	2.219E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Unidentified Energy Lines

Sample ID : JW0EV1AA

Acquisition date : 9-JUN-2007 13:30:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	93.04	8	9	0.42	374.41	370	11	4.36E-03	94.9	2.08E+00	T

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW0EV1AA

Page : 3
Acquisition date : 9-JUN-2007 13:30:42

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	---	Not Found	---
			92.59	5.41	2.323E+02	95.11	Abun.
% Abundances Found =				58.74			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 9-JUN-2007 14:01:04

```

Configuration      : $DISK1:[GER4.SAMPLE]JW0EV1AA_090671330.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 13:30:42
Sample ID        : JW0EV1AA Sample 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	5.191E+02	4.725E+01	4.680E+01	9.389E-01	11.091

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.562E+01	7.888E+01	3.255E+02	6.530E+00	0.079
NA-22	-7.259E-02	3.275E+00	1.502E+01	3.183E-01	-0.005
K-40	-1.360E+02	6.863E+01	3.260E+02	6.996E+00	-0.417
SC-46	2.206E+00	6.254E+00	2.694E+01	5.645E-01	0.082
CR-51	-2.586E+01	1.415E+02	5.390E+02	1.251E+01	-0.048
MN-54	2.633E+00	5.719E+00	2.419E+01	4.963E-01	0.109
CO-57	6.315E+01	9.997E+01	3.872E+02	9.282E+00	0.163
CO-58	2.640E+00	6.111E+00	2.654E+01	5.437E-01	0.099
FE-59	6.165E-01	1.112E+01	4.812E+01	1.007E+00	0.013
CO-60	3.088E+00	4.004E+00	1.933E+01	4.112E-01	0.160
ZN-65	5.047E+00	1.101E+01	4.781E+01	1.001E+00	0.106
SE-75	-2.386E+01	1.615E+01	5.269E+01	1.226E+00	-0.453
SR-85	-3.140E+01	1.278E+01	3.842E+01	7.721E-01	-0.817
Y-88	5.793E+00	4.352E+00	2.325E+01	5.114E-01	0.249
NB-94	6.384E+00	5.292E+00	2.447E+01	5.034E-01	0.261
NB-95	2.929E+00	5.632E+00	2.707E+01	5.527E-01	0.108
TC-95M	1.551E+01	2.014E+01	7.888E+01	1.850E+00	0.197
ZR-95	-1.231E+00	1.332E+01	5.280E+01	1.078E+00	-0.023
ZRNB-95	5.215E+00	9.213E+00	4.439E+01	9.064E-01	0.117
RH-101	1.701E+01	1.535E+01	6.056E+01	1.422E+00	0.281
RH-102M	-2.034E+00	6.316E+00	2.455E+01	4.925E-01	-0.083
RU-103	-1.363E+01	1.075E+01	3.682E+01	7.393E-01	-0.370
RU-106DA	7.706E+01	5.445E+01	2.557E+02	5.170E+00	0.301
AG-108M	8.657E-01	7.847E+00	3.033E+01	6.075E-01	0.029
AG-110M	4.766E+00	6.361E+00	2.979E+01	6.135E-01	0.160
SN-113DA	5.164E+00	1.072E+01	4.443E+01	8.889E-01	0.116
SB-124	-5.470E+00	8.235E+00	2.990E+01	6.038E-01	-0.183

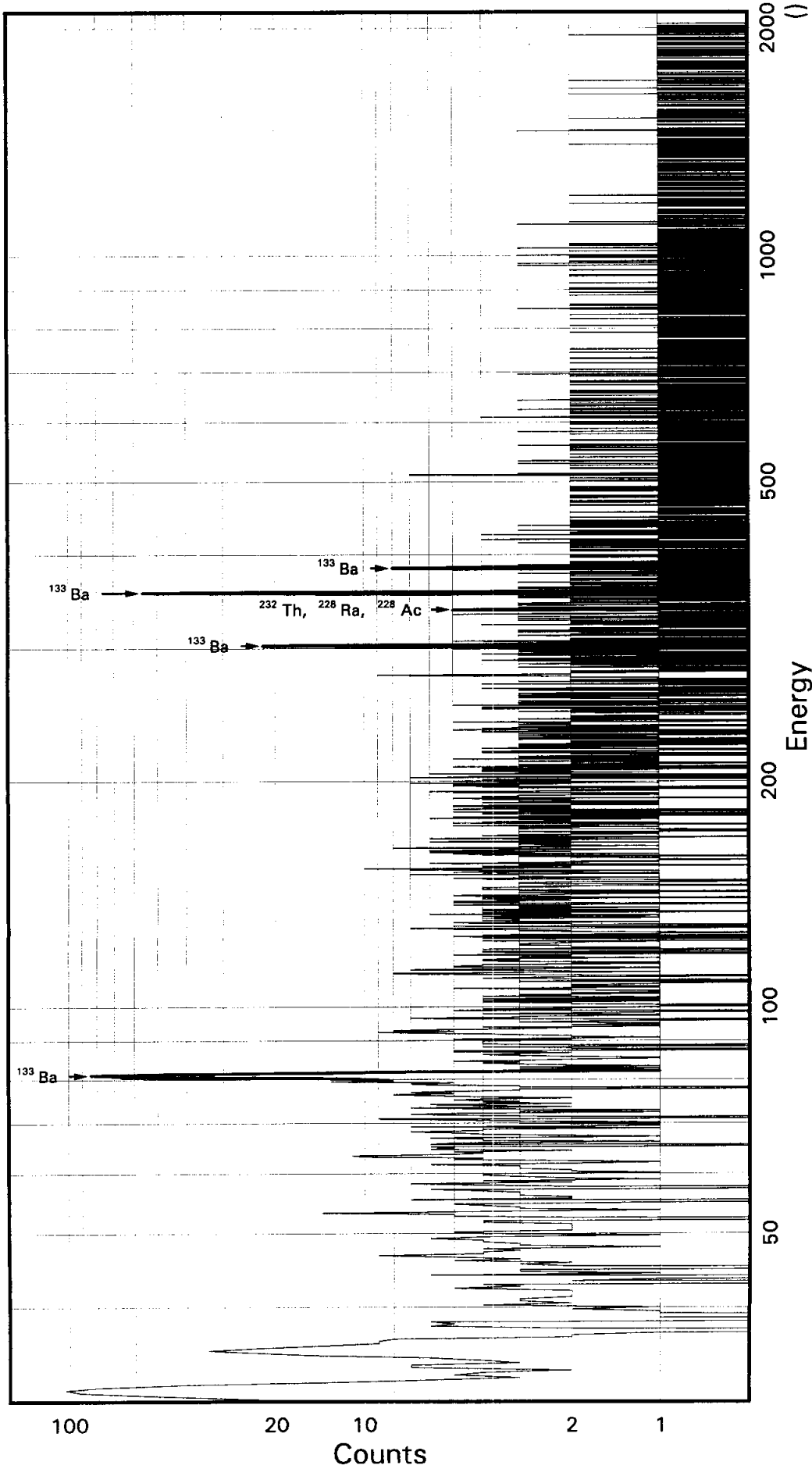
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	2.329E+01		1.722E+01	8.087E+01	1.619E+00	0.288
SN-126DA	3.405E+00		5.609E+00	2.416E+01	4.899E-01	0.141
I-131	1.274E+02		6.462E+01	2.917E+02	5.834E+00	0.437
CS-134	-4.018E+00		5.927E+00	2.207E+01	4.516E-01	-0.182
CS-137DA	-6.223E+00		7.013E+00	2.543E+01	5.156E-01	-0.245
LA-138	1.069E-01		5.864E+00	2.594E+01	5.557E-01	0.004
CE-139	-1.141E+01		1.244E+01	4.264E+01	1.010E+00	-0.268
BA-140	-1.682E+02		8.732E+01	2.646E+02	5.325E+00	-0.636
BALA-140	-3.777E+01		2.190E+01	3.303E+01	7.152E-01	-1.144
CE-141	2.395E+01		3.540E+01	1.361E+02	3.250E+00	0.176
CE-144	-1.724E+02		9.580E+01	3.079E+02	7.390E+00	-0.560
CEPR-144	-3.435E+02		1.917E+02	6.165E+02	1.480E+01	-0.557
PM-144	-3.340E+00		5.775E+00	2.142E+01	4.331E-01	-0.156
PM-146	3.469E+00		8.242E+00	3.460E+01	6.934E-01	0.100
EU-152	1.859E+01		2.563E+01	1.067E+02	2.476E+00	0.174
EU-154	-2.015E-01		9.108E+00	4.179E+01	8.852E-01	-0.005
EU-155	2.981E+01		4.106E+01	1.672E+02	4.087E+00	0.178
HF-181	-8.598E-01		1.202E+01	4.692E+01	9.414E-01	-0.018
BI-207	7.544E+00		7.165E+00	3.020E+01	6.086E-01	0.250
TL-208	5.704E+00		7.907E+00	3.521E+01	7.103E-01	0.162
BI-210M	4.459E+00		1.775E+01	6.738E+01	1.568E+00	0.066
BI-212	2.399E+01		8.359E+01	3.487E+02	1.066E+01	0.069
PB-212	1.955E+01		2.356E+01	9.626E+01	2.246E+00	0.203
BI-214	-7.754E+00		1.729E+01	6.780E+01	1.370E+00	-0.114
PB-214	-3.117E+00		1.976E+01	7.814E+01	1.813E+00	-0.040
RA-223	3.882E+01		6.934E+01	2.664E+02	6.199E+00	0.146
RA-224DA	2.001E+01		2.412E+01	9.854E+01	2.299E+00	0.203
RA-226DA	-7.226E+00		1.734E+01	6.812E+01	1.376E+00	-0.106
AC-227DA	-2.072E+02		8.628E+01	2.598E+02	6.065E+00	-0.798
AC-228	-6.741E+00		2.192E+01	9.315E+01	1.922E+00	-0.072
RA-228DA	-6.794E+00		2.209E+01	9.388E+01	1.937E+00	-0.072
TH-228DA	1.625E+01		2.253E+01	1.003E+02	2.024E+00	0.162
TH-232DA	2.650E+01		6.757E+01	2.717E+02	6.305E+00	0.098
TH-234DA	7.026E+02		8.019E+02	3.600E+03	7.478E+01	0.195
U-234DA	-3.979E-01		4.822E+01	1.798E+02	4.176E+00	-0.002
U-235HP	-1.274E+02		9.965E+01	3.337E+02	7.971E+00	-0.382
NP-237DA	1.389E+01		2.006E+01	8.273E+01	1.921E+00	0.168
U-238DA	-3.117E+00		1.976E+01	7.814E+01	1.813E+00	-0.040
U-238DHP	-1.387E+02		2.955E+02	1.083E+03	2.791E+01	-0.128
AM-241HP	1.558E+01		2.956E+01	1.144E+02	2.971E+00	0.136

STL Richland WA.
BA133

Sample ID: JW0E01AA
Detector ID: GER5 1

Batch ID: 7135307



Acquisition Start: 9-JUN-2007 13:29:09.63
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -3.83896E-01
Slope: 2.49391E-01
Quadrature: -5.25694E-09

SAMPLE IDENTIFICATION: JW0E01AA

CONFIGURATION ID: GER5:JW0E01AA_090671329
TITLE : BA133
SAMPLE ID : JW0E01AA

REPORT DATE: 09-JUN-07
ACQUIRE DATE: 09-JUN-07 13:29:09
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 17-MAY-2007 12:00:00.00
CALIB DATE: 9-JUN-2007 09:43:53.05
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: -.3839E+00 keV
ENERGY SLOPE: 2.4939E-01 keV/C
ENERGY Q COEFF: -.5257E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.3858E-01 keV
FWHM SLOPE: 2.7913E-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 9-JUN-2007 13:59:25

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]JW0E01AA_090671329.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 12:00:00 Acquisition date : 9-JUN-2007 13:29:09
Sample ID        : JW0E01AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy     : 19.57 End energy : 2042.27
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	405	71	0.93	125.55	118	15	2.25E-01	6.7	
2	0	35.13	141	28	0.80	142.40	134	17	7.82E-02	12.2	
3	0	54.09	24	27	0.31	218.43	210	13	1.34E-02	50.3	
4	0	81.07	269	63	0.87	326.63	321	11	1.50E-01	8.4	
5	0	110.78	17	20	0.53	445.73	436	13	9.17E-03	60.4	
6	0	232.45	14	3	1.95	933.62	926	12	7.63E-03	37.1	
7	0	302.69	97	20	0.96	1215.28	1204	19	5.39E-02	14.8	
8	0	338.00	10	8	0.77	1356.88	1352	8	5.74E-03	56.4	
9	0	355.99	260	4	0.99	1429.02	1422	16	1.44E-01	6.4	
10	0	383.82	39	10	1.84	1540.61	1534	13	2.18E-02	22.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 9-JUN-2007 13:59:25

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]JW0E01AA_090671329.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title      : BA133
Sample date       : 17-MAY-2007 12:00:00 Acquisition date : 9-JUN-2007 13:29:09
Sample ID        : JW0E01AA Sample 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 %Error
					DPM/SAMPL	DPM/SAMPL	
BA-133	81.00	269	33.00	1.919E+00	1.418E+03	1.423E+03	10.02
	276.40	-----	6.90	2.072E+00	-----	Line Not Found	-----
	302.84	97	17.80	2.074E+00	8.763E+02	8.799E+02	15.78
	356.00	260	62.05*	2.076E+00	6.715E+02	6.743E+02	8.40
	383.85	39	8.70	2.076E+00	7.238E+02	7.268E+02	23.53

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW0E01AA

Page : 2
Acquisition date : 9-JUN-2007 13:29:09

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.93	405	71	0.93	125.55	118	15	2.25E-01	6.7	1.68E+00	
0	35.13	141	28	0.80	142.40	134	17	7.82E-02	12.2	1.71E+00	
0	54.09	24	27	0.31	218.43	210	13	1.34E-02	50.3	1.83E+00	
0	110.78	17	20	0.53	445.73	436	13	9.17E-03	60.4	1.98E+00	
0	232.45	14	3	1.95	933.62	926	12	7.63E-03	37.1	2.06E+00	
0	338.00	10	8	0.77	1356.88	1352	8	5.74E-03	56.4	2.08E+00	T

Flags: "T" = Tentatively associated

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
AC-228	1.41E+10Y	0.00	209.28	4.40	---	Not Found	Abun.
			270.23	3.60	---	Not Found	
			338.32	11.40	1.455E+02	56.68	
			911.07*	27.70	---	Not Found	
			969.11	16.60	---	Not Found	
% Abundances Found =			17.90				
RA-228DA	5.75Y	0.01	209.28	4.40	---	Not Found	Abun.
			338.32	11.40	1.466E+02	56.68	
			911.07*	27.70	---	Not Found	
			964.60	5.20	---	Not Found	
			969.11	16.60	---	Not Found	
% Abundances Found =			17.46				
TH-232DA	1.41E+10Y	0.00	238.63	44.60	---	Not Found	Abun.
			338.32*	12.40	1.338E+02	56.68	
			583.14	30.25	---	Not Found	
			911.07	27.70	---	Not Found	
			964.60	5.20	---	Not Found	
969.11	16.60	---	Not Found				
% Abundances Found =			9.07				

Flag: "*" = Keyline

```

Configuration      : RDND06$DKA100:[GER5.SAMPLE]JW0E01AA_090671329.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       : 17-MAY-2007 12:00:00 Acquisition date : 9-JUN-2007 13:29:09
Sample ID        : JW0E01AA Sample quantity : 1.0000 SAMPL
Sample type      : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 80.00 WTM error limit : 3.00
    
```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.743E+02	5.665E+01	5.972E+01	1.194E+00	11.292

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	5.947E+01	8.108E+01	3.461E+02	6.944E+00	0.172
NA-22	-1.883E+00	3.089E+00	1.274E+01	2.700E-01	-0.148
NA-24	2.552E+05	2.528E+05	Half-Life too short		
K-40	-2.080E+01	6.778E+01	3.249E+02	6.981E+00	-0.064
SC-46	1.012E+00	5.215E+00	2.327E+01	4.878E-01	0.044
CR-51	-1.861E+02	1.732E+02	5.817E+02	1.164E+01	-0.320
MN-54	5.148E+00	3.914E+00	2.082E+01	4.274E-01	0.247
CO-57	-1.266E+02	1.451E+02	4.880E+02	1.009E+01	-0.259
CO-58	3.995E+00	5.926E+00	2.717E+01	5.569E-01	0.147
FE-59	3.012E+01	1.144E+01	6.416E+01	1.343E+00	0.470
CO-60	2.017E-01	4.140E+00	1.854E+01	3.947E-01	0.011
ZN-65	1.060E+01	7.943E+00	4.248E+01	8.904E-01	0.250
SE-75	1.893E+01	1.660E+01	6.806E+01	1.365E+00	0.278
SR-85	-4.510E+01	1.389E+01	3.662E+01	7.359E-01	-1.232
Y-88	-1.879E+00	4.541E+00	1.918E+01	4.226E-01	-0.098
NB-94	1.433E+00	4.456E+00	1.983E+01	4.082E-01	0.072
NB-95	7.726E+00	6.890E+00	3.396E+01	6.937E-01	0.227
TC-95M	-6.223E+00	2.506E+01	9.019E+01	1.824E+00	-0.069
ZR-95	3.753E+00	8.531E+00	4.092E+01	8.353E-01	0.092
ZRNB-95	8.299E+00	1.196E+01	5.518E+01	1.127E+00	0.150
MO-99	4.963E-04	2.241E-03	Half-Life too short		
RH-101	3.057E+01	1.935E+01	7.545E+01	1.528E+00	0.405
RH-102M	3.617E+00	7.386E+00	3.021E+01	6.060E-01	0.120
RU-103	5.186E+00	8.684E+00	3.832E+01	7.695E-01	0.135
RU-106DA	-1.662E+01	6.040E+01	2.397E+02	4.848E+00	-0.069
AG-108M	-1.943E+01	8.958E+00	2.685E+01	5.378E-01	-0.723
AG-110M	-3.095E+00	9.011E+00	3.438E+01	7.083E-01	-0.090

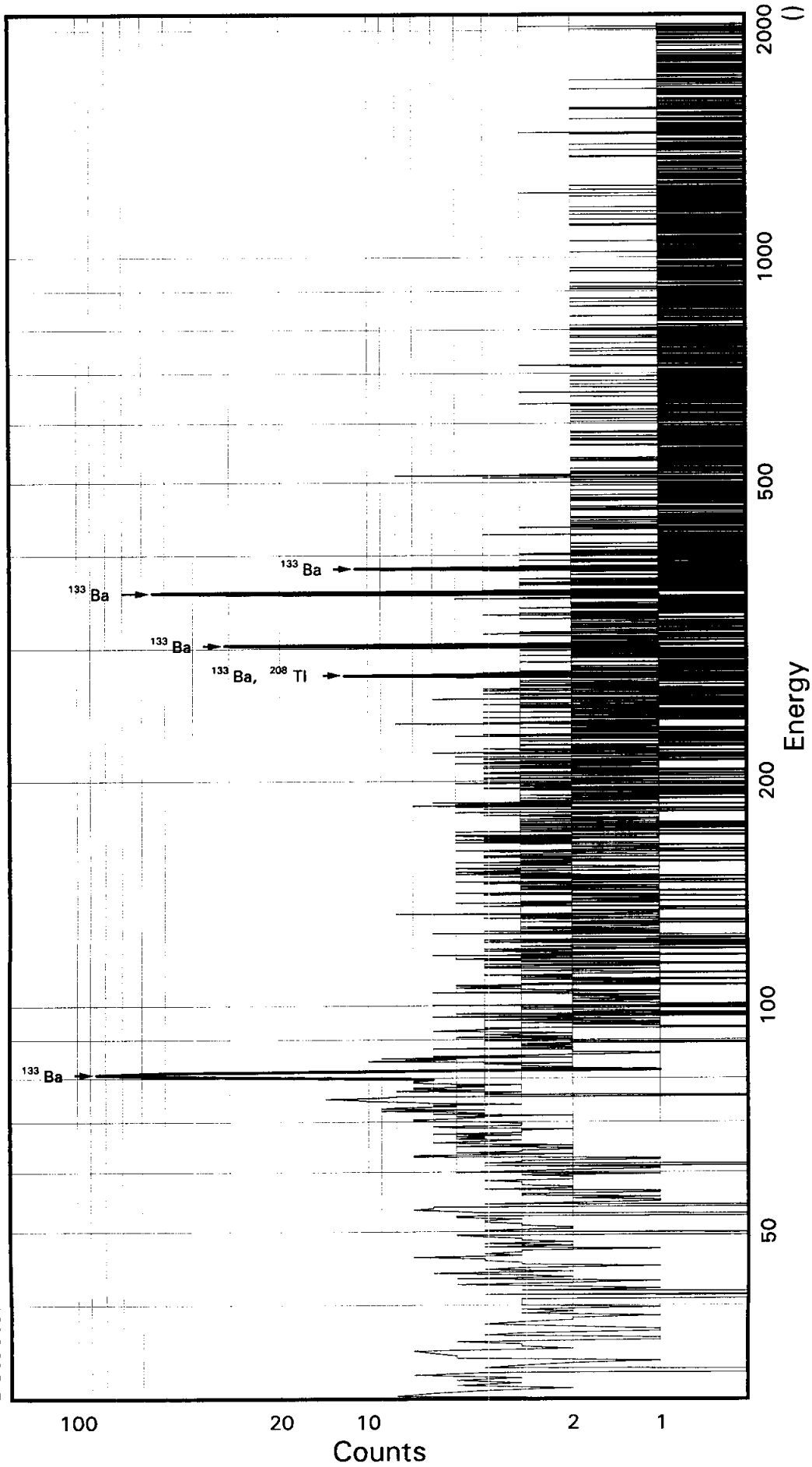
---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.063E+01		1.361E+01	5.616E+01	1.124E+00	0.189
SB-124	5.235E-01		6.670E+00	2.831E+01	5.719E-01	0.018
SB-125	-4.483E+01		2.923E+01	9.592E+01	1.921E+00	-0.467
SN-126DA	-1.386E+00		5.331E+00	2.134E+01	4.329E-01	-0.065
I-131	-3.208E+01		7.075E+01	2.636E+02	5.272E+00	-0.122
CS-134	7.745E+00		6.267E+00	2.949E+01	6.037E-01	0.263
CS-137DA	-5.339E+00		6.800E+00	2.509E+01	5.089E-01	-0.213
LA-138	-5.024E+00		5.101E+00	1.898E+01	4.071E-01	-0.265
CE-139	-7.965E+00		1.942E+01	6.945E+01	1.419E+00	-0.115
BA-140	1.694E+01		8.293E+01	3.386E+02	6.812E+00	0.050
BALA-140	-2.581E+01		1.830E+01	3.441E+01	7.461E-01	-0.750
LA-140	-3.483E-02		2.020E-02	Half-Life too short		
CE-141	6.025E+01		4.176E+01	1.628E+02	3.351E+00	0.370
CE-144	-3.911E+01		1.384E+02	4.838E+02	1.002E+01	-0.081
CEPR-144	-7.820E+01		2.767E+02	9.677E+02	2.003E+01	-0.081
PM-144	-4.780E-01		6.971E+00	2.761E+01	5.582E-01	-0.017
PM-146	1.244E+01		8.294E+00	3.949E+01	7.916E-01	0.315
EU-152	2.954E+01		3.157E+01	1.302E+02	2.603E+00	0.227
EU-154	-5.239E+00		8.595E+00	3.543E+01	7.512E-01	-0.148
EU-155	-2.455E+01		5.936E+01	2.056E+02	4.337E+00	-0.119
HF-181	-2.031E+01		1.041E+01	3.052E+01	6.123E-01	-0.666
BI-207	2.679E+00		6.347E+00	2.623E+01	5.287E-01	0.102
TL-208	-1.133E+00		7.269E+00	3.063E+01	6.180E-01	-0.037
BI-210M	-1.270E+01		1.682E+01	5.937E+01	1.191E+00	-0.214
BI-212	3.110E+01		9.028E+01	3.779E+02	1.155E+01	0.082
PB-212	-3.576E+01		2.665E+01	9.554E+01	1.922E+00	-0.374
BI-214	4.246E+01		1.638E+01	7.643E+01	1.544E+00	0.556
PB-214	-1.520E+00		2.743E+01	9.187E+01	1.838E+00	-0.017
RA-223	8.306E+01		5.790E+01	2.473E+02	4.960E+00	0.336
RA-224DA	-3.658E+01		2.727E+01	9.775E+01	1.966E+00	-0.374
RA-226DA	4.275E+01		1.642E+01	7.659E+01	1.548E+00	0.558
AC-227DA	-1.002E+02		1.142E+02	3.531E+02	7.106E+00	-0.284
AC-228	1.354E+01		1.918E+01	9.485E+01	1.958E+00	0.143
RA-228DA	1.364E+01		1.932E+01	9.558E+01	1.973E+00	0.143
TH-228DA	-3.227E+00		2.070E+01	8.723E+01	1.760E+00	-0.037
TH-232DA	1.338E+02	+	7.584E+01	3.439E+02	6.878E+00	0.389
TH-234DA	1.824E+03		9.267E+02	4.474E+03	9.299E+01	0.408
U-234DA	5.023E+01		5.030E+01	1.996E+02	3.996E+00	0.252
U-235HP	7.460E+01		1.271E+02	4.682E+02	9.645E+00	0.159
NP-237DA	-6.100E+00		2.409E+01	8.816E+01	1.764E+00	-0.069
U-238DA	-1.520E+00		2.743E+01	9.187E+01	1.838E+00	-0.017
U-238DHP	-2.551E+02		4.597E+02	1.739E+03	3.872E+01	-0.147
AM-241HP	-5.910E+00		4.081E+01	1.481E+02	3.322E+00	-0.040

STL Richland WA.
BA133

Batch ID: 7135307

Sample ID: JW05M1AA
Detector ID: GER6 1



Energy Coefficients:
Offset: 9.39205E-02
Slope: 2.49368E-01
Quadrature: 1.12335E-08

Acquisition Start: 9-JUN-2007 13:31:28.73
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW05M1AA

CONFIGURATION ID: GER6:JW05M1AA_090671331
TITLE : BA133
SAMPLE ID : JW05M1AA

REPORT DATE: 09-JUN-07
ACQUIRE DATE: 09-JUN-07 13:31:28
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 17-MAY-2007 00:00:00.00
CALIB DATE: 9-JUN-2007 09:45:17.68
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 9.3921E-02 keV
ENERGY SLOPE: 2.4937E-01 keV/C
ENERGY Q COEFF: 1.1233E-08 keV/C²
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 1.6536E-01 keV
FWHM SLOPE: 6.7094E-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:[GER6.SAMPLE]JW05M1AA_090671331.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 13:31:28
Sample ID         : JW05M1AA Sample 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      : 20.04 End energy : 2043.67
Sensitivity       : 5.00 Gaussian : 10.00
Critical level    : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.93	312	50	0.95	324.17	318	12	1.73E-01	7.3	
2	0	276.85	28	28	0.66	1109.79	1100	14	1.56E-02	44.3	
3	0	303.11	99	26	0.87	1215.05	1206	14	5.49E-02	14.7	
4	0	356.09	305	21	1.38	1427.50	1420	19	1.70E-01	6.9	
5	0	383.97	40	16	1.07	1539.27	1529	17	2.22E-02	28.4	

Flag: "*" = Peak area was modified by background subtraction

Configuration : \$DISK1:[GER6.SAMPLE]JW05M1AA_090671331.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
 Sample title : BA133
 Sample date : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 13:31:28
 Sample ID : JW05M1AA Sample 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	312	33.00	2.090E+00	1.506E+03	1.513E+03	9.09
	276.40	28	6.90	2.253E+00	6.004E+02	6.030E+02	44.65
	302.84	99	17.80	2.256E+00	8.209E+02	8.244E+02	15.64
	356.00	305	62.05*	2.258E+00	7.267E+02	7.298E+02	8.72
	383.85	40	8.70	2.257E+00	6.777E+02	6.806E+02	28.87

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW05M1AA

Page : 2
Acquisition date : 9-JUN-2007 13:31:28

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW05M1AA

Page : 3
Acquisition date : 9-JUN-2007 13:31:28

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	6.092E+02	44.65	Abun.
			510.84	21.60	---	Not Found	---
			583.14*	84.20	---	Not Found	---
			860.37	12.46	---	Not Found	---
% Abundances Found =				5.44			

Flag: "*" = Keyline

```

Configuration      : $DISK1:[GER6.SAMPLE]JW05M1AA_090671331.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       : 17-MAY-2007 00:00:00 Acquisition date : 9-JUN-2007 13:31:28
Sample ID        : JW05M1AA Sample 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	7.298E+02	6.364E+01	6.101E+01	1.220E+00	11.962

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.394E+01	9.359E+01	3.497E+02	7.015E+00	-0.097
NA-22	3.054E+00	4.550E+00	2.085E+01	4.415E-01	0.147
K-40	-3.688E+01	7.568E+01	3.487E+02	7.481E+00	-0.106
SC-46	7.999E+00	6.487E+00	2.998E+01	6.280E-01	0.267
CR-51	6.097E+01	1.468E+02	5.710E+02	1.142E+01	0.107
MN-54	1.934E+00	6.500E+00	2.658E+01	5.453E-01	0.073
CO-57	7.747E+01	9.258E+01	3.688E+02	7.618E+00	0.210
CO-58	4.514E-01	5.660E+00	2.386E+01	4.887E-01	0.019
FE-59	2.381E+01	1.265E+01	6.279E+01	1.313E+00	0.379
CO-60	1.664E+00	4.159E+00	1.900E+01	4.040E-01	0.088
ZN-65	9.437E+00	9.893E+00	4.589E+01	9.608E-01	0.206
SE-75	-1.912E+01	1.695E+01	5.879E+01	1.179E+00	-0.325
SR-85	-2.328E+01	1.435E+01	4.652E+01	9.348E-01	-0.500
Y-88	-3.929E+00	4.717E+00	1.766E+01	3.883E-01	-0.222
NB-94	3.103E+00	5.666E+00	2.408E+01	4.952E-01	0.129
NB-95	7.088E+00	8.030E+00	3.611E+01	7.372E-01	0.196
TC-95M	1.882E+01	2.127E+01	8.248E+01	1.668E+00	0.228
ZR-95	1.046E+01	1.059E+01	4.954E+01	1.011E+00	0.211
ZRNB-95	1.146E+01	1.299E+01	5.840E+01	1.192E+00	0.196
RH-101	4.688E+00	1.504E+01	5.666E+01	1.147E+00	0.083
RH-102M	2.066E+01	7.305E+00	3.460E+01	6.940E-01	0.597
RU-103	3.288E+00	9.198E+00	3.851E+01	7.732E-01	0.085
RU-106DA	5.649E+01	5.434E+01	2.467E+02	4.989E+00	0.229
AG-108M	-5.963E+00	8.439E+00	2.982E+01	5.971E-01	-0.200
AG-110M	4.471E+00	7.072E+00	3.150E+01	6.486E-01	0.142
SN-113DA	5.297E+00	1.229E+01	4.933E+01	9.870E-01	0.107
SB-124	-7.852E+00	6.894E+00	2.398E+01	4.844E-01	-0.327

---- Non-Identified Nuclides ----

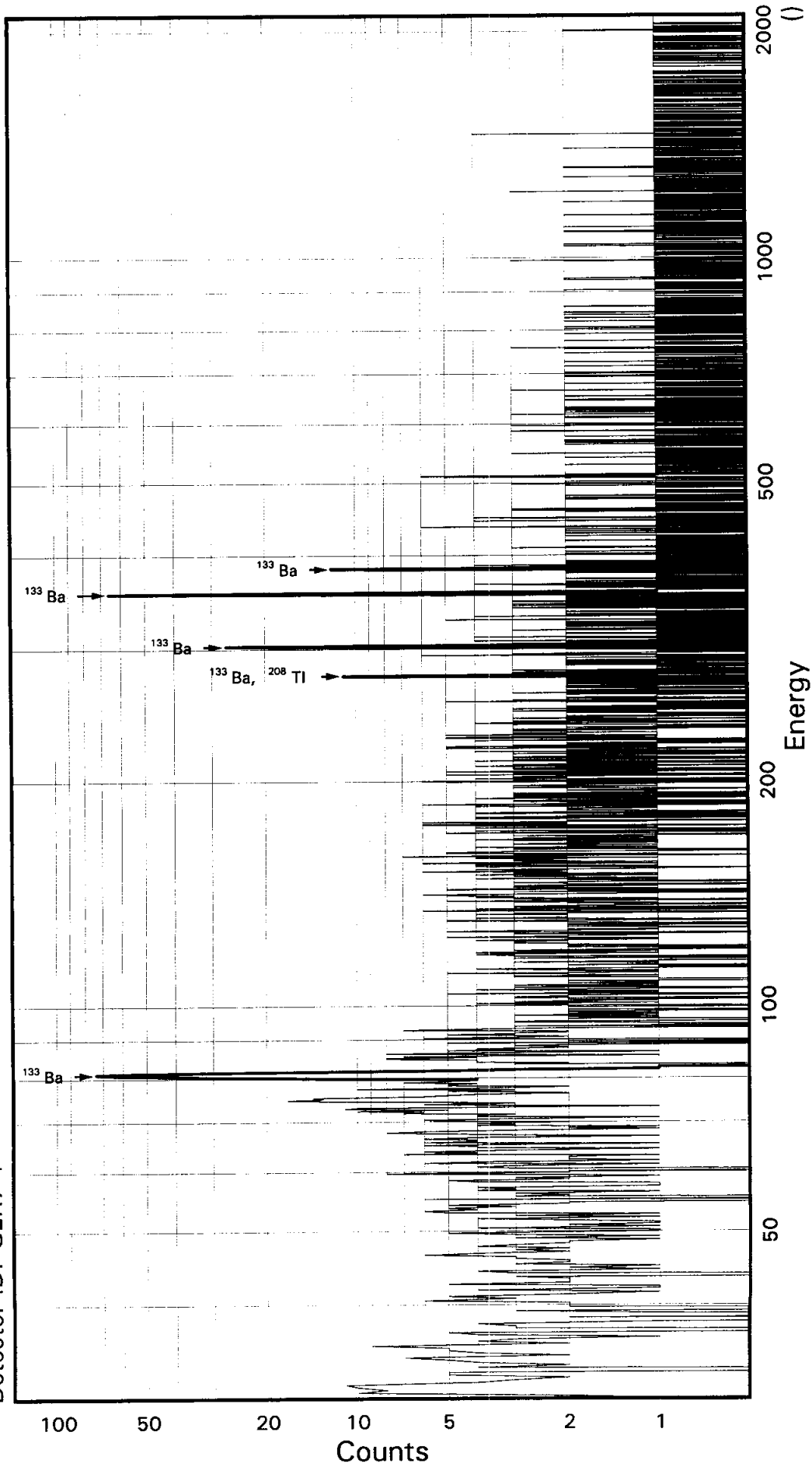
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-1.732E+01		2.161E+01	7.685E+01	1.539E+00	-0.225
SN-126DA	-4.202E+00		6.036E+00	2.185E+01	4.430E-01	-0.192
I-131	-2.868E+01		7.390E+01	2.737E+02	5.474E+00	-0.105
CS-134	1.578E+00		5.500E+00	2.368E+01	4.844E-01	0.067
CS-137DA	6.246E+00		7.089E+00	3.033E+01	6.149E-01	0.206
LA-138	2.327E+00		4.132E+00	2.199E+01	4.709E-01	0.106
CE-139	1.842E+01		1.655E+01	6.343E+01	1.295E+00	0.290
BA-140	6.724E+01		9.024E+01	3.772E+02	7.589E+00	0.178
BALA-140	-1.226E+01		2.697E+01	1.114E+02	2.412E+00	-0.110
CE-141	3.326E+01		3.560E+01	1.392E+02	2.863E+00	0.239
CE-144	1.208E+02		9.402E+01	3.823E+02	7.910E+00	0.316
CEPR-144	2.453E+02		1.883E+02	7.664E+02	1.586E+01	0.320
PM-144	-4.152E+00		5.775E+00	2.125E+01	4.296E-01	-0.195
PM-146	-8.511E+00		7.054E+00	2.464E+01	4.939E-01	-0.345
EU-152	3.031E+01		2.804E+01	1.157E+02	2.313E+00	0.262
EU-154	8.495E+00		1.265E+01	5.798E+01	1.228E+00	0.147
EU-155	7.232E+01		5.655E+01	2.204E+02	4.643E+00	0.328
HF-181	1.079E+01		1.111E+01	4.767E+01	9.565E-01	0.226
BI-207	3.487E+00		7.036E+00	2.863E+01	5.770E-01	0.122
TL-208	5.639E+00		7.638E+00	3.205E+01	6.466E-01	0.176
BI-210M	-8.406E+00		1.864E+01	6.795E+01	1.363E+00	-0.124
BI-212	5.645E+01		6.621E+01	3.095E+02	9.460E+00	0.182
PB-212	3.876E+01		2.371E+01	9.746E+01	1.960E+00	0.398
BI-214	3.548E+01		1.416E+01	6.672E+01	1.348E+00	0.532
PB-214	5.206E+01		2.696E+01	1.032E+02	2.064E+00	0.504
RA-223	5.313E+01		6.922E+01	2.725E+02	5.466E+00	0.195
RA-224DA	3.968E+01		2.427E+01	9.977E+01	2.007E+00	0.398
RA-226DA	3.548E+01		1.416E+01	6.672E+01	1.348E+00	0.532
AC-227DA	-8.408E+01		9.277E+01	3.174E+02	6.385E+00	-0.265
AC-228	4.368E+01		2.219E+01	1.034E+02	2.134E+00	0.422
RA-228DA	4.402E+01		2.237E+01	1.042E+02	2.150E+00	0.422
TH-228DA	1.607E+01		2.176E+01	9.133E+01	1.842E+00	0.176
TH-232DA	-2.734E+00		6.522E+01	2.430E+02	4.861E+00	-0.011
TH-234DA	4.875E+02		7.412E+02	3.323E+03	6.901E+01	0.147
U-234DA	-3.724E+01		4.404E+01	1.547E+02	3.098E+00	-0.241
U-235HP	-7.673E+01		1.027E+02	3.611E+02	7.434E+00	-0.212
NP-237DA	-3.422E+01		2.560E+01	8.503E+01	1.702E+00	-0.402
U-238DA	5.206E+01		2.696E+01	1.032E+02	2.064E+00	0.504
U-238DHP	7.763E+01		3.291E+02	1.218E+03	2.706E+01	0.064
AM-241HP	1.574E+01		2.869E+01	1.102E+02	2.467E+00	0.143

STL Richland WA.

BA133

Batch ID: 7135307

Sample ID: JW05M1AC
Detector ID: GER7 1



Energy Coefficients:
Offset: 6.01917E-01
Slope: 2.49266E-01
Quadrature: 1.43795E-07

Acquisition Start: 9-JUN-2007 13:31:55.43
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

SAMPLE IDENTIFICATION: JW05M1AC

CONFIGURATION ID: GER7:JW05M1AC_090671331
TITLE : BA133
SAMPLE ID : JW05M1AC

REPORT DATE: 09-JUN-07 SAMPLE DATE: 9-MAY-2007 12:00:00.00
ACQUIRE DATE: 09-JUN-07 13:31:55 CALIB DATE: 9-JUN-2007 09:45:36.16
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: 6.0192E-01 keV FWHM OFFSET: 6.2750E-01 keV
ENERGY SLOPE: 2.4927E-01 keV/C FWHM SLOPE: 3.5639E-02 sqr keV
ENERGY Q COEFF: 1.4380E-07 keV/C² 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 9-JUN-2007 14:02:17

```

Configuration      : $DISK1:[GER7.SAMPLE]JW05M1AC_090671331.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 9-MAY-2007 12:00:00   Acquisition date : 9-JUN-2007 13:31:55
Sample ID        : JW05M1AC               Sample 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     :      20.54             End energy      :      2052.24
Sensitivity      :      5.00             Gaussian       :      10.00
Critical level   : No
    
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	31.13	21	30	0.96	122.48	118	9	1.19E-02	50.3	
2	0	75.14*	12	37	0.93	298.98	294	11	6.58E-03	118.2	
3	0	81.02	295	47	0.92	322.57	315	16	1.64E-01	7.9	
4	0	276.67	30	16	0.62	1106.83	1098	16	1.69E-02	34.4	
5	0	302.72	110	11	0.90	1211.18	1204	15	6.09E-02	11.7	
6	0	355.95	264	17	0.82	1424.41	1416	17	1.47E-01	7.1	
7	0	383.71	53	3	0.99	1535.57	1528	14	2.93E-02	15.6	

Flag: "*" = Peak area was modified by background subtraction

```

Configuration      : $DISK1:[GER7.SAMPLE]JW05M1AC_090671331.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title      : BA133
Sample date       : 9-MAY-2007 12:00:00   Acquisition date : 9-JUN-2007 13:31:55
Sample ID        : JW05M1AC               Sample 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	Decay Corr	1-Sigma
					DPM/SAMPL	DPM/SAMPL	%Error
BA-133	81.00	295	33.00	1.909E+00	1.561E+03	1.570E+03	9.64
	276.40	30	6.90	2.061E+00	7.140E+02	7.180E+02	34.86
	302.84	110	17.80	2.064E+00	9.944E+02	1.000E+03	12.84
	356.00	264	62.05*	2.065E+00	6.866E+02	6.905E+02	8.93
	383.85	53	8.70	2.065E+00	9.795E+02	9.850E+02	16.55

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : JW05M1AC

Page : 2
Acquisition date : 9-JUN-2007 13:31:55

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	31.13	21	30	0.96	122.48	118	9	1.19E-02	50.3	1.67E+00	
0	75.14	12	37	0.93	298.98	294	11	6.58E-03	****	1.89E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : JW05M1AC

Page : 3
Acquisition date : 9-JUN-2007 13:31:55

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	7.245E+02	34.86	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]JW05M1AC_090671331.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by       : MINACT V2.8
Sample title      : BA133
Sample date       : 9-MAY-2007 12:00:00   Acquisition date : 9-JUN-2007 13:31:55
Sample ID        : JW05M1AC               Sample 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	6.905E+02	6.164E+01	4.873E+01	9.746E-01	14.170

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity K.L. (DPM/SAMPL) Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.387E+01	9.289E+01	3.490E+02	7.001E+00	-0.097
NA-22	2.150E-01	2.623E+00	1.351E+01	2.866E-01	0.016
K-40	-8.569E+01	5.594E+01	2.706E+02	5.814E+00	-0.317
SC-46	8.093E+00	6.815E+00	3.222E+01	6.756E-01	0.251
CR-51	-1.782E+02	1.567E+02	5.483E+02	1.097E+01	-0.325
MN-54	-1.062E+01	5.041E+00	1.305E+01	2.679E-01	-0.813
CO-57	-5.734E+01	1.208E+02	4.244E+02	8.774E+00	-0.135
CO-58	-3.265E+00	7.254E+00	2.830E+01	5.799E-01	-0.115
FE-59	9.839E+00	1.366E+01	6.347E+01	1.329E+00	0.155
CO-60	-3.304E+00	3.394E+00	1.278E+01	2.720E-01	-0.259
ZN-65	-1.084E+01	8.124E+00	2.676E+01	5.610E-01	-0.405
SE-75	-3.115E+01	1.976E+01	6.355E+01	1.275E+00	-0.490
SR-85	-2.502E+01	1.409E+01	4.573E+01	9.190E-01	-0.547
Y-88	1.151E-02	4.373E+00	2.032E+01	4.476E-01	0.001
NB-94	4.930E+00	5.008E+00	2.341E+01	4.819E-01	0.211
NB-95	7.974E+00	7.759E+00	3.854E+01	7.873E-01	0.207
TC-95M	6.326E+00	2.531E+01	9.460E+01	1.913E+00	0.067
ZR-95	3.818E+01	1.516E+01	7.585E+01	1.548E+00	0.503
ZRNB-95	1.261E+01	1.184E+01	5.887E+01	1.202E+00	0.214
RH-101	-1.511E+00	1.565E+01	5.763E+01	1.167E+00	-0.026
RH-102M	-7.138E+00	7.308E+00	2.525E+01	5.065E-01	-0.283
RU-103	1.488E+01	1.100E+01	5.125E+01	1.029E+00	0.290
RU-106DA	-1.522E+01	6.945E+01	2.688E+02	5.436E+00	-0.057
AG-108M	-2.622E+01	9.134E+00	2.356E+01	4.719E-01	-1.113
AG-110M	-2.574E+00	4.371E+00	1.836E+01	3.782E-01	-0.140
SN-113DA	-5.928E+00	1.534E+01	5.654E+01	1.131E+00	-0.105
SB-124	-8.085E-01	5.688E+00	2.455E+01	4.959E-01	-0.033

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-6.823E+00		2.211E+01	8.444E+01	1.691E+00	-0.081
SN-126DA	1.451E+01		6.853E+00	3.188E+01	6.467E-01	0.455
I-131	2.823E+02		1.521E+02	6.591E+02	1.318E+01	0.428
CS-134	2.129E+00		5.926E+00	2.608E+01	5.338E-01	0.082
CS-137DA	-8.333E+00		7.877E+00	2.715E+01	5.506E-01	-0.307
LA-138	-5.127E+00		5.166E+00	1.908E+01	4.093E-01	-0.269
CE-139	-6.375E+00		1.693E+01	6.164E+01	1.259E+00	-0.103
BA-140	-1.748E+02		1.321E+02	4.482E+02	9.019E+00	-0.390
BALA-140	1.918E+01		3.455E+01	1.832E+02	3.974E+00	0.105
CE-141	4.060E+00		4.749E+01	1.728E+02	3.557E+00	0.023
CE-144	9.845E+01		1.213E+02	4.617E+02	9.560E+00	0.213
CEPR-144	1.942E+02		2.424E+02	9.223E+02	1.910E+01	0.211
PM-144	1.040E+01		6.583E+00	3.041E+01	6.149E-01	0.342
PM-146	-3.053E+00		7.717E+00	3.014E+01	6.040E-01	-0.101
EU-152	3.794E+01		3.516E+01	1.430E+02	2.860E+00	0.265
EU-154	2.340E+00		7.828E+00	4.095E+01	8.683E-01	0.057
EU-155	2.880E-01		5.380E+01	1.996E+02	4.212E+00	0.001
HF-181	-1.281E+00		1.159E+01	4.571E+01	9.173E-01	-0.028
BI-207	3.160E+00		7.381E+00	2.998E+01	6.043E-01	0.105
TL-208	-1.357E+01		7.918E+00	2.725E+01	5.498E-01	-0.498
BI-210M	1.774E+01		1.863E+01	7.435E+01	1.492E+00	0.239
BI-212	2.938E+01		7.352E+01	3.273E+02	1.000E+01	0.090
PB-212	7.304E+00		2.257E+01	9.123E+01	1.835E+00	0.080
BI-214	-1.917E+01		1.365E+01	5.285E+01	1.068E+00	-0.363
PB-214	2.153E+00		2.133E+01	7.279E+01	1.456E+00	0.030
RA-223	-1.140E+01		6.866E+01	2.522E+02	5.059E+00	-0.045
RA-224DA	7.533E+00		2.327E+01	9.409E+01	1.893E+00	0.080
RA-226DA	-1.918E+01		1.365E+01	5.285E+01	1.068E+00	-0.363
AC-227DA	-2.547E+02		9.961E+01	2.937E+02	5.910E+00	-0.867
AC-228	-3.058E+01		1.453E+01	5.580E+01	1.152E+00	-0.548
RA-228DA	-3.089E+01		1.468E+01	5.638E+01	1.164E+00	-0.548
TH-228DA	-3.894E+01		2.273E+01	7.822E+01	1.578E+00	-0.498
TH-232DA	-7.311E+01		6.232E+01	2.153E+02	4.307E+00	-0.340
TH-234DA	-4.852E+02		5.014E+02	1.897E+03	3.943E+01	-0.256
U-234DA	1.302E+02		4.892E+01	2.145E+02	4.295E+00	0.607
U-235HP	2.631E+01		1.186E+02	4.331E+02	8.922E+00	0.061
NP-237DA	-9.774E-01		2.097E+01	8.171E+01	1.635E+00	-0.012
U-238DA	2.153E+00		2.133E+01	7.279E+01	1.456E+00	0.030
U-238DHP	-7.083E+02		4.279E+02	1.388E+03	3.091E+01	-0.510
AM-241HP	2.165E+01		3.940E+01	1.452E+02	3.258E+00	0.149

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	
RASC4436	RA-226	3.1115E+00 ± 4.787E-02 DPM	0.1481 g	5/9/2007 5/9/2007	Armstron	2.1010E+01 ± 3.226E-01 DPM/G
		3.1115E+000 ± 3.112E+000 (1)	3.1115E+000 , 3.1115E+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	
RASC4436	RA-226	3.1115E+00 ± 4.787E-02 DPM	0.1481 g	5/9/2007 5/9/2007	Armstron	2.1010E+01 ± 3.226E-01 DPM/G
		3.1115E+000 ± 3.112E+000 (1)	3.1115E+000 , 3.1115E+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: RA22804A110		Ref: 7/19/2004	1.0994E+02	± 3.355E+00	DPM/G	
RASC4436	RA-228	1.1033E+01 ± 3.369E-01 DPM	0.1407 g	5/9/2007 5/9/2007	Armstron	7.8412E+01 ± 2.393E+00 DPM/G
		1.1033E+001 ± 1.103E+001 (1)	1.1033E+001 , 1.1033E+001			

Vial Identifier	Constituent	Prep Activity/Concentration	Std Wt Used	Prep,Decayed To Date	Prep by	Std Decayed Activity/Concentration
Parent Standard: RA22804A110		Ref: 7/19/2004	1.0994E+02	± 3.355E+00	DPM/G	
RASC4436	RA-228	1.1033E+01 ± 3.369E-01 DPM	0.1407 g	5/9/2007 5/9/2007	Armstron	7.8412E+01 ± 2.393E+00 DPM/G
		1.1033E+001 ± 1.103E+001 (1)	1.1033E+001 , 1.1033E+001			

Ra22804A000

Ra22804A000
Ref. 5756
2.945E5 ± 9.719E3
dpm/g
7/19/04

Ra22804A100
Ref. 6023
1.408E4 ± 4.667E2
dpm/g
8/12/05

Ra22804A110
Ref. 6024
1.099E2 ± 3.689E2
dpm/g
8/12/05

ISOTOPE DILUTION RECORD

1) Prepared by TDA 2) Date Prepared 10/12/2005

3) Source Identification Number / Ref. Number RA22804A100 6023

4) Source Activity (dpm ± dpm/g) 1.4082E+04 ± 4.667E+02

5) Percent error of Source Activity 3.314 %

6) Weight of Source Material used (g) 1.0212

7) (% Error) of Weight of Source Material used 0.4700 %

8) Diluent 1 M HCL

9) Total Weight of the Dilution (g) 130.8

10) (% Error) of Total Weight of the Dilution 0.2294 %

11) Specific Activity of Diluted Solution dpm/g 1.0994E+02 ± 3.689E+00

12) Total Uncertainty 3.355 %

13) Dilution Identification Number / Ref. Number RA22804A110 6024

14) Calibration Reference Date 7/19/2004

15) Isotope Inventory File update by/date tda 10/12/2005

16) Reviewed by/date sew 10/31/2005

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 DILUTION RECORD

1) Prepared by	<u>TDA</u>	2) Date Prepared	<u>10/12/2005</u>
3) Source Identification Number / Ref. Number	<u>RA22804A000</u>	<u>5756</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.9453E+05</u>	±	<u>9.719E+03</u>
5) Percent error of Source Activity	<u>3.3</u>	%	
6) Weight of Source Material used (g)	<u>4.967</u>		
7) (% Error) of Weight of Source Material used	<u>0.0966</u>	%	
8) Diluent	<u>1 M HCL</u>		
9) Total Weight of the Dilution (g)	<u>103.89</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2888</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>1.4082E+04</u>	±	<u>4.667E+02</u>
12) Total Uncertainty	<u>3.314</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22804A100</u>	<u>6023</u>	
14) Calibration Reference Date	<u>7/19/2004</u>		
15) Isotope Inventory File update by/date	<u>tda</u>		<u>10/12/2005</u>
16) Reviewed by/date	<u>SEW</u>		<u>1/17/2006</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>10/17/2002</u>
3) Source Identification Number / Ref. Number	<u>RA22801A000</u>	<u>5025</u>	
4) Source Activity (dpm ± dpm/g)	<u>2.7299E+04</u>	±	<u>1.092E+03</u>
5) Percent error of Source Activity	<u>4.0</u>	%	
6) Weight of Source Material used (g)	<u>0.3819</u>		
7) (% Error) of Weight of Source Material used	<u>1.2569</u>	%	
8) Diluent	<u>1M HCL-5122</u>		
9) Total Weight of the Dilution (g)	<u>121.17</u>		
10) (% Error) of Total Weight of the Dilution	<u>0.2476</u>	%	
11) Specific Activity of Diluted Solution dpm/g	<u>8.6040E+01</u>	±	<u>3.614E+00</u>
12) Total Uncertainty	<u>4.200</u>	%	
13) Dilution Identification Number / Ref. Number	<u>RA22801A200</u>	<u>5307</u>	
14) Calibration Reference Date	<u>10/17/2002</u>		
15) Isotope Inventory File update by/date	<u>W.G</u>		<u>10/17/2002</u>
16) Reviewed by/date	<u>SEW</u>		<u>10/31/2002</u>
17) Location <u>QCLAB/STWT0678</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 DILUTION RECORD

1) Prepared by W.G 2) Date Prepared 3/19/2002

3) Source Identification Number / Ref. Number RA22801A100 5032

4) Source Activity (dpm ± dpm/g) 1.9600E+03 ± 8.402E+01

5) Percent error of Source Activity 4.287 %

6) Weight of Source Material used (g) 4.4028

7) (% Error) of Weight of Source Material used 0.1090 %

8) Diluent 1M HCL-5122

9) Total Weight of the Dilution (g) 121.34

10) (% Error) of Total Weight of the Dilution 0.2472 %

11) Specific Activity of Diluted Solution dpm/g 7.1118E+01 ± 3.055E+00

12) Total Uncertainty 4.296 %

13) Dilution Identification Number / Ref. Number RA22801A110 5123

14) Calibration Reference Date 3/19/2002

15) Isotope Inventory File update by/date W.G 3/19/2002

16) Reviewed by/date SEW 3/20/2002

17) Location QCLAB/STWT0558 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 W.G 2) Date Prepared 10/25/2001

3) Source Identification Number / Ref. Number RA22801A000 5025

4) Source Activity (dpm ± dpm/g) 3.0707E+04 ± 1.228E+02

5) Percent error of Source Activity 4.0 %

6) Weight of Source Material used (g) 1.3397

7) (% Error) of Weight of Source Material used 0.3583 %

8) Diluent 1M HCL-5031

9) Total Weight of the Dilution (g) 20.01

10) (% Error) of Total Weight of the Dilution 1.4993 %

11) Specific Activity of Diluted Solution dpm/g 2.0559E+03 ± 8.813E+01

12) Total Uncertainty 4.287 %

13) Dilution Identification Number / Ref. Number RA22801A100 5032

14) Calibration Reference Date 10/25/2001

15) Isotope Inventory File update by/date W.G 10/25/2001

16) Reviewed by/date RROSS 10/29/2001

17) Location QCLAB/STWT0496 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-228 2) Reference Number 5025
 3) Half Life 5.75 yrs 4) Storage Location PM
 5) Source Identification Number RA22801A000

CALIBRATION DATA

6) Activity as Received Units 2575 dps
 7) Overall Uncertainty Percent 4.0%
 8) Reference Date / Time 10/12/01 12:00 EST (9.00AM)
 9) Activity dpm/g 30839.62 ± 1233.58 dpm/g
 10) Volume or Mass (ml/g) 5.00979 g
 11) Calibrated by ANALYTICS
 12) Certificate Solution Number 62588-310

SURVEY DATA

13) Date Received 10/16/2001
 14) Surveyed by W.G
 15) Survey Reading (Beta/Gamma) cpm <200CPM
 16) Survey Reading (Alpha) cpm <200CPM

17) Activity Conversion 2575.0 dps*60s/m/5.00979g=30839.62 ± 1233.58dpm/g

18) Remarks Transferred to acid leach vial 10/25/01 stwt0495

19) Isotope File Updated by 10/17/10 W.G

20) QC Approved RROSS 10/23/01

RADIUM 226
CONTINUING CALIBRATION

Quality Assurance Report.

Generated 27-JUN-2007 19:38:17.25

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 : 22908.199219 Upper Bound : 23435.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-AUG-2006 00:00 End Date : 1-JAN-2007 00:00

Mean : 23187.943359 Std Deviation : 180.876251

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:04	count		23173.0000		
3-APR-2007 08:07	count		23578.0000	Ab In	
3-APR-2007 08:28	count		23615.0000	Ab In	
4-APR-2007 08:07	count		23471.0000	Ab	
4-APR-2007 08:26	count		23487.0000	Ab	
5-APR-2007 08:08	count		23343.0000		
6-APR-2007 07:57	count		23463.0000	Ab	
6-APR-2007 08:18	count		23452.0000	Ab	
9-APR-2007 07:59	count		23444.0000	Ab	
9-APR-2007 09:26	count		23234.0000		
10-APR-2007 07:54	count		23249.0000		
11-APR-2007 08:13	count		23398.0000		
12-APR-2007 08:17	count		23419.0000		
13-APR-2007 08:24	count		23505.0000	Ab	
13-APR-2007 09:17	count		23532.0000	Ab	
16-APR-2007 07:56	count		23201.0000		
17-APR-2007 08:30	count		23651.0000	Ab In	
17-APR-2007 08:52	count		23192.0000		
18-APR-2007 08:16	count		23537.0000	Ab	
18-APR-2007 09:10	count		23588.0000	Ab In	
19-APR-2007 07:59	count		23267.0000		

20-APR-2007 07:07	count	23247.0000	
23-APR-2007 07:55	count	23499.0000	Ab
23-APR-2007 08:53	count	23361.0000	
24-APR-2007 07:58	count	23304.0000	
25-APR-2007 07:51	count	23548.0000	Ab
25-APR-2007 08:34	count	23219.0000	
26-APR-2007 08:11	count	23445.0000	Ab
26-APR-2007 08:55	count	23131.0000	
30-APR-2007 07:46	count	23360.0000	
1-MAY-2007 10:21	count	23078.0000	
2-MAY-2007 08:02	count	23396.0000	
3-MAY-2007 08:43	count	23121.0000	
4-MAY-2007 08:07	count	23436.0000	Ab
4-MAY-2007 08:59	count	23409.0000	
7-MAY-2007 07:51	count	23805.0000	Ab Ac
7-MAY-2007 08:33	count	23456.0000	Ab
8-MAY-2007 07:50	count	23711.0000	Ab In

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
8-MAY-2007 08:36	count	23262.0000		
9-MAY-2007 10:17	count	23392.0000		
10-MAY-2007 07:55	count	23221.0000		
11-MAY-2007 07:47	count	23357.0000		
14-MAY-2007 08:16	count	23507.0000	Ab	
14-MAY-2007 08:58	count	23537.0000	Ab	
15-MAY-2007 07:44	count	23700.0000	Ab In	
15-MAY-2007 08:31	count	23641.0000	Ab In	
16-MAY-2007 09:28	count	23557.0000	Ab In	
16-MAY-2007 10:18	count	23705.0000	Ab In	
17-MAY-2007 07:50	count	23239.0000		
21-MAY-2007 07:58	count	22952.0000		
22-MAY-2007 08:16	count	23275.0000		
23-MAY-2007 09:16	count	23145.0000		
25-MAY-2007 07:45	count	22763.0000	Be In	
25-MAY-2007 08:37	count	23000.0000		
29-MAY-2007 08:13	count	22902.0000	Be	
29-MAY-2007 09:03	count	22921.0000		
30-MAY-2007 08:15	count	22813.0000	Be In	
30-MAY-2007 09:03	count	22927.0000		
31-MAY-2007 08:24	count	23071.0000		
1-JUN-2007 08:00	count	23082.0000		

4-JUN-2007 07:46	count	23043.0000			
5-JUN-2007 08:10	count	23007.0000			
6-JUN-2007 09:08	count	23066.0000			
7-JUN-2007 08:10	count	23107.0000			
8-JUN-2007 05:54	count	22997.0000			
11-JUN-2007 08:04	count	23077.0000			
12-JUN-2007 07:47	count	22988.0000			
13-JUN-2007 08:10	count	23066.0000			
14-JUN-2007 09:37	count	22916.0000			
15-JUN-2007 08:31	count	22930.0000			
18-JUN-2007 08:02	count	22936.0000			
19-JUN-2007 08:12	count	22963.0000			
20-JUN-2007 08:03	count	22984.0000			
21-JUN-2007 08:19	count	23118.0000			
22-JUN-2007 07:52	count	23205.0000			
24-JUN-2007 13:17	count	23058.0000			
25-JUN-2007 08:20	count	23107.0000			
26-JUN-2007 08:14	count	22998.0000			

Quality Assurance Report.

Generated 27-JUN-2007 19:38:17.69

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
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30-APR-2007 17:15	count		1.0000			
25-MAY-2007 16:15	count		1.0000			

Quality Assurance Report.

Generated 27-JUN-2007 19:38:11.14

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 : 20377.429688 Std Deviation : 700.020264

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
2-APR-2007 08:04	count		19713.0000		
3-APR-2007 08:07	count		19923.0000		
4-APR-2007 08:07	count		20771.0000		
5-APR-2007 08:08	count		20841.0000		
6-APR-2007 07:57	count		20590.0000		
9-APR-2007 07:59	count		20745.0000		
10-APR-2007 07:53	count		20375.0000		
11-APR-2007 08:13	count		20886.0000		
12-APR-2007 08:16	count		20823.0000		
13-APR-2007 08:24	count		20889.0000		
16-APR-2007 07:56	count		20775.0000		
16-APR-2007 09:10	count		0.0000	Be Ac	R
17-APR-2007 08:30	count		20287.0000		
18-APR-2007 08:16	count		20720.0000		
19-APR-2007 07:59	count		20735.0000		
20-APR-2007 07:07	count		20807.0000		
23-APR-2007 07:55	count		20604.0000		
24-APR-2007 07:58	count		21008.0000		
25-APR-2007 07:50	count		20928.0000		
26-APR-2007 08:11	count		20354.0000		
30-APR-2007 07:46	count		20383.0000		

1-MAY-2007 10:21	count	20589.0000			
2-MAY-2007 08:02	count	20992.0000			
3-MAY-2007 08:43	count	20867.0000			
4-MAY-2007 08:07	count	20991.0000			
7-MAY-2007 07:50	count	20582.0000			
8-MAY-2007 07:50	count	20399.0000			
9-MAY-2007 07:57	count	20087.0000			
10-MAY-2007 07:55	count	20568.0000			
11-MAY-2007 07:47	count	20719.0000			
14-MAY-2007 08:16	count	20560.0000			
15-MAY-2007 07:43	count	20763.0000			
16-MAY-2007 09:28	count	20891.0000			
17-MAY-2007 07:50	count	21266.0000			
18-MAY-2007 10:41	count	20786.0000			
21-MAY-2007 07:57	count	20235.0000			
22-MAY-2007 08:16	count	20812.0000			
23-MAY-2007 09:16	count	20872.0000			

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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25-MAY-2007 07:45	count	20823.0000						
29-MAY-2007 08:13	count	20035.0000						
30-MAY-2007 08:15	count	20652.0000						
31-MAY-2007 08:24	count	20419.0000						
1-JUN-2007 08:00	count	20610.0000						
4-JUN-2007 07:46	count	20496.0000						
5-JUN-2007 08:10	count	20717.0000						
6-JUN-2007 09:08	count	20235.0000						
7-JUN-2007 07:16	count	20987.0000						
8-JUN-2007 05:54	count	20824.0000						
9-JUN-2007 07:28	count	20890.0000						
11-JUN-2007 08:04	count	20516.0000						
12-JUN-2007 07:47	count	20600.0000						
13-JUN-2007 08:10	count	20727.0000						
14-JUN-2007 09:37	count	20247.0000						
15-JUN-2007 08:31	count	20924.0000						
18-JUN-2007 08:02	count	20485.0000						
19-JUN-2007 08:12	count	21035.0000						
20-JUN-2007 08:03	count	20470.0000						
21-JUN-2007 08:51	count	20638.0000						
22-JUN-2007 07:52	count	20122.0000						
24-JUN-2007 13:16	count	19950.0000						

25-JUN-2007 08:20	count	20460.0000	
26-JUN-2007 08:14	count	20443.0000	

Quality Assurance Report. Generated 27-JUN-2007 19:38:11.78

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
30-APR-2007 17:15	count		0.0000	
25-MAY-2007 16:15	count		0.0000	

Quality Assurance Report.

Generated 27-JUN-2007 19:38:06.24

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 : 10699.000000 Upper Bound : 11179.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-AUG-2006 00:00 End Date : 1-NOV-2006 00:00

Mean : 11032.337891 Std Deviation : 1313.041626

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
2-APR-2007 08:51	count		10945.0000		
3-APR-2007 08:48	count		10687.0000	Be	
3-APR-2007 09:24	count		10985.0000		
4-APR-2007 08:44	count		11089.0000		
5-APR-2007 09:04	count		10907.0000		
6-APR-2007 09:03	count		10889.0000		
9-APR-2007 09:07	count		10846.0000		
10-APR-2007 08:32	count		10658.0000	Be	
10-APR-2007 08:52	count		11054.0000		
11-APR-2007 09:06	count		11072.0000		
12-APR-2007 08:47	count		10739.0000		
13-APR-2007 09:17	count		10752.0000		
16-APR-2007 10:59	count		10811.0000		
17-APR-2007 09:15	count		10995.0000		
18-APR-2007 08:56	count		10886.0000		
19-APR-2007 09:02	count		10910.0000		
20-APR-2007 07:52	count		10964.0000		
23-APR-2007 08:34	count		11052.0000		
24-APR-2007 08:30	count		10995.0000		
25-APR-2007 08:22	count		10804.0000		
26-APR-2007 08:43	count		10876.0000		

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
2-APR-2007 08:51	count		10945.0000		
3-APR-2007 08:48	count		10687.0000	Be	
3-APR-2007 09:24	count		10985.0000		
4-APR-2007 08:44	count		11089.0000		
5-APR-2007 09:04	count		10907.0000		
6-APR-2007 09:03	count		10889.0000		
9-APR-2007 09:07	count		10846.0000		
10-APR-2007 08:32	count		10658.0000	Be	
10-APR-2007 08:52	count		11054.0000		
11-APR-2007 09:06	count		11072.0000		
12-APR-2007 08:47	count		10739.0000		
13-APR-2007 09:17	count		10752.0000		
16-APR-2007 10:59	count		10811.0000		
17-APR-2007 09:15	count		10995.0000		
18-APR-2007 08:56	count		10886.0000		
19-APR-2007 09:02	count		10910.0000		
20-APR-2007 07:52	count		10964.0000		
23-APR-2007 08:34	count		11052.0000		
24-APR-2007 08:30	count		10995.0000		
25-APR-2007 08:22	count		10804.0000		
26-APR-2007 08:43	count		10876.0000		

30-APR-2007 08:18	count	10713.0000	
1-MAY-2007 10:49	count	11145.0000	
2-MAY-2007 08:40	count	11094.0000	
3-MAY-2007 09:19	count	10934.0000	
4-MAY-2007 08:45	count	10933.0000	
7-MAY-2007 08:21	count	11087.0000	
8-MAY-2007 08:21	count	10795.0000	
9-MAY-2007 09:25	count	10860.0000	
10-MAY-2007 08:23	count	10892.0000	
11-MAY-2007 08:18	count	10764.0000	
14-MAY-2007 08:46	count	10446.0000	Be
14-MAY-2007 09:00	count	10800.0000	
15-MAY-2007 08:17	count	10655.0000	Be
15-MAY-2007 08:33	count	10884.0000	
16-MAY-2007 10:04	count	10680.0000	Be
16-MAY-2007 10:19	count	10884.0000	
17-MAY-2007 08:27	count	10939.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

21-MAY-2007 08:27	count		10761.0000		
22-MAY-2007 09:01	count		10861.0000		
23-MAY-2007 09:42	count		11109.0000		
25-MAY-2007 08:17	count		0.0000	Be Ac	R
25-MAY-2007 08:38	count		10916.0000		
29-MAY-2007 08:51	count		10760.0000		
30-MAY-2007 09:03	count		10951.0000		
31-MAY-2007 08:53	count		10806.0000		
1-JUN-2007 09:03	count		10906.0000		
4-JUN-2007 08:21	count		10836.0000		
5-JUN-2007 09:26	count		11067.0000		
6-JUN-2007 09:54	count		10691.0000	Be	
6-JUN-2007 10:05	count		10786.0000		
7-JUN-2007 07:48	count		10937.0000		
8-JUN-2007 07:17	count		10732.0000		
9-JUN-2007 07:50	count		10999.0000		
11-JUN-2007 08:40	count		10941.0000		
12-JUN-2007 08:19	count		10524.0000	Be	
12-JUN-2007 08:35	count		10921.0000		
13-JUN-2007 08:54	count		10860.0000		
14-JUN-2007 10:12	count		10860.0000		
15-JUN-2007 09:48	count		11111.0000		

18-JUN-2007 08:38	count	10903.0000	
19-JUN-2007 08:45	count	10892.0000	
20-JUN-2007 08:48	count	10706.0000	
21-JUN-2007 08:51	count	10936.0000	
22-JUN-2007 08:30	count	10857.0000	
24-JUN-2007 13:48	count	11118.0000	
25-JUN-2007 08:48	count	10768.0000	
26-JUN-2007 08:46	count	10558.0000	Be
26-JUN-2007 09:34	count	10675.0000	Be

Quality Assurance Report. Generated 27-JUN-2007 19:38:06.62

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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30-APR-2007 17:15	count		0.0000	
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25-MAY-2007 16:15	count		0.0000	
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Quality Assurance Report.

Generated 27-JUN-2007 19:38:00.93

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 : 7184.000000 Upper Bound : 7567.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-AUG-2006 00:00 End Date : 1-NOV-2006 00:00

Mean : 7309.234375 Std Deviation : 103.640518

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:22	count		7310.0000		
3-APR-2007 08:27	count		7311.0000		
4-APR-2007 08:26	count		7300.0000		
5-APR-2007 08:38	count		7229.0000		
6-APR-2007 08:18	count		7197.0000		
9-APR-2007 08:22	count		7398.0000		
10-APR-2007 08:14	count		7318.0000		
11-APR-2007 08:32	count		7225.0000		
12-APR-2007 08:29	count		7230.0000		
13-APR-2007 08:44	count		7171.0000	Be	
13-APR-2007 10:20	count		7337.0000		
16-APR-2007 08:17	count		7133.0000	Be	
16-APR-2007 08:51	count		7492.0000		
17-APR-2007 08:52	count		7411.0000		
18-APR-2007 08:34	count		7245.0000		
19-APR-2007 08:18	count		7143.0000	Be	
19-APR-2007 08:36	count		7216.0000		
20-APR-2007 07:26	count		7212.0000		
23-APR-2007 08:15	count		7340.0000		
24-APR-2007 08:16	count		7230.0000		
25-APR-2007 08:08	count		7432.0000		

26-APR-2007 08:29	count	7198.0000	
30-APR-2007 08:04	count	7271.0000	
1-MAY-2007 10:35	count	7463.0000	
2-MAY-2007 08:17	count	7335.0000	
3-MAY-2007 08:59	count	7472.0000	
4-MAY-2007 08:21	count	7234.0000	
7-MAY-2007 08:04	count	7263.0000	
8-MAY-2007 08:04	count	7332.0000	
9-MAY-2007 08:20	count	7304.0000	
10-MAY-2007 08:08	count	7178.0000	Be
10-MAY-2007 08:41	count	7251.0000	
11-MAY-2007 08:03	count	7117.0000	Be
11-MAY-2007 08:30	count	7217.0000	
13-MAY-2007 13:47	count	7341.0000	
14-MAY-2007 08:30	count	7284.0000	
15-MAY-2007 08:00	count	7203.0000	
16-MAY-2007 09:44	count	7315.0000	

Quality Assurance Multi-Test Full Report (continued) Page : 2

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej
17-MAY-2007 08:10	count	7451.0000		
21-MAY-2007 08:13	count	7345.0000		
22-MAY-2007 08:30	count	7278.0000		
23-MAY-2007 09:28	count	7348.0000		
25-MAY-2007 08:00	count	7307.0000		
29-MAY-2007 08:36	count	7082.0000	Be In	
29-MAY-2007 09:03	count	7265.0000		
30-MAY-2007 08:34	count	7294.0000		
31-MAY-2007 08:37	count	7362.0000		
1-JUN-2007 08:41	count	7496.0000		
4-JUN-2007 08:07	count	7302.0000		
5-JUN-2007 08:47	count	7370.0000		
6-JUN-2007 09:26	count	7085.0000	Be In	
6-JUN-2007 09:42	count	7314.0000		
7-JUN-2007 07:34	count	7244.0000		
8-JUN-2007 06:24	count	7147.0000	Be	
8-JUN-2007 06:42	count	7309.0000		
9-JUN-2007 07:28	count	7445.0000		
11-JUN-2007 08:16	count	7188.0000		
12-JUN-2007 08:04	count	7205.0000		
13-JUN-2007 08:24	count	7375.0000		
14-JUN-2007 09:53	count	7442.0000		

15-JUN-2007 09:00	count	0.0000	Be Ac	
15-JUN-2007 09:22	count	7447.0000		
18-JUN-2007 08:22	count	7239.0000		
19-JUN-2007 08:29	count	7265.0000		
20-JUN-2007 08:23	count	7228.0000		
21-JUN-2007 08:35	count	7325.0000		
22-JUN-2007 08:12	count	7244.0000		
24-JUN-2007 13:33	count	7407.0000		
25-JUN-2007 08:35	count	7155.0000	Be	
25-JUN-2007 09:07	count	7134.0000	Be	
26-JUN-2007 08:31	count	7036.0000	Be In	
26-JUN-2007 09:08	count	7271.0000		

Quality Assurance Report. Generated 27-JUN-2007 19:38:01.35

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
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30-APR-2007 17:15	count		0.0000		
25-MAY-2007 16:15	count		1.0000		

Quality Assurance Report.

Generated 27-JUN-2007 19:37:53.72

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 : 11253.000000 Upper Bound : 12063.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-AUG-2006 00:00 End Date : 1-NOV-2006 00:00

Mean : 11677.519531 Std Deviation : 141.200577

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:04	count		11579.0000		
3-APR-2007 08:07	count		11332.0000	In	
4-APR-2007 08:07	count		11708.0000		
5-APR-2007 08:08	count		11690.0000		
6-APR-2007 07:57	count		11523.0000		
9-APR-2007 07:59	count		11556.0000		
10-APR-2007 07:53	count		11577.0000		
11-APR-2007 08:13	count		11537.0000		
12-APR-2007 08:16	count		11575.0000		
13-APR-2007 08:24	count		11667.0000		
16-APR-2007 07:56	count		11740.0000		
17-APR-2007 08:30	count		11597.0000		
18-APR-2007 08:16	count		11570.0000		
19-APR-2007 07:58	count		11447.0000		
20-APR-2007 07:07	count		11610.0000		
23-APR-2007 07:55	count		11661.0000		
24-APR-2007 08:46	count		11551.0000		
25-APR-2007 07:50	count		11645.0000		
26-APR-2007 08:11	count		11708.0000		
30-APR-2007 07:46	count		11640.0000		
1-MAY-2007 10:21	count		11619.0000		

2-MAY-2007 08:02	count	11712.0000	
3-MAY-2007 08:43	count	11919.0000	
4-MAY-2007 08:07	count	11633.0000	
7-MAY-2007 07:50	count	11753.0000	
8-MAY-2007 07:50	count	11853.0000	
9-MAY-2007 07:57	count	11644.0000	
10-MAY-2007 07:55	count	11449.0000	
11-MAY-2007 07:47	count	11464.0000	
14-MAY-2007 08:15	count	11494.0000	
15-MAY-2007 07:43	count	11315.0000	In
16-MAY-2007 09:28	count	11598.0000	
17-MAY-2007 07:50	count	11536.0000	
21-MAY-2007 07:57	count	11552.0000	
22-MAY-2007 08:16	count	11638.0000	
23-MAY-2007 09:16	count	11718.0000	
25-MAY-2007 07:45	count	11631.0000	
29-MAY-2007 08:13	count	11699.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

30-MAY-2007 08:15	count		11647.0000		
31-MAY-2007 08:24	count		11685.0000		
1-JUN-2007 08:00	count		11678.0000		
4-JUN-2007 07:46	count		12051.0000	In	
5-JUN-2007 08:10	count		11679.0000		
6-JUN-2007 09:08	count		11537.0000		
7-JUN-2007 07:16	count		11681.0000		
8-JUN-2007 05:54	count		11674.0000		
11-JUN-2007 08:04	count		11568.0000		
12-JUN-2007 07:47	count		11662.0000		
13-JUN-2007 08:10	count		11790.0000		
14-JUN-2007 09:37	count		11846.0000		
15-JUN-2007 08:31	count		11746.0000		
18-JUN-2007 08:02	count		11631.0000		
19-JUN-2007 08:12	count		11810.0000		
20-JUN-2007 08:03	count		11806.0000		
21-JUN-2007 08:19	count		11424.0000		
22-JUN-2007 07:52	count		11684.0000		
24-JUN-2007 13:16	count		11827.0000		
25-JUN-2007 08:20	count		11502.0000		
26-JUN-2007 08:14	count		11545.0000		

Quality Assurance Report.

Generated 27-JUN-2007 19:37:54.14

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
30-APR-2007 17:15	count		1.0000		
25-MAY-2007 16:15	count		0.0000		

Quality Assurance Report.

Generated 27-JUN-2007 19:37:46.68

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 : 367661.000000 Upper Bound : 440843.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2006 00:00 End Date : 1-JUL-2006 00:00

Mean : 404252.281250 Std Deviation : 12197.020508

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:22	count		415758.0000		
3-APR-2007 08:27	count		400168.0000		
4-APR-2007 08:26	count		401259.0000		
5-APR-2007 08:38	count		400590.0000		
6-APR-2007 08:18	count		409732.0000		
9-APR-2007 08:22	count		408639.0000		
10-APR-2007 08:14	count		407209.0000		
11-APR-2007 08:32	count		400460.0000		
12-APR-2007 08:29	count		414591.0000		
13-APR-2007 08:44	count		406359.0000		
16-APR-2007 08:17	count		399746.0000		
17-APR-2007 08:52	count		401692.0000		
18-APR-2007 08:34	count		403582.0000		
19-APR-2007 08:18	count		408430.0000		
20-APR-2007 07:26	count		414215.0000		
23-APR-2007 08:15	count		405752.0000		
24-APR-2007 08:16	count		408124.0000		
25-APR-2007 08:08	count		413950.0000		
26-APR-2007 08:29	count		402385.0000		
30-APR-2007 08:04	count		400832.0000		
1-MAY-2007 10:35	count		409042.0000		

2-MAY-2007 08:17	count	415212.0000			
3-MAY-2007 08:59	count	406927.0000			
4-MAY-2007 08:21	count	410155.0000			
7-MAY-2007 08:04	count	405182.0000			
8-MAY-2007 08:04	count	405951.0000			
9-MAY-2007 08:20	count	409923.0000			
10-MAY-2007 08:08	count	403870.0000			
11-MAY-2007 08:03	count	414632.0000			
14-MAY-2007 08:30	count	402325.0000			
15-MAY-2007 08:00	count	409971.0000			
16-MAY-2007 09:44	count	408185.0000			
17-MAY-2007 08:10	count	401738.0000			
21-MAY-2007 08:13	count	403655.0000			
22-MAY-2007 08:30	count	399878.0000			
23-MAY-2007 09:28	count	400025.0000			
25-MAY-2007 08:00	count	401678.0000			
29-MAY-2007 08:35	count	397360.0000			

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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30-MAY-2007 08:33	count	401557.0000			
31-MAY-2007 08:37	count	415305.0000			
1-JUN-2007 08:53	count	400010.0000			
4-JUN-2007 08:07	count	402958.0000			
5-JUN-2007 08:47	count	407803.0000			
6-JUN-2007 09:26	count	404304.0000			
7-JUN-2007 08:10	count	405857.0000			
8-JUN-2007 06:24	count	398800.0000			
9-JUN-2007 07:49	count	403888.0000			
11-JUN-2007 08:16	count	398840.0000			
12-JUN-2007 08:04	count	401472.0000			
13-JUN-2007 08:24	count	402509.0000			
14-JUN-2007 09:53	count	402367.0000			
15-JUN-2007 09:00	count	403177.0000			
18-JUN-2007 08:22	count	393974.0000			
19-JUN-2007 08:29	count	406336.0000			
20-JUN-2007 08:23	count	392189.0000			
21-JUN-2007 08:51	count	410680.0000			
22-JUN-2007 08:12	count	397404.0000			
24-JUN-2007 13:32	count	399688.0000			
25-JUN-2007 08:35	count	395310.0000			
26-JUN-2007 08:31	count	389232.0000			

Quality Assurance Report.

Generated 27-JUN-2007 19:37:47.11

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
30-APR-2007 17:15	count		0.0000		
25-MAY-2007 16:15	count		0.0000		

Quality Assurance Report.

Generated 27-JUN-2007 19:37:42.08

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 : 383153.000000 Upper Bound : 456017.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2006 00:00 End Date : 1-JUL-2006 00:00

Mean : 419584.593750 Std Deviation : 12144.413086

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:04	count		416311.0000		
3-APR-2007 08:07	count		409635.0000		
4-APR-2007 08:07	count		400331.0000		
5-APR-2007 08:08	count		412306.0000		
6-APR-2007 07:57	count		416556.0000		
9-APR-2007 07:59	count		413741.0000		
10-APR-2007 07:53	count		408970.0000		
11-APR-2007 08:13	count		417410.0000		
12-APR-2007 08:16	count		423022.0000		
13-APR-2007 08:24	count		413213.0000		
16-APR-2007 07:56	count		411934.0000		
17-APR-2007 08:30	count		408304.0000		
18-APR-2007 08:16	count		412408.0000		
19-APR-2007 07:58	count		417597.0000		
20-APR-2007 07:07	count		422993.0000		
23-APR-2007 07:55	count		421430.0000		
24-APR-2007 07:58	count		407862.0000		
25-APR-2007 07:50	count		415586.0000		
26-APR-2007 08:11	count		409707.0000		
30-APR-2007 07:46	count		411168.0000		
1-MAY-2007 10:21	count		420852.0000		

2-MAY-2007 08:02	count	420212.0000			
3-MAY-2007 08:43	count	417274.0000			
4-MAY-2007 08:07	count	414151.0000			
7-MAY-2007 07:50	count	408748.0000			
8-MAY-2007 07:50	count	413924.0000			
9-MAY-2007 07:57	count	422952.0000			
10-MAY-2007 07:55	count	411263.0000			
11-MAY-2007 07:47	count	415600.0000			
13-MAY-2007 13:47	count	408459.0000			
14-MAY-2007 08:15	count	407412.0000			
15-MAY-2007 07:43	count	418408.0000			
16-MAY-2007 09:28	count	417440.0000			
17-MAY-2007 07:50	count	412973.0000			
21-MAY-2007 07:57	count	412168.0000			
22-MAY-2007 08:16	count	414175.0000			
23-MAY-2007 09:16	count	407563.0000			
25-MAY-2007 07:45	count	408092.0000			

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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29-MAY-2007 08:13	count		404332.0000					
30-MAY-2007 08:15	count		411495.0000					
31-MAY-2007 08:24	count		423126.0000					
1-JUN-2007 08:40	count		409800.0000					
4-JUN-2007 07:46	count		408738.0000					
5-JUN-2007 08:30	count		415579.0000					
6-JUN-2007 09:08	count		411230.0000					
7-JUN-2007 07:16	count		415576.0000					
8-JUN-2007 05:54	count		406902.0000					
9-JUN-2007 07:28	count		414654.0000					
11-JUN-2007 08:04	count		410114.0000					
12-JUN-2007 07:47	count		408775.0000					
13-JUN-2007 08:10	count		409233.0000					
14-JUN-2007 09:37	count		409007.0000					
15-JUN-2007 08:31	count		418337.0000					
18-JUN-2007 08:03	count		406119.0000					
19-JUN-2007 08:12	count		413155.0000					
20-JUN-2007 08:03	count		417435.0000					
21-JUN-2007 08:35	count		410355.0000					
22-JUN-2007 07:52	count		408610.0000					
24-JUN-2007 13:16	count		416022.0000					
25-JUN-2007 08:20	count		404675.0000					

26-JUN-2007 08:14 count 403964.0000 | | |

Quality Assurance Report. Generated 27-JUN-2007 19:37:42.47

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
30-APR-2007 17:15	count		0.0000	
25-MAY-2007 16:15	count		0.0000	

Quality Assurance Report.

Generated 27-JUN-2007 19:37:36.93

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 : 23774.000000 Upper Bound : 24618.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-AUG-2006 00:00 End Date : 1-NOV-2006 00:00

Mean : 24302.363281 Std Deviation : 210.522400

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:22	count		24846.0000	Ab In	
2-APR-2007 08:51	count		24649.0000	Ab	
3-APR-2007 08:48	count		24891.0000	Ab In	
3-APR-2007 09:24	count		24680.0000	Ab	
4-APR-2007 09:16	count		24683.0000	Ab	
4-APR-2007 09:37	count		24997.0000	Ab Ac	
5-APR-2007 09:04	count		24992.0000	Ab Ac	
5-APR-2007 09:34	count		25110.0000	Ab Ac	
6-APR-2007 09:02	count		24746.0000	Ab In	
6-APR-2007 09:23	count		24508.0000		
9-APR-2007 09:07	count		24851.0000	Ab In	
9-APR-2007 09:26	count		25010.0000	Ab Ac	
10-APR-2007 08:32	count		24633.0000	Ab	
10-APR-2007 08:52	count		24532.0000		
11-APR-2007 09:06	count		24515.0000		
12-APR-2007 08:47	count		24719.0000	Ab	
12-APR-2007 09:08	count		24857.0000	Ab In	
13-APR-2007 09:17	count		24437.0000		
16-APR-2007 08:51	count		24621.0000	Ab	
16-APR-2007 09:38	count		24881.0000	Ab In	
17-APR-2007 09:15	count		24677.0000	Ab	

17-APR-2007 09:36	count	24789.0000	Ab In
18-APR-2007 08:56	count	24890.0000	Ab In
18-APR-2007 09:11	count	24924.0000	Ab In
19-APR-2007 08:35	count	24923.0000	Ab In
19-APR-2007 09:02	count	24757.0000	Ab In
20-APR-2007 07:50	count	23975.0000	
23-APR-2007 08:33	count	24152.0000	
24-APR-2007 08:30	count	24088.0000	
25-APR-2007 08:22	count	24094.0000	
26-APR-2007 08:42	count	24061.0000	
30-APR-2007 08:17	count	23798.0000	In
1-MAY-2007 10:48	count	24452.0000	
2-MAY-2007 08:39	count	23785.0000	In
3-MAY-2007 09:18	count	24120.0000	
4-MAY-2007 08:45	count	23870.0000	In
7-MAY-2007 08:21	count	23895.0000	
8-MAY-2007 08:21	count	24334.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
9-MAY-2007 09:25	count	24141.0000			
10-MAY-2007 08:23	count	24128.0000			
11-MAY-2007 08:18	count	24022.0000			
14-MAY-2007 08:46	count	23858.0000	In		
15-MAY-2007 08:17	count	24314.0000			
16-MAY-2007 10:03	count	23806.0000	In		
17-MAY-2007 08:26	count	24198.0000			
21-MAY-2007 08:26	count	24220.0000			
22-MAY-2007 09:01	count	23956.0000			
23-MAY-2007 09:42	count	24218.0000			
25-MAY-2007 08:17	count	24128.0000			
29-MAY-2007 08:51	count	24224.0000			
30-MAY-2007 09:03	count	24299.0000			
31-MAY-2007 08:53	count	24319.0000			
1-JUN-2007 09:03	count	24136.0000			
4-JUN-2007 08:21	count	24262.0000			
5-JUN-2007 09:26	count	24033.0000			
6-JUN-2007 09:42	count	24136.0000			
7-JUN-2007 08:10	count	24371.0000			
8-JUN-2007 07:17	count	23936.0000			
11-JUN-2007 08:39	count	24275.0000			
12-JUN-2007 08:19	count	24147.0000			

13-JUN-2007 08:53	count	24044.0000	
14-JUN-2007 10:12	count	24144.0000	
15-JUN-2007 09:21	count	0.0000	Be Ac
15-JUN-2007 09:52	count	24254.0000	
18-JUN-2007 08:38	count	24374.0000	
19-JUN-2007 08:42	count	24064.0000	
20-JUN-2007 08:48	count	24247.0000	
21-JUN-2007 08:19	count	24371.0000	
22-JUN-2007 08:30	count	24259.0000	
24-JUN-2007 13:47	count	24221.0000	
25-JUN-2007 08:47	count	23995.0000	
26-JUN-2007 08:46	count	24231.0000	

Quality Assurance Report. Generated 27-JUN-2007 19:37:37.29

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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30-APR-2007 17:15	count		1.0000	
25-MAY-2007 16:15	count		3.0000	

Quality Assurance Report.

Generated 27-JUN-2007 19:37:30.06

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 : 16990.300781 Upper Bound : 18394.900391

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-AUG-2006 00:00 End Date : 1-NOV-2006 00:00

Mean : 17702.623047 Std Deviation : 236.528519

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
3-APR-2007 08:27	count		17699.0000		
4-APR-2007 08:44	count		17671.0000		
5-APR-2007 08:38	count		17938.0000		
6-APR-2007 08:18	count		17770.0000		
9-APR-2007 08:22	count		18004.0000		
10-APR-2007 08:14	count		17717.0000		
11-APR-2007 08:32	count		17783.0000		
12-APR-2007 08:29	count		18046.0000		
13-APR-2007 08:44	count		17740.0000		
16-APR-2007 08:17	count		18347.0000	In	
17-APR-2007 08:51	count		17908.0000		
18-APR-2007 08:34	count		17899.0000		
19-APR-2007 08:18	count		17758.0000		
20-APR-2007 07:26	count		17930.0000		
23-APR-2007 08:15	count		17797.0000		
24-APR-2007 08:16	count		17972.0000		
25-APR-2007 08:07	count		18002.0000		
26-APR-2007 08:29	count		17840.0000		
30-APR-2007 08:04	count		18206.0000	In	
1-MAY-2007 10:35	count		18145.0000		
2-MAY-2007 08:17	count		18094.0000		

3-MAY-2007 08:58	count	17953.0000	
4-MAY-2007 08:21	count	17819.0000	
7-MAY-2007 08:04	count	18003.0000	
8-MAY-2007 08:04	count	18141.0000	
9-MAY-2007 08:20	count	18021.0000	
10-MAY-2007 08:08	count	17929.0000	
11-MAY-2007 08:03	count	17812.0000	
14-MAY-2007 08:30	count	18011.0000	
15-MAY-2007 08:00	count	17984.0000	
16-MAY-2007 09:44	count	18324.0000	In
17-MAY-2007 08:09	count	17953.0000	
21-MAY-2007 08:13	count	18443.0000	Ab Ac
21-MAY-2007 08:39	count	17544.0000	
22-MAY-2007 08:30	count	18025.0000	
23-MAY-2007 09:28	count	18123.0000	
25-MAY-2007 08:00	count	18235.0000	In
29-MAY-2007 08:35	count	18039.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

30-MAY-2007 08:33	count		18210.0000	In	
31-MAY-2007 08:37	count		18038.0000		
1-JUN-2007 08:41	count		18248.0000	In	
4-JUN-2007 08:07	count		17971.0000		
5-JUN-2007 08:47	count		18266.0000	In	
6-JUN-2007 09:26	count		18294.0000	In	
7-JUN-2007 07:34	count		18412.0000	Ab In	
7-JUN-2007 07:47	count		18385.0000	In	
8-JUN-2007 06:24	count		18459.0000	Ab Ac	
8-JUN-2007 06:42	count		18159.0000		
9-JUN-2007 07:49	count		18434.0000	Ab Ac	
9-JUN-2007 08:05	count		18250.0000	In	
11-JUN-2007 08:16	count		18482.0000	Ab Ac	
11-JUN-2007 08:58	count		18027.0000		
12-JUN-2007 08:04	count		18200.0000	In	
13-JUN-2007 08:24	count		18013.0000		
14-JUN-2007 09:53	count		18055.0000		
15-JUN-2007 09:00	count		18337.0000	In	
18-JUN-2007 08:21	count		18484.0000	Ab Ac	
18-JUN-2007 08:51	count		18211.0000	In	
19-JUN-2007 08:28	count		17992.0000		
20-JUN-2007 08:23	count		18294.0000	In	

21-JUN-2007 08:51	count	18438.0000	Ab Ac
21-JUN-2007 09:08	count	18115.0000	
22-JUN-2007 08:12	count	18181.0000	In
24-JUN-2007 13:32	count	18067.0000	
25-JUN-2007 08:34	count	17807.0000	
26-JUN-2007 08:31	count	17711.0000	

Quality Assurance Report. Generated 27-JUN-2007 19:37:30.40

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 : 3804.416748 Std Deviation : 38031.976563

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS Rej

2-APR-2007 08:00	count		0.0000	
30-APR-2007 17:15	count		1.0000	
25-MAY-2007 16:14	count		0.0000	

Quality Assurance Report.

Generated 27-JUN-2007 19:37:23.52

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 : 24095.000000 Upper Bound : 25035.000000

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-AUG-2006 00:00 End Date : 1-NOV-2006 00:00

Mean : 24535.822266 Std Deviation : 253.565414

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:04	count		24458.0000		
3-APR-2007 08:07	count		24695.0000		
4-APR-2007 08:06	count		25068.0000	Ab In	
4-APR-2007 08:25	count		24825.0000		
5-APR-2007 08:07	count		24746.0000		
6-APR-2007 07:56	count		24929.0000		
9-APR-2007 07:59	count		24928.0000		
10-APR-2007 07:53	count		24543.0000		
11-APR-2007 08:13	count		24608.0000		
12-APR-2007 08:16	count		24842.0000		
13-APR-2007 08:24	count		24370.0000		
16-APR-2007 07:56	count		24927.0000		
17-APR-2007 08:30	count		24525.0000		
18-APR-2007 08:16	count		24814.0000		
19-APR-2007 07:58	count		24754.0000		
20-APR-2007 07:07	count		24378.0000		
23-APR-2007 07:55	count		24312.0000		
24-APR-2007 07:58	count		24777.0000		

25-APR-2007 07:50	count	24336.0000	
26-APR-2007 08:11	count	25064.0000	Ab In
26-APR-2007 08:55	count	24864.0000	
30-APR-2007 07:46	count	24737.0000	
1-MAY-2007 10:21	count	25003.0000	
2-MAY-2007 08:02	count	24810.0000	
3-MAY-2007 08:43	count	24643.0000	
4-MAY-2007 08:07	count	24485.0000	
7-MAY-2007 07:50	count	24600.0000	
8-MAY-2007 07:50	count	24647.0000	
9-MAY-2007 07:57	count	24926.0000	
10-MAY-2007 07:55	count	24756.0000	
11-MAY-2007 07:47	count	24745.0000	
13-MAY-2007 13:47	count	25035.0000	
14-MAY-2007 08:15	count	24485.0000	
15-MAY-2007 07:43	count	25001.0000	
16-MAY-2007 09:27	count	25010.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
17-MAY-2007 07:50	count	24786.0000			
21-MAY-2007 07:57	count	24730.0000			
22-MAY-2007 08:16	count	24795.0000			
23-MAY-2007 09:16	count	24909.0000			
25-MAY-2007 07:45	count	25003.0000			
29-MAY-2007 08:12	count	24762.0000			
30-MAY-2007 08:15	count	24738.0000			
31-MAY-2007 08:24	count	24889.0000			
1-JUN-2007 07:59	count	24811.0000			
4-JUN-2007 07:46	count	24771.0000			
5-JUN-2007 08:10	count	24508.0000			
6-JUN-2007 09:08	count	24536.0000			
7-JUN-2007 07:16	count	24613.0000			
8-JUN-2007 05:54	count	24858.0000			
9-JUN-2007 07:28	count	24658.0000			
11-JUN-2007 08:04	count	24598.0000			
12-JUN-2007 07:47	count	24760.0000			
13-JUN-2007 08:10	count	24496.0000			
14-JUN-2007 09:37	count	24794.0000			
15-JUN-2007 08:31	count	24550.0000			
18-JUN-2007 08:02	count	24993.0000			
19-JUN-2007 08:12	count	24458.0000			

20-JUN-2007 08:03	count	24974.0000			
21-JUN-2007 08:35	count	24547.0000			
22-JUN-2007 07:52	count	24262.0000			
24-JUN-2007 13:16	count	24691.0000			
25-JUN-2007 08:20	count	24869.0000			
26-JUN-2007 08:14	count	24713.0000			

Quality Assurance Report. Generated 27-JUN-2007 19:37:24.44

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 : 4.602740 Std Deviation : 16.471136

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

30-APR-2007 17:15	count		3.0000		
25-MAY-2007 16:14	count		2.0000		

Quality Assurance Report.

Generated 27-JUN-2007 19:37:16.34

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 : 249674.000000 Upper Bound : 270464.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2006 00:00 End Date : 1-JUL-2006 00:00

Mean : 260069.015625 Std Deviation : 3465.084961

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:51	count		264099.0000		
3-APR-2007 08:48	count		259785.0000		
4-APR-2007 08:43	count		266734.0000		
5-APR-2007 09:04	count		259153.0000		
6-APR-2007 09:02	count		262136.0000		
9-APR-2007 09:07	count		261444.0000		
10-APR-2007 08:32	count		263450.0000		
11-APR-2007 09:06	count		265005.0000		
12-APR-2007 08:47	count		265487.0000		
13-APR-2007 09:17	count		262609.0000		
16-APR-2007 08:51	count		264148.0000		
17-APR-2007 09:15	count		262439.0000		
18-APR-2007 08:56	count		262754.0000		
19-APR-2007 08:35	count		263761.0000		
20-APR-2007 08:09	count		263377.0000		
23-APR-2007 08:33	count		264751.0000		
24-APR-2007 08:30	count		265165.0000		
25-APR-2007 08:22	count		264678.0000		
26-APR-2007 08:42	count		263755.0000		
30-APR-2007 08:17	count		264916.0000		
1-MAY-2007 10:48	count		266829.0000		

2-MAY-2007 08:39	count	267233.0000	In
3-MAY-2007 09:18	count	264996.0000	
4-MAY-2007 08:45	count	265484.0000	
7-MAY-2007 08:21	count	261384.0000	
8-MAY-2007 08:21	count	265883.0000	
9-MAY-2007 09:24	count	260963.0000	
10-MAY-2007 08:23	count	263299.0000	
11-MAY-2007 08:18	count	260018.0000	
14-MAY-2007 08:46	count	262784.0000	
15-MAY-2007 08:17	count	260517.0000	
16-MAY-2007 10:03	count	262764.0000	
17-MAY-2007 08:26	count	265253.0000	
21-MAY-2007 08:26	count	259561.0000	
22-MAY-2007 09:01	count	260797.0000	
23-MAY-2007 09:42	count	262500.0000	
25-MAY-2007 08:17	count	259202.0000	
29-MAY-2007 08:51	count	259141.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
30-MAY-2007 09:03	count	264141.0000			
31-MAY-2007 08:53	count	264211.0000			
1-JUN-2007 09:03	count	264253.0000			
4-JUN-2007 08:21	count	264589.0000			
5-JUN-2007 09:26	count	264912.0000			
6-JUN-2007 09:42	count	263416.0000			
7-JUN-2007 08:27	count	263444.0000			
8-JUN-2007 06:42	count	259723.0000			
9-JUN-2007 07:49	count	260869.0000			
11-JUN-2007 08:39	count	259628.0000			
12-JUN-2007 08:19	count	260612.0000			
13-JUN-2007 08:53	count	261880.0000			
14-JUN-2007 10:12	count	261165.0000			
15-JUN-2007 09:21	count	260751.0000			
18-JUN-2007 08:38	count	259907.0000			
19-JUN-2007 08:42	count	260566.0000			
20-JUN-2007 08:48	count	259142.0000			
21-JUN-2007 08:51	count	262103.0000			
22-JUN-2007 08:30	count	259010.0000			
24-JUN-2007 13:47	count	259456.0000			
25-JUN-2007 08:47	count	255970.0000			
26-JUN-2007 08:46	count	255763.0000			

Quality Assurance Report.

Generated 27-JUN-2007 19:37:18.05

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
30-APR-2007 17:15	count		0.0000		
25-MAY-2007 16:14	count		0.0000		

Quality Assurance Report.

Generated 27-JUN-2007 19:37:09.04

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 : 251285.000000 Upper Bound : 270455.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2006 00:00 End Date : 1-JUL-2006 00:00

Mean : 260869.906250 Std Deviation : 3195.420410

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:22	count		263424.0000		
3-APR-2007 08:27	count		266209.0000		
4-APR-2007 08:25	count		266700.0000		
5-APR-2007 08:38	count		262474.0000		
6-APR-2007 08:18	count		264719.0000		
9-APR-2007 08:22	count		266902.0000		
10-APR-2007 08:14	count		267158.0000		
11-APR-2007 08:32	count		263905.0000		
12-APR-2007 08:29	count		266329.0000		
13-APR-2007 08:43	count		265980.0000		
16-APR-2007 08:17	count		266636.0000		
17-APR-2007 08:51	count		266396.0000		
18-APR-2007 08:34	count		265658.0000		
19-APR-2007 08:18	count		266326.0000		
20-APR-2007 07:26	count		271424.0000	Ab Ac	
20-APR-2007 07:50	count		268746.0000	In	
23-APR-2007 08:15	count		265968.0000		
24-APR-2007 08:16	count		266310.0000		
25-APR-2007 08:07	count		268151.0000	In	
26-APR-2007 08:29	count		268050.0000	In	
30-APR-2007 08:04	count		266577.0000		

1-MAY-2007 10:34	count	269328.0000	In
2-MAY-2007 08:17	count	269235.0000	In
3-MAY-2007 08:58	count	267713.0000	In
4-MAY-2007 08:21	count	269099.0000	In
7-MAY-2007 08:04	count	265009.0000	
8-MAY-2007 08:04	count	268200.0000	In
9-MAY-2007 08:20	count	265282.0000	
10-MAY-2007 08:08	count	265995.0000	
11-MAY-2007 08:03	count	263220.0000	
14-MAY-2007 08:30	count	264386.0000	
15-MAY-2007 08:00	count	264159.0000	
16-MAY-2007 09:44	count	267702.0000	In
17-MAY-2007 08:09	count	268008.0000	In
21-MAY-2007 08:13	count	267013.0000	
22-MAY-2007 08:30	count	263977.0000	
23-MAY-2007 09:28	count	267704.0000	In
25-MAY-2007 08:00	count	265467.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

29-MAY-2007 08:35	count	262278.0000			
30-MAY-2007 08:33	count	263749.0000			
31-MAY-2007 08:37	count	267566.0000	In		
1-JUN-2007 08:41	count	267260.0000			
4-JUN-2007 08:07	count	268399.0000	In		
5-JUN-2007 08:46	count	269179.0000	In		
6-JUN-2007 09:26	count	267493.0000	In		
7-JUN-2007 07:16	count	261703.0000			
8-JUN-2007 06:24	count	262342.0000			
11-JUN-2007 08:16	count	262985.0000			
12-JUN-2007 08:04	count	263627.0000			
13-JUN-2007 08:24	count	266991.0000			
14-JUN-2007 09:53	count	263833.0000			
15-JUN-2007 09:00	count	265864.0000			
18-JUN-2007 08:21	count	262820.0000			
19-JUN-2007 08:28	count	264991.0000			
20-JUN-2007 08:23	count	264342.0000			
21-JUN-2007 08:18	count	263681.0000			
22-JUN-2007 08:12	count	263585.0000			
24-JUN-2007 13:32	count	263624.0000			
25-JUN-2007 08:34	count	259491.0000			
26-JUN-2007 08:31	count	260027.0000			

Quality Assurance Report.

Generated 27-JUN-2007 19:37:10.01

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
30-APR-2007 17:15	count		0.0000		
25-MAY-2007 16:14	count		0.0000		

Quality Assurance Report.

Generated 27-JUN-2007 19:37:03.72

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 : 255404.000000 Upper Bound : 273401.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-JAN-2006 00:00 End Date : 1-JUL-2006 00:00

Mean : 264402.875000 Std Deviation : 2999.418945

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
2-APR-2007 08:04	count		267336.0000		
3-APR-2007 08:07	count		266821.0000		
4-APR-2007 08:06	count		266569.0000		
5-APR-2007 08:07	count		266963.0000		
6-APR-2007 07:57	count		267205.0000		
9-APR-2007 07:59	count		270506.0000	In	
10-APR-2007 07:53	count		268624.0000		
11-APR-2007 08:13	count		266942.0000		
12-APR-2007 08:16	count		269101.0000		
13-APR-2007 08:24	count		268253.0000		
16-APR-2007 07:56	count		268791.0000		
17-APR-2007 08:30	count		268656.0000		
18-APR-2007 08:16	count		268046.0000		
19-APR-2007 07:58	count		268592.0000		
20-APR-2007 07:07	count		269769.0000		
23-APR-2007 07:55	count		268189.0000		
24-APR-2007 07:58	count		269820.0000		
25-APR-2007 07:50	count		269829.0000		
26-APR-2007 08:11	count		266753.0000		
30-APR-2007 07:46	count		266967.0000		
1-MAY-2007 10:21	count		272180.0000	In	

2-MAY-2007 08:02	count	271998.0000	In	
3-MAY-2007 08:43	count	268795.0000		
4-MAY-2007 08:07	count	270160.0000		
7-MAY-2007 07:50	count	267338.0000		
8-MAY-2007 07:50	count	270567.0000	In	
9-MAY-2007 07:57	count	267945.0000		
10-MAY-2007 07:55	count	268254.0000		
11-MAY-2007 07:47	count	266771.0000		
13-MAY-2007 13:47	count	268163.0000		
14-MAY-2007 08:15	count	266467.0000		
15-MAY-2007 07:43	count	268253.0000		
16-MAY-2007 09:27	count	270807.0000	In	
17-MAY-2007 07:50	count	272636.0000	In	
21-MAY-2007 07:57	count	266947.0000		
22-MAY-2007 08:16	count	268469.0000		
23-MAY-2007 09:15	count	270855.0000	In	
25-MAY-2007 07:45	count	268222.0000		

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej

29-MAY-2007 08:12	count		265886.0000		
30-MAY-2007 08:15	count		268173.0000		
31-MAY-2007 08:24	count		269826.0000		
1-JUN-2007 07:59	count		271069.0000	In	
4-JUN-2007 07:46	count		272751.0000	In	
5-JUN-2007 08:09	count		271790.0000	In	
6-JUN-2007 09:08	count		270762.0000	In	
7-JUN-2007 08:10	count		268559.0000		
8-JUN-2007 05:54	count		267653.0000		
9-JUN-2007 07:28	count		270211.0000		
11-JUN-2007 08:04	count		268147.0000		
12-JUN-2007 07:47	count		266664.0000		
13-JUN-2007 08:10	count		269727.0000		
14-JUN-2007 09:37	count		266677.0000		
15-JUN-2007 08:31	count		267606.0000		
18-JUN-2007 08:02	count		268286.0000		
19-JUN-2007 08:12	count		269321.0000		
20-JUN-2007 08:03	count		268342.0000		
21-JUN-2007 08:35	count		269704.0000		
22-JUN-2007 07:52	count		267739.0000		
24-JUN-2007 13:16	count		270463.0000	In	
25-JUN-2007 08:20	count		264840.0000		

26-JUN-2007 08:13 count 265474.0000 | | |

Quality Assurance Report. Generated 27-JUN-2007 19:37:04.82

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
30-APR-2007 17:14	count		0.0000		
25-MAY-2007 16:14	count		0.0000		

Quality Assurance Report.

Generated 27-JUN-2007 19:38:23.64

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 : 22998.000000 Upper Bound : 23907.000000

Investigate Level : 2.000000 Action Level : 3.000000

---- Sample Driven N-Sigma Test Parameters ----

Start Date : 1-AUG-2006 00:00 End Date : 1-NOV-2006 00:00

Mean : 26202.878906 Std Deviation : 13874.305664

Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
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2-APR-2007 08:23	count		23431.0000		
3-APR-2007 08:48	count		23581.0000		
4-APR-2007 08:44	count		23356.0000		
5-APR-2007 08:38	count		23641.0000		
6-APR-2007 09:03	count		23782.0000		
9-APR-2007 08:22	count		23636.0000		
10-APR-2007 08:14	count		23607.0000		
11-APR-2007 08:32	count		23358.0000		
12-APR-2007 08:29	count		23960.0000	Ab	
12-APR-2007 08:47	count		23659.0000		
13-APR-2007 08:45	count		23529.0000		
16-APR-2007 08:17	count		23572.0000		
17-APR-2007 09:16	count		23689.0000		
18-APR-2007 08:34	count		23460.0000		
19-APR-2007 08:18	count		23961.0000	Ab	
19-APR-2007 08:36	count		23569.0000		
20-APR-2007 07:27	count		23747.0000		
23-APR-2007 08:16	count		23667.0000		
24-APR-2007 08:16	count		23778.0000		
25-APR-2007 08:08	count		23765.0000		
26-APR-2007 08:30	count		23393.0000		

30-APR-2007 08:04	count	23508.0000	
1-MAY-2007 10:35	count	23324.0000	
2-MAY-2007 08:17	count	23449.0000	
3-MAY-2007 08:59	count	23393.0000	
4-MAY-2007 08:22	count	23716.0000	
7-MAY-2007 08:04	count	23695.0000	
8-MAY-2007 08:04	count	23487.0000	
9-MAY-2007 08:21	count	23641.0000	
10-MAY-2007 08:09	count	23474.0000	
11-MAY-2007 08:03	count	23597.0000	
13-MAY-2007 13:47	count	23622.0000	
14-MAY-2007 08:31	count	23472.0000	
15-MAY-2007 08:01	count	23590.0000	
16-MAY-2007 09:44	count	23762.0000	
17-MAY-2007 08:10	count	23478.0000	
18-MAY-2007 10:41	count	23459.0000	
21-MAY-2007 08:13	count	23542.0000	

Quality Assurance Multi-Test Full Report (continued)

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Measurement Time	Sample ID	Sample Analyst	Value	LU SD UD BS	Rej
22-MAY-2007 08:31	count	23536.0000			
23-MAY-2007 09:28	count	23711.0000			
25-MAY-2007 08:00	count	23695.0000			
29-MAY-2007 08:36	count	23725.0000			
30-MAY-2007 08:34	count	23724.0000			
31-MAY-2007 08:38	count	23605.0000			
1-JUN-2007 08:42	count	23582.0000			
4-JUN-2007 08:07	count	23737.0000			
5-JUN-2007 08:47	count	23625.0000			
6-JUN-2007 09:26	count	23901.0000			
6-JUN-2007 09:42	count	0.0000	Be		
7-JUN-2007 08:27	count	23863.0000			
8-JUN-2007 06:25	count	23711.0000			
11-JUN-2007 08:17	count	23784.0000			
12-JUN-2007 08:05	count	23669.0000			
13-JUN-2007 08:24	count	23757.0000			
14-JUN-2007 09:53	count	23525.0000			
15-JUN-2007 09:00	count	23556.0000			
18-JUN-2007 08:22	count	23741.0000			
19-JUN-2007 08:29	count	23417.0000			
19-JUN-2007 08:45	count	0.0000	Be		
20-JUN-2007 08:23	count	23462.0000			

21-JUN-2007 08:36	count	23600.0000	
22-JUN-2007 08:12	count	23984.0000	Ab
22-JUN-2007 08:53	count	23610.0000	
24-JUN-2007 13:33	count	24015.0000	Ab
24-JUN-2007 14:11	count	23508.0000	
25-JUN-2007 08:35	count	24088.0000	Ab
25-JUN-2007 09:07	count	23846.0000	
26-JUN-2007 08:31	count	23770.0000	

Quality Assurance Report. Generated 27-JUN-2007 19:38:24.03

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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30-APR-2007 17:15	count		3.0000	
25-MAY-2007 16:15	count		4.0000	

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