AR TARGET SHEET

The following document was too large to scan as one unit, therefore, it has been broken down into section.

DOCUMENT #: (none)

EDMC#: 0022940

SECTION: 4 of 5

1100-EM-1 GROUNDWATER CHARACTERIZATION
PHASE I

DATA PACKAGE/REPORT No. 1

Revision 0

APPENDIX D

GAMMA ENERGY ANALYSIS

Table of Contents

D01 - Summary Results
D02 - Batch I Raw Data
D03 - Batch II Raw Data

GAMMA ENERGY ANALYSIS RESULTS for 1100EM-1, Batch 1

Sixteen water samples were prepared for Gamma Energy Analysis (GEA). The samples were prepared by transferring 500.0 g of water sample into a 500 ml Marinelli beaker. The sample container was then sealed, taped, labelled, and then sealed in a plastic bag for counting. In addition to these samples, the following samples were prepared for quality assurance purposes : 1)A sample duplicate, 2)a matrix spike, 3)a reagent blank, and 4)a reagent blank spike. The spike consisted of a known aliquot of ^{137}Cs. A total of 20 samples were analyzed as part of Batch 1.

The samples were prepared for counting following PNL-ALO-105. This procedure covers the preparation of solid and liquid samples. Sample aliquots weighing 500.0 g of the water sample were sealed in new 500 ml Marinelli beakers.

The samples were analyzed by gamma-ray spectroscopy to determine the quantities of gamma-ray emitting isotopes present. Since the samples were very low in observed activity, less than values for ^{60}Co and ^{137}Cs are reported when there were not positive results. The samples were counted on "Diode K" which is a lithium-drifted germanium detector and the work was performed following PNL-ALO-464 and PNL-ALO-470.

The attached Table lists the measured values of ^{60}Co and ^{137}Cs in the water samples. There were no positive observations of ^{60}Co or ^{137}Cs. It was assumed that the density of the groundwaters was 1.0 g/ml.

The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background. The one sigma detection limit determined using sample 92-02735-L-5 for ^{60}Co and ^{137}Cs is < 1.0 and < 0.84 pCi/L, respectively.

The ^{137}Cs result obtained for the matrix spike (92-02739-L-3) and the reagent blank spike (92-02735-L-6) was 568 ± 10 pCi/L and 563 ± 9 pCi/L, respectively. The average of these two values is 565 ± 4 (± 0.6%) pCi/L. Thus, the precision is well within the requested precision of ± 25%. In terms of accuracy, the known value of the spike is 558 pCi/L and within the counting errors of each analyses. Thus the accuracy is also within the requested accuracy of ± 25%.

Observed Radionuclide Activities in 1100 EM-1 Groundwaters - Batch 1

PNL ALO #	LRB #	Sample ID#	Collection Date	Weight (kg)	^{60}Co pCi/L[a,b,c]	^{137}Cs pCi/L[a,b,c]
92-02724-L-1	54529-16-A	B01572	9-19-91 10:49	0.5000	< 4.9	< 3.4
92-02725-L-1	54529-17-A	B01573	9-19-91 12:22	0.5000	< 4.5	< 3.5
92-02726-L-1	54529-18-A	B01574	9-19-91 09:35	0.5000	< 5.2	< 3.7
92-02727-L-1	54529-19-A	B01575	9-19-91 08:00	0.5000	< 2.2	< 1.8
92-02728-L-1	54529-07-A	B015S9	9-23-91 07:52	0.5000	< 4.3	< 3.5
92-02729-L-1	54529-08-A	B015T1	9-23-91 08:31	0.5000	< 4.5	< 3.3
92-02730-L-1	54529-09-A	B015T3	9-23-91 09:25	0.5000	< 5.3	< 3.6
92-02731-L-1	54529-10-A	B015T5	9-23-91 10:45	0.5000	< 2.3	< 1.8
92-02732-L-1	54529-11-A	B015T7	9-23-91 10:16	0.5000	< 4.6	< 3.3
92-02733-L-1	54529-12-A	B015T9	9-20-91 08:50	0.5000	< 4.2	< 3.4
92-02734-L-1	54529-13-A	B015V1	9-30-91 11:05	0.5000	< 4.2	< 3.6
92-02735-L-1	54529-14-A	B015V3	9-30-91 12:42	0.5000	< 3.7	< 3.5
92-02735-L-2	54529-14-B	B015V3	9-30-91 12:42	0.5000	< 3.9	< 3.1
92-02735-L-5	54529-15-A		9-30-91 12:42	0.5000	< 2.6	< 2.1
92-02735-L-6	54529-15-B		2-01-92 12:00	0.5000	< 3.6	563 ± 9

[a] The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background.

[b] The known spike value for the ^{137}Cs is 558 pCi/L.

[c] The density of the water sample was assumed to be 1.0 g/ml.

D01-002

PNL ALO #	LRB #	Sample ID#	Collection Date	Weight (kg)	^{60}Co pCi/L[a,b,c]	^{137}Cs pCi/L[a,b,c]
92-02736-L-1	54529-20-A	B015V5	9-30-91 10:05	0.5000	< 4.3	< 3.0
92-02737-L-1	54529-21-A	B015V7	9-20-91 07:58	0.5000	< 5.6	< 4.4
92-02738-L-1	54529-22-A	B015V8	9-20-91 09:33	0.5000	< 2.5	< 2.1
92-02739-L-1	54529-23-A	B015V9	9-23-91 11:35	0.5000	< 4.2	< 3.7
92-02739-L-3	54529-24-A		2-01-92 12:00	0.5000	< 3.9	568 ± 10

[a] The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background.

[b] The known spike value for the ^{137}Cs is 558 pCi/L.

[c] The density of the water sample was assumed to be 1.0 g/ml.

D01-003

GAMMA ENERGY ANALYSIS RESULTS for 1100EM-1, Batch 2

Thirteen water samples were prepared for Gamma Energy Analysis (GEA). The samples were prepared by transferring 500.0 g of water sample into a 500 ml Marinelli beaker. The sample container was then sealed, taped, labelled, and then sealed in a plastic bag for counting. In addition to these samples, the following samples were prepared for quality assurance purposes : 1)A sample duplicate, 2)a matrix spike, 3)a reagent blank, and 4)a reagent blank spike. The spike consisted of a known aliquot of ^{137}Cs. A total of 17 samples were analyzed as part of Batch 2.

The samples were prepared for counting following PNL-ALO-105. This procedure covers the preparation of solid and liquid samples. Sample aliquots weighing 500.0 g of the water sample were sealed in new 500 ml Marinelli beakers.

The samples were analyzed by gamma-ray spectroscopy to determine the quantities of gamma-ray emitting isotopes present. Since the samples were very low in observed activity, less than values for ^{60}Co and ^{137}Cs are reported when there were not positive results. The samples were counted on "Diode K" and "Diode HH" which are lithium-drifted germanium detectors [Ge(Li)] and the work was performed following PNL-ALO-464 and PNL-ALO-470.

A Deficiency Report (DR 92-017) was filed on Diode K on 3/25/92. A problem was noted with the counting system and the check source was counted to determine if the system was "in control." It was determined that the detector was not in control and that data from that date back to the nearest good control count was suspect. The results from three samples were affected. The data obtained with Diode K was removed from the data table and the samples counted on Diode HH. No additional samples were counted on Diode K.

The attached Table lists the measured values of ^{60}Co and ^{137}Cs in the water samples as determined using Diode K and Diode HH. There were no positive observations of ^{60}Co or ^{137}Cs above the system background. The smaller less than values listed for samples counted on Diode K are primarily the result of a larger and more efficient Ge(Li) detector compared to that in Diode HH. It was assumed that the density of the groundwaters was 1.0 g/ml.

The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background. The one sigma detection limit determined using sample 92-02742-L-5 for ^{60}Co and ^{137}Cs is < 1.0 and < 0.80 pCi/L, respectively for Diode K, and < 2.7 and < 2.6 pCi/L, respectively for Diode HH.

The ^{137}Cs result obtained for the matrix spike (92-02742-L-3) was 567 ± 11 pCi/L for Diode K. The ^{137}Cs result obtained for the matrix spike (92-02742-L-3) and the reagent blank spike (92-02742-L-6) was 564 ± 12 pCi/L and 570 ± 12 pCi/l, respectively for Diode HH. The average of the two values for Diode HH is 567 ± 4 (± 0.7%) pCi/L. Thus, the precision is well within the requested precision of ± 25%. In terms of accuracy, the known value of the spike is 558 pCi/L and within the counting errors of each analyses. Thus the accuracy is also within the requested accuracy of ± 25% for Diode HH and Diode K.

Observed Radionuclide Activities in 1100 EM-1 Groundwaters - Batch 2

PNL ALO #	LRB #	Sample ID	Collection Date	Weight (kg)	^{60}Co Diode K pCi/L[a,b,c]	^{60}Co Diode HH pCi/L[a,b,c]	^{137}Cs Diode K pCi/L[a,b,c]	^{137}Cs Diode HH pCi/L[a,b,c]
92-02740-L-1	54529-27-A	B015W0	9-23-91 11:37	0.5000	< 4.7	< 11	< 3.8	< 11
92-02741-L-1	54529-28-A	B015W1	9-23-91 11:38	0.5000	< 3.4	< 10	< 3.8	< 10
92-02742-L-1	54529-29-A	B015W2	9-20-91 10:16	0.5000	< 4.8	< 13	< 3.6	< 13
92-02742-L-2	54529-29-B	B015W2	9-20-91 10:16	0.5000	< 4.4	< 9.7	< 3.8	< 9.8
92-02742-L-3	54529-30-A	B015W2	2-01-92 12:00	0.5000	< 5.7	< 10	567 ± 11	564 ± 12
92-02742-L-5	54529-31-A		9-20-91 10:16	0.5000	< 2.4	<6.8	< 2.0	< 6.6
92-02742-L-6	54529-32-A		2-01-92 12:00	0.5000		< 11		570 ± 12
92-02743-L-1	54529-36-A	B015W3	9-24-91 07:10	0.5000	< 2.6	< 11	< 2.1	< 11
92-02744-L-1	54529-37-A	B01BV6	11-13-91 09:28	0.5000	< 3.8	< 6.8	< 3.4	< 6.8

[a] The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background.

[b] The known spike value for the ^{137}Cs is 558 pCi/L.

[c] The density of the groundwater sample was assumed to be 1.0 g/ml.

D01-005

PNL ALO #	LRB #	Sample ID	Collection Date	Weight (kg)	^{60}Co Diode K pCi/L[a,b,c]	^{60}Co Diode HH pCi/L[a,b,c]	^{137}Cs Diode K pCi/L[a,b,c]	^{137}Cs Diode HH pCi/L[a,b,c]
92-02744-L-1	54529-37-A	B01BV6	11-13-91 09:28	0.5000		< 13		< 13
92-02745-L-1	54529-38-A	B01BV9	11-13-91 10:23	0.5000	< 4.8	< 10	< 3.8	< 9.9
92-02746-L-1	54529-39-A	B01BW2	11-12-91 08:44	0.5000	< 3.7	<11	< 3.1	< 11
92-02747-L-1	54529-40-A	B01BW5	11-12-91 09:44	0.5000	< 5.1	< 11	< 3.6	< 12
92-02748-L-1	54529-41-A	B01BW8	11-12-91 10:20	0.5000	< 2.6	< 11	< 2.2	< 11
92-02749-L-1	54529-42-A	B01BX1	11-12-91 10:58	0.5000	< 4.4	< 10	< 3.2	< 11
92-02750-L-1	54529-43-A	B01C38	11-13-91 09:32	0.5000		< 9.9		<9.7
92-02751-L-1	54529-44-A	B01C11	11-12-91 12:33	0.5000		< 6.3		< 6.4
92-02752-L-1	54529-45-A	B01C28	11-15-91 11:53	0.5000		< 8.2		< 8.6

[a] The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background.

[b] The known spike value for the ^{137}Cs is 558 pCi/L.

[c] The density of the groundwater sample was assumed to be 1.0 g/ml.

Volume 1

QUALITY CONTROL DATA REVIEW

Project/Work Package: 19432/M82776

Project/WP Title: 1100-EM-1 Groundwater Analysis

Requested Analysis: GEA

ACL Sample Numbers: 92-02724 - 92-02739

I have reviewed the data specified above for completeness and compliance with project requirements.

J L Daniel
J. Leland Daniel
Data Quality Officer
Analytical Chemistry Laboratory

4/3/92
Date

Gamma Energy Analysis Data Package for 1100 EM-1 Samples

Batch 1

I. Gamma Energy Analysis Results
   A. Discussion
   B. Data Tables
II. Primary Analytical Data
   A. Sample Preparation
   B. Sample Analysis
      1. Groundwaters - Diode K
   C. M & TE Records
   D. Calibration of ^{137}Cs Spike
   E. Detector Calibrations
      1. Diode K - Effmarna.k
      2. Diode L - Effpt6inb.l
   E. Detector Controls

Data Package Prepared by: Elwood Lopez 3/30/92

Data Package Reviewed by: [illegible] 3/30/92

GAMMA ENERGY ANALYSIS RESULTS for 1100EM-1, Batch 1

Sixteen water samples were prepared for Gamma Energy Analysis (GEA). The samples were prepared by transferring 500.0 g of water sample into a 500 ml Marinelli beaker. The sample container was then sealed, taped, labelled, and then sealed in a plastic bag for counting. In addition to these samples, the following samples were prepared for quality assurance purposes : 1)A sample duplicate, 2)a matrix spike, 3)a reagent blank, and 4)a reagent blank spike. The spike consisted of a known aliquot of ^{137}Cs. A total of 20 samples were analyzed as part of Batch 1.

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The attached Table lists the measured values of ^{60}Co and ^{137}Cs in the water samples. There were no positive observations of ^{60}Co or ^{137}Cs. It was assumed that the density of the groundwaters was 1.0 g/ml.

The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background. The one sigma detection limit determined using sample 92-02735-L-5 for ^{60}Co and ^{137}Cs is < 1.0 and < 0.84 pCi/L, respectively.

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Observed Radionuclide Activities in 1100 EM-1 Groundwaters - Batch 1

PNL ALO #	LRB #	Sample ID#	Collection Date	Weight (kg)	^{60}Co pCi/L[a,b,c]	^{137}Cs pCi/L[a,b,c]
92-02724-L-1	54529-16-A	B01572	9-19-91 10:49	0.5000	< 4.9	< 3.4
92-02725-L-1	54529-17-A	B01573	9-19-91 12:22	0.5000	< 4.5	< 3.5
92-02726-L-1	54529-18-A	B01574	9-19-91 09:35	0.5000	< 5.2	< 3.7
92-02727-L-1	54529-19-A	B01575	9-19-91 08:00	0.5000	< 2.2	< 1.8
92-02728-L-1	54529-07-A	B015S9	9-23-91 07:52	0.5000	< 4.3	< 3.5
92-02729-L-1	54529-08-A	B015T1	9-23-91 08:31	0.5000	< 4.5	< 3.3
92-02730-L-1	54529-09-A	B015T3	9-23-91 09:25	0.5000	< 5.3	< 3.6
92-02731-L-1	54529-10-A	B015T5	9-23-91 10:45	0.5000	< 2.3	< 1.8
92-02732-L-1	54529-11-A	B015T7	9-23-91 10:16	0.5000	< 4.6	< 3.3
92-02733-L-1	54529-12-A	B015T9	9-20-91 08:50	0.5000	< 4.2	< 3.4
92-02734-L-1	54529-13-A	B015V1	9-30-91 11:05	0.5000	< 4.2	< 3.6
92-02735-L-1	54529-14-A	B015V3	9-30-91 12:42	0.5000	< 3.7	< 3.5
92-02735-L-2	54529-14-B	B015V3	9-30-91 12:42	0.5000	< 3.9	< 3.1
92-02735-L-5	54529-15-A		9-30-91 12:42	0.5000	< 2.6	< 2.1
92-02735-L-6	54529-15-B		2-01-92 12:00	0.5000	< 3.6	563 ± 9

[a] The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background.

[b] The known spike value for the ^{137}Cs is 558 pCi/L.

[c] The density of the water sample was assumed to be 1.0 g/ml.

D02-004

PNL ALO #	LRB #	Sample ID#	Collection Date	Weight (kg)	^{60}Co pCi/L[a,b,c]	^{137}Cs pCi/L[a,b,c]
92-02736-L-1	54529-20-A	B015V5	9-30-91 10:05	0.5000	< 4.3	< 3.0
92-02737-L-1	54529-21-A	B015V7	9-20-91 07:58	0.5000	< 5.6	< 4.4
92-02738-L-1	54529-22-A	B015V8	9-20-91 09:33	0.5000	< 2.5	< 2.1
92-02739-L-1	54529-23-A	B015V9	9-23-91 11:35	0.5000	< 4.2	< 3.7
92-02739-L-3	54529-24-A		2-01-92 12:00	0.5000	< 3.9	568 ± 10

[a] The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background.

[b] The known spike value for the ^{137}Cs is 558 pCi/L.

[c] The density of the water sample was assumed to be 1.0 g/ml.

D02-005

I. Gamma Energy Analysis Results

II. Primary Analytical Data

II.A. Sample Preparation

ANALYTICAL BATCH FORM

Date: 3/25/92 **Analysis:** GEA

Analyst: EA Lepel **Instrument #** Diode K

Batch#: 1

LRB #	Sample ID#	sample	sample dupe	matrix spike	reagent blank	reagent blank spike
54529-7-A	92-02728-L-1	x				
54529-8-A	92-02729-L-1	x				
54529-9-A	92-02730-L-1	x				
54529-10-A	92-02731-L-1	x				
54529-11-A	92-02732-L-1	x				
54529-12-A	92-02733-L-1	x				
54529-13-A	92-02734-L-1	x				
54529-14-A	92-02735-L-1	x				
54529-14-B	92-02735-L-2		x			
54529-15-A	92-02735-L-5				x	
54529-15-B	92-02735-L-6					x
54529-16-A	92-02724-L-1	x				
54529-17-A	92-02725-L-1	x				
54529-18-A	92-02726-L-1	x				
54529-19-A	92-02727-L-1	x				
54529-20-A	92-02736-L-1	x				
54529-21-A	92-02737-L-1	x				
54529-22-A	92-02738-L-1	x				
54529-23-A	92-02739-L-1	x				
54529-24-A	92-2739-L-3			x		

1100 EM-1

D02-010

BNLO-54529
01-15-92

PACIFIC NORTHWEST LABORATORY
ISSUED
JAN 15 1992
BATTELLE RECORDS MGMT.

THIS BOOK IS INTENDED TO BE USED FOR RECORDING RESEARCH PERFORMED FOR THE U.S. DEPARTMENT OF ENERGY UNDER BNW'S OPERATING CONTRACT EY-76-C-06-1830.

M82774

	LABORATORY RECORD BOOK NUMBER BNW- 54529	This document consists of ..... pages, copy no. .....
	TITLE (INDICATE SUBJECT CONTENT) 1100-EM1 Program - BEA Analysis	
AUTHOR - DIVISION AND DEPARTMENT		
PERIOD COVERED FROM	TO	

Route To	P. R. No.	Location	Route Date	Signature & Date
E.A. REPEL	37838	P8-08	1-15-92	Elwood Repel

D02-011

B N W LABORATORY
NOTEBOOK NO

2 54529

DATA REVIEW

I have reviewed pages 3 thru 45 in this LRB on 3/30/92 [illegible]

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D02-012

B N W LABORATORY NOTEBOOK NO 54529

3

Personnel authorized to make entries in this book are:

Elwood A Lepel Elwood A Lepel EAL

Authorized Reviewers of this LRB are:

Elwood A Lepel Elwood A Lepel EAL

Keith H Abel KH Abel KHA

Project No. _____ Date of Work _____

Entered By Elwood Lepel Date 3/30/92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D02-013

Equipment to be Used:

Balance: 510-06-01-005 Mettler PC 4400 in 329, Rm 8C

Counting System: those systems calibrated for the 500 ml bottle geometry or 500 ml Marinelli Beaker geometry

500 ml polybottle: Diode K
Diode H
Diode G

Marinelli beaker Diode K
Diode HH

Number Scheme

XXXX- L-1 Sample
- L-2 Sample Dupe
- L-3 Matrix Spike
- L-4 Matrix ~~Reagent blank~~ spike duplicate
- L-5 Reagent blank
- L-6 Reagent blank spike

Project No. _____ Date of Work _____
Entered By Elwood Lapel Date 3/30/92
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY
NOTEBOOK NO
54529 7 1

Batch 1

92-0228

WHC # B01559
Collection date: 9/23/91 @0752

54529-7A

92-0228-L-1

Balance - Lab 8C

Use 500 ml Marinelli beaker. Tare to zero.

WT 500.0 g.

1/28/92 PA Lapel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D02-015

B N W LABORATORY
NOTEBOOK NO
8 54529

92 - 02729

WHC # B015T1
Collection Date 9/23/91 @831
92-02729-L-1
Geometry = Marinelli beaker, 500ml
Tare balance
WT = 500.0

-8A
Balance 8C

1/28/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

D02-016

NOTEBOOK NO 9

54529

92-02730

WHC # B 015T3
Collection date: 9/23/91 @ 925

92-02730-L-1

-9A

Balance
DC

Geometry = 500 ml Marinelli
tare balance
WT = 500.0g.

1/28/92 EA Lapel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D02-017

B N W LABORATORY NOTEBOOK NO
54529

92-02731

WHC # B015T5
Collection Date 9/23/91 @ 1045

92-02731-L-1

Balance
8c

Geometry = 500 ml Marinelli beaker
Tare balance to zero
WT = 500.0 g.

1/28/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY NOTEBOOK NO 11

54529

92-02732

Witc H B015T7
Collection date 9/23/91 @ 10 16

92-02732-L-1

balance 8C

Geometry - 500 ml Marinelli beaker
Taved to φ

WT = 500.0 g.

1/28/92 EA Lopel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D02-019

12 B N W LABORATORY NOTEBOOK NO

54529

92-02733

WHC # B015T9
Collection date: 9/20/91 0850

92-02733-L-1

-12A

Balance 8C

Geometry - 500ml Marinelli beaker
fixed to φ

WT = 500.0g.

1/28/92 9A Lepel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

B N W LABORATORY NOTEBOOK NO 13

54529

92-02734

WHC # B015V1
Collection date: 9/30/91 @ 11 05

-13A

92-02734-L-1
Geometry - 500 ml Marinelli Beaker
travel to ϕ

balance
8c

WT = 500.0 g.

1/28/92 EA Lapel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D02-021

92-02735

WHC# B015V3
Collection date: 9/30/91 1242

92-02735-L-1

-14A
balance pc

Geometry - 500 ml Marinelli beaker
tare to ¢
WT = 500.0g.

1/28/92 SA Lopel

92-02735-L-2
Sample Duplicate
Marinelli beaker - 500 ml

-14B
balance
pc

WT = 500.0g

1/28/92 EA Lopel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY NOTEBOOK NO 15
54529

Blank - Batch 1

92-02735-L-5

-15A

balance 8C

Take 500.0g of MillQ H_2O from 8C.
Geometry 500 ml Marinelli beaker
WT = 500.0 g.

1/28/92 EA Lepel

Blank - Spike Batch 1

92-02735-L-6

-15B

balance in 8C

Take 500 g. of MilliQ Water from 8C
Geometry - 500 ml Marinelli beaker
WT = 500.0

To be Spiked w/ ^{137}Cs See p. 24.
2/14/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

16

B N W LABORATORY
NOTEBOOK NO
54529

92-02724

Sample No B01572
Collection date – 9/19/91 @ 1049
92-02724-L-1
Geometry 500 ml Marinelli beaker

WT = 500.0

-16A

balance in SC

2/11/92 EA Lepel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D02-024

B N W LABORATORY
NOTEBOOK NO
154529

92-02725

Sample No B01573
Collection date 9/19/91 @1222
92-02725-L-1
Geometry 500 ml Marinelli beaker

-17A
Selenium Se

WT = 500.0

2/11/92 EA Legal

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY NOTEBOOK NO

54529

92-02726

Sample No B01574
Collection date 9/19/91 0935

-18A
balance

92-02726-L-1
Geometry 500 ml Marinelli beaker
tare to ϕ

WT = 500.0

2/11/92 EA Lapel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

B N W LABORATORY
NOTEBOOK NO
54529

92-02727

Sample No B01575
Collection date 9/19/91 @ 0800

92-02727-L-1

- 19A

Balance in
8C

Geometry 500 ml in Marinelli beaker
fare to ϕ

WT = 5000

2/11/92 EA Lopel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

B N W LABORATORY
NOTEBOOK NO
54529

92-02736

Sample No B 015V5
Collection date: 9/30/91 10 05

-20A
Balance in
8L

92-02736-L-1

B

Geometry: 500 ml Marinelli beaker
tare ~~Ø~~ Ø

WT = 500.0

2/14/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY NOTEBOOK NO 21

54529 1

92-02737

Sample No B015V7
Collection Date: 9/20/91 0758

92-02737-L-1

Bakman
RC
-21A

Geometry 500 ml Marinelli beaker
tare to 0

WT = 500.0g

2/14/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

D02-029

B N W L
NOTEBOOK NO
54529

92-02738

Sample No. B015VE
Collection date ~~2~~ 9/20/91 0933

92-02738-L-1

-22A

Geometry - 500 ml Marinelli Beaker
tare to ϕ
WT = 500.0

balance in 8L

2/14/92 Ed Lapel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

BNL NOTEBOOK NO
54529

Matrix Spike
92-02739-L-3

-24A

Geometry 500 ml in 500 ml Marinelli beaker
Tare to ϕ
WT = 500.0

Add Spike - ^{137}Cs to

2/14/92 EA Lopel

Used 20 g of ^{137}Cs std. 1892-136-500. Pipetted to Contain
Pipet # 50696-40-4 (20 g)

→ for Sample 54529-24A
54529-15B.

Work performed by: Donald R Alvarado 2-19-92

Reviewed by: Elwood Lopel 3/27/92

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

~~Bo~~ Determination of Spike Activity

Calibration of ^{137}Cs std ~~gave~~ 9L/1892-136-500 gave an activity of 527.5 d/s/ml on 2/1/92.

Therefore - the activity of ^{137}Cs in the spikes is calculated as:

20 λ pipett ≡ 0.01957 ml
See pipet calib.

$$\text{Activity of Spike (20 λ)} = \left(527.5 \frac{d/s}{ml}\right)\left(0.01957\ ml\right)$$

$$= 10.32\ d/s \text{ of } ^{137}Cs \text{ on } 2/1/92$$

OR

$$\left(10.32\ \cancel{d/s}\right)\left(\frac{1\ Ci}{3.7\times10^{10}\ \cancel{d/s}}\right)\left(\frac{10^{12}\ pCi}{1\ Ci}\right) = 279.0\ pCi \text{ total}$$

$$\text{OR } \frac{279.0}{0.5L} = 558.0\ \frac{pCi}{L}$$

on 2/1/92

Elwood Lapel 3/27/92

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

II.B. Sample Analysis

Groundwaters- Diode K

Marinelli Beaker - 500 ml

DIODE K NAME: EALepel

L.R.B.# 54529 TIME ZERO= / / :

Geometry: 500 ml Marinelli Beaker Parameters:

UIC = [170, 11] Spectra:#channels 2048 Gain: 1.0 KeV/Ch

Sample Name	Ver #	Weight (g)	Date	Time	Shelf #	PU on/ off	% Dead Time	Live Time s	Elasped Time min	Initials	Comments
54529-											
-7A	1	0.5000	1/28/92	1644				87646	1460.98	EAL/EAL	92-02728-L-1
-8A	1	0.5000	1/29/92	1713				87017	1450.50	EAL/EAL	92-02729-L-1
-9A	1	0.5000	1/30/92	1730				68993	1150.10	EAL/EAL	92-02730-L-1
-10A	1	0.5000	1/31/92	1247				272773	4546.88	EAL/EAL	92-02731-L-1
-11A	1	0.5000	2/3/92	1638				79728	1329.00	EAL/EAL	92-02732-L-1
-12A	1	0.5000	2/4/92	1453				80530	1342.40	EAL/EAL	92-02733-L-1
-13A	1	.5000	2/5/92	1633				86886	1448.31	EAL/EAL	92-02734-L-1
-14A	1	.5000	2/6/92	1647				85324	1422.3	EAL/EAL	92-02735-L-1
-15A	1	.5000	2/7/92	1636				232931	3882.80	EAL/EAL	92-02735-L-5
-14B	1	.5000	2/10/92	923				1129.38	1882.60	EAL/EAL	92-02735-L-2
-16A	1	.5000	2/11/92	1652				89855	1497.80	EAL/EAL	92-02724-L-1
-17A	1	.5000	2/12/92	1754				82703	1378.60	EAL/EAL	92-02725-L-1
-18A	1	.5000	2/13/92	1656				78529	1309.00	EAL/EAL	92-02726-L-1
-19A	1	.5000	2/14/92	1548				322510	5376.00	EAL/EAL	92-02727-L-1
-20A	1	.5000	2/18/92	0931				112400	1873.60	EAL/EAL	92-02736-L-1
-21A	1	.5000	2/19/92	1649				60231	1004.00	EAL/EAL	92-02737-L-1
54124-71-1	1	1	2/20/92	0938				82793	1391.65	EAL/EAL	Mixed Std 54124-70-0
"	2	1	2/21/92	853				20945	352.14	EAL/EAL	"
-22A	1	1	2/21/92	1456				242802	4047.30	EAL/EAL	92-02738-L-1
-15B	1	1	2/24/92	1028				108491	1808.5	EAL/EAL	92-02735-L-6
-24A	1	1	2/25/92	1640				88768	1479.6	EAL/EAL	92-02739-L-3
-23A	1	1	2/26/92	1724				86281	1438.4	EAL/EAL	92-02739-L-1

Elwood Lepel

D02-035

RAYGUN ANALYSIS

D02-036

9 2 1 [illegible] 9 1 5 [illegible] 6

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:00:56)

Analysis performed by: E. A. LEPEL

Sample: 54529-7A 92-02728-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 7:52:00

Count date: 28-Jan-1992 at 16:44:00

Decay: 127.4d (11004720. seconds)

Count times: REAL TIME 24.35h (87658.000 seconds)
LIVE TIME 24.35h (87645.992 seconds)

Dead time: 0.01 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 545297A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	52.8	51.	54.	1828.	123.*	53.99	1.233E-01	100.0	59.
2	74.0	73.	76.	1656.	132.*	75.15	5.699E-02	100.0	190.
3	92.0	88.	93.	2443.	246.*	93.17	4.710E-02	100.0	171.
4	139.0	138.	140.	1134.	82.	140.08	3.725E-02	57.0	0.
5	184.9	184.	186.	1033.	187.*	185.94	3.012E-02	100.0	163.
6	197.4	197.	200.	1115.	106.*	198.41	3.012E-02	100.0	54.
7	237.6	234.	241.	1801.	193.*	238.60	3.311E-02	100.0	255.
8	295.0	295.	295.	182.	36.	295.98	3.650E-02	100.0	0.
9	320.7	320.	321.	297.	47.	321.70	3.744E-02	100.0	0.
10	350.9	350.	351.	264.	46.*	351.85	3.905E-02	100.0	129.
11	509.3	507.	513.	923.	506.*	510.10	4.601E-02	100.0	581.
12	581.8	581.	585.	308.	56.*	582.59	5.015E-02	100.0	52.
13	608.0	607.	610.	242.	51.*	608.74	5.171E-02	100.0	104.
14	632.7	628.	633.	297.	50.	633.46	6.990E-02	47.1	0.
15	845.3	845.	847.	118.	34.*	845.88	6.103E-02	100.0	70.
16	909.6	909.	912.	150.	53.*	910.12	6.264E-02	100.0	50.
17	1333.7	1331.	1334.	84.	31.*	1333.97	7.819E-02	100.0	24.
18	1457.2	1455.	1458.	56.	18.	1457.30	7.509E-02	100.0	0.
19	1460.6	1459.	1463.	358.	305.*	1460.75	9.867E-02	100.0	273.
20	1493.0	1493.	1493.	17.	9.	1493.11	7.165E-02	100.0	0.
21	1525.0	1525.	1525.	16.	8.	1525.09	7.255E-02	100.0	0.
22	1548.0	1548.	1548.	17.	10.	1548.07	7.239E-02	100.0	0.
23	1568.9	1568.	1569.	27.	13.	1568.93	7.260E-02	100.0	0.
24	1592.1	1591.	1593.	32.	12.*	1592.10	7.090E-02	100.0	12.

3/26/92
EA Lepel

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026

25	1603.9	1603.	1604.	25.	9.	1603.90	7.782E-02	100.0	0.
26	1765.8	1763.	1767.	71.	37.*	1765.71	8.340E-02	100.0	39.
27	1915.0	1915.	1915.	13.	7.*	1914.81	8.723E-02	100.0	9.
28	2032.9	2030.	2033.	30.	11.	2032.62	8.548E-02	100.0	0.
29	2037.0	2037.	2037.	11.	6.*	2036.72	8.528E-02	100.0	8.
30	2039.0	2039.	2039.	13.	8.	2038.72	8.473E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.94 kev is ambiguously assigned; component has been removed.
U235 at 185.94 kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	(interferences) dev (sig)	pCi /L	error (%)
1 K 40	- - - -	9.406E-01	5.084E-05	- - - - - - - - - -			5.084E+01	100.00
	1460.75	9.406E-01	5.084E-05	1.00	100.00	0.00		
2 Tl208	- - - -	6.262E-02	3.385E-06	- - - - - - - - - -			3.385E+00	100.00
	582.59	6.262E-02	3.385E-06	1.00	100.00	0.00		
3 Bi214	- - - -	1.151E-01	6.223E-06	- - - - - - - - - -			6.223E+00	100.00
	609.74	1.151E-01	6.223E-06	1.00	100.00	0.00		
4 Pb212	- - - -	8.720E-02	4.713E-06	- - - - - - - - - -			4.713E+00	100.00
	238.60	8.720E-02	4.713E-06	1.00	100.00	0.00		
5 Pb214	- - - -	1.060E-01	5.729E-06	- - - - - - - - - -			5.729E+00	100.00
	351.85	1.060E-01	5.729E-06	1.00	100.00	0.00		
6 Ac228	- - - -	2.462E-01	1.331E-05	- - - - - - - - - -			1.331E+01	100.01
	910.12	2.462E-01	1.331E-05	1.00	100.00	0.00		

The following are upper limit values:

Be 7	- - - -	2.138E+00	1.156E-04	- - - - - - - - -			1.156E+02	100.00
Sc 46	- - - -	1.951E-01	1.054E-05	- - - - - - - - -			1.054E+01	100.00

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```
  Cr 51  - - - - 8.582E+00   4.639E-04   - - - - - - - - -   4.639E+02 100.00
  Mn 54  - - - - 8.164E-02   4.413E-06   - - - - - - - - -   4.413E+00 100.00
  Fe 59  - - - - 1.056E+00   5.708E-05   - - - - - - - - -   5.708E+01 100.00
  Co 58  - - - - 2.101E-01   1.136E-05   - - - - - - - - -   1.136E+01 100.00
  Co 60  - - - - 7.959E-02   4.302E-06   - - - - - - - - -   4.302E+00 100.00
  Zn 65  - - - - 1.889E-01   1.021E-05   - - - - - - - - -   1.021E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
  Zr 95  - - - - 4.304E-01   2.326E-05   - - - - - - - - -   2.326E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
  Nb 94  - - - - 6.260E-02   3.384E-06   - - - - - - - - -   3.384E+00 100.00
  Nb 95  - - - - 6.841E-01   3.698E-05   - - - - - - - - -   3.698E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
  Ru103  - - - - 1.104E+00   5.965E-05   - - - - - - - - -   5.965E+01 100.00
  Ru106  - - - - 1.549E+00   8.374E-05   - - - - - - - - -   8.374E+01 100.00
  Ag110m - - - - 3.160E-01   1.708E-05   - - - - - - - - -   1.708E+01 100.00
  Sn113  - - - - 1.896E-01   1.025E-05   - - - - - - - - -   1.025E+01 100.00
  Sn125  - - - - 1.643E+04   8.879E-01   - - - - - - - - -   8.879E+05 100.00
  Sn117m - - - - 3.738E+01   2.021E-03   - - - - - - - - -   2.021E+03 100.00
  Sb124  - - - - 7.123E-01   3.850E-05   - - - - - - - - -   3.850E+01 100.00
  Sb125  - - - - 5.076E-01   2.744E-05   - - - - - - - - -   2.744E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
  Te129m - - - - 3.099E+01   1.675E-03   - - - - - - - - -   1.675E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
  I131   - - - - 2.013E+04   1.088E+00   - - - - - - - - -   1.088E+06 100.00
```

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Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	4.239E-01	2.292E-05	- - - - - - - - -	2.292E+01	100.00
Cs136	- - - -	1.086E+02	5.873E-03	- - - - - - - - -	5.873E+03	100.00
Cs137	- - - -	6.529E-02	3.529E-06	- - - - - - - - -	3.529E+00	100.00
Ba140	- - - -	4.288E+02	2.318E-02	- - - - - - - - -	2.318E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	9.248E-01	4.555E-05	- - - - - - - - -	4.555E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	3.839E-01	2.075E-05	- - - - - - - - -	2.075E+01	100.00
Eu154	- - - -	4.601E-01	2.487E-05	- - - - - - - - -	2.487E+01	100.00
Eu155	- - - -	1.542E-01	8.335E-06	- - - - - - - - -	8.335E+00	100.00
Hf175	- - - -	1.585E-01	8.566E-06	- - - - - - - - -	8.566E+00	100.00
Hf181	- - - -	6.044E-01	3.267E-05	- - - - - - - - -	3.267E+01	100.00
Ta182	- - - -	7.460E-01	4.032E-05	- - - - - - - - -	4.032E+01	100.00
Pb210	- - - -	4.233E+02	2.288E-02	- - - - - - - - -	2.288E+04	100.00
Ra226	- - - -	8.035E-01	4.343E-05	- - - - - - - - -	4.343E+01	100.00
U235	- - - -	1.641E-01	8.869E-06	- - - - - - - - -	8.869E+00	100.00
U238	- - - -	1.341E+01	7.250E-04	- - - - - - - - -	7.250E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - -	2.728E-01	1.475E-05	- - - - - - - - -	1.475E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	53.99	1.2334E-01	100.0	0.0000000
2	75.15	5.6908E-02	100.0	0.0000000
3	93.17	4.7100E-02	100.0	0.0000000
4	140.08	3.7251E-02	57.0	6.7488254E-05
6	198.41	3.0118E-02	100.0	0.0000000
8	295.99	3.6503E-02	100.0	0.4749214
9	321.70	3.7418E-02	100.0	0.0000000
11	518.10	4.6003E-02	100.0	2.5617698E-02
14	633.47	6.9895E-02	47.1	0.0000000

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15	845.88	6.1029E-02	100.0	0.0000000
17	1333.97	7.0189E-02	100.0	0.5734761
18	1457.30	7.5087E-02	100.0	0.0000000
20	1493.11	7.1655E-02	100.0	0.0000000
21	1525.09	7.2550E-02	100.0	0.0000000
22	1549.07	7.2389E-02	100.0	0.0000000
23	1568.93	7.2597E-02	100.0	0.0000000
24	1592.10	7.0982E-02	100.0	0.0000000
25	1603.90	7.7821E-02	100.0	0.0000000
26	1765.71	8.3399E-02	100.0	3.3551864E-03
27	1914.81	8.7232E-02	100.0	0.0000000
28	2032.62	8.5477E-02	100.0	0.0000000
29	2036.72	8.5280E-02	100.0	0.0000000
30	2038.72	8.4728E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-041

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:01:19)

Analysis performed by: E. A. LEPEL

Sample: 54529-8A 92-02729-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 8:31:00

Count date: 29-Jan-1992 at 17:13:00

Decay: 128.4d (11090520. seconds)

Count times: REAL TIME 24.17h (87030.000 seconds)
LIVE TIME 24.17h (87017.000 seconds)

Dead time: 0.01 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 545298A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	92.2	91.	93.	1251.	132.*	93.16	4.084E-02	100.0	170.
2	139.0	138.	140.	1167.	127.	139.96	5.817E-02	36.9	0.
3	174.0	172.	177.	1891.	103.	174.96	4.769E-02	58.9	0.
4	185.0	184.	187.	1292.	213.*	185.91	2.967E-02	100.0	162.
5	197.4	195.	198.	1163.	133.*	198.31	3.941E-02	73.7	54.
6	237.7	237.	242.	1363.	149.*	238.60	3.345E-02	100.0	253.
7	294.3	293.	296.	654.	104.*	295.20	3.559E-02	100.0	56.
8	350.7	349.	351.	422.	94.*	351.56	3.933E-02	100.0	128.
9	445.1	445.	447.	257.	44.	445.89	4.571E-02	48.8	0.
10	506.4	506.	507.	168.	51.	507.09	5.876E-02	33.3	0.
11	509.9	507.	513.	913.	509.*	510.62	4.569E-02	100.0	577.
12	582.0	581.	585.	306.	77.*	582.67	4.819E-02	100.0	52.
13	595.0	593.	596.	249.	72.*	595.71	5.540E-02	70.2	31.
14	607.9	607.	610.	334.	144.*	608.58	5.590E-02	100.0	103.
15	660.4	659.	662.	282.	48.*	661.01	5.203E-02	100.0	14.
16	691.0	691.	691.	55.	19.	691.60	5.366E-02	100.0	0.
17	823.9	823.	825.	102.	21.	824.46	5.851E-02	100.0	0.
18	845.2	842.	848.	274.	77.*	845.66	6.166E-02	100.0	69.
19	909.9	909.	912.	174.	66.*	910.40	5.973E-02	100.0	49.
20	994.0	994.	994.	34.	12.	994.41	6.755E-02	100.0	0.
21	1119.9	1118.	1121.	101.	31.*	1120.27	7.074E-02	100.0	28.
22	1460.6	1458.	1463.	347.	289.*	1460.75	7.640E-02	100.0	271.
23	1491.0	1491.	1491.	19.	10.	1491.09	7.628E-02	100.0	0.
24	1591.9	1590.	1594.	65.	27.*	1591.96	7.684E-02	100.0	12.

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25	1764.6	1762.	1766.	71.	34.*	1764.52	8.631E-02	100.0	39.
26	1928.9	1925.	1929.	44.	19.	1928.72	8.132E-02	100.0	0.
27	2015.0	2015.	2015.	11.	6.	2014.76	8.770E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.91 Kev is ambiguously assigned; component has been removed.
U235 at 185.91 Kev is ambiguously assigned; component has been removed.
Sc 46 at1120.27 Kev is ambiguously assigned; component has been removed.
Ta182 at1120.27 Kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	7.283E-01	3.937E-05	- - - - - - - - - -			3.937E+01	100.00
	1460.75	7.283E-01	3.937E-05	1.00	100.00	0.00		
2 Cs137	- - - -	6.156E-02	3.327E-06	- - - - - - - - - -			3.327E+00	100.00
	661.01	6.156E-02	3.327E-06	1.00	100.00	0.00		
3 Tl208	- - - -	6.019E-02	3.253E-06	- - - - - - - - - -			3.253E+00	100.00
	582.67	6.019E-02	3.253E-06	1.00	100.00	0.00		
4 Bi214	- - - -	1.469E-01	7.940E-06	- - - - - - - - - -			7.940E+00	82.02
	608.58	1.245E-01	6.728E-06	1.18	100.00	-0.44		
	1120.27	4.793E-01	2.591E-05	0.31	100.00	1.71		
5 Pb212	- - - -	8.819E-02	4.767E-06	- - - - - - - - - -			4.767E+00	100.00
	238.60	8.819E-02	4.767E-06	1.00	100.00	0.00		
6 Pb214	- - - -	1.263E-01	6.828E-06	- - - - - - - - - -			6.828E+00	73.23
	295.20	1.854E-01	1.002E-05	0.68	100.00	0.78		
	351.56	1.067E-01	5.770E-06	1.18	100.00	-0.45		
7 Ac228	- - - -	2.348E-01	1.269E-05	- - - - - - - - - -			1.269E+01	100.01
	910.40	2.348E-01	1.269E-05	1.00	100.00	0.00		

The following are upper limit values:

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Be 7	- - - - 2.274E+00	1.229E-04	- - - - - - - - -	1.229E+02	100.00
Sc 46	- - - - 1.922E-01	1.039E-05	- - - - - - - - -	1.039E+01	100.00
Cr 51	- - - - 9.337E+00	5.047E-04	- - - - - - - - -	5.047E+02	100.00
Mn 54	- - - - 7.932E-02	4.287E-06	- - - - - - - - -	4.287E+00	100.00
Fe 59	- - - - 1.093E+00	5.908E-05	- - - - - - - - -	5.908E+01	100.00
Co 58	- - - - 2.087E-01	1.128E-05	- - - - - - - - -	1.128E+01	100.00
Co 60	- - - - 8.375E-02	4.527E-06	- - - - - - - - -	4.527E+00	100.00
Zn 65	- - - - 2.021E-01	1.092E-05	- - - - - - - - -	1.092E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 4.424E-01	2.391E-05	- - - - - - - - -	2.391E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 6.014E-02	3.251E-06	- - - - - - - - -	3.251E+00	100.00
Nb 95	- - - - 7.694E-01	4.159E-05	- - - - - - - - -	4.159E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 1.019E+00	5.508E-05	- - - - - - - - -	5.508E+01	100.00
Ru106	- - - - 1.211E+00	6.546E-05	- - - - - - - - -	6.546E+01	100.00
Ag110m	- - - - 3.071E-01	1.660E-05	- - - - - - - - -	1.660E+01	100.00
Sn113	- - - - 1.811E-01	9.792E-06	- - - - - - - - -	9.792E+00	100.00
Sn125	- - - - 1.865E+04	1.008E+00	- - - - - - - - -	1.008E+06	100.00
Sn117m	- - - - 3.819E+01	2.064E-03	- - - - - - - - -	2.064E+03	100.00
Sb124	- - - - 6.433E-01	3.477E-05	- - - - - - - - -	3.477E+01	100.00
Sb125	- - - - 4.708E-01	2.545E-05	- - - - - - - - -	2.545E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 3.227E+01	1.744E-03	- - - - - - - - -	1.744E+03	100.00

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Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - -	2.149E+04	1.162E+00	- - - - - - - - -	1.162E+06	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	4.200E-01	2.270E-05	- - - - - - - - -	2.270E+01	100.00
Cs136	- - - -	1.126E+02	6.085E-03	- - - - - - - - -	6.085E+03	100.00
Ba140	- - - -	4.594E+02	2.483E-02	- - - - - - - - -	2.483E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	9.575E-01	5.176E-05	- - - - - - - - -	5.176E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	3.824E-01	2.067E-05	- - - - - - - - -	2.067E+01	100.00
Eu154	- - - -	4.927E-01	2.663E-05	- - - - - - - - -	2.663E+01	100.00
Eu155	- - - -	1.574E-01	8.510E-06	- - - - - - - - -	8.510E+00	100.00
Hf175	- - - -	1.661E-01	8.980E-06	- - - - - - - - -	8.980E+00	100.00
Hf181	- - - -	6.215E-01	3.359E-05	- - - - - - - - -	3.359E+01	100.00
Ta182	- - - -	7.292E-01	3.942E-05	- - - - - - - - -	3.942E+01	100.00
Pb210	- - - -	4.309E+02	2.329E-02	- - - - - - - - -	2.329E+04	100.00
Ra226	- - - -	8.061E-01	4.357E-05	- - - - - - - - -	4.357E+01	100.00
U235	- - - -	1.649E-01	8.911E-06	- - - - - - - - -	8.911E+00	100.00
U238	- - - -	1.458E+01	7.934E-04	- - - - - - - - -	7.934E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - -	2.753E-01	1.488E-05	- - - - - - - - -	1.488E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI %
1	93.16	4.0838E-02	100.0	0.0000000
2	139.96	5.0173E-02	36.9	5.5747714E-05
3	174.96	4.7607E-02	59.0	0.0000000
5	198.31	3.9411E-02	73.7	0.0000000
9	445.89	4.5714E-02	48.9	0.0000000
10	507.08	5.0765E-02	33.3	0.0000000

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11	510.62	4.5693E-02	100.0	0.4519829
13	595.71	5.5484E-02	70.2	0.0000000
16	691.60	5.3658E-02	100.0	6.4540906E-09
17	824.46	5.8514E-02	100.0	0.0000000
18	845.66	6.1663E-02	100.0	0.0000000
20	994.41	6.7547E-02	100.0	0.0000000
23	1491.09	7.6276E-02	100.0	0.0000000
24	1591.96	7.6040E-02	100.0	0.0000000
25	1764.52	8.6313E-02	100.0	6.6806464E-03
26	1928.72	8.1316E-02	100.0	0.0000000
27	2014.76	8.7704E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-046

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:01:34)

Analysis performed by: E. A. LEPEL

Sample: 54529-9A 92-02730-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 9:25:00

Count date: 30-Jan-1992 at 17:30:00

Decay: 129.3d (11174700. seconds)

Count times: REAL TIME 19.17h (69006.000 seconds)
LIVE TIME 19.16h (68992.992 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 545299A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	92.0	91.	93.	1045.	220.*	92.96	6.867E-02	100.0	135.
2	185.0	184.	186.	825.	132.*	185.92	3.462E-02	100.0	128.
3	237.7	236.	238.	643.	142.*	238.60	3.834E-02	100.0	201.
4	336.8	336.	339.	435.	60.*	337.72	4.486E-02	67.0	15.
5	351.0	349.	353.	537.	120.*	351.88	4.339E-02	100.0	102.
6	509.8	504.	514.	940.	404.*	510.64	5.297E-02	100.0	457.
7	582.0	581.	583.	149.	27.*	582.79	5.736E-02	100.0	41.
8	608.0	606.	609.	279.	124.*	608.79	7.350E-02	100.0	82.
9	622.0	622.	622.	50.	16.	622.81	5.706E-02	100.0	0.
10	845.1	843.	847.	167.	69.*	845.83	6.518E-02	100.0	55.
11	995.1	995.	996.	46.	13.	995.80	7.459E-02	100.0	0.
12	1191.0	1191.	1191.	24.	10.	1191.61	8.810E-02	100.0	0.
13	1237.9	1235.	1241.	125.	35.*	1238.52	8.811E-02	100.0	14.
14	1340.9	1339.	1341.	43.	16.	1341.45	8.349E-02	100.0	0.
15	1455.2	1455.	1463.	324.	251.*	1460.75	1.408E-01	100.0	215.
16	1580.8	1580.	1583.	44.	17.	1581.22	9.080E-02	100.0	0.
17	1764.1	1759.	1767.	86.	41.*	1764.55	9.175E-02	100.0	31.
18	1813.0	1813.	1813.	13.	7.	1813.39	1.007E-01	100.0	0.
19	1875.0	1875.	1875.	16.	11.	1875.37	1.021E-01	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

D02-047

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - -	5.431E-01	2.935E-05	- - - - - - - - -	2.935E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	6.639E-02	3.589E-06	- - - - - - - - -	3.589E+00	100.00
Nb 95	- - - -	8.134E-01	4.397E-05	- - - - - - - - -	4.397E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - -	1.232E+00	6.659E-05	- - - - - - - - -	6.659E+01	100.00
Ru106	- - - -	1.329E+00	7.182E-05	- - - - - - - - -	7.182E+01	100.00
Ag110m	- - - -	3.490E-01	1.881E-05	- - - - - - - - -	1.881E+01	100.00
Sn113	- - - -	2.272E-01	1.228E-05	- - - - - - - - -	1.228E+01	100.00
Sn125	- - - -	2.260E+04	1.222E+00	- - - - - - - - -	1.222E+06	100.00
Sn117m	- - - -	4.769E+01	2.578E-03	- - - - - - - - -	2.578E+03	100.00
Sb124	- - - -	7.414E-01	4.007E-05	- - - - - - - - -	4.007E+01	100.00
Sb125	- - - -	5.760E-01	3.114E-05	- - - - - - - - -	3.114E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - -	4.012E+01	2.169E-03	- - - - - - - - -	2.169E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - -	2.630E+04	1.422E+00	- - - - - - - - -	1.422E+06	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	4.526E-01	2.446E-05	- - - - - - - - -	2.446E+01	100.00
Cs136	- - - -	1.260E+02	6.811E-03	- - - - - - - - -	6.811E+03	100.00
Cs137	- - - -	6.581E-02	3.557E-06	- - - - - - - - -	3.557E+00	100.00
Ba140	- - - -	5.028E+02	2.718E-02	- - - - - - - - -	2.718E+04	100.00

D02-049

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	1.110E+00	6.002E-05	- - - - - - - - -	6.002E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	4.417E-01	2.387E-05	- - - - - - - - -	2.387E+01	100.00
Eu154	- - - -	5.677E-01	3.069E-05	- - - - - - - - -	3.069E+01	100.00
Eu155	- - - -	1.775E-01	9.595E-06	- - - - - - - - -	9.595E+00	100.00
Hf175	- - - -	1.838E-01	9.932E-06	- - - - - - - - -	9.932E+00	100.00
Hf181	- - - -	7.044E-01	3.808E-05	- - - - - - - - -	3.808E+01	100.00
Ta182	- - - -	9.057E-01	4.896E-05	- - - - - - - - -	4.896E+01	100.00
Pb210	- - - -	4.878E+02	2.637E-02	- - - - - - - - -	2.637E+04	100.00
Ra226	- - - -	9.150E-01	4.946E-05	- - - - - - - - -	4.946E+01	100.00
U235	- - - -	1.862E-01	1.006E-05	- - - - - - - - -	1.006E+01	100.00
U238	- - - -	1.684E+01	9.100E-04	- - - - - - - - -	9.100E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - -	3.124E-01	1.689E-05	- - - - - - - - -	1.689E+01	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	92.56	6.8669E-02	100.0	0.0000000
6	510.64	5.2971E-02	100.0	0.4619791
9	622.81	5.7060E-02	100.0	0.4666568
10	845.83	6.5179E-02	100.0	0.0000000
11	995.80	7.4591E-02	100.0	0.4283186
12	1191.61	8.8100E-02	100.0	0.0000000
13	1238.52	8.8112E-02	100.0	1.8356610E-07
14	1341.45	8.3494E-02	100.0	0.0000000
16	1581.22	9.0802E-02	100.0	0.0000000
17	1764.55	9.1748E-02	100.0	3.7370425E-02
18	1813.39	1.0072E-01	100.0	0.0000000
19	1875.37	1.0213E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-050

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:01:49)

Analysis performed by: E. A. LEPEL

Sample: 54529-10A 92-02731-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 10:45:00

Count date: 31-Jan-1992 at 12:47:00

Decay: 130.1d (11239320. seconds)

Count times: REAL TIME 3.16d (272812.00 seconds)
LIVE TIME 3.16d (272773.03 seconds)

Dead time: 0.01 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452910A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	53.1	52.	54.	4504.	392.*	53.88	1.291E-01	100.0	185.
2	65.6	65.	66.	2773.	220.	66.46	8.364E-02	33.2	0.
3	75.0	74.	77.	5255.	524.	75.79	1.505E-01	19.1	0.
4	92.0	90.	94.	6469.	651.*	92.84	2.400E-02	100.0	534.
5	111.0	110.	112.	3576.	224.	111.86	3.720E-02	37.1	0.
6	139.1	138.	141.	4641.	215.	139.92	3.132E-02	44.4	0.
7	184.9	184.	187.	4023.	485.*	185.67	1.730E-02	100.0	586.
8	197.3	197.	199.	2742.	287.*	198.07	1.857E-02	100.0	169.
9	237.8	234.	242.	6591.	865.*	238.60	1.890E-02	100.0	793.
10	282.0	279.	282.	1982.	134.	282.76	2.898E-02	52.0	0.
11	293.9	292.	296.	2438.	211.*	294.62	2.036E-02	100.0	175.
12	350.9	350.	354.	1966.	276.*	351.66	2.202E-02	100.0	402.
13	509.8	506.	515.	3605.	1728.*	510.58	2.618E-02	100.0	1807.
14	582.2	580.	586.	1269.	215.*	582.89	2.780E-02	100.0	163.
15	594.8	594.	595.	463.	169.*	595.50	3.065E-02	100.0	97.
16	608.0	605.	612.	1473.	375.*	608.66	2.806E-02	100.0	322.
17	660.9	659.	661.	403.	56.*	661.53	2.871E-02	100.0	45.
18	707.1	705.	711.	874.	74.	707.74	3.689E-02	55.6	0.
19	725.9	725.	729.	575.	63.*	726.59	3.051E-02	100.0	45.
20	802.0	802.	802.	124.	35.	802.63	3.240E-02	100.0	0.
21	842.1	842.	843.	201.	38.	842.67	3.311E-02	100.0	0.
22	845.5	843.	849.	793.	174.*	846.07	3.463E-02	100.0	217.
23	867.5	865.	868.	382.	58.	868.12	3.492E-02	46.0	0.
24	910.0	908.	911.	381.	155.*	910.56	3.526E-02	100.0	154.

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25	967.6	967.	971.	448.	96.*	968.22	3.695E-02	100.0	90.
26	1000.1	997.	1001.	385.	81.*	1000.68	3.591E-02	100.0	42.
27	1119.3	1118.	1121.	311.	114.*	1119.88	3.758E-02	100.0	87.
28	1172.2	1170.	1173.	293.	93.*	1172.69	4.027E-02	100.0	84.
29	1331.4	1331.	1333.	198.	81.*	1331.84	4.228E-02	100.0	76.
30	1460.3	1456.	1466.	1287.	941.*	1460.75	8.939E-02	100.0	849.
31	1764.4	1762.	1766.	202.	112.*	1764.74	4.230E-02	100.0	122.
32	1845.0	1846.	1846.	31.	14.*	1846.36	4.382E-02	100.0	26.
33	1852.8	1851.	1853.	67.	19.	1853.19	4.283E-02	100.0	0.
34	1863.0	1863.	1863.	31.	13.	1863.35	4.565E-02	100.0	0.
35	1901.1	1901.	1902.	58.	14.	1901.44	4.722E-02	100.0	0.
36	1926.0	1926.	1926.	32.	14.	1926.34	4.735E-02	100.0	0.
37	1943.0	1943.	1943.	28.	11.	1943.33	4.735E-02	100.0	0.
38	1950.9	1950.	1951.	49.	14.*	1951.19	4.768E-02	100.0	24.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.67 Kev is ambiguously assigned; component has been removed.
U235 at 185.67 Kev is ambiguously assigned; component has been removed.
Sc 43 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi ⅄	peak frac	err (%)	dev (sig) (interferences)	pCi ⅄	error (%)
1 K 40	- - - -	8.521E-01	4.606E-05	- - - - - - - - - -			4.606E+01	100.00
	1460.75	8.521E-01	4.606E-05	1.00	100.00	0.00		
2 Co 60	- - - -	4.326E-02	2.339E-06	- - - - - - - - - -			2.339E+00	70.73
	1172.69	4.229E-02	2.286E-06	1.02	100.00	-0.06		
	1331.84	4.434E-02	2.397E-06	0.98	100.00	0.07		
3 Cs137	- - - -	3.397E-02	1.836E-06	- - - - - - - - - -			1.836E+00	100.00
	661.53	3.397E-02	1.836E-06	1.00	100.00	0.00		
4 Tl208	- - - -	3.475E-02	1.878E-06	- - - - - - - - - -			1.878E+00	100.00
	582.89	3.475E-02	1.878E-06	1.00	100.00	0.00		
5 Bi214	- - - -	7.338E-02	3.966E-06	- - - - - - - - - -			3.966E+00	82.69
	609.66	6.247E-02	3.377E-06	1.17	100.00	-0.49		
	1119.88	2.547E-01	1.376E-05	0.29	100.00	1.99		

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 6 Pb212  - - - - 4.997E-02   2.701E-06  - - - - - - - - - -  2.701E+00 100.00

          238.60  4.997E-02   2.701E-06  1.00 100.00  0.00

 7 Pb214  - - - - 5.977E-02   3.231E-06  - - - - - - - - - -  3.231E+00 100.00

          351.66  5.977E-02   3.231E-06  1.00 100.00  0.00

 8 Ac228  - - - - 1.638E-01   8.853E-06  - - - - - - - - - -  8.853E+00  73.08

          910.56  1.387E-01   7.499E-06  1.18 100.00 -0.50
          968.22  2.367E-01   1.280E-05  0.69 100.00  0.86

 9  U238  - - - - 6.087E+00   3.290E-04  - - - - - - - - - -  3.290E+02 100.00

         1000.68  6.087E+00   3.290E-04  1.00 100.00  0.00

The following are upper limit values:

   Be  7  - - - - 1.335E+00   7.214E-05   - - - - - - - - -  7.214E+01 100.00

   Sc 46  - - - - 1.092E-01   5.905E-06   - - - - - - - - -  5.905E+00 100.00

   Cr 51  - - - - 5.584E+00   3.019E-04   - - - - - - - - -  3.019E+02 100.00

   Mn 54  - - - - 4.513E-02   2.440E-06   - - - - - - - - -  2.440E+00 100.00

   Fe 59  - - - - 6.672E-01   3.607E-05   - - - - - - - - -  3.607E+01 100.00

   Co 58  - - - - 1.210E-01   6.541E-06   - - - - - - - - -  6.541E+00 100.00

   Zn 65  - - - - 1.086E-01   5.868E-06   - - - - - - - - -  5.868E+00 100.00

Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.

   Zr 95  - - - - 2.531E-01   1.368E-05   - - - - - - - - -  1.368E+01 100.00

Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.

   Nb 94  - - - - 3.418E-02   1.847E-06   - - - - - - - - -  1.847E+00 100.00

   Nb 95  - - - - 4.470E-01   2.416E-05   - - - - - - - - -  2.416E+01 100.00

Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.

   Ru103  - - - - 6.361E-01   3.438E-05   - - - - - - - - -  3.438E+01 100.00

   Ru105  - - - - 6.323E-01   3.418E-05   - - - - - - - - -  3.418E+01 100.00
```

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Ag110m	- - - - 1.790E-01	9.677E-06	- - - - - - - - -	9.677E+00	100.00
Sn113	- - - - 1.097E-01	5.931E-06	- - - - - - - - -	5.931E+00	100.00
Sn125	- - - - 1.425E+04	7.702E-01	- - - - - - - - -	7.702E+05	100.00
Sn117m	- - - - 2.530E+01	1.368E-03	- - - - - - - - -	1.368E+03	100.00
Sb124	- - - - 3.640E-01	1.968E-05	- - - - - - - - -	1.968E+01	100.00
Sb125	- - - - 2.814E-01	1.521E-05	- - - - - - - - -	1.521E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 2.013E+01	1.088E-03	- - - - - - - - -	1.088E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 1.544E+04	8.345E-01	- - - - - - - - -	8.345E+05	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 2.180E-01	1.178E-05	- - - - - - - - -	1.178E+01	100.00
Cs136	- - - - 7.275E+01	3.933E-03	- - - - - - - - -	3.933E+03	100.00
Ba140	- - - - 3.041E+02	1.644E-02	- - - - - - - - -	1.644E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 5.755E-01	3.111E-05	- - - - - - - - -	3.111E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 2.179E-01	1.178E-05	- - - - - - - - -	1.178E+01	100.00
Eu154	- - - - 3.001E-01	1.622E-05	- - - - - - - - -	1.622E+01	100.00
Eu155	- - - - 8.764E-02	4.737E-06	- - - - - - - - -	4.737E+00	100.00
Hf175	- - - - 9.144E-02	4.942E-06	- - - - - - - - -	4.942E+00	100.00
Hf181	- - - - 3.812E-01	2.061E-05	- - - - - - - - -	2.061E+01	100.00
Ta182	- - - - 4.163E-01	2.250E-05	- - - - - - - - -	2.250E+01	100.00
Pb210	- - - - 2.374E+02	1.283E-02	- - - - - - - - -	1.283E+04	100.00
Pa233	- - - - 4.577E-01	2.474E-05	- - - - - - - - -	2.474E+01	100.00

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U235 - - - - 9.341E-02 5.049E-06 - - - - - - - - - 5.049E+00 100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241 - - - - 1.563E-01 8.446E-06 - - - - - - - - - 8.446E+00 100.00

The following peaks were not identified:

*	energy	gammas/sec	peterr	CI *
1	53.88	1.2906E-01	100.0	0.0000000
2	66.46	8.3649E-02	33.2	0.0000000
3	75.79	1.5051E-01	19.1	0.0000000
4	92.84	2.3995E-02	100.0	0.0000000
5	111.86	3.7197E-02	37.1	0.0000000
6	139.52	3.1315E-02	44.4	4.8864190E-05
8	198.07	1.8566E-02	100.0	0.0000000
10	282.76	2.8977E-02	52.0	0.0000000
11	294.62	2.0361E-02	100.0	0.5701567
13	516.58	2.6184E-02	100.0	0.3886400
15	595.50	3.0655E-02	100.0	0.0000000
18	707.74	3.6886E-02	55.7	2.5065185E-05
19	726.59	3.0510E-02	100.0	0.0000000
20	802.63	3.2395E-02	100.0	3.3036968E-10
21	842.67	3.3107E-02	100.0	0.0000000
22	945.07	3.4528E-02	100.0	0.0000000
23	868.12	3.4921E-02	46.0	1.1247550E-11
31	1764.74	4.2301E-02	100.0	8.1766536E-03
32	1849.36	4.3823E-02	100.0	5.6680028E-34
33	1853.19	4.2832E-02	100.0	0.0000000
34	1863.35	4.5653E-02	100.0	0.0000000
35	1901.44	4.7217E-02	100.0	0.0000000
36	1926.34	4.7352E-02	100.0	0.0000000
37	1943.33	4.7351E-02	100.0	0.0000000
38	1951.19	4.7683E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-055

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:02:05)

Analysis performed by: E. A. LEPEL

Sample: 54529-11A 92-02732-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 10:16:00

Count date: 1-Feb-1992 at 16:38:00

Decay: 132.3d (11427720. seconds)

Count times: REAL TIME 22.15h (79740.000 seconds)
LIVE TIME 22.15h (79728.000 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452911A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	92.0	90.	94.	1959.	252.*	92.81	6.742E-02	100.0	156.
2	174.8	173.	175.	941.	86.	175.62	4.338E-02	49.5	0.
3	184.8	184.	186.	927.	132.*	185.56	3.203E-02	100.0	148.
4	237.8	237.	239.	736.	139.*	238.60	3.619E-02	100.0	232.
5	294.1	290.	296.	1127.	201.*	294.85	1.156E-01	38.8	51.
6	350.7	350.	352.	480.	147.*	351.42	4.320E-02	100.0	117.
7	509.3	506.	512.	819.	422.*	509.99	4.933E-02	100.0	528.
8	582.0	581.	586.	335.	79.*	582.58	5.077E-02	100.0	48.
9	594.5	593.	598.	318.	63.*	595.16	5.215E-02	100.0	28.
10	608.8	605.	610.	486.	222.*	608.61	1.909E-01	51.6	94.
11	767.3	765.	770.	214.	56.	767.83	1.038E-01	37.4	0.
12	845.2	840.	847.	296.	74.*	845.70	6.678E-02	100.0	64.
13	909.7	909.	911.	152.	38.*	910.15	6.773E-02	100.0	45.
14	998.0	998.	1001.	184.	22.	998.49	7.162E-02	100.0	0.
15	1015.0	1015.	1016.	51.	16.	1015.46	6.826E-02	100.0	0.
16	1100.8	1100.	1100.	30.	11.	1100.41	7.912E-02	100.0	0.
17	1119.2	1117.	1123.	196.	73.*	1119.58	1.248E-01	50.0	25.
18	1172.9	1172.	1175.	92.	25.*	1173.26	8.069E-02	100.0	25.
19	1205.0	1205.	1205.	27.	11.	1205.37	8.072E-02	100.0	0.
20	1237.0	1236.	1240.	113.	36.*	1237.40	8.324E-02	100.0	16.
21	1414.0	1414.	1414.	22.	12.	1414.29	8.165E-02	100.0	0.
22	1460.5	1457.	1464.	358.	283.*	1460.75	1.153E-01	100.0	240.
23	1764.8	1762.	1768.	110.	65.*	1764.93	1.148E-01	88.3	36.
24	1919.8	1919.	1920.	17.	11.	1919.91	7.318E-02	100.0	0.

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25 2024.0 2024. 2024. 11. 6. 2024.04 9.447E-02 100.0 0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.56 kev is ambiguously assigned; component has been removed.
U235 at 185.56 kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	1.099E+00	5.942E-05	- - - - - - - - - -			5.942E+01	100.00
	1460.75	1.099E+00	5.942E-05	1.00	100.00	0.00		
2 Fe 59	- - - -	1.104E+00	5.967E-05	- - - - - - - - - -			5.967E+01	100.00
	1100.41	1.104E+00	5.967E-05	1.00	100.00	0.00		
3 Co 60	- - - -	8.475E-02	4.581E-06	- - - - - - - - - -			4.581E+00	100.01
	1173.26	8.475E-02	4.581E-06	1.00	100.00	0.00		
4 Tl208	- - - -	6.349E-02	3.432E-06	- - - - - - - - - -			3.432E+00	100.00
	582.58	6.349E-02	3.432E-06	1.00	100.00	0.00		
5 Bi214	- - - -	4.572E-01	2.471E-05	- - - - - - - - - -			2.471E+01	45.57
	608.61	4.250E-01	2.297E-05	1.08	51.62	-0.42		
	1764.93	7.526E-01	4.068E-05	0.61	88.31	1.27		
6 Pb212	- - - -	9.579E-02	5.178E-06	- - - - - - - - - -			5.178E+00	100.00
	238.60	9.579E-02	5.178E-06	1.00	100.00	0.00		
7 Pb214	- - - -	1.172E-01	6.338E-06	- - - - - - - - - -			6.338E+00	100.01
	351.42	1.172E-01	6.338E-06	1.00	100.00	0.00		
8 Ac228	- - - -	2.666E-01	1.441E-05	- - - - - - - - - -			1.441E+01	100.01
	910.15	2.666E-01	1.441E-05	1.00	100.00	0.00		

The following are upper limit values:

D02-057

Be 7	- - - - 2.617E+00	1.414E-04	- - - - - - - - -	1.414E+02	100.00
Sc 46	- - - - 2.065E-01	1.116E-05	- - - - - - - - -	1.116E+01	100.00
Cr 51	- - - - 1.094E+01	5.915E-04	- - - - - - - - -	5.915E+02	100.00
Mn 54	- - - - 8.761E-02	4.736E-06	- - - - - - - - -	4.736E+00	100.00
Co 58	- - - - 2.397E-01	1.296E-05	- - - - - - - - -	1.296E+01	100.00
Zn 65	- - - - 2.217E-01	1.199E-05	- - - - - - - - -	1.199E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 5.066E-01	2.738E-05	- - - - - - - - -	2.738E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 6.207E-02	3.355E-06	- - - - - - - - -	3.355E+00	100.00
Nb 95	- - - - 8.389E-01	4.535E-05	- - - - - - - - -	4.535E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 1.092E+00	5.904E-05	- - - - - - - - -	5.904E+01	100.00
Ru106	- - - - 1.568E+00	8.477E-05	- - - - - - - - -	8.477E+01	100.00
Ag110m	- - - - 3.193E-01	1.726E-05	- - - - - - - - -	1.726E+01	100.00
Sn113	- - - - 1.954E-01	1.056E-05	- - - - - - - - -	1.056E+01	100.00
Sn125	- - - - 2.764E+04	1.494E+00	- - - - - - - - -	1.494E+06	100.00
Sn117m	- - - - 5.118E+01	2.767E-03	- - - - - - - - -	2.767E+03	100.00
Sb124	- - - - 7.006E-01	3.787E-05	- - - - - - - - -	3.787E+01	100.00
Sb125	- - - - 5.220E-01	2.822E-05	- - - - - - - - -	2.822E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 3.547E+01	1.917E-03	- - - - - - - - -	1.917E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 3.110E+04	1.681E+00	- - - - - - - - -	1.681E+06	100.00

D02-058

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.338E-01	2.345E-05	- - - - - - - - -	2.345E+01	100.00
Cs136	- - - - 1.557E+02	8.414E-03	- - - - - - - - -	8.414E+03	100.00
Cs137	- - - - 6.204E-02	3.354E-06	- - - - - - - - -	3.354E+00	100.00
Ba140	- - - - 5.759E+02	3.113E-02	- - - - - - - - -	3.113E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.128E+00	6.099E-05	- - - - - - - - -	6.099E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.174E-01	2.256E-05	- - - - - - - - -	2.256E+01	100.00
Eu154	- - - - 5.726E-01	3.095E-05	- - - - - - - - -	3.095E+01	100.00
Eu155	- - - - 1.669E-01	9.021E-06	- - - - - - - - -	9.021E+00	100.00
Hf175	- - - - 1.793E-01	9.695E-06	- - - - - - - - -	9.695E+00	100.00
Hf181	- - - - 6.750E-01	3.649E-05	- - - - - - - - -	3.648E+01	100.00
Ta182	- - - - 7.892E-01	4.266E-05	- - - - - - - - -	4.266E+01	100.00
Pb210	- - - - 4.402E+02	2.379E-02	- - - - - - - - -	2.379E+04	100.00
Ra226	- - - - 8.591E-01	4.644E-05	- - - - - - - - -	4.644E+01	100.00
U235	- - - - 1.746E-01	9.437E-06	- - - - - - - - -	9.437E+00	100.00
U238	- - - - 1.639E+01	8.862E-04	- - - - - - - - -	8.862E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 3.088E-01	1.626E-05	- - - - - - - - -	1.626E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	92.81	6.7421E-02	100.0	0.0000000
2	175.62	4.3382E-02	49.5	9.3051670E-03
5	294.85	1.1563E-01	38.8	1.8560430E-03
7	509.99	4.9333E-02	100.0	1.5270652E-02
9	595.16	5.2153E-02	100.0	0.0000000
11	767.83	1.0385E-01	37.4	1.4039637E-02
12	845.70	6.6782E-02	100.0	0.0000000
14	955.49	7.1624E-02	100.0	0.0000000
15	1015.45	6.8321E-02	100.0	0.0000000

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17	1119.58	1.2479E-01	50.0	0.5282069
19	1205.37	8.0724E-02	100.0	0.0000000
20	1237.40	8.3241E-02	100.0	4.2142734E-02
21	1414.29	8.1653E-02	100.0	0.0000000
24	1919.91	7.3182E-02	100.0	0.0000000
25	2024.04	9.4473E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-060

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:02:20)

Analysis performed by: E. A. LEPEL

Sample: 54529-12A 92-02733-L-1
Weight: 0.50000 L

Irradiation date: 20-Sep-1991 at 8:50:00

Count date: 2-Feb-1992 at 14:53:00

Decay: 136.3d (11772180. seconds)

Count times: REAL TIME 22.37h (80544.000 seconds)
LIVE TIME 22.37h (80538.000 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452912A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bkgd
1	92.1	91.	94.	1673.	234.*	92.92	5.308E-02	100.0	158.
2	138.8	137.	139.	1110.	104.	139.68	5.121E-02	51.5	0.
3	184.9	183.	187.	1536.	182.*	185.70	3.210E-02	100.0	149.
4	197.3	196.	198.	888.	137.*	198.05	4.643E-02	65.0	50.
5	237.8	237.	240.	1041.	287.*	238.60	3.490E-02	100.0	234.
6	240.4	240.	241.	476.	109.	241.21	6.891E-02	26.7	0.
7	294.1	293.	296.	656.	91.*	294.84	3.894E-02	100.0	52.
8	337.9	337.	339.	424.	67.*	338.60	4.283E-02	60.8	18.
9	350.8	349.	353.	705.	177.*	351.53	5.232E-02	100.0	119.
10	394.0	394.	394.	112.	25.	394.67	4.364E-02	100.0	0.
11	436.1	434.	437.	344.	49.	436.71	5.361E-02	51.5	0.
12	509.7	506.	514.	1031.	513.*	510.33	4.924E-02	100.0	534.
13	555.1	555.	556.	120.	22.	555.66	5.065E-02	100.0	0.
14	581.3	580.	583.	283.	105.*	581.88	8.134E-02	64.9	48.
15	607.9	607.	610.	381.	213.*	608.47	1.750E-01	54.4	95.
16	843.4	841.	848.	292.	76.*	845.80	6.523E-02	100.0	64.
17	910.0	909.	911.	103.	34.*	910.34	6.657E-02	100.0	45.
18	972.0	972.	972.	34.	13.	972.31	6.979E-02	100.0	0.
19	1119.2	1118.	1122.	141.	61.*	1119.37	9.044E-02	62.7	26.
20	1332.0	1331.	1333.	59.	28.*	1332.08	7.480E-02	100.0	22.
21	1461.7	1456.	1465.	494.	308.*	1460.75	1.907E-01	100.0	251.
22	1505.0	1505.	1505.	18.	10.	1504.97	7.820E-02	100.0	0.
23	1551.9	1551.	1552.	23.	12.	1551.81	6.930E-02	100.0	0.
24	1605.0	1605.	1605.	19.	11.	1604.91	8.485E-02	100.0	0.

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25	1627.9	1627.	1628.	24.	9.	1627.80	8.336E-02	100.0	0.
26	1665.9	1663.	1666.	37.	16.*	1665.78	7.436E-02	100.0	8.
27	1712.0	1711.	1712.	23.	9.	1711.80	8.640E-02	100.0	0.
28	1764.3	1762.	1766.	106.	68.*	1764.13	1.270E-01	79.1	36.
29	1950.0	1950.	1950.	11.	7.	1949.70	8.034E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.70 Kev is ambiguously assigned; component has been removed.
U235 at 185.70 Kev is ambiguously assigned; component has been removed.
Matrix is singular in MLR:
an element of w is zero
Tl208 is being removed from the component set due to a matrix singularity.
Sc 46 is being removed from the component set.

** Least-squares Results **

(interferences)

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
1 K 40	- - - -	1.818E+00	9.825E-05	- - - - - - - - -			9.825E+01	100.00
	1460.75	1.818E+00	9.825E-05	1.00	100.00	0.00		
2 Co 60	- - - -	7.858E-02	4.248E-06	- - - - - - - - -			4.248E+00	100.00
	1332.08	7.858E-02	4.248E-06	1.00	100.00	0.00		
3 Bi214	- - - -	4.418E-01	2.388E-05	- - - - - - - - -			2.388E+01	42.04
	608.47	3.897E-01	2.107E-05	1.13	54.45	-0.64		
	1119.37	6.129E-01	3.313E-05	0.72	62.71	1.16		
4 Pb212	- - - -	9.274E-02	5.013E-06	- - - - - - - - -			5.013E+00	100.00
	238.60	9.274E-02	5.013E-06	1.00	100.00	0.00		
[illegible]	- - - -	1.620E-01	8.758E-06	- - - - - - - - -			8.758E+00	71.81

A Cont'd

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966

Cont'd

A

	294.84	2.028E-01	1.096E-05	0.80	100.00	0.53		
	351.53	1.420E-01	7.676E-06	1.14	100.00	-0.37		
6 Ac228	- - - -	3.361E-01	1.817E-05	- - - - - - - - - -			1.817E+01	53.04
	338.60	3.994E-01	2.159E-05	0.84	60.85	0.60		
	910.34	2.624E-01	1.418E-05	1.28	100.00	-0.73		

The following are upper limit values:

Be 7	- - - -	2.607E+00	1.409E-04	- - - - - - - - -	1.409E+02	100.00
Sc 46	- - - -	2.165E-01	1.170E-05	- - - - - - - - -	1.170E+01	100.00
Cr 51	- - - -	1.211E+01	6.546E-04	- - - - - - - - -	6.546E+02	100.00
Mn 54	- - - -	8.939E-02	4.832E-06	- - - - - - - - -	4.832E+00	100.00
Fe 59	- - - -	1.379E+00	7.455E-05	- - - - - - - - -	7.455E+01	100.00
Co 58	- - - -	2.410E-01	1.303E-05	- - - - - - - - -	1.303E+01	100.00
Zn 65	- - - -	2.095E-01	1.132E-05	- - - - - - - - -	1.132E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - -	5.245E-01	2.835E-05	- - - - - - - - -	2.835E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	6.391E-02	3.455E-06	- - - - - - - - -	3.455E+00	100.00
Nb 95	- - - -	9.081E-01	4.909E-05	- - - - - - - - -	4.909E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - -	1.242E+00	6.713E-05	- - - - - - - - -	6.713E+01	100.00
Ru106	- - - -	1.648E+00	8.908E-05	- - - - - - - - -	8.908E+01	100.00
Ag110m	- - - -	3.375E-01	1.825E-05	- - - - - - - - -	1.825E+01	100.00
Sn113	- - - -	2.161E-01	1.168E-05	- - - - - - - - -	1.168E+01	100.00
Sn125	- - - -	3.094E+04	1.672E+00	- - - - - - - - -	1.672E+06	100.00
Sn117m	- - - -	6.135E+01	3.316E-03	- - - - - - - - -	3.316E+03	100.00
Sb124	- - - -	7.577E-01	4.095E-05	- - - - - - - - -	4.095E+01	100.00

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   Sb125  - - - - 5.165E-01   2.792E-05   - - - - - - - - -  2.792E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 4.020E+01   2.173E-03   - - - - - - - - -  2.173E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
    I131  - - - - 4.651E+04   2.514E+00   - - - - - - - - -  2.514E+06 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
   Cs134  - - - - 4.063E-01   2.196E-05   - - - - - - - - -  2.196E+01 100.00
   Cs136  - - - - 1.847E+02   9.984E-03   - - - - - - - - -  9.984E+03 100.00
   Cs137  - - - - 6.310E-02   3.411E-06   - - - - - - - - -  3.411E+00 100.00
   Ba140  - - - - 7.285E+02   3.938E-02   - - - - - - - - -  3.938E+04 100.00
Unable to compute upper limit for La140 ,  Tdecay > 20*T1/2.
   Ce141  - - - - 1.214E+00   6.564E-05   - - - - - - - - -  6.564E+01 100.00
Unable to compute upper limit for Ce143 ,  Tdecay > 20*T1/2.
   Ce144  - - - - 4.137E-01   2.236E-05   - - - - - - - - -  2.236E+01 100.00
   Eu154  - - - - 5.816E-01   3.144E-05   - - - - - - - - -  3.144E+01 100.00
   Eu155  - - - - 1.675E-01   9.052E-06   - - - - - - - - -  9.052E+00 100.00
   Hf175  - - - - 1.889E-01   1.021E-05   - - - - - - - - -  1.021E+01 100.00
   Hf181  - - - - 7.676E-01   4.149E-05   - - - - - - - - -  4.149E+01 100.00
   Ta182  - - - - 8.844E-01   4.780E-05   - - - - - - - - -  4.780E+01 100.00
   Tl208  - - - - 7.664E-02   4.143E-06   - - - - - - - - -  4.143E+00 100.00
   Pb210  - - - - 4.251E+02   2.298E-02   - - - - - - - - -  2.298E+04 100.00
   Ra226  - - - - 8.588E-01   4.642E-05   - - - - - - - - -  4.642E+01 100.00
    U235  - - - - 1.741E-01   9.409E-06   - - - - - - - - -  9.409E+00 100.00
    U238  - - - - 1.571E+01   8.493E-04   - - - - - - - - -  8.493E+02 100.00
Unable to compute upper limit for Np239 ,  Tdecay > 20*T1/2.
```

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Am241 - - - - 2.940E-01 1.589E-05 - - - - - - - - - 1.589E+01 100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	92.92	5.3084E-02	100.0	0.0000000
2	139.68	5.1211E-02	51.5	2.2821068E-05
4	196.05	4.6432E-02	65.0	0.0000000
6	241.21	6.8915E-02	26.8	6.5698669E-06
10	394.67	4.3642E-02	100.0	0.0000000
11	436.71	5.3607E-02	51.5	1.3441988E-10
12	518.33	4.9238E-02	100.0	0.2979489
13	555.66	5.0658E-02	100.0	0.0000000
14	581.88	8.1342E-02	64.9	0.4594924
16	645.80	6.5233E-02	100.0	0.0000000
18	972.31	6.9787E-02	100.0	0.0000000
22	1504.97	7.8198E-02	100.0	1.3452521E-07
23	1551.81	6.9299E-02	100.0	0.0000000
24	1604.91	8.4846E-02	100.0	0.0000000
25	1627.80	8.3359E-02	100.0	0.0000000
26	1665.78	7.4364E-02	100.0	0.0000000
27	1711.80	8.6401E-02	100.0	0.0000000
28	1764.13	1.2704E-01	79.2	0.5099716
29	1949.70	8.0337E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-065

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:02:41)

Analysis performed by: E. A. LEPEL

Sample: 54529-13-A 92-02734-L-1
Weight: 0.50000 L

Irradiation date: 30-Sep-1991 at 11:05:00

Count date: 4-Feb-1992 at 16:33:00

Decay: 128.2d (11078880. seconds)

Count times: REAL TIME 24.14h (86898.000 seconds)
LIVE TIME 24.14h (86866.000 seconds)

Dead time: 0.01 percent

Detector: K pos 0 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452913A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bkgd
1	74.6	71.	77.	3102.	249.*	75.19	5.936E-02	100.0	189.
2	92.1	92.	94.	1380.	202.*	92.73	4.218E-02	100.0	170.
3	168.0	168.	168.	375.	53.	168.62	3.050E-02	100.0	0.
4	184.6	184.	187.	1376.	200.*	185.24	3.092E-02	100.0	161.
5	197.3	196.	199.	1260.	129.*	197.89	3.712E-02	80.4	54.
6	237.6	237.	238.	659.	196.*	238.20	3.576E-02	100.0	253.
7	294.1	292.	295.	740.	130.*	294.75	5.235E-02	69.9	56.
8	350.9	348.	352.	747.	185.*	351.50	4.752E-02	100.0	128.
9	482.0	481.	482.	170.	41.	482.55	4.581E-02	41.9	0.
10	509.6	504.	514.	1252.	559.*	510.22	4.771E-02	100.0	576.
11	581.8	580.	584.	352.	100.*	582.42	6.331E-02	87.4	52.
12	595.0	594.	596.	187.	45.*	595.61	5.045E-02	100.0	31.
13	608.0	604.	610.	636.	313.*	608.57	2.882E-01	35.2	103.
14	615.2	615.	617.	156.	28.	615.76	4.999E-02	100.0	0.
15	690.1	690.	692.	152.	30.	690.66	5.672E-02	100.0	0.
16	766.6	766.	767.	111.	49.	767.21	8.385E-02	26.6	0.
17	845.2	841.	847.	254.	63.*	845.76	6.081E-02	100.0	69.
18	968.0	967.	969.	100.	29.*	968.56	6.762E-02	100.0	29.
19	1052.0	1052.	1052.	32.	12.	1052.53	7.040E-02	100.0	0.
20	1119.5	1117.	1121.	151.	50.*	1120.08	7.628E-02	100.0	28.
21	1247.0	1247.	1247.	31.	14.	1247.52	8.006E-02	100.0	0.
22	1332.6	1329.	1335.	110.	35.*	1333.12	7.416E-02	100.0	24.
23	1369.0	1368.	1369.	20.	9.	1369.50	7.343E-02	100.0	0.
24	1447.2	1443.	1445.	59.	20.	1449.67	7.262E-02	100.0	0.

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25	1460.3	1458.	1466.	415.	327.*	1460.75	1.731E-01	100.0	270.
26	1619.9	1619.	1621.	32.	12.	1620.42	7.434E-02	100.0	0.
27	1765.1	1763.	1767.	84.	48.*	1765.52	8.570E-02	100.0	39.
28	1848.9	1848.	1851.	33.	13.*	1849.35	7.648E-02	100.0	8.
29	1895.0	1895.	1895.	12.	7.	1895.46	8.267E-02	100.0	0.
30	1919.8	1919.	1920.	22.	11.	1920.30	8.457E-02	100.0	0.
31	1957.2	1957.	1958.	20.	12.	1957.62	7.680E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Sc 46 at1120.08 kev is ambiguously assigned: component has been removed.
Ta182 at1120.08 kev is ambiguously assigned: component has been removed.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	1.650E+00	8.921E-05	- - - - - - - - -			8.921E+01	100.00
	1460.75	1.650E+00	8.921E-05	1.00	100.00	0.00		
2 Co 60	- - - -	7.770E-02	4.200E-06	- - - - - - - - -			4.200E+00	100.00
	1333.12	7.770E-02	4.200E-06	1.00	100.00	0.00		
3 Hf181	- - - -	4.616E-01	2.495E-05	- - - - - - - - -			2.495E+01	41.86
	482.55	4.616E-01	2.495E-05	1.00	41.86	0.00		
4 Tl208	- - - -	7.907E-02	4.274E-06	- - - - - - - - -			4.274E+00	87.36
	582.42	7.907E-02	4.274E-06	1.00	87.36	0.00		
5 Pb212	- - - -	9.426E-02	5.095E-06	- - - - - - - - -			5.095E+00	100.00
	238.20	9.426E-02	5.095E-06	1.00	100.00	0.00		
6 Pb214	- - - -	1.290E-01	6.971E-06	- - - - - - - - -			6.971E+00	100.01
	351.56	1.290E-01	6.971E-06	1.00	100.00	0.00		
7 Bi214	- - - -	6.140E-01	3.322E-05	- - - - - - - - -			3.322E+01	31.63
	609.57	6.417E-01	3.469E-05	0.96	35.24	1.64		
	1120.08	5.169E-01	2.794E-05	1.19	100.00	-2.58		
	1765.52	5.621E-01	3.038E-05	1.09	100.00	-1.28		

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9 2 1 : 9 3 5 5

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8 Ac228  - - - - 4.328E-01   2.339E-05  - - - - - - - - -  2.339E+01 100.01
         968.56  4.328E-01   2.339E-05  1.00 100.00  0.00
9  U235  - - - - 5.726E-02   3.095E-06  - - - - - - - - -  3.095E+00 100.01
         185.24  5.726E-02   3.095E-06  1.00 100.00  0.00
The following are upper limit values:
   Be  7  - - - - 2.169E+00   1.173E-04  - - - - - - - -  1.173E+02 100.00
   Sc 45  - - - - 1.990E-01   1.076E-05  - - - - - - - -  1.076E+01 100.00
   Cr 51  - - - - 9.081E+00   4.909E-04  - - - - - - - -  4.909E+02 100.00
   Mn 54  - - - - 8.135E-02   4.397E-06  - - - - - - - -  4.397E+00 100.00
   Fe 59  - - - - 1.154E+00   6.240E-05  - - - - - - - -  6.240E+01 100.00
   Co 58  - - - - 2.006E-01   1.084E-05  - - - - - - - -  1.084E+01 100.00
   Zn 65  - - - - 2.022E-01   1.093E-05  - - - - - - - -  1.093E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 4.592E-01   2.482E-05  - - - - - - - -  2.482E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 6.162E-02   3.331E-06  - - - - - - - -  3.331E+00 100.00
   Nb 95  - - - - 7.164E-01   3.872E-05  - - - - - - - -  3.872E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 9.663E-01   5.223E-05  - - - - - - - -  5.223E+01 100.00
   Ru106  - - - - 1.518E+00   8.207E-05  - - - - - - - -  8.207E+01 100.00
   Ag110m - - - - 3.021E-01   1.633E-05  - - - - - - - -  1.633E+01 100.00
   Sn113  - - - - 1.975E-01   1.068E-05  - - - - - - - -  1.068E+01 100.00
   Sn125  - - - - 1.676E+04   9.059E-01  - - - - - - - -  9.059E+05 100.00
   Sn117m - - - - 4.073E+01   2.202E-03  - - - - - - - -  2.202E+03 100.00
   Sb124  - - - - 6.033E-01   3.261E-05  - - - - - - - -  3.261E+01 100.00
```

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9 2 1 3 , 9 1 6 3 7

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   Sb125  - - - - 5.052E-01   2.731E-05  - - - - - - - - -  2.731E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 3.437E+01   1.858E-03  - - - - - - - - -  1.858E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
    I131  - - - - 2.311E+04   1.249E+00  - - - - - - - - -  1.249E+06 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
   Cs134  - - - - 4.101E-01   2.217E-05  - - - - - - - - -  2.217E+01 100.00
   Cs136  - - - - 1.200E+02   6.485E-03  - - - - - - - - -  6.485E+03 100.00
   Cs137  - - - - 6.729E-02   3.637E-06  - - - - - - - - -  3.637E+00 100.00
   Ba140  - - - - 4.556E+02   2.463E-02  - - - - - - - - -  2.463E+04 100.00
Unable to compute upper limit for La140 ,  Tdecay > 20*T1/2.
   Ce141  - - - - 9.884E-01   5.343E-05  - - - - - - - - -  5.343E+01 100.00
Unable to compute upper limit for Ce143 ,  Tdecay > 20*T1/2.
   Ce144  - - - - 3.933E-01   2.126E-05  - - - - - - - - -  2.126E+01 100.00
   Eu154  - - - - 5.154E-01   2.786E-05  - - - - - - - - -  2.786E+01 100.00
   Eu155  - - - - 1.625E-01   8.785E-06  - - - - - - - - -  8.785E+00 100.00
   Hf175  - - - - 1.701E-01   9.194E-06  - - - - - - - - -  9.194E+00 100.00
   Ta182  - - - - 7.597E-01   4.107E-05  - - - - - - - - -  4.107E+01 100.00
   Pb210  - - - - 4.450E+02   2.406E-02  - - - - - - - - -  2.406E+04 100.00
   Ra226  - - - - 8.309E-01   4.491E-05  - - - - - - - - -  4.491E+01 100.00
    U238  - - - - 1.412E+01   7.630E-04  - - - - - - - - -  7.630E+02 100.00
Unable to compute upper limit for Np239 ,  Tdecay > 20*T1/2.
   Am241  - - - - 2.853E-01   1.542E-05  - - - - - - - - -  1.542E+01 100.00

The following peaks were not identified:
 *  energy gammas/sec  peterr   CI *
```

D02-069

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:17:54)

Analysis performed by: E. A. LEPEL

Sample: 54529-14-A 92-02735-L-1
Weight: 0.50000 L

Irradiation date: 30-Sep-1991 at 12:42:00

Count date: 5-Feb-1992 at 16:47:00

Decay: 129.2d (11160300. seconds)

Count times: REAL TIME 23.70h (85338.000 seconds)
LIVE TIME 23.70h (85324.000 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452914A.L;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	53.0	53.	55.	1516.	120.*	53.63	1.343E-01	100.0	58.
2	91.9	91.	95.	2042.	146.*	92.51	4.232E-02	100.0	167.
3	184.3	183.	185.	1010.	114.*	184.90	3.168E-02	100.0	158.
4	197.6	192.	198.	2119.	178.*	198.17	6.337E-02	57.6	53.
5	237.6	236.	238.	775.	123.*	238.20	3.527E-02	100.0	248.
6	293.8	293.	295.	573.	117.*	294.39	4.453E-02	77.2	55.
7	350.7	349.	353.	701.	157.*	351.30	3.995E-02	100.0	126.
8	391.0	388.	392.	534.	63.	391.59	5.836E-02	50.7	0.
9	509.7	506.	513.	1054.	550.*	510.24	4.857E-02	100.0	565.
10	582.1	582.	583.	163.	55.*	582.58	5.327E-02	100.0	51.
11	594.5	593.	597.	341.	85.*	595.03	7.482E-02	57.4	30.
12	608.0	607.	609.	349.	196.*	608.49	1.328E-01	72.7	101.
13	678.1	676.	679.	185.	48.	678.62	7.336E-02	43.3	0.
14	845.3	844.	848.	204.	67.*	845.81	6.197E-02	100.0	68.
15	910.0	907.	911.	171.	44.*	910.49	6.581E-02	100.0	48.
16	968.1	966.	971.	171.	37.*	968.54	6.704E-02	100.0	28.
17	1027.0	1027.	1027.	32.	11.	1027.48	7.050E-02	100.0	0.
18	1095.2	1095.	1100.	149.	34.	1095.65	8.085E-02	48.1	0.
19	1119.2	1116.	1122.	179.	55.*	1119.66	7.269E-02	100.0	27.
20	1322.1	1321.	1324.	64:	26.	1322.51	7.394E-02	38.8	0.
21	1331.0	1330.	1333.	80.	45.*	1331.43	6.559E-02	100.0	24.
22	1460.3	1456.	1463.	430.	342.*	1460.75	2.394E-01	100.0	266.
23	1565.0	1565.	1565.	17.	9.	1565.41	7.741E-02	100.0	0.
24	1580.2	1507.	1509.	35.	15.	1580.62	7.289E-02	100.0	0.

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25	1590.0	1589.	1592.	52.	27.*	1590.37	7.146E-02	100.0	12.
26	1764.7	1760.	1766.	91.	47.*	1765.13	8.206E-02	100.0	38.
27	1969.0	1969.	1969.	13.	8.	1969.36	8.609E-02	100.0	0.
28	1992.0	1992.	1992.	12.	7.	1992.36	8.778E-02	100.0	0.
29	2001.9	2001.	2002.	18.	8.	2002.25	8.696E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Sc 46 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	2.282E+00	1.234E-04	- - - - - - - - - -			1.234E+02	100.00
	1460.75	2.282E+00	1.234E-04	1.00	100.00	0.00		
2 Co 60	- - - -	6.874E-02	3.716E-06	- - - - - - - - - -			3.716E+00	100.00
	1331.48	6.874E-02	3.716E-06	1.00	100.00	0.00		
3 Sn113	- - - -	1.986E-01	1.074E-05	- - - - - - - - - -			1.074E+01	50.71
	391.59	1.986E-01	1.074E-05	1.00	50.71	0.00		
4 Tl208	- - - -	6.655E-02	3.597E-06	- - - - - - - - - -			3.597E+00	100.00
	582.58	6.655E-02	3.597E-06	1.00	100.00	0.00		
5 Pb212	- - - -	9.307E-02	5.031E-06	- - - - - - - - - -			5.031E+00	100.00
	238.20	9.307E-02	5.031E-06	1.00	100.00	0.00		
6 Pb214	- - - -	1.084E-01	5.861E-06	- - - - - - - - - -			5.861E+00	100.01
	351.30	1.084E-01	5.861E-06	1.00	100.00	0.00		
7 Bi214	- - - -	3.522E-01	1.904E-05	- - - - - - - - - -			1.904E+01	52.55
	608.49	2.957E-01	1.598E-05	1.19	72.73	-1.40		
	1119.66	4.926E-01	2.663E-05	0.71	100.00	1.52		
	1765.13	5.382E-01	2.909E-05	0.65	100.00	1.85		
8 Ac228	- - - -	3.042E-01	1.644E-05	- - - - - - - - - -			1.644E+01	72.85

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016

910.49	2.588E-01	1.399E-05	1.18	100.00	-0.94
968.54	4.292E-01	2.320E-05	0.71	100.00	1.56

The following are upper limit values:

Be 7	- - - - 2.413E+00	1.305E-04	- - - - - - - - -	1.305E+02	100.00
Sc 46	- - - - 2.168E-01	1.172E-05	- - - - - - - - -	1.172E+01	100.00
Cr 51	- - - - 9.206E+00	4.976E-04	- - - - - - - - -	4.976E+02	100.00
Mn 54	- - - - 6.934E-02	4.629E-06	- - - - - - - - -	4.629E+00	100.00
Fe 59	- - - - 1.258E+00	6.803E-05	- - - - - - - - -	6.803E+01	100.00
Co 58	- - - - 2.030E-01	1.098E-05	- - - - - - - - -	1.098E+01	100.00
Zn 65	- - - - 2.131E-01	1.152E-05	- - - - - - - - -	1.152E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 4.626E-01	2.502E-05	- - - - - - - - -	2.502E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 6.368E-02	3.442E-06	- - - - - - - - -	3.442E+00	100.00
Nb 95	- - - - 7.922E-01	4.282E-05	- - - - - - - - -	4.282E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 1.070E+00	5.782E-05	- - - - - - - - -	5.782E+01	100.00
Ru106	- - - - 1.604E+00	8.673E-05	- - - - - - - - -	8.673E+01	100.00
Ag110m	- - - - 3.323E-01	1.796E-05	- - - - - - - - -	1.796E+01	100.00
Sn125	- - - - 2.004E+04	1.083E+00	- - - - - - - - -	1.083E+06	100.00
Sn117m	- - - - 4.309E+01	2.329E-03	- - - - - - - - -	2.329E+03	100.00
Sb124	- - - - 6.902E-01	3.731E-05	- - - - - - - - -	3.731E+01	100.00
Sb125	- - - - 5.024E-01	2.716E-05	- - - - - - - - -	2.716E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te125m	- - - - 3.356E+01	1.814E-03	- - - - - - - - -	1.814E+03	100.00

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Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 2.454E+04	1.326E+00	- - - - - - - - -	1.326E+06	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.282E-01	2.315E-05	- - - - - - - - -	2.315E+01	100.00
Cs136	- - - - 1.249E+02	6.752E-03	- - - - - - - - -	6.752E+03	100.00
Cs137	- - - - 6.519E-02	3.524E-06	- - - - - - - - -	3.524E+00	100.00
Ba140	- - - - 5.193E+02	2.807E-02	- - - - - - - - -	2.807E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.027E+00	5.551E-05	- - - - - - - - -	5.551E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.063E-01	2.196E-05	- - - - - - - - -	2.196E+01	100.00
Eu154	- - - - 4.926E-01	2.663E-05	- - - - - - - - -	2.663E+01	100.00
Eu155	- - - - 1.624E-01	8.777E-06	- - - - - - - - -	8.777E+00	100.00
Hf175	- - - - 1.670E-01	9.028E-06	- - - - - - - - -	9.028E+00	100.00
Hf181	- - - - 6.739E-01	3.643E-05	- - - - - - - - -	3.643E+01	100.00
Ta182	- - - - 8.064E-01	4.359E-05	- - - - - - - - -	4.359E+01	100.00
Pb210	- - - - 4.349E+02	2.351E-02	- - - - - - - - -	2.351E+04	100.00
Ra226	- - - - 8.717E-01	4.712E-05	- - - - - - - - -	4.712E+01	100.00
U235	- - - - 1.810E-01	9.782E-06	- - - - - - - - -	9.782E+00	100.00
U238	- - - - 1.586E+01	8.573E-04	- - - - - - - - -	8.573E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.936E-01	1.587E-05	- - - - - - - - -	1.587E+01	100.00

The following peaks were not identified:

*	energy	gammas/sec	peterr	CI *
1	53.63	1.3435E-01	100.0	0.0000000
2	92.51	4.2319E-02	100.0	0.0000000
3	184.90	3.1604E-02	100.0	0.5173131
4	199.17	6.3305E-02	57.6	0.0000000

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6	294.39	4.4533E-02	77.2	0.3067558
9	518.24	4.8567E-02	100.0	2.9127035E-02
11	595.03	7.4818E-02	57.5	0.0000000
13	678.62	7.3357E-02	43.3	2.8048888E-09
14	845.81	6.1966E-02	100.0	0.0000000
17	1027.48	7.0498E-02	100.0	0.0000000
18	1095.65	6.0848E-02	48.1	0.0000000
20	1322.51	7.3936E-02	38.8	0.0000000
23	1565.41	7.7496E-02	100.0	0.0000000
24	1588.62	7.2887E-02	100.0	2.0133930E-09
25	1598.37	7.1456E-02	100.0	0.0000000
27	1969.36	8.6091E-02	100.0	0.0000000
28	1992.36	8.7779E-02	100.0	0.0000000
29	2002.25	8.6957E-02	100.0	3.4207891E-04

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:18:12)

Analysis performed by: E. A. LEPEL

Sample: 54529-14-B 92-02735-L-2 SAMPLE DUPE
Weight: 0.50000 L

Irradiation date: 30-Sep-1991 at 12:42:00

Count date: 9-Feb-1992 at 9:23:00

Decay: 132.9d (11479260. seconds)

Count times: REAL TIME 31.38h (112956.00 seconds)
LIVE TIME 31.37h (112938.00 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452914B.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	92.1	91.	93.	1741.	172.*	92.41	3.758E-02	100.0	221.
2	139.0	138.	142.	2640.	240.	139.31	8.464E-02	29.6	0.
3	184.9	184.	187.	1719.	185.*	185.30	2.716E-02	100.0	210.
4	198.1	197.	200.	1620.	160.*	198.45	3.420E-02	85.0	70.
5	237.8	234.	244.	3359.	522.*	238.20	8.664E-02	100.0	329.
6	249.9	249.	250.	550.	57.	250.30	3.008E-02	100.0	0.
7	294.1	292.	297.	1314.	143.*	294.52	3.856E-02	100.0	72.
8	350.9	349.	354.	1150.	229.*	351.24	4.011E-02	100.0	166.
9	421.0	418.	423.	735.	91.	421.43	6.857E-02	40.8	0.
10	509.7	507.	513.	1238.	666.*	510.08	4.174E-02	100.0	748.
11	582.0	578.	585.	669.	168.*	582.44	1.023E-01	60.4	68.
12	590.2	590.	593.	274.	41.	590.59	4.253E-02	100.0	0.
13	594.7	593.	596.	347.	104.*	595.11	6.619E-02	60.4	40.
14	607.9	606.	610.	625.	288.*	608.32	1.631E-01	67.5	133.
15	732.9	731.	735.	257.	33.	733.37	4.949E-02	100.0	0.
16	845.2	844.	848.	276.	89.*	845.64	5.453E-02	100.0	90.
17	910.6	907.	912.	287.	81.*	911.03	5.773E-02	100.0	64.
18	968.5	968.	971.	154.	67.*	968.90	5.005E-02	100.0	37.
19	1042.1	1038.	1043.	192.	34.	1042.57	6.056E-02	100.0	0.
20	1119.6	1116.	1123.	266.	75.*	1120.62	7.183E-02	88.0	36.
21	1172.3	1171.	1173.	123.	51.*	1172.75	6.760E-02	100.0	35.
22	1331.8	1331.	1334.	100.	29.*	1332.31	6.957E-02	100.0	31.
23	1409.0	1409.	1409.	25.	10.*	1409.50	6.898E-02	100.0	19.
24	1441.1	1441.	1442.	43.	15.	1441.61	6.898E-02	100.0	0.

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9 2 1 2 9 0 5 7 1

25	1460.2	1456.	1463.	622.	517.*	1460.75	3.897E-01	100.0	351.
26	1593.1	1588.	1594.	123.	45.*	1593.58	7.590E-02	61.0	15.
27	1764.3	1764.	1767.	98.	60.*	1764.86	7.554E-02	100.0	51.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Sc 46 at1120.02 kev is ambiguously assigned; component has been removed.
Ta182 at1120.02 kev is ambiguously assigned; component has been removed.

** Least-squares Results **

(interferences)

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
1 K 40	- - - -	3.715E+00	2.008E-04	- - - - - - - - - -			2.008E+02	100.00
	1460.75	3.715E+00	2.008E-04	1.00	100.00	0.00		
2 Co 60	- - - -	7.199E-02	3.891E-06	- - - - - - - - - -			3.891E+00	70.72
	1172.75	7.102E-02	3.839E-06	1.01	100.00	-0.09		
	1332.31	7.301E-02	3.946E-06	0.99	100.00	0.09		
3 Tl208	- - - -	1.379E-01	7.452E-06	- - - - - - - - - -			7.452E+00	52.72
	510.08	2.143E-01	1.158E-05	0.64	100.00	2.35		
	582.44	1.279E-01	6.915E-06	1.08	60.40	-0.85		
4 Pb212	- - - -	2.295E-01	1.240E-05	- - - - - - - - - -			1.240E+01	100.00
	238.20	2.295E-01	1.240E-05	1.00	100.00	0.00		
5 Pb214	- - - -	1.089E-01	5.885E-06	- - - - - - - - - -			5.885E+00	100.00
	351.24	1.089E-01	5.885E-06	1.00	100.00	0.00		
6 Bi214	- - - -	4.095E-01	2.214E-05	- - - - - - - - - -			2.214E+01	47.73
	608.32	3.632E-01	1.963E-05	1.13	67.48	-1.25		
	1120.02	4.867E-01	2.631E-05	0.84	87.98	1.19		
	1764.86	4.955E-01	2.678E-05	0.83	100.00	1.14		
7 Ac228	- - - -	2.585E-01	1.397E-05	- - - - - - - - - -			1.397E+01	71.74
	911.03	2.273E-01	1.229E-05	1.14	100.00	-0.91		
	968.90	3.208E-01	1.734E-05	0.81	100.00	1.28		

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 8  U235  - - - - 5.030E-02   2.719E-06  - - - - - - - - -  2.719E+00 100.00
          185.30  5.030E-02   2.719E-06  1.00 100.00  0.00
The following are upper limit values:
   Be  7  - - - - 2.180E+00   1.178E-04  - - - - - - - - -  1.178E+02 100.00
   Sc 46  - - - - 1.792E-01   9.688E-06  - - - - - - - - -  9.688E+00 100.00
   Cr 51  - - - - 9.421E+00   5.093E-04  - - - - - - - - -  5.093E+02 100.00
   Mn 54  - - - - 7.498E-02   4.053E-06  - - - - - - - - -  4.053E+00 100.00
   Fe 59  - - - - 1.144E+00   6.183E-05  - - - - - - - - -  6.183E+01 100.00
   Co 58  - - - - 2.046E-01   1.106E-05  - - - - - - - - -  1.106E+01 100.00
   Zn 65  - - - - 1.926E-01   1.041E-05  - - - - - - - - -  1.041E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 4.248E-01   2.296E-05  - - - - - - - - -  2.296E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 5.572E-02   3.012E-06  - - - - - - - - -  3.012E+00 100.00
   Nb 95  - - - - 7.417E-01   4.009E-05  - - - - - - - - -  4.009E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 1.051E+00   5.681E-05  - - - - - - - - -  5.681E+01 100.00
   Ru106  - - - - 1.404E+00   7.588E-05  - - - - - - - - -  7.588E+01 100.00
   Ag110m - - - - 2.873E-01   1.553E-05  - - - - - - - - -  1.553E+01 100.00
   Sn113  - - - - 1.830E-01   9.893E-06  - - - - - - - - -  9.893E+00 100.00
   Sn125  - - - - 2.307E+04   1.247E+00  - - - - - - - - -  1.247E+06 100.00
   Sn117m - - - - 4.508E+01   2.437E-03  - - - - - - - - -  2.437E+03 100.00
   Sb124  - - - - 6.229E-01   3.367E-05  - - - - - - - - -  3.367E+01 100.00
   Sb125  - - - - 4.390E-01   2.373E-05  - - - - - - - - -  2.373E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
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D02-078

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 3.414E+01	1.846E-03	- - - - - - - - -	1.846E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 3.124E+04	1.689E+00	- - - - - - - - -	1.689E+06	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 3.888E-01	2.101E-05	- - - - - - - - -	2.101E+01	100.00
Cs136	- - - - 1.238E+02	6.692E-03	- - - - - - - - -	6.692E+03	100.00
Cs137	- - - - 5.730E-02	3.097E-06	- - - - - - - - -	3.097E+00	100.00
Ba140	- - - - 5.267E+02	2.847E-02	- - - - - - - - -	2.847E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 9.516E-01	5.144E-05	- - - - - - - - -	5.144E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 3.508E-01	1.896E-05	- - - - - - - - -	1.896E+01	100.00
Eu154	- - - - 4.914E-01	2.656E-05	- - - - - - - - -	2.656E+01	100.00
Eu155	- - - - 1.424E-01	7.696E-06	- - - - - - - - -	7.696E+00	100.00
Hf175	- - - - 1.522E-01	8.226E-06	- - - - - - - - -	8.226E+00	100.00
Hf181	- - - - 6.055E-01	3.273E-05	- - - - - - - - -	3.273E+01	100.00
Ta182	- - - - 7.142E-01	3.860E-05	- - - - - - - - -	3.860E+01	100.00
Pb210	- - - - 3.716E+02	2.008E-02	- - - - - - - - -	2.008E+04	100.00
Ra226	- - - - 7.327E-01	3.960E-05	- - - - - - - - -	3.960E+01	100.00
U238	- - - - 1.385E+01	7.486E-04	- - - - - - - - -	7.486E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.493E-01	1.347E-05	- - - - - - - - -	1.347E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI %
1	92.41	3.7579E-02	100.0	0.0000000
2	139.31	8.4637E-02	29.6	0.0000000
4	198.45	3.4197E-02	85.0	0.0000000

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6	250.30	3.0076E-02	100.0	0.0000000
7	294.52	3.8559E-02	100.0	0.4865061
9	421.43	6.8572E-02	40.8	0.0000000
12	590.59	4.2529E-02	100.0	2.6474500E-02
13	595.11	6.6189E-02	60.4	0.0000000
15	733.37	4.9490E-02	100.0	0.0000000
16	845.64	5.4525E-02	100.0	0.0000000
19	1042.57	6.0563E-02	100.0	0.0000000
23	1409.50	6.8978E-02	100.0	0.0000000
24	1441.61	6.8981E-02	100.0	0.0000000
26	1593.58	7.5900E-02	61.1	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-080

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:18:28)

Analysis performed by: E. A. LEPEL

Sample: 54529-15-A 92-02735-L-5 BLANK
Weight: 0.50000 L

Irradiation date: 30-Sep-1991 at 12:42:00

Count date: 5-Feb-1992 at 16:36:00

Decay: 129.2d (11159640. seconds)

Count times: REAL TIME 2.70d (232968.00 seconds)
LIVE TIME 2.70d (232931.00 seconds)

Dead time: 0.02 percent

Detector: K pos 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: va:[116,2]effmarna. K

Spectrum from file : 5452915A.K;1

Background subtractions from file: va:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bkgd
1	53.0	52.	54.	4037.	208.*	53.90	8.055E-02	100.0	158.
2	74.2	72.	77.	6965.	367.*	75.09	3.646E-02	100.0	505.
3	92.1	91.	93.	3597.	457.*	93.01	2.555E-02	100.0	456.
4	184.9	182.	188.	5986.	434.*	185.73	1.897E-02	100.0	432.
5	197.7	193.	200.	6145.	299.*	198.54	2.874E-02	100.0	144.
6	237.8	236.	239.	2662.	340.*	238.60	2.115E-02	100.0	678.
7	293.9	293.	295.	1435.	222.*	294.72	2.273E-02	100.0	149.
8	337.1	334.	339.	2049.	118.*	337.88	2.395E-02	100.0	52.
9	350.9	349.	352.	1559.	339.*	351.65	2.450E-02	100.0	343.
10	382.0	382.	382.	310.	47.	382.77	2.526E-02	100.0	0.
11	410.6	410.	411.	550.	88.	411.41	3.137E-02	36.3	0.
12	509.9	507.	515.	2919.	1542.*	510.58	2.769E-02	100.0	1543.
13	581.8	577.	584.	1264.	234.*	582.56	4.677E-02	100.0	139.
14	594.8	594.	597.	724.	200.*	595.49	5.882E-02	81.7	83.
15	608.0	606.	612.	1428.	494.*	608.71	1.069E-01	100.0	275.
16	760.8	759.	761.	382.	48.	761.41	3.453E-02	100.0	0.
17	768.0	767.	769.	350.	45.	768.61	3.508E-02	100.0	0.
18	805.1	805.	806.	190.	29.	805.71	3.628E-02	100.0	0.
19	845.6	844.	848.	550.	142.*	846.22	3.937E-02	100.0	186.
20	909.8	909.	913.	459.	140.*	910.38	3.748E-02	100.0	132.
21	932.9	932.	934.	240.	56.*	933.45	3.848E-02	100.0	35.
22	968.6	966.	969.	321.	78.*	969.15	4.031E-02	100.0	77.
23	1119.3	1116.	1121.	449.	139.*	1119.86	5.770E-02	100.0	74.
24	1332.0	1331.	1334.	232.	95.*	1332.41	4.644E-02	100.0	65.

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25	1460.3	1456.	1466.	1237.	950.*	1460.75	2.561E-01	100.0	725.
26	1593.0	1589.	1594.	180.	70.*	1593.33	4.783E-02	99.8	32.
27	1712.1	1712.	1713.	56.	18.	1712.37	4.888E-02	100.0	0.
28	1764.8	1761.	1766.	251.	141.*	1765.06	5.037E-02	100.0	104.
29	1806.1	1800.	1802.	65.	16.	1800.37	4.890E-02	100.0	0.
30	1839.9	1835.	1840.	126.	22.	1840.16	5.157E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.73 Kev is ambiguously assigned; component has been removed.
U235 at 185.73 Kev is ambiguously assigned; component has been removed.
Sc 46 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	2.442E+00	1.320E-04	- - - - - - - - - -			1.320E+02	100.00
	1460.75	2.442E+00	1.320E-04	1.00	100.00	0.00		
2 Co 60	- - - -	4.868E-02	2.631E-06	- - - - - - - - - -			2.631E+00	100.00
	1332.41	4.868E-02	2.631E-06	1.00	100.00	0.00		
3 Tl208	- - - -	5.845E-02	3.159E-06	- - - - - - - - - -			3.159E+00	100.00
	582.56	5.845E-02	3.159E-06	1.00	100.00	0.00		
4 Bi214	- - - -	2.933E-01	1.586E-05	- - - - - - - - - -			1.586E+01	59.02
	608.71	2.379E-01	1.286E-05	1.23	100.00	-0.70		
	1119.86	3.910E-01	2.113E-05	0.75	100.00	0.75		
	1765.06	3.304E-01	1.786E-05	0.89	100.00	0.34		
5 Pb212	- - - -	5.584E-02	3.018E-06	- - - - - - - - - -			3.018E+00	100.00
	238.60	5.584E-02	3.018E-06	1.00	100.00	0.00		
6 Pb214	- - - -	7.894E-02	4.267E-06	- - - - - - - - - -			4.267E+00	73.45
	294.72	1.184E-01	6.399E-06	0.67	100.00	1.00		
	351.65	6.649E-02	3.594E-06	1.19	100.00	-0.56		
7 Ac228	- - - -	1.866E-01	1.008E-05	- - - - - - - - - -			1.008E+01	59.49

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337.88	2.226E-01	1.203E-05	0.84	100.00	0.49
910.38	1.474E-01	7.967E-06	1.27	100.00	-0.80
969.15	2.581E-01	1.395E-05	0.72	100.00	0.83

The following are upper limit values:

Be 7	- - - - 1.445E+00	7.809E-05	- - - - - - - - -	7.809E+01	100.00
Sc 46	- - - - 1.206E-01	6.518E-06	- - - - - - - - -	6.518E+00	100.00
Cr 51	- - - - 5.872E+00	3.174E-04	- - - - - - - - -	3.174E+02	100.00
Mn 54	- - - - 4.790E-02	2.589E-06	- - - - - - - - -	2.589E+00	100.00
Fe 59	- - - - 7.409E-01	4.005E-05	- - - - - - - - -	4.005E+01	100.00
Co 58	- - - - 1.302E-01	7.041E-06	- - - - - - - - -	7.041E+00	100.00
Zn 65	- - - - 1.222E-01	6.604E-06	- - - - - - - - -	6.604E+00	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 2.869E-01	1.551E-05	- - - - - - - - -	1.551E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 3.630E-02	1.962E-06	- - - - - - - - -	1.962E+00	100.00
Nb 95	- - - - 4.635E-01	2.506E-05	- - - - - - - - -	2.506E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 7.063E-01	3.818E-05	- - - - - - - - -	3.818E+01	100.00
Ru106	- - - - 7.111E-01	3.844E-05	- - - - - - - - -	3.844E+01	100.00
Ag110m	- - - - 1.971E-01	1.065E-05	- - - - - - - - -	1.065E+01	100.00
Sn113	- - - - 1.219E-01	6.590E-06	- - - - - - - - -	6.590E+00	100.00
Sn125	- - - - 1.477E+04	7.983E-01	- - - - - - - - -	7.983E+05	100.00
Sn117m	- - - - 2.653E+01	1.434E-03	- - - - - - - - -	1.434E+03	100.00
Sb124	- - - - 4.157E-01	2.247E-05	- - - - - - - - -	2.247E+01	100.00
Sb125	- - - - 3.101E-01	1.676E-05	- - - - - - - - -	1.676E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

D02-083

9 2 1 2 . . . 0 5 3 1

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 2.208E+01	1.193E-03	- - - - - - - - -	1.193E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 1.595E+04	8.621E-01	- - - - - - - - -	8.621E+05	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 2.593E-01	1.401E-05	- - - - - - - - -	1.401E+01	100.00
Cs136	- - - - 7.509E+01	4.059E-03	- - - - - - - - -	4.059E+03	100.00
Cs137	- - - - 3.956E-02	2.138E-06	- - - - - - - - -	2.138E+00	100.00
Ba140	- - - - 3.148E+02	1.701E-02	- - - - - - - - -	1.701E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 6.162E-01	3.331E-05	- - - - - - - - -	3.331E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 2.387E-01	1.290E-05	- - - - - - - - -	1.290E+01	100.00
Eu154	- - - - 3.294E-01	1.781E-05	- - - - - - - - -	1.781E+01	100.00
Eu155	- - - - 9.840E-02	5.319E-06	- - - - - - - - -	5.319E+00	100.00
Hf175	- - - - 9.980E-02	5.395E-06	- - - - - - - - -	5.395E+00	100.00
Hf181	- - - - 3.965E-01	2.143E-05	- - - - - - - - -	2.143E+01	100.00
Ta182	- - - - 4.590E-01	2.481E-05	- - - - - - - - -	2.481E+01	100.00
Pb210	- - - - 2.621E+02	1.417E-02	- - - - - - - - -	1.417E+04	100.00
Ra226	- - - - 4.980E-01	2.692E-05	- - - - - - - - -	2.692E+01	100.00
U235	- - - - 1.010E-01	5.462E-06	- - - - - - - - -	5.462E+00	100.00
U238	- - - - 9.321E+00	5.038E-04	- - - - - - - - -	5.038E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 1.737E-01	9.388E-06	- - - - - - - - -	9.388E+00	100.00

The following peaks were not identified:

*	energy	gammas/sec	peterr	CI *
1	53.90	8.0554E-02	100.0	0.0000000

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2	75.09	3.6461E-02	100.0	0.0000000
3	93.01	2.5551E-02	100.0	0.0000000
5	198.54	2.8737E-02	100.0	0.0000000
10	382.77	2.5260E-02	100.0	0.0000000
11	411.41	3.1374E-02	36.3	0.0000000
12	510.58	2.7694E-02	100.0	0.4318693
14	595.48	5.8819E-02	81.7	0.0000000
16	761.41	3.4533E-02	100.0	0.0000000
17	768.61	3.5081E-02	100.0	7.1285099E-02
18	805.71	3.6284E-02	100.0	0.0000000
19	846.22	3.9373E-02	100.0	0.0000000
21	933.45	3.8478E-02	100.0	4.3565484E-05
26	1593.33	4.7829E-02	99.8	0.0000000
27	1712.37	4.8878E-02	100.0	0.0000000
29	1800.37	4.8898E-02	100.0	0.0000000
30	1848.16	5.1578E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

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020

9 2 1 2 0 9 1 5 3 3

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 17:04:19)

Analysis performed by: E. A. LEPEL

Sample: 54529-15-B 92-02735-L-6
Weight: 0.50000 L

Irradiation date: 0-Feb-1992 at 12:00:00

Count date: 22-Feb-1992 at 10:28:00

Decay: 21.9d (1895280.0 seconds)

Count times: REAL TIME 30.14h (108510.00 seconds)
LIVE TIME 30.14h (108491.00 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna.K

Spectrum from file : 5452915b.K;1

Background subtractions from file: ve:[116,1]Backg.K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	57.9	57.	58.	1402.	90.	60.19	1.091E-01	57.8	0.
2	73.9	72.	76.	3291.	357.	76.11	2.558E-01	22.1	0.
3	77.2	76.	80.	3135.	275.	79.41	1.812E-01	28.2	0.
4	92.4	91.	94.	2632.	221.	94.59	1.110E-01	32.1	0.
5	139.1	137.	140.	2339.	125.	141.19	4.582E-02	60.4	0.
6	184.8	184.	185.	1172.	173.	186.87	6.641E-02	26.9	0.
7	238.0	236.	240.	1998.	129.	239.97	6.070E-02	48.0	0.
8	350.4	350.	353.	954.	132.*	352.23	4.333E-02	100.0	160.
9	473.2	473.	474.	396.	89.	474.84	7.785E-02	29.8	0.
10	509.8	507.	513.	1433.	654.	511.40	6.127E-01	7.2	0.
11	581.7	581.	583.	317.	74.*	583.26	5.138E-02	100.0	65.
12	594.5	593.	596.	402.	103.*	595.97	6.898E-02	60.6	39.
13	607.9	607.	610.	454.	167.*	609.42	5.126E-02	100.0	128.
14	660.3	658.	666.	7928.	7492.*	661.70	8.863E+00	1.2	18.
15	670.0	670.	670.	59.	18.	671.39	4.397E-02	100.0	0.
16	778.1	778.	779.	94.	28.	779.32	5.073E-02	100.0	0.
17	845.9	842.	848.	316.	62.*	847.05	5.612E-02	100.0	86.
18	909.9	907.	912.	269.	93.*	910.99	5.574E-02	100.0	61.
19	967.9	966.	970.	206.	62.*	968.88	5.981E-02	100.0	36.
20	999.1	999.	1001.	115.	34.*	1000.04	6.045E-02	100.0	17.
21	1119.9	1117.	1122.	189.	57.*	1120.64	6.360E-02	100.0	34.
22	1172.2	1171.	1174.	120.	37.*	1172.92	6.580E-02	100.0	33.
23	1331.9	1330.	1332.	62.	18.*	1332.39	6.598E-02	100.0	30.
24	1377.1	1377.	1379.	62.	19.*	1377.50	6.833E-02	100.0	16.

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25	1412.0	1412.	1412.	21.	9.	1412.35	6.439E-02	100.0	0.
26	1460.5	1456.	1465.	600.	479.*	1460.75	3.463E-01	100.0	338.
27	1696.0	1696.	1696.	19.	12.	1695.96	6.535E-02	100.0	0.
28	1764.9	1763.	1767.	78.	40.*	1764.78	7.056E-02	100.0	49.
29	1767.8	1767.	1768.	27.	12.	1767.64	7.097E-02	100.0	0.
30	1825.0	1825.	1827.	34.	13.	1824.81	7.161E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]rTOBACO.dat

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	(interferences) pCi /L	error (%)
1 K 40	- - - -	3.301E+00	1.784E-04	- - - - - - - - - -			1.784E+02	100.00
	1460.75	3.301E+00	1.784E-04	1.00	100.00	0.00		
2 Co 60	- - - -	6.649E-02	3.594E-06	- - - - - - - - - -			3.594E+00	70.71
	1172.92	6.643E-02	3.591E-06	1.00	100.00	-2.00		
	1332.39	6.653E-02	3.596E-06	1.00	100.00	2.00		
3 Cs137	- - - -	1.042E+01	5.630E-04	- - - - - - - - - -			5.630E+02	1.59
	661.70	1.042E+01	5.630E-04	1.00	1.59	0.02		
4 Tl208	- - - -	6.197E-02	3.349E-06	- - - - - - - - - -			3.349E+00	100.01
	583.26	6.197E-02	3.349E-06	1.00	100.00	0.01		
5 Pb214	- - - -	1.186E-01	6.409E-06	- - - - - - - - - -			6.409E+00	100.00
	352.23	1.186E-01	6.409E-06	1.00	100.00	0.00		
6 Bi214	- - - -	1.154E-01	6.239E-06	- - - - - - - - - -			6.239E+00	100.00
	609.42	1.154E-01	6.239E-06	1.00	100.00	0.00		
7 Ra226	- - - -	1.779E+00	9.614E-05	- - - - - - - - - -			9.614E+01	26.87
	186.87	1.779E+00	9.614E-05	1.00	26.87	0.00		

The following are upper limit values:

Be 7	- - - -	7.250E-01	3.919E-05	- - - - - - - - - -			3.919E+01	100.00

E9.0

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Mn 54	- - - - 5.819E-02	3.145E-06	- - - - - - - - -	3.145E+00	100.00
Co 58	- - - - 6.384E-02	3.451E-06	- - - - - - - - -	3.451E+00	100.00
Zr 95	- - - - 1.295E-01	6.999E-06	- - - - - - - - -	6.999E+00	100.00
Nb 94	- - - - 5.493E-02	2.969E-06	- - - - - - - - -	2.969E+00	100.00
Nb 95	- - - - 7.678E-02	4.150E-06	- - - - - - - - -	4.150E+00	100.00
Ru103	- - - - 2.145E-01	1.160E-05	- - - - - - - - -	1.160E+01	100.00
Ru106	- - - - 1.048E+00	5.666E-05	- - - - - - - - -	5.666E+01	100.00
Ag110m	- - - - 2.223E-01	1.201E-05	- - - - - - - - -	1.201E+01	100.00
Sb125	- - - - 4.371E-01	2.363E-05	- - - - - - - - -	2.363E+01	100.00
I131	- - - - 2.770E+00	1.497E-04	- - - - - - - - -	1.497E+02	100.00
Cs134	- - - - 3.810E-01	2.059E-05	- - - - - - - - -	2.059E+01	100.00
Cs136	- - - - 3.385E-01	1.830E-05	- - - - - - - - -	1.830E+01	100.00
Ba140	- - - - 1.441E+00	7.789E-05	- - - - - - - - -	7.789E+01	100.00
La140	- - - - 3.911E-01	2.114E-05	- - - - - - - - -	2.114E+01	100.00
Ce141	- - - - 1.025E-01	5.539E-06	- - - - - - - - -	5.539E+00	100.00
Ce144	- - - - 3.009E-01	1.626E-05	- - - - - - - - -	1.626E+01	100.00
Pb210	- - - - 4.791E+00	2.590E-04	- - - - - - - - -	2.590E+02	100.00
Pb212	- - - - 2.003E-01	1.083E-05	- - - - - - - - -	1.083E+01	100.00

Unable to compute upper limit for Ac228 , Tdecay > 20*T1/2.

U235	- - - - 1.788E-01	9.665E-06	- - - - - - - - -	9.665E+00	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	60.19	1.0907E-01	57.8	0.0000000
2	76.11	2.5575E-01	22.1	0.0000000
3	79.41	1.8117E-01	28.2	0.0000000
4	94.59	1.1102E-01	32.1	0.0000000
5	141.19	4.5824E-02	60.4	0.0000000
7	239.97	6.0704E-02	48.0	0.0000000
9	474.64	7.7846E-02	29.8	0.0000000
10	511.49	6.1274E-01	7.3	1.4280301E-04
12	595.97	6.8984E-02	60.6	0.0000000
15	671.39	4.3966E-02	100.0	2.9702289E-11

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16	779.32	5.0725E-02	100.0	0.0000000
17	847.05	5.6123E-02	100.0	0.0000000
18	910.99	5.5738E-02	100.0	0.0000000
19	968.88	5.9814E-02	100.0	0.0000000
20	1000.04	6.0450E-02	100.0	0.0000000
21	1120.64	6.3604E-02	100.0	2.9619372E-02
24	1377.50	6.8332E-02	100.0	1.1268110E-13
25	1412.35	6.4392E-02	100.0	0.0000000
27	1695.96	6.5345E-02	100.0	0.0000000
28	1764.78	7.0563E-02	100.0	1.7504282E-02
29	1767.64	7.0973E-02	100.0	0.0000000
30	1824.81	7.1615E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

9 2 1 2 . . 9 1 . . 7

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:19:01)

Analysis performed by: E. A. LEPEL

Sample: 54529-16-A 92-02724-L-1
Weight: 0.50000 L

Irradiation date: 19-Sep-1991 at 10:49:00

Count date: 10-Feb-1992 at 16:52:00

Decay: 145.3d (12549780. seconds)

Count times: REAL TIME 24.96h (89868.000 seconds)
LIVE TIME 24.96h (89855.000 seconds)

Dead time: 0.01 percent

Detector: K pos ⊕ 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: vo:[116,2]effmarna. K

Spectrum from file : 5452916A.K;1

Background subtractions from file: vo:[116,1]Backg. K

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EA Lepel

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	65.9	65.	69.	2373.	119.	66.10	1.388E-01	57.3	0.
2	74.1	73.	77.	2324.	153.*	74.29	6.056E-02	100.0	195.
3	92.1	91.	93.	1450.	215.*	92.32	4.197E-02	100.0	176.
4	139.0	137.	141.	2076.	179.	139.21	7.960E-02	35.1	0.
5	184.6	183.	186.	1404.	153.*	184.79	3.077E-02	100.0	167.
6	238.0	236.	240.	1294.	233.*	238.20	3.309E-02	100.0	261.
7	293.9	293.	295.	557.	85.*	294.15	3.671E-02	100.0	58.
8	336.9	336.	338.	458.	65.*	337.19	3.954E-02	100.0	20.
9	350.8	350.	353.	687.	226.*	351.08	7.512E-02	100.0	132.
10	468.1	468.	470.	264.	34.	468.32	4.563E-02	100.0	0.
11	509.5	506.	514.	1209.	658.*	509.76	7.007E-02	100.0	595.
12	581.9	581.	583.	235.	67.*	582.17	5.157E-02	100.0	54.
13	594.7	593.	596.	282.	71.*	594.94	5.136E-02	100.0	32.
14	608.0	604.	609.	581.	278.*	608.25	2.276E-01	44.7	106.
15	715.0	715.	715.	57.	18.	715.29	5.656E-02	100.0	0.
16	726.0	726.	726.	63.	26.*	726.29	5.576E-02	100.0	15.
17	794.0	794.	796.	126.	24.	794.33	6.034E-02	100.0	0.
18	845.5	844.	848.	208.	57.*	845.79	6.183E-02	100.0	72.
19	967.9	966.	969.	120.	31.*	968.25	6.614E-02	100.0	30.
20	1000.2	999.	1001.	97.	32.*	1000.49	6.530E-02	100.0	14.
21	1119.2	1118.	1121.	130.	63.*	1119.57	7.899E-02	70.3	29.
22	1328.0	1328.	1328.	28.	14.	1328.35	7.878E-02	100.0	0.
23	1338.0	1338.	1338.	23.	10.	1338.35	7.654E-02	100.0	0.
24	1340.3	1340.	1343.	76.	24.	1340.62	7.541E-02	100.0	0.

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25	1460.4	1458.	1464.	404.	328.*	1460.75	1.434E-01	100.0	200.
26	1536.0	1536.	1536.	16.	8.	1536.38	7.339E-02	100.0	0.
27	1764.1	1762.	1767.	101.	66.*	1764.52	9.161E-02	100.0	40.
28	1775.8	1775.	1776.	25.	13.	1776.19	7.727E-02	100.0	0.
29	1974.0	1974.	1974.	14.	8.	1974.42	8.651E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Sc 46 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	1.367E+00	7.390E-05	- - - - - - - - - -			7.390E+01	100.00
	1460.75	1.367E+00	7.390E-05	1.00	100.00	0.00		
2 Tl208	- - - -	6.477E-02	3.501E-06	- - - - - - - - - -			3.501E+00	100.01
	582.17	6.477E-02	3.501E-06	1.00	100.00	0.00		
3 Bi214	- - - -	5.537E-01	2.993E-05	- - - - - - - - - -			2.993E+01	57.60
	1119.57	5.353E-01	2.893E-05	1.03	70.31	-1.40		
	1764.52	6.008E-01	3.248E-05	0.92	100.00	2.24		
4 Pb212	- - - -	8.871E-02	4.795E-06	- - - - - - - - - -			4.795E+00	100.01
	238.20	8.871E-02	4.795E-06	1.00	100.00	0.00		
5 Ac228	- - - -	4.257E-01	2.301E-05	- - - - - - - - - -			2.301E+01	100.00
	968.25	4.257E-01	2.301E-05	1.00	100.00	0.00		
6 U238	- - - -	1.107E+01	5.983E-04	- - - - - - - - - -			5.983E+02	100.00
	1000.48	1.107E+01	5.983E-04	1.00	100.00	0.00		

The following are upper limit values:

Be 7	- - - -	2.821E+00	1.525E-04	- - - - - - - - -			1.525E+02	100.00
Sc 46	- - - -	2.272E-01	1.228E-05	- - - - - - - - -			1.228E+01	100.00
Cr 51	- - - -	1.386E+01	7.490E-04	- - - - - - - - -			7.490E+02	100.00

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Mn 54  - - - - 8.224E-02   4.445E-06  - - - - - - - - -  4.445E+00 100.00
Fe 59  - - - - 1.545E+00   8.352E-05  - - - - - - - - -  8.352E+01 100.00
Co 58  - - - - 2.479E-01   1.340E-05  - - - - - - - - -  1.340E+01 100.00
Co 60  - - - - 9.103E-02   4.921E-06  - - - - - - - - -  4.921E+00 100.00
Zn 65  - - - - 2.182E-01   1.180E-05  - - - - - - - - -  1.180E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
Zr 95  - - - - 5.476E-01   2.960E-05  - - - - - - - - -  2.960E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
Nb 94  - - - - 5.778E-02   3.123E-06  - - - - - - - - -  3.123E+00 100.00
Nb 95  - - - - 1.076E+00   5.814E-05  - - - - - - - - -  5.814E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
Ru103  - - - - 1.379E+00   7.452E-05  - - - - - - - - -  7.452E+01 100.00
Ru106  - - - - 1.563E+00   8.449E-05  - - - - - - - - -  8.449E+01 100.00
Ag110m - - - - 3.272E-01   1.769E-05  - - - - - - - - -  1.769E+01 100.00
Sn113  - - - - 2.253E-01   1.218E-05  - - - - - - - - -  1.218E+01 100.00
Sn125  - - - - 6.109E+04   3.302E+00  - - - - - - - - -  3.302E+06 100.00
Sn117m - - - - 9.450E+01   5.108E-03  - - - - - - - - -  5.108E+03 100.00
Sb124  - - - - 8.269E-01   4.470E-05  - - - - - - - - -  4.470E+01 100.00
Sb125  - - - - 5.028E-01   2.718E-05  - - - - - - - - -  2.718E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
Te129m - - - - 4.910E+01   2.654E-03  - - - - - - - - -  2.654E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
I131   - - - - 9.551E+04   5.163E+00  - - - - - - - - -  5.163E+06 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
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027

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.497E-01	2.431E-05	- - - - - - - - -	2.431E+01	100.00
Cs136	- - - - 2.638E+02	1.426E-02	- - - - - - - - -	1.426E+04	100.00
Cs137	- - - - 6.284E-02	3.397E-06	- - - - - - - - -	3.397E+00	100.00
Ba140	- - - - 1.189E+03	6.428E-02	- - - - - - - - -	6.428E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.369E+00	7.401E-05	- - - - - - - - -	7.401E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.025E-01	2.176E-05	- - - - - - - - -	2.176E+01	100.00
Eu154	- - - - 5.810E-01	3.140E-05	- - - - - - - - -	3.140E+01	100.00
Eu155	- - - - 1.609E-01	8.695E-06	- - - - - - - - -	8.695E+00	100.00
Hf175	- - - - 1.901E-01	1.027E-05	- - - - - - - - -	1.027E+01	100.00
Hf181	- - - - 8.305E-01	4.489E-05	- - - - - - - - -	4.489E+01	100.00
Ta182	- - - - 8.613E-01	4.656E-05	- - - - - - - - -	4.656E+01	100.00
Pb210	- - - - 3.833E+02	2.072E-02	- - - - - - - - -	2.072E+04	100.00
Pb214	- - - - 1.546E-01	8.355E-06	- - - - - - - - -	8.355E+00	100.00
Ra226	- - - - 8.667E-01	4.685E-05	- - - - - - - - -	4.685E+01	100.00
U235	- - - - 1.710E-01	9.245E-06	- - - - - - - - -	9.245E+00	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.822E-01	1.525E-05	- - - - - - - - -	1.525E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	66.10	1.3862E-01	57.3	0.0000000
2	74.29	6.0557E-02	100.0	0.0000000
3	92.32	4.1973E-02	100.0	0.0000000
4	139.21	7.9003E-02	35.1	0.0000000
5	184.79	3.0765E-02	100.0	0.4230946
7	254.15	3.6707E-02	100.0	0.4147424
8	337.19	3.9543E-02	100.0	0.3833010
9	351.08	7.5122E-02	100.0	0.5629562
10	488.22	4.5073E-02	100.0	0.0000000
11	509.76	7.0065E-02	100.0	5.1936905E-04

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13	594.94	5.1355E-02	100.0	0.0000000
14	608.25	2.2755E-01	44.7	0.5683277
15	715.29	5.6563E-02	100.0	0.0000000
16	726.29	5.5756E-02	100.0	0.0000000
17	794.33	6.0340E-02	100.0	0.4571054
18	845.79	6.1626E-02	100.0	0.0000000
22	1328.35	7.8775E-02	100.0	0.0000000
23	1336.35	7.6538E-02	100.0	0.0000000
24	1340.62	7.5406E-02	100.0	0.0000000
26	1536.38	7.3393E-02	100.0	0.0000000
28	1776.19	7.7274E-02	100.0	0.0000000
29	1974.42	8.6515E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

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020

9 2 1 2 0 0 0 0 2

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:52:11)

Analysis performed by: E. A. LEPEL

Sample: 54529-17-A 92-02725-L-1
Weight: 0.50000 L

Irradiation date: 19-Sep-1991 at 12:22:00

Count date: 11-Feb-1992 at 17:54:00

Decay: 146.2d (12634320. seconds)

Count times: REAL TIME 22.98h (82716.000 seconds)
LIVE TIME 22.97h (82703.000 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452917a.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bkgd
1	53.1	51.	55.	2404.	134.*	53.90	1.605E-01	99.1	56.
2	74.2	74.	76.	1299.	127.*	75.06	6.128E-02	100.0	179.
3	91.9	91.	94.	1681.	156.*	92.73	4.368E-02	100.0	162.
4	139.0	138.	140.	1200.	120.	139.80	5.789E-02	39.7	0.
5	185.1	184.	187.	1285.	113.*	185.83	3.252E-02	100.0	153.
6	237.9	237.	241.	1333.	236.*	238.60	3.665E-02	100.0	241.
7	293.9	292.	295.	683.	105.*	294.63	3.832E-02	100.0	53.
8	350.9	350.	352.	476.	138.*	351.54	4.200E-02	100.0	122.
9	509.3	504.	514.	1295.	652.*	509.90	1.276E-01	100.0	548.
10	581.5	578.	583.	366.	85.*	582.01	5.119E-02	100.0	49.
11	594.1	594.	598.	275.	38.*	594.65	5.303E-02	100.0	30.
12	608.0	606.	611.	474.	191.*	608.53	1.350E-01	72.8	98.
13	613.0	613.	613.	67.	20.	613.52	5.493E-02	100.0	0.
14	846.0	845.	847.	127.	42.*	846.39	6.511E-02	100.0	66.
15	909.9	909.	911.	127.	55.*	910.29	6.610E-02	100.0	47.
16	1119.2	1116.	1122.	197.	71.*	1119.47	1.124E-01	55.1	26.
17	1332.1	1332.	1334.	51.	15.*	1332.18	7.887E-02	100.0	23.
18	1460.7	1458.	1464.	405.	337.*	1460.75	2.543E-01	100.0	257.
19	1764.0	1762.	1766.	82.	53.*	1763.86	8.157E-02	100.0	37.
20	1925.0	1925.	1925.	12.	6.	1924.76	9.202E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for

3/26/92
EA Lepel

D02-095

system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]rTOBACO.dat
Ra226 at 185.83 Kev is ambiguously assigned; component has been removed.
U235 at 185.83 Kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	2.424E+00	1.310E-04	- - - - - - - - -			1.310E+02	100.00
	1460.75	2.424E+00	1.310E-04	1.00	100.00	0.00		
2 Co 60	- - - -	8.316E-02	4.495E-06	- - - - - - - - -			4.495E+00	100.00
	1332.18	8.316E-02	4.495E-06	1.00	100.00	0.00		
3 Pb212	- - - -	8.700E-02	4.703E-06	- - - - - - - - -			4.703E+00	100.00
	238.60	8.700E-02	4.703E-06	1.00	100.00	0.00		
4 Pb214	- - - -	1.204E-01	6.507E-06	- - - - - - - - -			6.507E+00	100.00
	351.54	1.204E-01	6.507E-06	1.00	100.00	0.00		
5 Bi214	- - - -	3.599E-01	1.945E-05	- - - - - - - - -			1.945E+01	60.63
	608.53	3.237E-01	1.750E-05	1.11	72.03	-0.38		
	1763.86	5.762E-01	3.115E-05	0.62	100.00	0.92		

The following are upper limit values:

Be 7	- - - -	3.156E+00	1.706E-04	- - - - - - - - -			1.706E+02	100.00
Mn 54	- - - -	9.347E-02	5.052E-06	- - - - - - - - -			5.052E+00	100.00
Co 58	- - - -	2.738E-01	1.480E-05	- - - - - - - - -			1.480E+01	100.00
Zr 95	- - - -	6.229E-01	3.367E-05	- - - - - - - - -			3.367E+01	100.00
Nb 94	- - - -	6.254E-02	3.381E-06	- - - - - - - - -			3.381E+00	100.00
Nb 95	- - - -	1.140E+00	6.161E-05	- - - - - - - - -			6.161E+01	100.00
Ru103	- - - -	1.483E+00	8.015E-05	- - - - - - - - -			8.015E+01	100.00
Ru106	- - - -	1.603E+00	8.663E-05	- - - - - - - - -			8.663E+01	100.00
Ag110m	- - - -	3.499E-01	1.892E-05	- - - - - - - - -			1.892E+01	100.00

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Sb125	- - - -	5.275E-01	2.851E-05	- - - - - - - - -	2.851E+01	100.00
I131	- - - -	1.031E+05	5.573E+00	- - - - - - - - -	5.573E+06	100.00
Cs134	- - - -	4.386E-01	2.371E-05	- - - - - - - - -	2.371E+01	100.00
Cs136	- - - -	3.285E+02	1.776E-02	- - - - - - - - -	1.776E+04	100.00
Cs137	- - - -	6.574E-02	3.553E-06	- - - - - - - - -	3.553E+00	100.00
Ba140	- - - -	1.268E+03	6.853E-02	- - - - - - - - -	6.853E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	1.503E+00	8.124E-05	- - - - - - - - -	8.124E+01	100.00
Ce144	- - - -	4.197E-01	2.268E-05	- - - - - - - - -	2.268E+01	100.00
Tl208	- - - -	8.043E-02	4.348E-06	- - - - - - - - -	4.348E+00	100.00
Pb210	- - - -	5.030E+00	2.719E-04	- - - - - - - - -	2.719E+02	100.00
Ra226	- - - -	8.438E-01	4.561E-05	- - - - - - - - -	4.561E+01	100.00

Unable to compute upper limit for Ac228 , Tdecay > 20*T1/2.

U235	- - - -	1.739E-01	9.402E-06	- - - - - - - - -	9.402E+00	100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	53.90	1.6054E-01	99.1	0.0000000
2	75.06	6.1283E-02	100.0	0.0000000
3	92.73	4.3679E-02	100.0	0.0000000
4	139.60	5.7888E-02	39.7	0.0000000
7	294.63	3.8324E-02	100.0	0.5890664
9	509.90	1.2756E-01	101.0	5.4692960E-08
10	582.01	5.1194E-02	100.0	0.5371424
11	594.65	5.3831E-02	100.0	0.0000000
13	613.52	5.4925E-02	100.0	0.0000000
14	846.39	6.5109E-02	100.0	0.0000000
15	910.29	6.6105E-02	100.0	0.0000000
16	1119.47	1.1248E-01	55.1	0.2264810
20	1524.76	9.2024E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

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Options - in - Effect

CALIBRATE	
PRINT	SY:lpk.lst
LIBRARY	ve:[116,3]rTOBACO.dat
INDIRECT	SY:ray.k
UPPER←LIMIT	
USER←NAME	E. A. LEPEL
ACTIVITY	
UNITS	pCi/L 1.0e+6
OPTION←LIST	

D02-098

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:19:32)

Analysis performed by: E. A. LEPEL

Sample: 54529-18-A 92-02726-L-1
Weight: 0.50000 L

Irradiation date: 19-Sep-1991 at 9:35:00

Count date: 12-Feb-1992 at 16:56:00

Decay: 147.3d (12727260. seconds)

Count times: REAL TIME 21.82h (78540.000 seconds)
LIVE TIME 21.81h (78529.000 seconds)

Dead time: 0.01 percent

Detector: K pos 0 Geometry Factor: 1.000

3/26/92
E.A. Lepel

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452918A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	91.6	90.	93.	1599.	158.*	92.36	4.492E-02	100.0	154.
2	184.9	184.	186.	955.	114.*	185.57	3.347E-02	100.0	146.
3	237.5	236.	240.	1134.	143.*	238.20	3.661E-02	100.0	228.
4	350.4	350.	355.	765.	155.*	350.99	4.193E-02	100.0	116.
5	509.4	505.	513.	1020.	526.*	509.89	4.928E-02	100.0	520.
6	534.2	534.	535.	132.	34.	534.68	4.943E-02	100.0	0.
7	582.0	580.	584.	319.	97.*	582.44	7.286E-02	74.7	47.
8	595.1	592.	598.	413.	92.*	595.59	9.463E-02	50.7	28.
9	608.0	607.	610.	291.	117.*	608.52	5.510E-02	100.0	93.
10	845.7	842.	849.	285.	70.*	846.62	6.679E-02	100.0	63.
11	910.5	909.	913.	169.	52.*	910.86	6.883E-02	100.0	44.
12	961.1	960.	965.	155.	43.	961.45	9.944E-02	37.9	0.
13	968.6	967.	970.	124.	49.*	968.89	6.698E-02	100.0	26.
14	1119.2	1117.	1123.	183.	54.*	1119.39	8.054E-02	100.0	25.
15	1288.2	1288.	1289.	49.	16.	1288.32	7.971E-02	100.0	0.
16	1459.7	1456.	1463.	393.	307.*	1460.75	2.124E-01	100.0	244.
17	1764.5	1762.	1766.	75.	42.*	1764.44	9.139E-02	100.0	35.
18	1889.9	1890.	1893.	32.	12.	1890.80	8.759E-02	100.0	0.
19	1978.1	1978.	1979.	24.	13.	1977.91	9.648E-02	100.0	0.
20	2031.0	2031.	2031.	11.	6.	2030.81	9.387E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for

D02-099

022

system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.57 kev is ambiguously assigned: component has been removed.
U235 at 185.57 kev is ambiguously assigned: component has been removed.
Matrix is singular in MLR:
an element of w is zero
Pb214 is being removed from the component set due to a matrix singularity.
Sc 46 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	2.025E+00	1.095E-04	- - - - - - - - -			1.095E+02	100.01
	1460.75	2.025E+00	1.095E-04	1.00	100.00	0.00		
2 Tl208	- - - -	9.157E-02	4.950E-06	- - - - - - - - -			4.950E+00	74.75
	582.44	9.157E-02	4.950E-06	1.00	74.75	0.00		
3 Bi214	- - - -	1.430E-01	7.732E-06	- - - - - - - - -			7.732E+00	83.69
	609.52	1.227E-01	6.632E-06	1.17	100.00	-0.36		
	1119.39	5.457E-01	2.950E-05	0.26	100.00	1.62		
4 Pb212	- - - -	9.835E-02	5.316E-06	- - - - - - - - -			5.316E+00	100.00
	238.20	9.835E-02	5.316E-06	1.00	100.00	0.00		
5 Ac228	- - - -	3.176E-01	1.717E-05	- - - - - - - - -			1.717E+01	72.50
	910.86	2.723E-01	1.472E-05	1.17	100.00	-0.36		
	968.89	4.314E-01	2.332E-05	0.74	100.00	0.58		

The following are upper limit values:

Be 7	- - - -	3.192E+00	1.726E-04	- - - - - - - - -			1.726E+02	100.00
Sc 46	- - - -	2.510E-01	1.357E-05	- - - - - - - - -			1.357E+01	100.00
Cr 51	- - - -	1.636E+01	8.853E-04	- - - - - - - - -			8.853E+02	100.00
Mn 54	- - - -	9.577E-02	5.177E-06	- - - - - - - - -			5.177E+00	100.00
Fe 59	- - - -	1.592E+00	8.606E-05	- - - - - - - - -			8.606E+01	100.00
Co 58	- - - -	2.734E-01	1.478E-05	- - - - - - - - -			1.478E+01	100.00

Cs137	- - - - 6.818E-02	3.685E-06	- - - - - - - - -	3.685E+00	100.00
Ba140	- - - - 1.413E+03	7.638E-02	- - - - - - - - -	7.638E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.531E+00	8.274E-05	- - - - - - - - -	8.274E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.324E-01	2.337E-05	- - - - - - - - -	2.337E+01	100.00
Eu154	- - - - 5.402E-01	2.920E-05	- - - - - - - - -	2.920E+01	100.00
Eu155	- - - - 1.709E-01	9.235E-06	- - - - - - - - -	9.235E+00	100.00
Hf175	- - - - 2.164E-01	1.170E-05	- - - - - - - - -	1.170E+01	100.00
Hf181	- - - - 9.164E-01	4.953E-05	- - - - - - - - -	4.953E+01	100.00
Ta182	- - - - 1.027E+00	5.551E-05	- - - - - - - - -	5.551E+01	100.00
Pb210	- - - - 4.064E+02	2.197E-02	- - - - - - - - -	2.197E+04	100.00
Pb214	- - - - 1.671E-01	9.033E-06	- - - - - - - - -	9.033E+00	100.00
Ra226	- - - - 8.835E-01	4.776E-05	- - - - - - - - -	4.776E+01	100.00
U235	- - - - 1.813E-01	9.799E-06	- - - - - - - - -	9.799E+00	100.00
U238	- - - - 1.690E+01	9.136E-04	- - - - - - - - -	9.136E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 3.024E-01	1.635E-05	- - - - - - - - -	1.635E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	92.36	4.4922E-02	100.0	0.0000000
4	350.99	4.1933E-02	100.0	0.4992211
5	509.89	4.9275E-02	100.0	0.1392019
6	534.69	4.9431E-02	100.0	0.0000000
8	595.59	9.4929E-02	50.7	0.0000000
10	846.02	6.6787E-02	100.0	0.0000000
12	961.45	9.9439E-02	37.9	0.0000000
15	1288.32	7.9707E-02	100.0	0.0000000
17	1764.44	9.1366E-02	100.0	3.4398299E-03
18	1850.03	8.7590E-02	100.0	0.0000000
19	1977.91	9.6477E-02	100.0	0.0000000
20	2030.81	9.3873E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure

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CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-103

9 2 1 2 9 1 7 1 0

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:35:34)

Analysis performed by: E. A. LEPEL

Sample: 54529-19-A 92-02727-L-1
Weight: 0.50000 L

Irradiation date: 19-Sep-1991 at 8:00:00

Count date: 12-Feb-1992 at 15:48:00

Decay: 147.3d (12728880. seconds)

Count times: REAL TIME 3.73d (322560.00 seconds)
LIVE TIME 3.73d (322510.00 seconds)

Dead time: 0.02 percent

Detector: K pos * 0 Geometry Factor: 1.000

3/26/92
E A Lepel

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452919A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	52.9	52.	56.	8998.	366.*	54.20	7.673E-02	100.0	219.
2	92.0	90.	95.	9320.	912.*	93.29	4.844E-02	100.0	631.
3	171.0	171.	171.	1262.	111.	172.25	1.571E-02	100.0	0.
4	184.9	184.	186.	3941.	655.*	186.15	1.614E-02	100.0	599.
5	197.2	197.	198.	2386.	292.*	198.48	1.666E-02	100.0	200.
6	237.4	233.	240.	7200.	608.*	238.60	1.820E-02	100.0	938.
7	350.7	349.	352.	2118.	467.*	351.88	2.060E-02	100.0	475.
8	509.6	506.	514.	4145.	1981.*	510.60	2.507E-02	100.0	2137.
9	582.0	581.	583.	829.	226.*	582.96	2.717E-02	100.0	193.
10	594.7	594.	596.	759.	187.*	595.65	2.721E-02	100.0	115.
11	607.9	605.	610.	1600.	576.*	608.85	7.217E-02	100.0	381.
12	725.8	724.	729.	925.	135.*	726.71	3.549E-02	96.4	53.
13	834.0	833.	835.	389.	54.	834.79	3.232E-02	100.0	0.
14	845.3	843.	847.	771.	250.*	846.07	3.180E-02	100.0	257.
15	867.0	866.	870.	621.	85.	867.77	4.350E-02	40.0	0.
16	909.6	908.	911.	571.	167.*	910.40	3.449E-02	100.0	182.
17	967.7	964.	968.	540.	114.*	968.48	3.440E-02	100.0	106.
18	1000.0	998.	1002.	466.	81.*	1000.70	3.417E-02	100.0	50.
19	1119.6	1117.	1123.	648.	146.*	1120.27	3.834E-02	100.0	102.
20	1171.6	1170.	1176.	568.	110.*	1172.18	3.893E-02	100.0	99.
21	1237.0	1235.	1239.	362.	76.*	1237.60	3.915E-02	100.0	65.
22	1331.8	1328.	1333.	389.	121.*	1332.29	3.830E-02	100.0	90.
23	1377.0	1375.	1378.	223.	46.*	1377.44	3.984E-02	100.0	47.
24	1460.3	1454.	1467.	1891.	1370.*	1460.75	3.013E-01	100.0	1004.

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25	1508.6	1506.	1509.	179.	67.*	1508.96	3.604E-02	100.0	33.
26	1526.6	1525.	1527.	121.	34.	1526.99	3.727E-02	100.0	0.
27	1551.0	1551.	1551.	47.	16.	1551.35	3.946E-02	100.0	0.
28	1592.1	1587.	1594.	342.	66.*	1592.43	4.288E-02	100.0	44.
29	1764.7	1761.	1767.	339.	170.*	1764.92	4.137E-02	100.0	144.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 186.15 Kev is ambiguously assigned; component has been removed.
U235 at 186.15 Kev is ambiguously assigned; component has been removed.
Sc 46 at1120.27 Kev is ambiguously assigned; component has been removed.
Ta182 at1120.27 Kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	2.872E+00	1.552E-04	- - - - - - - - -			1.552E+02	100.00
	1460.75	2.872E+00	1.552E-04	1.00	100.00	0.00		
2 Mn 54	- - - -	4.503E-02	2.434E-06	- - - - - - - - -			2.434E+00	100.00
	834.79	4.503E-02	2.434E-06	1.00	100.00	0.00		
3 Co 60	- - - -	4.077E-02	2.204E-06	- - - - - - - - -			2.204E+00	70.72
	1172.18	4.114E-02	2.224E-06	0.99	100.00	0.03		
	1332.29	4.042E-02	2.185E-06	1.01	100.00	-0.03		
4 Tl208	- - - -	3.417E-02	1.847E-06	- - - - - - - - -			1.847E+00	100.00
	582.96	3.417E-02	1.847E-06	1.00	100.00	0.00		
5 Bi214	- - - -	2.050E-01	1.108E-05	- - - - - - - - -			1.108E+01	59.56
	608.85	1.607E-01	8.686E-06	1.28	100.00	-0.91		
	1120.27	2.598E-01	1.404E-05	0.79	100.00	0.70		
	1764.92	2.714E-01	1.467E-05	0.76	100.00	0.81		
6 Pb212	- - - -	4.895E-02	2.646E-06	- - - - - - - - -			2.646E+00	100.00
	238.60	4.895E-02	2.646E-06	1.00	100.00	0.00		
7 Pb214	- - - -	5.592E-02	3.023E-06	- - - - - - - - -			3.023E+00	100.00

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```
   Sb125  - - - - 2.669E-01   1.443E-05  - - - - - - - - -  1.443E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 2.701E+01   1.460E-03   - - - - - - - - -  1.460E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
    I131  - - - - 6.575E+04   3.554E+00   - - - - - - - - -  3.554E+06 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
   Cs134  - - - - 2.283E-01   1.234E-05   - - - - - - - - -  1.234E+01 100.00
   Cs136  - - - - 1.775E+02   9.594E-03   - - - - - - - - -  9.594E+03 100.00
   Cs137  - - - - 3.348E-02   1.810E-06   - - - - - - - - -  1.810E+00 100.00
   Ba140  - - - - 7.039E+02   3.805E-02   - - - - - - - - -  3.805E+04 100.00
Unable to compute upper limit for La140 ,  Tdecay > 20*T1/2.
   Ce141  - - - - 7.875E-01   4.257E-05   - - - - - - - - -  4.257E+01 100.00
Unable to compute upper limit for Ce143 ,  Tdecay > 20*T1/2.
   Ce144  - - - - 2.142E-01   1.158E-05   - - - - - - - - -  1.158E+01 100.00
   Eu154  - - - - 2.838E-01   1.534E-05   - - - - - - - - -  1.534E+01 100.00
   Eu155  - - - - 8.420E-02   4.551E-06   - - - - - - - - -  4.551E+00 100.00
   Hf175  - - - - 1.046E-01   5.654E-06   - - - - - - - - -  5.654E+00 100.00
   Hf181  - - - - 4.631E-01   2.503E-05   - - - - - - - - -  2.503E+01 100.00
   Ta182  - - - - 4.382E-01   2.369E-05   - - - - - - - - -  2.369E+01 100.00
   Pb210  - - - - 1.977E+02   1.068E-02   - - - - - - - - -  1.068E+04 100.00
   Ra226  - - - - 4.283E-01   2.315E-05   - - - - - - - - -  2.315E+01 100.00
    U235  - - - - 8.712E-02   4.709E-06   - - - - - - - - -  4.709E+00 100.00
Unable to compute upper limit for Np239 ,  Tdecay > 20*T1/2.
   Am241  - - - - 1.491E-01   8.007E-06   - - - - - - - - -  8.007E+00 100.00
```

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The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	54.20	7.6731E-02	100.0	0.0000000
2	93.29	4.8435E-02	100.0	0.0000000
3	172.25	1.5713E-02	100.0	0.0000000
5	198.48	1.6664E-02	100.0	0.0000000
8	510.60	2.5070E-02	100.0	0.4391077
10	595.65	2.7211E-02	100.0	0.0000000
12	726.71	3.5493E-02	96.4	0.0000000
14	846.07	3.1797E-02	100.0	0.0000000
15	867.77	4.3498E-02	40.0	1.0766684E-14
21	1237.60	3.9147E-02	100.0	4.4569811E-03
23	1377.44	3.9844E-02	100.0	6.5541772E-06
25	1568.56	3.6044E-02	100.0	1.0072648E-12
26	1526.99	3.7273E-02	100.0	0.0000000
27	1551.35	3.9459E-02	100.0	0.0000000
28	1592.43	4.2879E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-107

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:36:00)

Analysis performed by: E. A. LEPEL

Sample: 54529-20-A 92 02736-L-1
Weight: 0.50000 L

Irradiation date: 30-Sep-1991 at 10:05:00

Count date: 17-Feb-1992 at 9:31:00

Decay: 141.0d (12180360. seconds)

Count times: REAL TIME 31.23h (112416.00 seconds)
LIVE TIME 31.22h (112400.00 seconds)

Dead time: 0.01 percent

Detector: K pos 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452920A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	92.1	89.	93.	2753.	244.*	92.91	3.677E-02	100.0	220.
2	138.8	137.	139.	1566.	107.	139.53	3.785E-02	51.5	0.
3	184.8	182.	187.	2425.	211.*	185.54	2.680E-02	100.0	209.
4	197.7	195.	200.	2337.	324.*	198.44	9.753E-02	33.0	70.
5	237.9	233.	239.	2228.	292.*	238.60	3.026E-02	100.0	327.
6	351.1	349.	352.	660.	91.*	351.84	3.471E-02	100.0	165.
7	509.8	506.	514.	1445.	699.*	510.52	4.230E-02	100.0	745.
8	581.9	581.	585.	405.	90.*	582.60	4.372E-02	100.0	67.
9	594.4	591.	595.	498.	93.*	595.03	5.456E-02	76.5	40.
10	608.3	604.	609.	492.	126.*	608.95	4.554E-02	100.0	133.
11	659.8	659.	660.	132.	33.*	660.49	4.567E-02	100.0	19.
12	845.4	844.	849.	323.	94.*	846.83	5.548E-02	100.0	90.
13	910.3	908.	911.	216.	82.*	910.88	5.725E-02	100.0	63.
14	1237.2	1236.	1239.	121.	34.*	1237.71	6.989E-02	100.0	23.
15	1436.8	1434.	1437.	71.	19.	1437.38	6.653E-02	100.0	0.
16	1460.3	1458.	1463.	542.	455.*	1460.75	2.474E-01	100.0	350.
17	1534.0	1534.	1534.	22.	10.	1534.43	6.870E-02	100.0	0.
18	1845.1	1845.	1849.	62.	19.	1845.49	7.643E-02	100.0	0.
19	1883.0	1883.	1884.	24.	9.	1883.39	7.400E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

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Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.54 kev is ambiguously assigned; component has been removed.
U235 at 185.54 kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	2.358E+00	1.275E-04	- - - - - - - - -			1.275E+02	100.00
	1460.75	2.358E+00	1.275E-04	1.00	100.00	0.00		
2 Tl208	- - - -	5.483E-02	2.964E-06	- - - - - - - - -			2.964E+00	100.00
	582.60	5.483E-02	2.964E-06	1.00	100.00	0.00		
3 Bi214	- - - -	1.014E-01	5.481E-06	- - - - - - - - -			5.481E+00	100.00
	608.95	1.014E-01	5.481E-06	1.00	100.00	0.00		
4 Pb212	- - - -	8.079E-02	4.367E-06	- - - - - - - - -			4.367E+00	100.00
	238.60	8.079E-02	4.367E-06	1.00	100.00	0.00		
5 Pb214	- - - -	9.422E-02	5.093E-06	- - - - - - - - -			5.093E+00	100.00
	351.84	9.422E-02	5.093E-06	1.00	100.00	0.00		
6 Ac228	- - - -	2.260E-01	1.222E-05	- - - - - - - - -			1.222E+01	100.00
	910.88	2.260E-01	1.222E-05	1.00	100.00	0.00		

The following are upper limit values:

Be 7	- - - -	2.448E+00	1.323E-04	- - - - - - - - -			1.323E+02	100.00
Sc 46	- - - -	2.056E-01	1.111E-05	- - - - - - - - -			1.111E+01	100.00
Cr 51	- - - -	1.113E+01	6.015E-04	- - - - - - - - -			6.015E+02	100.00
Mn 54	- - - -	7.248E-02	3.918E-06	- - - - - - - - -			3.918E+00	100.00
Fe 59	- - - -	1.324E+00	7.155E-05	- - - - - - - - -			7.155E+01	100.00
Co 58	- - - -	2.201E-01	1.190E-05	- - - - - - - - -			1.190E+01	100.00
Co 60	- - - -	7.911E-02	4.276E-06	- - - - - - - - -			4.276E+00	100.00
Zn 65	- - - -	1.766E-01	9.546E-06	- - - - - - - - -			9.546E+00	100.00

D02-109

9 2 1 2 5 9 0 7 0 5

```
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 4.815E-01   2.603E-05   - - - - - - - - -  2.603E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 5.239E-02   2.832E-06   - - - - - - - - -  2.832E+00 100.00
   Nb 95  - - - - 9.021E-01   4.876E-05   - - - - - - - - -  4.876E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 1.277E+00   6.904E-05   - - - - - - - - -  6.904E+01 100.00
   Ru106  - - - - 1.024E+00   5.538E-05   - - - - - - - - -  5.538E+01 100.00
   Ag110m - - - - 2.842E-01   1.536E-05   - - - - - - - - -  1.536E+01 100.00
   Sn113  - - - - 1.908E-01   1.031E-05   - - - - - - - - -  1.031E+01 100.00
   Sn125  - - - - 3.978E+04   2.150E+00   - - - - - - - - -  2.150E+06 100.00
   Sn117m - - - - 6.825E+01   3.689E-03   - - - - - - - - -  3.689E+03 100.00
   Sb124  - - - - 6.870E-01   3.714E-05   - - - - - - - - -  3.714E+01 100.00
   Sb125  - - - - 4.510E-01   2.438E-05   - - - - - - - - -  2.438E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 3.749E+01   2.027E-03   - - - - - - - - -  2.027E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
    I131  - - - - 5.697E+04   3.079E+00   - - - - - - - - -  3.079E+06 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
   Cs134  - - - - 3.539E-01   1.913E-05   - - - - - - - - -  1.913E+01 100.00
   Cs136  - - - - 1.956E+02   1.058E-02   - - - - - - - - -  1.058E+04 100.00
   Cs137  - - - - 5.513E-02   2.980E-06   - - - - - - - - -  2.980E+00 100.00
   Ba140  - - - - 7.897E+02   4.269E-02   - - - - - - - - -  4.269E+04 100.00
```

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Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.141E+00	6.166E-05	- - - - - - - - -	6.166E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 3.535E-01	1.911E-05	- - - - - - - - -	1.911E+01	100.00
Eu154	- - - - 4.926E-01	2.663E-05	- - - - - - - - -	2.663E+01	100.00
Eu155	- - - - 1.386E-01	7.491E-06	- - - - - - - - -	7.491E+00	100.00
Hf175	- - - - 1.557E-01	8.416E-06	- - - - - - - - -	8.416E+00	100.00
Hf181	- - - - 6.778E-01	3.664E-05	- - - - - - - - -	3.664E+01	100.00
Ta182	- - - - 7.511E-01	4.060E-05	- - - - - - - - -	4.060E+01	100.00
Pb210	- - - - 3.451E+02	1.866E-02	- - - - - - - - -	1.866E+04	100.00
Ra226	- - - - 7.226E-01	3.906E-05	- - - - - - - - -	3.906E+01	100.00
U235	- - - - 1.484E-01	8.023E-06	- - - - - - - - -	8.023E+00	100.00
U238	- - - - 1.387E+01	7.500E-04	- - - - - - - - -	7.500E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.484E-01	1.343E-05	- - - - - - - - -	1.343E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	92.91	3.6769E-02	100.0	0.0000000
2	139.53	3.7852E-02	51.5	0.0000000
4	198.44	9.7531E-02	33.0	0.0000000
7	510.52	4.2301E-02	100.0	0.3948243
9	595.03	5.4559E-02	76.5	0.0000000
11	660.49	4.5665E-02	100.0	0.5475566
12	845.03	5.5431E-02	100.0	0.0000000
14	1237.71	6.9889E-02	100.0	1.9012898E-09
15	1437.30	6.6529E-02	100.0	0.0000000
17	1534.43	6.8703E-02	100.0	0.0000000
18	1845.49	7.6432E-02	100.0	2.4369336E-35
19	1883.38	7.3996E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-111

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:36:21)

Analysis performed by: E. A. LEPEL

Sample: 54529-21-A 92-02737-L-1
Weight: 0.50000 L

Irradiation date: 20-Sep-1991 at 7:58:00

Count date: 18-Feb-1992 at 16:49:00

Decay: 152.4d (13164660. seconds)

Count times: REAL TIME 16.73h (60240.000 seconds)
LIVE TIME 16.73h (60230.996 seconds)

Dead time: 0.01 percent

Detector: K pos 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452921A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bkgd
1	92.0	91.	93.	917.	129.*	92.80	4.973E-02	100.0	118.
2	184.9	181.	187.	1583.	213.*	185.76	6.963E-02	83.1	112.
3	237.8	235.	239.	850.	110.*	238.60	4.134E-02	100.0	175.
4	509.7	507.	515.	775.	378.*	510.49	5.771E-02	100.0	399.
5	582.0	580.	584.	232.	60.*	582.72	6.046E-02	100.0	36.
6	845.6	845.	849.	119.	45.*	846.23	7.243E-02	100.0	49.
7	902.0	902.	902.	28.	11.	902.66	7.615E-02	100.0	0.
8	910.1	908.	912.	145.	53.*	910.76	7.979E-02	100.0	34.
9	932.9	932.	935.	91.	24.*	933.51	7.845E-02	100.0	9.
10	1331.0	1328.	1331.	57.	17.*	1331.54	9.815E-02	100.0	17.
11	1460.2	1458.	1465.	311.	264.*	1460.75	3.361E-01	100.0	187.
12	1764.7	1763.	1765.	36.	24.*	1765.17	9.520E-02	100.0	27.
13	1868.0	1868.	1868.	13.	9.	1868.45	1.074E-01	100.0	0.
14	1992.0	1992.	1992.	10.	6.	1992.42	1.116E-01	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.76 Kev is ambiguously assigned: component has been removed.

D02-112

U235 at 185.76 Kev is ambiguously assigned; component has been removed.
Matrix is singular in MLR:
an element of w is zero
Pb214 is being removed from the component set due to a matrix singularity.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	3.204E+00	1.732E-04	- - - - - - - - -			1.732E+02	100.00
	1460.75	3.204E+00	1.732E-04	1.00	100.00	0.00		
2 Co 60	- - - -	1.037E-01	5.606E-06	- - - - - - - - -			5.606E+00	100.00
	1331.54	1.037E-01	5.606E-06	1.00	100.00	0.00		
3 Tl208	- - - -	7.611E-02	4.114E-06	- - - - - - - - -			4.114E+00	100.01
	582.72	7.611E-02	4.114E-06	1.00	100.00	0.00		
4 Pb212	- - - -	1.116E-01	6.033E-06	- - - - - - - - -			6.033E+00	100.00
	238.60	1.116E-01	6.033E-06	1.00	100.00	0.00		
5 Ac228	- - - -	3.161E-01	1.709E-05	- - - - - - - - -			1.709E+01	100.00
	910.76	3.161E-01	1.709E-05	1.00	100.00	0.00		

The following are upper limit values:

Be 7	- - - -	3.568E+00	1.929E-04	- - - - - - - -			1.929E+02	100.00
Sc 46	- - - -	3.024E-01	1.634E-05	- - - - - - - -			1.634E+01	100.00
Cr 51	- - - -	1.988E+01	1.075E-03	- - - - - - - -			1.075E+03	100.00
Mn 54	- - - -	1.131E-01	6.115E-06	- - - - - - - -			6.115E+00	100.00
Fe 59	- - - -	2.002E+00	1.082E-04	- - - - - - - -			1.082E+02	100.00
Co 58	- - - -	3.226E-01	1.744E-05	- - - - - - - -			1.744E+01	100.00
Zn 65	- - - -	2.518E-01	1.361E-05	- - - - - - - -			1.361E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - -	7.277E-01	3.934E-05	- - - - - - - -			3.934E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	6.847E-02	3.701E-06	- - - - - - - -			3.701E+00	100.00

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Nb 95	- - - - 1.475E+00	7.975E-05	- - - - - - - - -	7.975E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 2.307E+00	1.247E-04	- - - - - - - - -	1.247E+02	100.00
Ru106	- - - - 1.440E+00	7.784E-05	- - - - - - - - -	7.784E+01	100.00
Ag110m	- - - - 3.605E-01	1.949E-05	- - - - - - - - -	1.949E+01	100.00
Sn113	- - - - 2.829E-01	1.529E-05	- - - - - - - - -	1.529E+01	100.00
Sn125	- - - - 1.098E+05	5.934E+00	- - - - - - - - -	5.934E+06	100.00
Sn117m	- - - - 1.600E+02	8.646E-03	- - - - - - - - -	8.646E+03	100.00
Sb124	- - - - 1.057E+00	5.713E-05	- - - - - - - - -	5.713E+01	100.00
Sb125	- - - - 6.224E-01	3.364E-05	- - - - - - - - -	3.364E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 6.577E+01	3.555E-03	- - - - - - - - -	3.555E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 1.998E+05	1.080E+01	- - - - - - - - -	1.080E+07	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.788E-01	2.588E-05	- - - - - - - - -	2.588E+01	100.00
Cs136	- - - - 4.614E+02	2.494E-02	- - - - - - - - -	2.494E+04	100.00
Cs137	- - - - 8.146E-02	4.403E-06	- - - - - - - - -	4.403E+00	100.00
Ba140	- - - - 1.959E+03	1.059E-01	- - - - - - - - -	1.059E+05	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.959E+00	1.059E-04	- - - - - - - - -	1.059E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.889E-01	2.643E-05	- - - - - - - - -	2.643E+01	100.00

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Eu154	- - - - 6.252E-01	3.379E-05	- - - - - - - - -	3.379E+01	100.00
Eu155	- - - - 1.944E-01	1.051E-05	- - - - - - - - -	1.051E+01	100.00
Hf175	- - - - 2.483E-01	1.342E-05	- - - - - - - - -	1.342E+01	100.00
Hf181	- - - - 1.076E+00	5.818E-05	- - - - - - - - -	5.818E+01	100.00
Ta182	- - - - 1.084E+00	5.858E-05	- - - - - - - - -	5.858E+01	100.00
Pb210	- - - - 4.355E+02	2.354E-02	- - - - - - - - -	2.354E+04	100.00
Pb214	- - - - 2.003E-01	1.083E-05	- - - - - - - - -	1.083E+01	100.00
Bi214	- - - - 1.375E+00	7.430E-05	- - - - - - - - -	7.430E+01	100.00
Ra226	- - - - 9.850E-01	5.324E-05	- - - - - - - - -	5.324E+01	100.00
U235	- - - - 2.004E-01	1.083E-05	- - - - - - - - -	1.083E+01	100.00
U238	- - - - 1.788E+01	9.666E-04	- - - - - - - - -	9.666E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 3.438E-01	1.858E-05	- - - - - - - - -	1.858E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	92.80	4.9732E-02	100.0	0.0000000
4	510.49	5.7705E-02	100.0	0.3776835
6	846.23	7.2435E-02	100.0	0.0000000
7	902.66	7.6151E-02	100.0	0.0000000
9	933.51	7.8454E-02	100.0	6.1349012E-15
12	1765.17	9.5197E-02	100.0	1.8324265E-02
13	1868.45	1.0743E-01	100.0	0.0000000
14	1992.42	1.1162E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

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Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:36:40)

Analysis performed by: E. A. LEPEL

Sample: 54529-22-A 92-02738-L-1
Weight: 0.50000 L

Irradiation date: 20-Sep-1991 at 9:33:00

Count date: 19-Feb-1992 at 14:56:00

Decay: 153.2d (13238580. seconds)

Count times: REAL TIME 2.81d (242838.00 seconds)
LIVE TIME 2.81d (242802.00 seconds)

Dead time: 0.01 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]Jeffmarna. K

Spectrum from file : 5452922A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	53.1	52.	55.	5303.	239.*	54.19	7.607E-02	100.0	165.
2	63.1	62.	66.	6103.	246.	64.20	1.142E-01	48.7	0.
3	74.1	74.	75.	2451.	128.*	75.15	3.591E-02	100.0	527.
4	92.1	91.	93.	3628.	465.*	93.16	2.460E-02	100.0	475.
5	139.2	138.	140.	3302.	275.	140.17	4.508E-02	28.9	0.
6	184.8	183.	186.	3625.	393.*	185.82	1.839E-02	100.0	451.
7	197.6	196.	199.	3215.	225.*	198.57	1.871E-02	100.0	150.
8	237.7	236.	242.	4607.	786.*	238.60	1.968E-02	100.0	706.
9	350.8	350.	352.	1196.	288.*	351.71	2.342E-02	100.0	357.
10	474.0	474.	475.	419.	41.	474.83	2.694E-02	100.0	0.
11	509.7	506.	513.	2774.	1457.*	510.51	2.756E-02	100.0	1609.
12	549.9	549.	550.	338.	56.	550.61	2.812E-02	100.0	0.
13	558.0	557.	559.	485.	59.	558.73	2.874E-02	100.0	0.
14	582.1	579.	584.	1023.	251.*	582.84	5.007E-02	100.0	145.
15	595.1	594.	598.	832.	153.*	595.75	3.190E-02	100.0	87.
16	608.0	606.	609.	773.	265.*	608.69	3.036E-02	100.0	287.
17	726.2	721.	729.	983.	107.*	726.82	3.842E-02	92.3	40.
18	845.5	845.	847.	414.	180.*	845.99	3.655E-02	100.0	194.
19	910.4	908.	912.	452.	112.*	910.87	3.769E-02	100.0	137.
20	949.8	947.	949.	219.	40.	949.24	3.724E-02	100.0	0.
21	963.0	963.	967.	304.	44.	963.47	3.938E-02	100.0	0.
22	968.2	967.	969.	269.	74.*	968.63	3.937E-02	100.0	83.
23	1119.3	1117.	1122.	415.	118.*	1119.66	4.233E-02	100.0	77.
24	1172.7	1170.	1175.	202.	89.*	1173.01	4.453E-02	100.0	75.

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25	1237.8	1236.	1239.	231.	64.*	1238.07	4.451E-02	100.0	49.
26	1377.0	1376.	1377.	90.	24.*	1377.12	4.575E-02	100.0	35.
27	1460.6	1456.	1465.	1300.	1042.*	1460.75	3.127E-01	100.0	756.
28	1592.4	1591.	1593.	106.	36.*	1592.44	4.686E-02	100.0	33.
29	1764.8	1763.	1768.	188.	64.*	1764.74	5.091E-02	100.0	109.
30	1804.0	1802.	1805.	95.	25.	1803.91	4.835E-02	100.0	0.
31	1823.5	1823.	1826.	98.	35.	1823.30	4.680E-02	36.3	0.
32	2041.0	2041.	2041.	24.	11.	2040.70	4.929E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.82 kev is ambiguously assigned; component has been removed.
U235 at 185.82 kev is ambiguously assigned; component has been removed.
Sc 46 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	(interferences) dev (sig)	pCi /L	error (%)
1 K 40	- - - -	2.981E+00	1.611E-04	- - - - - - - - -			1.611E+02	100.01
	1460.75	2.981E+00	1.611E-04	1.00	100.00	0.00		
2 Co 60	- - - -	4.714E-02	2.548E-06	- - - - - - - - -			2.549E+00	100.00
	1173.01	4.714E-02	2.548E-06	1.00	100.00	0.00		
3 Tl208	- - - -	6.306E-02	3.409E-06	- - - - - - - - -			3.409E+00	100.00
	582.84	6.306E-02	3.409E-06	1.00	100.00	0.00		
4 Bi214	- - - -	7.912E-02	4.277E-06	- - - - - - - - -			4.277E+00	83.15
	608.69	6.759E-02	3.654E-06	1.17	100.00	-0.42		
	1119.66	2.869E-01	1.551E-05	0.28	100.00	1.77		
5 Pb212	- - - -	5.322E-02	2.877E-06	- - - - - - - - -			2.877E+00	100.00
	238.60	5.322E-02	2.877E-06	1.00	100.00	0.00		
6 Pb214	- - - -	6.357E-02	3.436E-06	- - - - - - - - -			3.436E+00	100.00
	351.71	6.357E-02	3.436E-06	1.00	100.00	0.00		
7 Ac228	- - - -	1.763E-01	9.530E-06	- - - - - - - - -			9.530E+00	73.06

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910.87	1.494E-01	8.076E-06	1.18	100.00	-0.44
968.63	2.541E-01	1.374E-05	0.69	100.00	0.75

The following are upper limit values:

Be 7	- - - - 1.920E+00	1.038E-04	- - - - - - - - -	1.038E+02	100.00
Sc 46	- - - - 1.420E-01	7.677E-06	- - - - - - - - -	7.677E+00	100.00
Cr 51	- - - - 1.044E+01	5.642E-04	- - - - - - - - -	5.642E+02	100.00
Mn 54	- - - - 5.002E-02	2.704E-06	- - - - - - - - -	2.704E+00	100.00
Fe 59	- - - - 9.789E-01	5.291E-05	- - - - - - - - -	5.291E+01	100.00
Co 58	- - - - 1.634E-01	8.835E-06	- - - - - - - - -	8.835E+00	100.00
Zn 65	- - - - 1.300E-01	7.026E-06	- - - - - - - - -	7.026E+00	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 3.726E-01	2.014E-05	- - - - - - - - -	2.014E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 3.592E-02	1.942E-06	- - - - - - - - -	1.942E+00	100.00
Nb 95	- - - - 7.243E-01	3.915E-05	- - - - - - - - -	3.915E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 1.093E+00	5.908E-05	- - - - - - - - -	5.908E+01	100.00
Ru106	- - - - 7.144E-01	3.862E-05	- - - - - - - - -	3.862E+01	100.00
Ag110m	- - - - 2.094E-01	1.132E-05	- - - - - - - - -	1.132E+01	100.00
Sn113	- - - - 1.402E-01	7.579E-06	- - - - - - - - -	7.579E+00	100.00
Sn125	- - - - 8.124E+04	4.392E+00	- - - - - - - - -	4.392E+06	100.00
Sn117m	- - - - 8.597E+01	4.647E-03	- - - - - - - - -	4.647E+03	100.00
Sb124	- - - - 5.082E-01	2.747E-05	- - - - - - - - -	2.747E+01	100.00
Sb125	- - - - 3.018E-01	1.632E-05	- - - - - - - - -	1.632E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

9 2 1 2 5 9 0 7 1 5

```
   Te129m - - - - 3.342E+01   1.806E-03  - - - - - - - - -  1.806E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
    I131  - - - - 1.202E+05   6.498E+00  - - - - - - - - -  6.498E+06 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
   Cs134  - - - - 2.519E-01   1.362E-05  - - - - - - - - -  1.362E+01 100.00
   Cs136  - - - - 2.701E+02   1.460E-02  - - - - - - - - -  1.460E+04 100.00
   Cs137  - - - - 3.897E-02   2.106E-06  - - - - - - - - -  2.106E+00 100.00
   Ba140  - - - - 1.115E+03   6.027E-02  - - - - - - - - -  6.027E+04 100.00
Unable to compute upper limit for La140 ,  Tdecay > 20*T1/2.
   Ce141  - - - - 1.015E+00   5.489E-05  - - - - - - - - -  5.489E+01 100.00
Unable to compute upper limit for Ce143 ,  Tdecay > 20*T1/2.
   Ce144  - - - - 2.465E-01   1.332E-05  - - - - - - - - -  1.332E+01 100.00
   Eu154  - - - - 3.364E-01   1.819E-05  - - - - - - - - -  1.819E+01 100.00
   Eu155  - - - - 9.502E-02   5.136E-06  - - - - - - - - -  5.136E+00 100.00
   Hf175  - - - - 1.243E-01   6.719E-06  - - - - - - - - -  6.719E+00 100.00
   Hf181  - - - - 5.789E-01   3.129E-05  - - - - - - - - -  3.129E+01 100.00
   Ta182  - - - - 5.221E-01   2.822E-05  - - - - - - - - -  2.822E+01 100.00
   Pb210  - - - - 2.192E+02   1.185E-02  - - - - - - - - -  1.185E+04 100.00
   Ra226  - - - - 4.868E-01   2.631E-05  - - - - - - - - -  2.631E+01 100.00
    U235  - - - - 9.938E-02   5.372E-06  - - - - - - - - -  5.372E+00 100.00
    U238  - - - - 8.798E+00   4.756E-04  - - - - - - - - -  4.756E+02 100.00
Unable to compute upper limit for Np239 ,  Tdecay > 20*T1/2.
   Am241  - - - - 1.694E-01   9.156E-06  - - - - - - - - -  9.156E+00 100.00

The following peaks were not identified:
 #  energy gammas/sec  peterr   CI %
 1   54.19 7.6065E-02 100.0  0.0000000
 2   64.20 1.1422E-01  48.7  0.0000000
```

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9 2 1 2 9 0 7 1 5

3	75.15	3.5907E-02	100.0	0.0000000
4	93.16	2.4604E-02	100.0	0.0000000
5	140.17	4.5084E-02	28.9	0.0000000
7	198.57	1.8715E-02	100.0	0.0000000
10	474.83	2.6945E-02	100.0	0.0000000
11	510.51	2.7561E-02	100.0	0.4377225
12	550.61	2.8115E-02	100.0	0.0000000
13	558.73	2.8736E-02	100.0	0.0000000
15	595.75	3.1897E-02	100.0	0.0000000
17	726.82	3.8415E-02	92.3	0.0000000
18	845.99	3.6545E-02	100.0	0.0000000
20	949.24	3.7237E-02	100.0	0.0000000
21	963.47	3.9376E-02	100.0	7.2329596E-05
25	1238.07	4.4510E-02	100.0	4.3815285E-09
26	1377.12	4.5749E-02	100.0	3.3442796E-15
28	1592.44	4.6856E-02	100.0	0.0000000
29	1764.74	5.0910E-02	100.0	3.0244919E-03
30	1803.91	4.8355E-02	100.0	0.0000000
31	1823.38	4.6798E-02	36.3	0.0000000
32	2040.70	4.9294E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:36:56)

Analysis performed by: E. A. LEPEL

Sample: 54529-23-A 92-02739-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 11:35:00

Count date: 24-Feb-1992 at 17:24:00

Decay: 155.2d (13412940. seconds)

Count times: REAL TIME 23.97h (86304.000 seconds)
LIVE TIME 23.97h (86291.000 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452923A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	92.0	90.	93.	1641.	178.*	92.66	4.102E-02	100.0	169.
2	185.1	184.	187.	1267.	151.*	185.69	3.038E-02	100.0	160.
3	238.0	235.	241.	1637.	261.*	238.60	3.323E-02	100.0	251.
4	352.8	349.	353.	637.	74.	353.44	6.216E-02	46.8	0.
5	493.9	493.	498.	446.	52.	494.45	5.981E-02	55.3	0.
6	509.9	506.	513.	993.	519.*	510.48	4.662E-02	100.0	572.
7	582.1	581.	583.	210.	60.*	582.65	5.074E-02	100.0	52.
8	607.8	607.	611.	341.	107.*	608.34	5.194E-02	100.0	102.
9	638.0	637.	640.	200.	37.	638.56	5.361E-02	51.3	0.
10	659.2	659.	661.	166.	49.*	659.70	5.263E-02	100.0	14.
11	794.0	793.	796.	151.	32.	794.45	5.875E-02	100.0	0.
12	845.3	844.	848.	204.	65.*	845.78	6.179E-02	100.0	69.
13	910.1	909.	911.	123.	53.*	910.58	6.250E-02	100.0	49.
14	954.7	953.	955.	88.	20.	955.20	6.539E-02	100.0	0.
15	967.9	964.	969.	184.	40.*	968.38	6.864E-02	100.0	28.
16	978.0	978.	978.	36.	12.	978.46	6.961E-02	100.0	0.
17	1044.0	1044.	1044.	33.	15.	1044.44	6.669E-02	100.0	0.
18	1193.0	1193.	1193.	28.	11.	1193.41	7.632E-02	100.0	0.
19	1333.2	1328.	1334.	125.	46.*	1333.55	7.315E-02	100.0	24.
20	1439.8	1439.	1440.	25.	17.	1440.12	5.105E-02	48.0	0.
21	1460.4	1456.	1464.	453.	384.*	1460.75	3.559E-01	100.0	269.
22	1538.1	1538.	1540.	33.	12.	1538.43	7.050E-02	100.0	0.
23	1765.0	1763.	1767.	67.	35.*	1765.25	8.228E-02	100.0	39.
24	1882.0	1882.	1882.	12.	7.	1882.27	8.036E-02	100.0	0.

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25	1962.0	1962.	1962.	12.	7.*	1962.25	8.580E-02	100.0	8.
26	1987.1	1987.	1993.	49.	15.	1987.35	8.472E-02	100.0	0.
27	2012.8	2012.	2013.	16.	9.	2013.06	7.632E-02	100.0	0.
28	2023.1	2023.	2024.	17.	9.	2023.29	7.844E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.69 Kev is ambiguously assigned; component has been removed.
U235 at 185.69 Kev is ambiguously assigned; component has been removed.
Matrix is singular in MLR:
cn element of w is zero
Pb214 is being removed from the component set due to a matrix singularity.,

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	3.393E+00	1.834E-04	- - - - - - - - -			1.834E+02	100.00
	1460.75	3.393E+00	1.834E-04	1.00	100.00	0.00		
2 Co 60	- - - -	7.739E-02	4.183E-06	- - - - - - - - -			4.183E+00	100.00
	1333.55	7.739E-02	4.183E-06	1.00	100.00	0.00		
3 Tl208	- - - -	6.394E-02	3.456E-06	- - - - - - - - -			3.456E+00	100.01
	582.65	6.394E-02	3.456E-06	1.00	100.00	0.00		
4 Bi214	- - - -	1.157E-01	6.252E-06	- - - - - - - - -			6.252E+00	100.00
	608.34	1.157E-01	6.252E-06	1.00	100.00	0.00		
5 Pb212	- - - -	8.998E-02	4.864E-06	- - - - - - - - -			4.864E+00	100.01
	238.60	8.998E-02	4.864E-06	1.00	100.00	0.00		
6 Ac228	- - - -	2.944E-01	1.591E-05	- - - - - - - - -			1.591E+01	73.49
	910.58	2.479E-01	1.340E-05	1.19	100.00	-0.50		
	968.38	4.432E-01	2.396E-05	0.66	100.00	0.89		

The following are upper limit values:

Be 7	- - - -	3.164E+00	1.710E-04	- - - - - - - - -			1.710E+02	100.00

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Sc 46	- - - - 2.690E-01	1.454E-05	- - - - - - - - -	1.454E+01	100.00
Cr 51	- - - - 1.843E+01	9.960E-04	- - - - - - - - -	9.960E+02	100.00
Mn 54	- - - - 8.847E-02	4.782E-06	- - - - - - - - -	4.782E+00	100.00
Fe 59	- - - - 1.722E+00	9.308E-05	- - - - - - - - -	9.308E+01	100.00
Co 58	- - - - 2.802E-01	1.515E-05	- - - - - - - - -	1.515E+01	100.00
Zn 65	- - - - 2.138E-01	1.156E-05	- - - - - - - - -	1.156E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 5.974E-01	3.229E-05	- - - - - - - - -	3.229E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 5.796E-02	3.133E-06	- - - - - - - - -	3.133E+00	100.00
Nb 95	- - - - 1.336E+00	7.224E-05	- - - - - - - - -	7.224E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 1.951E+00	1.055E-04	- - - - - - - - -	1.055E+02	100.00
Ru106	- - - - 1.186E+00	6.413E-05	- - - - - - - - -	6.413E+01	100.00
Ag110m	- - - - 3.487E-01	1.885E-05	- - - - - - - - -	1.885E+01	100.00
Sn113	- - - - 2.355E-01	1.273E-05	- - - - - - - - -	1.273E+01	100.00
Sn125	- - - - 1.226E+05	6.628E+00	- - - - - - - - -	6.628E+06	100.00
Sn117m	- - - - 1.464E+02	7.912E-03	- - - - - - - - -	7.912E+03	100.00
Sb124	- - - - 9.250E-01	5.000E-05	- - - - - - - - -	5.000E+01	100.00
Sb125	- - - - 5.156E-01	2.787E-05	- - - - - - - - -	2.787E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 5.352E+01	2.893E-03	- - - - - - - - -	2.893E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 2.160E+05	1.168E+01	- - - - - - - - -	1.168E+07	100.00

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Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.336E-01	2.344E-05	- - - - - - - - -	2.344E+01	100.00
Cs136	- - - - 4.647E+02	2.512E-02	- - - - - - - - -	2.512E+04	100.00
Cs137	- - - - 6.875E-02	3.716E-06	- - - - - - - - -	3.716E+00	100.00
Ba140	- - - - 1.930E+03	1.043E-01	- - - - - - - - -	1.043E+05	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.712E+00	9.254E-05	- - - - - - - - -	9.254E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.050E-01	2.189E-05	- - - - - - - - -	2.189E+01	100.00
Eu154	- - - - 4.906E-01	2.652E-05	- - - - - - - - -	2.652E+01	100.00
Eu155	- - - - 1.599E-01	8.641E-06	- - - - - - - - -	8.641E+00	100.00
Hf175	- - - - 2.092E-01	1.131E-05	- - - - - - - - -	1.131E+01	100.00
Hf181	- - - - 9.929E-01	5.367E-05	- - - - - - - - -	5.367E+01	100.00
Ta182	- - - - 9.367E-01	5.063E-05	- - - - - - - - -	5.063E+01	100.00
Pb210	- - - - 3.561E+02	1.925E-02	- - - - - - - - -	1.925E+04	100.00
Pb214	- - - - 1.607E-01	8.684E-06	- - - - - - - - -	8.684E+00	100.00
Ra226	- - - - 8.114E-01	4.386E-05	- - - - - - - - -	4.386E+01	100.00
U235	- - - - 1.657E-01	8.956E-06	- - - - - - - - -	8.956E+00	100.00
U238	- - - - 1.635E+01	8.835E-04	- - - - - - - - -	8.835E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.791E-01	1.509E-05	- - - - - - - - -	1.509E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	92.66	4.1023E-02	100.0	0.0000000
4	353.44	6.2162E-02	46.8	0.0000000
5	494.45	5.9808E-02	55.3	0.0000000
6	510.48	4.6624E-02	100.0	0.3765385
9	638.56	5.3609E-02	51.3	0.0000000
10	659.70	5.2630E-02	100.0	0.0000000
11	794.45	5.8752E-02	100.0	0.5174975

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12	845.78	6.1787E-02	100.0	0.0000000
14	955.20	6.5393E-02	100.0	5.0097296E-12
16	978.46	6.9611E-02	100.0	0.0000000
17	1044.44	6.6687E-02	100.0	0.0000000
18	1193.41	7.6317E-02	100.0	0.0000000
20	1440.12	5.1049E-02	48.0	0.0000000
22	1538.43	7.0495E-02	100.0	0.0000000
23	1765.25	8.2284E-02	100.0	4.7364505E-03
24	1882.27	8.0356E-02	100.0	0.0000000
25	1962.25	8.5802E-02	100.0	0.0000000
26	1987.35	8.4720E-02	100.0	0.0000000
27	2013.06	7.6322E-02	100.0	0.0000000
28	2023.29	7.8442E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-125

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 17:05:29)

Analysis performed by: E. A. LEPEL

Sample: 54529-24-A 92-02739-L-3
Weight: 0.50000 L

Irradiation date: 0-Feb-1992 at 12:00:00

Count date: 22-Feb-1992 at 16:40:00

Decay: 22.2d (1917600.0 seconds)

Count times: REAL TIME 24.66h (88776.000 seconds)
LIVE TIME 24.66h (88768.000 seconds)

Dead time: 0.01 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna.K

Spectrum from file : 5452924a.k;1

Background subtractions from file: ve:[116,1]Backg.K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	74.4	73.	75.	1676.	234.	76.78	2.019E-01	23.8	0.
2	92.0	92.	93.	1084.	119.	94.39	7.298E-02	38.2	0.
3	184.8	184.	186.	1363.	156.	187.02	7.319E-02	32.4	0.
4	237.9	237.	240.	1289.	147.	240.07	8.416E-02	37.7	0.
5	273.3	273.	274.	511.	65.	275.32	4.212E-02	47.7	0.
6	351.0	350.	352.	608.	92.	352.92	7.467E-02	36.4	0.
7	448.0	447.	449.	449.	67.	449.77	6.849E-02	49.8	0.
8	509.5	507.	514.	1285.	516.*	511.17	5.782E-02	100.0	588.
9	582.1	581.	584.	324.	84.*	583.63	5.421E-02	100.0	53.
10	608.3	608.	610.	267.	87.*	609.77	5.729E-02	100.0	105.
11	660.3	657.	664.	6572.	6189.*	661.70	8.949E+00	1.4	15.
12	706.1	706.	707.	95.	22.	707.42	5.447E-02	100.0	0.
13	845.4	843.	847.	195.	63.*	846.56	5.876E-02	100.0	71.
14	856.9	856.	857.	72.	24.	858.05	5.676E-02	100.0	0.
15	910.2	909.	912.	164.	55.*	911.25	6.573E-02	100.0	50.
16	923.8	923.	923.	39.	13.	924.00	6.578E-02	100.0	0.
17	1072.1	1072.	1074.	78.	19.	1072.85	6.952E-02	100.0	0.
18	1237.8	1236.	1238.	89.	36.*	1237.52	8.013E-02	100.0	18.
19	1331.1	1331.	1332.	44.	21.*	1331.45	7.176E-02	100.0	25.
20	1460.6	1458.	1465.	470.	400.*	1460.75	3.692E-01	100.0	276.
21	1532.0	1530.	1532.	36.	11.	1531.97	7.402E-02	100.0	0.
22	1617.0	1617.	1617.	16.	8.	1616.85	7.968E-02	100.0	0.
23	1764.9	1763.	1767.	77.	42.*	1764.50	8.332E-02	100.0	40.
24	1794.0	1794.	1794.	14.	9.	1793.56	7.422E-02	100.0	0.

3/26/92
EA Lepel

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25	1797.0	1797.	1797.	12.	7.	1796.56	7.480E-02	100.0	0.
26	1895.0	1895.	1895.	12.	7.	1894.40	7.782E-02	100.0	0.
27	1964.0	1964.	1964.	13.	7.	1963.28	8.895E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]rTOBACO.dat
Ru106 is being removed from the component set.

** Least-squares Results **

(interferences)

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
1 K 40	- - - -	3.520E+00	1.903E-04	- - - - - - - - -			1.903E+02	100.00
	1460.75	3.520E+00	1.903E-04	1.00	100.00	0.00		
2 Co 60	- - - -	7.236E-02	3.911E-06	- - - - - - - - -			3.911E+00	100.00
	1331.45	7.236E-02	3.911E-06	1.00	100.00	0.00		
3 Cs137	- - - -	1.052E+01	5.684E-04	- - - - - - - - -			5.684E+02	1.69
	661.70	1.052E+01	5.684E-04	1.00	1.69	0.00		
4 Tl208	- - - -	7.633E-02	4.126E-06	- - - - - - - - -			4.126E+00	83.51
	511.17	2.862E-01	1.547E-05	0.27	100.00	2.39		
	583.63	6.538E-02	3.534E-06	1.17	100.00	-0.55		
5 Bi214	- - - -	1.290E-01	6.974E-06	- - - - - - - - -			6.974E+00	100.00
	609.77	1.290E-01	6.974E-06	1.00	100.00	0.00		

The following are upper limit values:

Be 7	- - - -	7.730E-01	4.178E-05	- - - - - - - -			4.178E+01	100.00
Mn 54	- - - -	6.302E-02	3.407E-06	- - - - - - - -			3.407E+00	100.00
Co 58	- - - -	7.265E-02	3.927E-06	- - - - - - - -			3.927E+00	100.00
Zr 95	- - - -	1.477E-01	7.985E-06	- - - - - - - -			7.985E+00	100.00
Nb 94	- - - -	6.108E-02	3.301E-06	- - - - - - - -			3.301E+00	100.00
Nb 95	- - - -	8.951E-02	4.838E-06	- - - - - - - -			4.838E+00	100.00

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9 2 1 2 9 1 7 2 1

Ru103	- - - - 2.237E-01	1.209E-05	- - - - - - - - -	1.209E+01	100.00
Ru106	- - - - 1.106E+00	5.976E-05	- - - - - - - - -	5.976E+01	100.00
Ag110m	- - - - 2.432E-01	1.314E-05	- - - - - - - - -	1.314E+01	100.00
Sb125	- - - - 5.838E-01	3.156E-05	- - - - - - - - -	3.156E+01	100.00
I131	- - - - 3.040E+00	1.643E-04	- - - - - - - - -	1.643E+02	100.00
Cs134	- - - - 3.969E-01	2.145E-05	- - - - - - - - -	2.145E+01	100.00
Cs136	- - - - 3.832E-01	2.071E-05	- - - - - - - - -	2.071E+01	100.00
Ba140	- - - - 1.602E+00	8.658E-05	- - - - - - - - -	8.658E+01	100.00
La140	- - - - 4.826E-01	2.609E-05	- - - - - - - - -	2.609E+01	100.00
Ce141	- - - - 1.124E-01	6.078E-06	- - - - - - - - -	6.078E+00	100.00
Ce144	- - - - 3.333E-01	1.802E-05	- - - - - - - - -	1.802E+01	100.00
Pb210	- - - - 5.180E+00	2.800E-04	- - - - - - - - -	2.800E+02	100.00
Pb212	- - - - 2.206E-01	1.192E-05	- - - - - - - - -	1.192E+01	100.00
Pb214	- - - - 1.887E-01	1.020E-05	- - - - - - - - -	1.020E+01	100.00
Ra226	- - - - 9.280E-01	5.016E-05	- - - - - - - - -	5.016E+01	100.00

Unable to compute upper limit for Ac228 , Tdecay > 20*T1/2.

U235	- - - - 1.945E-01	1.052E-05	- - - - - - - - -	1.052E+01	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	76.78	2.0186E-01	23.0	0.0000000
2	94.39	7.2984E-02	38.2	0.0000000
3	187.02	7.3195E-02	32.4	0.5014987
4	240.07	8.4158E-02	37.7	0.0000000
5	275.32	4.2123E-02	47.7	0.0000000
6	352.92	7.4665E-02	36.4	0.5494171
7	449.77	6.8493E-02	49.9	0.0000000
12	707.42	5.4472E-02	100.0	1.2676066E-03
13	846.56	5.8757E-02	100.0	0.0000000
14	858.05	5.6758E-02	100.0	0.0000000
15	911.25	6.5728E-02	100.0	0.0000000
16	924.00	6.5779E-02	100.0	3.5734389E-09
17	1072.85	6.9520E-02	100.0	0.0000000
18	1237.52	8.0135E-02	100.0	8.0749434E-09
21	1531.97	7.4019E-02	100.0	0.0000000
22	1616.85	7.9679E-02	100.0	0.0000000

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SPECTRAL "RAW" DATA

D02-129

23	1764.50	8.3316E-02	100.0	1.1307359E-02
24	1793.56	7.4222E-02	100.0	0.0000000
25	1796.56	7.4801E-02	100.0	0.0000000
26	1894.40	7.7815E-02	100.0	0.0000000
27	1963.28	8.8949E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

SPECTRAL "RAW" DATA

TITLE: 54529-7A 92-02728-L-1

FILE: 545297A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~1 1 91 12 0 0~~ 9/23/91 @0752 SAhgal 3/20/92

TIME OF COUNT: 1 28 92 16 44 0 ✓

(564764. MINUTES DECAY TIME)

LIVE TIME: 24 HOURS 20 MINUTES 46 SECONDS = 1460.77 MINUTES

ELAPSED TIME: 24 HOURS 20 MINUTES 58 SECONDS = 1460.97 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D02-132

025

545297A.K;1 54529-7A 92-02728-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	87646	429	350	339	269	159	150	119	91	68	63	59	46	34	43	25	35	29	27	23
1	34	438	349	337	264	177	141	145	86	78	72	59	55	27	45	33	38	25	26	18
2	0	467	357	330	239	172	123	106	90	71	46	50	52	44	44	24	32	20	24	20
3	0	495	368	288	245	190	140	113	81	61	48	50	47	47	43	30	40	24	19	19
4	0	428	384	326	253	182	127	112	86	84	63	54	54	40	46	22	35	27	25	31
5	0	415	352	334	233	163	145	123	72	66	64	50	46	43	43	38	25	31	27	22
6	0	413	350	339	230	163	134	96	88	64	74	45	41	38	42	32	24	21	26	21
7	0	399	355	304	209	164	120	97	89	75	70	55	58	47	41	30	29	22	24	24
8	0	414	315	313	228	190	141	114	101	76	111	50	78	40	33	38	24	27	22	22
9	2	424	366	331	219	184	142	101	78	64	232	44	56	38	39	26	30	32	43	27
10	1659	397	371	305	220	193	137	110	69	57	195	54	50	46	39	19	31	29	44	24
11	14055	391	365	359	247	178	133	95	85	74	146	55	45	52	45	35	36	29	34	18
12	24791	426	379	330	227	177	146	96	95	60	87	49	42	43	45	29	32	19	29	17
13	14380	468	364	307	231	169	115	106	84	66	82	60	50	42	34	37	34	27	15	3[illegible]
14	4464	410	343	303	226	141	141	96	95	75	50	34	41	41	42	21	27	29	27	2[illegible]
15	1455	467	354	284	238	154	110	119	54	70	49	55	55	46	23	28	35	26	24	17
16	976	451	376	315	213	133	126	87	79	54	67	53	45	35	33	28	31	30	23	22
17	984	391	334	275	236	178	97	108	77	68	57	53	42	31	41	37	27	37	27	34
18	896	399	351	328	237	157	108	94	80	55	48	43	48	35	33	23	36	34	23	35
19	884	406	362	286	227	166	115	103	73	72	59	53	35	25	38	29	30	33	24	1[illegible]
20	840	396	368	320	245	183	140	88	79	61	59	41	45	27	36	25	17	29	20	2[illegible]
21	833	386	369	294	236	161	157	101	91	65	58	62	41	33	27	32	33	24	17	1[illegible]
22	815	406	388	301	226	158	100	95	67	58	43	49	44	46	30	28	27	30	27	1[illegible]
23	741	397	353	296	216	169	130	103	62	73	49	51	37	33	32	36	24	23	22	2[illegible]
24	772	471	351	306	216	157	135	89	86	66	54	38	39	38	30	18	27	18	27	2[illegible]
25	732	395	372	291	197	160	129	107	87	57	59	54	39	39	33	42	32	19	23	1[illegible]
26	777	393	334	300	223	165	139	77	82	69	48	52	47	34	41	30	29	28	29	28
27	711	402	388	280	235	169	128	96	79	69	54	59	42	48	46	23	24	26	19	29
28	683	336	330	313	211	151	116	85	69	49	51	48	43	29	21	24	22	25	23	19
29	699	349	339	275	192	147	125	79	63	71	48	60	44	33	48	32	20	29	26	3[illegible]
30	645	373	391	301	201	168	113	82	81	52	46	47	51	32	39	38	27	21	26	2[illegible]
31	603	378	342	281	183	136	126	85	73	63	52	69	42	35	32	36	31	27	21	2[illegible]
32	632	384	400	282	216	143	125	106	92	82	56	81	53	43	36	22	28	22	21	2[illegible]
33	610	367	360	277	190	166	118	82	98	57	42	55	64	43	28	32	27	33	23	1[illegible]
34	565	400	339	340	204	162	102	88	92	56	48	51	26	34	29	43	28	33	23	1
35	568	361	348	391	226	145	108	97	91	70	70	52	35	39	29	25	33	27	20	2
36	581	357	359	302	203	167	115	94	80	79	41	43	53	38	26	28	34	29	21	1
37	578	388	345	270	266	125	122	84	56	60	55	40	39	36	32	32	20	17	24	1
38	562	375	361	307	271	156	112	93	68	55	55	50	32	34	33	33	28	16	19	2[illegible]
39	538	396	418	261	220	138	101	87	75	80	60	29	42	41	22	26	26	21	17	1[illegible]
40	548	381	355	255	203	150	117	89	82	56	54	39	41	44	22	24	20	28	23	2
41	516	402	345	275	208	132	113	95	64	75	61	44	26	29	41	30	32	25	18	2[illegible]
42	476	479	340	270	181	140	119	80	72	64	59	43	42	37	30	23	38	21	18	2[illegible]
43	511	410	338	256	196	157	123	98	85	59	40	50	40	47	31	34	23	19	26	2[illegible]
44	479	352	352	246	187	145	114	88	97	68	49	61	43	34	42	36	26	28	26	2[illegible]
45	506	326	327	253	224	182	98	79	83	61	63	70	45	31	42	21	46	22	18	14
46	468	373	346	239	197	133	103	74	73	62	62	67	42	32	32	35	41	27	18	20
47	457	372	345	304	201	117	112	80	60	61	41	48	39	29	36	26	31	29	21	
48	459	373	335	289	195	161	124	97	59	65	37	54	34	32	31	31	27	23	24	
49	425	343	332	253	207	134	109	79	66	83	46	51	36	33	32	23	36	30	28	

D02-133

545297A.K:1 54529-7A 92-02728-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1953
0	22	16	15	20	19	14	19	17	5	9	9	7	4	3	6	4	4	1	8	
1	14	17	18	17	11	17	14	13	12	8	7	10	7	6	7	8	7	11	7	
2	22	19	19	17	15	18	14	8	15	9	8	7	7	8	7	8	6	6	4	
3	18	19	13	22	16	19	12	8	16	14	6	7	9	7	3	6	9	8	5	
4	21	9	24	22	20	19	12	8	8	9	5	6	16	8	6	9	5	4	6	
5	22	21	18	21	14	13	11	12	11	10	11	10	4	6	6	5	7	5	1	
6	15	16	18	18	20	16	14	16	18	10	9	8	9	8	11	8	7	5	6	
7	17	12	15	23	26	26	8	13	12	21	10	4	9	10	8	10	3	9	6	
8	19	12	14	15	14	20	17	13	19	15	4	7	5	8	5	2	8	4	9	1
9	16	10	18	23	18	14	7	6	8	61	10	10	6	5	5	6	4	4	3	
10	22	15	19	6	13	18	14	12	14	105	10	6	11	4	9	7	10	6	9	
11	18	26	16	22	22	18	11	10	13	113	7	5	6	8	5	2	11	9	5	
12	16	17	21	16	13	22	7	10	16	50	7	6	15	9	11	6	5	4	6	
13	27	17	13	12	13	12	7	13	5	14	9	6	8	6	6	8	3	6	7	
14	13	20	12	17	24	18	7	12	17	7	8	10	9	11	1	19	2	8	5	
15	17	15	18	12	17	14	12	7	13	9	5	11	4	5	4	15	10	7	13	
16	23	20	15	8	14	13	13	13	9	6	11	11	8	3	10	18	4	3	4	
17	25	15	17	20	12	14	11	3	11	5	5	7	11	6	7	11	6	3	4	
18	15	25	22	13	21	18	18	18	7	9	9	10	9	5	10	5	8	3	5	
19	11	22	15	17	12	15	11	12	8	9	5	17	8	10	5	5	10	9	7	
20	18	15	23	19	16	10	11	7	11	9	6	5	5	6	9	8	2	4	4	
21	26	24	27	22	21	12	16	6	10	8	12	11	15	9	8	9	11	6	4	
22	16	22	12	22	12	14	10	9	6	8	11	6	10	9	8	9	7	8	6	
23	27	9	15	23	19	10	14	8	8	10	12	6	4	5	7	7	11	5	5	
24	23	12	20	24	17	9	11	10	11	6	7	5	10	4	7	5	5	4	4	
25	11	19	19	14	13	11	14	15	14	5	16	5	5	2	7	5	4	8	6	10
26	12	15	11	16	17	9	14	13	11	5	7	9	4	7	11	9	4	1	9	
27	14	14	15	18	12	16	8	15	11	8	5	4	8	3	5	7	7	5	3	
28	24	21	15	15	14	5	10	13	9	8	7	5	3	9	4	10	6	2	6	
29	19	24	14	22	14	9	8	7	4	11	8	2	11	8	8	6	3	1	7	
30	16	18	18	12	15	9	6	14	7	7	3	10	8	7	12	9	9	9	1	
31	18	22	12	14	14	12	17	10	13	6	13	5	13	8	8	5	6	7	4	
32	32	26	23	17	14	14	26	13	15	14	9	9	4	4	3	7	6	2	7	
33	19	19	17	14	16	14	18	19	12	5	3	10	6	5	6	7	8	7	8	
34	24	18	17	15	17	9	23	16	11	11	9	9	6	11	7	5	7	3	4	
35	17	16	13	22	14	9	7	16	8	6	7	5	9	5	13	8	6	5	4	
36	19	24	18	17	20	15	15	14	6	7	10	13	4	6	5	5	7	8	8	
37	17	19	20	10	24	15	13	8	11	11	5	13	7	4	5	6	8	4	4	
38	19	19	20	16	17	14	13	14	8	5	10	7	8	8	7	5	5	6	8	
39	17	14	14	10	13	11	16	11	9	10	7	6	8	10	5	7	3	5	6	
40	18	15	15	16	21	15	11	8	7	11	5	8	7	10	8	5	5	3	4	
41	14	14	18	18	15	10	16	13	10	6	8	7	7	10	8	2	12	9	3	
42	17	17	13	17	11	11	18	6	12	5	8	16	8	6	9	10	6	8	6	
43	16	28	25	23	17	21	10	10	10	17	4	9	4	4	5	5	5	8	10	
44	21	17	16	15	12	13	15	6	11	8	10	7	5	7	12	11	4	7	4	
45	24	23	17	18	13	14	10	8	6	13	5	5	9	7	6	7	5	10	8	
46	21	12	19	24	26	13	15	8	12	7	9	6	9	4	6	5	3	4	2	
47	18	10	15	13	21	13	9	9	9	12	7	8	3	4	6	4	9	3	3	
48	16	22	13	17	16	18	14	11	10	5	17	10	7	7	5	6	8	3	5	
49	15	25	15	15	16	12	9	10	10	6	7	6	6	7	7	5	9	5	6	

D02-134

TITLE: 54529-BA 92-02729-L-1

FILE: 545298A.K:1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~1 1 91 12 0 0~~ 9/23/91 0831 SA Lgel 3/20/92

TIME OF COUNT: 1 29 92 17 13 0

(566233. MINUTES DECAY TIME)

LIVE TIME: 24 HOURS 10 MINUTES 17 SECONDS = 1450.28 MINUTES

ELAPSED TIME: 24 HOURS 10 MINUTES 30 SECONDS = 1450.50 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D02-135

033

545298A.K;1 54529-8A 92-02729-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	87017	448	355	336	256	180	146	145	74	75	71	52	44	36	41	33	26	19	24	23
1	34	481	363	331	274	172	136	165	77	61	61	44	57	43	44	27	26	35	30	22
2	0	494	370	313	230	179	127	97	77	78	45	45	36	44	39	29	26	22	26	26
3	0	525	342	322	245	189	152	110	91	67	64	53	50	34	39	33	28	26	19	18
4	0	524	333	334	228	165	139	106	67	74	56	50	44	35	35	44	22	28	24	22
5	0	447	355	317	237	154	143	102	92	60	56	44	48	41	35	21	27	22	23	21
6	0	418	358	285	230	180	114	121	93	75	87	45	48	45	40	21	30	32	15	24
7	0	439	340	320	245	171	120	92	82	56	81	44	85	40	48	29	39	19	21	32
8	0	426	347	301	249	178	137	89	93	67	116	45	116	30	28	31	28	17	24	30
9	0	376	348	300	211	165	142	111	96	78	182	37	74	41	27	36	32	28	37	26
10	1548	417	370	336	236	180	136	108	73	63	226	53	59	63	29	28	24	34	49	17
11	14358	459	349	308	220	177	168	94	70	63	158	56	39	60	29	23	20	26	34	18
12	25863	395	382	353	227	168	117	114	100	63	88	47	50	38	33	43	29	26	30	24
13	14919	431	381	316	225	159	136	100	98	61	62	49	56	38	36	33	27	21	20	24
14	4554	436	388	329	233	174	135	89	90	53	50	60	42	40	41	30	25	25	21	22
15	1515	451	390	328	215	176	124	92	85	73	53	54	45	40	33	36	28	20	21	26
16	1024	447	367	312	250	181	119	105	87	77	72	52	48	53	31	30	28	30	22	18
17	943	417	383	323	218	180	145	105	87	64	52	47	43	31	23	40	30	22	23	31
18	908	390	357	293	[illegible]	162	134	108	82	74	47	48	55	33	34	32	27	34	17	24
19	871	396	321	318	[illegible]	168	120	101	80	53	63	43	43	35	33	35	31	31	24	3
20	839	358	373	276	240	168	133	89	71	55	46	44	38	39	30	30	23	21	25	2
21	843	387	362	304	235	162	113	98	60	70	56	50	41	35	37	25	27	27	23	2
22	829	413	369	306	207	187	151	104	69	67	44	53	43	32	19	23	17	21	21	2
23	818	439	349	312	241	138	132	101	69	62	60	43	47	35	42	33	31	21	25	2
24	832	415	374	364	217	144	121	98	79	68	66	47	40	37	31	41	43	28	23	2
25	723	405	359	313	230	153	120	96	73	78	45	63	41	50	34	35	28	31	23	2
26	727	374	389	300	231	175	133	94	61	73	64	43	31	36	45	33	27	23	17	2
27	704	346	359	296	194	164	122	97	79	64	62	61	40	41	32	23	28	20	17	2
28	707	366	387	303	187	152	109	97	65	54	50	54	48	35	30	38	26	10	25	2
29	660	345	375	279	173	155	119	105	77	81	43	56	29	37	36	33	30	25	22	1
30	649	392	372	280	204	140	116	92	75	57	58	43	50	39	28	27	16	22	28	2
31	641	352	356	292	189	159	127	98	75	79	63	65	52	31	30	39	28	23	29	2
32	650	368	371	299	191	141	112	83	73	49	51	69	22	34	24	25	26	27	20	1
33	594	385	338	274	220	137	114	85	79	67	42	65	37	39	38	30	26	25	38	1
34	570	410	347	313	219	139	128	86	65	58	59	49	39	38	22	30	27	16	23	2
35	680	408	345	372	190	149	126	85	81	63	63	58	33	34	23	34	29	32	25	2
36	581	383	337	303	192	149	89	97	67	62	48	36	28	29	28	30	19	31	22	2
37	573	422	349	304	254	139	141	107	85	67	51	47	30	39	37	27	19	25	23	1
38	584	381	373	260	269	125	114	95	69	61	48	40	34	32	40	22	36	21	19	2
39	517	386	424	241	217	156	116	78	73	60	55	44	39	34	31	18	27	24	10	2
40	585	350	370	258	211	137	120	63	69	75	67	38	37	32	24	32	29	20	23	3
41	549	386	338	273	211	138	130	90	69	66	44	34	39	55	29	32	26	19	32	2
42	515	449	366	244	201	152	130	76	69	65	30	39	45	34	43	36	30	29	26	1
43	528	416	366	269	166	144	109	81	82	50	49	44	37	36	33	33	34	25	22	1
44	517	351	335	244	181	180	120	80	69	62	52	60	41	42	27	26	40	19	25	34
45	486	352	315	278	206	172	95	94	97	57	44	81	32	35	33	37	56	21	21	18
46	495	355	324	278	187	158	103	80	80	53	48	64	34	32	32	30	48	30	30	20
47	481	380	341	305	190	133	115	77	80	70	50	41	34	33	31	22	36	29	27	[illegible]
48	444	345	322	302	177	141	111	70	65	73	45	40	44	37	32	30	30	16	22	[illegible]
49	470	358	356	233	171	149	112	91	70	68	52	55	47	30	35	19	26	21	22	21

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545298A.K:1 54529-8A 92-02729-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	22	17	15	22	15	10	10	12	8	5	7	11	10	5	2	3	6	6	5	7
1	18	16	20	12	18	20	13	14	7	10	5	5	4	7	6	5	7	2	6	1
2	22	22	17	14	20	13	14	11	15	9	9	11	8	5	5	7	5	9	6	1
3	18	18	18	14	10	21	19	8	8	8	12	4	6	5	8	2	5	1	5	5
4	32	22	17	16	17	12	16	5	11	11	8	6	7	4	8	10	3	5	5	
5	12	6	21	17	22	18	10	7	12	7	6	4	5	8	7	4	5	3	3	6
6	18	23	11	23	22	12	17	10	7	14	10	7	9	5	6	10	8	7	5	4
7	26	21	19	8	20	16	12	8	11	9	6	8	7	10	3	8	5	6	6	
8	18	20	16	16	13	13	11	11	6	25	9	7	6	3	7	13	11	8	4	4
9	23	14	16	19	12	11	14	15	7	50	16	6	12	5	6	7	8	7	5	2
10	11	19	23	12	14	15	12	12	9	103	9	8	7	13	7	9	3	3	5	
11	26	28	16	15	15	16	12	6	10	114	12	12	10	7	9	6	5	13	6	
12	16	17	20	14	15	17	9	11	12	44	10	9	9	11	6	12	10	8	2	
13	19	15	16	17	16	14	9	10	13	11	7	12	3	10	9	12	6	8	6	
14	22	14	11	10	10	10	10	12	11	7	6	3	9	4	10	18	10	5	7	1
15	18	24	20	13	20	16	10	11	13	11	9	6	8	9	7	19	3	9	6	
16	24	21	22	16	16	16	11	13	16	12	3	6	4	5	7	10	9	7	4	
17	19	30	14	15	10	23	13	11	5	13	7	7	5	7	6	6	3	5	8	
18	20	19	19	15	17	13	13	12	10	8	12	2	7	5	5	3	6	4	6	
19	15	16	25	16	17	17	6	14	9	4	5	7	6	7	4	3	6	2	9	
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21	12	20	23	21	14	14	10	9	11	6	8	5	13	4	9	10	9	7	2	5
22	21	17	16	19	14	13	8	11	12	12	7	10	9	6	7	5	10	6	7	
23	26	15	15	27	11	15	13	7	14	13	11	7	13	6	3	6	2	5	10	6
24	24	20	15	27	13	10	6	14	6	8	4	13	5	4	7	9	2	4	9	7
25	18	19	17	15	16	10	15	13	6	9	6	5	6	5	5	5	6	5	8	
26	24	22	20	12	10	11	13	12	8	11	7	8	13	6	8	8	6	4	8	
27	17	21	21	21	15	17	10	16	13	9	11	11	4	11	5	8	9	6	6	
28	24	24	16	7	13	12	11	10	14	14	5	8	5	7	14	9	8	6	7	
29	22	20	20	12	17	12	12	13	15	12	12	7	9	7	9	5	2	7	15	5
30	14	20	16	17	13	19	14	10	7	9	8	7	3	7	6	11	3	4	3	
31	16	25	17	15	14	16	14	11	8	6	6	9	7	9	12	10	6	3	4	
32	15	20	14	23	13	11	19	8	10	9	6	8	5	6	6	8	7	3	3	1
33	14	14	16	12	17	13	8	10	18	11	9	7	7	8	2	5	10	6	1	4
34	17	17	14	17	17	19	9	9	9	12	8	6	6	5	5	7	6	5	6	4
35	17	18	19	26	13	9	4	10	9	7	8	11	6	8	8	7	5	5	3	11
36	17	12	18	14	16	15	20	8	6	9	10	5	6	5	7	13	3	8	3	9
37	25	19	22	18	15	10	9	9	14	12	6	7	9	9	6	3	9	9	7	4
38	18	20	16	13	19	7	13	11	10	12	5	9	6	5	6	9	6	10	1	
39	20	21	18	16	17	14	14	11	6	6	7	4	2	6	4	3	9	4	7	
40	20	16	21	19	15	15	9	16	11	7	9	9	5	8	7	4	4	7	10	4
41	15	14	15	16	17	15	10	5	7	19	3	14	4	8	3	6	9	2	6	6
42	21	15	16	21	15	19	11	9	10	4	5	20	4	5	7	6	4	6	4	7
43	16	11	22	13	19	16	4	15	16	5	11	12	4	5	2	4	5	4	1	
44	29	20	21	20	15	11	9	12	14	11	6	10	8	11	5	9	8	2	5	7
45	25	15	12	19	12	12	19	5	10	11	7	6	6	14	7	4	8	6	5	6
46	15	19	14	14	8	5	8	11	8	9	7	9	2	6	4	5	11	4	4	
47	14	14	13	17	12	8	8	7	11	8	2	7	8	4	4	3	10	8	7	
48	19	12	17	15	19	11	17	4	11	6	10	13	11	6	8	3	11	4	10	
49	16	20	18	17	21	14	18	8	11	6	9	9	3	8	9	4	12	7	3	

D02-137

C35

TITLE: 54529-9A 92-02730-L-1

FILE: 545299A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~1 1 91 12 0 0~~ 9/23/91 @ 0925 3/20/92 SA Lopel

TIME OF COUNT: 1 30 92 17 30 0

(567690. MINUTES DECAY TIME)

LIVE TIME: 19 HOURS 9 MINUTES 53 SECONDS = 1149.88 MINUTES

ELAPSED TIME: 19 HOURS 10 MINUTES 6 SECONDS = 1150.10 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

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760

545299A.K:1 54529-9A 92-02730-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	953
0	68993	360	278	247	189	134	120	102	67	51	51	44	49	32	27	26	22	14	17	13
1	34	362	269	291	187	160	93	151	70	49	54	41	36	34	29	27	30	22	21	20
2	0	371	314	275	209	149	117	96	82	58	39	35	38	29	28	27	22	19	19	19
3	0	417	311	265	193	148	116	93	57	54	61	40	45	42	31	27	19	23	24	21
4	0	352	283	265	229	153	98	80	59	50	53	36	38	24	25	32	34	19	17	24
5	0	396	305	271	210	148	101	73	62	64	55	31	37	36	27	29	19	24	18	22
6	0	344	303	290	212	157	108	80	78	61	54	37	44	32	26	23	17	29	19	13
7	0	329	291	258	215	145	131	74	64	50	62	36	66	28	27	33	11	16	14	20
8	0	334	282	263	175	142	111	56	75	46	69	41	107	26	32	25	19	27	15	16
9	1	336	301	274	214	141	102	64	83	54	149	30	62	29	31	19	26	26	19	16
10	1256	347	279	251	194	122	128	86	71	68	158	28	37	28	32	27	23	23	29	15
11	11721	348	272	291	215	141	99	74	65	44	133	38	38	28	22	25	23	15	31	15
12	20796	339	282	260	196	159	115	84	72	51	84	52	34	26	32	20	26	14	23	14
13	11969	372	286	271	183	151	113	74	73	65	64	41	39	36	37	25	19	20	19	14
14	3747	367	287	269	199	136	109	77	52	58	59	38	29	45	34	20	23	17	18	21
15	1230	384	300	247	199	152	101	103	81	44	32	51	34	30	27	26	12	18	20	27
16	876	371	281	273	177	137	87	88	67	60	43	51	40	31	35	25	20	28	14	19
17	801	332	321	282	189	143	91	75	61	44	40	53	36	31	25	27	14	20	15	2
18	759	338	301	245	171	134	99	60	62	69	36	37	37	29	27	32	29	24	18	2
19	712	317	290	262	176	150	112	84	72	56	49	45	38	31	36	33	22	22	22	2
20	701	304	269	254	169	153	86	85	72	53	55	40	29	15	24	22	13	19	22	1
21	672	310	302	237	171	126	110	77	85	70	46	31	33	35	23	24	18	19	27	1
22	660	357	306	243	184	115	113	76	65	58	40	39	50	31	28	25	18	28	21	11
23	669	345	270	262	183	134	96	78	73	54	46	35	28	27	40	20	17	17	19	1
24	648	372	309	267	188	154	94	83	60	59	42	38	25	23	26	22	18	14	18	1
25	639	338	278	257	176	121	89	78	68	57	37	45	38	28	25	23	17	26	18	1
26	588	336	280	241	171	108	92	75	61	41	52	40	32	32	27	25	18	17	17	17
27	615	341	307	233	195	152	100	62	61	49	42	34	27	30	31	30	15	22	23	1
28	584	309	265	229	164	136	84	77	71	48	38	38	34	34	26	22	18	20	13	1
29	555	286	274	251	186	119	84	82	65	51	45	49	26	32	22	15	23	30	20	
30	545	299	308	227	191	127	83	74	73	54	49	37	41	35	24	15	15	16	19	15
31	521	292	308	243	152	126	86	83	62	43	46	45	32	29	29	15	14	30	18	15
32	512	308	293	235	184	112	104	71	63	55	40	60	25	26	27	26	21	13	22	1
33	490	305	283	227	191	127	100	57	65	42	48	44	23	30	24	30	20	24	20	17
34	503	306	300	264	186	119	81	77	65	54	42	36	34	20	23	26	24	22	16	11
35	466	322	310	310	144	133	90	72	73	61	45	39	42	36	21	21	29	25	16	21
36	492	294	278	251	178	107	111	91	62	57	28	36	33	27	23	25	23	18	20	17
37	459	310	280	216	225	92	123	71	61	47	38	43	28	36	31	25	21	26	22	17
38	466	271	292	233	240	120	97	68	51	53	41	49	41	20	31	16	26	23	23	17
39	434	290	334	244	146	106	104	81	65	45	31	31	34	31	22	22	18	23	15	2
40	428	342	306	229	180	119	90	80	57	56	47	44	38	34	31	28	25	11	21	17
41	407	322	283	237	191	104	99	92	54	47	41	28	30	28	20	22	18	24	16	1
42	401	414	282	216	177	127	87	64	65	56	40	31	29	45	21	19	18	17	19	15
43	468	309	284	215	148	124	92	63	70	46	32	37	21	33	25	20	22	16	20	
44	418	279	289	210	141	132	85	68	56	54	54	46	24	35	30	26	23	21	26	11
45	373	284	271	210	164	141	89	73	58	58	43	53	41	33	32	22	51	11	14	2
46	398	279	285	230	178	124	91	67	61	44	42	50	32	37	27	26	32	26	22	1
47	386	291	299	256	153	95	87	59	74	60	36	52	42	41	30	24	39	17	15	1
48	365	275	281	227	145	107	80	67	49	47	41	43	42	32	20	23	18	21	19	2
49	387	270	304	229	149	135	95	65	60	61	44	43	28	29	19	22	17	25	24	13

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565

545299A.K:1 54529-9A 92-02730-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	195
0	27	9	8	11	9	18	8	4	17	6	9	3	9	6	9	8	9	4	3	[illegible]
1	13	18	22	14	21	7	12	8	9	8	5	10	5	3	8	5	4	4	5	[illegible]
2	18	16	11	19	14	9	7	4	16	12	9	9	6	5	8	1	7	3	5	[illegible]
3	17	21	19	10	20	8	17	14	17	6	7	11	8	11	2	8	5	5	7	9
4	14	14	12	19	16	9	9	5	13	12	8	11	6	5	7	3	7	2	7	[illegible]
5	17	21	8	17	9	15	11	3	2	9	8	3	9	8	6	3	6	8	2	4
6	19	18	15	19	16	14	16	13	4	10	3	5	3	5	6	10	4	4	4	[illegible]
7	18	9	12	12	14	13	8	9	5	10	10	3	8	5	5	6	3	8	3	1
8	12	14	11	9	7	11	9	11	13	11	2	5	3	5	10	5	9	7	6	[illegible]
9	16	16	14	9	11	13	13	10	5	47	10	8	4	2	8	6	4	3	6	[illegible]
10	14	16	14	13	10	6	6	11	6	99	5	3	3	5	6	6	4	5	4	[illegible]
11	21	15	10	19	18	14	13	11	12	80	6	8	7	11	6	7	8	10	8	[illegible]
12	25	14	17	10	16	11	11	7	9	44	6	8	8	4	4	9	3	3	2	[illegible]
13	19	24	10	16	6	11	7	9	8	14	8	8	5	3	3	8	13	5	8	4
14	21	13	17	12	8	10	15	15	3	6	10	4	5	8	4	19	4	4	3	4
15	14	13	16	13	9	10	12	12	7	6	8	8	6	6	7	13	8	5	4	3
16	16	17	20	10	16	11	15	8	4	6	4	6	5	3	11	9	2	9	7	[illegible]
17	11	19	15	10	13	10	8	8	9	7	10	8	8	4	4	9	6	8	5	[illegible]
18	17	14	18	11	21	11	10	10	9	6	7	10	4	2	8	4	3	9	4	[illegible]
19	21	16	17	12	13	11	7	16	14	3	6	7	3	4	10	5	3	4	1	[illegible]
20	13	19	24	16	15	12	7	9	6	10	9	6	5	4	6	3	7	4	5	[illegible]
21	12	13	19	21	14	8	14	12	10	13	9	7	11	1	4	3	3	6	3	4
22	12	17	8	21	11	13	9	13	8	4	8	4	5	3	4	5	5	6	7	[illegible]
23	11	15	16	22	7	12	7	8	12	10	6	6	5	10	8	6	3	4	3	[illegible]
24	16	14	19	17	13	13	7	10	6	5	4	4	5	3	6	7	5	2	7	4
25	7	12	17	10	9	10	14	10	6	7	6	7	9	5	5	3	6	16	6	4
26	19	10	10	20	16	11	7	7	8	6	5	5	5	5	5	7	3	3	1	[illegible]
27	14	14	10	12	8	9	7	18	8	6	12	9	6	6	4	10	4	6	5	4
28	22	11	17	17	11	8	6	12	9	5	10	5	5	8	6	13	5	8	4	[illegible]
29	17	9	13	20	14	13	7	6	3	13	4	6	6	8	5	4	4	6	6	5
30	16	10	7	9	12	12	7	14	14	8	12	13	6	6	8	3	5	4	5	4
31	16	20	13	13	13	8	16	7	11	5	6	16	5	7	5	3	6	6	2	4
32	16	9	17	17	14	5	11	10	10	7	6	7	1	7	9	4	7	4	7	1
33	16	13	18	23	15	14	15	8	8	4	4	8	6	3	7	6	3	8	3	[illegible]
34	19	13	15	11	12	16	14	7	15	13	9	5	6	10	6	5	8	4	5	3
35	10	11	14	9	15	12	11	13	9	8	6	7	8	4	10	6	8	4	8	5
36	13	12	12	18	18	11	7	18	7	15	4	10	6	3	2	6	7	4	6	1
37	16	13	19	14	20	10	8	7	5	7	9	6	7	4	1	4	7	2	3	3
38	24	16	16	12	28	12	6	7	11	8	9	9	4	3	0	3	2	3	4	[illegible]
39	21	23	15	13	17	10	11	13	4	9	2	6	7	6	8	6	11	5	3	4
40	13	16	16	10	14	9	12	7	7	5	3	8	5	3	4	3	8	5	5	6
41	12	14	12	24	13	9	20	5	6	4	5	7	4	5	5	8	2	4	7	2
42	20	14	6	12	16	15	8	6	6	7	5	8	8	9	5	7	4	4	9	2
43	11	16	7	14	13	8	13	8	5	6	3	8	3	1	8	10	10	4	6	6
44	17	15	12	12	14	15	10	8	13	10	7	9	5	5	5	8	4	4	4	6
45	15	19	20	11	13	11	7	10	5	12	9	6	10	9	8	9	3	3	4	4
46	13	10	16	15	13	8	15	6	7	10	10	7	6	7	3	4	2	6	4	[illegible]
47	18	15	8	14	10	7	9	7	10	10	6	5	5	8	4	8	7	5	5	[illegible]
48	11	13	13	13	16	6	9	13	8	11	9	9	6	4	6	3	3	4	6	10
49	16	12	13	11	11	11	8	5	6	5	6	5	6	4	2	6	3	5	3	4

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960

TITLE: 54529-10A 92-02731-L-1

FILE: 5452910A.K:1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~1 1 91 12 0 0~~ 9/23/91 1045 3/20/92 SA Kgel

TIME OF COUNT: 1 31 92 12 47 0

(568847. MINUTES DECAY TIME)

LIVE TIME: 75 HOURS 46 MINUTES 13 SECONDS = 4546.22 MINUTES

ELAPSED TIME: 75 HOURS 46 MINUTES 52 SECONDS = 4546.87 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

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5452910A.K:1 54529-10A 92-02731-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	272773	1440	1147	1039	803	546	446	411	244	234	188	148	130	116	146	111	97	81	[illegible]	71
1	34	1344	1130	1028	772	551	436	479	295	222	180	157	156	115	110	91	82	83	74	5
2	0	1473	1098	972	803	584	465	376	269	214	189	170	147	115	113	101	124	83	91	71
3	0	1569	1068	1046	773	579	430	349	261	222	197	159	123	128	88	73	86	78	74	63
4	0	1462	1069	1120	807	557	405	351	280	185	174	162	138	121	107	111	84	78	85	69
5	0	1288	1150	992	812	533	383	317	268	205	171	149	142	122	120	84	101	84	74	60
6	0	1290	1068	1035	738	596	350	296	268	250	227	159	157	135	122	88	108	88	71	73
7	0	1363	1087	1016	776	540	413	313	281	246	262	163	231	114	150	102	82	93	71	53
8	0	1321	1136	952	750	527	401	337	292	213	375	137	286	125	129	89	101	99	71	5
9	6	1308	1055	1007	796	536	424	303	261	214	616	131	224	119	121	103	88	91	120	5
10	5293	1291	1134	1011	735	585	403	309	271	209	689	169	154	131	118	106	84	81	148	80
11	46232	1253	1264	1063	725	524	380	310	238	242	517	157	140	153	114	105	98	63	113	73
12	79697	1316	1178	1011	801	516	411	332	239	227	333	171	139	113	107	105	74	73	59	67
13	45167	1354	1081	1027	758	542	397	297	264	221	202	149	123	124	114	108	86	76	77	71
14	14069	1278	1206	1004	731	530	416	307	276	205	191	160	120	146	104	92	87	76	61	78
15	4732	1385	1132	934	727	494	385	295	258	217	193	160	138	115	113	98	84	82	86	71
16	3169	1388	1140	962	721	500	404	293	256	222	165	159	127	112	100	113	97	82	77	57
17	2993	1249	1145	981	694	471	422	315	246	219	185	155	114	108	108	108	85	109	75	106
18	2918	1207	1146	935	641	537	394	292	276	192	180	160	146	100	94	89	83	109	76	110
19	2851	1342	1201	953	710	517	397	317	259	239	161	132	146	138	109	105	86	79	68	85
20	2750	1242	1110	972	731	500	380	274	252	228	169	163	126	103	91	104	79	93	69	75
21	2551	1204	1117	918	730	510	397	306	256	206	146	137	129	128	113	90	78	86	76	72
22	2611	1287	1132	843	703	490	387	291	251	225	197	138	122	103	88	102	92	96	64	70
23	2480	1218	1130	1086	660	433	377	315	252	196	177	172	145	117	90	68	105	77	72	63
24	2501	1330	1147	1036	699	495	410	319	244	205	160	153	119	122	102	92	71	89	82	63
25	2320	1396	1160	958	696	457	397	308	247	230	149	148	128	106	117	84	88	102	68	75
26	2300	1290	1204	932	702	473	426	288	270	215	151	151	143	114	134	84	92	96	58	6
27	2298	1239	1102	940	742	460	407	316	246	206	161	145	146	109	111	83	71	67	69	71
28	2194	1160	1121	936	666	505	381	306	253	211	191	156	120	110	109	80	74	77	70	73
29	2170	1124	1192	908	668	488	408	320	223	200	172	152	145	123	104	93	73	80	60	7
30	2013	1174	1160	919	666	472	375	297	259	239	178	162	120	113	98	98	86	64	63	7
31	1992	1195	1103	890	628	474	378	296	260	222	171	177	143	119	107	92	77	68	75	7
32	1911	1204	1094	894	674	548	390	310	273	203	164	249	129	120	102	114	96	74	72	7
33	1887	1137	1146	898	623	464	365	316	233	173	167	217	120	116	106	85	92	84	81	6
34	1954	1223	1119	1021	652	461	395	286	239	190	192	160	144	138	80	94	76	94	67	5
35	1811	1143	1064	1185	656	475	357	289	248	189	181	152	142	135	103	81	92	61	80	5
36	1781	1209	1119	919	651	462	385	322	245	191	182	152	139	107	104	84	82	78	80	6
37	1835	1239	1100	898	878	439	380	282	246	193	173	141	124	125	87	94	99	58	77	5
38	1759	1171	1109	920	1011	452	377	289	223	174	144	124	141	108	101	82	80	80	66	67
39	1783	1173	1251	808	710	443	389	264	249	188	173	128	120	125	84	102	92	70	68	6
40	1679	1236	1165	863	735	427	336	281	245	212	151	150	133	110	89	94	71	80	74	6
41	1634	1290	1116	832	661	427	370	296	215	190	151	146	133	113	105	91	68	79	73	7
42	1641	1503	1097	750	637	463	334	257	228	188	134	131	133	135	108	81	111	84	61	6
43	1629	1272	1119	889	563	501	357	321	232	188	180	146	116	121	108	100	90	82	67	5
44	1587	1168	1076	803	605	531	324	302	241	168	149	205	118	131	108	104	96	78	76	59
45	1494	1114	1068	822	642	476	364	280	232	202	147	258	130	122	95	82	169	74	65	5
46	1537	1144	1074	798	603	467	315	248	196	205	167	139	130	116	80	83	160	59	60	7
47	1518	1136	1039	863	594	436	314	270	232	187	164	147	118	115	102	90	101	81	72	65
48	1449	1195	1090	921	580	429	346	273	235	223	150	152	119	118	88	87	98	82	78	7
49	1408	1134	1092	838	604	455	337	268	229	223	163	153	122	118	112	85	89	92	78	6

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OUT

5452910A.K:1 54529-10A 92-02731-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	195[illegible]
0	101	54	60	48	36	47	43	40	35	32	24	29	16	17	19	21	19	19	13	20
1	80	62	65	47	60	45	32	37	33	30	26	19	21	23	31	22	13	17	31	2[illegible]
2	64	76	63	49	71	51	45	38	38	32	32	26	28	18	27	20	24	20	19	1[illegible]
3	58	56	68	56	56	40	29	39	36	35	26	29	30	29	21	21	18	30	18	2
4	59	58	59	61	56	43	42	42	30	35	28	19	24	26	24	16	23	10	19	1[illegible]
5	59	51	60	49	49	48	40	35	38	27	19	27	20	22	23	26	21	21	19	1
6	58	51	54	55	44	46	44	45	45	36	30	23	19	27	20	18	21	19	10	1
7	68	61	65	48	57	41	38	36	39	37	23	29	22	29	17	20	24	16	20	18
8	66	59	61	49	44	42	47	34	40	62	28	30	19	18	23	15	15	10	13	2[illegible]
9	55	66	45	48	69	45	46	28	40	184	33	25	25	24	21	16	22	16	14	1[illegible]
10	73	66	61	43	44	36	43	35	35	383	33	24	21	16	25	15	21	14	12	14
11	61	54	50	47	56	44	41	38	31	330	30	19	36	20	25	24	25	26	18	1[illegible]
12	70	61	55	49	50	38	46	42	33	125	26	24	24	23	21	19	24	17	15	1
13	67	60	50	62	50	38	37	39	28	38	19	27	18	34	23	33	24	31	17	1[illegible]
14	65	53	50	56	62	53	47	34	37	32	21	22	24	21	29	58	28	12	15	25
15	65	50	44	49	33	43	36	41	30	31	18	19	19	22	20	54	20	18	17	1[illegible]
16	71	43	54	51	40	32	43	39	33	29	22	17	23	24	22	38	16	20	21	1[illegible]
17	61	57	71	48	52	34	42	42	34	32	23	29	15	25	22	16	13	18	9	1
18	69	60	70	45	56	52	44	27	23	27	22	28	22	23	22	17	20	18	19	2
19	63	63	90	42	42	42	43	41	33	19	34	23	29	20	24	17	17	23	19	1[illegible]
20	73	61	86	58	44	41	32	32	36	24	28	22	26	17	14	18	19	25	16	[illegible]
21	66	70	65	61	47	41	39	30	30	22	21	21	24	20	17	22	15	27	21	1
22	59	68	50	96	59	47	30	29	31	26	25	19	25	23	23	15	25	22	19	7
23	66	67	54	78	55	30	47	28	33	29	20	24	22	23	26	23	27	13	21	11
24	60	68	54	47	42	39	34	32	32	27	24	17	27	22	22	23	14	19	17	12
25	63	51	54	63	62	50	45	32	35	39	19	24	26	22	18	20	20	15	17	1[illegible]
26	61	64	54	44	48	49	34	46	35	25	35	24	17	11	29	20	8	19	32	17
27	59	58	53	50	56	40	51	46	36	26	16	23	26	22	23	22	19	15	16	19
28	77	66	49	53	53	33	42	38	22	24	31	30	27	23	21	22	24	22	17	1[illegible]
29	69	56	51	49	49	48	47	38	30	30	20	15	22	23	26	34	18	15	17	15
30	67	47	55	61	55	56	39	24	34	31	25	25	25	15	19	25	18	21	15	27
31	65	52	47	57	46	41	71	33	26	25	26	26	30	32	26	22	23	13	16	1[illegible]
32	65	59	55	57	55	45	65	31	34	18	23	26	32	16	25	24	19	21	20	17
33	62	57	65	50	54	37	62	31	29	24	30	20	20	29	25	20	22	20	18	17
34	53	72	53	46	58	30	38	30	28	29	30	19	22	22	18	17	19	18	17	11
35	72	67	60	52	40	32	34	38	24	25	30	21	24	21	20	28	13	22	25	21
36	67	68	52	57	56	45	35	29	23	29	18	31	25	33	23	20	15	20	17	20
37	75	59	47	54	72	34	47	34	25	23	29	32	16	17	24	24	22	19	17	19
38	53	36	64	45	69	45	32	22	32	25	31	35	28	11	19	27	17	18	17	17
39	68	66	62	41	47	39	36	38	35	19	22	26	19	18	20	16	15	18	21	15
40	60	70	48	39	49	35	42	43	41	19	29	27	25	26	26	19	18	16	17	19
41	59	69	56	65	55	52	34	31	28	20	25	33	26	20	21	24	13	14	21	15
42	55	46	65	51	46	46	28	33	36	24	34	33	28	18	24	16	12	23	9	16
43	63	63	47	46	60	39	33	30	34	27	20	29	22	19	24	19	23	19	28	24
44	63	53	67	38	38	38	40	37	31	31	27	33	19	16	26	16	12	17	16	16
45	66	62	41	56	52	40	26	37	37	35	26	22	26	20	25	20	17	20	23	14
46	59	66	49	45	40	36	31	34	28	26	25	18	26	23	12	24	31	24	14	1[illegible]
47	48	60	59	46	44	36	46	31	27	24	24	24	14	14	15	19	15	27	[illegible]	1
48	62	53	51	41	41	42	32	28	26	27	22	30	20	15	19	21	20	23	17	14
49	47	55	48	55	46	36	33	22	37	23	25	25	21	24	22	22	16	18	16	

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110

TITLE: 54529-11A 92-02732-L-1

FILE: 54529110.K:1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~1 1 91 12 0 0~~ 9/23/91 1016 3/20/92 E Angel

TIME OF COUNT: 2 3 92 16 38 0

(573398. MINUTES DECAY TIME)

LIVE TIME: 22 HOURS 8 MINUTES 40 SECONDS = 1328.80 MINUTES

ELAPSED TIME: 22 HOURS 9 MINUTES 0 SECONDS = 1329.00 MINUTES

(DEAD TIME = 0.030)

FLUX CORR. FACT.: 0.000000

GAIN: 1.[illegible] KEV/CHAN

WEIGHT: 0.[illegible]

PLT INT:	0
PLT LOG:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FLR:	0
NOV:	1

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113

5452911A.K;1 54529-11A 92-02732-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	[illegible]
0	79720	406	334	320	251	170	145	172	96	61	56	40	43	48	35	30	18	24	23	21
1	34	449	328	302	252	178	108	193	72	60	56	47	32	45	35	33	42	31	16	[illegible]
2	0	445	353	304	226	212	130	115	82	85	48	52	44	44	29	39	30	29	22	[illegible]
3	0	447	346	290	247	185	133	80	85	67	56	57	37	36	40	35	31	24	29	[illegible]
4	0	453	389	317	289	157	116	87	86	78	52	40	50	38	39	30	18	31	20	[illegible]
5	0	428	352	293	264	167	123	112	84	75	47	51	44	42	31	20	26	26	19	[illegible]
6	0	405	345	328	234	166	138	110	82	75	65	51	55	36	41	36	34	23	23	1
7	0	435	341	307	259	161	123	112	84	61	65	40	91	40	23	28	36	24	21	2
8	0	432	356	306	229	162	112	98	68	67	119	58	150	40	32	24	21	28	28	22
9	3	399	374	308	216	160	118	96	93	49	201	47	93	40	33	23	33	29	37	30
10	1906	438	360	317	235	169	139	110	78	56	108	42	53	30	33	31	32	31	40	16
11	14821	375	353	300	237	167	121	94	81	63	100	44	45	34	45	34	25	28	27	27
12	24247	389	357	345	219	137	118	90	88	66	81	34	51	19	29	28	31	17	18	21
13	12861	419	351	288	255	152	125	91	69	72	58	49	46	29	31	19	24	35	19	[illegible]
14	3009	421	360	290	214	178	119	83	68	76	58	43	43	36	29	35	25	17	[illegible]	[illegible]
15	1307	425	369	312	223	172	134	103	61	65	65	46	50	38	26	33	[illegible]	19	[illegible]	[illegible]
16	955	436	335	286	237	162	139	95	67	60	61	45	51	31	38	32	28	25	[illegible]	[illegible]
17	900	483	339	293	241	175	125	82	76	62	58	46	50	32	26	46	28	30	30	29
18	901	365	370	298	202	157	118	96	82	54	46	47	49	34	33	42	24	23	20	27
19	852	356	326	278	187	142	106	95	75	75	40	45	39	27	36	30	28	19	28	[illegible]
20	823	381	335	260	218	147	131	80	85	52	51	50	26	39	43	31	13	28	25	[illegible]
21	879	380	368	283	198	155	119	87	76	54	72	42	48	29	33	23	27	23	23	2
22	784	376	366	277	189	144	108	95	68	59	46	39	37	34	25	36	23	22	25	1
23	754	406	365	299	232	156	124	84	74	82	68	48	51	21	31	23	26	24	24	2
24	723	415	352	308	223	196	142	111	67	73	48	41	43	31	41	26	29	28	23	[illegible]
25	716	415	353	334	199	163	113	104	78	65	49	38	47	37	37	37	29	21	21	21
26	645	387	350	279	222	172	127	95	73	63	49	37	42	44	32	29	32	20	20	[illegible]
27	683	388	338	302	191	163	124	95	82	66	59	44	43	23	42	24	26	20	24	[illegible]
28	667	367	340	250	194	147	122	84	73	72	51	36	40	30	29	25	21	23	19	2
29	587	401	346	303	199	161	116	85	67	59	63	39	36	39	34	29	36	23	27	21
30	645	371	344	260	195	119	115	103	84	52	41	41	28	22	37	26	28	21	18	1
31	598	351	346	254	172	131	144	96	70	59	54	59	36	40	21	34	34	27	21	1
32	556	328	361	260	223	171	121	84	77	54	53	72	44	32	26	22	28	31	24	2
33	550	342	364	259	195	149	111	77	65	60	49	56	32	36	35	28	15	17	33	[illegible]
34	568	375	337	315	197	133	108	96	72	51	43	53	38	32	31	31	27	17	25	2
35	564	346	353	343	205	156	110	88	70	48	42	44	47	34	33	25	33	21	20	1
36	529	348	320	269	198	130	105	72	87	63	55	51	46	31	34	33	23	19	16	[illegible]
37	555	366	335	244	246	141	135	90	67	52	62	46	40	29	34	28	24	19	18	1
38	490	357	382	274	287	137	119	70	77	52	39	53	45	25	28	25	35	27	18	1
39	533	343	401	274	203	154	114	82	70	62	38	35	40	33	31	22	21	18	22	2
40	493	353	374	266	193	142	117	83	59	69	46	40	35	37	37	32	32	21	16	[illegible]
41	493	387	360	247	226	144	100	79	72	59	64	41	40	40	31	34	39	23	18	[illegible]
42	403	401	335	286	184	137	122	70	84	69	52	31	43	33	39	31	28	33	28	2
43	401	379	354	253	190	168	100	68	68	47	45	44	45	28	30	32	32	17	15	1
44	465	359	349	240	184	215	113	92	75	60	55	71	41	28	35	30	35	13	25	[illegible]
45	499	324	332	266	168	184	97	93	70	58	46	72	38	32	26	38	52	16	19	[illegible]
46	433	348	339	262	172	137	87	104	71	56	49	44	36	34	17	25	44	19	28	1
47	477	370	319	279	198	123	136	74	58	50	52	45	29	28	27	31	34	18	29	[illegible]
48	473	365	305	274	203	151	102	69	54	80	49	42	45	31	29	30	28	39	21	34
49	486	324	326	245	162	150	108	82	66	62	55	46	49	43	12	23	25	17	19	22

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5452911A.K:1 54529-11A 92-02732-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	26	24	30	18	25	16	3	14	11	6	8	8	6	11	6	5	5	8	2	[illegible]
1	22	16	11	13	16	14	14	12	15	10	11	8	5	9	6	6	8	6	6	5
2	12	19	19	10	11	16	14	8	8	9	8	5	2	4	3	9	2	6	6	5
3	17	16	15	16	11	11	13	8	8	13	4	4	15	9	11	6	5	5	4	3
4	25	22	23	17	14	12	9	10	7	10	4	13	10	6	5	4	6	2	6	[illegible]
5	19	14	19	24	27	14	12	12	7	11	12	8	10	5	6	8	4	4	4	[illegible]
6	12	15	17	13	15	16	15	8	20	8	6	6	3	6	4	5	6	4	3	[illegible]
7	22	21	23	12	18	18	18	12	15	11	6	7	8	12	5	6	6	5	5	[illegible]
8	20	18	14	12	22	11	5	8	8	13	11	2	9	6	6	5	6	1	5	[illegible]
9	13	23	13	22	11	11	15	12	13	46	7	6	5	6	6	11	7	7	[illegible]	[illegible]
10	20	20	12	13	8	13	11	14	16	105	11	7	8	11	9	6	7	4	5	[illegible]
11	23	30	21	8	23	16	13	9	10	104	8	9	6	4	10	5	6	3	8	[illegible]
12	17	14	19	23	12	16	12	8	14	50	7	8	9	8	5	7	2	3	10	6
13	22	21	17	14	14	13	14	10	10	20	11	5	6	9	8	17	8	4	4	[illegible]
14	18	14	20	18	24	13	13	15	22	9	13	7	3	6	10	24	5	5	4	1
15	33	24	18	15	15	11	12	10	9	8	8	3	7	6	9	27	5	7	4	[illegible]
16	18	20	14	14	10	12	11	9	9	9	4	7	8	7	5	19	4	4	6	[illegible]
17	14	21	20	22	12	15	12	14	7	7	4	6	6	11	5	7	6	5	3	[illegible]
18	21	18	24	12	21	15	10	9	10	6	12	7	9	7	8	9	7	5	8	[illegible]
[illegible]	17	13	49	21	15	4	18	15	10	9	6	6	9	4	7	9	7	5	6	[illegible]
20	18	25	37	14	7	8	12	3	15	5	4	5	10	5	3	5	9	6	11	[illegible]
21	16	11	24	17	13	10	13	13	5	8	12	2	11	3	3	4	10	3	1	[illegible]
22	24	17	21	23	14	8	12	10	9	4	8	5	11	9	4	6	2	3	4	[illegible]
23	18	17	21	32	14	17	9	9	9	5	9	4	8	6	4	5	8	5	4	[illegible]
24	13	15	25	17	12	15	10	11	8	8	8	8	5	8	6	3	5	8	9	[illegible]
25	15	24	15	20	16	16	15	8	11	4	7	8	10	7	9	3	4	4	5	[illegible]
26	10	18	14	18	22	12	11	14	4	9	8	7	8	10	4	3	6	2	5	[illegible]
27	13	17	16	17	15	10	16	5	8	13	12	11	4	6	10	6	1	1	5	[illegible]
28	10	26	15	10	17	21	11	16	8	10	9	4	7	7	2	3	7	3	6	[illegible]
29	25	20	17	17	14	14	7	11	8	12	10	4	4	4	6	4	1	4	3	[illegible]
30	13	17	18	20	16	8	11	9	18	8	5	3	8	4	10	9	6	5	2	[illegible]
31	19	20	19	14	16	19	14	11	11	12	7	5	6	12	9	8	5	6	5	[illegible]
32	17	25	10	19	14	12	16	8	18	5	5	9	8	4	3	8	3	4	5	[illegible]
33	15	20	13	15	11	12	18	8	13	9	10	7	9	5	5	3	3	3	1	5
34	15	29	15	10	19	8	12	12	6	9	10	9	6	6	8	6	5	11	2	[illegible]
35	22	17	13	12	15	11	7	10	11	8	9	5	6	4	6	2	8	7	5	[illegible]
36	22	20	14	16	22	17	10	9	12	7	14	3	5	3	5	5	7	8	5	[illegible]
37	28	23	13	14	34	6	7	13	9	5	6	8	8	5	6	5	8	5	8	10
38	17	19	16	13	24	16	12	12	10	10	8	9	9	8	4	4	3	7	3	7
39	22	21	16	15	16	18	12	11	5	4	11	8	9	5	10	6	3	3	9	[illegible]
40	20	22	16	19	17	8	11	13	8	8	3	4	9	5	3	3	6	6	4	[illegible]
41	23	14	16	16	10	13	10	15	10	8	11	9	6	8	8	8	10	3	6	[illegible]
42	17	22	15	15	8	12	12	11	12	13	8	8	9	6	8	3	7	3	1	5
43	21	27	12	13	18	15	12	7	9	9	7	14	10	3	10	3	2	5	10	[illegible]
44	24	10	17	10	16	19	9	9	9	5	13	9	9	2	9	4	4	4	5	[illegible]
45	21	15	12	15	15	11	10	11	12	14	6	10	4	10	6	6	8	4	4	[illegible]
46	23	18	15	15	17	6	13	11	12		7	7	9	3	10	5	4	7	7	8
47	23	21	15	14	18	10	8	12	7		2	8	2	8	12	7	10	7	11	5
48	24	26	17	20	7	13	15	10	12		7	12	9	3	8	7	7	5	5	
49	19	11	19	20	10	12	17	8	12	6	4	12	9	7	7	4	6	3	2	

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TITLE: 54529-12A 92-02733-L-1

FILE: 54529120.K:1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~1 1 91 12 0 0~~ 9/20/91 0850 3/20/92 SA Lopez

TIME OF COUNT: 2 4 92 14 53 0

(574733. MINUTES)

LIVE TIME: 22 HOURS 22 MINUTES [illegible] SECONDS = 1342.17 MINUTES

ELAPSED TIME: 22 HOURS 22 MINUTES [illegible] SECONDS = 1342.40 MINUTES

(DEAD TIME = 0.00[illegible]

FLUX CORR. FACT.: 0.[illegible]

GAIN: 1.[illegible] KEV/CHAN

WEIGHT: 0.580000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FLW:	0
NOV:	1

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54529-12A.K:1 54529-12A 92-02733-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	80530	433	353	326	240	153	132	160	88	77	58	53	41	36	30	40	25	34	22	19
1	34	453	362	317	227	174	117	106	88	76	60	57	50	33	43	39	24	33	24	21
2	0	436	344	365	268	191	136	131	91	91	65	43	53	36	37	26	26	28	26	[illegible]
3	0	472	351	356	251	190	151	115	90	50	57	39	42	52	30	26	39	30	24	25
4	0	451	334	332	290	169	136	96	77	73	49	42	50	42	44	33	23	23	25	26
5	0	455	339	316	229	169	143	97	102	67	51	70	37	46	28	32	24	31	23	[illegible]
6	0	413	343	338	232	167	117	86	88	62	62	50	44	43	39	25	25	[illegible]	23	[illegible]
7	0	390	334	283	242	185	121	104	75	56	66	39	101	37	41	27	25	19	20	[illegible]
8	0	364	311	328	241	161	146	97	80	60	128	50	142	32	29	32	31	28	23	19
9	3	[illegible]	366	315	234	156	143	95	91	56	199	54	87	37	40	38	33	28	27	[illegible]
10	1875	424	351	305	252	177	120	96	92	69	226	39	51	27	31	27	29	18	50	[illegible]
11	14423	399	374	332	239	179	120	105	91	72	133	39	37	40	44	38	23	28	26	[illegible]
12	24224	420	359	334	234	153	142	95	107	70	88	45	42	36	38	32	34	26	[illegible]	2
13	13081	432	356	325	204	168	135	111	79	71	64	45	43	35	27	26	34	29	19	2
14	3920	452	350	272	218	153	157	99	84	62	65	57	45	38	34	28	29	20	29	[illegible]
15	1412	[illegible]	324	332	206	168	117	101	89	79	50	51	38	41	23	31	23	27	27	[illegible]
16	961	453	327	282	219	178	125	106	94	65	50	51	34	42	38	33	33	29	31	16
17	892	391	368	298	219	162	123	97	81	63	67	34	36	36	31	41	35	23	16	20
18	816	369	347	292	175	167	127	96	80	64	49	42	37	43	43	41	23	25	21	[illegible]
19	808	371	351	310	228	162	121	86	68	75	54	48	38	36	30	27	22	25	21	28
20	783	380	340	337	240	140	137	73	84	63	52	58	52	30	38	36	29	25	29	[illegible]
21	785	400	383	318	204	150	149	102	71	55	67	49	36	32	45	26	[illegible]	32	24	21
22	810	385	344	294	199	169	129	98	78	67	48	56	40	40	26	31	27	27	22	3
23	799	377	353	275	205	154	137	96	86	70	62	46	37	29	33	23	21	23	24	1
24	765	440	380	316	216	164	121	84	87	78	55	37	26	36	42	27	27	30	29	[illegible]
25	736	405	350	293	220	181	138	102	79	67	51	46	37	38	36	30	40	26	15	[illegible]
26	746	400	356	273	212	154	119	100	74	57	54	45	44	40	43	34	31	18	21	1
27	673	394	337	310	222	154	138	71	72	61	55	43	41	33	30	35	27	24	24	[illegible]
28	677	369	344	301	208	139	131	98	58	46	50	41	49	39	31	29	20	24	18	
29	659	360	318	278	207	134	122	102	63	68	47	48	32	42	27	43	18	25	17	[illegible]
30	633	363	328	257	230	150	95	74	72	56	64	52	47	48	30	32	32	20	19	[illegible]
31	606	351	353	294	212	151	123	77	80	66	56	86	49	32	35	28	31	27	18	[illegible]
32	664	316	354	269	185	162	129	80	81	69	54	78	29	38	28	32	22	20	23	[illegible]
33	611	372	346	305	208	142	95	84	69	67	46	67	29	40	30	26	39	28	31	
34	557	417	340	312	200	130	115	87	76	76	56	37	38	42	30	25	22	31	19	
35	609	375	316	356	193	122	121	80	81	60	53	42	34	33	30	23	29	30	25	
36	561	366	362	287	188	154	110	69	101	56	52	40	39	29	40	29	23	26	24	[illegible]
37	523	370	350	276	269	158	139	80	86	65	52	51	37	32	27	34	34	29	19	1
38	536	346	359	255	337	139	159	91	66	65	41	34	36	34	31	26	37	23	17	[illegible]
39	526	368	401	248	194	141	126	94	72	57	56	41	44	30	28	30	32	22	24	[illegible]
40	495	343	322	252	241	103	113	105	75	58	58	49	42	30	24	28	25	14	17	[illegible]
41	489	493	352	253	235	133	113	62	67	57	40	46	31	41	23	33	28	23	23	[illegible]
42	475	467	344	256	180	123	115	88	83	55	52	37	41	26	31	24	33	38	24	21
43	515	418	334	268	173	158	123	80	62	58	54	46	40	38	31	26	31	32	22	1
44	436	385	334	256	186	181	113	112	69	60	55	64	52	37	31	27	28	22	24	[illegible]
45	473	341	358	281	166	166	111	68	76	73	47	52	31	42	23	34	50	25	25	[illegible]
46	476	376	333	279	167	151	109	95	72	44	56	43	36	32	42	21	48	24	21	[illegible]
47	476	344	339	311	184	130	86	94	60	59	49	53	39	37	31	32	37	25	19	[illegible]
48	454	364	353	298	211	156	106	73	69	57	47	51	41	49	29	32	37	14	[illegible]	[illegible]
49	443	373	318	244	181	136	113	98	78	60	46	34	49	39	31	17	21	27	23	20

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5452912A.K;1 54529-12A 92-02733-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1951
0	20	27	18	14	21	13	8	13	12	13	7	11	4	6	6	5	6	10	10	11
1	22	22	24	18	17	12	17	16	13	11	6	8	6	1	7	4	9	4	4	4
2	24	25	20	9	16	18	16	6	13	9	6	15	7	6	9	12	5	4	7	[illegible]
3	15	16	24	16	14	13	12	16	11	9	10	3	8	5	9	8	4	7	6	7
4	21	20	21	20	20	20	11	9	8	10	6	5	6	4	5	10	5	5	5	5
5	19	20	19	18	11	18	8	12	9	10	18	5	19	7	7	8	8	5	4	6
6	22	23	15	24	20	10	12	12	13	12	7	8	6	3	10	8	9	7	6	[illegible]
7	22	16	18	13	12	11	11	9	13	12	7	11	10	4	6	4	8	10	7	[illegible]
8	18	24	16	11	15	15	13	17	17	19	7	7	5	11	7	6	4	2	3	[illegible]
9	28	14	15	15	19	9	15	5	6	53	13	7	10	7	7	11	6	10	3	[illegible]
10	24	21	17	18	15	18	12	14	6	100	11	8	9	6	4	6	5	4	5	5
11	28	14	12	27	18	13	12	9	7	121	7	10	3	5	7	4	10	6	8	[illegible]
12	22	21	22	24	13	17	14	11	10	55	10	5	6	4	16	12	5	5	1	[illegible]
13	24	16	17	11	10	13	7	4	10	14	5	10	11	8	5	12	7	8	1	[illegible]
14	25	13	15	15	15	10	13	8	6	9	4	5	4	9	2	33	6	1	9	1
15	20	18	9	28	11	10	10	9	16	9	0	7	10	6	9	28	7	5	9	[illegible]
16	20	15	15	15	15	15	11	10	16	3	14	7	14	14	5	21	6	10	6	[illegible]
17	15	19	15	25	18	11	13	7	9	14	3	3	8	2	1	5	6	4	3	[illegible]
18	12	20	27	15	15	11	15	10	7	8	10	3	7	5	7	6	8	4	4	[illegible]
19	18	15	44	20	10	10	6	16	9	5	4	7	7	2	7	8	5	8	6	[illegible]
20	15	14	35	18	14	17	12	7	14	12	7	11	6	7	9	6	6	3	0	[illegible]
21	22	12	18	18	18	12	6	7	10	17	3	8	11	5	5	9	4	1	5	[illegible]
22	24	9	17	26	8	12	7	6	10	12	4	8	10	11	3	7	6	4	5	[illegible]
23	9	18	15	14	8	12	11	12	11	3	10	11	7	5	10	4	7	4	6	[illegible]
24	16	12	15	21	9	21	12	10	11	10	13	7	6	9	1	8	6	4	4	[illegible]
25	18	18	19	21	16	16	11	13	4	13	6	5	11	9	6	4	3	5	3	[illegible]
26	25	18	19	20	13	17	11	14	8	10	8	6	5	2	1	5	9	8	4	[illegible]
27	17	23	24	13	15	12	6	20	6	4	7	11	8	4	5	7	4	6	4	[illegible]
28	11	19	14	20	13	11	8	11	7	5	7	5	16	3	7	4	6	5	2	[illegible]
29	22	11	14	17	12	11	5	12	8	9	6	6	4	4	7	5	5	4	7	[illegible]
30	16	15	22	16	7	10	9	13	10	10	9	9	10	6	13	11	8	5	5	[illegible]
31	19	19	19	23	23	13	17	14	12	7	9	9	8	5	7	8	6	4	7	[illegible]
32	16	14	13	23	12	17	25	7	6	6	6	8	8	4	12	7	5	6	4	[illegible]
33	14	15	21	16	14	14	17	8	9	8	8	7	9	4	4	7	8	8	7	[illegible]
34	20	18	20	14	20	15	7	8	14	4	8	7	6	2	4	3	2	6	3	[illegible]
35	18	16	18	15	13	10	11	14	10	7	3	8	5	5	6	6	10	3	5	6
36	15	17	17	21	13	14	3	13	14	5	11	9	6	5	8	7	2	8	5	3
37	16	17	19	11	20	13	14	6	11	11	3	12	8	7	11	8	5	5	9	5
38	19	17	14	14	19	11	14	7	9	10	4	8	8	6	6	3	3	3	10	[illegible]
39	21	14	11	22	18	6	12	11	14	13	8	9	6	8	10	4	7	4	4	[illegible]
40	19	20	20	21	14	15	14	8	7	8	7	7	5	5	3	5	8	3	7	3
41	12	24	14	18	10	11	7	6	13	8	5	11	5	7	7	7	5	7	6	[illegible]
42	25	23	16	10	20	17	9	4	5	7	6	14	4	8	4	7	10	5	1	[illegible]
43	27	19	20	16	14	19	8	11	10	6	11	16	6	6	6	6	2	5	7	[illegible]
44	18	15	16	20	13	12	12	13	7	8	10	5	5	6	3	5	7	6	1	7
45	24	20	19	13	17	7	14	11	7	3	9	8	3	13	4	7	1	9	1	4
46	22	28	14	19	23	12	15	13	14	8	6	11	11	5	6	4	2	4	3	8
47	19	24	18	11	13	14	8	14	9	5	10	6	7	7	5	6	9	7	3	6
48	8	12	21	16	15	10	20	8	11	10	7	6	6	7	5	3	5	4	4	[illegible]
49	18	19	13	12	17	9	10	3	10	10	5	13	7	7	7	5	8	3	3	[illegible]

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TITLE: 54529-13-A 92-02734-L-1

FILE: 5452913A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

3/20/92 S A Lepel

TIME ZERO: 9 30 91 11 5 0

TIME OF COUNT: 2 5 92 16 33 0

(184648. MINUTES DECAY TIME)

LIVE TIME: 24 HOURS 8 MINUTES 6 SECONDS = 1448.10 MINUTES

ELAPSED TIME: 24 HOURS 8 MINUTES 18 SECONDS = 1448.30 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

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5452913A.K;1 54529-13-A 92-02734-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	86886	467	366	351	246	180	149	162	95	72	61	65	49	48	25	30	39	26	27	2
1	34	503	366	363	286	194	159	215	91	59	68	62	45	51	45	30	37	20	33	2
2	0	486	381	329	273	215	141	134	99	76	61	52	52	45	42	31	34	34	35	2[illegible]
3	0	517	345	337	293	179	142	101	85	75	57	68	33	43	46	30	21	28	30	[illegible]
4	0	486	382	319	262	182	114	112	91	82	67	56	48	44	44	30	24	20	19	[illegible]
5	0	434	362	367	271	181	139	120	103	76	72	51	49	36	44	38	29	17	27	[illegible]
6	0	435	362	301	261	206	144	100	93	66	67	48	54	35	39	27	29	23	17	3
7	0	419	373	361	239	201	132	79	92	87	82	63	121	48	28	30	25	27	23	2
8	0	491	351	340	265	174	123	93	102	72	137	57	194	46	47	35	24	22	41	[illegible]
9	11	423	420	336	267	193	137	111	102	75	211	59	119	45	44	32	21	27	40	[illegible]
10	2137	454	383	347	254	159	149	91	91	74	221	54	51	43	34	35	34	21	38	[illegible]
11	15767	408	392	317	251	170	121	124	104	92	151	54	38	49	43	20	28	33	29	[illegible]
12	25575	460	402	346	270	183	151	114	89	85	97	50	49	46	29	30	36	29	20	26
13	13814	454	407	357	241	175	148	115	81	73	82	57	48	36	37	25	24	19	29	3[illegible]
14	4160	446	371	320	254	185	124	107	94	71	65	54	33	44	39	33	20	21	25	2
15	1447	482	392	320	235	187	123	109	79	71	54	45	61	45	31	26	28	31	27	2
16	1026	474	368	324	244	164	140	111	77	60	66	56	48	47	32	53	21	25	19	2[illegible]
17	1024	429	379	296	243	187	117	113	92	73	69	55	47	45	45	58	25	29	30	2[illegible]
18	1082	399	356	375	236	167	122	87	82	75	53	54	33	36	44	29	31	30	31	4
19	854	417	386	290	235	158	130	109	85	59	62	44	44	40	39	39	33	26	25	2
20	877	403	385	293	241	167	126	106	89	69	63	50	44	45	29	22	27	29	24	2
21	869	441	370	333	228	173	134	86	87	70	62	53	41	36	39	34	20	20	23	2
22	917	448	396	311	247	158	129	98	77	74	54	58	45	40	41	30	30	38	24	2
23	862	411	389	312	255	173	127	103	92	79	52	57	41	42	29	26	31	18	21	2
24	805	473	361	335	237	160	132	106	87	56	50	56	47	47	33	26	28	31	22	1
25	714	478	378	312	214	161	119	114	72	66	60	62	47	36	44	26	20	18	23	1
26	746	434	403	303	237	179	122	76	83	64	59	55	41	34	36	46	28	21	26	15
27	775	417	395	295	263	173	132	108	76	59	35	49	37	35	38	31	28	36	24	2
28	757	380	384	329	208	181	131	109	84	62	61	64	47	35	32	37	30	28	18	2[illegible]
29	718	361	349	332	221	166	109	99	87	54	53	51	41	41	32	28	25	25	20	1
30	704	392	362	294	231	153	122	96	95	62	51	51	42	45	37	31	35	26	22	2
31	685	385	357	320	218	168	124	99	80	68	67	78	46	33	34	34	38	24	30	1[illegible]
32	677	404	395	285	216	159	145	104	75	102	55	89	55	46	32	35	26	29	37	31
33	664	431	409	291	183	150	120	89	76	63	64	68	41	41	33	34	18	22	29	1[illegible]
34	682	44[illegible]	362	374	207	169	127	97	78	62	57	66	57	45	39	45	37	19	3[illegible]	23
35	622	411	368	381	220	170	121	111	83	57	59	70	47	40	27	29	24	25	25	[illegible]
36	577	424	403	324	210	149	114	99	74	69	60	51	50	36	33	26	33	17	16	1
37	572	433	353	297	326	140	150	97	66	79	39	43	46	39	24	25	28	24	24	1
38	587	388	375	289	333	154	135	102	65	64	57	37	35	41	30	28	31	22	26	2
39	554	411	418	270	205	167	124	93	76	79	55	49	40	40	34	34	33	20	27	1
40	569	370	410	286	241	155	110	110	60	53	51	44	46	60	33	35	38	28	19	2
41	537	386	377	289	233	140	119	78	78	61	47	60	46	46	42	30	37	25	24	1
42	540	530	408	298	215	165	118	88	85	56	67	46	50	46	34	44	30	22	19	1
43	570	432	374	274	194	167	149	99	69	62	51	38	43	31	37	30	35	25	24	23
44	534	418	330	278	208	219	143	98	82	65	51	54	43	51	41	37	29	30	21	3
45	498	369	377	268	178	189	116	106	83	68	44	76	53	34	34	26	52	21	20	2
46	547	368	367	291	191	147	115	101	83	57	45	57	52	42	38	29	42	22	26	25
47	541	394	323	341	217	143	111	81	85	51	47	45	46	41	35	38	29	32	16	3[illegible]
48	516	378	368	324	182	156	117	90	81	77	53	54	36	40	34	23	21	31	22	[illegible]
49	504	372	329	304	175	135	119	76	71	67	51	48	48	40	31	26	27	25	30	18

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5432913A.K;1 54529-13-A 92-02734-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	.95
0	21	14	17	22	18	20	11	17	12	6	8	4	8	10	6	5	4	5	6	[illegible]
1	20	17	15	24	19	12	16	8	10	13	8	10	13	10	11	6	5	6	6	[illegible]
2	24	32	17	12	12	17	10	9	17	10	7	4	2	11	8	10	6	2	5	
3	21	12	21	21	23	15	10	7	4	9	3	4	8	9	4	4	6	3	5	
4	14	18	18	20	16	21	5	12	10	11	10	7	8	8	7	9	4	4	1	
5	19	19	18	16	16	14	18	11	7	10	7	8	16	12	6	6	5	4	6	
6	13	21	13	23	14	18	18	15	12	12	7	4	7	11	5	8	3	10	5	[illegible]
7	19	14	16	19	18	19	11	10	11	7	7	6	13	7	9	14	6	5	6	12
8	14	19	24	16	17	22	12	16	20	13	10	11	13	8	2	10	6	8	2	8
9	22	15	14	16	15	14	13	13	12	56	9	8	5	6	4	12	4	6	6	2
10	16	21	24	18	18	13	10	10	7	138	9	6	6	6	10	1	6	5	12	8
11	21	21	24	21	21	13	11	14	9	111	7	14	12	12	5	5	10	4	6	8
12	19	22	19	20	9	10	11	9	6	54	14	12	7	12	7	6	2	8	6	[illegible]
13	25	21	22	18	22	14	16	7	11	13	8	9	14	8	3	13	6	4	6	[illegible]
14	26	20	20	11	15	13	14	10	14	10	6	10	14	7	9	15	7	9	4	
15	21	15	16	11	11	21	15	6	10	10	10	4	7	6	3	29	9	12	6	[illegible]
16	14	13	12	25	16	7	14	9	7	10	15	9	4	6	4	17	9	7	3	[illegible]
17	18	14	20	18	11	11	13	7	10	4	6	7	4	9	5	10	3	10	3	3
18	21	25	26	25	16	17	12	20	6	11	7	11	7	6	8	6	4	3	4	9
	16	11	40	21	17	7	14	9	10	11	6	7	9	8	6	3	7	4	8	
20	18	19	41	20	15	13	10	13	7	7	8	7	16	7	4	2	6	10	14	8
21	18	16	24	18	14	14	11	14	11	14	12	7	7	4	9	9	1	6	3	1[illegible]
22	24	21	15	28	13	12	11	11	9	3	6	13	2	9	4	8	4	4	5	6
23	16	17	16	26	21	8	6	11	11	6	7	8	7	3	4	9	9	5	5	6
24	16	28	10	19	18	20	10	9	10	9	7	6	11	7	15	4	7	7	7	2
25	20	16	26	9	16	11	11	12	8	4	10	5	10	6	12	3	6	8	1	2
26	29	30	9	23	13	16	7	16	14	5	6	3	8	8	8	7	1	7	6	
27	23	19	14	17	10	6	6	21	12	9	10	9	6	3	13	8	9	5	5	[illegible]
28	21	20	21	23	22	5	11	13	12	9	7	7	10	6	9	9	8	7	7	6
29	14	30	18	18	15	13	15	14	11	4	6	5	5	7	9	10	4	2	6	[illegible]
30	20	21	23	11	16	13	15	12	15	5	10	12	6	5	7	6	5	6	6	[illegible]
31	25	26	23	27	23	9	25	7	9	6	5	8	11	5	5	10	5	6	7	[illegible]
32	17	24	16	27	18	12	18	7	6	7	9	6	2	2	9	6	7	3	7	
33	22	17	14	17	19	12	19	12	7	12	13	12	5	7	7	5	7	5	8	[illegible]
34	24	16	16	23	12	15	12	12	5	7	5	7	8	8	9	6	6	6	7	5
35	14	25	17	16	19	15	14	12	6	6	14	10	8	9	9	9	8	4	10	
36	21	10	10	9	24	10	13	7	9	10	10	4	6	13	6	7	2	1	5	
37	21	14	20	19	25	17	18	10	5	10	7	3	11	6	7	11	7	8	6	
38	22	17	24	12	22	21	13	9	10	8	8	12	7	6	6	4	11	10	11	[illegible]
39	24	12	29	17	16	13	15	7	9	7	8	11	4	7	5	6	9	7	4	
40	14	13	16	16	19	13	15	19	19	12	15	10	3	8	7	9	3	5	6	
41	20	14	16	13	18	14	15	9	14	11	11	8	4	5	7	9	5	5	1	
42	18	22	13	13	13	13	7	6	11	10	10	9	6	2	3	8	4	6	3	9
43	14	27	22	21	11	15	5	7	12	12	12	8	8	6	7	6	3	6	7	8
44	19	22	20	21	9	12	12	15	7	8	9	12	11	7	7	6	5	1	6	2
45	26	17	16	9	13	9	8	12	10	6	8	6	4	5	11	5	9	12	5	
46	27	17	17	17	14	15	8	12	14	8	6	9	10	8	8	2	7	4	4	[illegible]
47	28	26	16	8	31	19	17	18	15	8	8	7	8	9	8	6	4	5	1	
48	24	16	9	16	14	18	16	10	7	6	9	10	1	9	4	9	8	9	4	
49	28	17	19	15	23	17	10	12	8	10	3	7	5	2	8	6	14	9	5	2

D02-152

TITLE: 54529-14-A 92-02735-L-1

FILE: 5452914A.L:1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 9 30 91 12 42 0

TIME OF COUNT: 2 6 92 16 47 0

(186005. MINUTES DECAY TIME)

LIVE TIME: 23 HOURS 42 MINUTES 4 SECONDS = 1422.07 MINUTES

ELAPSED TIME: 23 HOURS 42 MINUTES 18 SECONDS = 1422.30 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/20/92 EA Lgal

D02-153

306

5452914A.L:1 54529-14-A 92-02735-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	85324	476	372	323	253	187	165	168	76	81	74	46	46	29	32	37	18	29	29	31
1	34	474	359	338	266	197	145	179	86	71	57	69	54	50	44	38	26	25	26	2
2	0	471	361	341	245	224	140	115	82	82	58	56	51	27	42	38	35	24	31	1
3	0	572	332	371	246	180	126	116	90	86	68	40	50	46	35	24	33	26	22	1
4	0	477	379	329	251	194	137	105	101	55	77	52	49	40	39	34	25	30	19	2
5	0	467	410	324	233	169	147	113	61	84	47	43	48	39	50	26	26	26	22	2
6	0	450	390	329	253	186	149	115	74	70	74	47	45	50	30	31	27	21	35	2
7	0	450	363	352	288	198	137	111	87	53	99	53	92	51	52	30	31	33	28	2
8	0	474	400	361	259	174	141	83	84	77	131	50	178	43	37	32	24	23	31	1
9	6	445	370	333	246	184	144	101	77	58	197	66	79	47	53	38	21	28	27	2
10	2235	450	381	303	256	171	136	107	74	69	205	55	46	39	31	36	27	36	58	3
11	16488	440	385	337	258	185	123	99	93	75	171	61	33	39	46	27	25	26	27	2
12	26235	476	394	334	225	186	120	110	78	78	91	52	46	39	34	34	30	29	23	29
13	14859	456	373	329	248	182	115	111	91	64	86	44	52	34	39	34	23	25	26	3
14	4238	430	393	334	261	176	138	105	73	75	56	50	41	46	35	27	22	34	22	19
15	1416	423	389	328	246	171	132	109	78	60	70	50	39	43	42	38	29	38	25	31
16	1071	452	399	333	242	189	143	109	74	69	76	41	56	33	27	37	30	34	27	2
17	989	416	409	336	262	154	96	96	91	58	45	39	53	33	43	34	38	39	27	27
18	1038	436	361	291	258	165	133	99	90	71	50	66	43	41	29	32	28	31	27	4
19	879	425	347	310	233	173	119	98	77	65	61	62	37	32	23	40	21	24	16	3
20	876	398	327	325	237	170	120	104	65	68	57	46	46	48	36	34	29	41	18	2
21	839	420	399	268	243	180	118	111	100	79	57	50	53	32	49	31	34	31	19	2
22	833	417	422	286	214	156	134	84	84	85	62	52	51	38	41	32	26	27	30	2
23	828	416	378	334	228	160	130	103	93	62	62	54	50	37	26	26	32	25	38	2
24	800	425	387	309	234	199	149	98	94	70	64	51	51	34	29	33	24	27	30	1
25	760	425	394	348	228	164	142	110	88	69	57	62	53	51	43	33	20	18	22	[illegible]
26	746	386	391	353	226	150	126	120	53	79	53	49	40	41	41	17	38	27	24	1
27	766	433	390	299	230	146	147	111	75	65	55	56	38	40	46	23	26	26	28	24
28	753	347	397	344	219	176	147	102	78	75	50	42	51	58	32	37	34	27	34	1
29	697	403	408	307	212	157	130	125	77	65	58	41	44	46	33	41	25	20	14	1
30	673	418	389	303	231	177	127	87	74	71	63	59	35	31	33	30	33	23	26	3
31	645	358	377	284	229	156	102	90	78	71	47	49	41	41	36	24	29	18	27	2
32	643	369	384	276	231	151	142	91	74	70	65	103	39	27	40	33	34	37	31	2
33	668	414	396	306	218	156	127	84	72	73	63	60	42	40	31	23	34	15	29	1
34	666	399	385	359	220	178	110	80	96	75	60	54	37	38	29	34	33	29	34	
35	615	385	363	345	220	166	123	100	63	64	71	55	44	37	33	33	36	33	13	
36	623	361	360	270	232	159	124	105	79	63	61	48	24	29	33	35	36	24	27	[illegible]
37	637	423	383	279	268	148	116	95	67	79	63	60	37	30	32	35	21	34	24	[illegible]
38	621	358	405	319	275	165	120	99	79	74	49	53	53	35	32	35	24	27	23	
39	592	367	416	287	210	146	133	112	84	63	56	51	47	41	26	22	25	25	27	[illegible]
40	571	371	386	283	246	161	138	100	77	66	46	58	41	39	29	30	29	19	25	
41	540	419	342	272	242	143	99	122	95	72	57	60	41	40	35	31	33	29	19	23
42	520	456	365	288	198	132	106	101	76	75	58	44	49	39	28	32	25	27	21	14
43	560	404	377	294	211	194	134	86	82	68	49	52	41	40	28	34	26	33	18	2
44	514	382	372	312	200	222	106	86	78	58	46	79	35	40	37	29	33	19	24	29
45	504	381	383	279	187	157	111	95	61	53	48	79	35	37	35	33	57	31	18	19
46	455	403	352	295	196	138	112	83	70	71	51	61	36	39	35	33	51	29	19	2
47	481	379	339	323	175	149	115	85	104	67	60	70	46	34	30	26	33	25	24	18
48	485	377	359	328	205	149	132	77	80	59	50	43	42	38	35	26	30	24	20	13
49	455	382	369	254	190	155	131	91	88	83	42	45	29	41	32	27	23	23	21	32

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703

5452914A.L;1 54529-14-A 92-02735-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	29	23	22	19	14	12	9	12	11	11	11	10	4	8	4	8	7	6	6	7
1	22	29	18	16	24	26	14	13	17	9	10	7	5	3	6	5	11	8	6	4
2	24	20	23	20	20	14	8	15	12	14	10	7	7	9	7	6	7	7	4	[illegible]
3	23	18	21	16	19	11	11	8	9	12	9	7	6	9	7	8	6	7	4	[illegible]
4	21	29	21	20	21	19	11	16	7	11	10	7	4	5	7	7	9	6	4	[illegible]
5	17	18	12	14	20	17	16	11	14	8	8	8	9	4	7	9	6	3	3	[illegible]
6	22	13	16	17	15	14	14	8	14	14	11	5	6	6	3	4	5	4	3	3
7	24	24	22	16	20	16	16	14	9	14	11	11	5	8	6	5	8	10	7	4
8	25	17	16	15	18	11	6	8	17	23	12	12	8	11	4	9	6	7	7	6
9	16	17	27	18	28	19	14	9	12	70	17	10	6	5	7	11	7	5	5	8
10	16	17	27	17	17	19	17	11	12	130	11	8	7	8	8	8	9	4	4	6
11	28	13	25	21	21	15	11	6	15	117	10	5	7	11	6	7	7	8	5	5
12	21	19	19	20	18	23	11	15	15	49	7	6	7	5	7	8	8	6	8	1
13	19	21	21	27	16	12	16	14	9	13	7	9	4	13	10	12	10	1	5	9
14	28	20	19	13	27	5	8	8	9	10	8	6	9	5	4	20	4	9	8	5
15	23	20	16	15	17	14	6	18	7	11	7	17	6	7	6	23	1	7	7	[illegible]
16	24	22	20	30	9	12	10	11	12	7	7	3	7	6	5	13	6	5	6	[illegible]
17	30	16	20	20	16	16	12	13	10	9	11	4	9	7	5	5	4	5	3	[illegible]
18	15	16	27	14	18	20	13	14	8	10	11	4	4	8	5	8	5	6	8	[illegible]
	18	14	40	16	14	11	11	9	11	13	7	3	6	7	10	3	4	3	5	1
20	26	19	34	18	16	17	6	16	14	12	8	11	13	4	7	4	7	9	7	[illegible]
21	14	13	20	17	15	11	14	13	13	7	10	9	8	2	3	7	9	10	5	[illegible]
22	18	10	18	24	16	16	21	13	11	4	10	11	12	7	6	7	7	6	4	[illegible]
23	18	28	12	30	16	13	15	13	13	12	9	11	6	7	5	14	4	5	8	[illegible]
24	20	20	24	23	16	12	14	12	15	10	9	8	6	5	5	5	7	3	5	[illegible]
25	25	18	12	22	16	9	5	10	12	8	11	13	9	5	7	4	2	2	2	[illegible]
26	13	14	15	16	17	17	12	15	7	14	8	11	9	12	7	10	4	3	5	[illegible]
27	32	14	9	22	16	13	8	20	5	12	8	5	8	5	5	10	7	8	9	[illegible]
28	11	13	15	12	23	21	12	13	16	13	11	9	5	8	11	8	5	5	6	[illegible]
29	15	14	18	18	10	14	8	15	7	9	5	6	7	5	4	6	4	4	6	[illegible]
30	22	14	21	19	18	22	16	12	11	6	9	7	8	7	8	6	11	5	4	5
31	17	26	12	19	17	19	31	9	13	8	6	10	7	4	9	7	7	8	7	[illegible]
32	29	21	13	14	22	10	19	7	10	13	8	5	7	10	8	4	6	7	5	[illegible]
33	25	18	11	17	11	16	14	8	8	7	5	4	13	7	3	6	4	6	9	9
34	19	13	21	15	14	17	6	12	12	9	11	8	7	9	7	4	7	8	8	8
35	21	19	21	15	18	16	5	13	11	10	6	10	6	11	7	10	7	6	6	[illegible]
36	18	19	16	12	17	19	8	10	10	15	14	3	6	9	3	2	8	5	5	4
37	13	18	22	20	21	21	8	12	12	8	2	7	9	6	6	2	4	7	5	5
38	17	14	14	11	19	15	8	15	13	18	4	16	9	8	6	5	7	4	3	[illegible]
39	20	14	20	19	10	10	13	15	8	15	9	12	8	10	6	3	4	2	6	
40	20	17	13	17	17	14	16	11	12	14	12	17	12	14	5	9	4	7	10	[illegible]
41	18	18	18	17	15	16	13	7	12	8	7	11	12	3	10	4	3	2	5	[illegible]
42	21	19	21	16	17	16	12	15	13	15	8	12	7	9	6	4	7	8	6	12
43	19	16	13	20	13	15	13	8	11	10	9	13	11	5	2	13	10	5	2	2
44	21	14	13	17	20	11	12	19	7	13	9	9	9	5	9	7	10	4	3	3
45	17	32	23	21	14	13	11	16	8	11	10	7	3	9	12	5	5	7	5	5
46	30	24	13	11	16	14	6	13	15	13	4	7	5	8	7	6	12	4	4	[illegible]
47	18	24	23	15	16	15	12	13	9	13	7	3	7	8	6	5	6	10	[illegible]	
48	18	24	15	17	22	15	11	6	12	20	9	3	11	4	11	7	4	7	[illegible]	
49	22	23	19	14	15	11	20	8	10	18	11	8	8	7	6	5	12	10	5	10

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TITLE: 54529-14-8 92-02735-L-2 SAMPLE DUPE

FILE: 5452914B.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 9 30 91 12 42 0

TIME OF COUNT: 2 10 92 9 23 0

(191321. MINUTES DECAY TIME)

3/20/92 EA Lopez

LIVE TIME: 31 HOURS 22 MINUTES 18 SECONDS = 1882.30 MINUTES

ELAPSED TIME: 31 HOURS 22 MINUTES 36 SECONDS = 1882.60 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D02-156

5452914B.K:1 54529-14-B 92-02735-L-2 SAMPLE DUPE

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	953
0	112930	644	478	510	377	297	178	222	111	107	106	75	66	68	56	48	42	39	34	33
1	34	639	537	430	359	238	173	267	129	105	97	51	68	67	70	38	32	36	31	25
2	0	632	478	490	337	286	193	184	118	105	75	67	78	46	66	44	44	33	40	23
3	0	688	499	461	316	260	207	151	117	122	79	68	61	53	36	44	41	34	43	27
4	0	609	487	471	346	252	199	169	123	106	81	75	76	54	56	40	38	41	43	29
5	0	626	492	479	345	243	175	141	114	95	85	75	65	57	50	44	39	42	37	33
6	0	592	532	440	348	253	200	130	117	111	104	66	79	56	57	44	46	32	33	44
7	0	552	476	483	346	240	204	157	115	105	92	80	150	60	53	42	42	41	40	29
8	0	590	492	433	334	233	190	156	112	114	204	60	197	46	59	35	35	48	47	27
9	5	559	511	427	339	220	183	160	119	99	269	73	128	45	52	38	46	43	53	27
10	2562	575	461	458	367	252	179	125	105	98	292	77	71	68	51	42	38	40	55	29
11	20592	567	493	435	353	249	174	166	103	105	174	75	66	62	60	47	52	43	57	23
12	34217	574	533	443	345	260	183	150	103	88	124	76	68	60	51	47	50	39	35	27
13	18869	631	543	454	332	239	186	135	102	99	83	64	58	50	44	43	39	32	29	33
14	6007	614	496	446	318	199	193	171	110	72	71	73	74	59	55	46	31	33	39	32
15	2029	568	553	436	322	246	182	132	132	91	88	71	64	50	52	48	28	34	32	33
16	1431	600	472	431	293	204	171	129	109	90	75	80	76	53	47	41	41	34	33	21
17	1391	566	493	424	306	226	158	140	97	101	71	81	66	51	58	57	34	41	33	43
18	1273	545	515	431	318	215	181	122	114	108	69	71	48	62	45	56	39	40	35	40
19	1174	521	517	389	312	247	194	162	115	88	91	55	62	52	45	47	41	37	26	40
20	1222	515	537	412	310	246	173	141	116	89	63	57	65	45	40	45	30	36	31	33
21	1122	525	511	398	307	208	181	129	156	86	52	79	64	56	38	45	44	30	34	35
22	1126	515	499	416	309	222	188	116	120	94	73	53	56	51	49	36	44	44	29	23
23	1105	530	479	428	295	223	164	115	114	100	60	82	51	57	51	40	42	31	24	21
24	1118	582	503	466	323	243	184	148	105	98	83	71	68	51	47	41	42	42	31	19
25	1032	592	489	403	331	193	173	146	115	99	74	73	54	47	38	49	27	28	37	29
26	1004	522	489	380	305	258	199	117	112	86	80	66	57	40	51	48	26	39	29	25
27	977	576	500	451	299	202	178	158	108	83	78	61	52	44	54	33	34	40	26	24
28	951	505	466	428	299	219	171	156	99	98	84	66	76	61	45	38	47	50	36	34
29	925	478	479	378	276	163	168	113	104	92	65	74	38	50	36	31	37	42	36	33
30	866	499	488	404	305	185	194	127	112	102	70	73	63	71	45	36	38	27	31	26
31	919	515	491	374	284	231	169	123	106	87	66	89	69	49	46	52	45	33	47	19
32	847	508	517	381	273	224	169	134	103	83	70	121	59	45	51	38	44	36	35	18
33	856	493	502	379	310	182	174	117	95	78	82	92	61	40	63	45	49	30	29	22
34	850	558	478	423	287	200	183	138	101	86	73	74	64	57	46	39	31	35	31	36
35	797	543	488	509	307	223	166	115	88	80	81	80	43	46	46	49	42	27	35	33
36	759	553	492	393	274	217	156	121	112	88	82	48	59	54	42	34	42	29	33	35
37	784	535	462	394	346	213	162	119	84	99	67	55	57	56	46	47	47	37	25	31
38	743	566	552	361	366	182	151	127	107	83	65	52	52	45	46	41	44	25	34	27
39	723	486	576	371	311	193	166	130	113	106	76	53	63	53	54	38	32	32	27	24
40	718	459	540	396	317	190	152	120	111	94	78	81	55	55	44	41	30	33	29	22
41	737	535	494	376	320	198	159	144	95	100	94	68	57	61	56	39	40	43	25	37
42	693	655	478	386	325	201	157	124	121	94	74	59	55	61	44	49	36	37	39	33
43	735	551	498	376	252	226	172	124	105	97	66	66	51	50	49	49	47	26	30	32
44	666	490	450	390	254	251	147	127	118	78	80	96	61	56	43	49	43	34	25	25
45	654	485	451	365	254	234	170	150	117	92	79	102	48	62	50	39	76	29	33	32
46	708	540	485	344	216	196	148	114	113	92	70	83	52	49	35	50	62	49	25	27
47	639	525	443	392	254	206	138	115	100	91	88	60	57	52	45	40	55	37	34	25
48	647	475	458	446	234	168	148	116	102	103	68	69	48	59	40	38	40	27	36	29
49	615	491	460	405	253	193	157	112	109	107	74	52	59	53	41	31	39	37	37	22

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407

5452914B.K:1 54529-14-B 92-02735-L-2 SAMPLE DUPE

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	36	35	33	19	34	24	22	16	13	11	14	8	10	8	12	5	5	7	8	9
1	43	26	21	14	18	22	14	17	16	10	11	6	6	10	9	6	9	6	3	13
2	35	24	24	21	29	18	13	18	15	12	14	10	8	9	10	6	8	6	10	12
3	22	27	25	23	25	14	24	13	16	17	10	11	7	7	8	8	9	7	7	5
4	28	27	28	26	30	26	14	20	18	18	12	5	9	15	11	13	7	4	8	4
5	25	30	24	36	26	25	15	9	12	12	19	10	11	2	6	6	6	8	10	7
6	29	25	26	16	19	22	12	17	23	14	7	13	6	9	11	10	14	6	5	13
7	30	32	24	20	20	31	16	15	18	24	11	16	14	15	11	12	10	10	6	13
8	27	25	30	27	24	33	18	17	11	25	13	10	11	7	9	6	8	6	7	6
9	41	25	18	18	29	20	13	18	25	101	17	10	9	16	13	7	8	7	9	7
10	33	21	19	25	21	25	20	14	11	202	14	12	16	9	10	13	9	7	5	8
11	22	23	20	32	22	21	22	23	13	168	10	12	4	8	18	7	6	9	11	7
12	22	31	35	21	22	22	21	13	11	66	8	14	10	13	6	12	10	10	8	6
13	18	22	29	25	30	22	14	17	12	22	11	5	16	11	12	9	8	9	8	7
14	19	27	21	31	18	21	14	18	15	11	7	16	8	12	12	39	12	8	2	5
15	31	27	23	22	22	23	23	23	13	14	6	6	11	9	9	33	12	11	9	9
16	21	24	26	27	28	27	18	17	19	10	13	12	9	12	5	15	6	10	10	8
17	31	18	26	19	20	19	17	12	14	14	12	6	8	7	10	11	10	8	8	14
18	27	24	26	17	26	18	17	11	10	7	12	13	15	14	12	8	9	7	10	4
19	22	25	51	20	25	14	21	19	13	19	14	9	8	6	10	9	13	12	7	[illegible]
20	24	26	52	22	35	13	18	22	13	5	20	9	17	9	10	11	7	11	7	7
21	26	24	34	33	21	23	21	7	17	17	13	13	12	5	8	5	6	7	6	5
22	31	29	26	47	31	23	12	8	12	12	12	7	12	7	12	15	4	13	6	11
23	30	30	25	43	20	27	13	12	20	11	7	9	12	10	10	8	9	10	10	11
24	27	16	18	20	17	17	16	23	18	13	7	7	10	9	10	8	4	6	14	6
25	28	35	26	24	21	7	12	18	7	14	7	17	8	6	10	5	5	9	7	13
26	26	31	22	25	25	15	10	21	14	12	16	10	6	12	16	5	10	9	9	13
27	23	24	25	28	24	20	13	18	9	8	8	6	8	5	13	14	8	10	7	9
28	32	21	22	25	24	16	24	20	20	10	6	9	8	15	10	10	7	6	11	9
29	23	28	24	22	18	19	16	18	17	14	11	6	7	10	11	11	6	6	11	6
30	32	18	22	21	21	18	14	18	18	12	10	16	12	7	16	10	10	7	8	12
31	20	23	30	26	22	14	27	16	16	6	15	10	15	10	11	12	13	10	7	11
32	26	36	23	26	21	20	33	17	14	10	9	13	17	6	9	10	12	7	10	7
33	19	27	27	21	21	22	20	16	19	13	12	9	9	14	8	9	7	4	10	5
34	28	27	22	22	22	19	20	18	12	12	6	8	15	10	6	8	6	8	5	5
35	27	33	21	32	25	13	17	12	15	15	11	10	12	6	12	6	7	7	7	7
36	30	27	25	15	22	20	23	7	15	18	11	11	15	9	4	6	11	3	8	8
37	22	23	22	22	27	22	17	14	16	9	7	15	14	7	13	3	9	8	7	8
38	30	19	21	32	33	15	14	15	11	11	9	18	9	8	9	12	13	6	4	6
39	32	20	20	28	29	20	14	17	12	15	16	19	13	8	13	8	11	6	6	13
40	27	26	20	17	26	18	8	17	10	9	12	12	10	11	15	8	11	10	10	14
41	28	35	26	27	29	16	16	22	27	10	15	15	11	9	13	6	11	8	2	8
42	42	27	28	17	16	25	18	6	16	13	14	13	12	13	9	11	9	8	8	8
43	33	37	28	25	18	17	15	18	14	13	8	29	8	12	10	4	8	4	10	5
44	22	33	27	26	15	24	8	22	13	11	14	17	9	12	12	6	9	5	6	7
45	23	26	25	24	20	17	17	12	17	9	9	10	12	13	11	9	15	9	10	7
46	25	19	28	23	19	23	20	23	14	8	6	9	11	8	6	12	9	11	6	7
47	24	38	24	33	25	11	9	21	14	8	13	17	12	8	7	6	8	8	7	9
48	25	26	24	24	20	20	18	10	12	19	14	10	7	12	10	3	13	5	5	8
49	18	32	30	17	21	30	10	15	13	8	10	14	9	10	10	7	11	9	11	2

D02-158

TITLE: 54529-15-A 92-02735-L-5 BLANK

FILE: 5452915A.K;1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~2 7 92 16 36 0~~ 9/30/91 @ 12 42

TIME OF COUNT: 2 7 92 16 36 0

(0.000000 MINUTES DECAY TIME)

LIVE TIME: 64 HOURS 42 MINUTES 11 SECONDS = 3882.18 MINUTES

ELAPSED TIME: 64 HOURS 42 MINUTES 40 SECONDS = 3882.80 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/20/92 EA Lgsel

D02-159

5452915A.K:1 54529-15-A 92-02735-L-5 BLANK

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	232931	1237	964	938	737	499	395	412	211	191	171	139	117	116	85	70	70	72	70	72
1	34	1205	994	1000	705	499	393	481	245	189	184	128	129	103	109	78	72	86	60	73
2	0	1289	1015	915	721	533	387	361	275	236	144	152	133	112	117	83	87	92	87	59
3	0	1462	1034	926	748	502	416	281	255	223	187	150	129	112	110	84	82	80	65	63
4	0	1286	1081	953	717	498	386	298	245	197	162	124	143	102	101	86	72	78	67	5
5	0	1244	1019	920	723	501	393	317	209	200	156	139	123	111	95	96	109	66	47	[illegible]
6	0	1181	1008	884	640	473	382	306	249	223	166	149	136	116	113	87	81	65	69	5[illegible]
7	0	1116	981	880	646	488	363	312	268	186	214	123	254	107	108	101	70	70	71	6
8	0	1168	1019	884	690	466	326	287	222	204	384	121	352	112	102	82	83	78	58	6[illegible]
9	8	1240	999	911	686	500	393	285	218	195	522	147	261	120	100	86	85	85	107	5
10	5165	1216	988	929	657	486	375	318	271	206	634	153	144	115	97	102	82	84	119	6
11	42110	1209	1049	885	670	493	365	271	279	196	419	146	141	118	75	114	71	80	87	7
12	70465	1185	1037	888	664	493	382	308	205	218	237	147	140	107	109	78	77	88	74	6[illegible]
13	38944	1243	988	929	631	435	370	282	224	199	178	118	149	104	100	92	68	61	71	[illegible]
14	12104	1205	955	855	684	447	366	307	220	201	175	148	112	107	94	82	89	67	52	7
15	4086	1194	1006	851	683	443	363	272	227	177	156	133	117	105	101	90	85	81	60	5[illegible]
16	2822	1219	995	817	699	488	350	268	207	198	142	121	132	108	104	81	73	80	61	6[illegible]
17	2664	1162	1022	795	639	438	316	288	232	184	144	134	116	118	107	95	84	84	64	8
18	2561	1071	1013	836	666	449	320	286	212	185	160	145	138	118	103	113	79	76	51	8
19	2530	1161	991	841	644	487	354	263	239	204	168	147	124	99	98	92	66	72	55	8
20	2389	1075	1009	891	637	467	365	278	203	177	152	122	135	87	80	74	83	63	68	5[illegible]
21	2333	1153	1005	851	611	448	369	280	220	208	160	131	119	98	93	80	71	62	64	6
22	2200	1122	1055	810	594	443	364	258	232	188	159	129	125	105	94	74	80	64	56	7
23	2235	1129	1053	877	580	457	346	250	215	180	119	144	109	107	80	99	73	65	59	5
24	2185	1273	941	879	589	458	381	241	243	194	144	132	103	112	92	77	78	66	52	5[illegible]
25	2102	1201	980	865	601	444	379	261	225	170	162	125	116	98	86	77	66	64	68	5[illegible]
26	2070	1101	1041	798	597	449	329	271	228	174	162	148	143	109	117	87	76	63	78	5[illegible]
27	1918	1139	1014	795	572	425	345	260	211	212	150	133	108	105	99	84	87	79	49	5
28	1986	1004	987	806	559	420	324	297	229	189	154	133	116	122	92	92	73	73	74	6[illegible]
29	1940	1082	1014	810	595	445	345	240	230	187	155	134	110	109	91	81	76	58	66	5[illegible]
30	1855	1006	962	790	593	416	348	255	207	157	151	137	124	96	77	79	72	67	72	6[illegible]
31	1817	1033	968	792	546	445	337	253	201	177	176	196	111	112	92	91	70	83	57	6[illegible]
32	1702	1024	1066	809	583	423	333	318	199	177	139	244	118	99	93	80	69	77	79	5
33	1704	1060	1017	821	556	420	341	238	209	170	160	155	117	95	91	83	69	70	93	57
34	1735	1130	994	911	593	445	331	254	180	175	144	132	122	115	98	87	84	60	71	57
35	1632	1123	980	998	546	427	327	243	212	168	159	127	100	100	89	89	65	59	59	5[illegible]
36	1658	1051	990	855	585	440	335	268	220	180	149	124	112	96	91	91	84	77	50	4
37	1529	1077	982	814	703	406	385	245	238	186	146	125	115	105	78	81	79	56	53	[illegible]
38	1604	975	1035	778	754	443	348	231	212	159	173	111	105	112	91	72	81	76	59	44
39	1471	1038	1055	739	620	404	322	241	218	157	138	131	124	89	93	70	86	64	58	6
40	1434	1111	992	745	573	401	311	283	225	182	151	134	132	121	96	65	95	61	63	[illegible]
41	1528	1100	967	725	628	372	306	258	200	183	144	143	113	99	113	90	67	63	69	6[illegible]
42	1402	1315	965	717	523	378	293	249	182	155	147	150	102	111	91	85	64	75	63	[illegible]
43	1395	1182	1034	741	550	470	327	249	216	202	155	128	118	123	93	86	55	61	56	[illegible]
44	1399	1019	906	744	540	519	292	269	214	192	132	192	106	116	97	94	97	74	74	68
45	1362	1045	945	743	528	445	299	258	237	199	162	200	100	117	108	96	136	55	65	5[illegible]
46	1351	903	938	764	488	390	304	243	182	162	143	179	102	111	89	87	142	70	65	68
47	1299	902	967	836	528	422	310	271	210	183	136	153	118	102	97	88	93	66	68	5[illegible]
48	1270	905	941	859	513	390	268	240	208	198	148	131	101	119	86	90	90	79	76	7[illegible]
49	1320	904	903	731	458	398	305	227	207	194	139	133	131	114	69	82	72	68	61	5[illegible]

D02-160

5452915A.K;1 54529-15-A 92-02735-L-5 BLANK

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	58	53	58	51	44	49	36	33	37	23	32	14	24	15	22	20	30	19	16	13
1	68	44	55	53	55	40	36	33	32	18	24	22	24	24	17	10	18	15	23	10
2	57	45	40	49	49	40	36	32	32	31	16	19	24	27	22	23	17	21	18	18
3	59	58	43	39	54	47	35	23	36	30	18	19	21	18	19	16	11	20	19	14
4	50	48	56	52	58	40	38	34	22	24	26	22	23	15	19	22	27	20	17	1-
5	62	55	45	60	43	52	32	21	28	27	28	17	17	21	14	14	22	18	14	1[illegible]
6	60	45	44	37	54	54	38	29	30	35	32	20	28	26	21	20	18	22	16	1[illegible]
7	52	64	51	51	45	53	27	21	36	35	27	17	25	15	22	18	17	18	14	1[illegible]
8	59	65	51	42	43	52	30	32	43	76	30	19	14	12	20	13	17	21	18	2[illegible]
9	70	52	40	45	50	52	30	26	25	174	32	21	21	25	20	18	26	22	14	19
10	65	64	59	47	47	43	27	30	24	348	24	18	20	23	15	17	19	14	9	1[illegible]
11	56	53	56	43	53	39	33	32	30	315	28	26	22	29	16	23	18	20	18	2[illegible]
12	58	59	39	39	46	33	33	29	34	129	27	17	22	19	36	29	22	21	18	18
13	56	63	40	45	57	39	36	33	28	47	27	22	25	22	20	46	15	15	16	2[illegible]
14	58	54	49	47	42	38	35	28	24	26	18	17	18	16	18	55	12	19	17	2[illegible]
15	61	45	54	47	54	42	39	44	19	26	27	26	24	18	16	68	11	21	17	1[illegible]
16	58	47	53	51	55	32	34	25	27	26	25	24	19	17	19	30	15	21	22	1
17	51	52	55	43	50	36	23	39	23	21	27	25	23	13	17	15	12	27	19	11
18	53	67	66	41	39	42	29	35	26	21	24	25	20	31	13	13	11	12	14	15
19	59	49	108	38	59	50	33	25	37	21	20	23	23	25	18	21	10	13	17	1
20	59	49	99	47	45	34	34	14	31	19	14	28	19	17	18	22	22	7	19	1[illegible]
21	60	54	68	58	35	40	33	34	30	31	26	12	23	14	23	20	16	14	15	1
22	43	60	51	68	51	44	35	27	29	22	18	18	18	16	18	17	12	17	11	24
23	52	63	63	61	49	34	32	28	27	19	22	21	24	23	26	16	19	21	9	13
24	48	51	46	64	34	33	34	33	31	22	21	14	19	15	14	21	17	15	18	13
25	56	51	48	39	35	21	31	37	31	16	25	24	22	21	29	12	14	17	17	14
26	63	61	41	50	46	43	25	35	28	22	26	18	15	22	18	16	17	12	16	17
27	48	56	44	57	48	38	40	46	32	24	27	10	18	22	11	18	17	19	15	1[illegible]
28	48	53	54	60	46	40	20	38	21	21	17	23	20	12	19	18	21	16	19	11
29	58	51	50	43	41	46	28	29	32	22	22	25	23	17	24	23	17	17	17	18
30	53	50	43	52	47	45	30	31	29	20	33	16	27	22	30	16	23	22	12	16
31	51	57	50	46	47	45	54	26	26	20	20	17	28	11	22	16	12	16	15	11
32	52	60	64	44	45	55	75	23	28	19	23	21	27	20	19	16	20	16	19	1
33	57	51	54	44	39	41	50	36	24	19	22	28	21	29	12	18	22	19	20	1
34	59	57	44	52	43	47	53	27	26	21	20	19	25	22	15	21	11	18	13	1[illegible]
35	53	58	44	51	44	38	29	40	35	19	18	19	16	14	16	15	17	19	12	1
36	44	38	54	31	47	38	28	37	25	19	22	19	16	21	18	18	21	25	18	1[illegible]
37	50	51	65	44	62	33	43	17	31	23	26	15	22	12	8	13	20	14	18	1
38	54	49	48	51	61	33	39	30	25	22	23	31	21	17	19	15	18	14	14	1
39	50	44	54	42	39	44	29	26	32	13	18	21	23	17	15	17	19	12	10	2
40	52	42	46	37	56	39	42	30	26	17	22	26	22	24	23	17	31	16	17	1
41	60	48	41	38	37	47	35	28	25	15	11	26	19	20	12	15	12	12	16	2
42	62	41	55	55	37	46	42	35	29	21	27	31	27	16	17	9	15	18	17	2
43	51	60	51	46	37	38	30	28	25	22	12	47	25	8	21	23	10	24	15	
44	62	54	38	50	45	33	30	33	23	24	13	29	25	20	16	15	22	17	22	1[illegible]
45	48	55	43	33	44	26	32	26	27	20	23	17	25	20	9	20	14	10	13	22
46	39	57	46	50	40	39	25	26	29	29	18	17	24	14	13	14	18	25	16	1
47	53	49	48	37	56	31	32	30	31	17	22	12	21	19	15	22	25	17	20	1[illegible]
48	60	52	44	59	39	39	37	32	35	29	19	20	15	18	19	18	20	14	12	
49	48	51	55	41	40	40	29	21	38	20	21	17	19	15	13	14	15	15	17	15

D02-161

9 2 1 2 9 1 7 3

TITLE: 54529-15-B 92-02735-L-6

FILE: 5452915B.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~9 20 91 7 58~~ 0 9/30/91 12 42

3/20/92 E A Lopel

TIME OF COUNT: 2 ~~23~~ 24 92 10 28 0

(224790. MINUTES DECAY TIME)

LIVE TIME: 30 HOURS 8 MINUTES 11 SECONDS = 1808.18 MINUTES

ELAPSED TIME: 30 HOURS 8 MINUTES 30 SECONDS = 1808.50 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00012 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	0

D02-162

5452915B.K:1 54529-15-B 92-02735-L-6

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	108491	733	566	543	459	351	256	253	197	163	116	65	74	78	39	40	32	33	22	35
1	34	729	600	571	442	325	227	246	183	199	125	89	72	63	40	32	37	26	30	26
2	0	753	569	506	450	342	258	237	197	158	126	82	78	74	41	39	37	35	26	27
3	0	774	575	500	434	356	222	218	182	184	113	77	63	63	50	32	42	35	36	25
4	1	707	549	524	451	322	257	188	174	162	111	87	83	72	41	43	39	36	32	26
5	0	699	584	554	454	315	249	210	190	151	126	64	81	69	51	41	32	36	34	24
6	0	664	639	570	421	346	208	217	175	171	117	85	69	70	46	40	42	34	28	21
7	0	678	611	514	435	261	225	184	156	172	141	86	119	69	50	40	34	29	32	21
8	0	724	593	529	415	297	235	181	164	176	217	64	150	136	62	43	35	34	38	33
9	1	635	567	481	442	291	247	175	154	165	276	76	110	950	47	37	30	46	49	25
10	2192	626	579	569	449	324	215	203	159	167	300	70	75	3340	46	41	36	38	66	29
11	19246	606	594	575	430	289	225	204	186	178	232	87	60	2712	49	51	32	34	44	29
12	32616	684	589	527	419	303	245	177	194	168	155	81	79	558	46	41	24	45	40	35
13	18489	667	603	536	431	296	217	194	185	195	112	82	72	92	42	34	39	34	25	34
14	5763	669	600	518	414	291	253	219	184	170	101	78	75	50	39	33	36	39	29	35
15	2177	703	570	499	387	285	238	190	185	166	106	81	71	50	50	36	32	44	30	22
16	1531	653	580	522	375	273	228	201	173	171	110	79	61	49	53	42	38	26	31	33
17	1420	640	553	565	391	295	244	186	189	169	97	84	79	34	45	54	32	42	35	43
18	1373	630	608	525	390	270	219	189	184	161	112	91	68	37	50	36	34	39	24	55
19	1364	604	579	495	415	292	231	200	166	172	126	70	62	40	41	31	29	45	29	33
20	1235	631	604	477	415	287	228	194	181	146	93	77	66	59	43	21	30	34	32	43
21	1239	585	541	477	405	284	222	199	180	163	96	78	62	32	41	42	30	32	22	24
22	1239	621	615	483	338	265	237	185	172	142	73	78	54	47	44	43	30	24	38	42
23	1173	678	554	503	388	267	250	197	181	218	97	92	57	44	48	42	32	28	22	26
24	1209	739	605	503	373	278	237	173	177	178	99	94	71	41	47	37	32	39	23	19
25	1149	625	522	536	383	274	198	188	159	146	85	88	74	45	46	38	35	33	36	24
26	1104	628	584	495	382	289	242	182	173	143	99	90	76	50	54	30	39	41	33	29
27	1111	656	573	487	347	258	193	189	181	163	101	90	69	52	51	31	34	34	23	35
28	1066	645	545	478	327	285	235	199	152	134	90	92	54	51	32	56	27	35	26	22
29	1054	601	584	487	350	263	232	193	182	145	91	79	83	46	35	38	29	31	27	23
30	1069	605	627	439	389	281	218	189	173	122	108	80	73	44	39	33	26	31	31	23
31	1072	524	584	440	382	256	229	174	171	124	95	108	59	31	43	32	38	28	24	25
32	911	586	540	474	339	245	206	185	162	134	102	115	55	51	40	31	36	23	25	27
33	901	572	558	476	362	255	193	202	155	136	104	94	64	55	42	37	38	31	26	29
34	946	624	545	556	356	272	218	138	188	138	106	71	62	54	42	42	41	32	31	31
35	921	606	552	616	333	270	211	180	152	122	76	79	72	35	35	39	27	37	28	24
36	924	608	578	482	392	235	222	197	181	133	78	88	81	41	38	40	44	29	30	23
37	864	632	558	534	397	260	218	201	193	121	91	90	55	41	47	34	34	39	30	19
38	870	626	562	454	439	265	216	178	173	128	86	65	60	52	46	36	43	34	27	21
39	852	614	640	493	394	287	222	165	184	132	89	85	75	43	52	26	26	30	33	19
40	861	571	579	518	376	253	193	177	150	128	88	70	65	51	44	39	36	41	25	26
41	854	641	544	500	362	232	219	164	175	129	80	68	59	43	40	36	34	46	29	39
42	849	703	571	516	371	264	219	191	190	125	88	63	59	45	46	39	37	35	33	32
43	779	691	597	446	324	247	198	170	167	146	82	81	79	55	45	54	41	30	28	30
44	832	597	553	451	309	292	217	178	171	129	86	121	55	50	40	40	47	23	29	30
45	774	566	541	475	334	268	173	200	139	113	91	120	67	39	37	42	47	27	27	35
46	762	633	579	435	380	261	198	148	176	114	88	80	56	39	50	43	63	29	22	21
47	787	501	532	493	331	264	187	182	181	118	93	70	63	54	47	39	40	42	25	23
48	746	549	539	454	328	259	213	184	180	136	94	78	64	47	38	45	41	30	31	25
49	723	565	565	456	336	271	201	174	183	123	86	84	64	58	42	36	41	27	29	47

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5452915B.K;1 54529-15-B 92-02735-L-6

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
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1	35	20	29	25	30	18	13	11	18	8	7	7	5	7	12	6	9	4	10	11
2	20	26	16	17	27	22	20	17	14	13	14	9	13	12	7	9	8	9	6	5
3	24	22	26	27	27	27	18	13	11	17	12	9	8	5	7	8	8	4	4	5
4	31	22	17	16	21	14	11	13	8	10	7	10	7	12	7	3	13	8	8	9
5	26	29	20	25	33	20	13	12	16	12	10	13	13	7	10	13	9	5	7	7
6	27	27	16	29	20	22	16	12	11	15	13	10	14	6	6	5	11	4	3	7
7	26	26	27	23	24	19	12	13	12	19	11	7	9	6	9	10	13	11	7	2
8	22	29	35	25	19	18	17	11	11	27	18	14	5	9	4	4	8	8	12	5
9	23	32	15	24	26	21	17	13	16	75	19	7	6	8	6	5	11	11	3	8
10	25	28	34	20	24	23	17	13	11	174	8	10	5	7	4	4	12	10	9	3
11	20	22	23	22	18	13	17	17	7	170	9	9	12	12	12	10	8	5	7	6
12	20	27	24	26	26	17	22	11	21	60	12	8	12	9	11	7	6	8	8	5
13	27	28	21	23	29	11	16	14	12	25	8	15	15	13	9	13	5	6	8	3
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15	26	30	10	18	26	18	13	13	11	19	8	10	6	7	10	25	3	11	8	7
16	23	21	20	17	22	19	13	9	9	10	6	13	10	13	3	13	5	10	8	9
17	27	16	23	26	19	10	10	9	11	13	5	7	5	14	11	11	7	6	8	6
18	24	27	37	15	20	20	14	20	16	7	6	7	8	3	10	16	7	11	5	4
19	38	23	34	19	21	19	13	19	7	16	13	11	3	6	5	3	13	6	7	7
20	23	28	44	25	19	14	11	10	11	8	9	14	11	9	10	4	7	2	5	4
21	29	29	28	24	19	11	16	9	6	9	5	13	15	9	4	12	5	2	7	6
22	13	18	23	38	20	24	17	10	7	11	14	8	8	4	9	6	4	11	7	4
23	32	17	19	33	18	22	15	19	8	11	10	10	12	6	5	9	7	7	8	8
24	28	22	21	25	14	22	12	17	12	15	11	5	8	4	7	9	7	4	3	5
25	26	26	14	18	18	16	14	16	15	15	12	4	5	9	10	5	18	4	7	5
26	34	24	22	17	17	9	18	10	16	9	5	14	10	11	9	6	8	10	9	5
27	25	24	22	21	22	20	14	30	13	11	10	9	7	4	5	10	8	4	6	7
28	19	27	23	22	15	12	16	16	18	11	14	12	5	10	6	15	11	8	13	8
29	20	25	24	26	18	12	14	16	16	16	16	4	6	12	15	12	4	7	7	3
30	28	27	24	21	22	18	17	11	14	11	14	11	5	7	15	7	9	10	9	10
31	26	36	19	24	23	14	17	4	8	12	9	10	9	7	9	9	8	10	5	4
32	25	21	19	24	17	25	28	19	10	10	10	10	9	13	9	7	10	4	9	7
33	19	35	23	18	18	8	13	16	7	15	7	12	8	8	9	7	9	9	5	7
34	26	31	22	26	14	15	19	11	9	7	17	8	7	5	3	7	5	5	6	4
35	20	32	26	14	21	21	13	12	17	14	14	13	6	15	5	5	6	9	8	7
36	21	24	19	20	31	10	18	10	8	11	9	10	8	7	11	6	10	12	8	5
37	35	24	21	17	22	13	14	11	7	20	10	8	6	8	10	8	7	7	5	5
38	14	22	29	21	32	10	17	8	9	13	15	15	4	7	1	6	4	12	9	9
39	34	19	21	27	24	17	15	18	9	11	9	9	11	5	10	7	7	5	5	6
40	26	20	17	17	16	12	14	9	13	11	7	10	13	10	10	7	11	7	6	5
41	21	32	11	22	19	14	12	9	12	2	12	11	15	6	9	6	4	7	4	9
42	31	35	24	26	22	20	18	12	20	8	11	13	9	8	5	5	3	5	3	4
43	34	14	23	27	16	12	12	9	15	9	10	12	10	7	7	4	12	8	6	6
44	25	29	6	24	22	18	15	14	11	9	6	6	2	7	8	7	5	9	8	7
45	20	18	25	21	14	17	18	15	7	12	12	14	6	6	5	6	6	13	10	7
46	23	25	19	12	23	18	8	8	10	15	7	11	9	19	12	8	7	8	7	13
47	17	27	15	22	23	6	10	10	18	9	8	7	4	4	5	6	10	3	5	9
48	21	9	16	15	21	17	14	6	9	11	16	11	10	6	6	11	8	4	4	13
49	20	31	26	28	21	19	15	10	10	16	14	5	9	11	2	8	9	9	5	7

D02-164

600

TITLE: 54529-16-A 92-02724-L-1

FILE: 5452916A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 9 19 91 10 49 0

TIME OF COUNT: 2 11 92 16 52 0

(209163. MINUTES DECAY TIME)

LIVE TIME: 24 HOURS 57 MINUTES 35 SECONDS = 1497.58 MINUTES

ELAPSED TIME: 24 HOURS 57 MINUTES 48 SECONDS = 1497.80 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/20/92 EAkopel

D02-165

747

5452916A.K;1 54529-16-A 92-02724-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	89855	501	419	335	282	198	148	186	94	86	76	51	66	46	42	42	41	28	35	19
1	34	500	408	408	283	173	129	225	90	72	59	57	39	35	44	39	23	28	32	25
2	0	493	377	343	281	222	138	141	100	75	68	51	58	53	35	33	42	26	26	33
3	0	562	425	356	282	197	144	135	89	71	56	57	51	39	28	34	31	35	33	27
4	0	483	377	346	299	189	145	111	99	77	57	71	62	46	42	43	31	29	31	25
5	0	526	428	370	282	188	152	95	94	89	87	60	68	51	44	32	49	27	19	29
6	0	458	411	346	269	188	151	107	84	96	83	52	64	39	49	39	35	37	32	23
7	0	482	444	368	278	196	151	124	91	72	90	55	107	37	43	30	28	28	33	25
8	0	452	392	369	294	182	163	113	104	81	140	59	104	31	36	31	28	30	38	27
9	5	447	403	372	283	200	155	89	100	73	238	49	96	44	34	39	34	33	39	25
10	1872	487	376	373	270	185	129	124	84	75	236	51	41	49	34	37	29	32	43	29
11	16324	420	369	339	241	187	156	103	91	82	165	50	36	53	38	32	33	22	29	23
12	27542	467	374	387	269	187	149	115	92	83	98	46	43	36	49	32	39	39	24	27
13	15373	450	367	361	243	190	145	111	76	63	82	44	52	45	41	34	33	29	26	19
14	4921	449	382	341	246	177	128	115	93	79	77	58	40	50	34	35	27	23	21	24
15	1615	487	401	375	250	194	152	103	91	75	56	63	54	51	57	39	30	43	23	21
16	1070	516	394	377	252	179	143	117	78	87	66	50	43	43	26	39	31	35	31	28
17	1032	462	388	325	244	184	127	111	86	72	60	54	61	39	45	46	31	36	30	31
18	1014	452	381	351	263	200	124	113	80	103	59	76	52	43	36	31	36	30	31	41
19	1009	456	412	328	276	186	154	112	85	78	67	68	40	47	42	37	28	25	21	23
20	947	421	365	343	263	173	121	102	101	83	78	56	47	41	31	30	33	28	29	23
21	881	443	393	351	251	183	131	106	96	64	48	63	43	42	27	34	33	23	29	26
22	898	467	418	346	256	174	143	114	94	74	38	63	38	46	42	30	29	29	25	27
23	876	449	381	331	236	178	162	118	94	70	50	55	38	32	30	29	21	29	25	24
24	832	517	413	304	253	187	158	118	90	93	64	59	40	54	38	49	24	25	19	23
25	848	463	422	333	237	185	148	119	75	65	54	61	46	42	33	39	23	32	19	21
26	811	444	397	356	238	174	154	111	103	56	59	68	38	46	63	37	29	22	23	24
27	745	451	409	336	240	172	148	113	85	68	61	40	47	41	34	39	23	27	33	23
28	812	446	376	308	244	170	132	102	77	75	57	62	40	47	38	25	28	31	23	21
29	761	421	425	333	244	174	141	102	91	74	61	55	33	46	41	34	37	33	24	27
30	726	405	405	348	233	194	143	125	84	72	58	43	35	36	32	33	30	25	22	22
31	731	400	397	282	230	169	119	104	89	68	64	74	40	50	34	27	33	34	22	29
32	717	436	372	311	217	163	129	96	75	72	55	104	45	40	31	34	25	25	29	21
33	655	410	368	323	224	155	137	95	93	66	58	57	46	43	29	45	29	24	25	21
34	649	460	402	373	219	175	146	104	84	68	51	53	43	31	42	33	32	25	32	23
35	616	416	373	374	239	171	132	115	67	65	63	50	49	50	36	40	30	28	39	22
36	658	389	361	334	228	164	147	117	92	77	69	57	41	27	39	24	34	23	28	25
37	639	452	399	306	247	176	173	98	89	67	63	54	48	44	39	37	30	19	33	24
38	604	383	414	311	324	146	138	110	85	66	66	53	45	58	40	38	21	33	26	28
39	632	395	475	287	230	172	118	101	82	63	58	35	51	34	30	25	39	30	29	24
40	626	440	403	311	265	159	123	126	81	56	74	56	48	49	32	25	39	31	23	22
41	575	428	385	305	249	171	113	89	82	77	63	58	48	56	32	37	34	25	29	35
42	580	557	352	325	223	155	133	98	92	74	45	46	43	36	36	31	27	27	22	19
43	589	465	395	299	203	184	129	94	79	77	46	63	46	38	33	32	24	30	19	13
44	535	412	359	322	195	198	111	92	79	65	48	77	55	53	31	53	49	27	29	19
45	567	388	379	316	211	175	136	117	78	68	46	81	40	50	39	35	52	30	18	23
46	534	344	351	309	209	153	115	119	74	63	66	61	34	36	38	39	52	22	17	17
47	511	391	349	328	195	159	117	104	76	61	60	50	46	56	25	32	32	34	23	18
48	506	392	366	332	223	168	134	113	84	72	77	53	45	47	38	33	32	23	25	29
49	530	424	366	298	204	149	112	105	92	74	51	51	44	36	44	29	28	24	24	25

D02-166

5452916A.K:1 54529-16-A 92-02724-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
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1	32	24	20	20	21	13	15	14	7	10	10	9	5	9	8	4	8	4	9	7
2	16	22	24	24	13	13	12	8	14	11	9	8	15	6	11	8	6	2	4	7
3	28	22	16	21	15	16	17	15	6	8	10	8	6	7	12	6	6	5	7	4
4	20	19	22	29	20	19	12	12	19	10	11	8	9	11	9	8	4	2	2	13
5	29	22	21	23	20	13	17	11	10	5	10	12	15	7	4	9	8	7	4	9
6	19	31	13	20	23	15	12	16	7	4	1	4	7	7	8	5	10	9	2	2
7	21	24	23	22	19	11	16	12	19	10	7	13	9	8	5	4	10	10	4	7
8	24	24	25	22	15	15	16	17	16	23	9	6	6	10	9	8	10	5	9	5
9	18	25	21	17	19	12	15	12	16	67	12	7	7	6	8	8	2	7	6	5
10	21	22	26	15	16	14	18	14	13	118	5	1	9	8	5	5	9	6	4	7
11	20	26	14	16	14	16	20	14	16	111	13	5	6	16	7	11	11	5	5	3
12	21	20	19	26	10	21	19	12	11	54	10	17	8	7	10	9	3	7	5	2
13	16	18	18	17	17	18	14	8	8	18	4	4	11	8	10	13	8	9	8	11
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18	34	29	26	11	18	13	18	6	12	5	11	5	6	8	6	6	6	9	6	9
19	23	18	51	14	29	14	12	10	7	13	6	8	6	6	8	6	7	6	9	3
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25	23	13	15	12	9	16	15	12	9	8	9	9	9	9	12	10	5	8	9	1
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35	14	20	21	14	23	12	15	11	11	6	4	5	8	3	4	6	8	6	8	1
36	19	22	19	27	18	13	17	12	9	8	16	9	5	8	8	7	6	6	11	2
37	23	21	22	20	29	15	11	9	14	9	6	11	9	5	7	5	4	7	7	6
38	22	19	28	20	26	22	23	13	5	9	13	9	5	5	13	8	10	11	4	4
39	27	26	17	19	20	14	8	16	8	12	6	7	9	7	9	9	5	8	11	7
40	26	22	19	12	22	17	24	11	12	8	8	9	6	8	7	5	6	5	4	6
41	15	28	25	23	14	14	19	13	8	10	9	14	9	8	9	9	6	2	6	4
42	19	15	21	19	17	17	17	8	12	8	10	13	12	11	11	5	4	4	4	11
43	20	17	16	18	16	13	16	8	12	8	7	11	11	5	7	9	6	5	6	7
44	24	18	22	20	16	11	11	11	10	12	14	11	7	4	7	5	10	9	6	5
45	14	25	18	21	16	12	14	10	13	5	10	9	9	13	4	5	12	8	8	6
46	19	27	18	16	16	16	14	10	7	8	6	10	4	5	9	6	8	9	4	6
47	14	15	13	17	10	24	12	4	13	9	12	10	4	7	3	6	5	5	7	5
48	19	18	18	18	20	24	15	11	11	12	3	10	11	9	5	4	5	6	13	3
49	19	27	8	17	12	17	7	10	10	12	7	11	9	7	8	8	7	7	3	8

D02-167

TITLE: 54529-17-A 92-02725-L-1

FILE: 5452917A.K:1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 9 19 91 12 22 0

TIME OF COUNT: 2 12 92 17 54 0

(210572. MINUTES DECAY TIME)

LIVE TIME: 22 HOURS 58 MINUTES 23 SECONDS = 1378.38 MINUTES

ELAPSED TIME: 22 HOURS 58 MINUTES 36 SECONDS = 1378.60 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/20/92 EA Lopez

D02-168

756

5452917A.K;1 54529-17-A 92-02725-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	82703	462	381	306	283	167	162	155	92	77	60	49	33	42	43	40	27	24	21	23
1	34	473	367	366	235	205	118	196	102	62	77	56	52	51	44	32	34	26	28	19
2	0	476	385	338	249	188	128	125	84	66	58	38	48	39	45	35	26	32	19	13
3	0	521	369	339	272	181	134	108	87	52	51	54	45	43	38	31	23	29	27	23
4	0	476	341	324	259	183	141	109	75	73	62	40	52	33	37	34	30	29	25	24
5	0	458	366	300	242	194	146	98	78	75	64	67	42	39	41	40	26	21	23	17
6	0	427	360	331	257	184	123	107	91	55	72	49	47	29	36	38	24	29	28	21
7	0	410	390	348	232	164	136	107	71	70	94	49	93	44	33	31	43	25	27	15
8	0	427	362	330	235	205	141	135	99	76	154	57	130	38	42	25	33	36	19	18
9	3	480	404	289	277	158	122	103	76	58	229	46	95	36	30	26	25	31	40	22
10	1910	426	361	321	260	187	142	114	78	83	212	51	54	49	38	31	25	30	49	29
11	15102	434	384	341	218	174	110	81	77	69	171	56	55	36	33	35	31	26	38	31
12	25642	433	379	334	251	164	126	116	102	68	105	57	31	38	45	31	28	29	24	17
13	14361	402	381	324	237	170	141	85	91	61	68	52	67	42	34	32	33	28	24	23
14	4378	418	350	329	281	175	121	104	78	75	64	48	43	38	33	32	35	32	30	24
15	1465	460	338	288	231	166	126	105	79	71	49	48	38	42	27	45	35	23	21	16
16	1076	468	335	317	229	178	126	106	84	67	65	47	52	37	29	28	36	31	31	32
17	1010	396	340	327	239	184	138	101	78	61	55	46	51	42	27	38	23	34	23	33
18	940	397	355	286	243	144	132	102	83	72	57	48	41	40	38	30	27	23	21	31
19	853	401	385	305	187	158	131	99	91	62	51	46	37	54	39	36	32	26	21	33
20	857	434	350	318	213	151	137	110	86	59	65	53	35	34	30	35	26	27	17	29
21	810	359	371	318	225	169	134	99	74	50	59	46	47	42	48	25	25	25	28	17
22	853	432	367	307	229	159	134	102	89	74	70	41	35	32	39	30	27	18	27	21
23	816	376	385	330	213	153	127	86	85	57	56	48	40	42	27	35	20	25	21	31
24	770	469	372	325	231	181	144	100	79	70	55	46	34	48	50	36	29	18	25	14
25	749	432	400	280	227	172	150	97	79	84	58	49	55	32	49	34	31	25	32	39
26	722	398	366	312	214	132	153	94	71	75	62	46	48	41	30	39	25	19	29	25
27	674	381	371	270	230	160	130	92	101	83	67	45	42	38	33	23	25	26	27	17
28	711	381	361	272	229	169	121	93	102	57	53	48	47	39	32	27	24	24	17	25
29	682	372	380	273	236	178	111	98	88	62	58	54	43	32	32	36	26	27	18	23
30	697	383	346	317	225	155	136	110	89	64	52	53	47	35	25	29	30	21	14	29
31	657	391	357	291	222	141	126	86	81	83	53	76	52	35	34	24	37	32	28	24
32	641	370	362	302	201	142	126	68	75	68	59	76	39	40	27	31	27	27	25	22
33	610	359	343	296	225	135	123	89	85	65	50	59	48	40	40	34	31	37	33	18
34	630	399	371	309	219	146	119	104	73	66	72	42	40	29	33	33	32	24	26	22
35	574	399	332	353	209	130	127	88	81	60	54	49	35	34	42	34	31	35	22	22
36	609	414	382	313	218	166	110	85	74	80	42	37	38	28	31	27	24	25	16	23
37	610	386	356	310	291	146	132	94	71	79	51	35	42	46	34	33	30	22	22	15
38	548	371	368	278	326	155	133	87	77	69	53	53	34	34	37	33	28	27	29	11
39	519	345	425	278	262	159	122	90	78	64	54	32	36	29	30	38	34	26	24	17
40	553	377	387	268	226	160	117	81	73	69	60	40	45	30	30	26	29	20	24	17
41	544	420	345	252	228	122	117	89	79	59	41	40	43	40	32	27	27	24	25	23
42	548	468	328	254	257	144	102	82	71	72	54	42	42	39	39	28	30	31	28	17
43	511	392	403	262	206	172	116	104	84	54	69	41	28	54	44	31	30	32	25	19
44	523	401	339	262	201	207	119	94	92	58	48	68	39	37	20	23	27	28	24	25
45	514	351	368	280	218	160	135	84	91	78	46	51	34	42	41	35	38	32	28	17
46	500	340	360	276	162	143	147	101	74	58	58	56	43	33	40	31	51	32	17	22
47	519	363	316	314	164	134	119	99	67	53	59	50	38	36	36	29	38	16	33	28
48	471	384	351	302	168	143	115	92	70	74	50	50	39	32	26	34	14	19	24	15
49	466	356	344	289	195	150	102	86	82	60	40	46	39	45	29	31	27	21	15	25

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757

5452917A.K;1 54529-17-A 92-02725-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1953
0	28	20	27	20	16	15	11	18	16	13	7	7	7	9	9	7	6	3	7	4
1	21	18	10	20	16	15	9	7	11	18	6	8	5	4	9	3	7	6	6	9
2	18	22	18	15	19	19	13	10	13	11	7	10	8	4	9	7	7	5	6	5
3	25	25	12	18	19	16	11	15	8	8	8	9	8	9	10	8	7	6	1	3
4	21	24	25	16	16	13	7	10	7	12	5	8	5	4	6	13	7	8	6	8
5	18	17	19	20	13	14	16	11	9	7	10	13	8	10	3	10	3	9	7	5
6	15	14	17	14	17	8	15	8	4	16	11	12	12	9	7	8	12	7	8	9
7	18	15	18	18	20	11	10	9	15	9	9	8	11	7	8	6	6	4	6	5
8	22	28	24	17	16	12	12	14	14	23	8	8	6	7	6	3	7	10	7	3
9	20	23	15	19	18	16	11	13	10	69	10	7	4	6	2	7	10	8	3	6
10	26	20	23	16	10	15	9	11	10	109	12	10	5	7	9	4	5	5	7	5
11	24	12	13	18	22	12	13	5	17	130	9	8	2	7	10	9	4	8	5	5
12	26	17	22	18	15	15	18	11	7	52	9	3	7	5	8	8	8	9	3	5
13	20	12	19	16	18	20	14	10	16	11	6	3	4	9	13	18	4	7	10	7
14	17	14	20	21	12	10	10	12	12	11	3	4	9	11	10	29	2	7	6	14
15	24	18	14	24	22	19	16	12	7	7	10	7	10	11	10	10	9	9	12	5
16	29	21	19	14	22	14	13	8	10	7	11	5	5	12	4	9	5	5	4	4
17	16	20	23	9	24	18	10	15	7	14	14	7	10	5	8	6	5	6	8	3
18	19	17	29	16	27	13	15	10	8	10	7	8	10	5	7	5	7	3	7	5
19	16	18	43	16	15	11	8	8	15	6	9	5	2	3	8	1	9	7	4	5
20	15	16	38	26	13	15	9	16	12	10	10	9	7	10	9	1	6	7	4	4
21	23	17	21	24	21	14	10	17	5	12	9	7	11	9	4	3	7	7	8	5
22	24	13	24	29	13	8	10	8	10	7	7	8	5	5	4	8	6	7	5	2
23	24	22	13	29	26	11	14	13	12	8	4	3	6	5	6	8	7	2	3	5
24	26	17	13	21	17	9	12	10	9	8	14	6	4	10	13	4	5	7	5	5
25	19	16	24	19	16	15	11	12	7	10	7	9	6	9	11	4	9	5	12	7
26	18	20	15	16	21	8	12	21	8	8	8	5	4	6	4	6	6	6	3	5
27	17	26	18	13	15	12	11	21	11	9	12	3	12	12	12	13	10	3	7	10
28	19	21	15	20	10	14	6	16	6	6	11	8	10	9	7	5	9	8	4	2
29	25	17	11	26	20	14	13	12	8	9	11	6	5	6	8	7	3	10	5	5
30	28	16	16	18	15	17	16	6	13	10	7	3	13	5	9	5	4	4	7	7
31	26	22	18	20	12	16	12	13	14	3	9	8	15	7	8	7	6	10	4	5
32	21	16	16	25	7	9	23	10	14	11	9	6	13	8	8	6	8	3	5	8
33	20	11	19	15	11	8	15	9	13	9	8	8	5	8	7	9	6	6	6	6
34	28	18	14	12	16	16	13	14	14	8	12	7	6	9	8	4	6	5	5	4
35	18	20	18	13	15	12	12	14	8	5	9	7	4	11	5	2	9	3	2	7
36	11	22	23	14	22	15	12	13	8	11	5	5	6	7	9	4	4	5	3	5
37	24	20	23	15	18	22	11	7	8	7	10	8	11	8	5	5	13	7	6	8
38	25	14	15	12	25	18	17	9	8	9	5	4	9	11	10	8	10	6	4	4
39	18	14	19	14	17	12	22	14	9	15	12	12	6	11	5	3	6	10	7	2
40	15	13	24	19	15	10	8	9	13	6	1	7	7	6	8	6	8	7	4	8
41	13	15	22	21	13	13	15	17	9	6	2	16	12	9	6	3	4	3	3	4
42	29	17	11	15	15	16	13	11	9	12	10	14	10	6	5	7	3	6	6	6
43	20	13	19	13	16	9	9	13	11	14	11	13	8	13	10	6	7	6	5	4
44	18	20	16	24	11	11	10	10	6	8	6	14	8	8	6	13	4	2	10	4
45	15	20	17	14	22	14	11	9	14	12	11	8	5	7	3	7	4	10	7	7
46	18	18	19	16	16	6	9	8	8	8	4	9	10	9	5	7	8	6	4	5
47	30	17	15	17	7	11	10	11	9	9	12	14	7	9	5	8	7	6	5	7
48	17	22	18	23	16	9	14	8	11	7	4	7	7	5	4	3	6	10	5	2
49	25	21	17	18	11	17	5	12	17	5	6	6	5	4	4	3	9	8	4	5

D02-170

857

TITLE: 54529-1B-A 92-02726-L-1

FILE: 5452918A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 9 19 91 9 35 0

TIME OF COUNT: 2 13 92 16 56 0

(212121. MINUTES DECAY TIME)

LIVE TIME: 21 HOURS 48 MINUTES 49 SECONDS = 1308.82 MINUTES

ELAPSED TIME: 21 HOURS 49 MINUTES 0 SECONDS = 1309.00 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FKR:	0
HOV:	1

3/20/92
EAHagel

D02-171

762

54529-18-A 92-02726-L-1

54529-18A.K;1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	78529	419	348	301	221	157	129	165	78	84	68	63	47	38	34	22	30	24	21	17
1	34	395	350	307	258	190	133	155	70	63	77	37	43	36	33	32	29	29	21	27
2	0	441	365	317	246	184	135	121	88	77	53	57	35	38	38	49	29	24	27	23
3	0	458	303	325	247	194	136	115	94	63	49	46	49	30	33	25	25	25	21	22
4	0	425	347	339	252	149	114	103	94	72	52	53	41	46	30	42	28	19	27	29
5	0	385	324	310	232	183	124	106	100	72	56	37	53	29	37	43	27	31	23	12
6	0	408	349	323	236	183	111	86	80	66	59	59	44	33	44	24	21	29	25	29
7	0	430	329	307	253	174	113	94	78	53	76	46	71	41	33	27	34	22	27	18
8	0	390	342	318	222	174	126	94	75	69	107	37	98	39	34	27	19	26	20	25
9	3	404	342	336	219	167	136	86	94	78	216	55	74	39	30	36	34	26	31	14
10	1721	406	372	257	221	164	133	99	82	75	200	49	48	38	38	25	31	22	41	22
11	13549	409	352	313	234	163	118	107	69	86	160	57	36	36	30	26	20	22	41	34
12	23025	418	377	317	240	157	112	93	83	71	75	45	45	39	27	27	29	25	25	27
13	13033	440	315	290	233	161	117	89	70	57	71	47	44	46	24	27	25	38	39	25
14	4031	360	338	285	240	174	121	97	83	56	53	50	40	49	31	29	25	17	21	25
15	1503	410	325	285	220	141	120	96	103	62	58	38	44	26	31	37	26	21	22	22
16	945	447	369	320	208	151	120	107	72	62	50	40	44	36	36	38	34	27	27	17
17	925	358	364	278	218	138	125	91	89	50	45	51	46	36	40	44	31	32	27	27
18	855	383	315	242	219	157	120	85	103	81	49	52	42	19	47	31	25	27	23	35
19	811	306	340	299	228	190	149	81	70	61	60	52	37	34	29	35	23	26	25	35
20	878	388	362	292	219	155	113	80	74	50	48	41	46	27	33	31	34	27	26	25
21	840	396	347	281	208	138	102	77	83	68	56	56	34	39	35	34	28	21	25	15
22	731	379	359	287	201	165	102	79	72	61	50	53	34	41	42	37	33	28	24	29
23	774	412	294	302	198	159	116	90	71	63	64	52	47	33	35	31	22	22	15	17
24	702	426	320	296	203	167	131	91	78	59	51	46	31	32	25	28	30	17	24	19
25	706	417	341	303	206	162	124	99	89	74	51	46	48	39	35	29	23	19	17	13
26	699	397	328	306	203	162	123	86	77	51	49	49	47	33	37	23	25	29	19	29
27	669	374	353	299	209	163	109	87	77	77	43	33	38	30	36	32	24	19	22	29
28	676	359	345	312	222	147	111	81	63	70	55	49	40	33	34	31	22	28	14	29
29	668	337	367	226	226	159	107	70	85	78	34	44	40	43	32	27	23	24	19	25
30	658	333	325	287	208	151	102	76	70	64	49	56	44	36	29	28	32	19	23	29
31	610	339	352	280	186	140	106	91	70	51	42	61	42	31	33	33	28	26	20	29
32	607	364	312	281	183	145	100	117	57	54	62	101	35	37	31	38	21	24	20	25
33	558	351	354	267	177	144	129	107	78	58	42	52	40	36	25	32	31	28	24	14
34	590	385	351	312	189	126	97	87	81	49	74	49	28	38	35	29	34	19	23	18
35	559	369	313	358	219	144	121	86	79	66	58	40	41	39	33	30	33	27	16	22
36	554	383	319	285	213	146	128	95	61	55	45	49	35	42	26	25	33	30	20	23
37	523	378	357	268	252	133	124	85	81	78	50	59	33	34	26	23	26	21	25	24
38	582	359	373	235	252	150	83	93	79	57	44	40	33	33	30	32	31	16	24	14
39	518	341	384	262	204	138	103	99	64	57	46	34	38	39	35	24	22	25	22	23
40	503	374	347	292	213	159	117	107	86	51	49	52	45	30	28	30	23	22	23	15
41	486	419	356	268	232	135	128	102	65	61	49	40	38	46	36	40	25	29	26	25
42	507	427	304	279	183	133	115	91	67	62	46	48	47	39	34	28	28	24	26	24
43	517	379	347	262	158	133	112	100	75	58	67	56	40	39	35	22	29	18	17	12
44	468	356	337	253	195	171	107	83	66	54	50	55	32	38	34	30	29	20	29	23
45	465	319	326	223	193	165	85	93	64	65	50	81	38	32	28	23	40	20	21	19
46	453	328	294	270	169	128	99	83	60	66	41	64	30	37	24	29	50	30	15	23
47	505	320	342	301	188	133	104	87	65	71	45	50	39	42	29	37	39	27	21	21
48	483	330	306	264	154	138	118	83	78	63	51	59	46	31	33	33	34	27	21	29
49	448	371	329	279	100	125	93	95	67	57	49	54	32	44	35	24	28	24	17	25

D02-172

5452918A.K:1 54529-18-A 92-02726-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1953
0	26	16	17	14	14	10	8	18	18	7	5	6	11	7	5	2	5	7	3	5
1	21	19	21	4	17	18	16	14	15	9	5	5	6	1	7	3	9	4	7	4
2	25	13	21	20	19	17	9	11	15	9	8	6	7	6	8	7	5	11	5	8
3	28	17	19	8	14	15	18	4	13	9	11	7	3	8	7	6	5	3	2	8
4	19	23	16	12	19	10	13	4	15	7	5	10	5	8	6	4	6	5	5	10
5	29	18	16	19	19	15	13	9	15	13	10	3	9	6	7	7	12	6	4	7
6	18	20	13	22	20	13	16	9	10	11	16	5	5	5	4	3	8	4	7	2
7	17	16	22	15	14	17	16	12	11	12	7	12	4	7	8	2	4	4	4	5
8	16	21	17	15	15	11	15	14	16	21	7	6	9	7	13	7	9	7	7	5
9	16	19	17	20	18	13	15	13	9	65	12	12	7	10	7	4	5	5	10	4
10	21	17	20	15	16	13	11	6	15	100	7	4	9	8	10	7	7	7	4	6
11	26	17	21	13	19	9	6	8	10	116	9	9	9	4	4	4	7	4	8	6
12	23	17	21	14	11	16	16	13	14	40	8	7	11	7	10	10	7	5	4	7
13	18	19	15	20	13	18	13	15	11	18	11	8	8	3	4	19	5	6	7	3
14	23	26	19	16	18	17	12	5	8	8	5	8	6	11	6	17	6	5	8	5
15	18	13	18	18	16	11	12	5	9	10	4	7	14	9	7	17	2	9	6	5
16	24	19	13	22	22	10	11	16	9	10	10	5	12	10	13	12	11	10	6	4
17	28	18	20	17	16	13	16	8	11	10	6	7	2	4	6	5	6	7	4	7
18	20	11	25	17	8	11	8	12	11	12	8	7	4	3	5	8	5	6	9	5
19	21	12	40	15	19	14	13	4	12	6	5	11	8	2	7	4	3	6	3	3
20	32	13	32	22	17	13	6	12	13	7	4	6	5	3	7	5	3	9	9	6
21	15	14	25	24	17	13	12	9	9	7	7	8	6	6	6	3	4	4	2	2
22	24	25	21	24	23	5	16	18	11	6	11	12	4	6	9	2	6	6	1	10
23	20	17	20	11	15	16	12	13	12	9	9	7	9	7	5	3	1	3	4	2
24	21	22	17	24	13	14	20	8	6	6	6	6	10	4	2	6	11	6	4	5
25	13	26	24	22	20	17	9	10	11	5	9	3	5	9	5	4	6	7	8	5
26	16	19	22	8	20	6	12	16	6	12	8	10	11	5	11	4	10	2	9	9
27	30	23	17	14	14	16	11	10	9	11	7	10	5	4	6	7	7	6	4	5
28	15	10	15	14	17	13	13	10	15	9	8	7	5	7	14	6	4	7	7	15
29	17	13	18	12	18	16	10	8	13	7	7	4	3	5	11	7	7	2	5	8
30	19	15	15	10	16	17	12	9	11	15	8	8	13	9	12	7	5	7	6	3
31	21	17	14	20	18	11	18	10	5	8	4	11	6	5	8	7	2	6	3	3
32	11	16	23	11	12	13	19	14	6	2	7	8	6	6	2	6	2	1	4	5
33	19	13	15	17	10	22	14	13	7	6	5	5	5	9	11	6	5	6	8	3
34	16	15	13	25	24	12	11	9	7	8	10	10	13	12	7	7	5	5	8	7
35	22	12	26	21	24	16	18	8	8	5	7	10	5	1	5	7	7	4	7	3
36	24	20	18	16	15	12	10	13	11	9	14	5	9	9	3	10	7	4	5	7
37	28	12	21	13	16	11	5	9	10	9	6	7	5	8	8	3	7	7	1	8
38	15	21	16	19	23	23	7	4	11	5	4	14	7	1	6	10	4	4	11	4
39	17	20	21	17	18	17	14	5	8	11	13	6	10	7	6	5	2	4	6	6
40	17	11	20	16	14	5	3	9	4	10	5	8	9	5	7	7	6	7	3	4
41	17	11	8	20	15	13	2	8	14	9	6	8	9	5	10	6	5	14	8	7
42	19	21	13	22	17	6	11	7	14	12	4	13	5	8	7	7	6	5	9	3
43	17	23	21	9	14	21	9	13	14	5	13	7	8	9	5	7	4	6	7	8
44	15	18	14	19	17	20	18	13	10	10	7	7	5	5	10	5	3	2	11	3
45	19	26	19	18	10	12	8	10	8	16	10	8	7	5	1	11	8	3	2	3
46	12	12	21	17	22	16	13	9	10	12	1	5	5	4	7	10	9	7	4	7
47	21	15	25	24	16	14	8	10	7	14	11	10	5	8	10	6	8	7	5	1
48	16	20	18	14	16	16	11	13	10	3	5	7	6	5	5	7	9	4	4	5
49	8	15	19	20	12	12	10	11	8	6	5	1	9	4	8	8	9	6	3	4

TITLE: 54529-19-A 92-02727-L-1

FILE: 54529190.K;1

CHANNELS: 2040

SHELF: 0

DIODE: K

TIME ZERO: 9 19 91 ~~0 35 0~~ 0800

TIME OF COUNT: 2 14 92 15 48 0

(213493. MINUTES DECAY TIME)

LIVE TIME: 89 HOURS 35 MINUTES 10 SECONDS = 5375.17 MINUTES

ELAPSED TIME: 89 HOURS 36 MINUTES 0 SECONDS = 5376.00 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LOD:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOW:	1

3/20/92 EAlgell

D02-174

887

5452919A.K;1 54529-19-A 92-02727-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	322510	1830	1432	1285	1045	709	495	579	316	305	247	209	185	151	152	143	109	95	104	80
1	34	1742	1371	1295	1020	734	533	632	372	296	223	189	178	160	152	122	95	115	92	74
2	0	1858	1429	1292	976	735	533	463	327	283	254	191	180	154	157	129	116	194	119	96
3	0	1959	1332	1280	960	608	540	404	335	265	254	204	174	181	145	138	116	86	88	99
4	0	1750	1386	1275	1010	742	512	409	315	286	231	198	198	170	136	145	114	98	93	94
5	0	1731	1415	1275	1020	671	527	424	345	255	239	203	188	185	130	118	112	89	121	93
6	0	1700	1353	1269	937	724	533	417	315	278	243	185	191	156	145	111	134	107	85	79
7	0	1636	1394	1345	889	667	507	415	319	259	333	182	330	143	167	115	138	88	75	85
8	0	1595	1460	1245	905	680	538	407	345	285	483	192	482	131	147	136	114	112	113	85
9	16	1550	1403	1216	928	701	493	420	317	281	817	224	279	149	127	122	95	114	152	96
10	7827	1609	1379	1213	910	608	502	394	337	272	836	180	218	182	163	131	118	119	159	83
11	61487	1563	1396	1272	926	669	490	389	334	277	579	200	160	185	124	127	195	191	123	85
12	95805	1675	1455	1248	908	606	502	395	294	289	345	194	157	137	136	121	101	118	139	82
13	50812	1669	1411	1278	971	703	553	403	288	284	258	216	161	167	137	118	100	113	197	108
14	16874	1685	1379	1244	943	669	468	381	330	264	251	213	151	145	135	115	198	95	94	102
15	5674	1662	1397	1262	937	585	472	397	319	283	229	202	163	157	125	142	118	70	97	93
16	4816	1723	1433	1222	589	687	495	407	324	255	240	194	162	160	154	139	119	124	194	94
17	3816	1581	1392	1187	862	669	497	408	324	288	218	198	171	139	110	117	108	159	79	115
18	3623	1567	1366	1163	829	711	510	392	336	272	232	228	172	137	128	143	94	129	138	139
19	3401	1454	1420	1124	874	692	497	363	329	262	218	210	160	169	139	121	113	119	138	88
20	3373	1475	1461	1136	894	597	505	400	327	251	227	218	173	163	137	131	159	138	99	91
21	3164	1489	1400	1262	837	681	468	384	350	251	198	186	166	144	132	121	103	101	88	85
22	3042	1539	1385	1156	830	633	518	350	331	264	229	200	202	165	138	129	168	129	99	87
23	3181	1554	1306	1083	838	654	464	376	313	262	195	183	193	146	123	112	126	125	98	97
24	2952	1685	1428	1265	868	619	504	378	314	252	215	218	173	144	145	127	114	93	97	87
25	2926	1638	1430	1224	854	626	535	383	290	272	219	218	173	153	165	166	125	113	91	109
26	2785	1458	1339	1107	877	652	498	359	301	259	238	216	182	159	189	127	117	108	82	74
27	2757	1521	1408	1117	821	609	475	372	311	275	218	211	148	159	148	125	101	95	82	84
28	2652	1411	1432	1140	824	579	469	362	313	263	228	213	169	154	155	114	117	85	95	78
29	2608	1399	1417	1150	874	588	516	368	300	269	221	187	156	162	132	115	119	87	98	83
30	2535	1479	1468	1135	820	603	502	347	338	241	188	184	168	148	125	122	95	111	99	93
31	2528	1445	1339	1163	791	578	472	360	308	255	214	242	151	158	124	138	115	79	79	73
32	2456	1504	1338	1126	760	576	482	336	298	234	216	354	164	164	138	94	168	109	111	88
33	2447	1536	1410	1127	817	606	484	317	322	235	211	233	180	143	131	101	121	103	135	93
34	2380	1560	1341	1302	853	607	452	340	321	268	223	197	177	141	119	126	151	96	97	86
35	2285	1473	1393	1434	847	596	456	341	253	258	194	189	162	143	139	132	117	99	95	74
36	2200	1514	1358	1205	854	544	473	343	318	227	177	185	160	138	133	185	103	85	99	79
37	2171	1447	1453	1032	1099	594	504	328	321	237	196	179	168	128	139	114	124	99	84	97
38	2103	1481	1511	1083	1065	574	518	355	260	246	209	218	150	162	126	126	119	104	72	78
39	2158	1495	1541	1086	844	604	433	359	264	242	200	202	156	138	131	120	115	102	94	87
40	2139	1482	1406	1041	821	548	464	335	310	266	213	197	174	168	129	112	97	182	82	57
41	2005	1616	1373	1023	845	601	452	350	311	245	211	173	164	178	128	106	99	96	74	77
42	1991	1548	1356	1036	752	532	451	350	306	259	213	193	144	160	118	137	120	77	77	98
43	1845	1558	1332	1068	733	626	424	356	289	281	208	188	174	169	136	107	112	102	96	83
44	1502	1440	1304	1050	718	610	419	363	307	252	294	271	152	163	127	138	144	93	58	65
45	1515	1307	1319	1037	739	553	428	300	292	255	216	250	156	156	131	137	204	96	93	71
46	1510	1214	1262	1049	717	585	428	338	302	262	221	198	162	139	127	133	184	101	194	79
47	1041	1471	1332	1027	694	557	437	332	274	241	194	184	172	176	133	123	127	99	97	87
48	1037	1514	1306	1159	770	605	446	327	289	239	210	207	158	159	135	137	95	107	85	99
49	1017	1417	1389	1011	741	567	444	322	277	259	217	179	131	136	113	116	112	91	96	91

5452919A.K:1 54529-19-A 92-02727-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	113	87	70	68	74	53	53	63	42	35	34	31	23	22	35	19	27	21	27	22
1	90	76	70	55	57	49	37	53	41	26	26	47	29	25	29	25	24	16	22	15
2	92	74	66	78	68	74	51	49	47	33	34	26	37	22	33	25	23	19	19	23
3	74	70	71	69	71	69	49	54	57	41	40	38	35	33	23	30	20	21	15	21
4	85	74	91	74	71	56	43	39	40	39	31	31	39	30	21	16	20	18	25	23
5	77	76	74	68	81	68	43	39	35	37	43	25	25	27	30	25	27	17	20	21
6	66	83	68	65	51	56	40	34	45	42	34	37	25	29	30	19	36	29	24	13
7	79	79	63	65	62	54	45	41	41	45	35	24	27	22	20	19	32	18	17	22
8	70	87	70	47	56	49	54	53	59	89	54	23	24	25	37	29	35	33	27	20
9	79	57	79	64	57	59	48	48	53	254	56	30	22	22	28	20	20	15	30	23
10	75	62	64	60	51	58	53	40	38	500	28	39	34	25	33	33	25	34	25	25
11	79	79	67	74	73	55	43	37	31	453	43	31	25	35	32	27	37	29	25	30
12	68	79	80	50	64	51	49	42	49	185	33	24	33	33	22	28	21	21	22	27
13	76	51	43	52	64	53	46	51	39	80	32	25	34	28	38	55	23	20	15	24
14	89	73	74	50	66	44	58	38	44	49	29	25	29	27	24	73	23	27	23	22
15	85	79	67	54	63	53	55	36	46	40	20	18	28	28	30	84	16	30	27	22
16	76	74	86	72	58	49	47	48	33	38	36	39	27	29	20	42	25	28	17	23
17	83	66	79	60	63	50	43	45	48	40	24	30	27	33	24	30	31	17	22	23
18	85	79	83	56	69	51	55	47	35	29	40	27	24	31	26	21	30	29	17	25
19	70	85	122	58	62	53	50	40	34	34	43	26	34	25	26	35	21	28	12	22
20	75	80	130	76	75	43	46	55	33	31	22	43	37	23	22	19	23	27	14	31
21	78	70	81	56	57	45	41	39	40	33	23	27	46	19	29	23	30	24	22	25
22	67	80	76	97	63	49	39	45	41	42	31	27	29	28	25	16	20	29	19	23
23	75	55	77	79	69	40	50	41	32	43	24	33	21	32	19	25	24	33	31	17
24	87	62	66	79	62	53	53	30	46	30	27	40	33	16	30	22	31	26	23	15
25	83	78	67	75	65	61	59	44	38	31	29	29	27	25	38	22	19	27	19	22
26	84	84	72	66	51	46	38	56	40	23	44	35	26	31	37	21	27	24	15	25
27	82	79	64	64	53	59	55	68	43	32	49	19	21	34	30	30	15	32	23	15
28	79	83	73	73	55	58	48	55	43	30	23	25	36	33	26	25	35	19	19	13
29	75	84	76	55	59	69	49	38	41	35	28	30	36	23	36	24	21	22	23	13
30	83	69	80	68	50	47	54	37	41	39	32	33	34	25	35	34	29	29	19	15
31	83	73	80	68	48	60	80	49	44	31	30	31	38	35	24	25	19	15	22	13
32	88	60	69	69	63	48	85	38	41	26	26	34	38	21	26	20	25	31	25	23
33	87	70	65	72	50	46	73	28	27	41	29	34	30	34	27	36	19	21	23	17
34	69	66	72	64	53	64	36	53	45	34	33	34	20	25	21	31	19	19	27	23
35	75	65	67	52	58	43	50	47	36	38	35	30	32	32	24	25	17	29	19	23
36	75	70	66	64	69	64	49	38	33	35	38	34	26	22	29	19	25	22	21	27
37	76	63	82	63	100	54	43	47	45	33	37	40	29	29	23	33	26	23	22	13
38	75	74	62	68	73	72	41	47	42	36	38	46	31	29	35	29	30	22	25	21
39	76	74	77	60	62	63	61	35	48	35	25	40	33	27	18	29	23	20	32	13
40	76	67	66	75	52	43	44	45	41	37	28	36	30	29	25	24	33	24	18	19
41	70	72	52	59	64	36	41	37	46	29	27	39	21	23	34	28	22	19	32	23
42	68	74	77	59	57	64	50	47	34	37	33	54	27	29	21	19	30	14	21	15
43	84	73	70	62	66	59	39	49	39	40	30	44	20	27	29	31	23	28	25	25
44	85	72	51	61	59	61	47	41	34	33	28	43	33	22	28	18	31	24	29	25
45	65	76	58	60	63	45	46	38	43	35	27	33	28	24	26	21	27	26	23	25
46	89	75	66	68	60	50	37	40	45	36	36	31	28	30	22	24	29	24	29	17
47	74	73	66	64	66	43	47	46	35	36	34	30	20	26	23	17	28	22	24	19
48	70	66	73	83	54	53	41	27	31	28	36	33	24	25	23	22	37	29	27	15
49	67	69	77	61	43	54	51	37	34	26	25	34	29	26	32	24	23	22	23	29

D02-176

007

TITLE: 54529-20-A 92 02736-L-1

FILE: 5452920A.K;1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 9 30 91 10 5 0

TIME OF COUNT: 2 18 92 9 31 0

(203006. MINUTES DECAY TIME)

LIVE TIME: 31 HOURS 13 MINUTES 20 SECONDS = 1873.33 MINUTES

ELAPSED TIME: 31 HOURS 13 MINUTES 36 SECONDS = 1873.60 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FKR:	0
NOV:	1

3/20/92 SAhopel

D02-177

5452920A.K;1 54529-20-A 92 02736-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	112400	575	441	459	346	240	181	158	140	97	85	84	77	61	47	29	43	25	37	34
1	34	600	501	414	326	259	182	185	123	109	78	70	61	54	54	51	43	44	29	31
2	0	625	487	459	314	255	159	169	110	111	92	78	63	55	45	48	33	35	32	26
3	0	630	431	430	327	263	146	137	109	95	81	66	70	44	46	43	35	38	41	32
4	0	590	463	394	331	227	173	157	131	91	70	77	65	51	58	47	36	37	42	25
5	0	592	499	458	309	265	199	152	112	101	91	56	64	56	59	47	41	36	20	24
6	0	588	431	447	326	229	189	124	112	93	86	69	70	57	55	46	45	35	25	33
7	0	570	505	432	314	264	166	120	120	84	111	64	82	44	53	48	51	22	25	32
8	0	555	506	419	344	247	161	132	109	89	194	54	109	58	57	47	35	35	46	33
9	2	549	491	486	322	222	167	161	97	103	248	66	102	56	54	50	45	43	49	29
10	2325	557	481	405	318	230	189	135	107	83	286	65	54	76	44	51	41	25	53	13
11	20055	585	525	423	297	216	162	137	105	100	212	78	71	39	43	54	36	35	50	27
12	34318	552	513	408	314	214	166	133	113	107	120	64	65	45	52	41	44	41	30	32
13	19608	571	527	453	312	227	187	135	103	86	99	73	57	61	46	46	42	44	29	36
14	6216	587	493	402	301	233	172	127	93	83	89	70	54	49	56	52	39	30	33	33
15	1940	593	476	420	327	235	152	128	116	88	80	67	58	39	46	55	54	43	19	29
16	1363	508	463	391	309	233	164	134	121	89	77	64	60	50	42	46	38	35	32	41
17	1287	556	504	421	307	236	158	111	117	85	60	63	67	58	46	54	39	49	31	38
18	1193	537	518	416	301	208	164	127	107	105	62	68	63	44	45	39	34	32	32	45
19	1150	506	456	407	307	222	164	139	106	94	86	67	60	57	53	40	32	35	29	38
20	1144	512	502	402	302	213	166	121	119	98	87	57	56	37	50	42	42	33	33	32
21	1116	522	467	426	261	226	161	114	112	81	83	79	62	44	42	44	31	34	31	29
22	1085	535	495	378	307	189	163	120	132	91	87	67	61	56	44	47	31	29	42	29
23	1053	500	497	383	296	211	169	115	103	90	88	60	53	54	48	40	41	26	33	25
24	1059	555	470	404	292	210	163	125	110	93	92	67	57	45	55	28	36	36	33	24
25	1027	534	495	443	274	206	160	115	128	100	81	69	71	53	44	44	32	28	37	25
26	947	456	479	392	280	289	180	117	105	80	64	63	65	60	57	46	40	31	37	27
27	945	550	475	381	281	186	179	99	111	91	79	71	54	54	56	45	28	34	34	25
28	904	470	494	414	277	210	168	133	102	105	64	57	73	63	38	34	38	31	23	27
29	879	470	473	412	268	223	164	144	101	79	82	64	66	48	50	43	40	44	24	23
30	900	459	476	363	266	179	168	133	123	81	85	58	54	33	41	41	41	33	31	33
31	865	489	517	353	284	214	180	139	104	86	73	80	63	52	48	41	35	45	29	34
32	886	502	454	389	319	211	166	121	116	88	68	112	55	57	43	55	31	49	25	35
33	804	479	469	392	312	183	149	132	116	97	65	71	45	51	40	36	34	35	38	12
34	802	498	476	438	289	200	175	130	82	85	65	73	55	55	47	39	42	22	32	23
35	884	526	469	473	209	205	162	123	118	98	79	69	65	38	46	37	38	37	23	22
36	767	514	482	371	292	220	176	115	112	87	70	48	47	44	39	34	49	30	28	28
37	749	486	490	362	345	185	168	131	121	78	70	55	54	47	35	30	36	32	31	25
38	715	511	524	348	402	216	151	144	91	93	62	61	53	46	33	43	38	39	26	18
39	736	505	552	347	299	236	152	115	97	91	74	67	50	33	39	41	43	31	24	34
40	696	524	469	369	247	233	129	132	95	91	66	61	45	58	46	46	44	37	26	38
41	720	538	505	359	266	200	151	120	112	84	99	66	53	54	54	27	49	26	30	34
42	660	618	473	320	277	211	140	119	105	90	69	74	49	49	39	37	37	33	29	22
43	656	580	537	362	256	193	120	115	105	62	68	65	57	54	44	33	22	29	33	22
44	671	489	438	302	252	180	154	141	88	77	64	104	67	35	45	43	47	29	34	27
45	635	493	455	370	220	179	143	133	98	72	67	99	62	63	40	39	71	35	33	27
46	703	506	475	384	260	209	148	114	107	84	59	63	46	43	39	38	69	26	27	26
47	654	431	431	438	246	218	145	127	94	91	63	65	61	59	37	37	59	42	36	21
48	621	438	465	449	241	190	132	110	81	93	76	62	41	37	44	24	39	34	31	32
49	635	472	484	359	222	197	140	116	110	89	64	56	50	59	41	30	33	46	48	30

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813

5452920A.K:1 54529-20-A 92 02736-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
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1	29	32	24	25	24	23	18	16	13	9	10	6	10	7	13	11	4	5	11	12
2	32	21	14	26	29	27	22	14	16	11	12	15	8	9	11	4	7	8	5	4
3	25	30	21	20	27	21	18	14	13	13	15	13	8	9	9	15	12	9	10	9
4	27	24	21	33	21	17	22	14	17	14	6	13	7	6	4	13	5	8	11	15
5	30	25	34	28	29	20	17	15	15	14	6	12	6	10	10	6	12	7	7	14
6	20	30	33	19	23	19	18	13	9	11	7	7	8	11	9	12	8	9	7	3
7	36	31	26	18	22	15	14	12	18	20	8	13	7	13	6	5	4	9	8	7
8	25	23	27	21	22	21	24	22	20	18	13	9	11	3	9	11	7	7	9	10
9	27	31	15	18	25	23	15	16	20	82	16	10	9	13	11	10	14	13	8	4
10	32	29	20	20	22	26	18	16	16	185	8	10	9	15	11	14	8	6	11	3
11	22	24	23	21	23	19	18	15	13	160	14	18	13	11	6	9	6	5	6	11
12	23	27	27	23	22	12	19	20	13	73	11	10	7	12	10	10	8	7	6	3
13	32	22	22	33	19	26	13	15	14	24	13	19	8	8	17	16	9	13	6	7
14	30	24	19	29	21	21	20	10	12	11	10	13	17	6	13	17	8	8	8	5
15	24	32	14	25	19	9	21	13	23	5	11	14	11	4	7	13	10	7	5	3
16	22	28	24	19	23	13	17	17	9	13	12	10	8	8	9	18	8	5	3	4
17	34	21	22	19	24	16	16	8	10	20	11	5	10	10	7	12	10	7	12	7
18	20	15	25	31	18	19	13	15	11	14	4	13	6	3	13	7	5	8	2	3
19	33	28	35	25	21	18	12	13	14	14	14	11	11	13	9	11	13	10	9	4
20	20	25	33	18	22	13	17	10	10	15	13	14	6	9	6	14	9	7	7	3
21	34	25	31	27	28	20	23	11	15	9	8	15	12	7	7	7	3	3	4	5
22	36	22	21	38	21	14	18	16	10	9	10	10	15	8	11	5	3	10	4	9
23	28	29	26	38	26	20	20	14	12	5	16	11	8	9	10	7	5	5	9	11
24	26	26	17	22	19	21	8	18	8	14	19	10	14	6	7	5	11	5	9	11
25	26	21	26	36	23	17	16	17	11	12	9	8	9	9	13	6	7	6	10	9
26	26	15	21	20	24	15	14	13	16	9	16	14	7	10	7	16	7	5	4	9
27	24	22	21	25	18	23	16	13	15	10	9	13	10	13	10	9	9	10	11	10
28	32	31	22	18	18	15	19	11	13	12	9	12	12	10	13	12	10	9	6	10
29	37	26	22	21	15	18	18	6	16	14	7	9	8	10	18	15	4	13	6	4
30	30	30	21	20	23	14	19	5	12	6	13	10	17	13	10	14	8	8	4	4
31	22	22	24	32	13	19	20	10	7	11	8	4	16	12	10	8	14	8	7	6
32	30	29	24	22	20	16	22	5	16	8	14	10	5	15	11	7	6	7	10	12
33	24	19	25	20	25	27	26	9	12	8	11	7	8	17	10	13	9	16	4	3
34	21	26	29	17	19	21	19	11	15	9	22	11	10	8	5	4	6	8	11	8
35	36	32	30	20	18	19	19	10	16	2	10	9	4	7	10	9	6	5	7	7
36	33	28	21	32	23	21	22	17	16	8	8	9	10	8	11	7	7	11	11	7
37	29	26	24	24	37	18	8	19	24	17	12	10	13	10	7	10	9	8	5	0
38	32	16	32	19	31	20	19	22	9	11	7	11	10	11	11	5	6	3	6	9
39	24	25	25	14	30	18	15	16	19	18	10	7	11	5	7	9	8	6	10	9
40	24	30	25	14	16	25	10	13	12	8	6	12	10	8	12	4	9	5	11	9
41	23	27	18	23	27	20	19	9	15	12	14	13	10	6	11	5	7	7	5	12
42	27	18	15	24	27	27	18	10	14	13	14	17	11	15	8	9	8	7	8	10
43	25	22	25	17	21	15	16	15	15	14	17	15	7	10	10	7	9	8	4	5
44	26	25	27	23	28	9	16	17	9	12	12	13	14	7	8	7	6	5	10	5
45	31	32	21	20	19	13	22	15	11	11	13	9	13	12	10	6	17	11	9	5
46	19	30	16	19	19	17	14	17	16	10	14	8	13	9	6	7	10	10	5	6
47	27	30	22	17	20	25	15	10	15	10	10	12	9	12	8	11	14	7	5	3
48	19	23	20	17	17	14	12	11	8	9	11	7	7	9	14	7	9	6	9	5
49	21	23	19	22	18	10	9	15	8	11	9	14	10	7	5	14	12	6	11	5

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TITLE: 54529-21-A 92-02737-L-1

FILE: 5452921A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 9 20 91 7 58 0

TIME OF COUNT: 2 19 92 16 49 0

(219411. MINUTES DECAY TIME)

LIVE TIME: 16 HOURS 43 MINUTES 51 SECONDS = 1003.85 MINUTES

ELAPSED TIME: 16 HOURS 44 MINUTES 0 SECONDS = 1004.00 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/20/92 G A Lopel

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5452921A.K;1 54529-21-A 92-02737-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	60231	327	242	243	156	119	122	100	64	52	47	37	38	34	25	31	20	24	12	12
1	34	335	241	235	175	151	103	97	69	65	43	40	33	24	35	23	27	15	14	14
2	0	339	271	242	184	136	89	94	64	43	47	36	48	38	33	27	24	23	23	22
3	0	351	233	232	198	124	103	79	61	59	44	37	28	21	29	14	25	15	14	23
4	0	286	271	228	184	116	89	83	56	60	38	35	39	25	29	29	24	17	23	12
5	0	277	256	243	178	117	98	72	58	50	34	31	28	21	39	21	18	14	17	11
6	0	298	251	220	187	133	92	83	49	48	42	33	32	28	37	19	22	19	16	14
7	0	308	268	245	180	148	118	74	48	53	63	41	48	17	24	22	18	22	13	19
8	0	301	254	252	178	125	100	69	61	51	94	30	51	30	19	26	19	23	25	23
9	4	308	256	223	169	122	97	69	61	48	142	34	47	30	29	20	17	18	27	15
10	1240	334	236	216	162	132	91	65	63	43	158	36	29	37	23	25	20	19	40	13
11	10796	294	286	237	166	119	103	69	74	50	106	32	24	33	24	19	28	17	32	15
12	18365	309	252	242	182	129	91	76	57	57	66	43	27	30	26	12	19	16	20	19
13	10828	322	263	225	183	123	98	67	63	55	56	44	40	28	21	24	20	12	19	18
14	3293	309	254	179	184	109	95	78	58	49	45	29	33	25	21	22	19	18	23	22
15	1069	282	243	199	158	127	91	68	70	45	45	52	31	30	28	23	11	18	20	14
16	727	331	259	245	193	114	87	69	60	45	38	44	41	28	26	36	19	12	23	20
17	721	278	280	224	161	118	80	60	58	47	39	44	32	18	31	25	13	22	15	22
18	664	278	272	222	133	109	91	65	62	56	43	37	32	27	22	26	18	18	24	25
19	653	315	242	198	172	169	91	93	60	52	39	37	28	29	29	23	24	9	19	14
20	609	267	246	200	166	104	79	74	56	48	36	26	37	35	30	15	14	10	15	21
21	614	304	262	240	147	119	98	69	65	45	44	25	27	24	28	24	15	13	19	19
22	596	304	234	201	169	136	89	66	49	55	52	40	41	31	28	29	20	17	15	23
23	552	268	240	240	156	104	90	72	61	43	41	34	27	29	30	19	19	20	20	19
24	561	310	276	241	156	122	86	78	57	46	36	24	32	24	33	26	24	13	17	15
25	545	312	251	206	182	115	84	75	39	35	33	23	33	22	27	16	23	11	11	12
26	520	301	277	217	133	120	80	68	52	32	49	40	42	36	26	18	21	14	15	21
27	476	282	242	189	164	131	82	86	63	51	29	28	34	30	26	33	12	21	22	14
28	490	256	290	211	173	115	96	72	64	49	46	36	33	27	26	19	15	11	23	19
29	490	261	285	220	153	114	90	75	53	33	42	21	20	26	24	27	18	18	13	15
30	481	252	241	207	162	104	78	68	54	43	42	42	25	28	24	27	21	24	14	19
31	460	284	231	205	139	106	95	68	59	38	44	43	21	21	27	20	23	21	13	15
32	438	275	268	223	162	109	91	68	64	51	38	65	33	34	19	23	19	22	24	13
33	440	289	251	199	146	127	86	59	58	52	42	41	23	30	29	28	24	14	33	9
34	403	285	253	238	146	99	80	80	46	49	34	41	34	29	28	16	26	19	17	12
35	384	301	242	295	152	100	77	71	51	44	33	32	32	17	20	22	27	15	17	8
36	391	268	295	217	155	121	90	66	69	42	29	21	36	28	17	35	18	11	21	11
37	390	260	247	206	185	96	89	44	48	46	44	40	27	18	19	20	17	11	6	17
38	379	232	285	176	199	108	106	68	62	46	42	36	33	30	25	20	19	25	23	18
39	381	276	287	201	159	103	83	81	56	43	42	37	38	22	27	27	17	16	10	13
40	371	262	260	212	142	89	80	62	56	53	41	37	33	25	29	14	15	27	16	11
41	373	300	240	193	135	94	79	67	63	58	36	31	33	39	24	21	20	21	13	14
42	354	325	249	178	152	92	91	63	54	43	35	30	35	35	16	12	25	18	13	13
43	373	292	251	181	149	100	80	75	51	53	35	35	21	25	27	19	16	15	16	15
44	342	244	238	182	148	94	76	75	58	42	40	41	31	28	27	25	14	19	20	11
45	357	273	253	172	148	124	81	78	49	57	47	50	30	24	21	22	35	12	21	21
46	314	206	264	197	134	113	93	72	50	40	33	49	27	25	27	22	35	15	17	13
47	357	250	243	195	110	94	85	64	44	58	33	42	18	21	15	29	27	17	12	12
48	311	267	238	212	140	100	96	73	49	54	34	36	20	19	22	17	20	11	21	15
49	304	242	247	183	134	111	83	60	68	40	41	38	34	27	21	21	15	19	13	19

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5452921A.K:1 54529-21-A 92-02737-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
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1	18	19	21	15	11	15	7	3	7	4	9	7	8	4	3	9	7	4	3	4
2	20	12	18	11	20	16	10	7	9	7	3	10	4	4	2	4	7	1	8	8
3	14	18	15	9	19	12	11	15	9	12	4	4	9	5	5	3	2	1	7	3
4	19	17	12	14	15	11	12	9	10	7	8	6	3	8	2	7	7	3	6	2
5	17	14	13	15	18	9	13	8	7	8	6	4	8	8	7	5	6	7	4	3
6	14	11	13	9	14	13	6	8	10	10	9	6	9	6	5	2	3	6	3	3
7	19	10	12	8	11	11	9	6	8	5	6	10	6	4	3	2	7	5	4	2
8	6	20	12	6	14	7	10	11	8	9	10	8	5	9	3	8	3	5	2	7
9	9	10	14	16	12	11	8	6	11	57	10	3	3	6	9	3	5	5	6	1
10	16	17	14	16	10	10	9	13	8	95	12	3	2	5	9	5	6	3	7	6
11	23	13	19	11	8	17	11	9	8	79	6	2	4	1	4	4	1	7	3	6
12	16	20	14	7	11	14	9	9	2	40	7	5	6	8	5	10	4	4	3	3
13	22	11	8	9	15	12	10	8	6	12	9	5	7	6	6	7	2	4	2	3
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15	16	18	12	14	13	13	8	6	4	9	8	7	2	4	8	16	1	8	5	2
16	14	6	12	13	16	5	12	9	5	2	6	2	4	4	3	4	4	3	7	3
17	10	15	9	11	13	10	8	6	6	8	2	5	5	4	1	6	9	3	7	7
18	12	9	14	9	10	11	5	7	6	1	2	1	9	6	0	6	5	13	8	9
19	9	11	15	18	14	8	14	8	7	5	4	7	7	4	9	4	3	4	5	8
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21	16	15	11	19	12	13	16	9	9	8	3	3	5	3	8	4	4	5	5	7
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23	12	12	13	18	12	12	11	4	5	8	2	8	6	4	8	8	6	3	3	3
24	8	6	10	13	12	12	7	8	11	4	1	4	7	4	5	3	2	4	4	7
25	13	13	12	8	14	11	8	12	9	3	4	6	4	4	4	4	4	4	8	1
26	14	15	13	11	11	17	6	5	9	6	9	11	7	4	3	3	1	3	6	5
27	10	13	14	13	12	9	9	12	9	2	4	10	2	4	4	0	6	6	1	6
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29	16	17	18	5	12	11	14	13	10	5	4	3	7	1	6	6	0	8	3	1
30	14	12	10	14	16	6	10	5	3	11	3	5	9	8	7	3	6	3	5	7
31	11	11	12	14	10	12	20	9	5	6	9	5	4	3	4	5	5	3	3	8
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33	14	15	14	10	11	10	15	6	13	8	5	7	5	4	4	6	2	3	5	1
34	16	11	14	17	14	3	7	8	9	4	8	6	10	5	8	4	3	3	4	3
35	10	12	14	10	15	13	9	10	12	4	4	4	5	4	7	7	3	1	7	4
36	17	16	5	11	14	9	5	9	7	3	3	7	8	7	2	6	6	8	3	5
37	8	16	13	16	19	14	12	10	10	4	7	4	7	7	9	4	7	5	8	4
38	16	13	13	12	15	8	10	10	9	8	3	9	3	3	7	4	5	6	9	1
39	14	13	11	8	13	10	11	10	8	4	6	7	4	8	1	4	2	2	3	4
40	9	20	14	8	9	10	9	13	10	4	5	5	5	5	2	6	3	6	7	4
41	20	14	9	12	15	10	12	3	6	7	6	5	8	6	9	3	6	2	2	2
42	10	12	13	8	9	8	12	3	8	4	3	8	12	3	8	3	5	1	1	10
43	16	19	12	11	9	11	12	13	8	5	5	2	6	7	4	4	5	9	2	2
44	11	13	10	8	10	8	6	5	7	5	7	8	4	6	4	4	4	5	7	7
45	15	21	11	9	7	11	7	4	9	8	9	6	3	3	5	2	6	4	7	4
46	14	15	10	12	9	9	8	7	3	9	4	7	2	5	4	5	8	2	6	3
47	10	11	18	9	13	10	12	8	3	5	4	3	5	6	3	4	7	1	9	5
48	14	14	18	12	13	9	4	6	4	8	6	7	8	3	6	3	7	2	1	1
49	10	11	8	13	17	8	10	4	8	10	8	10	4	4	5	5	5	1	3	3

D02-182

538

TITLE: 54529-22-A 92-02738-L-1

FILE: 5452922A.K:1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 9 20 91 ~~7 58~~ 0 0937

TIME OF COUNT: 2 21 92 14 56 0

(222178. MINUTES DECAY TIME)

LIVE TIME: 67 HOURS 26 MINUTES 42 SECONDS = 4046.70 MINUTES

ELAPSED TIME: 67 HOURS 27 MINUTES 18 SECONDS = 4047.30 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/20/92 EA Lopez

D02-183

5452922A.K:1 54529-22-A 92-02730-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	242802	1279	1002	996	655	508	407	399	270	216	169	187	134	117	96	95	82	73	59	49
1	34	1209	971	903	727	518	390	438	248	203	170	124	135	105	112	96	82	83	57	55
2	0	1291	990	946	715	510	397	359	268	197	167	156	133	112	109	107	70	64	69	79
3	0	1424	1016	902	712	532	381	297	263	201	193	163	130	112	106	95	85	72	69	49
4	0	1322	1130	984	698	529	383	319	252	181	185	131	133	106	110	95	89	77	79	55
5	0	1266	1039	959	709	496	405	287	240	197	175	125	112	116	109	91	75	72	77	67
6	0	1220	1066	930	682	491	376	283	269	220	188	150	137	130	94	100	79	77	53	53
7	0	1262	1031	992	740	521	385	303	237	221	246	149	191	118	111	92	76	73	64	57
8	0	1198	1005	891	710	509	394	290	251	182	368	186	256	116	109	75	72	84	72	72
9	9	1203	1049	891	678	492	356	313	226	178	540	150	189	107	97	71	93	90	76	72
10	4598	1181	999	887	725	456	365	278	214	201	604	136	123	126	94	79	87	77	115	75
11	42734	1210	1050	968	693	488	355	282	262	210	396	146	122	143	96	92	84	88	112	49
12	74193	1198	1075	949	735	485	342	313	229	200	256	149	134	109	101	95	74	73	76	63
13	42453	1308	1050	879	667	511	368	259	239	193	176	143	114	119	91	77	85	65	59	99
14	13569	1227	1012	837	671	527	404	303	224	202	146	144	119	108	93	86	80	62	64	65
15	4358	1170	1066	894	691	461	388	304	216	186	154	129	123	98	107	91	81	70	67	63
16	2904	1200	1039	872	628	502	362	288	268	221	159	151	128	132	94	92	77	81	59	55
17	2816	1144	1104	850	663	501	371	289	230	177	155	163	146	107	114	112	85	72	72	65
18	2650	1115	979	928	668	507	346	278	235	198	182	169	136	124	93	99	92	94	83	103
19	2543	1076	1035	852	650	500	336	237	242	171	151	151	113	114	102	91	82	75	83	88
20	2469	1128	1067	829	675	492	334	285	232	189	167	113	146	99	105	91	91	76	69	57
21	2416	1059	986	877	583	480	417	300	244	216	136	148	99	113	104	97	74	71	57	54
22	2245	1156	1054	815	653	476	372	293	220	179	155	157	127	106	108	80	79	76	77	63
23	2283	1148	1026	862	631	452	337	265	235	182	143	129	120	108	98	101	74	69	54	51
24	2149	1275	991	906	598	452	384	277	187	229	169	140	141	109	106	88	67	67	65	55
25	2061	1176	989	876	585	470	367	268	203	198	174	142	117	95	105	90	89	65	69	73
26	2047	1080	1024	840	616	445	368	271	235	177	145	126	126	128	138	82	69	64	81	59
27	2023	1097	1008	820	610	450	377	252	216	178	134	108	119	131	124	91	70	71	53	55
28	1896	1065	1043	819	606	475	354	305	220	188	152	119	115	121	99	92	76	83	62	75
29	1824	1000	1026	873	610	423	309	236	252	195	149	131	120	106	101	90	78	76	52	46
30	1871	1031	1074	794	583	486	329	265	218	169	170	155	115	100	78	99	96	75	64	55
31	1775	1050	1033	818	618	444	325	246	223	186	140	174	110	99	107	85	79	69	71	54
32	1775	1052	973	796	585	444	337	241	216	194	151	225	103	108	83	86	69	81	62	59
33	1766	1043	995	813	580	455	331	271	240	195	146	194	121	115	105	82	80	78	55	64
34	1629	1122	1033	938	591	434	346	260	220	213	142	144	108	102	80	79	88	80	59	63
35	1663	1039	984	1025	566	405	309	271	218	186	163	126	115	103	101	84	64	61	57	59
36	1681	1094	993	849	625	394	331	270	215	196	151	123	113	88	106	92	82	79	65	53
37	1573	1064	1006	794	789	405	362	250	246	197	161	134	126	110	77	82	89	59	55	55
38	1508	1046	1044	806	819	401	350	276	224	169	158	109	112	101	110	91	91	60	53	55
39	1571	1113	1157	783	608	404	337	252	240	173	113	147	124	96	85	88	77	74	53	61
40	1522	1053	1101	802	647	417	335	261	175	161	141	122	115	121	98	77	76	64	55	61
41	1458	1100	1001	731	581	406	330	268	223	180	171	144	99	122	108	92	90	80	45	59
42	1474	1345	1001	712	538	412	292	285	209	183	148	134	127	96	101	74	84	69	58	45
43	1475	1183	1048	748	508	440	321	271	189	208	154	127	89	136	88	99	83	84	55	59
44	1431	1056	1038	747	539	464	318	274	195	169	158	161	115	114	89	102	77	70	55	73
45	1504	1041	966	729	518	418	301	238	211	184	142	203	92	99	97	97	140	65	53	52
46	1375	976	540	773	579	410	311	261	235	183	142	169	117	130	91	84	145	71	52	51
47	1357	982	979	836	526	426	301	262	181	185	129	144	111	113	95	89	121	68	56	58
48	1373	1079	548	835	517	430	297	249	212	212	155	155	113	90	93	91	72	56	70	54
49	1270	912	537	771	536	401	291	234	206	207	151	157	119	108	83	90	53	73	55	74

D02-184

5452922A.K;1 54529-22-A 92-02738-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	46	66	60	51	51	36	45	34	26	28	19	21	18	16	15	15	19	14	17	22
1	66	51	68	55	47	45	35	33	38	27	28	20	22	26	18	16	14	19	9	19
2	59	55	50	60	39	45	42	35	25	30	20	19	22	16	15	24	19	20	15	13
3	60	59	68	49	44	46	46	27	28	29	23	21	24	21	11	14	30	19	17	20
4	61	44	50	39	52	42	29	33	22	32	19	22	23	24	22	15	34	13	13	17
5	50	42	62	49	44	34	35	21	22	24	20	27	21	14	16	15	22	16	14	17
6	57	39	49	51	49	34	39	34	29	31	22	21	32	18	21	17	19	23	20	15
7	48	55	47	46	51	44	40	43	39	31	26	23	19	21	17	21	23	14	14	15
8	66	55	54	42	47	44	23	22	37	65	29	23	19	28	22	23	20	12	15	15
9	71	50	49	50	52	40	28	28	36	151	26	24	23	18	22	11	25	16	19	11
10	61	54	40	38	46	49	23	32	32	355	30	15	20	21	16	12	15	15	15	19
11	63	50	44	58	45	41	29	33	28	394	30	20	23	21	13	28	21	11	19	14
12	71	64	58	58	40	37	42	32	31	162	19	24	19	14	14	12	14	18	19	15
13	61	65	55	49	53	34	40	23	28	50	24	26	19	16	22	22	22	13	19	15
14	70	53	50	46	48	44	49	41	24	38	20	26	19	19	16	38	26	9	15	14
15	52	50	46	62	38	37	37	36	25	31	22	19	25	26	20	51	12	14	14	17
16	59	43	43	51	38	39	36	33	34	20	23	21	17	16	21	27	23	22	19	17
17	61	45	53	43	37	28	32	30	20	28	16	32	21	19	17	25	12	17	14	12
18	70	54	75	52	47	38	45	34	29	26	14	21	24	28	18	25	9	11	14	20
19	59	52	84	37	46	40	28	28	30	24	29	24	20	13	27	8	14	19	13	21
20	40	52	82	50	44	50	35	38	33	27	24	16	21	22	21	22	14	18	11	18
21	57	56	61	69	48	26	32	26	28	17	24	21	26	16	15	25	18	18	15	21
22	49	60	60	76	58	45	39	22	22	18	23	23	21	18	25	19	14	14	20	15
23	58	36	41	87	47	42	40	31	31	16	34	24	18	16	24	18	31	8	21	13
24	63	41	39	47	39	37	35	37	22	28	20	24	23	17	10	15	31	14	21	13
25	50	45	51	57	35	34	36	32	18	33	21	23	21	19	15	18	19	20	21	21
26	58	45	49	38	43	43	35	36	34	28	24	21	18	23	31	21	17	20	18	19
27	47	53	46	53	40	47	27	54	36	18	29	19	21	13	26	16	26	16	14	8
28	56	66	55	42	53	40	34	32	29	26	22	18	19	23	34	19	12	20	15	15
29	57	53	42	52	42	41	40	33	31	34	21	22	19	16	23	28	14	18	18	17
30	55	45	51	35	40	51	45	40	28	22	34	19	23	19	25	17	14	23	15	21
31	42	54	47	42	42	38	52	30	39	30	23	19	27	21	20	19	19	12	13	17
32	43	36	48	44	57	37	53	32	25	29	14	26	24	16	22	17	14	13	22	14
33	68	53	53	53	40	37	39	36	27	18	16	23	20	18	15	22	18	14	13	19
34	61	59	42	49	48	29	24	29	25	27	17	24	17	24	11	13	17	11	14	17
35	62	39	55	60	38	48	38	31	33	20	21	27	23	22	20	18	27	16	18	23
36	52	44	46	60	49	29	31	26	22	26	31	21	25	14	12	16	12	13	13	12
37	48	56	47	56	61	39	34	33	28	27	26	22	24	14	21	20	16	7	18	23
38	59	58	53	48	69	24	34	31	24	17	23	26	22	21	17	13	20	19	16	19
39	48	53	57	33	52	34	37	38	34	22	21	27	28	15	17	14	12	22	19	11
40	64	49	56	46	39	29	40	38	26	22	20	22	27	16	11	19	17	18	21	12
41	69	55	46	47	40	34	32	24	31	15	16	25	22	17	20	12	21	19	14	18
42	65	41	52	58	36	47	38	26	26	29	24	41	15	13	19	9	22	20	19	16
43	70	58	44	35	45	34	19	29	30	35	18	40	15	20	27	14	11	17	19	17
44	62	48	45	36	52	40	23	27	26	16	19	22	20	22	22	21	9	19	15	8
45	57	60	55	46	50	44	24	33	26	35	24	33	17	30	14	21	15	18	15	13
46	54	41	62	36	49	31	39	28	29	29	26	22	16	17	11	17	20	18	25	29
47	53	[illegible]	34	36	41	37	31	28	28	21	30	15	24	14	16	16	14	15	17	19
48	50	[illegible]	57	50	38	46	30	31	23	25	17	19	21	25	17	11	22	17	20	18
49	51	61	38	46	45	42	25	26	27	24	18	24	18	12	20	11	19	17	22	22

D02-185

016

TITLE: 54529-23-A 92-02739-L-1

FILE: 5452923A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~9 28 91 7 56 0~~ 9/23/91 11 35 3/20/92 EA-Lopez

TIME OF COUNT: 2 26 92 17 24 0

(229526. MINUTES DECAY TIME)

LIVE TIME: 23 HOURS 58 MINUTES 11 SECONDS = 1438.18 MINUTES

ELAPSED TIME: 23 HOURS 58 MINUTES 24 SECONDS = 1438.40 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FLR:	0
NOV:	1

D02-186

043

5452923A.K:1 54529-23-A 92-02739-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	86291	453	352	359	254	203	141	119	78	90	54	59	59	34	35	43	22	23	23	25
1	34	448	355	335	307	197	143	149	88	67	65	57	52	30	23	36	32	27	25	19
2	0	439	407	332	242	175	140	113	97	70	60	67	40	49	40	35	25	24	25	21
3	0	508	346	338	271	199	133	139	88	93	69	54	49	30	31	34	28	25	23	23
4	0	425	335	336	258	189	138	89	79	67	57	47	60	42	38	28	31	34	27	29
5	0	426	381	297	240	174	143	98	93	78	72	48	47	44	36	30	29	22	31	35
6	0	423	367	299	218	195	133	102	76	66	71	54	40	46	30	28	29	34	23	14
7	0	451	391	301	254	173	123	115	95	68	91	51	80	36	33	23	25	25	18	22
8	0	390	398	349	274	185	137	94	88	70	119	51	91	35	43	31	34	25	23	24
9	0	420	382	298	248	170	149	115	100	74	176	54	62	62	29	27	29	33	27	24
10	1630	413	361	326	237	186	117	111	89	65	215	54	62	49	34	26	33	29	58	23
11	14162	385	349	318	255	187	131	80	88	76	159	66	46	55	45	30	29	36	38	28
12	25328	419	385	350	238	174	138	101	78	70	93	48	43	34	46	37	33	27	24	20
13	14691	425	370	313	238	190	135	92	84	73	69	38	39	40	32	43	37	16	24	21
14	4553	399	350	324	235	170	127	119	94	72	56	60	45	35	36	33	28	24	32	24
15	1530	444	347	319	232	174	129	96	86	71	50	48	57	31	43	24	25	22	20	25
16	1049	425	382	326	237	186	128	113	75	56	63	42	52	31	35	39	34	25	22	29
17	958	378	392	313	226	171	124	88	88	67	50	57	35	38	45	37	29	41	25	33
18	907	351	393	335	233	143	130	114	78	67	74	61	57	31	32	42	19	26	24	43
19	891	367	351	316	217	173	126	98	77	69	49	60	49	43	35	30	22	33	21	29
20	961	396	369	336	252	168	140	92	71	62	57	50	46	40	34	27	24	29	23	28
21	836	418	386	325	236	121	126	99	81	62	62	53	34	34	35	34	26	20	29	26
22	840	392	394	309	242	172	148	89	85	64	59	59	40	38	28	26	22	26	22	25
23	802	427	375	331	246	179	128	97	67	62	76	50	38	39	42	30	23	25	20	13
24	756	413	344	325	216	149	121	86	80	68	51	43	51	40	36	30	30	35	33	21
25	688	407	363	319	244	184	120	93	65	55	47	46	42	35	34	30	35	30	24	32
26	691	379	347	312	233	170	134	98	80	71	57	47	32	48	48	25	31	26	25	15
27	689	370	359	278	200	162	140	108	87	65	50	68	43	38	33	25	31	27	21	15
28	728	338	364	273	209	131	128	103	76	60	48	43	42	36	35	28	31	24	20	35
29	663	365	372	283	226	176	106	122	86	70	54	43	46	47	30	33	32	32	12	17
30	665	354	362	310	205	139	133	86	87	69	53	46	35	40	40	18	33	19	22	13
31	640	362	341	283	207	151	137	92	85	72	52	56	39	30	33	30	28	31	15	27
32	667	353	361	272	209	141	129	100	74	57	47	87	43	39	35	29	32	28	31	19
33	621	377	327	307	207	164	114	78	75	69	57	67	40	32	30	24	39	24	22	21
34	625	377	336	300	227	145	109	116	78	67	54	46	40	51	37	29	24	23	22	25
35	604	385	325	362	216	162	121	85	74	71	39	56	40	43	39	30	25	27	23	27
36	574	402	400	318	213	156	132	94	70	68	59	59	36	48	34	33	24	25	17	19
37	568	371	353	295	240	150	132	83	67	55	57	43	44	39	38	23	29	33	27	22
38	532	371	379	267	313	146	120	89	76	69	49	43	62	31	31	36	27	31	14	17
39	522	346	401	282	233	129	109	103	64	69	55	60	46	38	35	34	28	27	22	21
40	559	368	339	254	217	158	116	91	92	61	54	42	48	43	28	35	33	21	21	29
41	532	399	353	276	205	153	86	96	67	59	56	56	40	41	32	33	28	28	13	15
42	540	475	345	262	177	153	122	95	75	58	54	48	44	34	32	23	27	31	27	18
43	533	399	347	275	193	150	124	92	65	72	47	53	38	33	27	35	25	17	19	18
44	480	347	352	266	190	156	110	85	74	62	61	56	38	45	36	47	42	27	19	21
45	541	377	349	263	180	160	111	84	74	66	51	53	42	22	28	33	48	23	20	21
46	472	354	337	264	194	152	123	82	80	69	44	63	43	20	35	36	46	25	20	25
47	458	354	359	311	192	150	122	80	76	70	54	32	38	35	37	26	34	27	19	23
48	483	357	347	262	177	132	102	90	76	87	41	66	39	32	26	29	34	17	23	18
49	481	340	324	244	182	158	117	66	73	48	52	61	53	30	31	33	26	24	35	29

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5452923A.K;1 54529-23-A 92-02739-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	33	19	25	21	22	18	16	9	9	11	5	4	8	5	7	7	5	13	6	2
1	25	23	18	15	16	13	14	9	15	6	11	5	4	9	8	5	5	4	7	3
2	28	18	21	13	17	16	10	8	15	6	8	10	10	7	11	8	5	7	5	2
3	26	20	18	9	18	15	19	12	7	9	12	5	7	6	10	9	7	7	5	5
4	21	17	16	11	14	17	14	13	8	10	5	10	9	11	10	3	5	8	8	5
5	23	15	19	17	17	11	15	9	10	9	10	10	13	6	6	4	6	8	4	7
6	21	21	14	18	15	16	20	7	14	12	13	5	7	6	6	10	8	8	6	4
7	21	22	21	12	23	9	15	7	10	12	9	4	4	2	6	5	6	5	10	12
8	18	15	15	11	20	12	11	9	14	20	12	10	6	8	8	8	8	8	6	7
9	25	18	25	17	14	16	8	8	9	63	5	4	5	9	2	3	2	4	6	10
10	13	20	20	22	14	13	15	8	12	147	7	12	9	8	10	6	1	3	6	7
11	26	21	15	13	18	20	12	6	13	136	10	11	3	5	5	5	12	2	5	1
12	18	16	14	17	19	17	11	13	8	54	7	7	11	10	10	9	8	5	7	12
13	26	16	14	10	16	20	16	7	6	11	9	7	10	6	6	7	6	5	3	3
14	21	28	17	14	12	9	12	5	15	8	4	6	7	5	11	14	5	4	7	13
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17	15	23	22	18	15	11	11	7	8	8	4	10	9	7	2	10	10	5	3	9
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19	19	15	25	17	15	13	6	9	5	13	5	11	6	9	5	4	7	7	5	11
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26	24	20	18	22	22	14	11	15	8	9	3	7	10	6	8	6	3	7	7	2
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42	19	21	21	16	15	13	7	13	8	7	11	12	3	5	6	2	8	3	8	5
43	17	23	19	28	22	16	11	10	11	12	6	11	10	8	7	5	8	4	4	5
44	33	22	16	13	19	20	14	8	4	5	6	9	4	8	11	5	7	9	2	7
45	11	17	18	12	14	18	8	12	8	6	4	6	8	9	6	6	6	3	3	6
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47	27	19	19	22	20	15	7	10	7	5	6	5	4	10	4	2	5	3	2	5
48	16	13	15	20	12	16	7	9	9	10	10	9	8	6	7	8	6	8	3	4
49	21	18	22	14	17	17	10	16	14	5	8	6	5	4	10	4	9	5	9	3

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TITLE: 54529-24-A 92-02739-L-3

FILE: 5452924A.K:1.

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~9 20 91 7 58 0~~ 9/23/91 @ 11 3r 3/20/92 E A Lapel

TIME OF COUNT: 2 25 92 16 40 0

(228042. MINUTES DECAY TIME)

LIVE TIME: 24 HOURS 39 MINUTES 28 SECONDS = 1479.47 MINUTES

ELAPSED TIME: 24 HOURS 39 MINUTES 36 SECONDS = 1479.60 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

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5452924A.K:1 54529-24-A 92-02739-L-3

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	88768	561	454	442	372	268	183	184	141	127	96	84	71	60	43	27	36	19	32	34
1	34	576	440	451	399	260	211	236	141	124	103	71	53	58	35	32	28	31	33	34
2	0	558	427	419	350	261	196	180	164	150	83	67	63	47	36	27	35	36	27	26
3	0	612	521	426	361	229	204	158	122	159	92	77	60	53	37	35	27	24	24	39
4	0	577	471	432	350	271	207	160	143	123	91	74	57	64	38	40	33	19	24	24
5	0	568	464	456	365	228	223	167	161	124	96	52	83	35	36	32	28	23	25	23
6	0	539	450	414	368	278	220	171	134	124	114	68	58	45	55	46	29	27	33	29
7	0	506	442	419	341	265	204	161	122	125	111	75	55	60	40	36	30	45	24	24
8	0	544	467	409	337	245	202	178	144	153	161	60	113	110	35	33	19	22	22	33
9	0	524	518	446	343	233	170	149	153	132	251	64	93	806	27	32	27	30	31	29
10	1716	493	487	418	332	216	203	156	145	143	251	68	61	2799	41	43	34	32	52	25
11	15192	539	444	384	324	235	192	154	141	144	182	69	58	2205	29	33	34	30	45	25
12	25724	534	493	434	334	242	195	165	139	159	123	53	63	474	36	27	25	20	36	19
13	14952	543	481	405	332	255	167	150	147	144	100	65	47	68	32	29	38	18	27	23
14	4882	543	479	414	316	216	187	168	158	153	106	68	61	50	47	39	23	28	28	24
15	1666	549	501	414	355	209	149	168	130	132	88	70	53	36	33	35	33	17	24	22
16	1282	530	447	408	303	248	193	122	164	125	75	76	57	44	27	41	25	24	31	25
17	1104	480	451	432	320	241	167	155	143	155	90	65	60	33	29	26	24	34	27	24
18	1057	528	518	366	321	230	196	127	132	148	82	59	40	49	40	35	24	26	19	27
19	1136	544	486	399	316	221	188	171	161	129	80	72	50	47	30	32	32	30	31	29
20	1011	503	500	396	316	229	185	151	135	126	80	65	56	41	39	34	31	30	24	14
21	1039	466	476	402	319	239	176	170	145	118	77	63	63	35	38	30	31	34	20	17
22	977	471	452	402	332	206	164	170	144	117	76	73	54	33	40	27	37	22	15	23
23	993	534	440	415	299	267	146	153	121	131	92	67	50	51	32	33	23	26	39	21
24	979	574	517	409	329	244	165	163	143	122	82	45	52	36	26	30	28	20	21	21
25	954	568	452	417	308	216	185	151	138	133	84	59	61	47	44	30	20	17	39	14
26	931	475	482	419	293	229	192	155	117	140	94	45	63	42	40	38	22	23	21	15
27	857	477	488	411	310	224	190	157	155	116	72	66	61	38	40	35	19	22	36	16
28	887	485	496	364	279	216	171	159	131	124	83	59	58	40	34	24	28	20	28	33
29	858	469	460	393	286	210	169	150	144	112	88	59	44	34	42	25	29	28	19	15
30	794	527	484	403	290	226	186	171	116	110	89	69	54	31	35	26	27	24	22	19
31	773	502	476	406	312	206	212	147	151	128	64	64	51	40	39	31	35	25	24	31
32	795	487	447	390	287	225	186	146	169	119	78	117	64	49	35	28	24	33	25	12
33	823	526	445	379	280	205	171	140	149	102	79	79	61	35	40	32	29	31	21	23
34	712	540	439	456	302	217	179	167	149	114	55	64	49	44	38	36	28	20	22	17
35	702	504	471	490	288	192	171	127	140	108	83	56	48	41	21	42	27	26	30	19
36	743	498	485	417	317	185	188	145	145	106	76	51	54	38	39	22	25	25	19	19
37	689	470	461	372	316	205	155	154	158	110	79	67	54	32	36	24	35	19	23	16
38	713	471	456	439	365	216	196	131	136	105	89	62	49	50	35	31	28	30	30	21
39	660	517	484	422	301	208	166	153	125	108	68	62	58	46	25	31	26	25	17	17
40	718	476	454	416	307	214	146	151	149	112	82	60	47	44	40	17	32	32	23	23
41	650	487	476	400	309	198	177	133	131	101	74	74	50	37	40	28	28	17	25	19
42	670	592	440	457	315	225	172	166	127	97	75	55	51	41	35	32	23	26	29	17
43	640	492	452	418	276	187	176	137	145	78	83	58	52	39	38	40	34	34	17	23
44	644	433	455	406	253	205	175	126	131	102	76	74	45	41	30	35	36	21	16	25
45	593	502	490	367	265	233	184	152	105	102	67	77	44	41	44	26	49	35	32	25
46	668	468	445	392	242	221	185	139	147	93	83	78	46	36	20	38	47	33	23	25
47	581	504	456	305	305	180	185	146	138	94	80	66	54	27	30	38	30	35	29	29
48	573	496	472	359	268	167	171	142	173	94	71	67	64	43	23	28	22	27	29	28
49	576	489	442	381	236	211	161	151	138	110	84	72	58	34	28	40	34	31	24	22

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5452924A.K:1 54529-24-A 92-02739-L-3

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
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1	22	17	15	18	18	12	19	7	18	10	10	3	5	4	10	5	8	7	5	5
2	20	15	27	16	24	14	12	11	10	12	13	9	5	2	9	9	7	9	5	4
3	23	26	21	14	24	16	14	17	9	13	7	7	10	4	5	3	4	6	4	5
4	27	15	22	23	26	20	10	15	15	11	9	8	12	9	6	8	8	5	6	4
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6	21	26	16	21	18	11	9	14	14	4	9	8	7	6	4	7	5	3	6	6
7	25	28	22	13	16	16	10	12	12	8	8	9	11	2	9	9	8	4	5	4
8	16	18	17	8	16	18	8	10	14	27	6	2	7	5	3	5	5	5	8	0
9	23	17	19	23	17	10	13	6	10	61	6	7	10	6	9	7	6	6	4	2
10	21	25	25	15	17	18	10	20	9	132	7	9	11	10	8	11	7	6	2	3
11	26	23	20	15	10	10	14	11	11	143	8	6	8	8	3	8	5	5	5	4
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13	27	16	12	19	8	16	13	16	14	16	5	8	16	5	4	9	1	5	6	6
14	17	23	23	22	24	12	13	4	14	9	8	4	5	6	6	19	9	8	3	13
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17	23	24	24	16	12	13	13	10	14	12	6	8	16	9	8	8	7	2	6	2
18	33	23	23	21	15	13	11	8	11	3	12	9	6	4	8	6	5	4	3	5
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20	21	19	31	10	23	6	11	9	13	6	14	12	7	10	12	6	8	13	6	5
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35	25	19	24	16	10	15	9	15	14	14	6	13	10	6	3	6	5	8	5	9
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37	22	18	19	16	36	7	11	6	9	8	6	13	4	12	6	3	8	6	4	9
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42	23	15	20	20	22	20	13	8	6	9	8	9	2	5	5	7	4	4	7	4
43	17	18	16	12	15	14	10	13	9	5	8	9	9	9	7	3	10	5	8	8
44	17	19	14	13	14	12	17	9	8	9	9	7	6	4	6	14	4	5	6	8
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46	18	27	21	25	17	10	12	7	10	6	6	6	9	6	8	1	6	2	6	9
47	16	25	16	17	14	11	9	10	13	9	5	8	8	8	3	12	4	7	4	5
48	19	17	16	19	12	12	11	13	5	12	5	6	8	7	2	5	9	9	6	1
49	31	16	23	16	12	15	11	10	8	7	6	12	4	8	6	3	4	6	9	6

D02-191

II.C. M & TE Records

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS: LEPEL EA P8-08	STANDARDS CODE NUMBER: 510-06-01-005	NEW / MODIFY	REFERENCE NUMBER: 356222
		ORGANIZATION CODE: D7E50	WORK ORDER: M22117
INSTRUMENT: ELECTRONIC BALANCE METTLER PC4400	SERIAL NUMBER: C19031	PROPERTY NUMBER:	RECALL STATUS: 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 1
	ROOM: 8C / BUILDING: 329	SERVICE DEPARTMENT: 7	RECALL CYCLE: 90 / TOLERANCE HISTORY: IIII
			DATE RECEIVED: 920101 / TOLERANCE AS RECEIVED: 1 IN 2 OUT 3 NA 4 FAILED 1
SENDER:	COMMENTS:	SHIPPING DAY: NA	

INSTRUMENT SPECIFICATIONS: +/-.1 G .1G-4KG

TRAINING HOURS:

CALIBRATION HOURS: 1 2

REPAIR HOURS:

OTHER HOURS:

MATERIALS:

TOTAL CHARGE = ($120 x SUM OF HOURS) + MATERIAL

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS

	EXPIRATION DATE		EXPIRATION DATE
002-82-02-033	1/30/92		

REMARKS:

DATE CALIBRATED: 1-16-92 DATE DUE: 4-16-92

PROCEDURE NUMBER: WHC-06-00-BAL REV.1 PC-4400

AMBIENT TEMPERATURE =

TEST POINT	AS FOUND	FINAL
1 KG	1000.0 grams	Same
2 KG	2000.0 "	"
3 KG	3000.0 "	"
4 KG	4000.1 "	"

APPROVED BY	CALIBRATED BY			PAGE
W Hinchley 012192	[signature]	WHC STD LAB 53	Hanford Operations and Engineering Contractor for the United States Department of Energy — Westinghouse Hanford Company, Subsidiary of Westinghouse Electric Corporation, Box 1970, Richland, WA 99352	1 OF 1

D02-195

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS: LEPEL EA P8-08	STANDARDS CODE NUMBER: 510-06-03-011		NEW / MODIFY	REFERENCE NUMBER: 356224	
			ORGANIZATION CODE: D7E50	WORK ORDER: M22117	
INSTRUMENT: BEAM BALANCE METTLER H51AR	SERIAL NUMBER: 625265	PROPERTY NUMBER: N/A	RECALL STATUS: 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 1	RECALL CYCLE: 90	TOLERANCE HISTORY: IIII
	ROOM: 11B / BUILDING: 329	SERVICE DEPARTMENT: 7		DATE RECEIVED: 920101	TOLERANCE AS RECEIVED: 1 IN 2 OUT 3 NA 4 FAILED /
SENDER:	COMMENTS:			SHIPPING DAY: NA	

INSTRUMENT SPECIFICATIONS: +/- 1.6 MG 0-160 GRAMS

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS

	EXPIRATION DATE		EXPIRATION DATE
002-81-02-033	1/30/92		

REMARKS:

PROCEDURE NUMBER: WHC-06-00-BAL REV.1 H-51

TRAINING HOURS:

CALIBRATION HOURS: 1.0

REPAIR HOURS:

OTHER HOURS:

MATERIALS:

TOTAL CHARGE = ($120 x SUM OF HOURS) + MATERIAL

DATE CALIBRATED: 1-16-92 DATE DUE: 4-16-92

AMBIENT TEMPERATURE =

TEST POINT	AS FOUND	FINAL
50 MG	.04997 gms	Same
100 MG	.09993 "	"
79.90 GRAMS+OPTICS	79.99917 "	"
80.00 GRAMS	79.99924 "	"

APPROVED BY	CALIBRATED BY				PAGE
W Hinckley 012192	BS	WHC STD LAB 53	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	1 OF

D02-194

2-19-92 initials

20λ pipette
50690-40-4

1061705
1059743
19.62

1059500
1067549
19.51

1075414
1073451
19.63

1059755
1057804
19.51
$\bar{X}$ 19.57 2-19-92
± .07
(.34%)

510-06-03-011
CALIBRATION DATE 1-16-92
Expires - 4-16-92

200λ pipette
50690-40-1

977383
957377
200.06

997411
977380
200.31

1011407
997401
200.06

1037317
1017407
199.10
$\bar{X}$ 199.88 2-19-92
± 0.53
(.27%)

II.D. Detector Calibrations

II.D. Calibration of ^{137}Cs Spike

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 13:56:17)

Analysis performed by: E. A. LEPEL

Sample: 54124-71-3 200 LMDA OF 1892-136-500
Weight: 1.00000 g

Irradiation date: 0-Feb-1992 at 5:00:00

Count date: 24-Feb-1992 at 10:52:00

Decay: 24.2d (2094720.0 seconds)

Count times: REAL TIME 3.11d (268830.00 seconds)
LIVE TIME 3.09d (266819.00 seconds)

Dead time: 0.75 percent

Detector: L pos * 6 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effpt6inb. L

Spectrum from file : 54124713.1;1

Background subtractions from file: ve:[116,1]Backg. L

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	126.3	125.	127.	2031.	232.*	63.26	3.948E-01	100.0	258.
2	149.8	144.	152.	6449.	857.*	75.01	8.898E-01	88.9	357.
3	169.1	168.	172.	3396.	408.*	84.65	2.916E-01	100.0	204.
4	185.2	182.	189.	6213.	1447.*	92.71	1.968E-01	100.0	1420.
5	287.9	287.	289.	2119.	253.*	144.03	1.744E-01	100.0	245.
6	371.6	365.	377.	8967.	1422.*	185.87	2.104E-01	100.0	1445.
7	477.3	474.	480.	4320.	1091.*	238.71	2.470E-01	100.0	1024.
8	677.0	675.	678.	1357.	204.*	338.54	2.906E-01	100.0	224.
9	1022.1	1015.	1030.	5172.	2698.*	511.03	3.464E-01	100.0	2714.
10	1166.4	1164.	1170.	1070.	333.*	583.16	3.355E-01	100.0	338.
11	1323.6	1317.	1329.	27355.	26256.*	661.75	8.965E+01	1.3	233.
12	1693.9	1690.	1696.	556.	218.*	846.87	3.611E-01	100.0	227.
13	1823.0	1820.	1827.	625.	276.*	911.36	3.764E-01	100.0	303.
14	1938.9	1933.	1942.	550.	150.*	969.33	3.895E-01	100.0	166.
15	2921.9	2916.	2929.	1027.	807.*	1460.68	4.149E-01	100.0	786.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]mixedamer.dat

^{137}Cs - 1892-136-500

At T_ϕ = 2/1/92

^{137}Cs Total Activity = 105.4 d/s ± 1.61%

$$\frac{105.4\ d/s}{.1998\ ml} = 527.5\ \frac{d/s}{ml}$$

@ 2/1/92

3/25/92
EA Lepel

D02-198

952

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /g	peak frac	err (%)	dev (sig)	pCi /g	error (%)
						(interferences)		
1 Cs137	- - - -	1.054E+02	2.848E-03	- - - - - - - - - -			2.848E+03	1.61
	661.75	1.054E+02	2.848E-03	1.00	1.61	-1.00		

The following are upper limit values:

Co 57	- - - -	3.782E-01	1.022E-05	- - - - - - - - -			1.022E+01	100.00
Co 60	- - - -	4.669E-01	1.262E-05	- - - - - - - - -			1.262E+01	100.00
Sr 85	- - - -	6.116E-01	1.653E-05	- - - - - - - - -			1.653E+01	100.00
Y 88	- - - -	5.517E-01	1.491E-05	- - - - - - - - -			1.491E+01	100.00
Cd109	- - - -	6.112E+00	1.652E-04	- - - - - - - - -			1.652E+02	100.00
Sn113	- - - -	5.869E-01	1.586E-05	- - - - - - - - -			1.586E+01	100.00
Ce139	- - - -	2.651E-01	7.165E-06	- - - - - - - - -			7.165E+00	100.00
Hg203	- - - -	4.691E-01	1.268E-05	- - - - - - - - -			1.268E+01	100.00
Am241	- - - -	1.286E+00	3.475E-05	- - - - - - - - -			3.475E+01	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	63.26	3.9475E-01	100.0	0.0000000
2	75.01	8.8982E-01	88.9	0.0000000
3	84.65	2.9164E-01	100.0	0.0000000
4	92.71	1.9678E-01	100.0	0.0000000
5	144.03	1.7435E-01	100.0	0.0000000
6	185.87	2.1041E-01	100.0	0.0000000
7	238.71	2.4705E-01	100.0	0.0000000
8	338.54	2.9060E-01	100.0	0.0000000
9	511.03	3.4637E-01	100.0	0.0000000
10	583.16	3.3558E-01	100.0	0.0000000
12	846.87	3.6107E-01	100.0	0.0000000
13	911.36	3.7642E-01	100.0	0.0000000
14	969.33	3.8952E-01	100.0	0.0000000
15	1460.68	4.1492E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D02-199

TITLE: 54124-71-3 200 LMDA OF 1892-136-500

FILE: 54124713.L;1

^{137}Cs std.

CHANNELS: 4096

SHELF: 6

DIODE: L

TIME ZERO: 2 1 92 5 0 0

TIME OF COUNT: 2 25 92 10 52 0

(34912.0 MINUTES DECAY TIME)

LIVE TIME: 74 HOURS 6 MINUTES 59 SECONDS = 4446.98 MINUTES

ELAPSED TIME: 74 HOURS 40 MINUTES 30 SECONDS = 4480.50 MINUTES

(DEAD TIME = 0.007)

FLUX CORR. FACT.: 0.000000

GAIN: 0.500000 KEV/CHAN

WEIGHT: 1.00000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/25/92
E A Lopez

D02-200

54124713.L:1 54124-71-3 200 LMDA OF 1092-136-500

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	175	130	118	111	123	89	98	69	53	64	61	47	51	47	49	31	40	29	42	31
1	148	111	114	98	120	81	75	54	70	57	40	58	54	42	68	52	42	46	27	35
2	157	126	98	92	113	84	101	67	65	65	54	69	51	49	46	46	42	43	44	45
3	139	128	114	105	110	83	93	59	75	58	60	50	47	45	46	43	51	33	31	27
4	162	143	114	120	109	94	83	67	74	77	63	68	56	40	59	48	46	45	33	39
5	150	124	112	107	117	93	89	69	76	71	43	65	54	38	52	40	44	25	44	40
6	157	139	104	108	109	96	84	56	69	62	54	57	77	42	50	57	34	42	35	39
7	148	123	105	101	132	102	89	73	63	64	48	34	56	56	43	38	35	41	39	39
8	169	136	107	92	103	85	98	59	87	66	49	42	67	52	40	32	40	38	33	25
9	168	130	109	115	119	77	93	67	66	57	67	60	61	50	58	41	45	35	38	34
10	170	104	126	118	106	99	88	63	73	62	46	72	59	60	52	33	44	37	50	49
11	165	135	111	106	97	89	91	65	66	42	64	68	53	60	54	63	39	47	50	29
12	156	134	104	111	114	97	86	58	68	65	49	43	50	51	45	54	30	32	47	43
13	181	128	131	104	109	85	107	79	66	75	60	55	60	52	39	38	33	49	20	40
14	157	130	126	116	100	61	102	60	72	57	67	66	43	54	52	52	43	44	27	31
15	173	128	116	149	112	89	97	72	70	72	47	58	50	44	52	45	33	49	35	43
16	192	115	140	196	107	83	109	66	74	59	49	55	47	53	56	39	32	49	44	35
17	202	133	141	189	109	98	102	70	61	59	42	46	59	53	35	53	34	38	26	31
18	255	124	112	174	128	93	144	51	69	62	62	49	58	52	48	49	53	49	38	36
19	388	141	133	131	117	77	248	60	61	46	50	58	55	47	38	33	43	41	33	48
20	439	116	92	115	136	92	590	88	58	56	52	58	39	68	51	45	58	40	29	37
21	537	134	104	98	117	94	1661	81	63	53	50	59	68	70	48	39	93	45	41	32
22	618	126	128	89	117	82	3957	72	52	53	60	56	44	58	50	38	88	40	50	44
23	556	130	97	94	131	84	6431	53	65	70	57	55	56	54	55	59	123	40	29	37
24	471	100	105	109	104	88	6637	50	62	72	48	48	47	43	41	45	83	41	31	27
25	417	119	98	91	119	111	4691	60	67	53	59	62	45	54	48	44	69	45	51	23
26	268	131	107	96	121	98	2035	58	60	50	45	56	48	54	46	37	62	42	32	38
27	233	126	108	96	91	77	607	64	49	48	52	48	43	36	53	44	49	41	35	38
28	198	109	122	105	105	84	178	62	51	72	61	48	49	53	47	43	37	37	36	29
29	147	100	132	114	93	77	74	49	55	58	44	55	56	49	50	41	33	47	40	36
30	158	109	125	92	101	75	66	58	60	56	60	48	46	45	39	46	47	53	39	37
31	139	112	108	99	91	97	65	70	55	45	45	58	54	46	36	34	41	36	46	31
32	137	106	105	119	85	89	72	62	55	66	66	47	52	55	51	55	48	45	40	42
33	154	123	103	115	88	98	76	67	53	54	71	43	45	42	51	37	46	36	43	37
34	138	129	134	108	94	91	70	74	60	58	65	57	40	42	41	36	41	33	43	37
35	139	110	132	85	95	76	62	67	64	65	64	45	61	57	49	49	44	35	47	37
36	133	106	120	98	85	90	68	77	60	59	55	62	32	54	53	32	40	42	51	34
37	120	118	112	104	93	88	63	76	71	54	59	47	45	49	49	42	43	32	59	35
38	130	112	128	89	106	96	64	86	53	63	65	59	45	59	41	46	38	48	67	34
39	157	119	123	117	95	74	55	82	68	63	73	48	42	39	50	43	37	30	84	31
40	116	113	150	117	79	84	70	91	63	45	45	47	43	63	42	46	48	35	62	24
41	119	122	108	124	72	83	66	70	69	37	47	66	56	64	47	44	35	31	49	41
42	138	111	103	131	86	99	81	85	54	49	57	44	45	68	45	41	40	37	45	37
43	125	113	119	120	114	82	69	74	67	53	52	58	45	92	41	47	43	31	34	24
44	145	108	95	123	79	88	69	79	52	61	51	43	42	114	46	49	46	37	35	47
45	135	126	108	115	93	93	68	72	58	61	46	44	51	86	42	47	34	39	42	32
46	149	138	100	110	97	91	59	79	65	50	52	45	43	69	40	46	38	44	36	33
47	125	122	116	117	99	111	62	83	60	49	48	50	46	47	48	37	33	47	45	42
48	130	105	108	112	83	108	76	70	62	76	55	46	50	44	50	46	31	38	45	39
49	148	113	88	106	104	73	66	62	56	62	59	52	54	46	46	39	44	36	31	35

C
U
C

D02-201

II.E. Detector Calibrations

II.E.1. Diode K - Effmarna.k

54124-71-1 500cc marinelli Beaker

200λ of mixed STD 54124-70-0

pipette # 50690-40-1 500.0 gms of 0.1N HCl

balance 510-06-01-005

54124-71-2 blue dot point source

pipetted 2-21-92 200λ of mixed STD 54124-70-0

pipette # 50690-40-1

54124-71-3 200λ of ^{137}Cs 1892-136-500

pipette # 50690-40-1 Balance 510-06-01-005

pipetted 2-25-92 Blue dot point source

Project No. _____ Date of Work _____

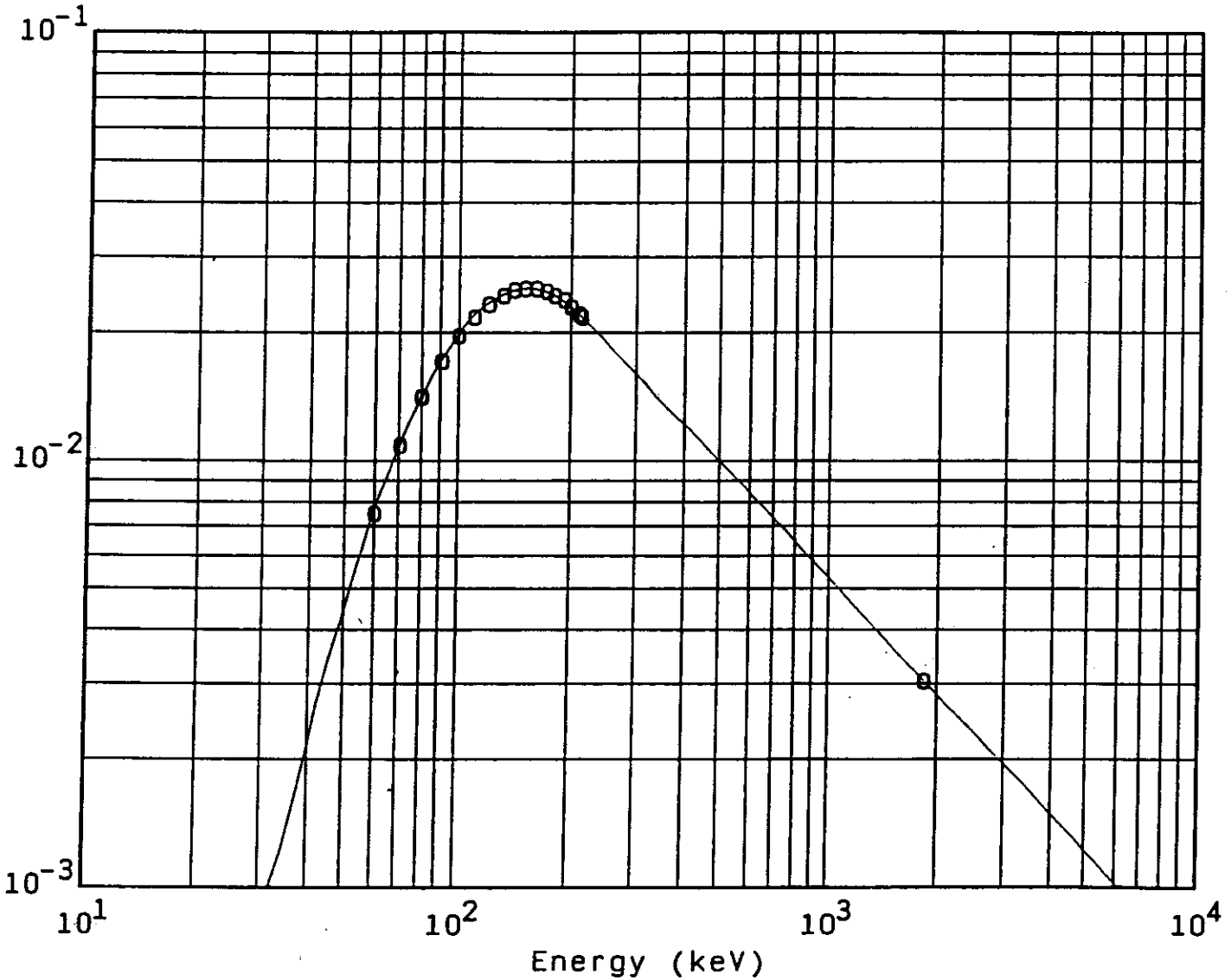
Entered By Donna Elwood Date 2-19-92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

effmarn.k → EFF MARNA.K



3/25/92
EA Kgael

D02-205

Raygun - Portable Version 17-Jul-90 (25-MAR-1992 11:15:54)

Analysis performed by: E. A. LEPEL

Sample: 54124-71-X AMERSHAM STD 200 L IN MARINELLI BEAK
Weight: 1.00000 grams

Irradiation date: 0-Feb-1992 at 5:00:00

Count date: 19-Feb-1992 at 9:38:00

Decay: 19.2d (1658280.0 seconds)

Count times: REAL TIME 23.19h (83499.000 seconds)
LIVE TIME 23.00h (82793.000 seconds)

Dead time: 0.85 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: effmarn. K

Spectrum from file : 54124711.k;1

Background subtractions from file: [-.bkg]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	72.2	67.	75.	597142.	35907.*	73.09	4.333E-01	3.2	34.
2	82.0	82.	82.	68808.	3816.	82.90	4.609E-02	9.6	0.
3	87.4	85.	89.	490075.	175673.	88.29	2.122E+00	0.5	0.
4	121.2	118.	123.	588946.	235943.	122.10	2.850E+00	0.4	0.
5	135.8	133.	138.	375837.	34939.	136.68	4.220E-01	2.4	0.
6	165.0	163.	167.	535530.	274303.	165.89	3.313E+00	0.3	0.
7	186.0	186.	186.	48051.	619.*	186.87	1.204E-02	100.0	159.
8	254.1	253.	256.	148911.	18999.	254.94	2.295E-01	2.8	0.
9	278.1	275.	282.	666380.	445847.	278.94	5.385E+00	0.2	0.
10	390.5	387.	395.	585646.	438863.	391.32	5.301E+00	0.2	0.
11	512.8	505.	515.	675223.	545655.	513.61	6.591E+00	0.2	0.
12	660.3	656.	665.	445200.	340051.*	661.06	4.107E+00	0.2	33.
13	812.9	809.	815.	53827.	11714.	813.68	1.415E-01	2.8	0.
14	890.1	890.	892.	19724.	431.	890.82	6.634E-03	100.0	0.
15	896.9	892.	900.	604294.	548629.	897.64	6.627E+00	0.1	0.
16	1156.0	1156.	1156.	3499.	215.*	1156.66	5.213E-03	100.0	12.
17	1172.4	1167.	1176.	294584.	263010.*	1173.01	3.176E+00	0.2	30.
18	1324.2	1320.	1328.	33109.	8232.	1324.86	9.943E-02	2.8	0.
19	1331.9	1328.	1335.	254980.	241752.*	1332.50	2.920E+00	0.5	31.
20	1460.1	1460.	1462.	7451.	175.*	1460.69	4.903E-03	100.0	290.
21	1712.3	1712.	1714.	3370.	217.	1712.85	3.442E-03	100.0	0.
22	1836.1	1826.	1840.	316277.	308801.	1836.64	3.730E+00	0.2	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

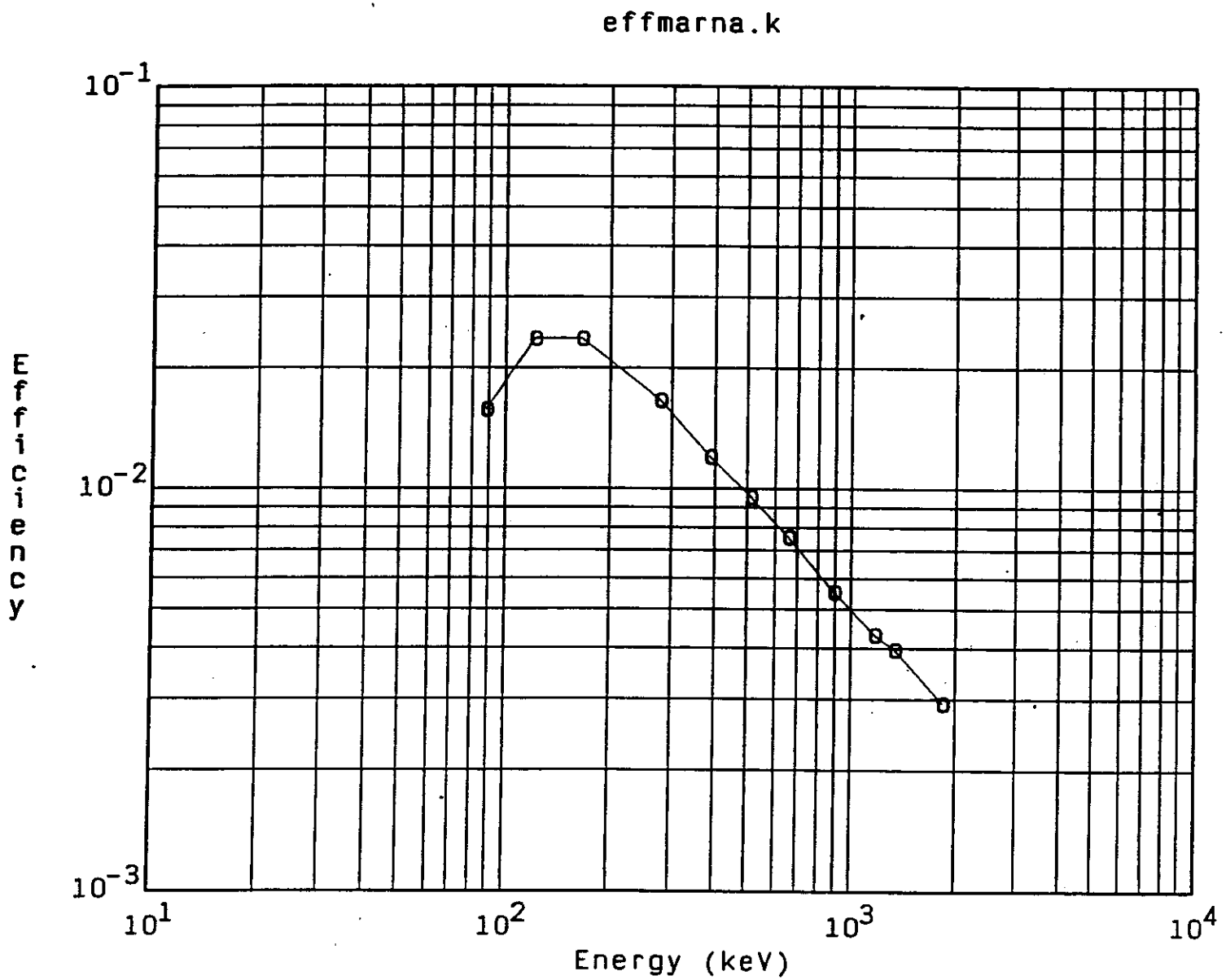
Gamma-ray and nuclide lookup from file: [-.library]5412470_1998.std
which is assumed to be a properly constructed Calibration Certificate.

Delta T = 19.19306 Days
The following Energy - Efficiency pairs have been calculated.

```
  5.300E-01  2.600E-03 -6.020E+00  1.730E-03  3.213E-01
  9.147E-01  9.998E-01  0.000E+00  0.000E+00  0.000E+00  0.000E+00
 -1.919E+01  2.305E+00 -1.840E-02
 -1.919E+01  2.305E+00  0.000E+00
-1          1.0
   88.29      1.58E-02
  122.10      2.37E-02
  165.89      2.38E-02
  278.94      1.67E-02
  391.32      1.21E-02
  513.61      9.62E-03
  661.06      7.62E-03
  897.64      5.54E-03
 1173.01      4.36E-03
 1332.50      4.00E-03
 1836.64      2.94E-03
```

Options - in - Effect

```
Master_file          MASTSTD.K
CALIBRATE
PRINT                lpk.lst
USER_NAME            E. A. LEPEL
OPTION_LIST
CALC_EFFICIENCY      [-.library]5412470_1998.std
```



D02-208

```
 5.300E-01  2.600E-03 -6.020E+00  1.730E-03  3.213E-01
 0.000E-01  0.000E+00  0.000E+00  0.000E+00  0.000E+00
-1.919E+01  2.305E+00 -1.840E-02
-1.919E+01  2.305E+00  0.000E+00
11          1.0
  88.29      1.58E-02
 122.10      2.37E-02
 165.89      2.38E-02
 278.94      1.67E-02
 391.32      1.21E-02
 513.61      9.62E-03
 661.06      7.62E-03
 897.64      5.54E-03
1173.01      4.36E-03
1332.50      4.00E-03
1836.64      2.94E-03
```

TITLE: 54124-71-1 AMERSHAM STD 200 L IN MARINELLI BEAK

FILE: 54124711.K;1

CHANNELS: 3048

SHELF: 0

DIODE: K

TIME ZERO: 2 1 92 5 0 0

TIME OF COUNT: 2 20 92 9 30 0

(27630.0 MINUTES DECAY TIME)

LIVE TIME: 22 HOURS 59 MINUTES 53 SECONDS = 1379.88 MINUTES

ELAPSED TIME: 23 HOURS 11 MINUTES 39 SECONDS = 1391.65 MINUTES

(DEAD TIME = 0.008)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 1.00000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	90

D02-210

852

70

MIXED STD

54124-70-0 std ordered by LEPEL

DO NOT DILUTE STD

Amersham International plc
Amersham Laboratories

54124-70-0

[redacted]

CALIBRATION No. [illegible]

Description Product code: QCT.48 Solution number: R2/15/56

This mixed radionuclide gamma-ray reference standard consists of a solution in 400 HCl of the ten radionuclides listed below.

Measurement and Accuracy Reference time: 1200 GMT on 1 February 1992

Mass of solution: 5.3164 grams Density: 1.076 g/ml at 20°C

Parent radionuclide	Gamma-ray energy (keV)	Gamma-rays per second per gram of solution	Random uncertainty	Systematic uncertainty	Overall uncertainty
Americium 241	59.54	1134	± 0.2 %	± 2.1 %	± 2.3 %
Cadmium-109	88.03	645	± 0.2 %	± 3.0 %	± 3.2 %
Cobalt 57	122.1	588	± 0.1 %	± 1.8 %	± 1.9 %
Cerium 139	165.9	713	± 0.3 %	± 1.2 %	± 1.5 %
Mercury 203	278.2	1999	± 0.3 %	± 2.0 %	± 2.3 %
Tin-113	391.7	2281	± 0.1 %	± 4.5 %	± 4.6 %
Strontium 85	514.0	3913	± 0.3 %	± 1.4 %	± 1.7 %
Caesium 137	661.7	2509	± 0.2 %	± 2.0 %	± 2.2 %
Yttrium 88	898.0	6295	± 0.2 %	± 3.5 %	± 3.7 %
Cobalt 60	1173	3413	± 0.3 %	± 0.4 %	± 0.7 %
Cobalt 60	1333	3416	± 0.3 %	± 0.4 %	± 0.7 %
Yttrium 88	1836	6671	± 0.2 %	± 3.4 %	± 3.6 %

Purity At the reference time the solution also contained the following impurities:

Cadmium-115m less than 2.6 becquerels (0.070 nanocuries) per gram.
Chlorine-36 equal to 16.4 becquerels (0.44 nanocuries) per gram.
Cobalt-56 less than 0.24 becquerels (0.0065 nanocuries) per gram.
Indium-114m equal to 6.0 becquerels (0.16 nanocuries) per gram.

Remarks Further details, including composition of the solution, methods of measurement, decay scheme assumptions, decay tables and definitions of uncertainties, are given in the data sheet accompanying this certificate.

This product meets the quality assurance requirements of NRC Regulatory Guide 4.10 for achieving explicit NIST traceability as defined in NCRP92 (1988).

Approved Signatory

G D H Parker

Page 1 of 1

Amersham

This certificate is issued in accordance with the conditions of accreditation granted by the National Measurement Accreditation Service, which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realised at the corresponding national standards laboratory. Copyright of this certificate is owned jointly by the British Crown and the issuing laboratory and may not be reproduced other than in full except with the prior written approval of the Board of NAMAS and the issuing laboratory.

Project No. _____ Date of Work _____

Entered By Donald R Edwards Date 2-19-92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

2-19-92 initials

20λ pipette
50690-40-4

1061705
1059743
19.62

1059500
1067549
19.51

1075414
1073451
19.63

1059755
1057804
19.51
X 19.57 2-19-92 DRF

510-06-03-011
CALIBRATION DATE 1-16-92
Expires - 4-16-92

200λ pipette
50690-40-1

977383
957377
200.06

997411
977380
200.31

1017407
997401
200.06

1037317
1017407
199.10
X 199.88 2-19-92 DRF

II.E.2. Diode L -Effpt6inb.l

54124-71-1 500cc marinelli Beaker
200λ of mixed STD 54124-70-0
pipette # 50690-40-1 500.0 gms of
0.1N HCl
balance 510-06-01-005

54124-71-2 blue dot point Source
pipetted 2-21-92 200λ of mixed STD 54124-70-0
pipette # 50690-40-1

54124-71-3 200λ of ^{137}Cs 1892-136-500
pipette # 50690-40-1 Balance 510-06-01-005
Blue dot point source

pipetted 2-25-92

Project No. _____ Date of Work _____
Entered By Donna Edwards Date 2-19-92
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

2-19-92 initials

20λ pipette
50690-40-4

1061705
1059743
19.62

1059500
1067549
19.51

1075414
1073451
19.63

1059755
1057804
19.51
$\bar{X}$ 19.57 2-19-92 DRF
± .07
(.34%)

510-06-03-011
CALIBRATION DATE 1-16-92
Expires - 4-16-92

200λ pipette
50690-40-1

977383
957377
200.06

997411
977380
200.31

1017407
997401
200.06

1037317
1017407
199.10
$\bar{X}$ 199.88 2-19-92 DRF
± 0.53
(.27%)

70

MIXED STD

54124-70-0 std ordered by LEPEL

DO NOT DILUTE STD

Amersham International plc
Amersham, Buckinghamshire

54124-70-0

[redacted]

Description Product code: QCY.40 Solution number: 07/15/56

This mixed radionuclide gamma-ray reference standard consists of a solution in 4M HCl of the ten radionuclides listed below.

Measurement and Accuracy Reference time: 1300 GMT on 1 February 1992

Mass of solution: 5.3164 grams Density: 1.096 g/ml at 20°C

Parent radionuclide	Gamma-ray energy (keV)	Gamma-rays per second per gram of solution	Random uncertainty	Systematic uncertainty	Overall uncertainty
Americium 241	59.54	1134	± 0.2 %	± 2.1 %	± 2.3 %
Cadmium 109	88.00	645	± 0.2 %	± 3.0 %	± 3.2 %
Cobalt 57	122.1	500	± 0.1 %	± 1.8 %	± 1.9 %
Cerium 139	165.9	713	± 0.3 %	± 1.2 %	± 1.5 %
Mercury 203	279.2	1999	± 0.3 %	± 2.0 %	± 2.3 %
Tin 113	391.7	2701	± 0.1 %	± 4.5 %	± 4.6 %
Strontium 85	514.0	3913	± 0.3 %	± 1.4 %	± 1.7 %
Caesium 137	661.7	3505	± 0.2 %	± 2.0 %	± 2.2 %
Yttrium 88	898.0	6295	± 0.2 %	± 3.5 %	± 3.7 %
Cobalt 60	1173	3412	± 0.3 %	± 0.4 %	± 0.7 %
Cobalt 60	1333	3416	± 0.3 %	± 0.4 %	± 0.7 %
Yttrium 88	1836	6671	± 0.2 %	± 3.4 %	± 3.6 %

Purity At the reference time the solution also contained the following impurities:

Cadmium-115m less than 2.6 becquerels (0.070 nanocuries) per gram.
Chlorine-36 equal to 16.4 becquerels (0.44 nanocuries) per gram.
Cobalt-56 less than 0.24 becquerels (0.0065 nanocuries) per gram.
Indium-114m equal to 6.0 becquerels (0.16 nanocuries) per gram.

Remarks Further details, including composition of the solution, methods of measurement, decay scheme assumptions, decay tables and definitions of uncertainties, are given in the data sheet accompanying this certificate.

This product meets the quality assurance requirements of ISO Regulatory Guide 4.10 for calibrating equipment [illegible] traceability as defined in NCSLPG [illegible].

Approved Signatory

D B H Parker

Page 1 of 1

Amersham

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Project No. _____ Date of Work _____

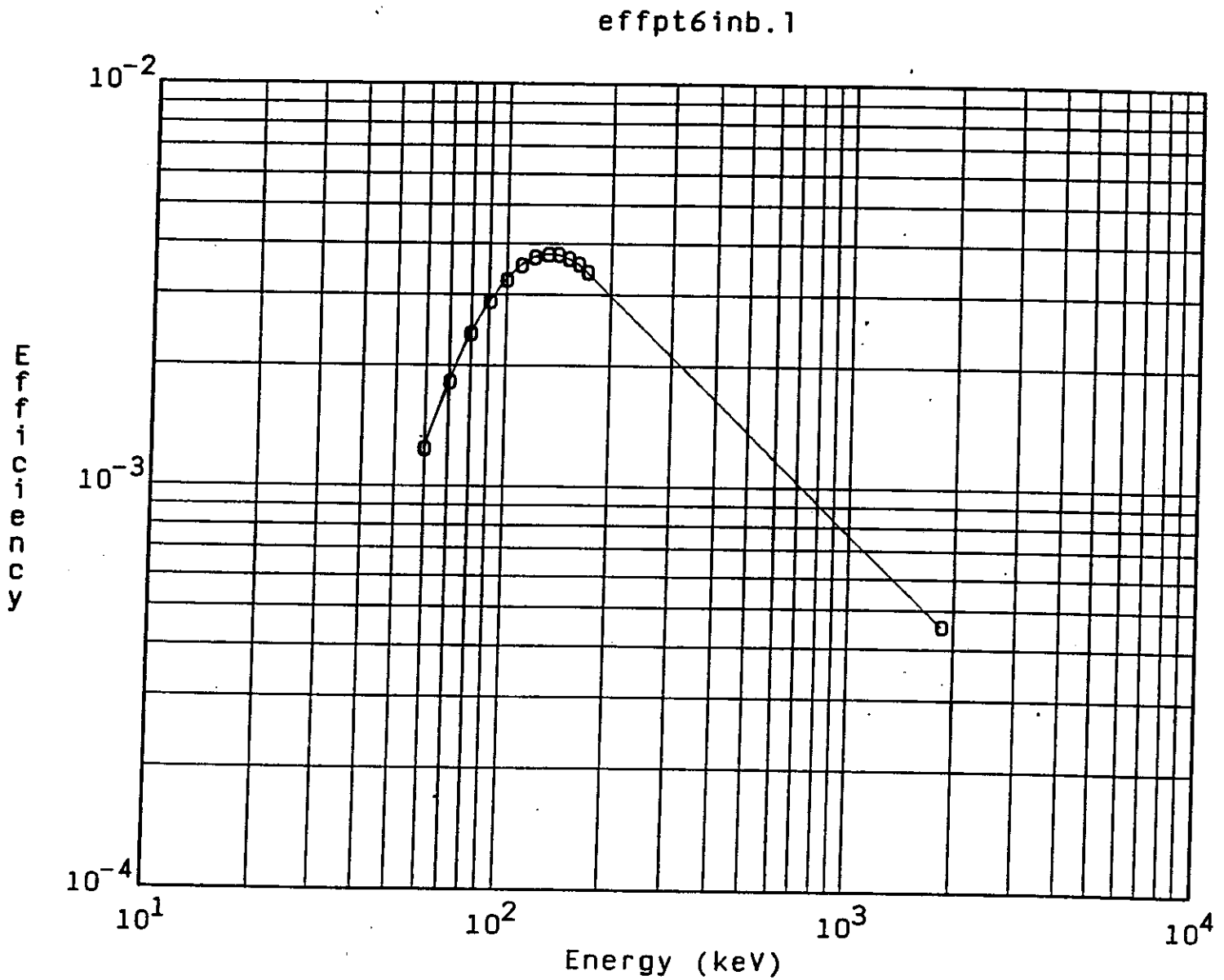
Entered By Denise R. Edwards Date 2-19-92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

effpt6inb.1



3/30/92 S.Akapal

D02-217

```
 5.000E-01  2.500E-03 -1.030E+01  6.050E-03  1.992E-01
 0.000E-01  0.000E-01  0.000E+00  0.000E+00  0.000E+00  0.
-1.919E+01  2.305E+00 -1.840E-02
-1.919E+01  2.305E+00  0.000E+00
        13  1.0
 60.00000    ,  1.2433887E-03
 70.00000    ,  1.8335211E-03
 80.00000    ,  2.4005470E-03
 90.00000    ,  2.8914490E-03
 100.0000    ,  3.2778808E-03
 110.0000    ,  3.5513183E-03
 120.0000    ,  3.7165671E-03
 130.0000    ,  3.7860456E-03
 140.0000    ,  3.7755633E-03
 150.0000    ,  3.7015509E-03
 160.0000    ,  3.5794331E-03
 169.9797    ,  3.4231474E-03
 1835.810    ,  4.6011360E-04

 effpt6inb.l
Efficiency curve for point source at 6 in on diode L using holder b

Created 3/25/92    EAL
```

3/30/92 EAlegal

Raygun - Portable Version 17-Jul-90 (25-MAR-1992 14:34:20)

Analysis performed by: E. A. LEPEL

Sample: 54124-71-2 200 LDAL OF 54124-71-2 AMERSHAM STD
Weight: 1.00000 grams

Irradiation date: 0-Feb-1992 at 5:00:00

Count date: 23-Feb-1992 at 11:52:00

Decay: 23.3d (2011920.0 seconds)

Count times: REAL TIME 21.26h (76542.000 seconds)
LIVE TIME 20.89h (75200.000 seconds)

Dead time: 1.75 percent

Detector: L pos # 6 Geometry Factor: 1.000

Efficiencies and shape parameters from file: [-.effic]effltc220. L

Spectrum from file : 54124712.1;1

Background subtractions from file: [-.bkg]Backg. L

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	118.9	115.	123.	48503.	21828.	59.55	2.903E-01	1.3	0.
2	141.3	141.	143.	9937.	494.	70.76	1.003E-02	100.0	0.
3	145.6	143.	148.	21948.	3303.	72.92	4.393E-02	9.6	0.
4	149.9	148.	151.	13578.	2004.	75.04	2.664E-02	12.3	0.
5	164.6	163.	165.	10008.	474.	82.39	1.027E-02	100.0	0.
6	169.3	168.	171.	13495.	931.	84.74	1.238E-02	17.3	0.
7	175.9	173.	180.	52404.	29504.	88.06	3.923E-01	0.9	0.
8	244.0	239.	247.	61178.	32525.	122.10	4.325E-01	1.0	0.
9	272.9	270.	277.	30402.	4129.	136.53	5.491E-02	5.8	0.
10	331.8	328.	335.	59918.	36031.	165.97	4.791E-01	0.8	0.
11	510.3	508.	514.	16469.	2709.	255.18	3.603E-02	6.4	0.
12	558.6	553.	563.	67331.	48266.	279.34	6.418E-01	0.6	0.
13	783.6	775.	789.	69592.	55623.	391.84	7.397E-01	0.5	0.
14	1028.2	1017.	1034.	83090.	71719.	514.10	9.537E-01	0.4	0.
15	1323.7	1318.	1329.	51578.	44541.*	661.82	5.910E-01	0.6	96.
16	1628.8	1625.	1633.	3970.	1241.	814.29	1.651E-02	6.6	0.
17	1796.5	1785.	1804.	79782.	73404.	898.15	9.761E-01	0.4	0.
18	2346.9	2338.	2353.	38879.	36155.	1173.28	4.808E-01	0.6	0.
19	2650.1	2642.	2657.	3566.	987.	1324.81	1.312E-02	11.4	0.
20	2665.5	2657.	2673.	34753.	33629.	1332.50	4.472E-01	1.9	0.
21	2923.6	2920.	2926.	1146.	213.*	1461.51	4.805E-03	100.0	234.
22	3672.4	3658.	3680.	41689.	41026.	1835.81	5.456E-01	0.5	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

3/30/92 EA Lepel

Gamma-ray and nuclide lookup from file: [-.library]5412470_1998.std
which is assumed to be a properly constructed Calibration Certificate.

Delta T = 23.28611 Days
The following Energy - Efficiency pairs have been calculated.

5.000E-01	2.500E-03	-1.030E+01	6.050E-03	1.992E-01	
1.268E-01	4.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
-1.919E+01	2.305E+00	-1.840E-02			
-1.919E+01	2.305E+00	0.000E+00			

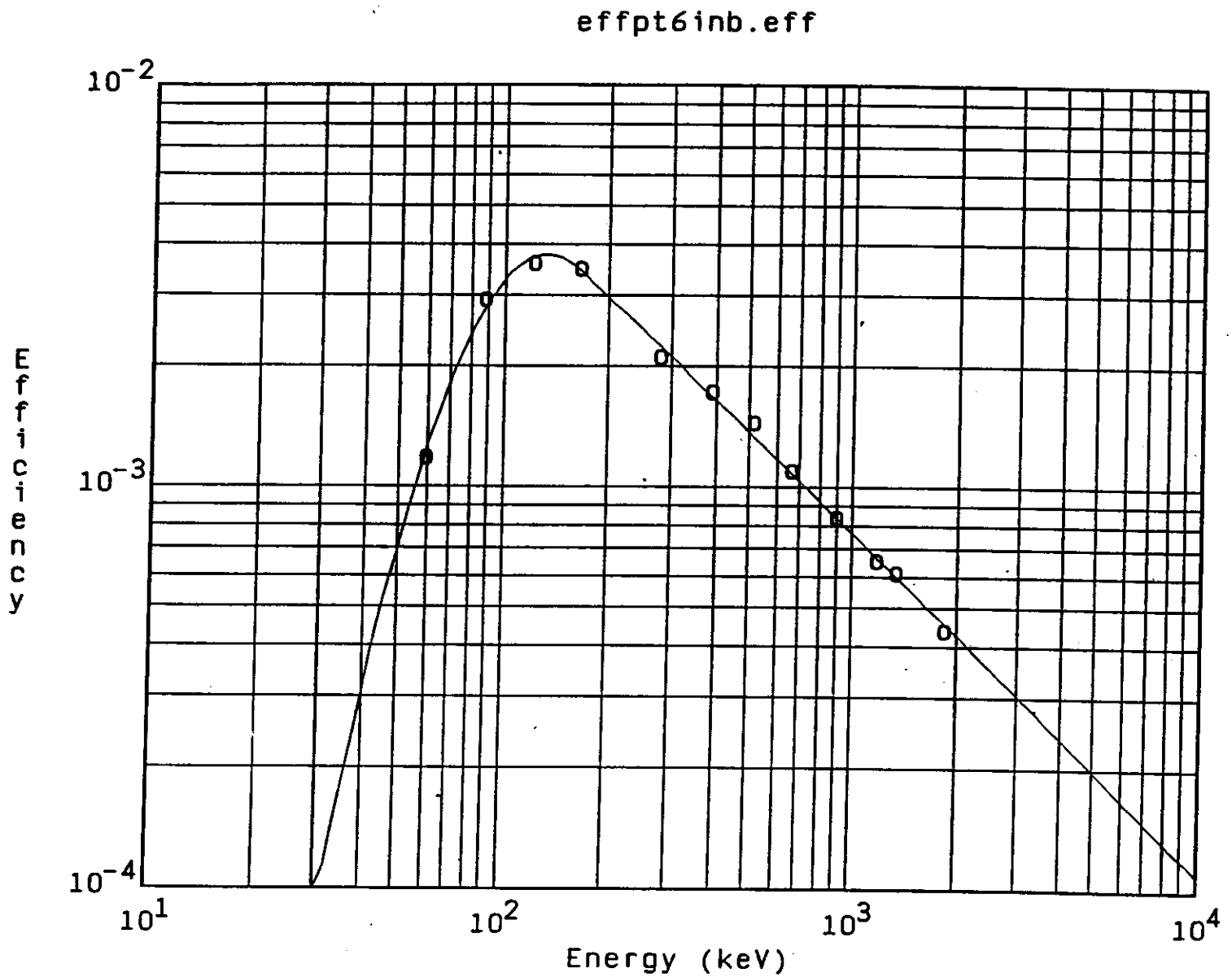
-1 1.0

59.55	1.19E-03
88.06	2.93E-03
122.10	3.63E-03
165.97	3.51E-03
279.34	2.11E-03
391.84	1.73E-03
514.10	1.45E-03
661.82	1.10E-03
898.15	8.39E-04
1173.28	6.60E-04
1332.50	6.14E-04
1835.81	4.42E-04

Options - in - Effect

Master_file	MASTSTD.L
CALIBRATE	
PRINT	lpl.lst
USER_NAME	E. A. LEPEL
OPTION_LIST	
CALC_EFFICIENCY	[-.library]5412470_1998.std

3/30/92 EAlepel



3/30/92 SA Lopez

D02-221

TITLE: 54124-71-2 200 LDAL OF 54124-71-2 AMERSHAM STD

PT Source

FILE: 54124712.L;1

CHANNELS: 4096

SHELF: 6

DIODE: L

TIME ZERO: 2 1 92 5 0 0

3/25/92 EAKegel

TIME OF COUNT: 2 24 92 11 52 0

(33532.0 MINUTES DECAY TIME)

LIVE TIME: 20 HOURS 53 MINUTES 20 SECONDS = 1253.33 MINUTES

ELAPSED TIME: 21 HOURS 15 MINUTES 42 SECONDS = 1275.70 MINUTES

(DEAD TIME = 0.018)

FLUX CORR. FACT.: 0.000000

GAIN: 0.500000 KEV/CHAN

WEIGHT: 1.00000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D02-224

962

II.E. Detector Controls

Detector Reliability System
Detector K

24-MAR-92 13:31:44

Time Zero 6-DEC-84 9:36:45

Operator I.D.: EAhgel

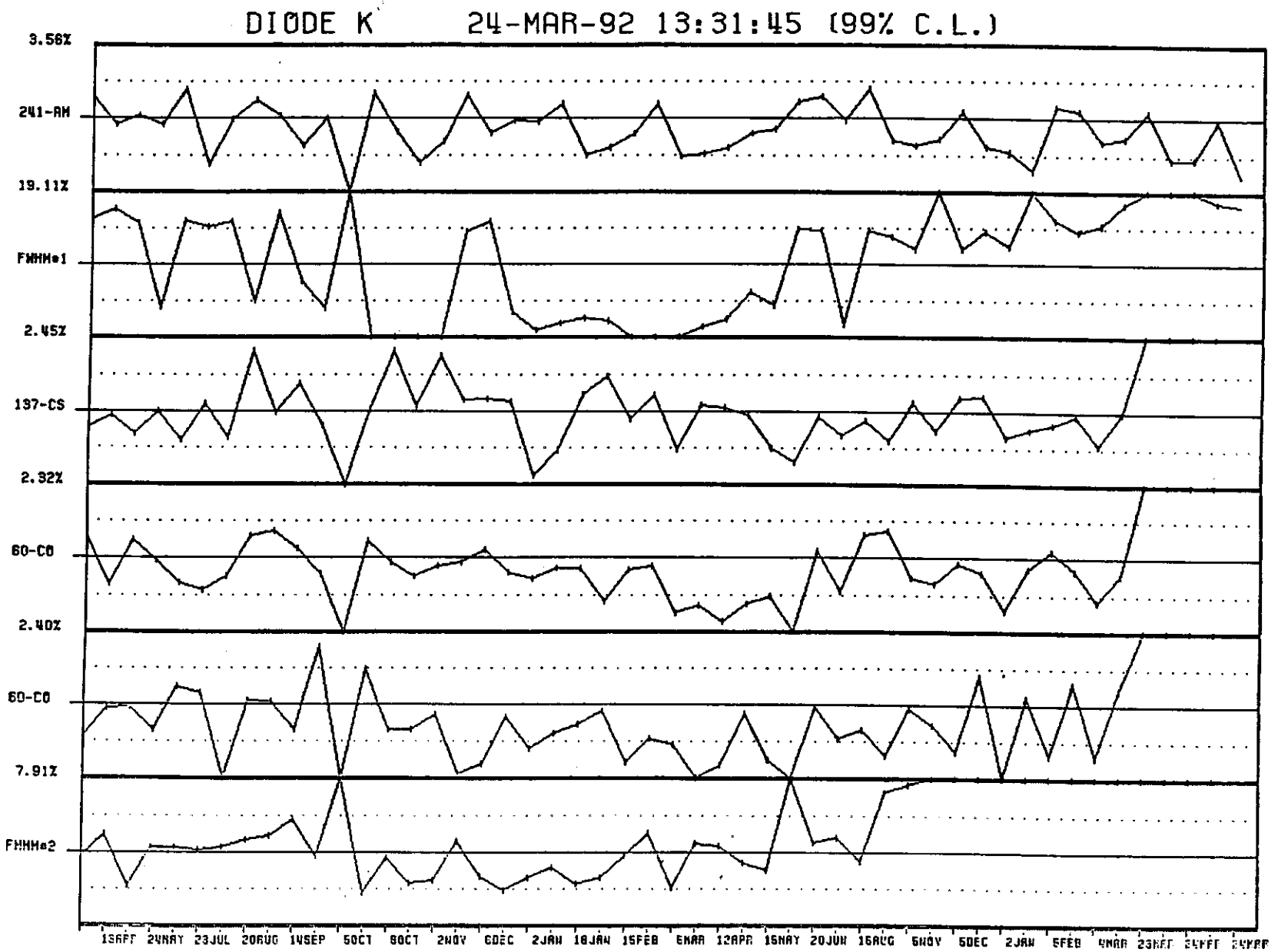
Date of Count	241-AM	FWHM*1	137-CS	Corrected C/M 60-CO	60-CO	FWHM*2
29-JUN-90	1436.	1.562	2074.	3970.	3568.	2.022
23-JUL-90	1384.	1.541	2100.	3960.	3561.	2.016
8-AUG-90	1415.	1.559	2076.	3977.	3457.	2.022
20-AUG-90	1428.	1.269	2136.	4029.	3552.	2.037
4-SEP-90	1418.	1.589	2094.	4036.	3550.	2.044
14-SEP-90	1397.	1.341	2114.	4013.	3519.	2.080
1-OCT-90	1416.	1.239	2085.	3981.	3615.	2.083
5-OCT-90	848.5	8.085	1155.	2019.	1937.	7.050
8-OCT-90	1433.	1.117	2095.	4023.	3589.	1.924
9-OCT-90	1406.	1.105	2136.	3996.	3518.	1.999
17-OCT-90	1385.	1.137	2098.	3978.	3518.	1.945
2-NOV-90	1399.	1.137	2133.	3991.	3537.	1.950
13-NOV-90	1432.	1.521	2102.	3996.	3467.	2.035
6-DEC-90	1405.	1.559	2104.	4010.	3479.	1.957
13-DEC-90	1414.	1.227	2102.	3982.	3533.	1.927
2-JAN-91	1413.	1.158	2049.	3975.	3496.	1.955
2-JAN-91	1425.	1.187	2067.	3987.	3513.	1.978
18-JAN-91	1390.	1.204	2106.	3987.	3525.	1.943
30-JAN-91	1395.	1.194	2119.	3945.	3540.	1.956
15-FEB-91	1405.	1.087	2089.	3986.	3480.	2.001
5-MAR-91	1425.	1.101	2106.	3990.	3509.	2.050
5-MAR-91	1389.	1.127	2068.	3931.	3501.	1.934
25-MAR-91	1391.	1.172	2099.	3942.	3441.	2.030
12-APR-91	1395.	1.190	2097.	3920.	3477.	2.023
6-MAY-91	1406.	1.303	2092.	3943.	3538.	1.987
15-MAY-91	1408.	1.250	2068.	3952.	3484.	1.972
20-JUN-91	1427.	1.532	2059.	3500.	2895.	3.016
20-JUN-91	1430.	1.524	2091.	4010.	3544.	2.031
8-JUL-91	1414.	1.182	2078.	3958.	3508.	2.043
15-AUG-91	1435.	1.528	2088.	4030.	3518.	1.991
1-OCT-91	1400.	1.503	2075.	4034.	3489.	2.141
5-NOV-91	1397.	1.458	2100.	3976.	3543.	2.156
20-NOV-91	1401.	1.887	2081.	3968.	3524.	2.179
5-DEC-91	1420.	1.457	2104.	3994.	3494.	2.171
20-DEC-91	1396.	1.522	2105.	3982.	3582.	2.215
2-JAN-92	1393.	1.464	2077.	3935.	3411.	2.226
17-JAN-92	1380.	2.184	2082.	3988.	3556.	2.467
5-FEB-92	1423.	1.562	2086.	4010.	3489.	2.270
14-FEB-92	1421.	1.520	2092.	3985.	3573.	2.281
4-MAR-92	1399.	1.546	2071.	3945.	3488.	2.309
18-MAR-92	1402.	1.621	2093.	3979.	3565.	2.391
23-MAR-92	1420.	1.987	2280.	4435.	3903.	2.591
23-MAR-92	1388.	1.721	2267.	4431.	3990.	2.432
24-MAR-92	1387.	1.854	2285.	4406.	3932.	2.543
24-MAR-92	1414.	1.633	2297.	4341.	3893.	2.533
24-MAR-92	1376.	1.617	2280.	4407.	3849.	2.600
	1415.	1.402	2095.	4001.	3548.	2.011

In Control

Out of Control 3/25/92
EAhgel

D02-224

806


DIODE K 24-MAR-92 13:31:45 (99% C.L.)
3.56%
241-AM
19.11%
FWHM#1
2.45%
137-CS
2.32%
60-CO
2.40%
60-CO
7.91%
FWHM#2
15APR 24MAY 23JUL 20AUG 1NSEP 5OCT 8OCT 2NOV 6DEC 2JAN 18JAN 15FEB 6MAR 12APR 15MAY 20JUN 16AUG 5NOV 5DEC 2JAN 5FEB 4MAR

D02-223

QUALITY CONTROL DATA REVIEW

Project/Work Package: 19432/M82776

Project/WP Title: 1100-EM-1 Groundwater Characterization

Requested Analysis: GEA

ACL Sample Numbers: 92-02740 - 92-02752

I have reviewed the data specified above for completeness and compliance with project requirements.

J L Daniel

J. Leland Daniel
Data Quality Officer
Analytical Chemistry Laboratory

4/3/92
Date

Gamma Energy Analysis Data Package for 1100 EM-1 Samples

Batch 2

I. Gamma Energy Analysis Results
   A. Discussion
   B. Data Tables
II. Primary Analytical Data
   A. Sample Preparation
   B. Sample Analysis
      1. Groundwaters - Diode K
      2. Groundwaters - Diode HH
   C. M & TE Records
   D. Calibration of ^{137}Cs Spike
   E. Detector Calibrations
      1. Diode K - Effmarna.k
      2. Diode HH - Effmarn.hh
      2. Diode L - Effpt6inb.l
   E. Detector Controls

Data Package Prepared by: Elwood Kysel 3/31/92

Data Package Reviewed by: [illegible] 3/31/92

I. Gamma Energy Analysis Results

GAMMA ENERGY ANALYSIS RESULTS for 1100EM-1, Batch 2

Thirteen water samples were prepared for Gamma Energy Analysis (GEA). The samples were prepared by transferring 500.0 g of water sample into a 500 ml Marinelli beaker. The sample container was then sealed, taped, labelled, and then sealed in a plastic bag for counting. In addition to these samples, the following samples were prepared for quality assurance purposes : 1)A sample duplicate, 2)a matrix spike, 3)a reagent blank, and 4)a reagent blank spike. The spike consisted of a known aliquot of ^{137}Cs. A total of 17 samples were analyzed as part of Batch 2.

The samples were prepared for counting following PNL-ALO-105. This procedure covers the preparation of solid and liquid samples. Sample aliquots weighing 500.0 g of the water sample were sealed in new 500 ml Marinelli beakers.

The samples were analyzed by gamma-ray spectroscopy to determine the quantities of gamma-ray emitting isotopes present. Since the samples were very low in observed activity, less than values for ^{60}Co and ^{137}Cs are reported when there were not positive results. The samples were counted on "Diode K" and "Diode HH" which are lithium-drifted germanium detectors [Ge(Li)] and the work was performed following PNL-ALO-464 and PNL-ALO-470.

A Deficiency Report (DR 92-017) was filed on Diode K on 3/25/92. A problem was noted with the counting system and the check source was counted to determine if the system was "in control." It was determined that the detector was not in control and that data from that date back to the nearest good control count was suspect. The results from three samples were affected. The data obtained with Diode K was removed from the data table and the samples counted on Diode HH. No additional samples were counted on Diode K.

The attached Table lists the measured values of ^{60}Co and ^{137}Cs in the water samples as determined using Diode K and Diode HH. There were no positive observations of ^{60}Co or ^{137}Cs above the system background. The smaller less than values listed for samples counted on Diode K are primarily the result of a larger and more efficient Ge(Li) detector compared to that in Diode HH. It was assumed that the density of the groundwaters was 1.0 g/ml.

The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background. The one sigma detection limit determined using sample 92-02742-L-5 for ^{60}Co and ^{137}Cs is < 1.0 and < 0.80 pCi/L, respectively for Diode K, and < 2.7 and < 2.6 pCi/L, respectively for Diode HH.

The ^{137}Cs result obtained for the matrix spike (92-02742-L-3) was 567 ± 11 pCi/L for Diode K. The ^{137}Cs result obtained for the matrix spike (92-02742-L-3) and the reagent blank spike (92-02742-L-6) was 564 ± 12 pCi/L and 570 ± 12 pCi/l, respectively for Diode HH. The average of the two values for Diode HH is 567 ± 4 (± 0.7%) pCi/L. Thus, the precision is well within the requested precision of ± 25%. In terms of accuracy, the known value of the spike is 558 pCi/L and within the counting errors of each analyses. Thus the accuracy is also within the requested accuracy of ± 25% for Diode HH and Diode K.

Observed Radionuclide Activities in 1100 EM-1 Groundwaters - Batch 2

PNL ALO #	LRB #	Sample ID	Collection Date	Weight (kg)	^{60}Co Diode K pCi/L[a,b,c]	^{60}Co Diode HH pCi/L[a,b,c]	^{137}Cs Diode K pCi/L[a,b,c]	^{137}Cs Diode HH pCi/L[a,b,c]
92-02740-L-1	54529-27-A	B015W0	9-23-91 11:37	0.5000	< 4.7	< 11	< 3.8	< 11
92-02741-L-1	54529-28-A	B015W1	9-23-91 11:38	0.5000	< 3.4	< 10	< 3.8	< 10
92-02742-L-1	54529-29-A	B015W2	9-20-91 10:16	0.5000	< 4.8	< 13	< 3.6	< 13
92-02742-L-2	54529-29-B	B015W2	9-20-91 10:16	0.5000	< 4.4	< 9.7	< 3.8	< 9.8
92-02742-L-3	54529-30-A	B015W2	2-01-92 12:00	0.5000	< 5.7	< 10	567 ± 11	564 ± 12
92-02742-L-5	54529-31-A		9-20-91 10:16	0.5000	< 2.4	<6.8	< 2.0	< 6.6
92-02742-L-6	54529-32-A		2-01-92 12:00	0.5000		< 11		570 ± 12
92-02743-L-1	54529-36-A	B015W3	9-24-91 07:10	0.5000	< 2.6	< 11	< 2.1	< 11
92-02744-L-1	54529-37-A	B01BV6	11-13-91 09:28	0.5000	< 3.8	< 6.8	< 3.4	< 6.8

[a] The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background.

[b] The known spike value for the ^{137}Cs is 558 pCi/L.

[c] The density of the groundwater sample was assumed to be 1.0 g/ml.

D03-005

PNL ALO #	LRB #	Sample ID	Collection Date	Weight (kg)	^{60}Co Diode K pCi/L[a,b,c]	^{60}Co Diode HH pCi/L[a,b,c]	^{137}Cs Diode K pCi/L[a,b,c]	^{137}Cs Diode HH pCi/L[a,b,c]
92-02744-L-1	54529-37-A	B01BV6	11-13-91 09:28	0.5000		< 13		< 13
92-02745-L-1	54529-38-A	B01BV9	11-13-91 10:23	0.5000	< 4.8	< 10	< 3.8	< 9.9
92-02746-L-1	54529-39-A	B01BW2	11-12-91 08:44	0.5000	< 3.7	<11	< 3.1	< 11
92-02747-L-1	54529-40-A	B01BW5	11-12-91 09:44	0.5000	< 5.1	< 11	< 3.6	< 12
92-02748-L-1	54529-41-A	B01BW8	11-12-91 10:20	0.5000	< 2.6	< 11	< 2.2	< 11
92-02749-L-1	54529-42-A	B01BX1	11-12-91 10:58	0.5000	< 4.4	< 10	< 3.2	< 11
92-02750-L-1	54529-43-A	B01C38	11-13-91 09:32	0.5000		< 9.9		<9.7
92-02751-L-1	54529-44-A	B01C11	11-12-91 12:33	0.5000		< 6.3		< 6.4
92-02752-L-1	54529-45-A	B01C28	11-15-91 11:53	0.5000		< 8.2		< 8.6

[a] The detection limits quoted are calculated as if the isotope was present at a level that is 2.5 times the square root of twice the average background.

[b] The known spike value for the ^{137}Cs is 558 pCi/L.

[c] The density of the groundwater sample was assumed to be 1.0 g/ml.

II. Primary Analytical Data

II.A. Sample Preparation

ANALYTICAL BATCH FORM

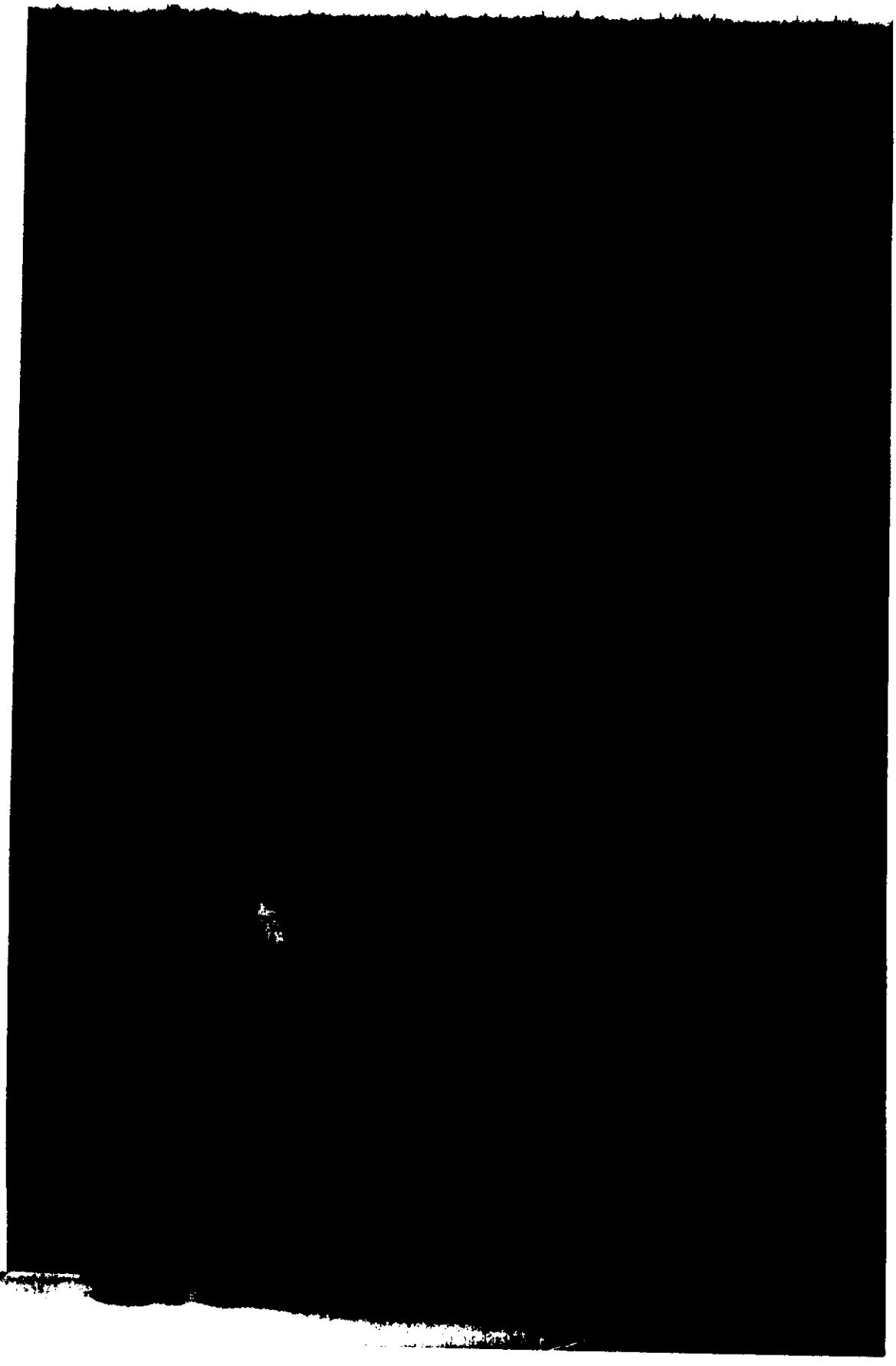
Date: 3/25/92 **Analysis:** GEA

Analyst: EA Lepel **Instrument #** Diodek / DiodeHH

Batch#: 2

LRB #	Sample ID#	sample	sample dupe	matrix spike	reagent blank	reagent blank spike
54529-27-A	92-02740-L-1	x				
54529-28-A	92-02741-L-1	x				
54529-29-A	92-02742-L-1	x				
54529-29-B	92-02742-L-2		x			
54529-30-A	92-02742-L-3			x		
54529-31-A	92-02742-L-5				x	
54529-32-A	92-02742-L-6					x
54529-36-A	92-02743-L-1	x				
54529-37-A	92-02744-L-1	x				
54529-38-A	92-02745-L-1	x				
54529-39-A	92-02746-L-1	x				
54529-40-A	92-02747-L-1	x				
54529-41-A	92-02748-L-1	x				
54529-42-A	92-02749-L-1	x				
54529-43-A	92-02750-L-1	x				
54529-44-A	92-02751-L-1	x				
54529-45-A	92-02752-L-1	x				

1100 EM-1



D03-010

BNW-54529
01-15-92

PACIFIC NORTHWEST LABORATORY
ISSUED
JAN 15 1992
BATTELLE RECORDS MGMT.

THIS BOOK IS INTENDED TO BE USED FOR RECORDING RESEARCH PERFORMED FOR THE U.S. DEPARTMENT OF ENERGY UNDER BNW'S OPERATING CONTRACT EY-76-C-06-1830.

M82774

	LABORATORY RECORD BOOK NUMBER BNW- 54529	This document consists of ..... pages, copy no. .....
	TITLE (INDICATE SUBJECT CONTENT) 1100-EM1 Program - GEA Analysis	
AUTHOR - DIVISION AND DEPARTMENT		
PERIOD COVERED FROM	TO	

Route To	P. R. No.	Location	Route Date	Signature & Date
E.A. LEPEL	37838	P8-08	1-15-92	Elwood Lepel

D03-011

B N W LABORATORY
NOTEBOOK NO

2 54529

DATA REVIEW

I have reviewed pages 3 thru 45 in this LRB on 3/30/92

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

[redacted]

B N W LABORATORY
NOTEBOOK NO 54529

3

Personnel authorized to make entries in this book are:

Elwood A Lepel Elwood A Lepel EAL

Authorized Reviewers of this LRB are:

Elwood A Lepel Elwood A Lepel EAL
Keith H Abel KHA

Project No. _____ Date of Work _____
Entered By Elwood Lepel Date 3/30/92
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

D03-013

Equipment to be Used:

Balance: 510-06-01-005 Mettler PC 4400 in 329, Rm 8C

Counting System: those systems calibrated for the 500 ml bottle geometry or 500 ml Marinelli Beaker geometry

500 ml polybottle: Diode K
Diode H
Diode G

Marinelli beaker Diode K
Diode HH

Number Scheme

XXXX- L-1 Sample
- L-2 Sample Dupe
- L-3 Matrix Spike
- L-4 Matrix ~~Reagent blank~~ spike duplicate
- L-5 Reagent blank
- L-6 Reagent blank spike

Project No. _____ Date of Work _____
Entered By Elwood Lepel Date 3/30/92
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

~~Ba~~ Determination of Spike Activity

Calibration of ^{137}Cs std ~~gave~~ PC/P92-136-500 gave an activity of 527.5 d/s/ml on 2/1/92.

Therefore - the activity of ^{137}Cs in the spiked was calculated as:

20 λ pipett ≡ 0.01957 ml
See pipet calib.

$$\text{Activity of Spike (20λ)} = \left(527.5 \frac{d/s}{ml}\right)\left(0.01957\ ml\right)$$

$$= 10.32\ d/s \text{ of } ^{137}Cs \text{ on } 2/1/92$$

$$\text{OR} \quad \left(10.32\ d/s\right)\left(\frac{1\ Ci}{3.7\times10^{10}\ d/s}\right)\left(\frac{10^{12}\ pCi}{1\ Ci}\right) = 279\ pCi \text{ total}$$

$$\text{OR} \quad \frac{279.0}{0.5L} = 558.0\ pCi/L \text{ on } 2/1/92$$

Elwood Lapel 3/27/92

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY
NOTEBOOK NO 27
54529

Batch 2

92 - 02740

Sample No B015W0
Collection Date: 9/23/91 1137

92-02740-4-1

-27A Geometry - 500 ml Marinelli Beaker
tare to ∅

balance in SC WT = 500.0 g

2/18/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

D03-016

B N W LABORATORY
NOTEBOOK NO
54529

92-02741
Sample No B015W1
Collection Date: 9/23/91 11 38

92-02741-L-1

-28A
balance in SC

Geometry - 500 ml Marinelli Beaker
fare to ϕ

WT = 500.0 g.

2/18/92 EA Lapel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY NOTEBOOK NO 29

54529

92-02742

Sample No. B015W2
Collection Date 9/20/91 1026

92-02742-L-1

29A Geometry - 500 ml Marinelli beaker
lance in 8C tare to ϕ

WT = 500.0 g.

29B 92-02742-L-2

lance in 8C Geometry - 500 ml Marinelli beaker
tare to ϕ
WT = 500.0

2/18/92 GA Lepel

~~92-02742-L-3 (Matrix Spike)~~ GL 2/18/92

~~29C~~ GL 2/18/92

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D03-018

B N W LABORATORY NOTEBOOK NO
54529

92-02742
Matrix Spike

92-02742-L-3

balance in pc
-30A

Geometry - 500 ml Marinelli beaker
tare to 0
W.T = 500.0 g

Need to add ^{137}Cs spike.
2/18/92 RA Lepel

Added 20A of ^{137}Cs std. 1892-136-500 to Marinelli beaker.
Pipet # 50690-40-4 (20A)

Work performed by: Donald R Edwards 2-19-92

See calc on page 24. Activity = 279 pCi on 2/1/92
or 558 pCi/L
Elwood Lepel 3/27/92

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY
NOTEBOOK NO 31

54529

92-02742-

Reagent Blank - (MilliQ H_2O)

92-02742-L-5 gl. 2/18/92

Geometry - 500 ml ~~MilliQ~~ Marinelli beaker
Used MilliQ water
tare to φ

-31A

WT = 500.0 g.

2/18/92 GA Lapel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

B N W LABORATORY NOTEBOOK NO
54529

92-02742

92-02742-L-6 Reagent spike

balance in Pc Geometry ~ 500 ml Marinelli beaker
tare to 4

-32A

WT = 500.0 g

Add ^{137}Cs spike to.

2/18/92 EA Lepel

Added 20 ml of ^{137}Cs std 1892-136-500 to Marinelli beaker.
Pipet # 50690-40-4 (20 ml)

Work performed by: [illegible] 2-19-92

See page 24 for calc. Activity = 279 pCi on 2/1/92

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY
NOTEBOOK NO
54529

92-02743

Sample No. B015W3
Collection Date 9/24/91 0710

92-02743-L-1
Geometry - 500 ml Marinelli beaker
+ are to φ

-36A
balance in RC

WT = 500.0 g.

2/18/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY NOTEBOOK NO 37

54529 1

92-02744

Sample No B 01 BV6
Collection date 11/13/91 0928

92-02744-L-1

balance in 8C Geometry - 500 ml Marinelli beaker
tare to ϕ

37A

WT - 500.0 g.

2/18/92 EA Lepel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D03-023

B N W LABORATORY
NOTEBOOK NO
54529

92-02745

Sample No B01BV9
Collection Date 11/13/91 1023

92-02745-L-1

balance in SC

38A

Geometry - 500 ml Marinelli beaker
tare to Φ

WT = 500.0 g.

2/18/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY NOTEBOOK NO 39

54529

92-02746

Sample No. B01BW2
Collection Date 11/12/91 08:44

92-02746-L-1

-39A
balance in
gc

Geometry - 500 ml Marinelli beaker
tare to φ
WT = 500.0 g.

2/18/92 EA Lepel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

B N W LABORATORY NOTEBOOK NO

54529

92 - 02747

Sample ID B01BW5
Collection Date 11/12/91 0944

92-02747-L-1

balance in 8C
-40A

Geometry - 500 ml Marinelli Beaker
tare to 0

WT = 500.0 g.

2/18/92 EA Lepel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

BNWLL NOTEBOOK NO 41
54529

92-02748

Sample ID B01BW8
Collection Date 11/12/91 1020

92-02748-L-1

Balance in 8C - 41A Geometry - 500 ml Marinelli beaker tare to ϕ

WT = 500.0 g.

2/18/92 EA Lepel

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D03-027

B N W LABORATORY
NOTEBOOK NO
54529

92-02749

Sample ID B01BX1
Collection Date 11/12/91 1058

92-02749-L-1

balance in 8C Geometry - 500 ml Marinelli beaker
tare to ϕ
-42A

WT = 500.0 g.

2/18/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

B N W LABORATORY
NOTEBOOK NO 43
54529

92-02750
Sample ID B01C38
Collection date 11/13/91 @ 0932

92-02750-L-1

-43A
balancing pc

Geometry - 500 ml Marinelli beaker
tare to ϕ

WT = 500.0 g.

2/18/92 EA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

D03-029

B N W LABORATORY
NOTEBOOK NO
54529

92-02751
Sample No B01C11
Collection Date 11/12/91 12 33

92-02751-L-1

-44A
balance in 8C

Geometry - 500 ml Marinelli beaker
tare to ϕ

WT = 5000 g.

2/18/92 EA Lopel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

92-02752

Sample No B01C28
Collection Date 11/15/91 @ 1153

92-02752-L-1

-45A

Geometry: 500 ml Marinelli beaker
tare to ϕ

balance 510-06-01-005 WT = 500.0 g.

2/18/92 GA Lepel

Project No. _____ Date of Work _____
Entered By _____ Date _____
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

II.B. Sample Analysis

Groundwaters- Diode K

DIODEK- RAYGUN ANALYSIS

D03-035

DIODE K NAME: EA Lepel

L.R.B.# 54529 TIME ZERO= / / :

Geometry: Parameters:

UIC = [170, 11] Spectra:#channels 2048 Gain: 1.0 KeV/Ch

Sample Name	Ver #	Weight (g)	Date	Time	Shelf #	PU on/ off	% Dead Time	Live Time	Elasped Time	Initials	Comments
54529-27A	1	.5	2/27/92	1727		~~<5~~	<5	73087	1218.30	SAL/SAL	92-02740-L-1
-31A	1	.5	2/28/92	1349		—	<5	269437	4491.3	SAL/SAL	92-02742-L-5
-28A	1	.5	3/2/92	1646		—	<5	144166	2408.15	SAL/SAL	92-02741-L-1
-29A	1	.5	3/4/92	7812 ~~0702~~	31472 SAL	—	<5	86908	1448.70	SAL/SAL	92-02742-L-1
-29B	1	.5	3/5/92	1028		—	<5	94336	1572.50	SAL/SAL	92-02742-L-2
-36A	1	.5	3/6/92	1306			<5	242596	4048.90	SAL/SAL	92-02743-L-1
-37A	1	.5	3/9/92	837			<5	102429	1707.40	SAL/SAL	92-02744-L-1
-38A	1	.5	3/10/92	1313			<5	72181	1203.21	SAL/SAL	92-02745-L-1
-39A	1	.5	3/11/92	921			<5	115504	1925.4	SAL/SAL	92-02746-L-1
-40A	1	.5	3/12/92	1733			<5	85820	1431.40	SAL/SAL	92-02747-L-1
-41A	1	.5	3/13/92	1733				228905	3815.71	SAL/SAL	92-02748-L-1
-42A	1	.5	3/16/92	0927				110491	1841.8	SAL/SAL	92-02749-L-1
-30A	1	.5	3/17/92	1615				64310	1072.00	SAL/SAL	92-02742-L-3
-32A	1	.5	3/18/92	1058				94526	1575.7	SAL/SAL	92-02742-L-6
-43A	1	.5	3/19/92 ~~3/20/92~~	1323 SAL 3/19/92				98571	1643.1	SAL/SAL	92-02750-L-1
-44A	1	.5	3/20/92	1659				229611	3830.40	SAL/SAL	92-02751-L-1
-45A	1	.5	3/23/92							SAL/	92-02752-L-1

DATA NOT TO BE USED
SEE DR-92-017
(included as Section II.F.)

Elwood Lepel

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:37:30)

Analysis performed by: E. A. LEPEL

Sample: 54529-27-A 92-02740-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 11:37:00

Count date: 25-Feb-1992 at 17:27:00

Decay: 156.2d (13499400. seconds)

Count times: REAL TIME 20.31h (73098.000 seconds)
LIVE TIME 20.30h (73087.000 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452927A.K:1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	74.8	73.	75.	1124.	121.*	75.48	6.350E-02	100.0	159.
2	92.0	91.	94.	1389.	129.*	92.67	4.495E-02	100.0	143.
3	112.8	109.	117.	2927.	183.	113.45	1.118E-01	43.5	0.
4	238.0	236.	240.	950.	91.*	238.60	3.670E-02	100.0	213.
5	350.9	350.	354.	583.	106.*	351.51	4.372E-02	100.0	108.
6	509.5	506.	514.	912.	445.*	510.04	5.151E-02	100.0	484.
7	547.0	547.	547.	62.	18.	547.57	5.187E-02	100.0	0.
8	582.0	582.	582.	76.	32.*	582.57	5.603E-02	100.0	44.
9	594.8	593.	597.	274.	70.*	595.35	6.965E-02	65.4	26.
10	607.8	607.	610.	275.	113.*	608.35	5.715E-02	100.0	86.
11	664.1	664.	665.	84.	23.	664.62	5.555E-02	100.0	0.
12	727.0	726.	731.	205.	30.*	727.50	6.117E-02	100.0	12.
13	750.0	750.	750.	47.	20.	750.53	6.197E-02	100.0	0.
14	840.0	838.	840.	88.	28.	840.49	6.208E-02	50.4	0.
15	845.6	845.	847.	112.	46.*	846.13	6.504E-02	100.0	58.
16	909.9	908.	913.	181.	51.*	910.42	7.122E-02	100.0	41.
17	1120.9	1118.	1121.	92.	24.*	1121.33	8.309E-02	100.0	23.
18	1172.8	1171.	1174.	86.	28.*	1173.23	8.170E-02	100.0	23.
19	1365.0	1366.	1366.	18.	8.	1366.42	8.309E-02	100.0	0.
20	1380.2	1380.	1382.	43.	17.	1380.62	8.036E-02	100.0	0.
21	1460.3	1454.	1464.	445.	353.*	1460.75	4.570E-01	100.0	227.
22	1485.0	1485.	1485.	12.	6.	1485.40	7.372E-02	100.0	0.
23	1591.9	1591.	1592.	27.	15.*	1592.25	8.182E-02	100.0	10.
24	1653.1	1653.	1655.	27.	11.	1653.49	8.208E-02	100.0	0.

EAlepel 3/27/92

D03-035

25	1764.1	1763.	1767.	71.	45.*	1764.45	8.747E-02	100.0	33.
26	1810.9	1808.	1811.	29.	10.	1811.25	8.653E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Sc 46 at1121.33 kev is ambiguously assigned; component has been removed.
Ta182 at1121.33 kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /l	peak frac	err (%)	dev (sig) (interferences)	pCi /l	error (%)
1 K 40	- - - -	4.356E+00	2.355E-04	- - - - - - - - -			2.355E+02	100.01
	1460.75	4.356E+00	2.355E-04	1.00	100.00	0.00		
2 Co 60	- - - -	8.656E-02	4.679E-06	- - - - - - - - -			4.679E+00	100.00
	1173.23	8.656E-02	4.679E-06	1.00	100.00	0.00		
3 Tl208	- - - -	7.062E-02	3.817E-06	- - - - - - - - -			3.817E+00	100.00
	582.57	7.062E-02	3.817E-06	1.00	100.00	0.00		
4 Pb212	- - - -	9.946E-02	5.376E-06	- - - - - - - - -			5.376E+00	100.00
	238.60	9.946E-02	5.376E-06	1.00	100.00	0.00		
5 Pb214	- - - -	1.187E-01	6.414E-06	- - - - - - - - -			6.414E+00	100.01
	351.51	1.187E-01	6.414E-06	1.00	100.00	0.00		
6 Bi214	- - - -	1.494E-01	8.023E-06	- - - - - - - - -			8.023E+00	83.63
	608.35	1.272E-01	6.878E-06	1.17	100.00	-0.62		
	1121.33	5.630E-01	3.043E-05	0.26	100.00	2.76		
7 Ac228	- - - -	2.825E-01	1.527E-05	- - - - - - - - -			1.527E+01	100.00
	910.42	2.825E-01	1.527E-05	1.00	100.00	0.00		

The following are upper limit values:

Be 7	- - - -	3.600E+00	1.946E-04	- - - - - - - - -			1.946E+02	100.00
Sc 46	- - - -	2.659E-01	1.437E-05	- - - - - - - - -			1.437E+01	100.00

D03-036

```
   Cr 51  - - - - 2.069E+01   1.119E-03  - - - - - - - -  1.119E+03 100.00
   Mn 54  - - - - 9.404E-02   5.083E-06  - - - - - - - -  5.083E+00 100.00
   Fe 59  - - - - 1.959E+00   1.059E-04  - - - - - - - -  1.059E+02 100.00
   Co 58  - - - - 3.123E-01   1.688E-05  - - - - - - - -  1.688E+01 100.00
   Zn 65  - - - - 2.471E-01   1.336E-05  - - - - - - - -  1.336E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 6.854E-01   3.705E-05  - - - - - - - -  3.705E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 6.656E-02   3.598E-06  - - - - - - - -  3.598E+00 100.00
   Nb 95  - - - - 1.500E+00   8.107E-05  - - - - - - - -  8.107E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 1.885E+00   1.019E-04  - - - - - - - -  1.019E+02 100.00
   Ru106  - - - - 1.858E+00   1.004E-04  - - - - - - - -  1.004E+02 100.00
   Ag110m - - - - 3.630E-01   1.962E-05  - - - - - - - -  1.962E+01 100.00
   Sn113  - - - - 2.518E-01   1.361E-05  - - - - - - - -  1.361E+01 100.00
   Sn125  - - - - 1.412E+05   7.633E+00  - - - - - - - -  7.633E+06 100.00
   Sn117m - - - - 1.700E+02   9.188E-03  - - - - - - - -  9.188E+03 100.00
   Sb124  - - - - 8.920E-01   4.822E-05  - - - - - - - -  4.822E+01 100.00
   Sb125  - - - - 5.773E-01   3.120E-05  - - - - - - - -  3.120E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 6.287E+01   3.398E-03  - - - - - - - -  3.398E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
   I131   - - - - 2.697E+05   1.458E+01  - - - - - - - -  1.458E+07 100.00
Unable to compute upper limit for I132 ,  Tdecay > 20*T1/2.
```

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Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.346E-01	2.349E-05	- - - - - - - - -	2.349E+01	100.00
Cs136	- - - - 5.459E+02	2.951E-02	- - - - - - - - -	2.951E+04	100.00
Cs137	- - - - 6.998E-02	3.783E-06	- - - - - - - - -	3.783E+00	100.00
Ba140	- - - - 2.150E+03	1.162E-01	- - - - - - - - -	1.162E+05	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.936E+00	1.046E-04	- - - - - - - - -	1.046E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.517E-01	2.441E-05	- - - - - - - - -	2.441E+01	100.00
Eu154	- - - - 5.789E-01	3.129E-05	- - - - - - - - -	3.129E+01	100.00
Eu155	- - - - 1.732E-01	9.363E-06	- - - - - - - - -	9.363E+00	100.00
Hf175	- - - - 2.397E-01	1.296E-05	- - - - - - - - -	1.296E+01	100.00
Hf181	- - - - 1.032E+00	5.578E-05	- - - - - - - - -	5.578E+01	100.00
Ta182	- - - - 9.920E-01	5.362E-05	- - - - - - - - -	5.362E+01	100.00
Pb210	- - - - 3.859E+02	2.086E-02	- - - - - - - - -	2.086E+04	100.00
Ra226	- - - - 9.246E-01	4.998E-05	- - - - - - - - -	4.998E+01	100.00
U235	- - - - 1.873E-01	1.012E-05	- - - - - - - - -	1.012E+01	100.00
U238	- - - - 1.579E+01	8.537E-04	- - - - - - - - -	8.537E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 3.065E-01	1.657E-05	- - - - - - - - -	1.657E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	75.48	6.3496E-02	100.0	0.0000000
2	92.67	4.4950E-02	100.0	0.0000000
3	113.45	1.1184E-01	43.5	0.0000000
6	510.04	5.1510E-02	100.0	2.4057245E-02
7	547.57	5.1866E-02	100.0	0.0000000
9	595.35	6.9651E-02	65.4	0.0000000
11	664.62	5.5555E-02	100.0	0.0000000
12	727.50	6.1174E-02	100.0	0.0000000
13	750.53	6.1905E-02	100.0	2.4495712E-14
14	[illegible]	[illegible]	[illegible]	[illegible]

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Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.346E-01	2.349E-05	- - - - - - - - -	2.349E+01	100.00
Cs136	- - - - 5.459E+02	2.951E-02	- - - - - - - - -	2.951E+04	100.00
Cs137	- - - - 6.998E-02	3.783E-06	- - - - - - - - -	3.783E+00	100.00
Ba140	- - - - 2.150E+03	1.162E-01	- - - - - - - - -	1.162E+05	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.936E+00	1.046E-04	- - - - - - - - -	1.046E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.517E-01	2.441E-05	- - - - - - - - -	2.441E+01	100.00
Eu154	- - - - 5.789E-01	3.129E-05	- - - - - - - - -	3.129E+01	100.00
Eu155	- - - - 1.732E-01	9.363E-06	- - - - - - - - -	9.363E+00	100.00
Hf175	- - - - 2.397E-01	1.296E-05	- - - - - - - - -	1.296E+01	100.00
Hf181	- - - - 1.032E+00	5.578E-05	- - - - - - - - -	5.578E+01	100.00
Ta182	- - - - 9.920E-01	5.362E-05	- - - - - - - - -	5.362E+01	100.00
Pb210	- - - - 3.859E+02	2.086E-02	- - - - - - - - -	2.086E+04	100.00
Ra226	- - - - 9.246E-01	4.998E-05	- - - - - - - - -	4.998E+01	100.00
U235	- - - - 1.873E-01	1.012E-05	- - - - - - - - -	1.012E+01	100.00
U238	- - - - 1.579E+01	8.537E-04	- - - - - - - - -	8.537E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 3.065E-01	1.657E-05	- - - - - - - - -	1.657E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	75.48	6.3496E-02	100.0	0.0000000
2	92.67	4.4950E-02	100.0	0.0000000
3	113.45	1.1184E-01	43.5	0.0000000
6	510.04	5.1510E-02	100.0	2.4057245E-02
7	547.57	5.1866E-02	100.0	0.0000000
9	595.35	6.9651E-02	65.4	0.0000000
11	664.62	5.5555E-02	100.0	0.0000000
12	727.50	6.1174E-02	100.0	0.0000000
13	750.53	6.1965E-02	100.0	2.4495712E-14
14	[illegible]	[illegible]	[illegible]	[illegible]

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15	846.13	6.5036E-02	100.0	0.0000000
19	1366.42	8.3086E-02	100.0	0.0000000
20	1380.62	8.0382E-02	100.0	0.0000000
22	1485.40	7.3716E-02	100.0	0.0000000
23	1592.25	8.1023E-02	100.0	0.0000000
24	1653.49	8.2083E-02	100.0	0.0000000
25	1764.45	8.7465E-02	100.0	7.2259977E-03
26	1811.25	8.6525E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:37:45)

Analysis performed by: E. A. LEPEL

Sample: 54529-28-A 92-02741-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 11:38:00

Count date: 2-Mar-1992 at 16:46:00

Decay: 161.2d (13928880. seconds)

Count times: REAL TIME 40.05h (144189.00 seconds)
LIVE TIME 40.05h (144166.00 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452928A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	53.0	51.	54.	3270.	217.*	53.96	1.401E-01	100.0	98.
2	66.0	66.	66.	792.	81.	66.91	5.964E-02	100.0	0.
3	74.0	72.	76.	3594.	247.*	74.91	4.616E-02	100.0	313.
4	92.0	91.	95.	3569.	283.*	92.94	3.280E-02	100.0	282.
5	138.8	138.	139.	1345.	175.	139.69	4.832E-02	35.7	0.
6	184.9	183.	186.	2277.	264.*	185.75	2.442E-02	100.0	268.
7	197.3	197.	198.	1123.	109.*	198.14	2.989E-02	87.0	89.
8	237.7	237.	238.	983.	217.*	238.60	2.776E-02	100.0	419.
9	350.9	349.	352.	945.	215.*	351.70	3.064E-02	100.0	212.
10	509.5	507.	514.	1732.	858.*	510.23	3.780E-02	100.0	955.
11	582.1	581.	584.	422.	73.*	582.79	4.006E-02	100.0	86.
12	594.6	594.	599.	633.	101.*	595.29	4.152E-02	100.0	51.
13	608.0	607.	610.	585.	246.*	608.69	6.252E-02	100.0	170.
14	694.7	694.	695.	181.	45.	695.42	4.455E-02	100.0	0.
15	767.7	766.	770.	335.	67.	768.34	6.901E-02	40.0	0.
16	826.0	826.	826.	71.	20.*	826.64	4.849E-02	100.0	22.
17	845.6	843.	847.	341.	95.*	846.19	4.900E-02	100.0	115.
18	910.0	909.	912.	242.	80.*	910.61	4.909E-02	100.0	81.
19	930.9	930.	931.	113.	31.*	931.51	5.084E-02	100.0	22.
20	1119.8	1115.	1122.	334.	82.*	1120.31	5.712E-02	100.0	46.
21	1290.0	1290.	1291.	63.	19.	1290.49	5.806E-02	100.0	0.
22	1332.1	1330.	1334.	159.	39.*	1332.59	6.059E-02	100.0	40.
23	1377.2	1375.	1380.	100.	40.*	1377.62	6.041E-02	100.0	21.
24	1407.2	[illegible]	[illegible]	61.	21.*	1407.59	6.223E-02	100.0	24.

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25	1460.3	1456.	1465.	880.	729.*	1460.75	5.171E-01	100.0	449.
26	1565.0	1565.	1565.	23.	10.	1565.37	5.916E-02	100.0	0.
27	1675.0	1675.	1675.	21.	10.	1675.33	6.015E-02	100.0	0.
28	1680.0	1680.	1680.	21.	9.	1680.33	6.074E-02	100.0	0.
29	1764.3	1761.	1766.	146.	73.*	1764.63	6.615E-02	100.0	64.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.75 Kev is ambiguously assigned: component has been removed.
U235 at 185.75 Kev is ambiguously assigned: component has been removed.
Sc 45 at1120.31 Kev is ambiguously assigned: component has been removed.
Ta182 at1120.31 Kev is ambiguously assigned: component has been removed.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	4.930E+00	2.665E-04	- - - - - - - - - -			2.665E+02	100.00
	1460.75	4.930E+00	2.665E-04	1.00	100.00	0.00		
2 Fe 59	- - - -	1.672E+00	9.036E-05	- - - - - - - - - -			9.036E+01	100.00
	1290.49	1.672E+00	9.036E-05	1.00	100.00	0.00		
3 Co 60	- - - -	6.424E-02	3.473E-06	- - - - - - - - - -			3.473E+00	100.00
	1332.59	6.424E-02	3.473E-06	1.00	100.00	0.00		
4 Tl208	- - - -	5.058E-02	2.734E-06	- - - - - - - - - -			2.734E+00	100.01
	582.79	5.058E-02	2.734E-06	1.00	100.00	0.00		
5 Bi214	- - - -	1.676E-01	9.059E-06	- - - - - - - - - -			9.059E+00	78.17
	608.69	1.392E-01	7.525E-06	1.20	100.00	-0.55		
	1120.31	3.871E-01	2.092E-05	0.43	100.00	1.54		
6 Pb212	- - - -	7.562E-02	4.088E-06	- - - - - - - - - -			4.088E+00	100.01
	238.60	7.562E-02	4.088E-06	1.00	100.00	0.00		
7 Pb214	- - - -	8.316E-02	4.495E-06	- - - - - - - - - -			4.495E+00	100.01
	351.70	8.316E-02	4.495E-06	1.00	100.00	0.00		

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B Ac228  - - - - 1.951E-01   1.054E-05  - - - - - - - - - -  1.054E+01 100.00
         910.61  1.951E-01   1.054E-05  1.00 100.00  0.00
The following are upper limit values:
   Be  7  - - - - 2.800E+00   1.514E-04  - - - - - - - - -  1.514E+02 100.00
   Sc 46  - - - - 2.112E-01   1.142E-05  - - - - - - - - -  1.142E+01 100.00
   Cr 51  - - - - 1.665E+01   9.001E-04  - - - - - - - - -  9.001E+02 100.00
   Mn 54  - - - - 7.025E-02   3.797E-06  - - - - - - - - -  3.797E+00 100.00
   Co 58  - - - - 2.323E-01   1.256E-05  - - - - - - - - -  1.256E+01 100.00
   Zn 65  - - - - 1.786E-01   9.653E-06  - - - - - - - - -  9.653E+00 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 5.234E-01   2.829E-05  - - - - - - - - -  2.829E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 4.784E-02   2.586E-06  - - - - - - - - -  2.586E+00 100.00
   Nb 95  - - - - 1.134E+00   6.132E-05  - - - - - - - - -  6.132E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 1.527E+00   8.252E-05  - - - - - - - - -  8.252E+01 100.00
   Ru106  - - - - 1.293E+00   6.988E-05  - - - - - - - - -  6.988E+01 100.00
   Ag110m - - - - 2.862E-01   1.547E-05  - - - - - - - - -  1.547E+01 100.00
   Sn113  - - - - 1.921E-01   1.039E-05  - - - - - - - - -  1.039E+01 100.00
   Sn125  - - - - 1.748E+05   9.450E+00  - - - - - - - - -  9.450E+06 100.00
   Sn117m - - - - 1.653E+02   8.933E-03  - - - - - - - - -  8.933E+03 100.00
   Sb124  - - - - 7.979E-01   4.313E-05  - - - - - - - - -  4.313E+01 100.00
   Sb125  - - - - 4.183E-01   2.261E-05  - - - - - - - - -  2.261E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
```

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Te129m	- - - -	5.121E+01	2.768E-03	- - - - - - - - -	2.768E+03 100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

Unable to compute upper limit for I131 , Tdecay > 20*T1/2.

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	3.337E-01	1.804E-05	- - - - - - - - -	1.804E+01 100.00
Cs136	- - - -	5.561E+02	3.006E-02	- - - - - - - - -	3.006E+04 100.00
Cs137	- - - -	5.115E-02	2.765E-06	- - - - - - - - -	2.765E+00 100.00
Ba140	- - - -	2.150E+03	1.162E-01	- - - - - - - - -	1.162E+05 100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	1.557E+00	8.414E-05	- - - - - - - - -	8.414E+01 100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	3.305E-01	1.787E-05	- - - - - - - - -	1.787E+01 100.00
Eu154	- - - -	4.272E-01	2.309E-05	- - - - - - - - -	2.309E+01 100.00
Eu155	- - - -	1.255E-01	6.783E-06	- - - - - - - - -	6.783E+00 100.00
Hf175	- - - -	1.760E-01	9.516E-06	- - - - - - - - -	9.516E+00 100.00
Hf181	- - - -	8.713E-01	4.710E-05	- - - - - - - - -	4.710E+01 100.00
Ta182	- - - -	7.272E-01	3.931E-05	- - - - - - - - -	3.931E+01 100.00
Pb210	- - - -	2.678E+02	1.448E-02	- - - - - - - - -	1.448E+04 100.00
Ra226	- - - -	6.485E-01	3.505E-05	- - - - - - - - -	3.505E+01 100.00
U235	- - - -	1.324E-01	7.157E-06	- - - - - - - - -	7.157E+00 100.00
U238	- - - -	1.274E+01	6.886E-04	- - - - - - - - -	6.886E+02 100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - -	2.206E-01	1.192E-05	- - - - - - - - -	1.192E+01 100.00

The following peaks were not identified:

*	energy	gammas/sec	peterr	CI *
1	53.96	1.4910E-01	100.0	0.0000000
2	66.91	5.9643E-02	100.0	0.0000000
3	74.91	4.0101E-02	100.0	0.0000000

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4	92.94	3.2801E-02	100.0	0.0000000
5	139.69	4.8318E-02	35.7	0.0000000
7	198.14	2.9885E-02	87.8	0.0000000
10	510.23	3.7800E-02	100.0	2.2377089E-02
12	595.29	4.1521E-02	100.0	0.0000000
14	695.42	4.4549E-02	100.0	0.4966342
15	768.34	6.9010E-02	40.0	1.0955153E-08
16	826.64	4.8487E-02	100.0	0.0000000
17	846.19	4.9005E-02	100.0	0.0000000
19	931.51	5.0835E-02	100.0	0.0000000
23	1377.62	6.0408E-02	100.0	7.5099932E-10
24	1407.59	6.2233E-02	100.0	0.0000000
26	1565.37	5.9157E-02	100.0	0.0000000
27	1675.33	6.0151E-02	100.0	0.0000000
28	1680.33	6.0739E-02	100.0	0.0000000
29	1764.63	6.6151E-02	100.0	0.1085818

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-044

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:38:04)

Analysis performed by: E. A. LEPEL

Sample: 54529-29-A 92-02742-L-1
Weight: 0.50000 L

Irradiation date: 20-Sep-1991 at 10:16:00

Count date: 4-Mar-1992 at 10:12:00

Decay: 166.0d (14342160. seconds)

Count times: REAL TIME 24.14h (86922.000 seconds)
LIVE TIME 24.14h (86908.000 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452929A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bKgd
1	53.0	52.	54.	1564.	197.*	53.82	2.723E-01	48.1	59.
2	66.0	65.	67.	1396.	111.	66.87	1.310E-01	46.5	0.
3	74.8	73.	77.	2216.	148.*	75.60	5.920E-02	100.0	189.
4	92.5	89.	93.	2195.	270.*	93.33	6.397E-02	100.0	170.
5	185.1	182.	186.	1642.	143.*	185.85	3.129E-02	100.0	161.
6	197.6	197.	198.	676.	118.*	198.39	3.193E-02	100.0	54.
7	237.8	237.	239.	849.	184.*	238.60	3.500E-02	100.0	253.
8	294.1	293.	298.	1101.	176.*	294.83	8.469E-02	48.3	56.
9	346.0	346.	346.	154.	32.	346.76	4.088E-02	100.0	0.
10	350.9	350.	353.	616.	151.*	351.64	4.058E-02	100.0	128.
11	509.5	505.	513.	1168.	550.*	510.26	4.981E-02	100.0	576.
12	578.2	576.	581.	379.	59.	578.89	7.721E-02	44.9	0.
13	582.0	581.	583.	219.	59.*	582.68	5.198E-02	100.0	52.
14	594.5	593.	595.	201.	45.*	595.18	5.278E-02	100.0	31.
15	607.9	606.	609.	385.	180.*	608.61	1.060E-01	92.5	103.
16	845.0	844.	848.	203.	51.*	846.66	6.410E-02	100.0	69.
17	910.6	907.	912.	215.	66.*	911.23	6.403E-02	100.0	49.
18	1119.8	1118.	1123.	164.	46.*	1120.38	7.533E-02	100.0	28.
19	1161.0	1161.	1161.	34.	12.	1161.53	8.247E-02	100.0	0.
20	1294.9	1294.	1296.	67.	28.	1295.34	7.739E-02	36.4	0.
21	1319.0	1318.	1319.	39.	12.	1319.47	7.791E-02	100.0	0.
22	1460.3	1457.	1465.	410.	411.*	1460.75	4.300E-01	100.0	270.
23	1510.1	1510.	1511.	[illegible]	11.*	1510.57	7.911E-02	100.0	9.
24	1587.9	1587.	[illegible]	[illegible]	[illegible]	1588.34	7.300E-02	100.0	0.

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25	1619.0	1619.	1619.	18.	10.	1619.40	8.150E-02	100.0	0.
26	1763.6	1760.	1765.	80.	41.*	1763.96	8.195E-02	100.0	39.
27	1791.0	1791.	1791.	14.	8.	1791.36	7.955E-02	100.0	0.
28	2024.0	2022.	2025.	30.	13.	2024.25	8.164E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.85 kev is ambiguously assigned; component has been removed.
U235 at 185.85 kev is ambiguously assigned; component has been removed.
Sc 46 at1120.38 kev is ambiguously assigned; component has been removed.
Ta182 at1120.38 kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	4.099E+00	2.216E-04	- - - - - - - - -			2.216E+02	100.01
	1460.75	4.099E+00	2.216E-04	1.00	100.00	0.00		
2 Tl208	- - - -	6.574E-02	3.553E-06	- - - - - - - - -			3.553E+00	100.00
	582.68	6.574E-02	3.553E-06	1.00	100.00	0.00		
3 Bi214	- - - -	2.785E-01	1.506E-05	- - - - - - - - -			1.506E+01	72.07
	608.61	2.361E-01	1.276E-05	1.18	92.47	-0.49		
	1120.38	5.105E-01	2.759E-05	0.55	100.00	1.15		
4 Pb212	- - - -	9.580E-02	5.178E-06	- - - - - - - - -			5.178E+00	100.00
	238.60	9.580E-02	5.178E-06	1.00	100.00	0.00		
5 Pb214	- - - -	1.101E-01	5.953E-06	- - - - - - - - -			5.953E+00	100.00
	351.64	1.101E-01	5.953E-06	1.00	100.00	0.00		
6 Ac228	- - - -	2.548E-01	1.377E-05	- - - - - - - - -			1.377E+01	100.00
	911.23	2.548E-01	1.377E-05	1.00	100.00	0.00		

The following are upper limit values:

Be 7	- - - -	3.894E+00	2.105E-04	- - - - - - - - -			2.105E+02	100.00
Sc 46	- - - -	3.772E-01	1.498E-05	- - - - - - - - -			1.498E+01	100.00

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   Cr 51  - - - - 2.446E+01   1.322E-03  - - - - - - - - -  1.322E+03 100.00
   Mn 54  - - - - 6.755E-02   4.732E-06  - - - - - - - - -  4.732E+00 100.00
   Fe 59  - - - - 2.082E+00   1.126E-04  - - - - - - - - -  1.126E+02 100.00
   Co 58  - - - - 3.172E-01   1.714E-05  - - - - - - - - -  1.714E+01 100.00
   Co 60  - - - - 8.960E-02   4.843E-06  - - - - - - - - -  4.843E+00 100.00
   Zn 65  - - - - 2.336E-01   1.262E-05  - - - - - - - - -  1.262E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 6.959E-01   3.762E-05  - - - - - - - - -  3.762E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 6.078E-02   3.285E-06  - - - - - - - - -  3.285E+00 100.00
   Nb 95  - - - - 1.619E+00   8.753E-05  - - - - - - - - -  8.753E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 2.214E+00   1.197E-04  - - - - - - - - -  1.197E+02 100.00
   Ru106  - - - - 1.633E+00   8.827E-05  - - - - - - - - -  8.827E+01 100.00
   Ag110m - - - - 3.766E-01   2.036E-05  - - - - - - - - -  2.036E+01 100.00
   Sn113  - - - - 2.541E-01   1.374E-05  - - - - - - - - -  1.374E+01 100.00
   Sn125  - - - - 2.706E+05   1.463E+01  - - - - - - - - -  1.463E+07 100.00
   Sn117m - - - - 2.727E+02   1.474E-02  - - - - - - - - -  1.474E+04 100.00
   Sb124  - - - - 1.027E+00   5.553E-05  - - - - - - - - -  5.553E+01 100.00
   Sb125  - - - - 5.207E-01   2.815E-05  - - - - - - - - -  2.815E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 7.510E+01   4.059E-03  - - - - - - - - -  4.059E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I131 ,  Tdecay > 20*T1/2.
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Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.309E-01	2.329E-05	- - - - - - - - -	2.329E+01	100.00
Cs136	- - - - 8.391E+02	4.536E-02	- - - - - - - - -	4.536E+04	100.00
Cs137	- - - - 6.642E-02	3.590E-06	- - - - - - - - -	3.590E+00	100.00
Ba140	- - - - 3.686E+03	1.993E-01	- - - - - - - - -	1.993E+05	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 2.236E+00	1.209E-04	- - - - - - - - -	1.209E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.392E-01	2.374E-05	- - - - - - - - -	2.374E+01	100.00
Eu154	- - - - 5.766E-01	3.117E-05	- - - - - - - - -	3.117E+01	100.00
Eu155	- - - - 1.627E-01	8.796E-06	- - - - - - - - -	8.796E+00	100.00
Hf175	- - - - 2.340E-01	1.265E-05	- - - - - - - - -	1.265E+01	100.00
Hf181	- - - - 1.224E+00	6.616E-05	- - - - - - - - -	6.616E+01	100.00
Ta182	- - - - 9.737E-01	5.263E-05	- - - - - - - - -	5.263E+01	100.00
Pb210	- - - - 3.411E+02	1.844E-02	- - - - - - - - -	1.844E+04	100.00
Ra226	- - - - 8.336E-01	4.506E-05	- - - - - - - - -	4.506E+01	100.00
U235	- - - - 1.704E-01	9.209E-06	- - - - - - - - -	9.209E+00	100.00
U238	- - - - 1.564E+01	8.455E-04	- - - - - - - - -	8.455E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.859E-01	1.546E-05	- - - - - - - - -	1.546E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	pctorr	CI *
1	53.82	2.7229E-01	48.1	0.0000000
2	66.87	1.3104E-01	46.5	0.0000000
3	75.60	5.9195E-02	100.0	0.0000000
4	93.33	6.3967E-02	100.0	0.0000000
6	190.39	3.1929E-02	100.0	0.0000000
8	294.83	8.4691E-02	48.3	1.7467292E-02
9	34[illegible].76	4.[illegible]E-02	100.0	9.2474883E-04
11	51[illegible]	[illegible]	100.0	2.0145211E-02

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12	578.89	7.7212E-02	44.9	0.0000000
14	595.18	5.2779E-02	100.0	0.0000000
16	846.66	6.4104E-02	100.0	0.0000000
19	1161.53	8.2466E-02	100.0	0.0000000
20	1295.34	7.7390E-02	36.4	0.0000000
21	1319.47	7.7913E-02	100.0	0.0000000
23	1510.57	7.9106E-02	100.0	2.4613063E-10
24	1586.34	7.3084E-02	100.0	5.1489915E-09
25	1619.40	8.1501E-02	100.0	0.0000000
26	1763.96	8.1953E-02	100.0	0.4140811
27	1791.36	7.9548E-02	100.0	0.0000000
28	2024.25	8.1644E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:38:19)

Analysis performed by: E. A. LEPEL

Sample: 54529-29-B 92-02742-L-2
Weight: 0.50000 L

Irradiation date: 20-Sep-1991 at 10:16:00

Count date: 5-Mar-1992 at 10:28:00

Decay: 167.0d (14429520. seconds)

Count times: REAL TIME 26.21h (94350.000 seconds)
LIVE TIME 26.20h (94336.000 seconds)

Dead time: 0.01 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 54529298.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	92.2	89.	93.	2270.	140.*	93.02	4.032E-02	100.0	185.
2	174.9	173.	175.	1104.	90.	175.60	3.837E-02	51.3	0.
3	185.8	184.	189.	2101.	230.*	185.72	2.939E-02	100.0	175.
4	197.6	195.	198.	1324.	142.*	198.32	3.810E-02	76.7	58.
5	237.9	234.	241.	2117.	233.*	238.60	3.327E-02	100.0	274.
6	263.1	262.	264.	665.	75.	263.78	4.399E-02	47.4	0.
7	337.0	336.	337.	318.	41.*	337.63	3.878E-02	100.0	21.
8	350.9	349.	352.	596.	104.*	351.58	3.846E-02	100.0	139.
9	374.9	374.	375.	263.	46.	375.53	3.914E-02	100.0	0.
10	509.5	505.	512.	1179.	638.*	510.11	4.551E-02	100.0	625.
11	581.9	581.	583.	226.	64.*	582.47	4.821E-02	100.0	56.
12	595.1	593.	598.	408.	78.*	595.68	5.435E-02	81.1	34.
13	608.2	606.	610.	415.	151.*	608.76	5.045E-02	100.0	112.
14	660.2	659.	663.	278.	59.*	660.80	5.880E-02	57.2	16.
15	821.0	821.	821.	50.	17.	821.50	5.900E-02	100.0	0.
16	845.3	845.	845.	113.	51.*	845.76	5.980E-02	100.0	75.
17	910.9	906.	912.	291.	78.*	911.34	6.517E-02	100.0	53.
18	968.0	963.	969.	237.	43.*	968.44	6.745E-02	100.0	31.
19	1051.0	1051.	1051.	36.	13.	1051.42	6.868E-02	100.0	0.
20	1119.5	1117.	1122.	199.	89.*	1119.89	1.218E-01	49.0	30.
21	1172.6	1171.	1173.	92.	27.*	1173.03	7.723E-02	100.0	29.
22	1377.9	1377.	1378.	42.	15.*	1378.24	7.627E-02	100.0	14.
23	1459.5	1457.	1463.	557.	461.*	1460.75	4.712E-01	100.0	294.
24	1497.1	1479.	1498.	31.	12.	1498.41	7.155E-02	100.0	0.

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25	1547.0	1547.	1547.	17.	8.	1547.24	7.325E-02	100.0	0.
26	1694.0	1694.	1694.	15.	8.	1694.19	7.405E-02	100.0	0.
27	1764.9	1760.	1766.	105.	46.*	1765.07	8.497E-02	100.0	42.
28	1794.1	1794.	1796.	32.	11.	1794.26	7.928E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.72 kev is ambiguously assigned; component has been removed.
U235 at 185.72 kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	4.492E+00	2.428E-04	- - - - - - - - -			2.428E+02	100.00
	1460.75	4.492E+00	2.428E-04	1.00	100.00	0.00		
2 Co 60	- - - -	8.214E-02	4.440E-06	- - - - - - - - -			4.440E+00	100.00
	1173.03	8.214E-02	4.440E-06	1.00	100.00	0.00		
3 Cs137	- - - -	6.972E-02	3.769E-06	- - - - - - - - -			3.769E+00	57.22
	660.00	6.972E-02	3.769E-06	1.00	57.22	0.00		
4 Tl208	- - - -	6.099E-02	3.297E-06	- - - - - - - - -			3.297E+00	100.00
	582.47	6.099E-02	3.297E-06	1.00	100.00	0.00		
5 Bi214	- - - -	1.123E-01	6.072E-06	- - - - - - - - -			6.072E+00	100.00
	608.76	1.123E-01	6.072E-06	1.00	100.00	0.00		
6 Pb212	- - - -	9.116E-02	4.927E-06	- - - - - - - - -			4.927E+00	100.00
	238.60	9.116E-02	4.927E-06	1.00	100.00	0.00		
7 Pb214	- - - -	1.044E-01	5.642E-06	- - - - - - - - -			5.642E+00	100.01
	351.58	1.044E-01	5.642E-06	1.00	100.00	0.00		
8 Ac228	- - - -	3.219E-01	1.740E-05	- - - - - - - - -			1.740E+01	59.15
	337.63	3.649E-01	1.972E-05	0.88	100.00	0.37		
	911.34	2.595E-01	1.403E-05	1.24	100.00	-0.75		

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968.44 4.372E-01 2.363E-05 0.74 100.00 0.82

The following are upper limit values:

Be 7	- - - -	3.638E+00	1.966E-04	- - - - - - - - -	1.966E+02	100.00
Sc 46	- - - -	2.610E-01	1.411E-05	- - - - - - - - -	1.411E+01	100.00
Cr 51	- - - -	2.371E+01	1.281E-03	- - - - - - - - -	1.281E+03	100.00
Mn 54	- - - -	8.739E-02	4.724E-06	- - - - - - - - -	4.724E+00	100.00
Fe 59	- - - -	2.092E+00	1.131E-04	- - - - - - - - -	1.131E+02	100.00
Co 58	- - - -	3.087E-01	1.669E-05	- - - - - - - - -	1.669E+01	100.00
Zn 65	- - - -	2.080E-01	1.124E-05	- - - - - - - - -	1.124E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - -	6.973E-01	3.769E-05	- - - - - - - - -	3.769E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	5.866E-02	3.171E-06	- - - - - - - - -	3.171E+00	100.00
Nb 95	- - - -	1.600E+00	8.651E-05	- - - - - - - - -	8.651E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - -	2.096E+00	1.133E-04	- - - - - - - - -	1.133E+02	100.00
Ru106	- - - -	1.650E+00	8.919E-05	- - - - - - - - -	8.919E+01	100.00
Ag110m	- - - -	3.387E-01	1.831E-05	- - - - - - - - -	1.831E+01	100.00
Sn113	- - - -	2.408E-01	1.301E-05	- - - - - - - - -	1.301E+01	100.00
Sn125	- - - -	3.083E+05	1.666E+01	- - - - - - - - -	1.666E+07	100.00
Sn117m	- - - -	2.669E+02	1.443E-02	- - - - - - - - -	1.443E+04	100.00
Sb124	- - - -	9.955E-01	5.381E-05	- - - - - - - - -	5.381E+01	100.00
Sb125	- - - -	5.008E-01	2.707E-05	- - - - - - - - -	2.707E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

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   Te129m - - - - 7.470E+01   4.038E-03  - - - - - - - - -  4.038E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I131 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
   Cs134  - - - - 4.423E-01   2.391E-05  - - - - - - - - -  2.391E+01 100.00
   Cs136  - - - - 8.424E+02   4.553E-02  - - - - - - - - -  4.553E+04 100.00
   Ba140  - - - - 3.466E+03   1.874E-01  - - - - - - - - -  1.874E+05 100.00
Unable to compute upper limit for La140 ,  Tdecay > 20*T1/2.
   Ce141  - - - - 2.158E+00   1.166E-04  - - - - - - - - -  1.166E+02 100.00
Unable to compute upper limit for Ce143 ,  Tdecay > 20*T1/2.
   Ce144  - - - - 4.201E-01   2.271E-05  - - - - - - - - -  2.271E+01 100.00
   Eu154  - - - - 5.461E-01   2.952E-05  - - - - - - - - -  2.952E+01 100.00
   Eu155  - - - - 1.568E-01   8.474E-06  - - - - - - - - -  8.474E+00 100.00
   Hf175  - - - - 2.256E-01   1.220E-05  - - - - - - - - -  1.220E+01 100.00
   Hf181  - - - - 1.154E+00   6.238E-05  - - - - - - - - -  6.238E+01 100.00
   Ta182  - - - - 9.174E-01   4.959E-05  - - - - - - - - -  4.959E+01 100.00
   Pb210  - - - - 3.290E+02   1.778E-02  - - - - - - - - -  1.778E+04 100.00
   Ra226  - - - - 7.903E-01   4.272E-05  - - - - - - - - -  4.272E+01 100.00
   U235   - - - - 1.615E-01   8.728E-06  - - - - - - - - -  8.728E+00 100.00
   U238   - - - - 1.508E+01   8.149E-04  - - - - - - - - -  8.149E+02 100.00
Unable to compute upper limit for Np239 ,  Tdecay > 20*T1/2.
   Am241  - - - - 2.731E-01   1.476E-05  - - - - - - - - -  1.476E+01 100.00

The following peaks were not identified:
 #  energy gammas/sec  pcterr   CI *
 1   95.02 4.0323E-02 100.0  0.0000000
 2  175.60 3.8371E-02  51.4  1.4102194E-02
 4  198.32 3.8099E-02  76.7  0.0000000
 6  263.78 4.3992E-02  47.4  6.9210475E-04
 9  375.53 3.9144E-02 100.0  0.0000000
```

D03-053

10	510.11	4.5512E-02	100.0	2.0716205E-02
12	595.68	5.4353E-02	81.1	0.0000000
15	821.50	5.8999E-02	100.0	2.4503365E-02
16	845.76	5.9804E-02	100.0	0.0000000
19	1051.42	6.8684E-02	100.0	4.4891494E-06
20	1119.89	1.2178E-01	49.0	0.5595413
22	1378.24	7.6266E-02	100.0	3.0097482E-15
24	1488.41	7.1551E-02	100.0	0.0000000
25	1547.24	7.3253E-02	100.0	0.0000000
26	1694.19	7.4050E-02	100.0	0.0000000
27	1765.07	8.4967E-02	100.0	2.7487290E-03
28	1794.26	7.9279E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-054

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 17:05:42)

Analysis performed by: E. A. LEPEL

3/27/92
EA Lepel

Sample: 54529-30-A 92-02742-L-3
Weight: 0.50000 L

Irradiation date: 0-Feb-1992 at 12:00:00

Count date: 17-Mar-1992 at 16:15:00

Decay: 45.2d (3903300.0 seconds)

Count times: REAL TIME 17.87h (64320.000 seconds)
LIVE TIME 17.86h (64310.004 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna.K

Spectrum from file : 5452930a.k;1

Background subtractions from file: ve:[116,1]Backg.K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	91.8	91.	92.	853.	109.	93.87	9.288E-02	36.8	0.
2	185.8	183.	189.	2324.	241.	186.92	1.555E-01	29.5	0.
3	238.0	237.	238.	507.	76.	239.74	6.045E-02	40.0	0.
4	294.1	294.	297.	677.	67.	295.75	6.410E-02	53.6	0.
5	324.1	324.	326.	477.	54.	325.64	5.661E-02	55.4	0.
6	510.0	507.	515.	1000.	333.*	511.15	7.020E-02	100.0	426.
7	582.1	581.	583.	288.	59.*	583.12	6.813E-02	100.0	38.
8	585.0	585.	586.	125.	26.	586.04	6.838E-02	100.0	0.
9	660.9	658.	663.	4681.	4464.*	661.70	8.908E+00	1.6	11.
10	845.1	843.	847.	154.	36.*	846.45	7.657E-02	100.0	51.
11	867.0	866.	869.	113.	34.	867.35	8.675E-02	40.9	0.
12	911.0	908.	913.	173.	42.*	911.25	8.122E-02	100.0	36.
13	969.0	969.	971.	82.	22.*	969.16	8.447E-02	100.0	21.
14	1242.0	1242.	1242.	22.	10.	1241.50	9.185E-02	100.0	0.
15	1461.7	1458.	1465.	370.	324.*	1460.75	5.114E-01	92.5	200.
16	1556.0	1555.	1558.	35.	15.	1554.82	8.273E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

D03-053

Gamma-ray and nuclide lookup from file: ve:[116,3]rTOBACO.dat
Ru106 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	4.875E+00	2.635E-04	- - - - - - - - -			2.635E+02	92.48
	1460.75	4.875E+00	2.635E-04	1.00	92.48	0.00		
2 Cs137	- - - -	1.048E+01	5.667E-04	- - - - - - - - -			5.667E+02	1.88
	661.70	1.048E+01	5.667E-04	1.00	1.88	0.00		
3 Tl208	- - - -	9.694E-02	5.240E-06	- - - - - - - - -			5.240E+00	83.11
	511.15	3.502E-01	1.893E-05	0.28	100.00	1.95		
	583.12	8.278E-02	4.475E-06	1.17	100.00	-0.46		

The following are upper limit values:

Be 7	- - - -	1.252E+00	6.769E-05	- - - - - - - - -			6.769E+01	100.00
Mn 54	- - - -	8.123E-02	4.391E-06	- - - - - - - - -			4.391E+00	100.00
Co 58	- - - -	1.171E-01	6.329E-06	- - - - - - - - -			6.329E+00	100.00
Co 60	- - - -	1.049E-01	5.672E-06	- - - - - - - - -			5.672E+00	100.00
Zr 95	- - - -	2.175E-01	1.176E-05	- - - - - - - - -			1.176E+01	100.00
Nb 94	- - - -	7.852E-02	4.245E-06	- - - - - - - - -			4.245E+00	100.00
Nb 95	- - - -	1.627E-01	8.793E-06	- - - - - - - - -			8.793E+00	100.00
Ru103	- - - -	4.296E-01	2.322E-05	- - - - - - - - -			2.322E+01	100.00
Ru106	- - - -	1.412E+00	7.635E-05	- - - - - - - - -			7.635E+01	100.00
Ag110m	- - - -	2.884E-01	1.559E-05	- - - - - - - - -			1.559E+01	100.00
Sb125	- - - -	6.962E-01	3.763E-05	- - - - - - - - -			3.763E+01	100.00
I131	- - - -	2.739E+01	1.480E-03	- - - - - - - - -			1.480E+03	100.00
Cs134	- - - -	4.433E-01	2.396E-05	- - - - - - - - -			2.396E+01	100.00
Cs136	- - - -	1.479E+00	7.992E-05	- - - - - - - - -			7.992E+01	100.00
Ba140	- - - -	6.774E+00	3.662E-04	- - - - - - - - -			3.662E+02	100.00

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Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 2.226E-01	1.203E-05	- - - - - - - - -	1.203E+01	100.00
Ce144	- - - - 4.191E-01	2.266E-05	- - - - - - - - -	2.266E+01	100.00
Pb210	- - - - 6.182E+00	3.342E-04	- - - - - - - - -	3.342E+02	100.00
Pb212	- - - - 2.522E-01	1.363E-05	- - - - - - - - -	1.363E+01	100.00
Pb214	- - - - 2.314E-01	1.251E-05	- - - - - - - - -	1.251E+01	100.00
Bi214	- - - - 1.450E+00	7.840E-05	- - - - - - - - -	7.840E+01	100.00
Ra226	- - - - 1.094E+00	5.915E-05	- - - - - - - - -	5.915E+01	100.00

Unable to compute upper limit for Ac228 , Tdecay > 20*T1/2.

U235	- - - - 2.396E-01	1.295E-05	- - - - - - - - -	1.295E+01	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	93.87	9.2883E-02	36.8	0.0000000
2	186.92	1.5550E-01	29.5	0.5607045
3	239.74	6.0448E-02	40.0	0.0000000
4	295.75	6.4098E-02	53.6	0.4627230
5	325.64	5.6606E-02	55.4	0.0000000
8	586.04	6.8380E-02	100.0	0.0000000
10	646.45	7.6566E-02	100.0	0.0000000
11	867.35	8.6747E-02	41.0	6.9573096E-13
12	911.25	8.1224E-02	100.0	0.0000000
13	969.16	8.4467E-02	100.0	0.0000000
14	1241.50	9.1852E-02	100.0	0.0000000
16	1554.82	8.2732E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-057

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:38:49)

Analysis performed by: E. A. LEPEL

Sample: 54529-31-A 92-02742-L-5
Weight: 0.50000 L

Irradiation date: 20-Sep-1991 at 10:16:00

Count date: 26-Feb-1992 at 13:49:00

Decay: 160.1d (13836780. seconds)

Count times: REAL TIME 3.12d (269478.00 seconds)
LIVE TIME 3.12d (269436.97 seconds)

Dead time: 0.02 percent

Detector: K pos 0 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452931A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	46.2	46.	47.	3243.	176.	47.53	1.504E-01	45.0	0.
2	53.0	51.	54.	6111.	421.*	54.24	1.481E-01	99.0	183.
3	74.3	72.	77.	7954.	600.*	75.57	3.290E-02	100.0	585.
4	92.0	91.	94.	5212.	466.*	93.24	2.349E-02	100.0	527.
5	139.2	137.	140.	4838.	402.	140.42	5.927E-02	26.8	0.
6	184.7	184.	186.	3221.	505.*	185.88	1.754E-02	100.0	500.
7	197.6	196.	199.	3729.	382.*	198.80	3.446E-02	97.6	167.
8	237.4	237.	239.	2328.	297.*	238.60	1.975E-02	100.0	784.
9	328.0	325.	330.	2554.	197.	329.08	4.973E-02	38.6	0.
10	350.9	349.	354.	2495.	418.*	351.98	2.260E-02	100.0	397.
11	509.8	506.	513.	3156.	1673.*	510.79	2.637E-02	100.0	1785.
12	581.7	577.	583.	1311.	194.*	582.64	2.895E-02	100.0	161.
13	594.4	593.	597.	922.	129.*	595.31	2.969E-02	100.0	96.
14	608.0	607.	609.	793.	332.*	608.90	3.009E-02	100.0	318.
15	726.2	724.	727.	517.	63.*	727.03	3.254E-02	100.0	44.
16	845.9	843.	847.	677.	232.*	846.62	3.521E-02	100.0	215.
17	867.0	866.	869.	393.	63.	867.73	3.880E-02	42.4	0.
18	910.3	908.	912.	539.	158.*	910.99	3.591E-02	100.0	152.
19	967.9	962.	970.	770.	157.*	968.56	4.606E-02	100.0	89.
20	999.6	998.	1002.	377.	66.*	1000.26	3.675E-02	100.0	42.
21	1012.1	1012.	1014.	228.	34.	1012.79	3.815E-02	100.0	0.
22	1119.1	1118.	1121.	354.	136.*	1119.70	4.006E-02	100.0	86.
23	1172.2	1171.	1173.	230.	75.*	1172.75	4.255E-02	100.0	83.
24	1204.1	1203.	1205.	203.	42.	1204.84	4.385E-02	100.0	0.

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T A Lepel

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25	1331.7	1328.	1333.	309.	78.*	1332.17	4.254E-02	100.0	75.
26	1460.4	1456.	1463.	1359.	1128.*	1460.75	2.857E-01	100.0	830.
27	1764.0	1762.	1767.	251.	117.*	1764.14	4.763E-02	100.0	120.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.88 kev is ambiguously assigned; component has been removed.
U235 at 185.88 kev is ambiguously assigned; component has been removed.
Sc 46 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	(interferences) dev (sig)	pCi /L	error (%)
1 K 40	- - - -	2.723E+00	1.472E-04	- - - - - - - - -			1.472E+02	100.00
	1460.75	2.723E+00	1.472E-04	1.00	100.00	0.00		
2 Co 60	- - - -	4.513E-02	2.439E-06	- - - - - - - - -			2.439E+00	70.71
	1172.75	4.516E-02	2.441E-06	1.00	100.00	0.00		
	1332.17	4.510E-02	2.438E-06	1.00	100.00	0.00		
3 Tl208	- - - -	3.656E-02	1.976E-06	- - - - - - - - -			1.976E+00	100.00
	582.64	3.656E-02	1.976E-06	1.00	100.00	0.00		
4 Bi214	- - - -	7.874E-02	4.256E-06	- - - - - - - - -			4.256E+00	82.62
	608.90	6.700E-02	3.622E-06	1.18	100.00	-0.47		
	1119.70	2.715E-01	1.467E-05	0.29	100.00	1.90		
5 Pb212	- - - -	5.378E-02	2.907E-06	- - - - - - - - -			2.907E+00	100.01
	238.60	5.378E-02	2.907E-06	1.00	100.00	0.00		
6 Pb214	- - - -	6.133E-02	3.315E-06	- - - - - - - - -			3.315E+00	100.00
	351.98	6.133E-02	3.315E-06	1.00	100.00	0.00		
7 Ac228	- - - -	1.427E-01	7.713E-06	- - - - - - - - -			7.713E+00	100.00
	910.99	1.427E-01	7.713E-06	1.00	100.00	0.00		
8 U239	- - - -	6.229E+00	3.367E-04	- - - - - - - - -			3.367E+02	100.00

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        1000.26  6.229E+00   3.367E-04  1.00 100.00  0.00
The following are upper limit values:
   Be  7  - - - - 2.054E+00   1.110E-04   - - - - - - - -  1.110E+02 100.00
   Sc 46  - - - - 1.419E-01   7.672E-06   - - - - - - - -  7.672E+00 100.00
   Cr 51  - - - - 1.208E+01   6.530E-04   - - - - - - - -  6.530E+02 100.00
   Mn 54  - - - - 5.148E-02   2.783E-06   - - - - - - - -  2.783E+00 100.00
   Fe 59  - - - - 1.084E+00   5.859E-05   - - - - - - - -  5.859E+01 100.00
   Co 58  - - - - 1.623E-01   8.774E-06   - - - - - - - -  8.774E+00 100.00
   Zn 65  - - - - 1.248E-01   6.745E-06   - - - - - - - -  6.745E+00 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 3.815E-01   2.062E-05   - - - - - - - -  2.062E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 3.511E-02   1.898E-06   - - - - - - - -  1.898E+00 100.00
   Nb 95  - - - - 8.213E-01   4.439E-05   - - - - - - - -  4.439E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 1.206E+00   6.516E-05   - - - - - - - -  6.516E+01 100.00
   Ru106  - - - - 7.131E-01   3.855E-05   - - - - - - - -  3.855E+01 100.00
   Ag110m - - - - 1.998E-01   1.080E-05   - - - - - - - -  1.080E+01 100.00
   Sn113  - - - - 1.355E-01   7.322E-06   - - - - - - - -  7.322E+00 100.00
   Sn125  - - - - 1.302E+05   7.039E+00   - - - - - - - -  7.039E+06 100.00
   Sn117m - - - - 1.156E+02   6.247E-03   - - - - - - - -  6.247E+03 100.00
   Sb124  - - - - 5.626E-01   3.041E-05   - - - - - - - -  3.041E+01 100.00
   Sb125  - - - - 2.962E-01   1.601E-05   - - - - - - - -  1.601E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
```

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Te129m	- - - -	3.786E+01	2.047E-03	- - - - - - - - -	2.047E+03 100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - -	2.162E+05	1.169E+01	- - - - - - - - -	1.169E+07 100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	2.443E-01	1.321E-05	- - - - - - - - -	1.321E+01 100.00
Cs136	- - - -	3.797E+02	2.052E-02	- - - - - - - - -	2.052E+04 100.00
Cs137	- - - -	3.708E-02	2.005E-06	- - - - - - - - -	2.005E+00 100.00
Ba140	- - - -	1.509E+03	8.155E-02	- - - - - - - - -	8.155E+04 100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	1.102E+00	5.956E-05	- - - - - - - - -	5.956E+01 100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	2.405E-01	1.300E-05	- - - - - - - - -	1.300E+01 100.00
Eu154	- - - -	3.149E-01	1.702E-05	- - - - - - - - -	1.702E+01 100.00
Eu155	- - - -	9.148E-02	4.945E-06	- - - - - - - - -	4.945E+00 100.00
Hf175	- - - -	1.295E-01	6.999E-06	- - - - - - - - -	6.999E+00 100.00
Hf181	- - - -	6.271E-01	3.390E-05	- - - - - - - - -	3.390E+01 100.00
Ta182	- - - -	5.112E-01	2.763E-05	- - - - - - - - -	2.763E+01 100.00
Pb210	- - - -	1.990E+02	1.076E-02	- - - - - - - - -	1.076E+04 100.00
Ra226	- - - -	4.650E-01	2.514E-05	- - - - - - - - -	2.514E+01 100.00
U235	- - - -	9.465E-02	5.116E-06	- - - - - - - - -	5.116E+00 100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - -	1.611E-01	8.705E-06	- - - - - - - - -	8.705E+00 100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	47.53	1.5036E-01	45.0	0.0000000
2	54.24	1.4812E-01	99.8	0.0000000
3	75.57	3.2895E-02	100.0	0.0000000
4	93.24	2.3493E-02	100.0	0.0000000
5	140.42	5.9371E-02	26.9	[illegible]

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7	198.80	3.4457E-02	97.6	0.0000000
9	329.08	4.9729E-02	38.6	3.4184544E-04
11	510.79	2.6374E-02	100.0	0.5500812
13	595.31	2.9687E-02	100.0	0.0000000
15	727.03	3.2541E-02	100.0	0.0000000
16	846.62	3.5207E-02	100.0	0.0000000
17	867.73	3.8803E-02	42.4	5.3796594E-13
19	968.56	4.6056E-02	100.0	0.5256018
21	1012.79	3.8158E-02	100.0	0.0000000
24	1204.64	4.3852E-02	100.0	0.0000000
27	1764.14	4.7632E-02	100.0	5.1821764E-03

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-062

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:39:20)

Analysis performed by: E. A. LEPEL

Sample: 54529-36-A 92-02743-L-1
Weight: 0.50000 L

Irradiation date: 24-Sep-1991 at 7:10:00

Count date: 6-Mar-1992 at 13:06:00

Decay: 164.2d (14190960. seconds)

Count times: REAL TIME 2.81d (242634.00 seconds)
LIVE TIME 2.81d (242596.00 seconds)

Decd time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452936A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	53.1	52.	54.	4249.	292.*	53.89	8.971E-02	100.0	165.
2	74.7	73.	75.	3794.	364.*	75.44	3.540E-02	100.0	526.
3	92.2	91.	94.	4782.	570.*	92.92	2.468E-02	100.0	475.
4	139.1	138.	140.	3406.	338.	139.77	5.546E-02	23.8	0.
5	184.9	184.	187.	3696.	416.*	185.62	1.852E-02	100.0	450.
6	237.9	235.	241.	4722.	477.*	238.60	2.075E-02	100.0	706.
7	294.2	294.	297.	1809.	162.*	294.83	2.204E-02	100.0	155.
8	337.3	336.	338.	1142.	121.*	337.93	2.366E-02	100.0	54.
9	351.0	350.	352.	1185.	238.*	351.61	2.393E-02	100.0	357.
10	509.8	506.	515.	3351.	1592.*	510.34	2.850E-02	100.0	1607.
11	582.1	580.	584.	905.	227.*	582.52	3.866E-02	100.0	145.
12	594.9	594.	596.	539.	117.*	595.41	3.105E-02	100.0	87.
13	608.3	607.	610.	800.	258.*	608.75	3.136E-02	100.0	287.
14	642.9	642.	646.	645.	54.	643.32	3.147E-02	100.0	0.
15	845.9	844.	849.	677.	188.*	846.21	3.740E-02	100.0	193.
16	910.1	908.	912.	510.	185.*	910.36	3.726E-02	100.0	137.
17	967.9	963.	969.	612.	177.*	968.21	7.326E-02	96.3	80.
18	991.9	991.	992.	154.	26.	992.17	4.095E-02	100.0	0.
19	1120.0	1119.	1121.	230.	60.*	1120.21	4.536E-02	100.0	77.
20	1172.7	1169.	1176.	491.	81.*	1172.86	4.535E-02	100.0	75.
21	1236.0	1236.	1236.	69.	22.*	1236.12	4.704E-02	100.0	49.
22	1294.0	1294.	1294.	59.	22.	1294.08	4.471E-02	100.0	0.
23	1401.8	1406.	1407.	1590.	1225.*	1400.75	5.141E-01	100.0	755.
24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1853.19	4.609E-02	100.0	33.

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25	1623.0	1623.	1623.	35.	12.	1622.91	4.843E-02	100.0	0.
26	1662.0	1662.	1662.	30.	11.*	1661.89	4.545E-02	100.0	24.
27	1765.0	1761.	1769.	289.	152.*	1764.81	5.608E-02	100.0	108.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.62 kev is ambiguously assigned: component has been removed.
U235 at 185.62 kev is ambiguously assigned: component has been removed.
Sc 46 at1120.21 kev is ambiguously assigned: component has been removed.
Ta182 at1120.21 kev is ambiguously assigned: component has been removed.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	4.901E+00	2.649E-04	- - - - - - - - - -			2.649E+02	100.01
	1460.75	4.901E+00	2.649E-04	1.00	100.00	0.00		
2 Co 60	- - - -	4.820E-02	2.606E-06	- - - - - - - - - -			2.606E+00	100.01
	1172.86	4.820E-02	2.606E-06	1.00	100.00	0.00		
3 Tl208	- - - -	4.887E-02	2.642E-06	- - - - - - - - - -			2.642E+00	100.00
	582.52	4.887E-02	2.642E-06	1.00	100.00	0.00		
4 Bi214	- - - -	8.149E-02	4.405E-06	- - - - - - - - - -			4.405E+00	83.57
	608.75	6.983E-02	3.775E-06	1.17	100.00	-0.41		
	1120.21	3.074E-01	1.661E-05	0.27	100.00	1.82		
5 Pb212	- - - -	5.675E-02	3.068E-06	- - - - - - - - - -			3.068E+00	100.00
	238.60	5.675E-02	3.068E-06	1.00	100.00	0.00		
6 Pb214	- - - -	7.703E-02	4.164E-06	- - - - - - - - - -			4.164E+00	73.38
	294.83	1.148E-01	6.206E-06	0.67	100.00	0.82		
	351.61	6.495E-02	3.511E-06	1.19	100.00	-0.46		
7 Ac228	- - - -	1.711E-01	9.247E-06	- - - - - - - - - -			9.247E+00	72.12
	337.93	2.225E-01	1.203E-05	0.77	100.00	0.57		
	910.36	1.493E-01	8.013E-06	1.15	100.00	-0.38		

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The following are upper limit values:

Be 7	- - - - 2.227E+00	1.204E-04	- - - - - - - - -	1.204E+02	100.00
Sc 46	- - - - 1.598E-01	8.640E-06	- - - - - - - - -	8.640E+00	100.00
Cr 51	- - - - 1.393E+01	7.528E-04	- - - - - - - - -	7.528E+02	100.00
Mn 54	- - - - 5.213E-02	2.818E-06	- - - - - - - - -	2.818E+00	100.00
Fe 59	- - - - 1.235E+00	6.675E-05	- - - - - - - - -	6.675E+01	100.00
Co 58	- - - - 1.940E-01	1.049E-05	- - - - - - - - -	1.049E+01	100.00
Zn 65	- - - - 1.399E-01	7.561E-06	- - - - - - - - -	7.561E+00	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 4.132E-01	2.233E-05	- - - - - - - - -	2.233E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 3.710E-02	2.005E-06	- - - - - - - - -	2.005E+00	100.00
Nb 95	- - - - 9.602E-01	5.190E-05	- - - - - - - - -	5.190E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 1.328E+00	7.181E-05	- - - - - - - - -	7.181E+01	100.00
Ru106	- - - - 9.852E-01	5.325E-05	- - - - - - - - -	5.325E+01	100.00
Ag110m	- - - - 2.159E-01	1.167E-05	- - - - - - - - -	1.167E+01	100.00
Sn113	- - - - 1.471E-01	7.950E-06	- - - - - - - - -	7.950E+00	100.00
Sn125	- - - - 1.887E+05	1.020E+01	- - - - - - - - -	1.020E+07	100.00
Sn117m	- - - - 1.493E+02	8.069E-03	- - - - - - - - -	8.069E+03	100.00
Sb124	- - - - 6.198E-01	3.350E-05	- - - - - - - - -	3.350E+01	100.00
Sb125	- - - - 3.129E-01	1.691E-05	- - - - - - - - -	1.691E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 4.417E+01	2.388E-03	- - - - - - - - -	2.388E+03	100.00

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Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

Unable to compute upper limit for I131 , Tdecay > 20*T1/2.

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 2.648E-01	1.431E-05	- - - - - - - - -	1.431E+01	100.00
Cs136	- - - - 5.103E+02	2.758E-02	- - - - - - - - -	2.758E+04	100.00
Cs137	- - - - 3.979E-02	2.151E-06	- - - - - - - - -	2.151E+00	100.00
Ba140	- - - - 2.018E+03	1.091E-01	- - - - - - - - -	1.091E+05	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.280E+00	6.921E-05	- - - - - - - - -	6.921E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 2.586E-01	1.398E-05	- - - - - - - - -	1.398E+01	100.00
Eu154	- - - - 3.274E-01	1.770E-05	- - - - - - - - -	1.770E+01	100.00
Eu155	- - - - 9.705E-02	5.246E-06	- - - - - - - - -	5.246E+00	100.00
Hf175	- - - - 1.404E-01	7.591E-06	- - - - - - - - -	7.591E+00	100.00
Hf181	- - - - 6.996E-01	3.781E-05	- - - - - - - - -	3.781E+01	100.00
Ta182	- - - - 5.647E-01	3.053E-05	- - - - - - - - -	3.053E+01	100.00
Pb210	- - - - 2.052E+02	1.109E-02	- - - - - - - - -	1.109E+04	100.00
Ra226	- - - - 4.980E-01	2.692E-05	- - - - - - - - -	2.692E+01	100.00
U235	- - - - 1.018E-01	5.500E-06	- - - - - - - - -	5.500E+00	100.00
U238	- - - - 9.153E+00	4.947E-04	- - - - - - - - -	4.947E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 1.702E-01	9.201E-06	- - - - - - - - -	9.201E+00	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	53.89	8.9708E-02	100.0	0.0000000
2	75.44	3.5395E-02	100.0	0.0000000
3	92.92	2.4675E-02	100.0	0.0000000
4	139.77	5.5433E-03	23.0	0.0000000
10	510.74	[illegible]	100.0	[illegible]

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12	595.41	3.1048E-02	100.0	0.0000000
14	643.32	3.1468E-02	100.0	0.0000000
15	845.21	3.7402E-02	100.0	0.0000000
17	968.21	7.3256E-02	96.3	7.6894008E-02
18	992.17	4.0946E-02	100.0	0.0000000
21	1236.12	4.7040E-02	100.0	3.4749409E-05
22	1294.08	4.4706E-02	100.0	0.0000000
24	1593.09	4.6094E-02	100.0	0.0000000
25	1622.91	4.8435E-02	100.0	0.0000000
26	1661.89	4.5447E-02	100.0	0.0000000
27	1764.81	5.6077E-02	100.0	1.5632489E-03

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-067

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:44:33)

Analysis performed by: E. A. LEPEL

Sample: 54529-37-A 92-02744-L-1
Weight: 0.50000 L

Irradiation date: 13-Nov-1991 at 9:28:00

Count date: 9-Mar-1992 at 8:37:00

Decay: 117.0d (10105740. seconds)

Count times: REAL TIME 28.46h (102444.00 seconds)
LIVE TIME 28.45h (102428.99 seconds)

Dead time: 0.01 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452937A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	53.6	51.	55.	2984.	224.*	54.25	2.537E-01	58.4	70.
2	74.5	72.	77.	3153.	197.*	75.05	5.558E-02	100.0	222.
3	92.2	91.	94.	2075.	286.*	92.77	4.668E-02	100.0	200.
4	185.0	182.	186.	1969.	231.*	185.48	2.856E-02	100.0	190.
5	238.1	237.	241.	1576.	326.*	238.60	3.159E-02	100.0	298.
6	294.1	294.	295.	433.	48.*	294.56	3.569E-02	100.0	66.
7	351.2	350.	352.	609.	200.*	351.53	3.730E-02	100.0	151.
8	510.1	503.	513.	1516.	635.*	510.32	4.564E-02	100.0	679.
9	562.9	562.	563.	156.	32.	563.09	4;560E-02	100.0	0.
10	568.0	567.	569.	223.	36.*	568.21	4.625E-02	100.0	18.
11	582.3	580.	583.	310.	75.*	582.53	4.632E-02	100.0	61.
12	608.3	606.	610.	536.	247.*	608.43	1.463E-01	72.1	121.
13	746.1	746.	747.	104.	22.	746.14	5.338E-02	100.0	0.
14	846.5	845.	847.	148.	42.*	846.46	5.849E-02	100.0	82.
15	898.9	897.	899.	108.	24.	898.79	5.643E-02	100.0	0.
16	911.0	908.	914.	309.	109.*	910.88	8.565E-02	92.1	58.
17	1120.1	1119.	1122.	144.	68.*	1119.88	7.185E-02	81.3	33.
18	1332.0	1331.	1334.	91.	36.*	1331.61	6.745E-02	100.0	29.
19	1461.3	1457.	1465.	620.	523.*	1460.75	5.302E-01	100.0	319.
20	1701.6	1701.	1701.	17.	9.	1700.29	7.255E-02	100.0	8.
21	1765.3	1763.	1769.	121.	71.*	1764.51	7.666E-02	100.0	46.
22	1891.1	1891.	1892.	26.	10.	1890.28	8.341E-02	100.0	0.
23	1949.0	1948.	1949.	15.	7.	1949.69	8.678E-02	100.0	0.

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++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.48 kev is ambiguously assigned; component has been removed.
U235 at 185.48 kev is ambiguously assigned; component has been removed.
Sc 46 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
					(interferences)			
1 K 40	- - - -	5.055E+00	2.732E-04	- - - - - - - - - -			2.732E+02	100.00
	1460.75	5.055E+00	2.732E-04	1.00	100.00	0.00		
2 Co 60	- - - -	7.038E-02	3.804E-06	- - - - - - - - - -			3.804E+00	100.00
	1331.61	7.038E-02	3.804E-06	1.00	100.00	0.00		
3 Tl208	- - - -	5.764E-02	3.115E-06	- - - - - - - - - -			3.115E+00	100.00
	582.53	5.764E-02	3.115E-06	1.00	100.00	0.00		
4 Bi214	- - - -	3.866E-01	2.090E-05	- - - - - - - - - -			2.090E+01	48.50
	608.43	3.258E-01	1.761E-05	1.19	72.12	-0.75		
	1119.88	4.868E-01	2.632E-05	0.79	81.28	0.74		
	1764.51	5.027E-01	2.718E-05	0.77	100.00	0.67		
5 Pb212	- - - -	8.236E-02	4.452E-06	- - - - - - - - - -			4.452E+00	100.00
	238.60	8.236E-02	4.452E-06	1.00	100.00	0.00		
6 Pb214	- - - -	1.012E-01	5.472E-06	- - - - - - - - - -			5.472E+00	100.00
	351.53	1.012E-01	5.472E-06	1.00	100.00	0.00		
7 Ac228	- - - -	3.354E-01	1.813E-05	- - - - - - - - - -			1.813E+01	92.15
	910.88	3.354E-01	1.813E-05	1.00	92.15	0.00		

The following are upper limit values:

Be 7	- - - -	1.885E+00	1.019E-04	- - - - - - - - -			1.019E+02	100.00
Sc 46	- - - -	1.669E-01	9.022E-06	- - - - - - - - -			9.022E+00	100.00

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Cr 51	- - - - 6.673E+00	3.607E-04	- - - - - - - - -	3.607E+02	100.00
Mn 54	- - - - 7.748E-02	4.188E-06	- - - - - - - - -	4.188E+00	100.00
Fe 59	- - - - 9.320E-01	5.038E-05	- - - - - - - - -	5.038E+01	100.00
Co 58	- - - - 1.662E-01	8.983E-06	- - - - - - - - -	8.983E+00	100.00
Zn 65	- - - - 1.794E-01	9.698E-06	- - - - - - - - -	9.698E+00	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 3.839E-01	2.075E-05	- - - - - - - - -	2.075E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 5.781E-02	3.125E-06	- - - - - - - - -	3.125E+00	100.00
Nb 95	- - - - 5.558E-01	3.005E-05	- - - - - - - - -	3.005E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 7.880E-01	4.259E-05	- - - - - - - - -	4.259E+01	100.00
Ru106	- - - - 1.361E+00	7.359E-05	- - - - - - - - -	7.359E+01	100.00
Ag110m	- - - - 2.993E-01	1.618E-05	- - - - - - - - -	1.618E+01	100.00
Sn113	- - - - 1.729E-01	9.348E-06	- - - - - - - - -	9.348E+00	100.00
Sn125	- - - - 7.584E+03	4.100E-01	- - - - - - - - -	4.100E+05	100.00
Sn117m	- - - - 2.174E+01	1.175E-03	- - - - - - - - -	1.175E+03	100.00
Sb124	- - - - 5.743E-01	3.104E-05	- - - - - - - - -	3.104E+01	100.00
Sb125	- - - - 4.568E-01	2.469E-05	- - - - - - - - -	2.469E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 2.474E+01	1.337E-03	- - - - - - - - -	1.337E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 7.907E+03	4.274E-01	- - - - - - - - -	4.274E+05	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

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Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 3.953E-01	2.137E-05	- - - - - - - - -	2.137E+01	100.00
Cs136	- - - - 6.106E+01	3.300E-03	- - - - - - - - -	3.300E+03	100.00
Cs137	- - - - 6.221E-02	3.363E-06	- - - - - - - - -	3.363E+00	100.00
Ba140	- - - - 2.321E+02	1.255E-02	- - - - - - - - -	1.255E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 7.172E-01	3.877E-05	- - - - - - - - -	3.877E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 3.564E-01	1.926E-05	- - - - - - - - -	1.926E+01	100.00
Eu154	- - - - 5.323E-01	2.877E-05	- - - - - - - - -	2.877E+01	100.00
Eu155	- - - - 1.485E-01	8.026E-06	- - - - - - - - -	8.026E+00	100.00
Hf175	- - - - 1.413E-01	7.638E-06	- - - - - - - - -	7.638E+00	100.00
Hf181	- - - - 4.962E-01	2.682E-05	- - - - - - - - -	2.682E+01	100.00
Ta182	- - - - 6.475E-01	3.500E-05	- - - - - - - - -	3.500E+01	100.00
Pb210	- - - - 4.418E+02	2.388E-02	- - - - - - - - -	2.388E+04	100.00
Ra226	- - - - 7.511E-01	4.060E-05	- - - - - - - - -	4.060E+01	100.00
U235	- - - - 1.525E-01	8.241E-06	- - - - - - - - -	8.241E+00	100.00
U238	- - - - 1.476E+01	7.977E-04	- - - - - - - - -	7.977E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.626E-01	1.421E-05	- - - - - - - - -	1.421E+01	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	54.25	2.5372E-01	58.4	0.0000000
2	75.05	5.5582E-02	100.0	0.0000000
3	92.77	4.6684E-02	100.0	0.0000000
6	294.56	3.5667E-02	100.0	0.5133067
8	510.32	4.5644E-02	100.0	1.6628256E-02
9	563.09	4.5599E-02	100.0	3.6827622E-08
10	566.21	4.6248E-02	100.0	2.1265719E-06
13	746.14	5.3377E-02	100.0	0.0000000
14	845.45	5.8489E-02	100.0	0.0000000
15	896.72	5.6432E-02	100.0	0.0000000
20	1765.35	7.2554E-02	100.0	0.0000000

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```
22 1890.28 8.3411E-02 100.0  0.0000000
23 1948.09 8.6781E-02 100.0  0.0000000

 If CI >  0  Confidence threshold was not exceeded
    CI =  0  Energy Window test failure
    CI = -1  Extreme Half Life test failure
    CI = -2  Extreme As. Gamma comparison test failure
    CI = -3  Unable to estimate area of Assoc. Gamma
```

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Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:44:56)

Analysis performed by: E. A. LEPEL

Sample: 54529-38-A 92-02745-L-1
Weight: 0.50000 L

Irradiation date: 13-Nov-1991 at 10:23:00

Count date: 10-Mar-1992 at 13:13:00

Decay: 118.1d (10205400. seconds)

Count times: REAL TIME 20.05h (72192.000 seconds)
LIVE TIME 20.05h (72181.000 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452938A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	52.8	51.	55.	2112.	189.*	53.41	3.374E-01	50.0	49.
2	65.0	61.	66.	2252.	129.	65.61	1.906E-01	51.4	0.
3	92.0	91.	93.	1128.	162.*	92.54	4.613E-02	100.0	141.
4	185.1	184.	188.	1388.	160.*	185.58	3.410E-02	100.0	134.
5	238.2	233.	240.	1669.	219.*	238.60	3.819E-02	100.0	210.
6	351.1	350.	353.	550.	174.*	351.40	6.796E-02	100.0	106.
7	510.1	507.	514.	877.	474.*	510.25	5.142E-02	100.0	478.
8	582.8	582.	584.	183.	70.*	582.89	5.273E-02	100.0	43.
9	595.9	594.	597.	210.	47.*	595.98	5.653E-02	100.0	26.
10	608.5	604.	610.	448.	180.*	608.61	1.559E-01	61.8	85.
11	648.1	648.	649.	90.	21.	648.19	5.812E-02	100.0	0.
12	846.5	842.	847.	204.	56.*	846.36	6.970E-02	100.0	58.
13	911.1	909.	912.	144.	58.*	910.95	7.175E-02	100.0	41.
14	990.0	989.	990.	53.	21.	989.69	6.963E-02	100.0	0.
15	1120.2	1119.	1121.	81.	37.*	1119.78	7.870E-02	100.0	23.
16	1163.0	1163.	1163.	29.	15.	1162.58	8.144E-02	100.0	0.
17	1173.1	1172.	1175.	100.	39.*	1172.69	8.526E-02	100.0	22.
18	1461.4	1459.	1466.	426.	355.*	1460.75	4.811E-01	100.0	225.
19	1540.1	1540.	1541.	27.	10.	1539.32	9.159E-02	100.0	0.
20	1590.0	1590.	1590.	19.	11.	1589.19	9.239E-02	100.0	0.
21	1766.5	1765.	1769.	67.	45.*	1765.52	8.276E-02	100.0	32.
22	1769.8	1769.	1770.	20.	11.	1768.87	8.168E-02	100.0	0.
23	1777.0	1776.	1777.	13.	7.	1775.97	7.236E-02	100.0	0.
24	1779.9	1779.	1781.	20.	9.	1778.96	7.711E-02	100.0	0.

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25 2033.0 2033. 2033. 10. 6. 2031.79 9.611E-02 100.0 0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.58 kev is ambiguously assigned; component has been removed.
U235 at 185.58 kev is ambiguously assigned; component has been removed.
Sc 46 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	4.586E+00	2.479E-04	- - - - - - - - -			2.479E+02	100.00
	1460.75	4.586E+00	2.479E-04	1.00	100.00	0.00		
2 Co 60	- - - -	8.910E-02	4.816E-06	- - - - - - - - -			4.816E+00	100.01
	1172.69	8.910E-02	4.816E-06	1.00	100.00	0.00		
3 Tl208	- - - -	6.563E-02	3.549E-06	- - - - - - - - -			3.549E+00	100.00
	582.89	6.563E-02	3.549E-06	1.00	100.00	0.00		
4 Bi214	- - - -	3.932E-01	2.126E-05	- - - - - - - - -			2.126E+01	47.51
	608.61	3.472E-01	1.877E-05	1.13	61.78	-0.62		
	1119.78	5.333E-01	2.883E-05	0.74	100.00	0.76		
	1765.52	5.428E-01	2.934E-05	0.72	100.00	0.80		
5 Pb212	- - - -	9.966E-02	5.387E-06	- - - - - - - - -			5.387E+00	100.00
	238.60	9.966E-02	5.387E-06	1.00	100.00	0.00		
6 Pb214	- - - -	1.844E-01	9.970E-06	- - - - - - - - -			9.970E+00	100.00
	351.40	1.844E-01	9.970E-06	1.00	100.00	0.00		
7 Ac228	- - - -	2.811E-01	1.519E-05	- - - - - - - - -			1.519E+01	100.01
	910.95	2.811E-01	1.519E-05	1.00	100.00	0.00		

The following are upper limit values:

Be 7	- - - -	2.210E+00	1.195E-04	- - - - - - - - -			1.195E+02	100.00

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  Sc 46  - - - - 2.101E-01   1.136E-05   - - - - - - - -  1.136E+01 100.00
  Cr 51  - - - - 7.965E+00   4.305E-04   - - - - - - - -  4.305E+02 100.00
  Mn 54  - - - - 9.482E-02   5.125E-06   - - - - - - - -  5.125E+00 100.00
  Fe 59  - - - - 1.159E+00   6.267E-05   - - - - - - - -  6.267E+01 100.00
  Co 58  - - - - 2.251E-01   1.217E-05   - - - - - - - -  1.217E+01 100.00
  Zn 65  - - - - 2.430E-01   1.314E-05   - - - - - - - -  1.314E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
  Zr 95  - - - - 4.657E-01   2.518E-05   - - - - - - - -  2.518E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
  Nb 94  - - - - 6.719E-02   3.632E-06   - - - - - - - -  3.632E+00 100.00
  Nb 95  - - - - 6.927E-01   3.744E-05   - - - - - - - -  3.744E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
  Ru103  - - - - 9.667E-01   5.225E-05   - - - - - - - -  5.225E+01 100.00
  Ru106  - - - - 1.674E+00   9.051E-05   - - - - - - - -  9.051E+01 100.00
  Ag110m - - - - 3.197E-01   1.728E-05   - - - - - - - -  1.728E+01 100.00
  Sn113  - - - - 2.063E-01   1.115E-05   - - - - - - - -  1.115E+01 100.00
  Sn125  - - - - 9.704E+03   5.245E-01   - - - - - - - -  5.245E+05 100.00
  Sn117m - - - - 2.679E+01   1.448E-03   - - - - - - - -  1.448E+03 100.00
  Sb124  - - - - 6.257E-01   3.382E-05   - - - - - - - -  3.382E+01 100.00
  Sb125  - - - - 5.157E-01   2.788E-05   - - - - - - - -  2.788E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
  Te129m - - - - 3.116E+01   1.684E-03   - - - - - - - -  1.684E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
  I131   - - - - 1.037E+04   5.607E-01   - - - - - - - -  5.607E+05 100.00
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Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.715E-01	2.549E-05	- - - - - - - -	2.549E+01	100.00
Cs136	- - - - 7.241E+01	3.914E-03	- - - - - - - -	3.914E+03	100.00
Cs137	- - - - 6.994E-02	3.780E-06	- - - - - - - -	3.780E+00	100.00
Ba140	- - - - 2.963E+02	1.601E-02	- - - - - - - -	1.601E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 8.843E-01	4.780E-05	- - - - - - - -	4.780E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 4.286E-01	2.316E-05	- - - - - - - -	2.316E+01	100.00
Eu154	- - - - 5.677E-01	3.069E-05	- - - - - - - -	3.069E+01	100.00
Eu155	- - - - 1.759E-01	9.505E-06	- - - - - - - -	9.505E+00	100.00
Hf175	- - - - 1.680E-01	9.080E-06	- - - - - - - -	9.080E+00	100.00
Hf181	- - - - 6.144E-01	3.321E-05	- - - - - - - -	3.321E+01	100.00
Ta182	- - - - 8.200E-01	4.432E-05	- - - - - - - -	4.432E+01	100.00
Pb210	- - - - 5.266E+02	2.847E-02	- - - - - - - -	2.847E+04	100.00
Ra226	- - - - 9.330E-01	5.043E-05	- - - - - - - -	5.043E+01	100.00
U235	- - - - 1.917E-01	1.036E-05	- - - - - - - -	1.036E+01	100.00
U238	- - - - 1.736E+01	9.386E-04	- - - - - - - -	9.386E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 3.092E-01	1.671E-05	- - - - - - - -	1.671E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	53.41	3.3744E-01	50.0	0.0000000
2	65.61	1.9064E-01	51.4	0.0000000
3	92.54	4.6133E-02	100.0	0.0000000
7	510.25	5.1419E-02	100.0	1.7510243E-02
9	595.98	5.6529E-02	100.0	0.0000000
11	648.19	5.8123E-02	100.0	0.0000000
12	845.36	6.9765E-02	100.0	0.0000000
14	983.69	6.9035E-02	100.0	0.0000000
16	[illegible]	[illegible]	100.0	0.0000000

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19	1539.32	9.1595E-02	100.0	0.0000000
20	1589.19	9.2387E-02	100.0	1.7737327E-10
22	1768.87	8.1680E-02	100.0	0.0000000
23	1775.97	7.2357E-02	100.0	0.0000000
24	1776.96	7.7106E-02	100.0	0.0000000
25	2031.79	9.6113E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-072

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:45:11)

Analysis performed by: E. A. LEPEL

Sample: 54529-39-A 92-02746-L-1
Weight: 0.50000 L

Irradiation date: 12-Nov-1991 at 8:44:00

Count date: 11-Mar-1992 at 9:21:00

Decay: 120.0d (10370220. seconds)

Count times: REAL TIME 32.09h (115524.00 seconds)
LIVE TIME 32.08h (115503.99 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452939A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bkgd
1	53.9	53.	57.	3389.	168.	54.64	2.393E-01	48.5	0.
2	92.1	92.	93.	1288.	192.*	92.78	3.750E-02	100.0	226.
3	139.5	138.	140.	1720.	186.	140.12	6.394E-02	30.7	0.
4	185.2	184.	187.	1876.	248.*	185.77	2.745E-02	100.0	214.
5	238.1	237.	240.	1558.	340.*	238.60	3.092E-02	100.0	336.
6	294.7	293.	297.	1203.	135.*	295.16	3.342E-02	100.0	74.
7	351.1	349.	354.	1210.	265.*	351.42	5.911E-02	100.0	170.
8	510.5	506.	513.	1370.	621.*	510.71	4.379E-02	100.0	765.
9	548.0	548.	548.	102.	28.	548.12	4.266E-02	100.0	0.
10	582.6	581.	583.	333.	109.*	582.73	4.636E-02	100.0	69.
11	608.8	607.	612.	777.	367.*	608.83	2.382E-01	47.1	137.
12	910.4	910.	913.	213.	63.*	910.12	5.902E-02	100.0	65.
13	968.9	968.	970.	161.	54.*	968.49	6.242E-02	100.0	38.
14	1001.7	1000.	1002.	127.	32.*	1001.28	6.168E-02	100.0	18.
15	1045.9	1045.	1046.	82.	22.	1045.42	6.349E-02	100.0	0.
16	1120.3	1119.	1122.	192.	83.*	1119.75	8.372E-02	70.4	37.
17	1141.1	1141.	1143.	98.	22.	1140.52	6.558E-02	100.0	0.
18	1174.0	1173.	1176.	150.	62.*	1173.33	6.370E-02	100.0	36.
19	1281.0	1281.	1281.	33.	13.*	1280.24	6.869E-02	100.0	14.
20	1333.2	1332.	1336.	126.	38.*	1332.39	6.770E-02	100.0	32.
21	1343.9	1343.	1344.	45.	13.	1343.11	6.614E-02	100.0	0.
22	1378.8	1375.	1382.	171.	43.*	1377.97	6.862E-02	70.4	17.
23	1408.2	1408.	1410.	83.	35.*	1407.31	6.930E-02	100.0	19.
24	1461.7	1459.	1465.	764.	602.*	1460.75	5.573E-01	100.0	359.

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25	1766.4	1764.	1768.	120.	69.*	1765.04	7.645E-02	100.0	52.
26	1861.0	1861.	1861.	19.	10.	1859.55	7.567E-02	100.0	0.
27	1984.0	1984.	1984.	14.	7.	1982.40	7.642E-02	100.0	0.
28	2013.0	2012.	2013.	22.	9.	2011.34	7.376E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.77 kev is ambiguously assigned; component has been removed.
U235 at 185.77 kev is ambiguously assigned; component has been removed.
Sc 46 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	5.312E+00	2.871E-04	- - - - - - - - - -			2.871E+02	100.01
	1460.75	5.312E+00	2.871E-04	1.00	100.00	0.00		
2 Co 60	- - - -	6.855E-02	3.705E-06	- - - - - - - - - -			3.705E+00	70.75
	1173.33	6.662E-02	3.601E-06	1.03	100.00	-0.10		
	1332.39	7.072E-02	3.823E-06	0.97	100.00	0.11		
3 Tl208	- - - -	5.775E-02	3.121E-06	- - - - - - - - - -			3.121E+00	100.01
	582.73	5.775E-02	3.121E-06	1.00	100.00	0.00		
4 Bi214	- - - -	5.348E-01	2.891E-05	- - - - - - - - - -			2.891E+01	36.47
	608.83	5.304E-01	2.867E-05	1.01	47.09	-0.06		
	1119.75	5.673E-01	3.066E-05	0.94	70.38	0.28		
	1765.04	5.014E-01	2.710E-05	1.07	100.00	-0.23		
5 Pb212	- - - -	8.087E-02	4.372E-06	- - - - - - - - - -			4.372E+00	100.00
	238.60	8.087E-02	4.372E-06	1.00	100.00	0.00		
6 Pb214	- - - -	1.667E-01	9.011E-06	- - - - - - - - - -			9.011E+00	70.77
	295.16	1.741E-01	9.410E-06	0.96	100.00	0.15		
	351.42	1.604E-01	8.671E-06	1.04	100.00	-0.14		
7 Ac228	- - - -	2.735E-01	1.478E-05	- - - - - - - - - -			1.478E+01	73.16
	910.10	2.314E-01	1.251E-05	1.18	100.00	-0.64		

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        968.49  3.984E-01   2.154E-05  0.69 100.00  1.09
 B  U238  - - - -  1.045E+01   5.651E-04  - - - - - - - - - -  5.651E+02 100.00
       1801.28  1.045E+01   5.651E-04  1.00 100.00  0.00
The following are upper limit values:
   Be  7  - - - -  1.851E+00   1.000E-04  - - - - - - - - -  1.000E+02 100.00
   Sc 46  - - - -  1.587E-01   8.577E-06  - - - - - - - - -  8.577E+00 100.00
   Cr 51  - - - -  6.837E+00   3.696E-04  - - - - - - - - -  3.696E+02 100.00
   Mn 54  - - - -  7.082E-02   3.828E-06  - - - - - - - - -  3.828E+00 100.00
   Fe 59  - - - -  9.362E-01   5.060E-05  - - - - - - - - -  5.060E+01 100.00
   Co 58  - - - -  1.696E-01   9.168E-06  - - - - - - - - -  9.168E+00 100.00
   Zn 65  - - - -  1.871E-01   1.011E-05  - - - - - - - - -  1.011E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - -  3.767E-01   2.036E-05  - - - - - - - - -  2.036E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - -  5.606E-02   3.030E-06  - - - - - - - - -  3.030E+00 100.00
   Nb 95  - - - -  6.175E-01   3.338E-05  - - - - - - - - -  3.338E+01 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - -  8.255E-01   4.462E-05  - - - - - - - - -  4.462E+01 100.00
   Ru106  - - - -  9.528E-01   5.150E-05  - - - - - - - - -  5.150E+01 100.00
   Ag110m - - - -  2.879E-01   1.556E-05  - - - - - - - - -  1.556E+01 100.00
   Sn113  - - - -  1.674E-01   9.046E-06  - - - - - - - - -  9.046E+00 100.00
   Sn125  - - - -  9.957E+03   5.382E-01  - - - - - - - - -  5.382E+05 100.00
   Sn117m - - - -  2.390E+01   1.292E-03  - - - - - - - - -  1.292E+03 100.00
   Sb124  - - - -  5.076E-01   2.744E-05  - - - - - - - - -  2.744E+01 100.00
   Sb125  - - - -  4.429E-01   2.394E-05  - - - - - - - - -  2.394E+01 100.00
```

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Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - -	2.471E+01	1.336E-03	- - - - - - - - -	1.336E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - -	9.431E+03	5.098E-01	- - - - - - - - -	5.098E+05	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	3.436E-01	1.857E-05	- - - - - - - - -	1.857E+01	100.00
Cs136	- - - -	6.791E+01	3.671E-03	- - - - - - - - -	3.671E+03	100.00
Cs137	- - - -	5.790E-02	3.130E-06	- - - - - - - - -	3.130E+00	100.00
Ba140	- - - -	2.694E+02	1.456E-02	- - - - - - - - -	1.456E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	7.331E-01	3.962E-05	- - - - - - - - -	3.962E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	3.467E-01	1.874E-05	- - - - - - - - -	1.874E+01	100.00
Eu154	- - - -	4.913E-01	2.656E-05	- - - - - - - - -	2.656E+01	100.00
Eu155	- - - -	1.407E-01	7.605E-06	- - - - - - - - -	7.605E+00	100.00
Hf175	- - - -	1.311E-01	7.085E-06	- - - - - - - - -	7.085E+00	100.00
Hf181	- - - -	4.901E-01	2.649E-05	- - - - - - - - -	2.649E+01	100.00
Ta182	- - - -	6.312E-01	3.412E-05	- - - - - - - - -	3.412E+01	100.00
Pb210	- - - -	4.186E+02	2.263E-02	- - - - - - - - -	2.263E+04	100.00
Ra226	- - - -	7.384E-01	3.991E-05	- - - - - - - - -	3.991E+01	100.00
U235	- - - -	1.513E-01	8.180E-06	- - - - - - - - -	8.180E+00	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - -	2.563E-01	1.385E-05	- - - - - - - - -	1.385E+01	100.00

The following peaks were not identified:

#	energy	gamma/sec	peterr	[illegible]
1	[illegible]	[illegible]	[illegible]	[illegible]

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2	92.78	3.7499E-02	100.0	0.0000000
3	140.12	6.3937E-02	30.8	1.1004826E-04
8	510.71	4.3790E-02	100.0	0.5081499
9	548.12	4.2662E-02	100.0	0.0000000
15	1045.42	6.3486E-02	100.0	0.0000000
17	1140.52	6.5577E-02	100.0	0.0000000
19	1280.24	6.8694E-02	100.0	0.0000000
21	1343.11	6.6138E-02	100.0	0.0000000
22	1377.97	6.8621E-02	70.5	4.2028688E-03
23	1407.31	6.9300E-02	100.0	0.0000000
26	1659.55	7.5670E-02	100.0	0.0000000
27	1982.40	7.6417E-02	100.0	0.0000000
28	2011.34	7.3759E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-086

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:45:26)

Analysis performed by: E. A. LEPEL

Sample: 54529-40-A 92-02747-L-1
Weight: 0.50000 L

Irradiation date: 12-Nov-1991 at 9:44:00

Count date: 12-Mar-1992 at 17:33:00

Decay: 121.3d (10482540. seconds)

Count times: REAL TIME 23.86h (85884.000 seconds)
LIVE TIME 23.85h (85870.000 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452940A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	53.7	52.	55.	2072.	199.*	54.43	2.732E-01	52.1	58.
2	92.2	91.	93.	1371.	206.*	92.88	4.241E-02	100.0	168.
3	139.3	139.	141.	1235.	139.	140.01	6.438E-02	34.8	0.
4	185.3	184.	187.	1406.	208.*	185.96	3.169E-02	100.0	159.
5	197.8	197.	199.	946.	100.*	198.39	3.250E-02	100.0	53.
6	236.0	236.	243.	2009.	211.*	238.60	3.574E-02	100.0	250.
7	351.6	350.	354.	772.	196.*	352.04	5.842E-02	100.0	126.
8	510.5	504.	515.	1385.	540.*	510.83	5.114E-02	100.0	569.
9	582.4	581.	586.	442.	140.*	582.65	1.181E-01	48.7	51.
10	595.6	594.	597.	288.	84.*	595.81	7.215E-02	56.3	31.
11	608.4	604.	610.	626.	272.*	608.57	2.368E-01	42.8	101.
12	846.3	841.	848.	330.	73.*	846.20	6.670E-02	100.0	68.
13	911.0	910.	912.	126.	52.*	910.84	6.438E-02	100.0	48.
14	924.9	923.	925.	60.	18.	924.79	6.047E-02	100.0	0.
15	949.1	949.	951.	93.	21.	948.92	6.746E-02	100.0	0.
16	969.0	968.	970.	101.	32.*	969.78	6.762E-02	100.0	28.
17	1120.5	1118.	1122.	168.	68.*	1120.19	9.957E-02	58.8	27.
18	1298.0	1298.	1298.	25.	11.	1297.49	7.794E-02	100.0	0.
19	1461.4	1459.	1465.	499.	410.*	1460.75	4.420E-01	100.0	267.
20	1605.0	1605.	1605.	16.	8.	1604.17	8.197E-02	100.0	0.
21	1665.0	1665.	1665.	18.	11.*	1664.11	8.057E-02	100.0	8.
22	1765.5	1764.	1767.	85.	64.*	1764.87	9.569E-02	100.0	38.
23	1781.0	1780.	1782.	13.	7.	1780.99	7.781E-02	100.0	0.
24	[illegible]	[illegible]	1814.	[illegible]	7.	1812.96	8.003E-02	100.0	0.

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25	1920.0	1920.	1920.	14.	8.*	1918.85	8.756E-02	100.0	8.
26	2029.0	2029.	2029.	12.	6.	2027.74	9.506E-02	100.0	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.96 Kev is ambiguously assigned; component has been removed.
U235 at 185.96 Kev is ambiguously assigned; component has been removed.
Sc 46 at1120.19 Kev is ambiguously assigned; component has been removed.
Ta182 at1120.19 Kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	4.213E+00	2.277E-04	- - - - - - - - - -			2.277E+02	100.00
	1460.75	4.213E+00	2.277E-04	1.00	100.00	0.00		
2 Tl208	- - - -	1.552E-01	8.390E-06	- - - - - - - - - -			8.390E+00	44.56
	510.83	2.616E-01	1.414E-05	0.59	100.00	1.13		
	582.65	1.472E-01	7.958E-06	1.05	48.71	-0.31		
3 Bi214	- - - -	5.691E-01	3.076E-05	- - - - - - - - - -			3.076E+01	32.92
	608.57	5.273E-01	2.850E-05	1.08	42.84	-0.51		
	1120.19	6.747E-01	3.647E-05	0.84	58.82	0.74		
	1764.87	6.276E-01	3.392E-05	0.91	100.00	0.26		
4 Pb212	- - - -	9.358E-02	5.058E-06	- - - - - - - - - -			5.058E+00	100.00
	238.60	9.358E-02	5.058E-06	1.00	100.00	0.00		
5 Pb214	- - - -	1.585E-01	8.570E-06	- - - - - - - - - -			8.570E+00	100.01
	352.04	1.585E-01	8.570E-06	1.00	100.00	0.00		
6 Ac228	- - - -	2.982E-01	1.612E-05	- - - - - - - - - -			1.612E+01	73.10
	910.84	2.525E-01	1.365E-05	1.18	100.00	-0.50		
	968.78	4.318E-01	2.334E-05	0.69	100.00	0.86		

The following are upper limit values:

Be 7	- - - -	2.176E+00	1.176E-04	- - - - - - - - -			1.176E+02	100.00

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Sc 46	- - - - 1.811E-01	9.788E-06	- - - - - - - - -	9.788E+00	100.00
Cr 51	- - - - 8.116E+00	4.387E-04	- - - - - - - - -	4.387E+02	100.00
Mn 54	- - - - 8.548E-02	4.621E-06	- - - - - - - - -	4.621E+00	100.00
Fe 59	- - - - 1.084E+00	5.859E-05	- - - - - - - - -	5.859E+01	100.00
Co 58	- - - - 2.054E-01	1.110E-05	- - - - - - - - -	1.110E+01	100.00
Co 60	- - - - 9.391E-02	5.076E-06	- - - - - - - - -	5.076E+00	100.00
Zn 65	- - - - 2.094E-01	1.132E-05	- - - - - - - - -	1.132E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 4.460E-01	2.411E-05	- - - - - - - - -	2.411E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 6.272E-02	3.390E-06	- - - - - - - - -	3.390E+00	100.00
Nb 95	- - - - 6.880E-01	3.719E-05	- - - - - - - - -	3.719E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 9.824E-01	5.311E-05	- - - - - - - - -	5.311E+01	100.00
Ru105	- - - - 1.171E+00	6.331E-05	- - - - - - - - -	6.331E+01	100.00
Ag110m	- - - - 3.379E-01	1.827E-05	- - - - - - - - -	1.827E+01	100.00
Sn113	- - - - 1.956E-01	1.057E-05	- - - - - - - - -	1.057E+01	100.00
Sn125	- - - - 1.173E+04	6.343E-01	- - - - - - - - -	6.343E+05	100.00
Sn117m	- - - - 2.920E+01	1.579E-03	- - - - - - - - -	1.579E+03	100.00
Sb124	- - - - 6.671E-01	3.606E-05	- - - - - - - - -	3.606E+01	100.00
Sb125	- - - - 5.235E-01	2.829E-05	- - - - - - - - -	2.829E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 2.940E+01	1.589E-03	- - - - - - - - -	1.589E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

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I131	- - - - 1.193E+04	6.449E-01	- - - - - - - - -	6.449E+05	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 4.269E-01	2.307E-05	- - - - - - - - -	2.307E+01	100.00
Cs136	- - - - 8.187E+01	4.425E-03	- - - - - - - - -	4.425E+03	100.00
Cs137	- - - - 6.679E-02	3.610E-06	- - - - - - - - -	3.610E+00	100.00
Ba140	- - - - 3.097E+02	1.674E-02	- - - - - - - - -	1.674E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 8.734E-01	4.721E-05	- - - - - - - - -	4.721E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 3.975E-01	2.149E-05	- - - - - - - - -	2.149E+01	100.00
Eu154	- - - - 5.521E-01	2.984E-05	- - - - - - - - -	2.984E+01	100.00
Eu155	- - - - 1.648E-01	8.908E-06	- - - - - - - - -	8.908E+00	100.00
Hf175	- - - - 1.615E-01	8.730E-06	- - - - - - - - -	8.730E+00	100.00
Hf181	- - - - 5.801E-01	3.136E-05	- - - - - - - - -	3.136E+01	100.00
Ta182	- - - - 7.234E-01	3.910E-05	- - - - - - - - -	3.910E+01	100.00
Pb210	- - - - 4.724E+02	2.553E-02	- - - - - - - - -	2.553E+04	100.00
Ra226	- - - - 8.599E-01	4.648E-05	- - - - - - - - -	4.648E+01	100.00
U235	- - - - 1.758E-01	9.500E-06	- - - - - - - - -	9.500E+00	100.00
U238	- - - - 1.693E+01	9.153E-04	- - - - - - - - -	9.153E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.925E-01	1.581E-05	- - - - - - - - -	1.581E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	54.43	2.7324E-01	52.1	0.0000000
2	92.88	4.2497E-02	100.0	0.0000000
3	149.01	6.4376E-02	34.8	9.0824797E-05
5	199.39	3.2496E-02	100.0	0.0000000
10	595.81	7.2153E-02	55.3	0.0000000
12	846.20	6.0099E-02	100.0	0.0000000
14	924.79	[illegible]	[illegible]	[illegible]

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15	948.92	6.7458E-02	100.0	0.0000000
18	1297.49	7.7945E-02	100.0	0.0000000
20	1604.17	8.1972E-02	100.0	0.0000000
21	1664.11	8.0568E-02	100.0	0.0000000
23	1780.99	7.7812E-02	100.0	0.0000000
24	1812.96	8.0029E-02	100.0	0.0000000
25	1918.85	6.7556E-02	100.0	0.0000000
26	2027.74	9.5062E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:45:41)

Analysis performed by: E. A. LEPEL

Sample: 54529-41-A 92-02748-L-1
Weight: 0.50000 L

Irradiation date: 12-Nov-1991 at 10:20:00

Count date: 13-Mar-1992 at 17:33:00

Decay: 122.3d (10566780. seconds)

Count times: REAL TIME 2.65d (228942.00 seconds)
LIVE TIME 2.65d (228905.00 seconds)

Dead time: 0.02 percent

Detector: K pos 0 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452941A.K;1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	53.2	52.	55.	5305.	385.*	54.15	1.693E-01	84.2	155.
2	74.9	72.	77.	7062.	530.	75.87	1.810E-01	22.0	0.
3	92.1	91.	94.	4678.	552.*	92.99	2.589E-02	100.0	448.
4	139.1	139.	141.	3219.	123.	139.93	2.146E-02	64.4	0.
5	185.2	184.	187.	3673.	458.*	185.93	1.950E-02	100.0	425.
6	197.8	195.	199.	4027.	378.*	198.59	4.446E-02	73.8	142.
7	237.9	237.	240.	2777.	347.*	238.60	2.204E-02	100.0	666.
8	279.1	279.	280.	961.	64.	279.75	2.291E-02	100.0	0.
9	234.8	293.	298.	2606.	196.*	295.44	2.315E-02	100.0	147.
10	351.1	350.	353.	1659.	414.*	351.63	2.522E-02	100.0	337.
11	510.4	505.	514.	3158.	1421.*	510.64	3.000E-02	100.0	1517.
12	582.7	580.	584.	983.	255.*	582.81	5.899E-02	100.0	137.
13	595.5	595.	599.	859.	148.*	595.56	3.331E-02	100.0	82.
14	608.8	607.	612.	1249.	464.*	608.84	1.005E-01	100.0	271.
15	726.8	726.	730.	537.	67.*	726.70	3.489E-02	100.0	38.
16	794.2	794.	798.	508.	49.	793.99	3.874E-02	100.0	0.
17	845.3	845.	848.	484.	138.*	845.94	4.086E-02	100.0	182.
18	911.1	907.	913.	721.	199.*	910.64	5.247E-02	100.0	129.
19	968.9	964.	970.	568.	124.*	968.35	4.191E-02	100.0	75.
20	1048.1	1048.	1049.	141.	24.	1047.45	4.473E-02	100.0	0.
21	1121.6	1118.	1125.	599.	174.*	1120.86	9.190E-02	83.6	73.
22	1174.3	1169.	1175.	419.	77.*	1173.44	4.756E-02	100.0	71.
23	[illegible]	[illegible]	1231.	70.	22.	1230.69	4.871E-02	100.0	0.
24	[illegible]	[illegible]	1241.	240.	61.*	[illegible]	5.020E-02	100.0	46.

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25	1333.1	1331.	1337.	323.	99.*	1331.98	4.576E-02	100.0	64.
26	1379.8	1379.	1380.	98.	37.*	1378.59	4.700E-02	100.0	33.
27	1462.1	1457.	1466.	1487.	1242.*	1460.75	6.139E-01	100.0	712.
28	1511.0	1510.	1512.	105.	29.*	1509.60	4.830E-02	100.0	24.
29	1589.7	1588.	1591.	128.	35.	1588.18	4.961E-02	100.0	0.
30	1766.6	1764.	1770.	249.	123.*	1764.74	5.046E-02	100.0	102.
31	1946.0	1946.	1947.	48.	14.	1943.89	5.613E-02	100.0	0.
32	2040.1	2039.	2041.	54.	23.*	2037.78	4.719E-02	100.0	20.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.93 Kev is ambiguously assigned: component has been removed.
U235 at 185.93 Kev is ambiguously assigned: component has been removed.
Ta182 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi ⁄L	peak frac	err (%)	dev (sig) (interferences)	pCi ⁄L	error (%)
1 K 40	- - - -	5.852E+00	3.163E-04	- - - - - - - - - -			3.163E+02	100.00
	1460.75	5.852E+00	3.163E-04	1.00	100.00	0.00		
2 Co 60	- - - -	4.878E-02	2.637E-06	- - - - - - - - - -			2.637E+00	70.73
	1173.44	4.979E-02	2.691E-06	0.98	100.00	0.06		
	1331.98	4.785E-02	2.586E-06	1.02	100.00	-0.05		
3 Tl208	- - - -	7.355E-02	3.976E-06	- - - - - - - - - -			3.976E+00	100.01
	582.81	7.355E-02	3.976E-06	1.00	100.00	0.00		
4 Bi214	- - - -	2.985E-01	1.614E-05	- - - - - - - - - -			1.614E+01	58.50
	608.84	2.238E-01	1.209E-05	1.33	100.00	-0.93		
	1120.86	6.227E-01	3.366E-05	0.48	83.57	1.73		
	1764.74	3.310E-01	1.789E-05	0.90	100.00	0.27		
5 Pb212	- - - -	5.780E-02	3.124E-06	- - - - - - - - - -			3.124E+00	100.01
	238.60	5.780E-02	3.124E-06	1.00	100.00	0.00		
6 Pb214	- - - -	8.115E-02	4.387E-06	- - - - - - - - - -			4.387E+00	73.36
	295.44	1.209E-01	6.519E-06	0.67	100.00	0.91		
	351.93	[illegible]	3.700E-06	1.19	100.00	-0.52		

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7	Ac228	- - - -	2.289E-01	1.237E-05	- - - - - - - - - -		1.237E+01	71.32
		910.64	2.059E-01	1.113E-05	1.11	100.00	-0.31	
		968.35	2.678E-01	1.447E-05	0.85	100.00	0.40	

The following are upper limit values:

Be 7	- - - -	1.403E+00	7.582E-05	- - - - - - - - -	7.582E+01	100.00
Sc 46	- - - -	1.206E-01	6.518E-06	- - - - - - - - -	6.518E+00	100.00
Cr 51	- - - -	5.226E+00	2.825E-04	- - - - - - - - -	2.825E+02	100.00
Mn 54	- - - -	5.302E-02	2.866E-06	- - - - - - - - -	2.866E+00	100.00
Fe 59	- - - -	7.007E-01	3.788E-05	- - - - - - - - -	3.788E+01	100.00
Co 58	- - - -	1.308E-01	7.071E-06	- - - - - - - - -	7.071E+00	100.00
Zn 65	- - - -	1.312E-01	7.094E-06	- - - - - - - - -	7.094E+00	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - -	2.823E-01	1.526E-05	- - - - - - - - -	1.526E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	3.925E-02	2.122E-06	- - - - - - - - -	2.122E+00	100.00
Nb 95	- - - -	4.254E-01	2.299E-05	- - - - - - - - -	2.299E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - -	6.418E-01	3.469E-05	- - - - - - - - -	3.469E+01	100.00
Ru106	- - - -	7.146E-01	3.863E-05	- - - - - - - - -	3.863E+01	100.00
Ag110m	- - - -	2.002E-01	1.082E-05	- - - - - - - - -	1.082E+01	100.00
Sn113	- - - -	1.211E-01	6.545E-06	- - - - - - - - -	6.545E+00	100.00
Sn125	- - - -	9.798E+03	5.296E-01	- - - - - - - - -	5.296E+05	100.00
Sn117m	- - - -	1.985E+01	1.073E-03	- - - - - - - - -	1.073E+03	100.00
Sb124	- - - -	4.065E-01	2.197E-05	- - - - - - - - -	2.197E+01	100.00
Sb125	- - - -	3.228E-01	1.745E-05	- - - - - - - - -	1.745E+01	100.00

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Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 1.915E+01	1.035E-03	- - - - - - - - -	1.035E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 8.875E+03	4.797E-01	- - - - - - - - -	4.797E+05	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 2.659E-01	1.437E-05	- - - - - - - - -	1.437E+01	100.00
Cs136	- - - - 5.576E+01	3.014E-03	- - - - - - - - -	3.014E+03	100.00
Cs137	- - - - 4.081E-02	2.206E-06	- - - - - - - - -	2.206E+00	100.00
Ba140	- - - - 2.230E+02	1.205E-02	- - - - - - - - -	1.205E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 5.496E-01	2.965E-05	- - - - - - - - -	2.965E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 2.408E-01	1.302E-05	- - - - - - - - -	1.302E+01	100.00
Eu154	- - - - 3.558E-01	1.923E-05	- - - - - - - - -	1.923E+01	100.00
Eu155	- - - - 1.007E-01	5.445E-06	- - - - - - - - -	5.445E+00	100.00
Hf175	- - - - 9.774E-02	5.283E-06	- - - - - - - - -	5.283E+00	100.00
Hf181	- - - - 3.679E-01	1.989E-05	- - - - - - - - -	1.989E+01	100.00
Ta182	- - - - 4.599E-01	2.486E-05	- - - - - - - - -	2.486E+01	100.00
Pb210	- - - - 2.901E+02	1.568E-02	- - - - - - - - -	1.568E+04	100.00
Ra226	- - - - 5.181E-01	2.801E-05	- - - - - - - - -	2.801E+01	100.00
U235	- - - - 1.056E-01	5.710E-06	- - - - - - - - -	5.710E+00	100.00
U238	- - - - 9.817E+00	5.306E-04	- - - - - - - - -	5.306E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 1.752E-01	9.472E-06	- - - - - - - - -	9.472E+00	100.00

The following peaks were not identified:

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*	energy	gammas/sec	pcterr	CI *
1	54.15	1.6932E-01	84.2	0.0000000
2	75.87	1.8102E-01	22.0	0.0000000
3	92.99	2.5890E-02	100.0	0.0000000
4	139.93	2.1459E-02	64.4	7.7986791E-05
6	198.59	4.4462E-02	73.8	0.0000000
8	279.75	2.2908E-02	100.0	0.0000000
11	510.64	3.0001E-02	100.0	0.5547734
13	595.56	3.3314E-02	100.0	0.0000000
15	726.70	3.4892E-02	100.0	0.0000000
16	793.99	3.8745E-02	100.0	2.4085409E-04
17	845.94	4.0863E-02	100.0	0.0000000
20	1047.45	4.4727E-02	100.0	0.4518145
23	1200.09	4.8712E-02	100.0	0.0000000
24	1238.07	5.0203E-02	100.0	7.4868142E-03
26	1378.59	4.7002E-02	100.0	4.7087480E-05
28	1509.60	4.8297E-02	100.0	6.2457602E-13
29	1588.18	4.9611E-02	100.0	1.0550868E-08
31	1943.69	5.6134E-02	100.0	0.0000000
32	2037.78	4.7193E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

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Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:46:49)

Analysis performed by: E. A. LEPEL

Sample: 54529-42-A 92-02749-L-1
Weight: 0.50000 L

Irradiation date: 12-Nov-1991 at 10:58:00

Count date: 16-Mar-1992 at 9:27:00

Decay: 124.9d (10794540. seconds)

Count times: REAL TIME 30.70h (110508.00 seconds)
LIVE TIME 30.69h (110491.01 seconds)

Dead time: 0.02 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarna. K

Spectrum from file : 5452942A.K:1

Background subtractions from file: ve:[116,1]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	53.1	52.	54.	1918.	160.*	53.89	1.305E-01	97.0	75.
2	91.9	90.	94.	2657.	196.*	92.67	3.720E-02	100.0	216.
3	99.0	99.	100.	1025.	68.	99.79	3.366E-02	100.0	0.
4	139.0	137.	141.	2543.	172.	139.70	6.197E-02	40.0	0.
5	184.9	183.	187.	2138.	250.*	185.57	2.762E-02	100.0	205.
6	197.4	196.	199.	1587.	165.*	198.03	3.752E-02	77.4	68.
7	236.0	235.	241.	2299.	333.*	238.60	3.105E-02	100.0	321.
8	351.3	349.	352.	679.	87.*	351.77	3.605E-02	100.0	163.
9	467.1	467.	469.	326.	49.	467.37	4.160E-02	50.0	0.
10	510.2	505.	513.	1455.	705.*	510.47	4.347E-02	100.0	732.
11	582.1	581.	585.	447.	119.*	582.29	5.506E-02	100.0	66.
12	608.4	608.	609.	207.	78.*	608.56	4.767E-02	100.0	131.
13	630.8	630.	631.	150.	30.	630.96	4.805E-02	100.0	0.
14	845.8	844.	847.	231.	76.*	845.62	5.683E-02	100.0	88.
15	910.9	907.	913.	335.	104.*	910.70	6.436E-02	100.0	62.
16	965.0	964.	965.	85.	32.	964.69	5.610E-02	100.0	0.
17	968.9	967.	970.	175.	50.*	968.56	6.115E-02	100.0	36.
18	1435.9	1435.	1436.	42.	15.	1435.87	6.896E-02	100.0	0.
19	1461.7	1458.	1466.	698.	596.*	1460.75	6.053E-01	100.0	344.
20	1511.0	1511.	1511.	21.	10.*	1510.83	6.711E-02	100.0	11.
21	1766.6	1765.	1768.	93.	57.*	1765.28	7.524E-02	100.0	49.
22	1806.0	1808.	1808.	26.	16.	1807.64	5.903E-02	100.0	0.
23	1875.1	1875.	1876.	29.	16.	1873.72	7.097E-02	100.0	0.
24	1935.0	1930.	1930.	16.	0.	1936.51	7.883E-02	100.0	0.

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25 2022.0 2021. 2023. 33. 14. 2020.40 7.604E-02 100.0 0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]NTOBACO.dat
Ra226 at 185.57 kev is ambiguously assigned; component has been removed.
U235 at 185.57 kev is ambiguously assigned; component has been removed.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	(interferences) pCi /L	error (%)
1 K 40	- - - -	5.771E+00	3.119E-04	- - - - - - - - - -			3.119E+02	100.00
	1460.75	5.771E+00	3.119E-04	1.00	100.00	0.00		
2 Ta182	- - - -	5.037E-01	2.723E-05	- - - - - - - - - -			2.723E+01	100.00
	99.79	5.037E-01	2.723E-05	1.00	100.00	0.00		
3 Tl208	- - - -	6.869E-02	3.713E-06	- - - - - - - - - -			3.713E+00	100.00
	582.29	6.869E-02	3.713E-06	1.00	100.00	0.00		
4 Bi214	- - - -	1.061E-01	5.737E-06	- - - - - - - - - -			5.737E+00	100.00
	608.56	1.061E-01	5.737E-06	1.00	100.00	0.00		
5 Pb212	- - - -	8.160E-02	4.411E-06	- - - - - - - - - -			4.411E+00	100.01
	238.60	8.160E-02	4.411E-06	1.00	100.00	0.00		
6 Pb214	- - - -	9.785E-02	5.289E-06	- - - - - - - - - -			5.289E+00	100.00
	351.77	9.785E-02	5.289E-06	1.00	100.00	0.00		
7 Ac228	- - - -	2.935E-01	1.586E-05	- - - - - - - - - -			1.586E+01	72.33
	910.78	2.527E-01	1.366E-05	1.16	100.00	-0.46		
	968.56	3.910E-01	2.113E-05	0.75	100.00	0.72		

The following are upper limit values:

Be 7	- - - -	2.038E+00	1.102E-04	- - - - - - - - -			1.102E+02	100.00
Sc 46	- - - -	1.904E-01	1.029E-05	- - - - - - - - -			1.029E+01	100.00

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Cr 51	- - - - 7.504E+00	4.056E-04	- - - - - - - - -	4.056E+02	100.00
Mn 54	- - - - 7.631E-02	4.125E-06	- - - - - - - - -	4.125E+00	100.00
Fe 59	- - - - 1.008E+00	5.450E-05	- - - - - - - - -	5.450E+01	100.00
Co 58	- - - - 1.798E-01	9.719E-06	- - - - - - - - -	9.719E+00	100.00
Co 60	- - - - 8.099E-02	4.378E-06	- - - - - - - - -	4.378E+00	100.00
Zn 65	- - - - 1.862E-01	1.007E-05	- - - - - - - - -	1.007E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 3.913E-01	2.115E-05	- - - - - - - - -	2.115E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 5.494E-02	2.969E-06	- - - - - - - - -	2.969E+00	100.00
Nb 95	- - - - 6.613E-01	3.575E-05	- - - - - - - - -	3.575E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 9.643E-01	5.213E-05	- - - - - - - - -	5.213E+01	100.00
Ru106	- - - - 1.052E+00	5.686E-05	- - - - - - - - -	5.686E+01	100.00
Ag110m	- - - - 2.957E-01	1.598E-05	- - - - - - - - -	1.598E+01	100.00
Sn113	- - - - 1.857E-01	1.004E-05	- - - - - - - - -	1.004E+01	100.00
Sn125	- - - - 1.480E+04	7.998E-01	- - - - - - - - -	7.998E+05	100.00
Sn117m	- - - - 3.138E+01	1.696E-03	- - - - - - - - -	1.696E+03	100.00
Sb124	- - - - 5.472E-01	2.958E-05	- - - - - - - - -	2.958E+01	100.00
Sb125	- - - - 4.566E-01	2.468E-05	- - - - - - - - -	2.468E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 2.828E+01	1.529E-03	- - - - - - - - -	1.529E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 1.511E+04	8.170E-01	- - - - - - - - -	8.170E+05	100.00

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Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 3.863E-01	2.088E-05	- - - - - - - - -	2.088E+01	100.00
Cs136	- - - - 8.420E+01	4.551E-03	- - - - - - - - -	4.551E+03	100.00
Cs137	- - - - 5.903E-02	3.191E-06	- - - - - - - - -	3.191E+00	100.00
Ba140	- - - - 3.369E+02	1.821E-02	- - - - - - - - -	1.821E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 8.295E-01	4.484E-05	- - - - - - - - -	4.484E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 3.431E-01	1.854E-05	- - - - - - - - -	1.854E+01	100.00
Eu154	- - - - 5.187E-01	2.804E-05	- - - - - - - - -	2.804E+01	100.00
Eu155	- - - - 1.430E-01	7.728E-06	- - - - - - - - -	7.728E+00	100.00
Hf175	- - - - 1.429E-01	7.724E-06	- - - - - - - - -	7.724E+00	100.00
Hf181	- - - - 5.326E-01	2.879E-05	- - - - - - - - -	2.879E+01	100.00
Pb210	- - - - 4.034E+02	2.180E-02	- - - - - - - - -	2.180E+04	100.00
Ra226	- - - - 7.346E-01	3.971E-05	- - - - - - - - -	3.971E+01	100.00
U235	- - - - 1.500E-01	8.109E-06	- - - - - - - - -	8.109E+00	100.00
U238	- - - - 1.366E+01	7.386E-04	- - - - - - - - -	7.386E+02	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.517E-01	1.361E-05	- - - - - - - - -	1.361E+01	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	53.89	1.3049E-01	97.0	0.0000000
2	92.67	3.7198E-02	100.0	0.0000000
4	139.70	6.1975E-02	40.8	4.6693687E-05
6	198.03	3.7516E-02	77.4	0.0000000
9	467.37	4.1599E-02	50.0	0.0000000
10	510.47	4.3474E-02	100.0	0.3689004
13	630.96	4.8052E-02	100.0	2.1779641E-11
14	845.62	5.6826E-02	100.0	0.0000000
16	964.69	5.6104E-02	100.0	1.1931543E-03
18	1435.07	6.8963E-02	100.0	0.0000000
20	1510.03	6.7109E-02	100.0	1.1333115E-30

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21	1765.28	7.5240E-02	100.0	4.8463824E-03
22	1807.64	5.9026E-02	100.0	0.0000000
23	1873.72	7.0969E-02	100.0	0.0000000
24	1936.51	7.0832E-02	100.0	0.0000000
25	2020.40	7.6037E-02	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

DIODE K SPECTRAL "RAW" DATA

TITLE: 54529-27-A 92-02740-L-1

FILE: 5452927A.K;1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~9 28 91 7 50 0~~ 9/23/91 11 37

TIME OF COUNT: 2 27 92 17 27 0

3/20/92 EA Lepel

(230969. MINUTES DECAY TIME)

LIVE TIME: 20 HOURS 18 MINUTES 7 SECONDS = 1218.12 MINUTES

ELAPSED TIME: 20 HOURS 18 MINUTES 18 SECONDS = 1218.30 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKD:	0
NOV:	1

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5452927A.K;1 54529-27-A 92-02740-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	73087	414	298	313	212	156	102	122	75	59	52	49	42	35	34	47	21	24	22	15
1	34	392	276	301	238	160	121	149	65	51	53	53	44	36	32	22	32	19	18	24
2	0	387	288	202	195	175	100	107	63	62	46	53	41	33	22	28	29	21	25	23
3	0	398	302	270	209	133	113	100	81	62	51	46	30	34	38	38	22	26	18	19
4	0	420	311	289	210	163	118	105	66	72	46	39	35	36	25	32	22	22	21	19
5	0	349	276	284	208	164	109	84	73	66	68	36	45	45	25	29	24	26	22	19
6	0	379	302	273	199	152	108	103	65	56	61	38	40	49	31	26	23	23	26	23
7	0	339	320	278	211	151	117	74	67	65	62	52	81	33	33	30	27	18	13	22
8	1	371	330	261	194	174	103	88	58	40	125	42	102	35	27	25	28	28	23	13
9	3	367	307	270	215	155	118	86	65	50	172	39	51	25	43	23	26	34	33	25
10	1218	358	315	279	207	146	107	89	82	67	170	40	41	43	28	33	29	32	45	15
11	12251	319	319	253	194	143	98	82	79	52	122	44	34	45	28	31	21	25	28	15
12	21981	348	348	302	198	149	94	109	73	60	84	39	44	26	23	32	18	19	23	17
13	12782	369	367	251	191	155	136	91	65	76	56	45	43	28	30	31	11	24	24	20
14	4073	353	323	278	196	163	115	84	65	62	60	40	41	51	31	33	33	14	18	20
15	1205	370	320	240	196	149	119	81	86	61	48	45	38	33	35	29	23	26	12	15
16	920	347	311	245	198	156	109	91	93	61	54	46	39	28	33	28	15	27	14	20
17	804	342	317	276	211	146	105	83	63	62	53	40	47	25	30	27	26	24	25	24
18	810	347	292	267	187	156	117	74	75	57	49	47	35	29	35	32	23	22	15	25
19	758	344	308	255	201	143	101	93	71	64	62	51	47	29	33	23	30	17	12	23
20	755	304	274	237	182	141	126	83	80	60	55	49	35	37	35	25	30	22	12	15
21	700	329	320	255	184	160	104	92	72	66	61	39	43	30	31	31	25	32	24	19
22	724	330	300	284	155	150	121	87	58	43	39	34	40	29	26	24	20	24	24	13
23	659	362	296	200	168	160	123	79	74	60	40	37	27	30	18	22	24	24	15	19
24	643	305	310	258	219	130	118	75	73	51	49	47	40	32	24	26	31	25	19	19
25	619	337	299	242	169	153	116	90	73	47	51	43	33	30	29	31	21	25	21	17
26	592	322	296	241	196	143	104	95	66	64	43	38	36	33	35	21	20	15	20	15
27	622	310	278	254	144	135	109	83	79	64	40	55	51	25	48	15	25	13	18	19
28	643	291	313	249	169	142	107	85	72	63	51	47	40	31	33	26	17	19	17	16
29	556	326	307	263	182	124	118	100	74	51	42	41	41	24	31	25	21	18	19	21
30	537	282	311	269	217	114	109	86	69	45	40	34	38	36	29	25	23	22	20	19
31	558	307	300	225	188	117	103	90	68	50	48	39	36	31	29	30	24	19	22	15
32	500	376	298	206	176	124	74	94	60	60	49	76	38	34	23	22	30	22	15	15
33	543	315	318	264	176	133	101	88	73	46	45	39	41	37	23	35	23	24	22	19
34	564	339	307	265	189	128	114	82	75	52	53	44	44	30	21	24	19	18	17	23
35	520	331	288	270	163	140	98	93	57	61	48	37	43	37	32	38	23	22	17	28
36	516	331	309	230	186	135	109	53	64	61	37	53	37	31	40	23	20	20	22	14
37	524	337	296	252	189	128	116	75	75	63	44	44	29	37	26	20	28	22	15	16
38	457	321	316	222	222	137	104	72	64	38	31	35	38	42	28	21	22	13	21	19
39	493	294	346	212	181	128	113	84	52	60	41	36	33	29	27	23	23	22	15	14
40	447	283	325	231	172	129	111	84	59	61	40	42	28	30	40	25	43	14	27	21
41	454	332	301	276	161	126	110	79	57	54	45	42	29	46	39	31	21	21	16	15
42	[illegible]	351	300	222	176	134	104	69	54	39	48	44	31	29	27	18	18	30	16	14
43	443	332	328	241	158	119	97	79	63	50	51	43	28	31	37	30	21	21	25	17
44	354	327	314	214	161	145	94	72	64	64	33	65	33	45	18	21	21	18	23	21
45	[illegible]	[illegible]	[illegible]	[illegible]	151	138	91	75	53	54	44	76	39	31	27	20	33	24	24	21
46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	141	77	81	74	52	41	45	38	39	32	21	45	14	14	25
47	[illegible]	[illegible]	275	[illegible]	163	131	106	59	57	36	62	41	40	31	18	26	33	25	17	18
48	[illegible]	[illegible]	256	[illegible]	[illegible]	115	107	74	63	66	40	41	31	41	38	37	21	21	22	20
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	91	[illegible]	55	62	43	[illegible]	[illegible]	38	27	43	[illegible]	[illegible]	11	18

002-100

5452927A.K:1 54529-27-A 92-02740-L-1

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1	10	13	17	11	16	15	13	10	12	7	5	10	6	2	7	3	8	3	5	5
2	25	11	16	15	13	14	11	8	6	9	7	7	7	5	5	4	1	5	4	5
3	17	17	21	16	17	15	13	10	4	5	7	6	13	13	4	8	6	3	6	3
4	15	19	23	19	13	11	12	17	12	9	6	5	6	8	4	6	7	1	3	4
5	21	17	20	13	15	6	14	8	8	10	7	8	6	6	6	4	4	5	7	5
6	18	19	17	10	16	17	12	14	12	12	3	5	7	3	4	3	7	4	4	7
7	23	20	13	7	13	10	8	11	12	13	4	5	9	4	6	4	4	4	4	3
8	16	11	12	10	14	12	11	10	6	27	4	7	7	8	4	6	5	5	3	7
9	10	16	23	22	12	14	10	7	8	60	11	4	4	8	5	7	7	4	6	8
10	18	15	20	18	9	17	10	8	9	117	6	7	4	7	5	6	5	8	8	4
11	17	12	18	14	13	11	11	14	4	106	7	5	5	7	8	8	12	9	5	3
12	14	17	21	9	10	15	14	14	1	59	7	10	5	5	9	5	2	2	4	8
13	24	9	10	15	12	17	11	11	8	23	7	7	5	5	7	12	5	2	5	4
14	15	25	14	10	12	14	10	9	11	10	8	9	3	5	9	24	6	7	5	11
15	16	21	19	10	12	20	8	9	10	7	6	6	9	4	8	10	4	6	3	2
16	13	18	16	15	9	12	16	18	9	9	6	5	6	8	8	11	6	5	2	5
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19	22	21	24	16	13	6	9	7	9	3	5	5	6	10	9	3	7	6	3	7
20	21	20	19	11	17	9	13	6	6	7	8	3	13	9	1	4	4	4	3	5
21	16	23	29	10	15	15	5	9	15	7	11	7	4	9	3	6	6	7	3	4
22	21	18	11	24	11	12	7	11	9	7	12	5	12	7	8	11	5	1	5	2
23	20	18	12	22	7	13	3	8	7	6	5	10	13	3	6	5	3	7	3	5
24	21	16	13	15	22	15	11	5	4	6	3	5	5	9	5	7	3	2	9	6
25	21	18	8	5	20	9	8	7	8	4	5	7	3	5	3	4	10	1	2	6
26	16	10	16	15	15	12	7	16	4	4	8	6	5	6	9	4	4	6	4	3
27	13	12	14	14	13	7	10	9	9	7	8	7	5	5	4	4	7	4	2	7
28	12	10	20	17	22	12	8	10	9	10	12	5	3	2	5	3	4	3	5	5
29	22	21	13	14	18	12	11	5	9	3	12	5	9	4	5	5	5	6	8	1
30	29	20	17	21	9	12	6	19	8	9	10	5	11	4	7	7	5	8	7	4
31	10	16	8	16	13	10	16	13	8	9	3	7	7	10	7	8	7	5	4	3
32	22	15	25	14	12	11	19	11	10	2	7	5	6	6	9	3	2	1	5	5
33	21	20	22	13	16	14	10	14	11	5	8	4	7	9	5	6	3	3	4	7
34	18	15	13	14	18	7	9	10	6	5	5	3	7	6	2	6	5	3	5	5
35	25	13	19	10	25	7	5	9	9	12	7	3	3	4	4	3	2	4	6	7
36	15	11	15	10	15	16	11	12	2	2	10	10	6	7	4	5	4	3	4	7
37	17	20	12	12	20	12	15	10	7	5	10	9	8	7	11	6	6	6	4	10
38	19	10	13	19	11	12	12	6	10	5	9	6	9	3	6	6	5	8	4	6
39	27	15	14	17	13	12	9	6	10	4	8	6	6	5	7	2	6	8	4	3
40	19	14	19	10	16	15	14	7	5	6	9	4	8	1	4	4	3	6	6	10
41	18	14	16	17	11	8	11	5	8	4	9	10	4	5	8	7	7	7	3	4
42	18	13	16	12	15	20	11	8	4	6	7	17	6	7	12	2	6	9	5	4
43	10	22	17	12	9	7	12	7	9	7	7	5	5	7	7	1	8	10	4	4
44	17	21	14	13	11	14	14	10	11	8	9	5	4	4	10	3	2	3	6	3
45	20	17	16	12	7	13	14	5	12	6	2	8	3	8	5	4	7	5	5	3
46	[illegible]	[illegible]	17	20	10	14	10	5	6	17	[illegible]	10	5	2	4	3	7	6	3	9
47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17	6	11	9	[illegible]	[illegible]	[illegible]	[illegible]	8	4	3	4	5	5	[illegible]
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	3	[illegible]	[illegible]	[illegible]	[illegible]
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

D03-101

9 2 1 2 7 7 9 2 4

TITLE: 54529-28-A 92-02741-L-1

FILE: 5452928A.K;1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 9 23 91 11 38 0 ✓ 3/20/91 EA Lapel

TIME OF COUNT: 3 2 92 16 46 0

(232140. MINUTES DECAY TIME)

LIVE TIME: 40 HOURS 2 MINUTES 46 SECONDS = 2402.77 MINUTES

ELAPSED TIME: 40 HOURS 3 MINUTES 9 SECONDS = 2403.15 ✓ MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000 ✓

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FKR:	0
NOV:	1

D03-102

5452928A.K:1 54529-28-A 92-02741-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	144166	824	644	600	427	352	255	240	166	136	126	86	75	55	70	60	54	52	35	37
1	34	789	617	535	449	321	246	291	127	109	108	78	83	67	67	61	59	45	43	35
2	0	820	629	558	456	318	247	207	152	131	131	82	76	68	66	57	63	49	37	46
3	0	801	617	567	458	321	217	179	162	118	122	101	87	85	66	55	56	60	49	35
4	0	800	620	598	467	295	225	176	156	129	103	91	84	65	62	71	50	36	33	39
5	0	736	673	586	442	281	229	160	162	120	132	84	92	76	65	55	48	52	45	39
6	0	741	611	592	443	342	241	167	159	104	90	76	70	76	61	49	54	56	39	39
7	0	763	620	557	434	287	241	175	160	125	128	86	144	67	69	53	50	41	34	49
8	0	711	677	584	423	306	230	199	156	118	209	97	212	61	74	49	51	38	35	25
9	1	756	604	579	395	312	268	177	138	120	363	80	135	90	62	53	52	58	59	36
10	2882	692	607	530	430	297	237	184	143	116	362	80	94	59	63	45	50	54	77	33
11	24883	745	655	553	456	307	217	180	145	118	255	82	82	77	68	53	53	59	59	45
12	42824	730	600	558	381	305	207	189	163	119	178	84	93	77	51	53	51	51	45	32
13	24566	749	633	561	384	264	242	195	149	109	128	95	82	65	73	55	49	41	33	45
14	7728	749	657	548	380	284	212	163	154	122	109	98	78	78	63	47	55	51	49	51
15	2584	719	626	568	398	297	207	157	118	108	99	97	83	71	68	63	50	40	33	31
16	1765	752	619	562	406	283	220	194	152	120	115	75	74	60	52	59	60	59	42	44
17	1636	654	637	516	450	278	208	185	143	107	100	86	76	51	57	74	45	61	53	55
18	1602	606	675	533	423	317	220	178	140	98	112	103	86	60	55	73	52	51	32	55
19	1549	659	639	564	388	322	229	173	142	94	91	88	83	63	57	56	45	45	35	44
20	1537	661	643	554	377	311	205	198	158	115	95	81	69	63	63	67	50	54	41	51
21	1434	675	643	490	413	290	216	188	150	125	96	84	77	65	65	59	53	49	32	43
22	1427	707	604	513	374	279	213	185	126	133	87	86	74	61	60	56	64	45	43	43
23	1441	732	622	538	383	261	215	161	129	103	83	72	67	70	54	54	43	50	49	42
24	1330	756	617	583	438	288	204	171	141	99	87	80	64	60	62	46	45	44	42	42
25	1279	720	676	510	397	282	232	157	148	114	95	77	69	74	62	43	42	49	51	38
26	1269	679	652	535	395	308	226	177	145	133	78	106	79	52	80	56	71	44	33	32
27	1230	654	612	549	385	272	205	164	146	124	99	84	75	65	77	57	38	41	42	33
28	1208	657	664	509	378	253	217	162	152	124	93	85	69	79	54	52	53	43	52	35
29	1149	576	628	528	379	267	218	173	126	119	105	93	69	73	55	67	59	52	27	35
30	1172	631	622	471	399	271	208	176	130	120	92	83	71	62	62	57	45	42	43	31
31	1095	622	627	513	358	292	221	168	143	107	88	93	79	69	65	44	50	52	65	35
32	1048	667	661	497	374	276	207	162	131	113	105	135	90	56	72	61	45	52	41	50
33	1113	642	617	509	359	269	217	191	131	104	95	103	81	55	54	48	47	45	35	39
34	1045	679	588	582	380	294	218	163	152	145	97	91	76	71	56	57	57	47	47	44
35	1003	659	555	650	376	252	196	166	143	109	88	88	81	73	57	50	55	54	33	29
36	1024	652	583	536	344	281	236	176	131	117	95	100	77	61	56	52	52	45	39	33
37	957	701	680	497	466	244	224	159	121	115	89	85	69	66	63	56	46	45	43	37
38	935	661	657	513	517	263	213	169	138	104	89	93	75	69	61	59	54	33	35	33
39	953	614	689	508	363	238	216	162	113	132	104	82	88	67	65	54	49	50	41	38
40	996	651	608	477	460	265	200	157	133	98	109	76	85	65	64	54	55	47	42	32
41	875	702	600	481	400	256	207	148	146	106	99	96	69	61	55	49	47	39	35	34
42	864	816	624	479	344	252	167	173	118	121	85	85	70	84	61	56	64	57	35	41
43	841	713	602	473	342	301	199	140	137	106	100	55	77	66	61	45	54	40	47	35
44	897	696	620	490	317	272	202	169	123	115	85	104	65	66	50	56	54	36	40	35
45	[illegible]	[illegible]	614	492	349	280	156	160	107	117	83	[illegible]	61	55	69	46	[illegible]	38	35	36
46	837	[illegible]	593	454	305	259	106	150	127	106	82	95	71	65	65	53	63	37	41	46
47	850	[illegible]	576	580	533	231	192	180	158	105	100	97	70	86	55	67	60	49	53	49
48	[illegible]	[illegible]	551	543	341	294	219	144	133	124	92	96	73	73	53	46	[illegible]	[illegible]	[illegible]	47
49	[illegible]	[illegible]	575	[illegible]	116	[illegible]	217	161	118	122	[illegible]	96	70	70	[illegible]	[illegible]	45	[illegible]	[illegible]	51

D03-103

5452928A.K:1 54529-28-A 92-02741-L-1

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1	38	35	38	31	37	37	18	19	27	24	20	12	16	5	18	10	11	6	4	3
2	32	28	24	29	38	20	17	15	16	20	17	11	12	10	5	13	5	11	10	12
3	35	35	33	27	34	28	21	18	21	14	12	13	10	12	13	10	12	12	13	5
4	20	26	32	21	25	32	23	22	23	11	15	9	14	12	12	13	13	9	12	12
5	34	36	30	34	40	19	25	19	20	14	14	11	14	14	12	11	15	10	9	5
6	37	40	25	32	35	17	20	21	17	16	11	16	5	10	16	11	11	17	9	8
7	35	35	26	31	29	24	22	19	35	21	20	21	10	12	10	15	13	12	12	16
8	38	27	29	31	32	27	21	23	26	41	18	19	12	16	13	7	14	7	15	5
9	33	35	39	32	28	27	25	24	16	130	20	10	11	11	12	16	8	11	7	14
10	37	30	38	30	32	31	25	21	25	254	15	23	4	14	13	9	6	11	10	9
11	36	33	43	33	29	20	33	28	14	231	14	13	18	11	15	12	13	15	6	9
12	39	38	36	25	33	20	29	15	16	102	14	17	13	13	10	13	8	12	10	9
13	40	20	28	33	30	19	26	23	18	44	16	17	9	13	4	20	6	7	9	10
14	44	44	38	34	36	23	23	19	25	28	21	8	13	14	14	41	14	5	17	8
15	36	29	33	23	27	29	19	18	16	21	14	23	11	11	12	37	6	14	9	5
16	29	39	33	29	25	27	14	17	24	9	12	12	9	8	13	23	12	3	13	13
17	26	39	34	35	38	28	20	24	11	12	11	14	11	8	16	11	13	12	17	13
18	33	36	38	36	31	20	32	20	12	17	13	11	12	10	17	12	8	9	10	10
19	34	35	56	36	26	24	16	29	17	13	15	8	5	17	13	15	9	6	9	.
20	47	32	69	32	27	29	26	20	15	24	17	19	17	13	20	14	14	9	6	9
21	26	32	37	35	24	18	18	16	18	17	14	11	16	15	11	7	14	15	10	12
22	33	45	34	47	25	24	18	17	20	24	17	14	25	17	15	17	9	13	9	9
23	37	42	25	37	22	23	22	15	24	11	14	14	20	7	13	10	7	9	15	9
24	46	35	36	29	34	26	23	19	25	19	10	18	17	9	8	13	15	5	9	8
25	25	32	38	22	32	29	21	21	13	16	17	12	13	21	12	7	10	9	10	17
26	38	21	29	32	22	23	20	23	20	13	12	12	13	9	10	7	6	13	8	14
27	38	40	27	27	28	21	22	36	20	18	16	14	8	10	8	5	8	15	9	12
28	42	24	26	24	23	23	22	30	21	19	17	18	17	10	12	16	8	10	11	11
29	33	26	23	28	26	32	20	26	17	20	14	10	18	7	14	7	9	9	12	9
30	39	27	36	20	33	24	27	24	18	10	8	9	14	21	13	16	12	19	10	8
31	33	29	37	32	35	21	28	19	14	14	15	12	17	8	9	10	11	9	12	9
32	36	28	22	36	30	26	38	25	21	21	19	14	20	14	18	15	9	5	12	11
33	32	25	25	32	25	18	32	18	17	16	17	18	11	11	9	12	8	13	10	6
34	33	35	41	33	25	21	25	21	14	14	10	7	10	12	11	17	8	15.	6	11
35	24	32	37	30	30	23	15	18	17	13	19	17	9	6	11	14	12	8	11	13
36	20	21	33	29	34	11	28	18	25	15	13	11	17	10	10	13	11	13	10	9
37	42	36	40	36	39	21	20	19	12	21	17	13	8	12	9	6	15	9	15	7
38	37	31	45	22	46	21	22	13	19	8	14	22	16	19	10	9	11	7	10	12
39	26	32	38	19	34	21	19	15	12	16	12	15	12	7	15	9	13	11	7	11
40	36	28	30	25	41	41	27	27	14	23	5	16	14	15	12	14	14	13	10	6
41	41	32	32	22	27	22	21	16	16	15	12	20	18	13	12	10	4	7	12	13
42	38	41	31	26	33	28	27	21	18	20	16	26	10	11	6	10	16	10	9	9
43	34	35	25	37	30	18	17	17	10	19	12	26	12	18	11	9	12	16	10	12
44	31	33	45	25	14	15	23	21	22	11	13	23	10	15	7	20	9	8	7	11
45	35	30	20	34	28	27	23	19	22	14	13	13	11	7	10	20	9	16	17	11
46	[illegible]	[illegible]	25	37	18	17	23	27	8	12	11	20	9	12	5	16	11	12	5	8
47	[illegible]	[illegible]	[illegible]	25	25	22	34	27	24	15	22	11	[illegible]	13	12	5	13	12	11	2
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	16	12	8	17	17	5	8	9	18	8	12	3
49	37	[illegible]	[illegible]	[illegible]	17	21	29	19	19	20	10	17	5	8	10	15.	9	9	15	1

D03-10+

TITLE: 54529-29-B 92-02742-L-2

FILE: 54529298.K;1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~8 27 91 11 28 0~~ 9/20/91 10 16 3/20/92 SA Lopez

TIME OF COUNT: 3 5 92 10 28 0

(236090. MINUTES DECAY TIME)

LIVE TIME: 26 HOURS 12 MINUTES 16 SECONDS = 1572.27 MINUTES

ELAPSED TIME: 26 HOURS 12 MINUTES 30 SECONDS = 1572.50 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FLR:	0
NOV:	1

D03-105

5452929B.K;1 54529-29-B 92-02742-L-2

	.0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	94336	499	399	390	305	195	166	147	91	101	63	59	46	46	54	35	35	31	29	28
1	34	561	402	364	289	219	156	188	108	76	70	55	48	39	49	47	34	29	37	34
2	0	523	426	391	274	232	146	127	108	79	64	43	53	37	42	28	33	25	29	31
3	0	556	405	373	285	224	150	112	99	78	73	61	62	34	47	30	33	28	25	29
4	0	519	425	398	289	217	176	140	110	71	63	65	49	47	54	42	38	26	28	30
5	0	469	387	374	302	192	159	109	101	79	70	58	52	49	52	38	25	24	29	28
6	0	471	422	381	281	213	142	117	110	82	91	56	55	47	49	41	39	30	34	34
7	0	483	449	397	296	187	178	112	111	87	101	61	76	45	47	32	35	18	37	31
8	0	496	437	367	292	201	141	107	96	88	133	47	114	43	43	40	32	32	34	25
9	0	501	434	369	269	186	173	116	94	69	231	54	96	53	56	36	36	36	44	29
10	1337	449	419	370	303	195	154	115	101	81	230	58	74	68	44	38	27	35	47	23
11	15401	471	432	347	288	198	147	122	89	77	205	67	52	62	33	33	43	39	52	19
12	29449	462	415	361	272	204	152	124	95	84	118	47	47	49	34	40	33	30	43	24
13	17691	532	483	360	279	249	157	124	78	87	66	58	53	47	58	32	35	30	29	32
14	5713	467	406	342	249	212	158	99	109	71	71	49	49	50	40	28	36	32	28	32
15	1818	479	416	376	264	182	124	120	90	90	64	69	56	39	39	42	22	35	33	29
16	1183	510	428	345	268	216	142	92	96	81	76	52	58	45	29	47	35	31	39	33
17	1109	497	400	376	254	199	159	96	90	89	63	66	59	41	53	39	32	38	35	31
18	1081	501	416	329	246	180	140	134	90	84	75	54	55	39	39	43	38	27	25	50
19	1050	445	430	372	276	184	147	116	110	82	68	46	65	36	42	37	28	28	20	30
20	951	437	436	326	283	176	124	109	81	88	63	61	58	34	44	30	29	37	21	24
21	979	437	401	324	241	198	142	92	83	75	59	49	46	56	41	43	50	21	28	22
22	896	472	409	345	379	196	146	100	104	66	61	65	51	60	50	44	29	24	25	27
23	901	472	441	345	269	168	138	124	95	82	66	57	46	37	43	38	39	35	19	25
24	825	503	391	362	273	162	147	115	90	80	61	50	58	43	43	44	28	26	19	29
25	900	503	416	357	236	200	166	148	93	79	58	59	38	45	34	40	31	23	29	19
26	807	454	410	331	241	195	165	90	91	69	70	53	40	49	48	25	41	29	24	29
27	821	460	438	331	240	176	144	123	90	73	74	54	63	39	43	23	30	32	26	21
28	755	455	420	348	251	197	133	105	93	70	69	46	44	48	32	38	27	18	24	21
29	756	422	455	330	246	178	120	103	82	78	54	61	55	37	39	31	42	28	22	24
30	828	442	465	310	231	155	139	103	79	69	58	42	42	49	34	32	33	28	23	23
31	735	393	416	342	222	168	149	113	97	81	61	74	41	45	45	34	31	22	23	24
32	714	425	409	305	235	183	147	108	86	64	59	90	46	41	39	41	30	29	27	23
33	705	433	439	319	264	180	133	123	81	81	68	62	53	37	43	30	37	27	27	21
34	656	457	428	373	249	171	154	112	91	67	54	46	49	40	35	43	35	31	25	27
35	672	423	400	414	251	169	138	124	78	73	60	44	31	34	50	37	31	29	23	25
36	654	453	399	364	248	147	143	118	83	68	58	69	61	59	25	38	27	22	19	29
37	647	426	369	327	287	175	175	92	78	79	47	53	29	47	35	27	32	30	25	25
38	705	451	406	310	338	189	133	98	93	62	62	37	43	36	52	49	27	24	24	29
39	603	430	454	313	256	163	146	92	92	65	69	57	41	42	39	24	42	32	22	28
40	603	435	456	296	240	168	134	104	82	55	57	57	53	52	33	34	36	38	25	23
41	615	435	391	292	248	159	122	112	81	86	64	55	42	43	45	31	33	30	33	15
42	584	457	413	277	247	154	140	115	91	81	59	47	44	49	37	50	32	32	31	27
43	633	473	401	302	213	182	97	106	83	87	53	56	47	53	37	44	37	27	25	24
44	591	418	421	290	210	191	121	99	99	71	64	70	56	50	37	45	26	27	20	22
45	593	[illegible]	394	257	228	170	135	109	77	71	62	86	53	38	32	31	62	27	25	20
46	574	[illegible]	357	302	231	166	121	106	71	65	71	75	50	43	37	44	51	27	34	22
47	531	[illegible]	408	313	178	177	133	94	77	78	52	56	53	45	42	30	29	31	32	18
48	[illegible]	[illegible]	370	356	205	171	120	107	76	92	69	65	49	47	34	34	35	24	23	31
49	[illegible]	[illegible]	[illegible]	[illegible]	210	188	134	101	75	67	53	70	45	57	30	[illegible]	32	35	33	23

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5452929B.K:1 54529-29-B 92-02742-L-2

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	29	12	29	12	31	23	15	11	10	6	10	11	8	9	8	11	6	6	5	8
1	31	36	22	21	23	16	18	8	18	17	9	13	6	13	10	6	9	5	6	10
2	22	21	20	22	25	18	19	19	7	8	4	12	15	6	10	11	4	5	8	9
3	22	28	14	18	22	24	23	15	14	17	15	14	4	14	5	12	4	4	6	7
4	13	19	15	20	24	21	14	14	12	14	8	9	9	8	4	7	8	7	9	10
5	13	25	26	21	19	13	21	10	18	5	5	10	6	7	2	7	6	1	5	7
6	25	25	29	16	29	11	15	13	16	8	10	9	15	10	6	6	6	9	10	8
7	19	21	16	19	18	19	19	19	14	17	9	6	7	7	4	9	9	3	7	8
8	27	22	18	14	12	15	11	17	17	32	12	9	6	8	7	10	7	3	8	7
9	22	21	16	19	19	15	13	15	10	71	6	8	4	8	4	6	8	7	14	5
10	21	24	17	24	21	20	14	17	16	173	9	9	6	7	5	9	5	8	8	6
11	19	20	17	27	20	19	13	15	17	171	16	9	6	12	13	10	13	8	11	6
12	26	23	27	17	11	16	18	10	18	70	13	4	15	10	9	11	7	11	5	3
13	15	23	14	25	30	22	15	13	11	23	16	6	11	13	7	24	11	7	6	1
14	19	28	20	21	12	18	14	18	15	11	3	11	8	4	9	16	5	7	7	5
15	19	24	14	23	21	21	18	14	12	17	7	6	7	6	5	21	4	10	3	11
16	30	35	14	25	15	11	12	12	18	16	8	5	11	7	8	14	7	5	5	5
17	23	15	31	23	8	14	12	13	8	9	9	5	8	7	8	8	9	13	6	9
18	17	24	31	23	15	19	13	18	10	11	8	8	9	10	10	8	2	4	6	4
19	24	17	45	19	25	13	13	22	12	9	4	7	5	7	6	6	5	9	5	[illegible]
20	30	20	45	16	24	12	11	13	9	12	11	10	5	4	4	3	6	4	8	8
21	18	20	25	24	15	19	16	15	15	12	12	12	11	12	7	4	6	5	3	3
22	19	20	22	32	21	22	14	14	13	13	6	15	10	7	14	5	7	9	6	5
23	22	16	18	36	8	15	10	7	11	7	12	10	8	8	7	5	6	4	4	9
24	18	24	18	12	13	18	16	8	6	10	8	13	13	13	6	10	7	12	12	5
25	14	32	21	17	27	17	12	15	14	9	11	13	9	6	7	2	9	10	6	3
26	19	21	17	22	19	18	12	18	10	5	7	3	7	7	7	6	8	4	4	7
27	28	15	23	12	16	12	14	16	16	11	14	9	10	6	10	6	9	5	4	7
28	35	27	13	17	13	14	12	26	10	7	9	10	7	10	9	8	12	8	7	7
29	23	27	18	16	24	20	12	13	12	11	9	7	8	8	14	6	6	5	4	7
30	29	20	24	25	16	21	9	18	15	8	11	9	14	6	10	8	10	4	5	6
31	16	20	22	25	13	27	18	15	10	18	10	7	5	4	11	5	6	3	10	5
32	34	23	21	18	17	15	24	11	14	11	8	16	5	9	5	7	9	10	5	9
33	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
34	25	21	20	17	23	10	17	10	18	10	10	9	10	10	9	7	8	7	5	5
35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
36	20	26	10	10	15	9	12	10	16	8	7	12	10	2	4	7	7	8	9	[illegible]
37	25	21	26	27	28	22	13	11	11	6	5	9	4	7	11	4	11	5	7	13
38	19	21	22	23	22	13	15	12	8	19	10	12	12	6	7	8	7	10	7	8
39	17	26	21	12	24	20	14	14	11	12	6	16	8	10	7	6	4	3	12	3
40	20	27	27	12	15	12	14	12	11	7	8	10	10	5	8	11	9	11	5	8
41	20	23	20	9	20	19	17	13	11	8	14	16	7	6	9	6	5	6	8	2
42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16	8	[illegible]	[illegible]	[illegible]	[illegible]	10	11	5	9	3	7	8
43	32	24	20	20	11	12	20	9	11	9	8	10	12	6	7	[illegible]	5	11	[illegible]	6
44	20	27	18	13	23	21	14	10	13	14	8	10	[illegible]	15	4	14	2	7	7	10
45	[illegible]	[illegible]	27	22	20	11	16	17	15	12	13	5	6	6	3	7	9	3	5	5
46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22	15	11	9	4	[illegible]	[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]	[illegible]	3	4
47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25	17	11	15	9	11	[illegible]	[illegible]	[illegible]	6	8	11	[illegible]	3	4
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	10	6	5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	4
49	[illegible]	[illegible]	23	19	17	9	8	16	7	9	11	8	9	10	8	4	8	5	4	2

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TITLE: 54529-29-A 92-02742-L-1

FILE: 5452929A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~9 23 91 11 38 0~~ 09/20/91 1016 3/20/92 GA Lopez

TIME OF COUNT: 3 4 92 10 12 0

(234634. MINUTES DECAY TIME)

LIVE TIME: 24 HOURS 8 MINUTES 28 SECONDS = 1448.47 MINUTES

ELAPSED TIME: 24 HOURS 8 MINUTES 42 SECONDS = 1448.70 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FLR:	0
NOV:	1

D03-108

5452929A.K;1 54529-29-A 92-02742-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	86908	455	397	357	263	168	165	161	96	74	61	68	44	44	32	37	32	21	27	22
1	34	469	350	315	271	188	155	211	103	82	73	55	58	49	39	28	27	25	22	21
2	0	504	369	351	265	181	139	129	123	79	62	46	57	44	48	33	37	33	27	19
3	0	571	385	355	283	227	121	115	111	82	81	48	51	52	34	38	39	22	20	22
4	0	489	374	352	264	185	139	102	86	76	66	65	58	50	41	32	36	29	21	22
5	0	429	390	374	241	200	124	116	87	72	70	52	51	45	40	26	35	26	31	23
6	0	434	361	355	274	187	162	107	80	71	78	63	60	41	33	32	38	20	15	18
7	0	443	369	373	268	186	140	100	107	75	70	52	96	31	41	29	32	26	28	30
8	0	459	393	375	287	176	138	106	103	77	154	51	149	37	48	28	34	32	34	24
9	0	447	362	349	282	199	121	111	100	81	216	53	80	55	37	30	27	33	36	17
10	1355	445	364	357	223	171	143	120	96	70	216	53	47	42	39	35	35	32	42	29
11	14022	446	399	355	237	194	136	115	96	79	179	68	40	43	37	31	30	26	44	15
12	26071	475	393	329	219	187	147	125	82	50	109	58	55	45	45	35	27	24	31	24
13	15545	466	397	333	252	179	126	110	89	76	76	50	52	36	44	35	28	27	24	22
14	4932	431	343	339	256	189	136	113	94	76	64	57	44	26	36	23	33	26	21	29
15	1651	453	353	321	226	207	146	108	82	74	68	58	60	47	45	37	29	21	19	19
16	1009	492	403	312	223	182	136	133	95	81	76	34	53	39	39	37	21	41	27	31
17	962	451	385	345	232	171	128	109	90	73	73	51	48	40	44	41	30	35	15	35
18	935	415	360	324	223	175	135	112	97	75	65	56	39	41	48	29	22	32	21	36
19	919	416	390	298	247	172	148	96	81	76	64	53	39	33	29	42	30	31	34	35
20	919	369	353	306	234	172	131	93	100	74	65	50	44	43	37	31	26	26	23	21
21	909	401	365	340	237	169	124	99	89	70	42	55	44	47	31	33	30	23	24	17
22	849	419	302	319	214	175	113	98	98	86	50	52	30	42	40	34	32	33	15	16
23	855	441	369	297	228	189	139	102	78	66	57	67	36	42	37	37	29	30	25	18
24	798	451	347	340	234	165	154	122	92	64	57	60	30	43	43	36	25	34	25	27
25	756	403	369	328	244	178	141	102	93	76	64	47	39	29	38	30	24	21	29	25
26	743	416	403	342	223	144	123	114	84	91	53	56	45	31	49	27	36	28	22	18
27	791	415	396	320	240	184	133	109	74	76	75	57	47	45	46	27	29	22	17	30
28	707	388	350	283	235	175	145	109	65	64	59	76	43	31	31	38	26	28	24	25
29	679	400	410	319	230	158	145	102	92	82	51	68	49	48	31	24	26	24	28	20
30	708	415	382	293	227	148	134	89	74	80	50	54	33	41	44	30	21	22	19	17
31	698	382	401	323	207	168	122	104	65	66	45	68	50	25	34	31	23	33	20	20
32	667	380	378	320	229	148	131	78	94	78	79	84	40	45	33	34	29	33	17	29
33	607	407	411	318	239	161	126	82	89	70	55	67	45	34	40	26	31	37	32	22
34	670	424	383	364	222	169	137	106	87	75	63	42	41	38	39	34	27	32	26	25
35	656	427	382	394	244	151	131	121	78	69	40	51	53	39	24	25	30	31	30	27
36	643	374	387	316	218	152	126	109	89	80	71	47	46	38	36	27	27	22	23	24
37	583	375	392	293	286	169	147	97	72	82	62	58	34	33	32	35	26	24	21	20
38	624	415	384	289	319	152	145	100	74	64	55	50	45	39	35	38	27	20	31	10
39	565	423	413	281	243	145	132	104	89	53	47	54	36	35	37	40	32	28	22	25
40	501	391	368	375	280	158	113	104	93	68	55	48	44	45	32	35	41	30	24	23
41	607	457	393	294	237	164	117	104	72	61	61	64	42	39	32	36	37	37	19	20
42	579	431	367	305	226	156	125	81	82	66	61	51	59	43	39	34	43	31	27	25
43	502	470	410	275	218	168	112	97	87	72	45	53	53	49	34	34	20	27	20	22
44	506	347	375	317	206	231	105	92	76	69	57	74	45	43	42	27	37	26	30	25
45	525	370	380	291	201	178	109	115	93	72	60	74	44	38	39	30	37	23	25	13
46	523	331	361	267	204	185	154	92	76	64	[illegible]	[illegible]	45	43	40	30	34	20	15	20
47	514	370	367	334	196	166	114	100	74	75	68	43	44	43	29	27	40	32	15	21
48	[illegible]	[illegible]	379	345	200	158	100	94	85	69	51	58	45	42	40	31	35	32	20	21
49	[illegible]	[illegible]	365	[illegible]	[illegible]	141	100	85	55	79	[illegible]	[illegible]	35	39	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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5452929A.K;1 54529-29-A 92-02742-L-1

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1	26	24	23	24	24	16	9	8	14	19	9	7	7	9	6	2	5	6	5	7
2	25	22	18	15	16	16	12	8	15	10	12	14	6	4	9	4	2	9	7	6
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4	23	25	14	21	18	16	12	16	7	9	7	6	2	10	11	6	3	5	9	4
5	15	27	17	26	15	16	17	5	12	7	10	12	5	9	9	7	10	6	10	5
6	21	26	22	18	20	15	20	11	14	8	10	13	6	3	6	12	6	8	8	4
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9	19	16	19	9	22	16	13	12	11	89	5	6	8	10	3	8	7	8	12	5
10	15	25	26	18	16	16	15	11	10	151	19	5	12	8	2	7	6	5	6	7
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13	21	15	18	24	14	11	8	7	14	18	8	4	7	4	6	19	6	10	5	5
14	25	24	13	23	16	23	11	11	11	10	15	10	9	4	8	19	2	7	6	6
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29	28	15	25	18	23	21	11	14	12	6	11	8	10	8	9	10	7	7	4	0
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33	25	16	21	19	21	17	13	13	10	14	10	11	0	13	11	5	0	5	1	0
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37	23	14	26	16	22	8	8	12	6	10	4	10	9	13	6	5	7	10	9	3
38	20	15	15	19	25	12	14	14	11	8	11	16	7	8	7	5	9	4	3	0
39	21	13	27	16	13	10	10	9	6	7	7	8	6	4	1	5	2	8	9	3
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46	27	21	21	24	9	15	13	8	9	3	13	7	13	4	9	5	7	9	4	6
47	21	22	21	11	16	12	10	9	17	9	3	10	8	9	7	6	12	0	9	4
48	17	18	17	17	18	11	15	10	6	8	6	5	10	3	5	6	5	6	4	4
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9 2 1 1 9 1 9 3

TITLE: 54529-30-A 92-02742-L-3

FILE: 54529[illegible].K;1

CHANNELS: 2[illegible]

SHELF: 0

DIODE: K

TIME ZERO: ~~11 12 91 10 20 0~~ 9/20/91 10 16 3/20/92 EA Lopel

TIME OF COUNT: 3 17 92 16 15 0

(181795. MINUTES DECAY TIME)

LIVE TIME: 17 HOURS 51 MINUTES 50 SECONDS = 1071.83 MINUTES

ELAPSED TIME: 17 HOURS 52 MINUTES 0 SECONDS = 1072.00 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.[illegible]

GAIN: 1.[illegible] KEV/CHAN

WEIGHT: 0.[illegible]

PLT INT:	0
PLT LEG:	0
ANTI CLR	0
SLF MAT:	0
AR[illegible]:	0
PTR:	0
ER[illegible]:	0
ZE[illegible]:	0
OV[illegible]:	0
NOW:	1

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54529-30-A 92-02742-L-3

54529-30A.K:1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	933	950
0	[illegible]	419	315	337	273	208	152	144	112	103	67	48	49	45	40	31	18	25	24	19
1	34	436	330	359	280	192	145	149	120	102	72	51	28	38	36	29	22	27	20	19
2	0	400	327	308	255	199	146	143	115	120	64	52	45	42	36	29	25	19	19	14
3	0	441	319	334	275	195	136	131	104	96	61	37	43	35	31	28	22	22	19	22
4	0	497	327	323	297	202	141	125	111	82	90	64	51	35	28	27	28	19	24	19
5	0	413	327	334	261	173	154	116	94	101	66	64	46	41	27	32	27	35	20	13
6	0	430	338	291	248	184	131	120	121	119	60	42	46	36	25	20	24	22	22	15
7	0	411	364	351	273	181	157	115	119	102	90	42	61	42	24	25	32	19	19	15
8	0	401	359	297	258	188	136	135	105	104	103	64	66	41	24	25	27	21	23	12
9	3	410	370	308	272	189	147	131	118	94	143	46	62	237	34	29	22	22	23	21
10	1791	381	375	326	253	180	132	141	128	98	181	59	49	1320	29	24	28	35	24	29
11	[illegible]	403	352	335	253	170	143	116	106	120	138	60	49	2100	24	34	15	23	54	15
12	[illegible]	359	357	325	200	179	126	112	117	101	100	47	43	823	33	17	14	12	24	29
13	[illegible]	493	356	293	251	195	132	121	101	98	88	61	49	152	23	18	16	21	25	23
14	[illegible]	310	356	324	255	186	143	120	105	94	81	64	49	31	29	22	15	21	26	20
15	1210	412	301	313	240	181	115	133	101	113	76	49	32	38	24	35	16	19	24	21
16	[illegible]	[illegible]	338	256	266	180	146	127	117	112	67	52	49	32	27	20	22	26	15	17
17	612	[illegible]	302	301	252	160	151	108	117	117	52	52	49	32	24	18	15	35	25	20
18	[illegible]	345	302	308	225	194	135	116	107	117	68	42	40	34	26	23	12	26	16	19
19	827	[illegible]	305	280	252	178	137	122	95	82	62	44	43	28	33	18	20	25	12	33
20	797	300	351	309	251	170	119	108	104	102	59	45	43	39	25	24	19	20	28	21
21	770	[illegible]	316	251	248	171	145	135	106	86	57	52	45	31	12	23	26	25	13	23
22	721	376	376	254	247	139	138	116	105	97	63	40	36	27	22	29	16	31	21	12
23	[illegible]	[illegible]	322	370	225	182	135	114	116	87	51	53	45	34	27	21	23	19	15	12
24	770	412	345	307	214	169	178	101	108	103	69	44	47	27	33	24	24	17	21	18
25	[illegible]	[illegible]	342	318	207	145	144	123	114	111	61	51	48	31	39	28	24	14	11	23
26	[illegible]	[illegible]	353	269	254	180	155	116	126	85	57	54	37	35	40	30	24	19	21	19
27	[illegible]	[illegible]	374	250	227	165	128	106	105	101	54	53	36	24	18	26	28	14	22	14
28	[illegible]	362	371	204	239	169	130	111	103	90	63	55	46	20	38	21	17	22	19	23
29	[illegible]	[illegible]	336	279	237	145	149	108	98	90	49	50	40	25	30	25	26	24	27	17
30	576	357	369	309	225	134	149	97	87	97	65	48	34	35	20	29	25	22	20	15
31	[illegible]	351	329	267	214	170	145	122	109	78	51	60	33	28	22	23	30	21	19	19
32	[illegible]	[illegible]	347	310	242	144	114	119	107	96	58	80	41	39	19	16	25	15	18	20
33	[illegible]	[illegible]	357	301	247	157	128	118	107	92	30	68	50	29	24	28	23	16	27	13
34	[illegible]	343	347	329	286	156	148	117	101	90	59	49	39	33	33	24	17	25	19	18
35	570	[illegible]	354	322	178	162	137	94	114	81	61	73	54	32	32	34	19	24	13	9
36	[illegible]	[illegible]	334	334	192	152	157	110	84	81	72	52	45	38	43	25	33	25	22	9
37	[illegible]	[illegible]	337	334	217	172	110	96	106	80	57	33	44	20	24	25	24	15	19	11
38	[illegible]	[illegible]	339	308	290	159	140	116	127	77	44	33	42	26	23	23	24	26	21	24
39	[illegible]	[illegible]	376	319	199	142	153	117	100	68	45	45	42	27	30	21	28	23	18	16
40	[illegible]	[illegible]	370	291	200	151	127	115	101	84	39	41	42	33	25	30	32	23	17	25
41	[illegible]	[illegible]	304	288	191	164	124	107	106	75	57	54	43	30	20	23	34	17	21	14
42	[illegible]	[illegible]	387	277	217	156	137	107	93	75	65	40	47	32	21	20	21	21	13	11
43	[illegible]	[illegible]	304	285	150	152	120	119	102	85	63	51	47	31	34	22	24	20	18	12
44	[illegible]	[illegible]	338	284	200	202	119	120	85	80	53	64	37	30	30	14	30	21	21	12
45	[illegible]	[illegible]	[illegible]	[illegible]	167	168	118	96	95	76	45	61	52	31	12	19	33	16	15	15
46	[illegible]	[illegible]	[illegible]	250	[illegible]	[illegible]	132	111	101	82	50	[illegible]	33	31	38	30	40	12	21	21
47	[illegible]	[illegible]	316	217	217	154	111	108	122	80	40	42	39	28	40	30	32	19	10	12
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	107	113	62	57	[illegible]	45	25	31	28	17	15	[illegible]	21
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	134	83	51	[illegible]	[illegible]	[illegible]	31	[illegible]	17	[illegible]	21	[illegible]	19

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5452930A.K:1 54529-30-A 92-02742-L-3

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1	20	20	14	12	16	6	11	14	7	9	5	9	3	11	5	6	7	6	4	5
2	13	18	24	13	15	13	5	10	8	8	10	5	6	2	2	4	8	3	7	5
3	12	16	14	15	20	14	14	5	7	8	7	3	6	3	5	4	3	5	4	3
4	18	12	19	18	20	13	13	8	12	4	7	7	7	4	5	5	1	3	3	5
5	10	22	20	10	15	8	12	4	7	7	2	6	7	3	6	4	6	7	8	1
6	18	24	17	19	9	11	12	7	7	9	9	14	6	3	5	3	11	6	3	3
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9	15	16	16	18	14	12	10	8	6	16	5	5	6	5	4	5	10	3	6	5
10	16	18	19	8	17	14	16	7	3	31	5	4	1	7	6	5	8	5	7	2
11	15	21	11	10	17	18	9	7	3	103	6	4	11	8	4	2	2	1	4	5
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16	14	18	13	11	21	11	8	8	6	2	4	5	7	7	7	12	3	6	4	1
17	21	18	14	13	11	12	16	8	7	6	6	8	6	4	3	9	8	2	3	8
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39	15	13	17	19	17	11	8	10	10	6	4	8	9	6	1	4	5	3	1	4
40	19	16	16	7	21	14	6	5	13	8	4	10	8	7	6	4	3	7	8	2
41	15	15	16	18	18	11	12	8	11	11	8	8	7	5	5	3	4	6	5	9
42	12	17	9	7	22	8	7	7	5	8	6	8	8	5	3	6	2	9	4	5
43	17	13	16	14	9	12	9	9	12	5	8	6	5	8	7	1	6	6	7	2
44	12	13	18	8	11	7	7	12	8	10	10	6	3	4	4	3	5	4	2	1
45	12	8	11	14	6	16	8	11	9	9	8	7	5	7	5	3	9	5	4	3
46	13	12	12	15	16	8	10	13	6	7	4	9	6	4	4	8	5	4	5	3
47	16	15	12	20	9	8	8	4	7	10	6	3	6	4	8	5	3	7	3	7
48	11	13	11	12	8	11	9	14	8	3	5	7	6	5	5	5	10	5	5	8
49	9	14	15	9	11	7	11	14	2	7	6	5	5	3	2	3	5	6	4	3

D03-113

9 2 1 2 5 9 0 9 7 5

TITLE: 54529-31-A 92-02742-L-5 ✓

FILE: 5452931A.K;1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~2 28 92 13 49 0~~ 9/20/91 1016 3/20/92 EA Lopel

TIME OF COUNT: 2 28 92 13 49 0 ✓

(0.000000 MINUTES DECAY TIME)

LIVE TIME: 74 HOURS 50 MINUTES 37 SECONDS = 4490.62 MINUTES

ELAPSED TIME: 74 HOURS 51 MINUTES 18 SECONDS = 4491.30 ✓ MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.000000 ✓

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

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5452931A.K;1 54529-31-A 92-02742-L-5

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	269437	1440	1067	1087	820	589	473	469	276	237	199	164	159	143	113	96	76	74	71	65
1	34	1472	1185	1080	811	581	447	522	286	228	221	151	143	136	130	115	100	103	89	72
2	0	1525	1144	1049	816	640	447	436	255	216	211	147	163	145	110	93	107	77	67	81
3	0	1627	1157	1037	801	578	469	348	277	223	184	171	159	136	137	90	99	83	97	63
4	0	1487	1190	1034	861	606	413	360	258	227	194	161	159	126	126	116	76	103	65	77
5	0	1371	1145	1031	848	552	439	328	306	249	193	151	148	141	122	103	91	82	95	56
6	0	1396	1166	984	781	567	428	341	281	240	219	178	154	116	142	117	85	60	85	77
7	0	1371	1161	1028	792	565	407	329	235	250	266	157	242	141	119	102	82	84	71	67
8	0	1355	1159	1051	757	588	437	341	298	219	428	151	320	119	124	100	79	84	78	69
9	3	1313	1200	1026	814	567	432	307	257	217	579	165	231	136	123	116	89	95	119	64
10	5611	1289	1215	1046	779	560	427	345	245	233	657	161	148	155	129	98	95	104	137	75
11	49941	1344	1113	1016	803	503	425	338	263	244	464	160	153	138	97	97	96	86	129	62
12	84799	1349	1175	998	724	563	448	343	269	237	317	166	161	122	118	95	90	74	95	74
13	46503	1398	1065	1042	768	533	439	318	282	229	226	167	139	113	103	86	82	88	60	77
14	14672	1287	1176	1011	765	520	452	346	270	251	158	178	126	139	104	98	96	92	95	73
15	4683	1350	1188	1001	748	554	429	307	267	209	158	181	133	118	132	123	84	77	60	60
16	3266	1376	1178	1044	781	529	425	339	252	201	200	174	144	151	114	114	97	99	90	85
17	3106	1235	1158	1004	754	562	403	315	262	206	178	165	156	127	100	120	95	113	93	100
18	2983	1204	1120	1049	775	581	407	322	252	219	171	148	145	113	121	112	82	97	55	117
19	2885	1250	1137	954	692	521	382	301	252	206	176	134	141	139	113	109	89	84	85	91
20	2760	1213	1196	908	721	539	408	313	239	224	201	170	175	106	118	99	103	72	74	92
21	2617	1306	1107	962	680	537	384	325	232	244	207	162	135	120	116	101	93	92	74	60
22	2607	1297	1110	955	659	516	387	312	250	229	164	152	154	128	119	113	80	74	85	69
23	2553	1277	1119	956	708	493	394	305	260	183	160	157	134	124	103	97	81	84	69	58
24	2515	1492	1166	1030	707	512	440	296	257	227	175	165	143	133	114	103	95	90	73	54
25	2511	1429	1174	990	701	526	434	310	241	226	178	148	121	110	122	96	96	70	55	72
26	2341	1241	1118	961	707	477	417	307	264	238	168	134	123	102	145	93	105	69	84	53
27	2213	1217	1125	949	670	489	410	321	260	195	187	161	137	125	135	99	84	99	73	74
28	2135	1174	1160	930	713	539	463	312	252	242	163	173	128	107	107	105	78	77	54	74
29	2151	1175	1137	901	661	536	405	340	242	204	164	162	137	113	112	94	86	74	74	70
30	2105	1198	1184	837	711	523	425	299	238	193	196	167	139	130	118	101	87	76	64	67
31	2039	1100	1158	925	681	525	346	308	264	225	179	219	124	129	107	99	80	90	78	59
32	2075	1175	1141	895	729	490	389	326	247	214	161	224	150	125	120	93	103	90	75	74
33	1971	1227	1148	846	658	450	367	308	252	239	157	205	129	118	114	88	96	79	95	55
34	1992	1263	1091	1120	683	526	371	312	223	203	165	145	143	113	100	107	100	73	79	63
35	1839	1227	1084	1167	697	477	352	290	245	184	164	154	139	128	87	101	97	67	74	56
36	1873	1192	1169	934	678	474	352	284	243	203	169	156	118	119	105	100	94	67	73	61
37	1774	1229	1148	885	829	473	417	289	240	223	160	152	158	103	114	114	86	77	61	69
38	1705	1177	1184	914	816	451	397	302	244	196	170	145	128	117	108	93	105	70	75	63
39	1776	1112	1286	853	683	447	367	307	234	204	160	158	121	109	104	93	87	85	76	59
40	1731	1204	1230	857	646	468	362	274	223	202	178	155	113	138	106	85	87	71	75	73
41	1708	1203	1087	909	628	459	302	287	233	191	182	147	135	132	99	82	100	63	73	71
42	1656	1302	1093	896	649	472	362	271	232	211	176	130	124	119	111	95	83	73	70	51
43	1626	1235	1105	831	598	478	383	299	244	237	145	165	121	107	99	111	96	90	77	64
44	1558	1191	1059	903	598	524	401	290	242	193	174	216	149	136	105	90	113	81	73	52
45	1515	[illegible]	1070	[illegible]	641	477	364	271	250	194	165	209	125	126	121	107	154	85	74	[illegible]
46	1661	[illegible]	1169	[illegible]	[illegible]	462	348	288	256	195	184	162	127	138	100	97	154	95	85	56
47	1509	1175	1075	[illegible]	580	495	358	282	232	197	159	170	145	121	109	85	120	71	79	61
48	[illegible]	[illegible]	1091	[illegible]	613	495	330	291	245	238	155	165	158	110	105	95	83	77	87	[illegible]
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	276	229	[illegible]	166	[illegible]	[illegible]	[illegible]	107	90	[illegible]	[illegible]	[illegible]	65

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5452931A.K:1 54529-31-A 92-02742-L-5

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	89	64	76	48	72	52	36	35	28	27	30	22	29	17	23	20	21	15	14	15
1	63	57	65	41	46	49	38	24	28	21	24	27	36	27	23	16	17	17	13	24
2	64	73	61	49	42	49	26	33	38	36	26	24	20	17	19	17	23	17	15	19
3	52	50	48	42	57	42	46	43	29	28	28	22	28	20	18	17	21	23	15	15
4	52	58	63	57	80	32	28	36	28	31	33	24	27	14	24	17	24	12	21	21
5	57	69	57	47	66	43	41	33	29	24	32	22	28	20	18	17	22	14	21	17
6	72	61	54	54	43	59	27	40	43	33	26	21	21	26	18	18	23	23	24	11
7	52	66	58	51	56	61	40	44	45	36	22	21	18	28	24	22	23	20	14	7
8	51	53	58	42	55	60	52	41	31	67	28	29	21	20	26	26	24	19	23	22
9	66	59	50	50	49	49	36	44	32	198	36	19	9	28	21	18	14	10	14	12
10	75	68	56	54	53	49	44	40	37	416	38	22	22	24	19	10	28	25	16	16
11	51	67	64	48	42	44	33	33	35	392	20	24	26	25	29	19	14	16	17	21
12	67	60	42	50	58	53	40	33	35	167	26	29	29	13	25	28	24	20	23	25
13	67	64	54	62	59	43	36	32	31	50	25	23	29	21	29	43	25	15	15	13
14	74	63	65	48	49	35	34	29	27	25	32	30	22	20	23	76	21	21	15	17
15	65	63	59	64	61	44	34	38	36	27	35	21	20	25	13	42	19	18	15	16
16	62	51	55	63	56	42	43	47	26	27	19	28	19	18	28	38	14	19	12	21
17	76	60	52	60	57	32	48	36	36	18	28	22	23	27	27	24	24	16	17	17
18	65	64	77	64	57	38	44	31	32	30	25	28	30	21	21	14	18	15	20	30
19	62	74	123	51	46	55	46	30	30	28	36	24	26	34	21	20	23	20	21	2[illegible]
20	62	65	94	59	56	50	38	40	46	33	21	24	22	19	20	30	18	13	14	17
21	73	62	60	58	54	51	33	42	35	33	30	23	21	26	21	28	21	13	22	24
22	65	65	53	90	51	53	50	37	46	24	30	26	19	19	18	23	22	16	25	14
23	65	65	42	82	42	50	36	39	34	34	31	21	19	16	19	22	16	25	23	17
24	73	55	61	51	45	39	43	39	27	21	19	20	19	23	21	23	17	17	16	17
25	57	73	43	52	62	37	35	33	40	24	18	25	23	20	28	21	18	18	20	29
26	71	63	44	51	54	47	26	40	38	22	28	23	23	24	30	20	24	16	15	25
27	52	60	51	48	64	48	47	38	25	31	27	28	27	15	34	16	23	17	13	19
28	50	65	47	59	52	47	42	49	25	29	16	30	30	24	13	22	15	8	15	17
29	66	59	59	66	47	51	42	38	24	30	26	26	25	20	25	25	14	19	19	13
30	84	61	66	51	51	42	43	48	30	27	23	19	23	28	27	28	16	17	21	16
31	76	60	47	48	59	48	65	44	36	26	24	28	24	18	28	14	19	24	13	23
32	60	71	51	65	41	34	76	32	47	23	36	27	19	15	15	27	23	23	19	15
33	69	65	53	56	50	41	41	35	27	27	22	21	21	24	25	25	21	28	11	19
34	66	64	55	63	51	42	40	30	35	15	19	22	23	19	23	17	23	27.	14	9
35	64	53	60	57	44	35	34	33	32	22	29	19	17	16	24	23	24	16	19	20
36	64	57	66	63	58	42	37	40	42	34	28	24	25	30	18	13	15	14	19	13
37	53	61	59	53	67	44	54	38	35	9	24	17	15	29	23	19	14	17	14	16
38	70	61	68	53	67	37	38	40	31	30	28	37	22	18	21	26	19	18	20	19
39	67	52	59	45	64	52	39	30	26	31	32	30	26	26	32	16	21	17	17	20
40	72	62	60	48	62	44	42	36	30	18	21	30	27	30	18	17	25	27	25	24
41	57	73	51	60	57	37	38	47	30	27	30	35	17	16	18	16	11	20	16	17
42	64	49	51	48	59	44	33	40	32	23	21	40	32	21	22	17	18	15	18	18
43	59	45	62	57	42	49	27	37	22	28	30	33	27	24	27	18	15	21	16	16
44	76	56	51	54	34	50	37	45	37	25	32	31	21	21	15	16	15	22	17	21
45	67	65	44	56	46	42	43	26	30	26	32	18	24	21	16	20	24	19	19	12
46	[illegible]	[illegible]	[illegible]	[illegible]	47	52	34	38	32	27	27	27	17	20	11	22	23	12	20	14
47	[illegible]	[illegible]	[illegible]	[illegible]	54	33	36	29	43	24	30	30	18	25	15	21	24	12	13	13
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	33	[illegible]	[illegible]	[illegible]	[illegible]	22	14	15	22	22	17	17
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	49	37	31	38	[illegible]	[illegible]	[illegible]	[illegible]	28	20	15	[illegible]	19	15	24

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TITLE: 54529-32-A 92-02742-L-6

FILE: 5452932A.K:1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~11 12 91 10 20 0~~ 9/20/91 10 16 3/20/92 EAHagel

TIME OF COUNT: 3 18 92 10 58 0

(182918. MINUTES DECAY TIME)

LIVE TIME: 26 HOURS 15 MINUTES 26 SECONDS = 1575.43 MINUTES

ELAPSED TIME: 26 HOURS 15 MINUTES 42 SECONDS = 1575.70 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D03-117

00

5452932A.K;1 54529-32-A 92-02742-L-6

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	94526	684	523	510	421	305	211	216	181	147	107	85	69	61	45	42	23	31	29	25
1	34	616	504	484	395	276	207	251	166	159	111	97	67	78	39	24	33	23	30	27
2	0	675	508	508	401	284	230	239	164	156	101	73	77	61	50	37	30	38	25	24
3	0	733	544	492	388	270	208	194	161	156	103	79	71	64	40	40	38	30	28	21
4	0	619	491	460	402	285	222	196	156	145	114	83	60	68	46	42	46	28	35	35
5	0	655	499	518	363	266	230	193	151	138	120	77	67	61	43	40	38	35	39	21
6	0	615	491	492	381	269	214	197	165	175	115	74	63	51	46	32	29	31	23	18
7	0	630	552	465	388	285	221	177	175	163	106	83	100	74	38	48	29	34	29	27
8	0	648	524	477	381	273	198	212	174	150	150	80	116	72	44	38	34	28	29	35
9	1	601	556	488	387	264	209	170	143	143	204	68	140	213	40	40	35	27	26	31
10	2007	589	506	473	423	271	209	205	173	169	248	75	91	1367	35	27	38	25	38	24
11	18172	555	582	477	372	249	206	175	159	162	251	82	66	3060	36	44	30	31	63	28
12	29455	599	535	469	378	250	233	172	181	152	185	68	59	1710	31	36	34	28	44	31
13	16094	656	565	474	354	267	175	181	181	148	133	102	79	341	44	42	33	36	27	31
14	5289	596	521	442	388	265	218	179	135	128	114	66	72	80	38	27	24	21	32	27
15	1875	597	529	454	355	267	240	149	164	158	105	65	54	44	47	27	32	28	19	31
16	1414	619	535	475	370	265	177	174	177	167	91	75	66	41	39	46	38	24	25	16
17	1333	606	521	473	369	244	206	167	159	157	98	77	57	48	45	45	37	35	30	28
18	1285	562	532	463	351	252	195	165	150	135	80	76	69	33	45	34	28	33	22	29
19	1232	574	513	467	339	261	218	185	152	137	98	80	64	47	35	42	39	33	31	41
20	1205	568	502	500	364	273	218	200	153	150	97	60	67	43	33	55	31	28	36	35
21	1093	566	563	438	343	275	212	185	174	139	80	85	66	54	33	28	41	26	29	22
22	1116	573	552	449	336	281	215	179	141	146	96	74	72	52	37	39	28	34	32	25
23	1060	570	493	442	328	258	209	187	161	196	97	72	54	43	34	27	45	23	27	21
24	1109	638	550	466	383	240	209	174	169	155	88	68	68	45	35	34	24	34	18	19
25	1081	592	509	430	347	244	215	193	165	145	81	77	76	43	44	34	25	28	21	21
26	997	540	573	444	338	228	201	157	159	131	101	71	65	47	48	40	44	28	35	24
27	988	558	495	391	335	263	206	172	169	126	100	65	55	43	46	35	30	32	24	29
28	991	598	546	458	359	246	202	157	128	137	110	76	70	40	38	38	39	35	32	26
29	962	543	541	461	323	217	193	173	136	125	95	58	60	38	47	35	35	19	34	44
30	910	532	501	440	330	256	192	159	179	128	85	69	69	42	43	33	39	32	29	24
31	889	533	508	431	344	234	186	169	148	119	81	73	53	30	34	33	29	25	27	27
32	854	504	482	486	350	241	196	185	152	138	70	100	61	60	37	40	41	20	25	27
33	913	562	516	438	318	218	195	180	153	127	82	104	59	46	46	40	32	28	28	28
34	796	599	468	505	315	236	193	188	146	117	73	84	65	41	34	24	39	20	29	28
35	887	567	507	582	302	244	197	151	133	131	90	69	68	43	45	36	33	29	25	22
36	780	531	537	500	320	269	199	166	156	121	84	54	56	46	40	45	34	29	22	18
37	863	534	533	458	375	233	195	180	139	133	82	75	69	46	47	34	33	28	29	24
38	782	535	530	450	414	241	203	147	154	108	77	77	64	49	47	44	32	34	30	24
39	796	549	527	453	365	237	220	179	156	100	83	76	50	48	27	45	35	31	37	26
40	824	518	520	414	337	237	167	191	157	105	83	72	48	39	43	37	36	28	27	34
41	751	557	534	410	326	216	176	156	156	124	79	59	70	43	38	34	37	25	22	25
42	780	604	517	401	286	227	180	142	156	119	86	71	70	61	30	40	41	27	37	25
43	773	599	537	450	311	225	195	167	157	103	90	72	66	52	25	34	35	28	26	20
44	712	490	502	436	315	231	201	170	169	114	79	74	57	41	31	39	31	26	25	22
45	750	579	478	417	307	255	182	164	146	135	73	103	78	33	42	42	38	38	29	43
46	713	534	485	450	305	238	165	180	144	113	70	96	50	34	50	33	57	29	29	30
47	663	514	488	498	287	221	180	167	168	103	74	99	74	47	39	45	58	26	21	15
48	646	575	495	475	324	223	184	173	163	117	74	80	64	52	37	33	57	25	29	24
49	661	520	495	445	282	224	170	165	181	108	87	61	66	46	43	37	46	20	21	27

D03-118

5452932A.K:1 54529-32-A 92-02742-L-6

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	29	30	27	24	15	14	23	7	15	7	7	9	7	5	12	9	6	9	4	7
1	30	20	29	18	24	24	11	13	7	14	14	10	15	9	7	11	6	8	7	7
2	30	29	23	17	22	11	16	13	10	7	9	7	11	11	8	12	9	12	8	2
3	30	21	27	30	23	14	15	12	13	10	14	7	5	6	8	9	9	10	7	2
4	23	28	30	14	30	10	17	16	11	13	12	10	9	10	5	6	4	7	10	5
5	15	26	21	25	17	19	18	17	12	7	17	11	7	8	8	8	7	10	4	6
6	23	20	16	28	26	20	17	9	11	8	9	8	8	8	8	7	8	10	7	7
7	31	22	17	20	24	19	13	10	18	10	10	9	9	14	10	9	5	10	7	3
8	19	29	23	27	17	18	15	9	17	13	8	9	5	3	10	6	2	3	6	11
9	28	25	18	16	18	25	9	15	19	19	12	8	12	4	9	7	10	4	4	3
10	17	26	22	22	23	18	18	12	14	34	15	8	7	4	10	8	8	6	5	8
11	29	21	20	22	17	19	15	20	5	120	12	6	7	7	11	7	8	6	5	4
12	21	26	21	21	14	20	16	16	16	187	14	13	5	7	9	7	7	5	3	6
13	31	31	22	30	19	20	11	13	13	143	9	10	9	6	13	10	6	7	6	8
14	29	21	23	25	19	16	18	8	14	52	11	8	18	9	7	7	4	7	5	6
15	19	35	17	11	13	10	14	22	18	13	5	4	13	8	9	3	8	6	12	7
16	25	17	18	20	17	19	12	19	12	11	8	11	16	6	6	20	7	5	4	10
17	37	23	19	15	23	20	18	14	13	15	10	5	8	5	8	15	9	9	9	3
18	26	20	24	19	17	13	8	9	11	7	16	6	9	9	9	23	6	8	7	2
19	25	20	26	12	21	13	10	17	8	12	8	5	5	8	5	12	5	14	6	1[illegible]
20	26	19	33	14	26	14	15	12	9	11	11	6	9	6	3	2	7	7	7	11
21	26	21	50	19	14	13	19	10	9	6	10	8	15	9	8	12	5	8	5	7
22	23	25	33	23	9	19	12	7	12	14	6	12	18	8	9	11	4	10	9	8
23	31	21	34	38	23	20	14	8	9	11	9	9	18	6	11	10	8	10	4	6
24	18	27	24	34	15	22	11	13	11	13	6	6	13	8	7	6	8	8	7	4
25	33	24	23	34	21	14	25	5	18	7	15	5	12	9	4	12	7	4	3	13
26	41	26	18	25	19	20	14	10	20	12	14	8	8	3	7	11	6	5	4	6
27	27	18	13	19	22	19	16	18	10	13	8	12	7	7	10	7	9	9	5	9
28	26	26	16	19	16	24	15	20	5	10	5	9	8	12	10	6	7	9	5	4
29	19	23	26	20	14	20	10	18	13	11	6	8	6	9	6	9	1	5	6	8
30	20	23	28	18	12	14	11	15	13	12	11	9	12	7	7	4	3	3	7	7
31	21	18	28	20	29	16	16	17	14	9	10	9	14	13	10	7	6	10	6	6
32	30	24	30	20	25	17	18	13	9	6	2	8	5	9	14	10	12	6	3	8
33	25	23	14	23	22	14	17	8	8	14	7	8	12	6	11	9	10	9	6	5
34	28	25	17	16	18	22	30	14	15	6	7	10	12	10	6	10	10	8	7	9
35	26	23	20	22	18	11	22	6	11	14	4	8	8	10	7	6	5	1	6	6
36	18	25	22	19	12	25	18	16	14	10	8	10	10	12	12	12	8	8	3	5
37	27	18	21	16	21	17	12	18	9	10	7	11	11	5	10	8	6	3	6	4
38	20	28	22	22	25	13	14	13	8	15	4	8	6	10	5	3	3	3	8	5
39	21	17	27	20	35	15	16	10	15	7	6	13	14	7	9	9	9	8	12	5
40	31	17	23	22	27	15	11	8	14	14	10	8	9	5	9	8	8	7	9	6
41	26	22	21	28	25	14	18	10	15	8	10	10	10	6	8	9	6	5	4	8
42	34	22	25	17	16	19	6	15	10	8	12	9	12	7	8	9	7	8	8	5
43	17	26	28	19	25	16	16	23	12	8	8	8	10	6	13	7	11	9	6	6
44	23	25	27	21	28	20	10	17	15	12	6	16	9	15	4	8	8	9	6	6
45	25	18	10	16	16	14	15	16	9	14	10	14	9	6	9	9	7	4	11	8
46	27	21	27	18	21	11	12	8	13	9	13	13	4	7	7	8	9	6	8	7
47	22	19	23	20	9	16	15	4	7	11	6	7	7	7	7	3	4	5	10	9
48	29	22	28	23	13	17	12	15	25	9	12	10	7	9	8	10	3	2	4	9
49	28	24	14	24	20	26	14	19	15	8	11	5	11	10	10	7	12	6	10	8

TITLE: 54529-36-A 92-02743-L-1

FILE: 54529360.K;1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~9 27 91 11 30 0~~ 9/24/91 @ 0710 3/20/92 SA Lopez

TIME OF COUNT: 3 6 92 13 6 0

(237688. MINUTES DECAY TIME)

LIVE TIME: 67 HOURS 23 MINUTES 16 SECONDS = 4043.27 MINUTES

ELAPSED TIME: 67 HOURS 23 MINUTES 54 SECONDS = 4043.90 MINUTES

(DECAY TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.000000

PLT INT:	0
PLT LOD:	0
ANTI FLP	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZERO LEV:	0
OVR FLW:	0
NOW:	1

D03-120

5452936A.K:1 54529-36-A 92-02743-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	242556	1349	1079	939	773	527	409	364	238	197	180	148	140	108	94	88	92	76	65	62
1	34	1285	1026	1027	737	541	381	458	270	257	212	151	149	114	117	85	77	64	73	68
2	0	1306	1025	941	754	583	450	363	250	217	193	138	151	123	116	81	85	97	64	62
3	0	1447	1068	968	725	547	400	297	248	225	169	154	138	133	108	95	87	82	67	75
4	0	1415	1053	961	794	536	407	301	232	215	190	143	124	121	97	99	78	84	82	69
5	0	1279	1099	959	784	495	402	311	242	204	172	154	131	107	98	91	79	77	80	57
6	0	1339	1039	942	728	488	375	311	236	211	198	150	158	114	125	89	92	57	63	68
7	0	1163	1043	922	705	537	382	316	243	230	243	147	149	103	122	97	101	67	81	55
8	0	1230	1049	952	729	552	410	276	271	215	300	151	267	111	110	96	100	90	77	45
9	1	1265	1043	948	729	502	396	287	240	206	580	154	235	124	119	103	102	81	106	69
10	2873	1227	1020	911	704	491	369	299	208	211	632	141	149	130	129	91	78	103	129	53
11	30939	1273	1061	876	700	529	395	307	258	219	523	162	133	138	115	90	92	81	112	85
12	76361	1265	1086	924	709	455	378	313	255	196	381	170	128	134	100	99	85	94	94	82
13	40913	1239	1098	948	609	534	394	314	246	218	214	153	124	110	102	92	95	80	82	79
14	15006	1278	1064	948	724	531	363	269	264	204	184	145	142	100	88	78	73	72	64	72
15	4534	1190	1051	884	621	498	372	304	229	211	176	158	132	115	115	111	95	71	58	76
16	3110	1259	1065	897	655	460	389	303	252	185	162	150	126	110	77	109	83	79	53	63
17	2002	1202	988	912	629	476	354	306	236	197	177	146	124	123	104	118	100	93	60	103
18	2708	1163	1067	865	670	454	345	307	245	199	154	166	120	110	114	98	76	77	93	123
19	2576	1214	1051	903	661	514	365	281	236	188	169	133	99	113	100	92	85	81	67	109
20	2453	1132	1008	904	651	403	369	290	203	179	150	134	127	106	100	103	69	81	91	53
21	2350	1150	1028	842	622	478	351	286	235	202	166	170	122	122	91	99	70	87	79	55
22	2343	1144	900	821	641	445	354	291	224	205	148	150	130	102	94	104	84	81	77	62
23	2349	1212	1014	876	670	472	334	278	257	193	164	155	137	90	109	116	82	78	63	63
24	2700	1270	1003	976	671	428	356	275	252	196	158	136	117	98	107	91	81	72	83	65
25	2230	1312	1049	843	623	488	364	265	225	210	177	129	135	114	96	78	69	71	69	66
26	2092	1127	990	902	567	467	400	279	224	186	181	134	146	110	109	101	83	69	63	75
27	2047	1178	1094	863	619	495	364	273	243	182	149	136	131	105	112	87	74	82	78	72
28	2077	1114	1128	880	641	457	364	275	226	196	153	140	124	114	95	80	80	72	65	63
29	1972	1086	1119	857	634	443	367	284	242	190	180	166	109	109	98	96	92	73	59	63
30	2006	1091	1094	837	621	448	354	265	252	203	142	158	128	96	106	102	84	76	72	79
31	1952	1064	1015	840	629	439	388	269	218	164	161	171	122	119	90	99	85	85	68	65
32	1823	1092	1082	833	599	463	359	266	215	203	154	238	120	91	100	97	63	74	64	53
33	1709	1121	1024	797	601	439	322	281	237	196	178	182	141	116	114	72	89	86	80	77
34	1730	1186	1091	923	602	437	371	271	237	159	149	156	110	102	96	92	84	72	68	52
35	1711	1021	991	1081	639	417	343	272	235	193	152	135	125	114	105	97	78	72	53	73
36	1650	1100	993	874	648	404	348	257	220	188	159	139	133	102	93	91	85	76	59	53
37	1643	1114	1021	818	702	433	404	296	223	189	153	151	97	112	92	89	79	81	73	61
38	1675	1073	1003	810	882	443	390	251	258	193	163	112	136	99	90	84	98	62	66	79
39	1554	1090	1009	809	649	410	327	267	197	183	150	134	103	100	99	91	84	76	64	59
40	1611	1042	1114	734	611	462	317	259	219	190	144	123	126	128	102	86	77	63	82	44
41	1536	1125	1005	791	551	399	308	279	216	200	160	139	110	115	88	91	79	71	71	68
42	1534	1338	1005	812	560	410	318	258	214	197	176	132	132	129	101	92	75	72	63	88
43	1431	1249	1054	708	546	498	357	259	227	194	154	139	152	109	91	109	77	83	50	56
44	1402	[illegible]	1009	872	557	491	337	245	207	169	154	169	120	133	78	106	87	73	76	81
45	1512	[illegible]	955	700	577	452	344	261	214	190	153	209	122	117	86	[illegible]	136	86	87	64
46	[illegible]	[illegible]	935	772	549	435	324	243	232	187	140	161	119	124	107	83	102	72	75	61
47	1415	[illegible]	579	842	519	441	315	220	243	202	150	133	123	100	83	87	121	76	59	58
48	[illegible]	[illegible]	[illegible]	816	507	[illegible]	330	238	199	199	137	169	105	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
49	[illegible]	[illegible]	921	791	[illegible]	[illegible]	[illegible]	269	231	19	[illegible]	[illegible]	[illegible]	131	91	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

D03-121

5452936A.K;1 54529-36-A 92-02743-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	73	69	57	40	49	48	48	30	35	34	23	13	25	27	20	20	16	9	19	24
1	78	65	52	40	52	55	36	46	42	28	28	26	24	22	22	18	22	14	20	15
2	55	62	67	43	52	49	35	41	39	27	26	30	19	19	24	15	22	15	19	22
3	47	63	66	53	47	46	40	34	33	32	24	21	19	22	18	17	11	19	13	18
4	57	71	53	53	43	29	32	38	27	28	23	31	19	18	16	20	19	20	16	13
5	54	58	65	55	47	44	34	43	26	24	24	23	20	21	17	12	14	17	6	21
6	47	41	63	49	59	43	35	44	29	33	31	26	30	24	18	20	17	14	21	15
7	66	53	43	41	45	49	37	27	33	40	34	33	28	16	20	19	25	15	21	15
8	55	59	47	56	63	53	42	33	38	43	32	25	23	21	15	24	23	15	25	21
9	57	61	66	48	54	54	32	42	39	127	27	24	28	21	16	17	26	19	23	19
10	71	50	54	39	46	35	38	20	36	387	19	30	25	16	20	26	12	18	12	19
11	37	40	55	50	51	46	39	38	38	449	17	24	24	17	18	19	15	13	13	19
12	51	57	44	47	46	49	31	45	22	268	18	23	28	30	23	26	20	16	19	23
13	59	51	41	68	56	38	33	27	27	79	28	20	25	8	24	29	24	21	19	19
14	66	61	63	62	47	43	36	36	23	39	13	22	27	17	25	38	12	20	23	19
15	53	73	66	52	41	33	38	36	28	33	18	27	21	14	24	67	21	20	15	14
16	64	59	60	43	39	41	44	23	23	26	29	22	14	19	14	35	17	30	14	22
17	53	64	58	47	49	54	38	34	22	29	18	24	22	22	17	34	24	18	14	13
18	70	52	50	62	44	42	31	43	27	23	20	24	29	13	14	24	20	19	15	17
19	71	60	67	53	52	45	34	19	30	21	27	19	23	23	18	17	22	23	13	13
20	66	72	93	53	49	38	35	33	28	17	27	20	29	22	21	14	18	13	22	14
21	57	60	70	58	54	37	38	40	24	25	30	18	27	17	14	12	22	10	25	15
22	66	59	43	77	50	53	37	35	26	31	18	20	16	22	24	12	22	18	15	20
23	53	49	61	77	54	38	38	38	40	20	35	18	35	21	25	12	10	16	25	14
24	56	59	54	60	42	37	26	30	40	31	24	17	16	19	21	17	15	14	17	11
25	52	55	52	55	49	34	31	25	25	27	16	26	17	20	18	12	14	14	17	15
26	53	57	43	53	46	40	28	30	21	16	17	25	17	6	22	16	17	19	24	18
27	60	63	64	45	47	31	41	43	29	25	32	27	16	26	29	11	17	21	20	16
28	63	58	56	62	50	38	43	47	28	23	24	28	20	14	20	14	11	27	13	14
29	50	58	62	52	41	35	40	43	25	30	26	20	21	18	21	18	23	22	15	11
30	64	50	48	57	40	35	35	28	33	31	19	27	28	18	20	25	25	19	17	14
31	54	47	57	46	42	43	43	39	26	18	20	20	27	31	26	19	17	18	13	19
32	62	54	62	42	53	31	50	25	30	25	28	20	24	26	23	16	13	17	25	13
33	61	51	51	43	41	41	50	32	28	17	21	24	16	16	23	23	22	16	13	28
34	55	54	56	47	45	35	45	30	34	37	25	31	23	20	14	10	15	14	14	17
35	60	47	60	49	33	35	36	38	33	30	31	25	18	13	21	21	11	20	20	20
36	57	52	41	59	69	39	33	36	29	23	18	21	27	19	19	12	27	17	17	13
37	60	57	49	37	46	33	27	30	32	18	19	16	19	17	21	20	9	13	15	16
38	60	47	48	39	47	37	37	33	40	30	24	27	21	19	14	22	16	20	21	24
39	42	51	60	47	42	38	34	40	22	24	25	28	20	19	20	18	20	14	17	16
40	47	44	53	48	30	28	44	30	20	24	21	16	18	18	18	27	19	16	15	19
41	60	51	46	43	53	39	41	35	23	31	21	20	15	22	24	13	11	14	15	15
42	58	39	44	36	52	38	32	38	25	22	20	23	19	20	16	19	10	24	21	18
43	62	65	47	42	45	34	32	33	36	28	22	44	17	24	17	17	21	24	21	17
44	58	50	48	40	41	59	43	30	20	29	18	34	19	19	20	18	20	14	14	16
45	[illegible]	[illegible]	51	41	[illegible]	35	40	29	26	37	25	24	19	18	22	24	16	17	13	19
46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	26	33	29	17	27	23	17	15	26	14	15	19	13
47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	41	32	30	30	20	25	19	10	16	13	19	20	15	12	20
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	28	28	27	21	[illegible]	[illegible]	8	19	15	[illegible]	16	15	18
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23	21	[illegible]	19	16	25	[illegible]	19	8	27	16	12	15

D03-122

TITLE: 54529-37-A 92-02744-L-1

FILE: 54529370.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~0 22 91 11 30 0~~ 11/13/91 @ 09 28 3/20/92 SAKapel

TIME OF COUNT: 3 9 92 8 37 0

(241739. MINUTES DECAY TIME)

LIVE TIME: 28 HOURS 27 MINUTES 9 SECONDS = 1707.15 MINUTES

ELAPSED TIME: 28 HOURS 27 MINUTES 24 SECONDS = 1707.40 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: [illegible] KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FLR:	0
NOV:	1

D03-123

5452937A.K:1 54529-37-A 92-02744-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	102425	577	455	429	303	232	196	177	103	86	74	51	74	44	45	35	31	31	21	25
1	34	581	436	385	313	233	165	231	119	87	85	56	58	57	46	29	46	32	29	34
2	0	584	480	375	340	265	161	201	128	88	66	54	60	55	46	39	37	31	37	31
3	0	634	449	459	370	199	172	130	100	90	88	65	61	49	50	41	53	36	37	29
4	0	629	477	380	302	234	195	118	95	108	89	64	71	56	54	31	32	29	26	22
5	0	556	447	486	319	207	177	145	103	82	83	53	58	60	45	41	33	48	27	31
6	0	516	437	425	322	232	180	149	127	83	85	64	59	58	52	40	52	25	31	39
7	0	521	466	397	307	218	151	107	115	96	94	60	77	50	49	50	43	39	25	32
8	0	520	450	422	284	235	184	120	110	76	132	58	179	47	54	34	34	41	43	19
9	0	544	452	404	322	224	176	124	99	86	199	58	146	53	30	27	33	35	47	35
10	1213	567	461	402	337	199	170	128	115	93	305	65	75	49	51	51	30	42	46	32
11	16156	529	448	397	294	196	159	130	120	97	226	61	50	54	43	41	29	39	53	22
12	32747	514	483	382	322	222	176	122	109	86	140	70	54	62	41	38	31	26	42	22
13	[illegible]	543	491	433	297	206	172	127	88	99	83	86	50	45	49	38	38	26	31	29
14	6571	530	467	409	281	196	139	127	68	89	71	62	58	46	45	41	36	37	32	23
15	2074	530	400	432	307	212	166	141	111	99	84	72	63	57	42	39	30	27	40	31
16	1304	504	424	306	200	219	177	120	88	89	78	50	54	57	55	36	35	39	21	32
17	1270	535	445	391	271	221	158	134	129	82	84	60	56	54	39	41	25	35	29	39
18	1156	454	430	391	283	209	167	114	120	83	61	86	54	52	50	47	40	33	32	33
19	1134	519	429	365	209	208	157	124	101	76	74	69	55	62	48	46	41	31	24	46
20	1046	481	441	394	282	150	145	136	107	90	72	59	54	57	40	48	27	49	30	29
21	[illegible]	[illegible]	450	430	276	192	185	106	94	88	70	72	61	54	31	40	26	48	27	29
22	[illegible]	516	479	379	260	191	134	121	102	89	68	69	42	53	41	40	36	29	34	31
23	[illegible]	517	477	347	285	218	145	105	111	85	78	57	49	54	48	36	39	33	24	29
24	521	509	478	374	273	215	145	128	96	93	56	58	39	58	51	39	45	29	27	25
25	512	500	450	381	267	188	163	104	98	88	68	57	54	56	51	31	45	36	32	33
26	546	489	486	342	245	196	163	138	102	82	72	65	56	41	40	25	38	25	23	29
27	[illegible]	452	431	317	255	212	159	121	90	98	61	50	54	45	50	38	47	35	35	17
28	841	471	458	401	246	224	160	130	98	78	76	67	54	39	39	36	24	33	25	29
29	873	472	411	367	251	189	174	130	84	78	74	55	59	51	47	38	40	27	31	39
30	816	471	449	332	208	201	161	122	84	94	83	61	51	51	44	33	27	35	24	25
31	825	491	444	388	274	195	159	112	99	73	75	62	54	41	49	35	32	33	35	32
32	807	479	457	371	265	197	126	130	93	90	65	96	51	40	45	36	44	31	25	25
33	774	456	473	382	271	189	149	114	103	76	82	91	54	38	49	35	28	29	37	25
34	700	484	445	391	279	183	161	144	95	88	70	54	57	34	49	32	33	36	25	29
35	727	504	487	441	294	214	160	118	100	80	62	52	62	42	45	38	43	28	31	22
36	[illegible]	468	458	384	245	165	168	114	94	85	72	54	55	51	47	45	42	32	29	13
37	[illegible]	470	457	310	305	173	164	117	93	71	62	55	61	39	37	37	34	42	22	17
38	716	441	408	354	373	201	169	108	96	82	66	58	46	53	43	36	32	37	42	23
39	642	[illegible]	514	341	331	196	134	99	97	70	77	56	54	52	43	43	30	21	25	34
40	649	459	474	357	286	192	149	144	101	85	70	47	45	47	47	33	36	31	35	25
41	609	476	445	351	281	186	151	103	93	79	79	60	38	40	40	45	33	23	24	28
42	[illegible]	515	471	330	231	175	158	111	101	90	69	57	53	40	45	43	41	29	23	24
43	631	[illegible]	482	351	326	157	154	125	77	89	71	62	40	47	34	43	44	38	37	15
44	633	[illegible]	464	313	243	229	152	117	92	72	72	79	58	59	39	45	35	33	28	22
45	[illegible]	[illegible]	457	367	278	194	142	123	95	81	75	69	39	43	34	38	40	34	43	25
46	[illegible]	[illegible]	334	283	217	191	136	122	86	75	56	76	58	44	50	42	54	31	47	33
47	[illegible]	[illegible]	[illegible]	351	227	185	146	110	101	78	70	54	51	44	47	34	54	39	28	19
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	123	64	70	[illegible]	59	47	51	31	[illegible]	[illegible]	32	[illegible]	36
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	112	83	[illegible]	[illegible]	[illegible]	50	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29

D03-124

5452937A.K;1 54529-37-A 92-02744-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	28	28	26	23	17	19	16	6	16	16	11	14	13	8	7	6	10	8	9	7
1	35	33	25	22	18	21	17	13	14	9	8	3	13	5	17	5	6	3	9	12
2	27	30	28	26	20	19	15	12	14	18	11	9	5	13	4	7	5	6	11	9
3	28	23	25	30	28	19	12	16	8	9	8	5	9	9	8	11	7	4	11	5
4	33	15	23	19	16	12	17	20	12	8	12	6	14	10	8	8	6	4	11	8
5	27	28	15	35	18	16	17	13	8	10	11	7	14	18	4	8	5	11	11	3
6	25	33	19	25	31	23	18	13	19	8	10	13	10	5	11	11	9	7	9	9
7	28	28	21	26	22	27	26	14	13	12	5	9	5	9	4	15	11	6	3	9
8	30	30	27	21	31	18	14	22	11	17	6	7	9	6	3	5	5	5	3	5
9	33	22	27	18	14	28	28	12	20	30	13	13	10	9	7	12	5	5	3	10
10	27	23	24	20	19	17	17	15	15	99	13	14	9	13	14	4	11	6	7	7
11	24	28	23	27	19	19	16	20	22	195	5	13	11	7	10	16	10	7	12	12
12	32	28	23	32	29	12	7	19	15	167	10	8	11	11	9	3	4	7	6	10
13	17	31	24	25	21	20	17	12	14	70	15	11	14	11	8	14	7	11	4	9
14	10	29	10	12	28	11	20	12	23	13	10	13	10	4	9	16	9	7	5	10
15	31	23	25	20	28	12	15	15	14	17	9	12	5	8	8	29	9	8	3	6
16	35	23	26	16	16	18	18	14	15	11	17	8	6	12	9	25	10	6	7	5
17	15	28	15	21	18	14	20	18	13	11	7	4	8	10	2	14	5	8	13	13
18	18	17	35	21	29	19	15	14	13	12	8	7	11	10	4	12	4	4	11	9
19	35	18	29	28	23	18	19	13	11	3	14	8	10	10	10	11	7	10	5	7
20	22	23	48	30	18	12	12	13	9	8	13	11	11	6	10	6	10	9	4	8
21	24	29	37	26	15	21	12	13	11	13	7	10	10	11	10	8	6	4	3	5
22	35	23	28	18	28	17	19	16	14	11	9	7	13	3	8	5	10	6	10	7
23	27	33	26	30	19	17	22	9	13	13	11	6	14	11	9	5	8	9	7	9
24	21	28	26	33	19	20	14	16	8	10	7	15	12	6	8	4	6	10	3	10
25	24	29	28	22	20	19	8	12	21	5	4	7	9	7	12	9	9	13	12	6
26	20	25	13	25	18	19	14	16	11	8	15	14	5	7	8	12	9	7	5	6
27	25	30	20	18	26	17	14	19	15	12	7	10	7	4	14	11	7	5	7	6
28	26	25	13	29	19	11	10	22	17	6	12	8	3	11	6	4	12	6	9	4
29	19	21	25	14	23	20	16	15	24	10	13	11	10	6	14	8	8	8	10	8
30	24	28	21	21	26	16	24	14	14	12	7	16	8	7	11	10	6	3	9	9
31	27	22	21	19	24	27	19	17	11	8	16	6	10	9	16	13	8	12	3	9
32	20	22	17	27	24	20	29	16	12	6	8	12	13	6	7	10	9	8	6	3
33	24	24	29	20	23	14	20	22	17	12	5	9	7	3	8	7	9	7	7	8
34	20	20	23	22	23	13	23	13	8	12	6	11	7	9	6	12	6	4	7	5
35	23	25	24	13	18	14	13	18	10	7	5	16	12	4	13	5	7	7	5	8
36	25	23	22	19	19	19	12	17	14	11	8	8	8	10	7	5	6	7	10	7
37	21	26	30	21	13	19	14	14	13	18	17	12	7	9	6	9	5	5	8	6
38	20	26	22	21	25	19	15	15	14	10	13	10	11	9	9	11	12	4	7	9
39	18	25	20	25	33	16	16	9	14	5	10	9	10	6	4	3	12	9	13	5
40	26	30	25	16	22	18	14	13	15	11	9	7	15	9	6	6	10	5	8	9
41	28	23	19	13	19	21	11	13	12	11	8	13	7	11	5	8	8	16	9	4
42	27	35	23	26	23	18	17	14	12	11	8	15	7	10	13	11	7	10	4	3
43	17	34	23	8	18	15	15	22	8	9	12	14	10	10	8	6	3	5	5	5
44	19	33	20	23	22	21	14	20	16	11	5	13	6	8	11	5	9	10	12	8
45	[illegible]	[illegible]	24	21	13	10	22	24	16	10	12	13	7	7	10	3	11	9	4	8
46	[illegible]	[illegible]	14	[illegible]	24	20	11	11	10	5	5	13	8	5	7	3	7	4	3	7
47	[illegible]	[illegible]	20	21	19	17	17	14	19	14	13	7	7	8	4	8	6	10	7	9
48	[illegible]	[illegible]	19	[illegible]	[illegible]	[illegible]	8	7	10	6	11	7	6	3	7	9	12	5	3	[illegible]
49	[illegible]	[illegible]	27	[illegible]	[illegible]	[illegible]	19	16	15	11	7	11	7	6	11	9	12	7	15	[illegible]

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TITLE: 54529-38-A 92-02745-L-1

FILE: 5452938A.K;L

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~9 23 91 11 38 0~~ 11/13/91 10 23 EA-Lepel 3/20/92

TIME OF COUNT: 3 10 92 13 13 0

(243455. MINUTES DECAY TIME)

LIVE TIME: 20 HOURS 3 MINUTES 1 SECONDS = 1203.02 MINUTES

ELAPSED TIME: 20 HOURS 3 MINUTES 12 SECONDS = 1203.20 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FKR:	0
NOV:	1

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5452938A.K:L 54529-38-A 92-02745-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	72181	388	308	291	244	153	130	124	71	70	53	41	41	33	28	34	27	26	27	18
1	34	408	324	316	207	194	130	191	77	54	70	49	34	36	31	17	23	16	26	22
2	0	441	319	303	219	185	137	140	77	70	53	35	33	37	37	35	31	23	25	22
3	0	457	338	284	218	190	119	95	70	57	51	48	48	32	31	27	33	34	21	17
4	0	410	321	281	204	149	117	92	83	61	47	46	40	27	31	25	28	23	17	19
5	0	396	309	295	238	149	113	84	76	68	53	43	41	41	32	21	29	23	19	19
6	0	355	321	301	249	154	126	99	76	65	68	44	43	27	27	32	25	27	17	21
7	0	382	336	282	213	138	137	80	58	65	65	42	55	31	38	34	20	20	19	22
8	0	373	300	301	219	150	119	97	73	61	94	49	101	29	41	34	33	22	20	12
9	0	329	330	246	229	158	114	108	81	64	130	37	102	28	31	32	29	29	24	20
10	835	359	336	271	214	174	114	95	74	65	202	51	66	47	34	30	28	29	37	19
11	11711	354	285	278	220	125	131	93	84	85	148	33	34	38	29	39	23	31	43	18
12	24847	376	346	264	221	176	130	90	74	62	117	50	38	31	35	27	27	34	43	23
13	14621	367	330	280	197	148	112	90	70	57	68	56	41	28	26	28	33	31	18	26
14	4764	364	302	272	207	143	111	89	80	50	53	45	45	38	41	23	28	24	23	22
15	1512	415	330	293	234	138	130	99	73	79	46	43	32	33	26	31	21	16	21	23
16	942	366	318	239	208	162	106	103	59	61	53	42	46	34	36	29	26	20	17	33
17	854	331	337	278	217	154	111	80	65	62	53	42	30	37	31	33	29	23	22	23
18	788	343	354	281	193	150	117	92	74	62	44	38	41	44	26	30	26	28	25	31
19	811	348	331	294	224	153	102	99	75	73	49	53	39	39	34	28	19	27	16	33
20	820	326	307	266	194	158	102	104	63	58	48	43	37	31	40	27	23	19	24	22
21	751	380	335	275	195	165	114	77	69	65	46	44	39	37	29	29	27	22	22	18
22	699	364	321	266	204	119	132	90	72	71	62	50	43	45	22	30	25	23	21	24
23	696	362	297	253	204	138	101	83	76	63	45	47	28	40	29	35	15	27	21	19
24	670	360	314	276	197	161	105	80	66	46	47	33	42	42	35	24	27	18	27	19
25	646	395	334	284	201	136	114	101	70	57	51	52	37	35	32	25	24	19	25	25
26	654	352	339	267	161	122	118	89	79	63	43	55	43	29	32	28	24	16	23	22
27	579	351	321	267	174	138	103	100	62	60	47	41	39	31	40	34	26	20	24	17
28	636	302	344	280	190	125	101	88	75	60	39	45	43	31	34	30	26	25	24	23
29	576	371	319	253	169	140	105	79	54	63	44	33	38	34	33	29	27	18	26	18
30	578	348	298	279	177	152	109	86	68	62	49	41	29	36	22	21	23	32	17	6
31	536	306	314	247	175	148	113	88	65	44	48	69	37	44	31	31	25	21	15	16
32	577	358	333	243	166	135	103	74	74	60	49	62	36	34	34	22	28	25	18	11
33	553	322	328	275	186	157	115	71	66	71	47	66	34	33	32	32	18	12	24	9
34	538	354	347	259	199	145	112	87	76	68	47	55	35	26	33	29	35	27	24	14
35	514	369	297	326	189	150	93	86	66	59	43	40	36	29	31	38	29	24	23	17
36	514	314	353	278	199	126	102	86	73	46	48	35	20	31	34	40	30	19	20	16
37	530	301	325	267	207	151	125	88	79	48	48	43	29	38	31	28	20	27	16	15
38	537	335	307	258	264	116	106	84	50	75	54	39	41	38	35	24	30	32	15	24
39	490	330	358	219	236	156	97	75	84	66	52	37	38	36	35	27	27	14	23	21
40	456	365	321	253	189	129	99	70	74	42	52	40	31	37	24	24	32	16	20	32
41	496	344	314	229	177	149	85	96	77	57	35	40	33	33	34	35	22	22	26	19
42	463	442	322	253	187	139	117	77	60	59	52	44	38	33	28	25	25	30	21	15
43	445	342	328	249	181	136	107	91	79	52	45	41	43	38	26	27	26	23	19	25
44	435	298	323	234	160	156	117	85	61	50	52	45	37	40	32	30	25	25	21	13
45	456	330	351	236	169	166	91	91	61	53	50	54	33	46	30	34	34	12	15	23
46	432	328	309	334	174	150	86	70	56	50	58	69	37	32	32	27	47	22	13	15
47	433	311	313	251	183	141	92	62	58	50	54	40	25	25	29	21	47	20	22	17
48	359	[illegible]	307	289	172	130	90	89	62	63	44	39	53	29	21	29	23	19	23	23
49	[illegible]	[illegible]	336	[illegible]	153	140	86	90	56	67	50	40	37	39	37	20	23	[illegible]	[illegible]	17

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5452938A.K;L 54529-38-A 92-02745-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1953
0	21	24	21	20	14	21	10	9	11	8	8	10	8	8	7	7	7	5	6	11
1	22	19	16	17	14	12	16	12	11	3	8	7	4	6	6	5	7	8	5	7
2	22	15	23	12	13	15	11	10	5	11	9	5	6	4	4	7	7	7	6	5
3	17	17	16	13	19	16	14	8	4	13	7	7	4	5	7	3	4	10	3	7
4	16	14	18	19	22	15	8	10	14	7	11	6	8	4	4	7	3	5	4	1
5	24	15	20	24	22	12	14	7	10	12	9	9	5	4	5	6	11	7	4	7
6	23	16	10	18	18	7	10	3	9	8	7	6	11	5	8	3	7	4	5	6
7	16	20	22	11	12	14	8	10	7	7	5	5	8	6	3	3	7	5	3	4
8	22	20	13	14	14	19	11	12	7	8	10	7	8	5	4	5	5	9	6	9
9	20	16	25	11	15	10	10	14	9	25	13	11	8	4	3	4	7	9	0	3
10	12	17	8	15	16	16	16	12	11	60	9	6	8	3	3	7	4	7	8	4
11	14	18	14	20	12	15	6	13	7	120	4	7	3	8	9	4	4	8	3	6
12	20	17	21	14	17	13	13	13	14	116	6	8	8	9	2	6	4	3	5	4
13	17	16	28	29	11	11	6	11	10	69	8	1	11	5	7	5	4	4	9	4
14	18	13	20	10	10	12	11	10	11	14	8	2	9	4	7	4	2	5	9	5
15	28	12	13	17	17	14	8	10	10	13	11	4	7	6	5	8	3	4	4	5
16	13	27	19	15	11	19	15	12	8	9	10	8	10	3	6	21	5	9	4	5
17	19	21	14	10	16	7	15	7	6	7	8	4	5	5	11	21	3	5	6	7
18	23	11	24	12	18	16	7	12	5	8	5	3	7	6	3	9	3	7	2	7
19	14	16	21	13	18	15	8	9	14	9	8	6	5	3	8	8	2	7	1	[illegible]
20	22	14	33	15	10	12	11	5	7	8	3	8	8	6	4	12	4	4	1	5
21	17	22	27	13	12	9	11	13	13	4	5	9	13	9	5	4	4	7	2	7
22	17	13	16	19	18	10	8	8	11	4	3	6	4	7	2	2	4	8	3	[illegible]
23	19	14	11	35	10	11	20	8	9	7	6	6	3	9	8	6	4	6	6	[illegible]
24	22	17	13	25	13	14	15	12	9	4	7	7	10	8	2	5	5	4	8	4
25	14	19	13	21	17	11	7	14	10	6	6	8	3	1	9	2	6	3	6	5
26	18	15	11	8	25	15	7	13	12	5	8	13	3	1	6	4	7	9	2	4
27	22	19	16	18	15	12	10	9	7	8	10	9	7	5	8	9	3	7	5	4
28	13	13	10	20	15	18	15	15	9	13	10	11	7	7	8	3	4	5	4	7
29	12	18	15	17	14	15	11	12	11	10	4	5	12	6	8	5	5	3	7	1
30	21	22	23	17	10	12	11	17	7	6	9	6	7	8	10	11	3	4	3	4
31	17	20	15	20	13	19	11	8	9	7	7	8	4	3	3	4	10	5	6	4
32	13	10	22	11	16	10	17	15	6	3	11	8	5	6	6	2	1	4	7	2
33	13	19	19	11	16	14	9	5	15	9	9	5	4	6	7	1	7	7	4	2
34	21	17	17	23	16	9	18	4	8	7	13	8	5	9	2	2	9	8	3	1
35	15	11	20	14	12	16	14	7	8	3	9	9	8	2	5	2	3	7	2	[illegible]
36	13	16	18	15	18	6	8	9	8	6	4	6	2	4	2	4	3	3	4	4
37	15	11	8	20	22	16	15	15	4	9	8	8	4	5	6	6	3	6	9	5
38	14	17	18	14	23	9	9	6	14	4	4	11	3	6	3	4	7	5	4	7
39	15	19	12	19	21	13	12	7	4	5	5	7	8	8	6	4	3	8	8	4
40	19	15	11	15	17	13	15	9	7	3	18	19	9	8	4	7	5	4	7	4
41	15	18	19	14	18	15	11	4	3	6	9	5	8	5	7	5	4	5	1	7
42	22	11	12	12	18	12	7	7	15	6	2	8	4	4	3	8	7	9	6	3
43	17	18	11	13	14	11	16	10	9	7	8	4	3	3	3	5	4	6	9	4
44	18	18	15	16	14	11	11	8	10	6	10	13	4	7	6	5	8	5	8	3
45	19	22	8	12	17	5	8	16	12	3	9	7	5	7	3	2	10	2	6	2
46	23	15	12	15	11	14	13	8	13	12	7	3	6	8	6	4	9	5	5	4
47	13	20	13	14	20	14	7	5	8	7	9	4	7	8	1	3	9	7	5	4
48	17	17	15	16	15	15	10	10	9	6	7	9	7	10	3	3	11	8	5	9
49	15	15	10	15	6	13	11	14	9	5	7	8	8	5	9	6	9	3	3	5

D03-128

TITLE: 54529-39-A 92-02746-L-1

FILE: 5452939A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~9 23 91 11 38 0~~ 11/12/91 08 44

TIME OF COUNT: 3 11 92 9 21 0

(244563. MINUTES DECAY TIME)

LIVE TIME: 32 HOURS 5 MINUTES 4 SECONDS = 1925.07 MINUTES

ELAPSED TIME: 32 HOURS 5 MINUTES 24 SECONDS = 1925.40 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/20/92 SA Legal

D03-129

529

5452939A.K:1 54529-39-A 92-02746-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	115504	697	557	488	375	272	196	183	129	101	77	68	60	54	72	37	41	36	45	39
1	34	660	560	465	387	277	178	302	120	94	88	69	71	62	54	48	45	35	39	36
2	0	645	534	490	338	295	224	209	130	92	91	63	65	55	54	43	45	29	39	28
3	0	698	476	471	346	271	205	172	122	91	87	67	66	72	60	42	57	37	41	26
4	0	734	496	475	404	257	209	174	129	91	105	81	53	46	55	46	42	37	32	39
5	0	680	477	470	363	281	205	148	119	100	89	81	64	53	53	39	54	43	46	37
6	0	638	574	502	308	275	220	156	127	94	102	72	59	62	51	47	44	41	35	44
7	0	639	513	453	372	260	206	148	127	104	103	75	95	58	54	51	44	42	39	39
8	0	599	555	471	357	296	212	148	121	104	131	90	102	66	68	52	41	40	29	32
9	0	654	527	456	395	254	199	135	144	94	201	64	219	43	48	46	40	30	32	31
10	1268	633	537	515	385	240	198	154	112	96	276	70	129	58	46	50	35	50	69	44
11	18938	624	533	453	333	226	172	149	124	95	281	63	76	74	37	41	40	40	66	21
12	39621	600	565	485	357	275	195	133	137	125	171	72	76	70	50	43	40	36	40	37
13	25303	616	529	444	352	251	188	141	141	112	105	63	67	55	58	58	36	37	38	44
14	8357	650	560	470	322	224	181	134	121	102	88	71	64	61	52	45	40	43	45	34
15	2607	611	518	456	314	247	163	153	115	96	99	76	58	64	49	39	34	38	24	40
16	1622	658	526	416	336	231	185	146	125	120	73	80	75	59	58	64	30	45	31	47
17	1429	628	552	489	337	242	192	168	116	107	60	73	52	53	38	65	45	49	28	39
18	1324	605	502	407	349	247	187	145	136	83	68	80	77	72	58	60	37	48	21	52
19	1241	561	523	451	316	264	175	143	128	115	91	64	63	53	56	68	33	46	35	65
20	1278	536	552	438	323	268	192	138	122	105	80	78	58	56	61	48	44	40	39	44
21	1258	510	491	449	342	284	180	144	127	99	64	72	47	58	50	46	54	35	24	35
22	1205	582	550	433	321	244	186	136	100	88	78	76	56	53	61	56	39	38	37	29
23	1214	640	505	430	340	226	180	144	125	103	81	73	46	41	49	51	37	47	35	34
24	1139	602	514	456	328	207	191	158	104	90	75	83	76	52	38	50	35	36	43	39
25	1057	642	548	469	360	269	195	150	115	102	87	73	62	63	38	50	39	44	32	26
26	1049	626	523	427	317	244	192	150	113	99	76	64	70	55	48	56	45	40	28	45
27	1054	607	534	445	313	252	202	146	105	99	78	88	67	53	62	44	35	43	30	33
28	1000	536	531	447	313	243	178	142	116	97	79	73	55	62	62	34	42	42	40	32
29	992	528	506	428	319	216	185	139	101	92	65	70	73	62	53	39	32	43	37	40
30	968	556	530	409	308	250	192	153	125	92	68	77	54	39	58	43	39	32	33	36
31	954	529	567	440	314	203	196	126	129	94	80	76	52	46	65	52	45	32	32	31
32	953	542	553	404	324	231	177	122	121	87	74	122	50	37	45	47	46	33	31	41
33	942	515	501	405	324	203	162	154	108	92	78	135	65	57	44	49	40	35	34	26
34	933	557	535	444	296	239	175	128	109	107	94	67	54	63	39	50	32	42	47	28
35	950	578	502	533	319	197	168	124	107	91	79	68	62	40	56	56	42	36	33	34
36	844	542	536	495	311	217	167	124	114	85	69	60	56	74	45	54	39	49	39	41
37	871	571	510	404	384	214	173	137	95	93	91	53	61	54	63	46	42	46	24	33
38	790	596	557	382	433	220	196	152	134	91	68	87	68	46	52	41	41	36	36	43
39	804	511	581	389	401	213	162	125	122	93	85	89	64	56	43	55	28	35	40	39
40	752	578	582	417	340	220	176	126	115	94	74	60	57	64	38	41	52	28	29	39
41	761	535	482	396	291	203	143	123	104	108	80	79	74	65	49	47	43	28	36	28
42	724	696	514	404	319	192	151	137	103	102	89	86	52	63	52	41	43	30	29	35
43	730	592	495	416	264	227	159	141	122	100	86	68	62	51	50	36	44	46	25	26
44	787	513	526	406	282	260	156	138	112	97	72	93	55	53	39	51	49	46	44	32
45	738	559	482	394	314	277	151	119	88	86	79	93	59	63	49	37	61	41	33	21
46	720	514	508	312	289	219	182	136	109	104	73	98	49	53	55	50	62	39	33	31
47	705	534	509	431	278	220	145	130	95	97	65	77	64	59	50	37	61	36	38	37
48	733	515	499	405	274	224	136	119	100	95	102	64	49	57	46	51	50	44	30	45
49	705	476	487	385	276	202	170	146	105	109	71	90	75	58	51	41	44	45	32	27

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5452939A.K:1 54529-39-A 92-02746-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	38	30	26	22	36	21	25	16	15	18	18	8	15	13	6	7	4	12	4	4
1	41	29	28	21	32	22	27	19	17	14	16	12	8	13	9	12	6	11	7	5
2	48	34	33	31	31	25	17	11	21	16	13	10	14	10	11	14	7	2	6	11
3	19	21	16	22	20	16	26	17	20	13	13	8	8	12	15	11	7	7	6	3
4	41	24	19	26	21	23	20	16	19	20	14	10	9	10	4	13	7	5	12	5
5	29	30	18	24	34	25	24	19	14	10	12	17	12	13	7	5	5	6	9	10
6	32	27	32	32	22	20	17	17	17	17	9	8	10	14	15	6	5	9	7	11
7	27	38	27	35	36	18	17	19	14	9	11	12	14	12	10	11	3	5	11	2
8	38	29	27	21	36	27	15	17	35	11	20	8	16	11	10	16	6	9	4	10
9	29	29	33	32	21	24	17	21	27	26	16	10	11	17	6	8	6	13	5	11
10	39	38	13	22	21	18	18	17	21	63	19	12	10	10	7	8	4	6	9	10
11	25	34	23	23	22	11	14	16	15	195	17	11	11	5	11	15	12	19	7	10
12	35	27	26	19	24	21	14	21	10	221	12	8	8	10	10	5	9	7	8	6
13	33	27	36	22	29	17	16	17	15	130	12	12	11	9	12	8	10	4	5	7
14	31	31	18	16	23	19	20	19	12	49	7	12	17	11	14	12	12	7	8	10
15	39	24	28	29	21	29	21	13	19	20	11	16	9	12	11	26	15	8	9	8
16	28	25	28	29	35	10	10	11	12	14	15	14	7	9	11	32	8	12	8	15
17	30	38	32	28	29	28	18	14	23	14	15	10	13	8	14	31	10	11	10	7
18	23	25	20	26	32	20	20	10	17	17	9	8	14	8	12	19	10	9	10	2
19	28	35	43	26	19	22	15	10	18	17	12	10	13	11	9	7	15	8	3	7
20	35	22	58	17	29	20	20	21	14	11	4	10	11	11	8	14	7	9	12	6
21	25	26	54	23	28	22	11	16	12	19	14	11	15	15	10	10	3	6	7	10
22	28	28	37	37	21	23	12	11	17	20	13	8	15	5	10	5	6	7	10	19
23	22	21	23	34	30	20	23	12	10	13	10	10	6	10	8	7	5	11	3	10
24	21	25	30	53	22	23	25	19	7	9	13	12	7	13	9	6	10	8	9	9
25	31	28	33	31	24	18	22	17	21	15	11	11	10	9	10	10	4	8	7	5
26	17	32	19	32	11	19	23	16	24	13	10	9	10	6	15	8	8	6	9	13
27	24	30	25	16	32	17	18	18	16	14	11	8	13	10	8	10	11	14	6	4
28	33	41	25	18	30	30	22	28	15	15	12	6	10	11	13	4	8	9	8	5
29	31	29	28	28	27	19	19	34	14	16	9	5	15	8	9	7	10	10	5	7
30	32	27	21	26	23	18	17	22	14	15	11	17	13	9	16	7	9	6	9	6
31	23	31	24	21	19	33	12	20	19	13	10	12	20	5	15	12	8	12	3	10
32	27	30	31	31	24	17	26	16	17	17	13	9	14	9	20	10	13	13	5	9
33	32	34	23	20	29	17	33	15	11	12	12	13	18	10	9	11	6	9	6	6
34	27	26	24	25	25	17	30	21	12	11	12	6	11	13	10	6	12	7	9	14
35	27	26	29	19	26	19	19	17	15	11	15	11	11	10	11	3	7	11	7	4
36	40	29	20	22	17	16	18	13	16	16	17	12	14	7	8	9	7	8	11	6
37	34	24	20	26	26	24	11	13	14	12	7	8	9	8	15	10	10	7	8	6
38	30	22	33	26	37	20	15	15	16	12	7	11	10	8	6	9	9	12	11	8
39	34	33	20	26	36	31	14	15	12	13	12	15	16	10	7	5	10	9	8	7
40	23	21	24	20	33	16	18	11	12	8	17	13	10	10	13	4	9	13	6	9
41	35	31	41	27	28	19	14	19	19	20	10	6	13	10	7	13	6	11	6	5
42	29	33	30	30	29	20	16	24	14	7	5	12	12	5	5	6	9	8	13	5
43	28	32	27	23	24	16	18	10	16	9	15	13	7	7	7	7	8	6	5	6
44	23	29	23	23	20	19	28	17	14	14	10	15	11	10	11	6	6	10	5	6
45	33	29	33	25	18	23	15	17	10	9	8	10	11	5	8	6	9	4	12	2
46	49	24	31	17	26	23	12	9	10	12	11	17	6	9	10	7	9	8	11	11
47	24	30	19	25	24	21	24	16	22	9	11	15	6	14	7	9	8	6	5	5
48	35	28	22	28	26	16	9	19	16	9	5	10	17	6	7	10	9	9	6	9
49	37	31	25	23	16	16	23	12	8	5	13	14	10	7	7	11	13	11	6	6

D03-134

TITLE: 54529-40-A 92-02747-L-1

FILE: 5452940A.K;1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: ~~9 23 91 11 38 0~~ 11/12/91 @ 09 44

3/20/92
EA Lopel

TIME OF COUNT: 3 12 92 17 33 0

(246595. MINUTES DECAY TIME)

LIVE TIME: 23 HOURS 51 MINUTES 10 SECONDS = 1431.17 MINUTES

ELAPSED TIME: 23 HOURS 51 MINUTES 24 SECONDS = 1431.40 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D03-132

5452940A.K:1 54529-40-A 92-02747-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	85070	515	388	307	234	218	167	142	97	80	82	44	52	46	38	38	34	34	18	28
1	34	467	382	372	272	201	150	190	103	89	55	53	50	43	43	25	37	32	30	25
2	0	517	383	366	283	199	125	194	81	85	57	56	55	38	43	38	36	33	31	24
3	0	545	361	375	257	189	145	130	110	90	63	58	41	44	41	31	33	35	28	24
4	0	554	378	371	267	193	136	116	114	91	76	55	54	42	49	33	40	22	27	25
5	0	456	409	340	259	198	134	100	97	89	77	52	56	47	34	35	34	28	29	19
6	0	446	437	344	271	195	150	111	89	88	89	50	53	50	35	32	26	23	31	25
7	0	447	410	348	286	188	164	102	92	82	84	47	68	36	37	33	38	27	22	34
8	0	461	389	335	258	213	163	110	89	67	114	52	159	44	37	34	31	32	32	19
9	0	448	379	374	236	218	141	117	90	68	163	62	146	37	35	46	38	34	28	22
10	789	475	379	348	265	192	120	95	78	75	219	59	90	51	46	26	30	34	37	25
11	12531	405	362	368	233	167	139	103	110	67	220	46	45	43	48	31	28	30	56	25
12	26992	427	421	387	254	186	113	97	95	89	122	44	45	45	35	28	28	26	33	23
13	17906	440	365	353	265	171	154	121	79	74	89	55	53	45	30	37	30	24	19	26
14	6143	466	412	357	266	196	121	111	109	82	65	63	44	47	23	23	21	28	31	26
15	1953	469	380	344	259	161	130	96	78	83	67	51	49	49	35	37	32	32	35	28
16	1129	506	407	328	236	187	140	100	75	71	51	56	45	40	35	45	22	31	26	33
17	1023	461	408	338	253	187	150	114	94	81	63	50	51	39	49	35	33	30	18	23
18	1034	431	364	313	245	172	122	106	91	78	52	64	55	33	37	30	27	31	23	30
19	970	434	412	348	231	178	134	120	86	66	69	53	47	40	34	38	30	25	30	44
20	903	448	406	341	257	182	136	105	84	76	62	59	49	33	52	29	37	27	28	27
21	910	439	385	320	245	173	139	101	83	56	55	48	48	39	34	41	38	33	21	22
22	872	456	376	294	224	159	148	95	73	79	60	70	51	43	41	30	31	25	19	23
23	888	489	387	311	230	174	125	111	91	84	52	36	54	34	33	31	31	29	21	33
24	878	449	386	322	241	140	152	109	75	66	64	46	59	32	39	46	37	22	23	23
25	836	449	385	345	233	192	136	99	89	72	64	46	41	45	49	34	36	25	36	22
26	803	439	389	327	244	160	139	96	92	72	53	61	57	35	41	30	37	29	19	23
27	733	443	405	311	211	185	149	89	75	83	60	55	45	48	44	34	38	31	18	29
28	753	377	393	338	228	174	115	102	92	68	55	47	38	34	54	29	23	35	32	24
29	751	374	398	302	243	156	122	91	80	79	61	44	48	49	42	40	35	30	24	18
30	709	411	397	336	217	167	123	112	77	64	52	49	56	37	32	36	25	30	18	14
31	669	370	389	303	219	157	125	90	93	69	62	72	48	39	42	41	36	21	19	16
32	694	400	363	306	241	167	131	95	88	74	64	96	52	40	40	30	24	41	18	19
33	675	416	411	337	243	158	112	108	89	59	54	94	51	39	25	29	33	34	34	20
34	734	423	381	331	235	165	136	108	80	65	50	70	60	42	39	28	32	30	24	22
35	601	425	375	385	272	171	146	113	76	77	50	53	44	37	35	23	41	18	28	31
36	657	421	340	375	242	188	103	101	75	74	53	57	49	41	41	28	29	28	31	14
37	655	389	390	315	252	157	146	86	87	63	58	57	62	39	30	37	33	21	20	20
38	643	398	355	301	330	165	135	96	100	69	53	59	59	50	35	27	13	22	18	23
39	617	397	438	288	258	144	107	89	81	78	60	47	39	52	33	26	37	16	29	25
40	589	435	421	303	232	168	134	91	75	65	52	46	38	53	25	32	27	21	27	17
41	536	414	376	261	237	158	114	105	81	65	57	48	39	42	29	25	35	23	35	28
42	543	502	358	304	232	169	129	107	80	77	50	48	43	39	31	28	38	25	19	33
43	549	455	406	284	226	165	131	85	74	79	55	46	44	43	36	46	33	27	20	15
44	508	387	415	311	234	196	136	109	83	65	57	57	44	43	42	26	37	31	27	23
45	532	400	362	320	192	185	105	97	80	80	51	81	48	40	29	36	41	18	21	17
46	546	374	347	283	224	170	142	110	77	71	62	83	47	35	37	33	56	25	23	23
47	512	373	353	320	212	178	120	111	72	66	58	67	30	40	34	25	51	35	23	29
48	456	378	358	337	204	160	126	89	78	74	63	44	35	40	25	34	39	35	23	25
49	535	412	376	289	201	151	118	92	70	75	52	58	44	49	34	35	16	22	40	25

D03-13

5452940A.K:1 54529-40-A 92-02747-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	27	17	19	15	15	17	15	19	12	8	9	10	15	6	8	7	4	6	7	4
1	29	24	17	17	14	12	8	15	11	10	9	8	4	4	10	10	7	8	10	4
2	37	24	17	25	21	16	19	17	14	5	13	9	6	5	4	9	4	8	3	2
3	27	24	23	20	23	23	11	9	21	17	7	9	14	8	7	2	5	3	6	4
4	24	23	17	18	21	24	19	15	8	9	13	10	4	3	7	8	3	5	5	9
5	22	22	18	22	18	17	17	9	13	13	9	10	16	5	10	5	4	2	6	7
6	30	20	31	21	20	19	8	17	8	14	11	7	7	6	8	7	2	8	4	10
7	13	18	22	14	17	13	22	12	14	10	12	6	6	7	5	6	4	5	3	5
8	22	13	22	20	23	17	12	14	11	12	11	7	6	11	3	3	7	9	6	4
9	26	19	22	20	13	15	17	13	17	25	9	7	4	5	4	6	9	6	5	5
10	17	15	19	25	21	14	13	8	15	51	14	7	10	5	6	7	5	8	4	6
11	27	24	11	17	20	13	14	6	10	143	15	7	3	7	8	7	9	7	7	7
12	25	20	20	21	25	21	16	9	6	136	8	6	8	5	7	8	4	6	5	1
13	25	23	24	17	18	22	15	9	16	90	9	6	10	9	3	3	5	6	5	6
14	24	29	15	18	17	18	15	18	11	28	7	8	7	7	10	9	13	2	9	5
15	21	25	20	20	19	20	9	10	10	14	11	9	5	18	4	25	5	4	3	5
16	31	19	18	22	14	14	12	21	10	3	4	10	7	5	8	33	7	5	8	5
17	22	17	20	14	24	13	19	6	10	6	6	8	6	6	4	18	5	1	3	8
18	25	18	27	25	17	14	22	5	13	9	8	3	15	11	5	4	7	8	8	8
19	24	16	36	17	19	14	13	14	5	13	9	7	7	9	6	6	4	5	2	1
20	23	24	41	27	17	19	13	9	9	8	8	4	6	5	10	9	6	7	14	7
21	21	25	42	12	16	14	14	15	15	10	12	6	4	8	4	2	10	4	5	7
22	18	15	22	28	13	14	13	17	12	8	6	6	11	7	2	6	5	6	4	4
23	18	9	20	32	13	12	13	12	11	5	9	4	12	6	7	4	1	6	6	4
24	23	14	17	21	26	21	9	16	12	17	9	8	4	10	13	5	8	5	5	7
25	28	21	20	24	20	17	10	9	12	9	8	4	7	5	9	2	3	8	8	5
26	28	25	28	23	14	6	9	10	15	7	3	7	7	10	7	9	6	5	8	3
27	22	28	14	18	19	21	11	15	15	9	3	7	9	9	7	5	2	9	4	8
28	16	22	25	15	25	15	16	18	9	7	8	5	8	8	7	4	5	7	6	9
29	20	21	18	18	17	12	9	21	13	10	6	13	7	4	7	7	5	6	3	7
30	14	25	17	15	24	9	16	9	9	10	9	8	6	7	13	12	6	7	5	3
31	32	22	18	20	9	13	9	13	12	9	7	9	7	11	7	5	5	4	2	8
32	16	25	18	20	25	16	23	13	11	17	12	4	6	10	8	13	5	4	1	7
33	21	20	19	14	13	10	25	12	11	6	4	11	3	6	4	4	6	5	5	9
34	30	17	27	14	11	11	15	15	8	4	11	12	3	10	8	5	10	6	6	1
35	24	22	28	20	18	17	12	11	11	9	5	8	9	8	7	7	7	5	5	4
36	15	28	18	18	23	13	13	16	10	9	9	9	8	7	8	5	9	7	9	9
37	21	25	25	24	21	19	8	12	10	11	11	8	6	12	5	8	6	5	5	4
38	20	18	25	21	24	13	14	11	18	8	8	7	9	10	6	5	6	13	8	6
39	21	21	17	11	21	17	15	11	10	8	7	11	13	15	8	7	4	11	6	4
40	21	18	22	20	26	11	13	9	11	6	6	7	10	8	5	4	8	1	6	3
41	28	26	14	23	16	12	17	9	14	5	8	7	12	7	9	6	6	11	3	9
42	22	21	15	18	19	16	11	12	6	6	9	5	9	11	7	9	6	5	6	3
43	26	21	26	19	13	17	18	15	5	8	6	14	11	2	6	5	11	6	7	2
44	15	19	22	13	15	8	14	13	14	14	5	11	7	12	10	9	7	4	7	6
45	23	19	21	14	12	13	19	13	12	10	5	14	7	11	12	7	6	6	6	4
46	26	26	19	21	16	10	15	8	20	8	8	8	7	9	7	5	7	10	4	6
47	17	29	23	15	15	11	13	17	18	8	9	11	8	7	7	4	2	4	9	6
48	23	11	20	21	16	25	6	16	7	9	6	4	9	9	6	6	12	1	3	5
49	23	25	17	26	15	12	12	13	13	11	5	5	10	11	5	4	12	2	4	7

D03-134

9 2 1 2 9 9 9 7

TITLE: 54529-41-A 92-02748-L-1

FILE: 54529410.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 11 12 91 10 20 0

TIME OF COUNT: 3 13 92 17 33 0

(176113. MINUTES DECAY TIME)

LIVE TIME: 63 HOURS 35 MINUTES 5 SECONDS = 3815.08 MINUTES

ELAPSED TIME: 63 HOURS 35 MINUTES 42 SECONDS = 3815.70 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/20/92
EA Lepel

D03-135

5452941A.K;1 54529-41-A 92-02748-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	220895	1276	1023	964	651	513	401	306	238	189	201	125	137	127	89	97	86	71	68	69
1	34	1287	1016	919	719	552	404	517	263	197	166	146	146	95	116	89	85	83	89	75
2	0	1306	1000	940	670	580	493	438	261	227	163	174	147	120	126	107	90	74	73	79
3	0	1444	1022	904	728	546	414	318	263	208	179	164	113	112	119	93	90	83	85	69
4	0	1337	1066	962	754	501	386	290	230	183	178	146	155	131	111	102	98	80	81	81
5	0	1218	1026	931	740	524	405	333	244	200	182	149	119	102	105	101	109	82	65	64
6	0	1173	995	917	698	507	398	319	248	202	198	144	128	102	105	99	87	85	64	53
7	0	1150	1013	931	684	515	375	295	216	197	205	139	153	101	124	106	93	80	79	62
8	0	1177	1032	964	665	504	358	288	251	193	231	125	281	124	126	104	98	71	85	74
9	2	1100	1002	955	675	515	409	290	252	207	414	167	313	109	110	85	81	96	81	54
10	3721	1145	1041	927	697	435	357	272	240	191	574	150	214	126	119	88	96	92	112	73
11	[illegible]	1208	1048	903	714	455	386	282	245	224	555	166	149	129	93	74	78	90	155	53
12	[illegible]	1150	1063	939	665	497	357	292	242	190	388	136	139	116	104	92	82	76	122	67
13	[illegible]	1203	1064	930	677	464	361	301	241	217	211	146	115	116	98	92	85	77	87	64
14	[illegible]	1214	1063	875	674	478	379	276	253	192	192	148	133	123	112	85	80	84	59	73
15	[illegible]	[illegible]	1069	867	703	505	404	286	226	185	162	149	126	103	86	78	97	87	74	83
16	2515	1102	1049	863	630	492	341	273	250	191	156	157	129	138	105	89	78	81	83	79
17	2787	1217	1057	889	670	501	388	276	252	216	167	149	129	161	103	107	81	87	77	67
18	[illegible]	1193	1064	893	679	493	347	298	264	196	158	171	128	105	107	114	69	92	99	93
19	2512	1147	1029	832	641	470	362	284	235	204	151	150	130	109	99	103	102	93	74	108
20	2471	1170	1047	882	647	483	372	271	238	227	168	143	144	121	99	104	69	76	69	77
21	2351	[illegible]	1069	859	658	471	374	295	228	202	179	145	130	120	90	75	79	71	81	52
22	[illegible]	[illegible]	956	873	638	433	375	260	245	214	174	136	129	128	86	90	[illegible]	85	72	74
23	[illegible]	1171	1040	848	621	467	354	300	264	182	162	141	142	104	101	81	86	62	63	55
24	[illegible]	1228	1034	885	639	433	381	274	222	228	166	171	136	109	82	95	81	63	62	69
25	2185	1237	1052	870	634	479	399	284	246	177	152	133	107	117	94	83	79	67	55	62
26	[illegible]	1167	1058	862	570	475	389	300	236	185	143	146	136	121	116	83	75	79	85	57
27	[illegible]	[illegible]	997	825	583	405	391	299	248	212	146	142	119	111	128	100	73	84	55	52
28	1501	968	1043	810	645	419	373	248	212	218	145	152	129	97	101	91	72	71	69	63
29	1531	1079	1058	843	626	512	366	264	223	191	142	137	125	95	98	86	73	70	91	65
30	1876	1057	951	823	583	449	342	260	246	183	144	149	117	96	94	104	76	63	72	53
31	[illegible]	976	1015	803	601	444	369	264	217	180	172	155	107	114	116	70	91	89	78	60
32	[illegible]	1101	1013	807	644	433	378	256	227	203	149	246	123	102	111	89	93	84	66	57
33	[illegible]	[illegible]	1002	811	625	422	378	285	222	167	135	272	138	112	95	80	81	72	81	71
34	[illegible]	1138	994	879	575	434	332	263	250	190	159	161	119	111	90	111	78	77	75	61
35	1610	1106	1014	1037	613	441	347	256	237	199	156	139	126	106	94	81	84	67	81	59
36	[illegible]	1152	1039	949	584	423	301	255	216	210	169	121	131	105	94	106	99	82	74	59
37	[illegible]	[illegible]	1043	808	703	492	357	247	224	182	165	153	132	107	89	99	93	53	88	52
38	1603	1071	1018	768	835	401	360	266	234	194	147	152	120	108	92	61	94	83	56	62
39	[illegible]	[illegible]	1123	833	837	381	315	260	205	154	133	145	122	104	77	89	88	68	79	53
40	[illegible]	[illegible]	1050	784	802	384	322	262	215	196	138	145	111	103	97	78	90	75	54	54
41	[illegible]	1117	1046	877	838	384	323	281	219	180	152	147	136	138	80	94	98	82	64	59
42	[illegible]	1300	950	729	619	381	334	245	207	172	156	147	118	140	91	88	87	74	81	73
43	[illegible]	[illegible]	[illegible]	708	566	422	299	274	239	194	151	127	134	115	107	70	79	71	59	69
44	[illegible]	[illegible]	922	781	560	457	341	268	192	190	142	129	140	123	105	126	76	78	81	75
45	[illegible]	[illegible]	901	707	582	454	325	229	233	197	168	[illegible]	132	105	102	102	107	81	87	67
46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	416	302	282	223	192	178	208	123	133	99	106	144	72	68	53
47	[illegible]	[illegible]	[illegible]	[illegible]	571	401	301	278	222	196	155	149	115	99	113	92	122	68	80	56
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	315	265	199	161	151	151	115	130	90	90	[illegible]	[illegible]	[illegible]	56
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	255	198	185	[illegible]	[illegible]	115	110	9[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

D03-136

5452941A.K;1 54529-41-A 92-02748-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	63	45	57	44	36	33	51	38	41	35	23	23	22	23	18	19	17	25	14	16
1	64	62	62	45	70	45	36	28	41	24	16	15	23	15	18	16	20	22	15	20
2	63	57	54	42	45	40	39	30	33	24	26	17	22	20	23	17	15	27	13	21
3	65	58	58	62	56	41	31	41	21	22	30	23	19	24	23	16	23	19	11	20
4	60	59	51	42	53	36	38	27	34	27	25	30	24	19	16	12	20	16	16	26
5	68	49	57	42	48	50	37	31	38	21	23	16	22	18	25	16	20	18	18	17
6	57	56	42	42	42	44	33	36	26	25	22	27	18	16	18	16	15	18	17	15
7	64	51	54	55	43	41	35	25	30	26	30	16	17	13	23	16	18	18	18	19
8	70	61	43	47	46	50	37	34	33	27	22	19	17	21	22	12	18	11	13	15
9	56	57	61	42	43	42	38	36	38	36	25	15	28	22	11	19	23	18	12	17
10	54	71	52	51	48	47	32	31	37	103	30	21	25	27	17	21	21	21	18	18
11	56	49	46	57	45	39	28	27	32	305	44	27	17	20	18	21	24	17	11	16
12	62	52	49	46	52	48	36	31	28	448	31	30	21	21	21	16	21	28	19	13
13	64	65	54	38	62	41	29	31	26	350	14	24	28	32	17	28	17	16	15	10
14	63	72	58	36	51	31	32	45	28	127	23	20	17	24	33	20	24	9	11	23
15	63	67	52	46	35	39	41	21	30	38	30	22	15	11	20	25	19	22	20	12
16	70	53	48	47	63	44	33	24	27	27	27	21	23	20	20	60	19	12	13	23
17	61	56	60	67	46	51	30	38	28	22	25	19	20	21	18	63	18	17	19	17
18	65	61	56	46	45	45	45	27	27	25	27	18	28	27	16	35	14	26	25	19
19	56	47	65	55	46	38	38	33	35	26	24	17	22	24	12	25	25	15	16	[illegible]
20	47	16	55	56	54	43	36	36	35	33	27	12	21	21	19	20	10	13	20	15
21	64	61	55	54	54	42	34	29	42	26	23	23	21	20	21	19	18	21	19	13
22	63	44	55	60	43	46	27	30	24	25	25	17	27	17	24	18	19	11	17	13
23	57	50	72	54	34	40	45	32	28	19	25	19	22	18	21	16	15	16	13	18
24	56	61	60	72	53	43	41	25	30	25	30	15	32	27	26	19	16	17	12	15
25	50	66	62	68	59	40	38	29	20	18	21	18	20	12	24	22	22	25	16	21
26	59	51	52	46	44	38	25	25	39	19	20	19	18	23	22	22	9	20	17	17
27	60	58	51	58	40	51	43	36	28	23	21	23	17	13	22	18	22	19	16	11
28	74	60	51	49	43	38	33	29	27	16	15	20	20	20	21	20	26	16	15	10
29	45	52	45	45	45	37	30	44	16	31	16	25	17	15	17	16	15	11	22	14
30	60	46	56	38	61	28	29	54	27	26	21	23	24	26	29	18	6	10	15	15
31	58	61	55	46	59	56	38	31	29	21	21	25	19	20	25	27	18	14	13	13
32	50	50	51	49	53	47	46	40	38	31	21	17	26	25	29	22	12	19	22	13
33	47	55	60	46	55	34	67	37	32	16	14	27	18	21	24	16	18	14	9	15
34	60	53	58	58	54	38	53	33	31	24	19	23	12	26	18	17	14	23	13	12
35	55	61	52	44	52	44	42	36	25	27	18	22	18	17	15	19	17	19	23	22
36	51	49	52	68	47	45	41	17	27	25	16	15	26	18	15	22	23	13	14	13
37	50	55	51	39	42	40	36	28	28	27	25	19	22	18	18	19	19	14	11	7
38	72	51	45	53	51	30	30	22	31	28	19	28	24	21	19	14	21	16	14	14
39	57	50	63	44	89	53	28	33	39	26	33	35	16	20	19	16	24	22	21	7
40	63	46	48	46	57	37	30	28	31	17	28	39	12	15	28	21	19	17	14	10
41	57	57	61	38	52	45	29	33	29	24	22	26	23	18	11	17	26	20	13	17
42	59	50	51	52	30	47	32	35	40	25	26	22	22	20	14	18	28	11	14	18
43	65	39	53	49	39	38	28	26	21	26	22	30	23	23	25	22	19	18	25	19
44	58	59	48	60	46	33	27	29	25	24	21	39	21	25	23	17	20	10	12	15
45	63	61	49	45	47	38	41	37	30	23	23	37	24	26	15	15	16	10	15	9
46	67	41	51	47	40	26	31	35	29	22	22	26	29	19	16	13	18	21	30	20
47	51	60	54	45	51	48	32	33	30	25	32	27	18	23	10	14	20	18	13	19
48	[illegible]	[illegible]	53	51	49	37	36	18	26	30	24	27	23	23	21	22	23	11	13	24
49	[illegible]	[illegible]	51	51	46	42	29	21	18	22	23	36	20	10	20	21	20	18	19	18

D03-137

TITLE: 54529-42-A 92-02749-L-1

FILE: 5452942A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 11 12 91 10 20 0 10 58

TIME OF COUNT: 3 16 92 9 27 0

(179947. MINUTES DECAY TIME)

LIVE TIME: 30 HOURS 41 MINUTES 31 SECONDS = 1841.52 MINUTES

ELAPSED TIME: 30 HOURS 41 MINUTES 48 SECONDS = 1841.80 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/20/92 EA Lopel

D03-138

54529-42-A 92-02749-L-1

54529-42A.K;1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	110491	618	481	438	338	226	181	157	130	84	97	65	71	41	39	37	40	35	32	30
1	34	596	476	449	321	225	185	189	121	98	85	71	64	50	61	41	38	40	33	32
2	0	622	455	455	332	255	187	181	121	96	87	81	68	44	37	39	59	34	28	33
3	0	609	509	420	329	247	175	145	110	101	89	94	65	53	47	50	47	32	34	30
4	0	619	499	449	332	239	181	133	111	92	85	79	62	54	50	40	44	36	37	26
5	0	570	459	493	343	251	212	144	109	100	90	72	77	51	54	33	38	37	32	28
6	0	559	461	439	334	239	178	136	104	96	98	71	57	59	44	45	31	37	50	28
7	0	588	484	446	337	236	189	146	110	96	87	58	65	50	57	39	44	49	37	43
8	0	561	464	434	308	258	187	130	121	99	149	87	105	49	61	38	38	38	40	44
9	6	529	461	449	332	243	168	130	113	101	176	61	102	59	42	44	35	36	36	19
10	2664	555	485	400	327	256	188	138	107	87	330	74	63	53	54	39	42	28	55	29
11	22042	524	457	434	315	233	166	151	99	90	262	79	62	66	51	45	29	41	77	31
12	34848	618	544	470	317	246	169	129	99	96	180	67	57	60	45	38	39	39	47	24
13	18623	567	480	443	325	221	167	155	138	92	94	68	49	47	60	44	41	46	43	39
14	5852	570	491	441	322	230	166	134	117	88	69	82	72	59	48	54	40	29	33	31
15	1900	539	510	446	282	223	186	128	106	83	81	69	73	47	46	49	36	35	39	54
16	1388	612	472	429	323	209	168	135	91	92	77	69	63	58	42	41	40	33	35	39
17	1273	562	491	389	303	234	186	128	121	127	88	61	63	47	47	46	38	49	46	40
18	1250	536	510	382	309	238	148	156	113	98	67	59	60	47	58	49	46	46	29	44
19	1189	550	517	380	326	230	149	112	104	101	82	69	73	49	40	38	36	47	30	55
20	1227	502	492	431	288	218	163	126	116	82	79	81	52	55	41	40	32	35	24	36
21	1142	490	487	426	298	183	154	130	104	97	86	72	57	55	49	51	43	33	33	30
22	1075	572	484	444	305	209	167	127	113	96	90	61	69	57	59	47	34	38	34	26
23	1053	503	487	424	266	228	165	138	121	87	75	69	58	55	39	44	42	33	37	33
24	1003	552	461	465	270	225	184	135	109	92	85	61	61	55	46	49	39	37	24	29
25	1009	580	477	419	316	232	176	135	123	85	76	74	60	54	41	47	44	41	23	33
26	925	539	517	389	294	224	202	115	122	103	78	64	55	46	61	45	35	39	37	35
27	961	540	481	406	301	226	170	119	100	101	82	51	66	52	55	53	45	32	22	35
28	928	511	460	391	294	204	172	116	112	95	75	65	43	61	48	44	32	39	45	37
29	911	501	478	365	301	207	172	130	90	92	86	74	57	53	40	44	42	28	24	37
30	847	512	452	404	284	222	141	130	110	76	84	51	67	61	53	30	41	34	27	27
31	866	496	483	389	299	180	173	136	99	94	95	81	83	52	46	46	53	46	33	28
32	863	495	465	409	273	210	171	132	94	81	74	126	51	46	40	41	39	39	31	35
33	847	491	478	393	295	194	190	133	93	85	88	98	54	44	46	43	39	34	32	27
34	770	560	472	439	273	204	157	120	129	83	63	73	61	42	35	41	49	36	29	34
35	810	487	460	502	304	217	162	122	99	95	75	69	57	37	39	51	33	38	32	29
36	798	519	450	406	311	220	131	136	101	101	66	51	49	61	43	50	47	29	33	30
37	767	559	486	358	334	160	172	126	96	78	67	62	72	49	55	49	33	46	40	25
38	757	516	497	365	426	199	181	136	96	80	74	67	51	52	46	31	37	29	39	19
39	717	469	574	370	329	213	126	144	106	103	70	47	60	59	39	42	43	27	41	28
40	720	516	488	357	301	217	156	148	97	83	72	64	62	46	54	54	43	38	36	26
41	709	541	498	349	294	183	147	120	118	82	74	67	58	53	46	35	43	22	32	32
42	622	581	464	348	260	217	159	132	106	95	68	63	47	59	42	47	47	48	45	29
43	653	512	517	367	244	199	152	113	99	84	59	61	54	56	46	42	35	38	19	33
44	670	507	503	384	274	205	161	120	115	85	73	68	62	53	48	39	42	29	41	41
45	703	474	451	352	242	219	163	127	99	65	64	85	52	53	52	44	64	30	34	42
46	687	490	458	373	246	229	169	122	102	83	61	75	47	53	51	46	66	34	33	22
47	644	454	449	422	246	208	155	136	99	85	74	71	55	44	57	46	59	39	45	41
48	627	451	420	414	264	212	143	83	98	98	79	69	49	57	37	39	30	41	29	29
49	615	441	478	378	236	200	152	123	80	56	75	68	45	63	48	41	35	31	28	24

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5452942A.K:1 54529-42-A 92-02749-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
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1	35	32	36	19	31	19	17	15	20	7	16	10	10	14	7	14	11	9	7	16
2	29	30	27	17	22	18	21	8	9	11	9	4	13	11	11	5	8	12	8	8
3	31	17	26	29	21	13	12	11	16	14	12	10	8	11	11	11	5	9	10	3
4	22	34	30	25	30	7	16	18	15	17	15	11	10	9	8	5	5	9	13	9
5	27	25	26	26	33	19	19	20	14	10	13	12	14	10	10	8	7	8	5	6
6	23	32	23	34	24	11	21	20	19	16	12	8	15	8	13	12	7	4	5	8
7	32	38	30	28	28	21	20	12	10	11	12	8	7	12	6	12	15	8	5	8
8	28	24	16	24	20	19	22	16	18	14	14	10	5	13	4	11	9	9	9	9
9	29	35	27	18	19	18	15	16	21	32	13	7	9	10	6	10	17	4	13	6
10	21	17	23	32	27	20	13	20	18	60	11	3	11	7	13	9	8	5	8	12
11	23	32	32	22	32	20	18	13	20	181	21	10	15	10	5	8	8	8	8	4
12	29	25	21	21	22	23	9	18	14	196	6	14	6	5	9	9	12	7	8	9
13	24	21	25	25	23	29	14	7	22	113	9	17	11	16	10	14	10	6	5	4
14	26	37	26	40	17	21	14	14	8	50	7	13	8	7	8	8	8	9	5	7
15	25	19	25	25	20	16	10	18	13	18	10	13	11	4	10	25	8	15	8	3
16	38	21	22	22	18	16	15	16	11	14	9	11	13	8	16	27	6	10	9	9
17	30	26	27	25	30	20	15	13	15	9	10	7	13	8	6	28	8	4	7	7
18	25	27	27	27	21	15	15	18	14	9	8	7	6	14	13	13	7	5	8	8
19	33	24	23	24	35	19	19	14	19	8	5	9	10	9	13	8	9	12	7	8
20	21	21	40	27	21	25	22	8	15	13	14	12	11	7	10	11	9	14	7	8
21	39	21	39	22	26	25	16	14	16	9	7	17	15	7	8	7	5	11	11	8
22	22	26	37	28	34	18	20	14	17	12	9	4	13	4	6	7	4	4	6	6
23	35	20	30	36	29	18	16	15	9	7	12	10	13	13	9	7	7	6	5	12
24	30	22	21	35	27	25	12	15	13	18	14	14	6	8	17	9	5	6	13	8
25	18	23	25	30	22	18	19	12	11	13	12	9	13	12	10	6	15	18	11	7
26	23	34	22	33	15	25	20	19	7	15	10	8	7	11	5	11	5	11	9	10
27	28	22	21	24	23	19	12	16	11	11	9	2	12	5	8	6	6	4	5	3
28	35	19	23	32	26	14	20	23	12	13	14	12	13	9	8	14	9	6	8	11
29	24	24	23	29	24	16	9	16	17	7	12	12	12	9	13	5	6	5	10	8
30	33	31	28	25	22	14	10	11	18	18	12	7	13	8	12	9	5	5	4	9
31	20	28	23	22	24	24	20	11	11	10	12	9	9	6	15	8	5	7	7	13
32	19	15	19	20	24	21	29	14	10	8	15	7	11	7	12	10	10	9	3	6
33	43	24	25	17	25	22	23	17	11	20	11	10	8	9	9	7	9	13	4	7
34	29	35	30	19	27	24	23	16	10	10	4	6	14	13	11	8	9	13	7	7
35	29	21	37	24	19	10	14	18	15	8	13	11	9	7	16	9	8	5	6	9
36	28	24	23	25	20	19	15	12	27	6	15	10	10	13	14	10	10	8	19	5
37	27	26	25	17	33	11	13	14	12	15	16	9	6	8	4	4	10	9	5	4
38	42	13	23	19	22	19	16	9	14	5	11	10	9	11	9	10	3	8	16	8
39	28	25	23	23	27	24	23	15	12	11	13	17	9	3	5	9	9	14	7	8
40	23	22	30	27	17	23	25	15	12	11	17	13	18	11	6	7	9	9	10	5
41	20	32	31	20	23	21	15	10	18	12	10	7	7	7	8	6	8	9	5	5
42	29	27	21	30	24	21	18	20	17	13	10	16	16	8	4	4	16	7	10	7
43	35	22	17	33	23	8	11	13	11	18	15	12	8	9	13	14	9	7	10	13
44	31	23	27	21	18	19	16	11	18	14	6	18	5	14	8	8	8	11	10	9
45	15	22	20	23	25	22	16	25	16	14	16	17	9	10	9	8	11	6	3	8
46	27	23	23	21	26	24	15	18	21	6	9	9	9	11	4	8	9	6	5	9
47	20	18	18	20	15	25	20	14	12	16	12	16	13	6	11	9	11	4	7	6
48	31	20	24	16	24	19	15	10	14	17	12	13	13	15	5	12	13	9	9	9
49	22	27	22	30	22	20	19	19	13	9	15	7	8	9	11	10	8	10	9	12

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9 2 1 2 9 9 3

TITLE: 54529-43-A 92-02750-L-1

FILE: 5452943A.K;1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 11 13 92 9 32 0 11/13/91 @ 0932 3/23/92 GAhapel

TIME OF COUNT: 3 19 92 13 23 0

(-343929. MINUTES DECAY TIME)

LIVE TIME: 27 HOURS 22 MINUTES 51 SECONDS = 1642.85 MINUTES

ELAPSED TIME: 27 HOURS 23 MINUTES 6 SECONDS = 1643.10 MINUTES

(DEAD TIME = 0.000)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
[illegible] MLT:	0
[illegible] REJ:	0
[illegible]	0
[illegible]	0
[illegible]	0
[illegible]	0
[illegible]	1

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5452943A.K:1 54529-43-A 92-02750-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	98571	570	446	429	308	240	150	150	111	76	86	63	80	56	49	33	35	32	30	28
1	34	542	443	420	292	247	166	215	106	83	72	78	68	57	53	47	35	39	33	29
2	0	534	431	390	326	229	152	189	123	104	68	65	51	36	46	30	34	37	34	21
3	0	594	459	427	279	218	182	127	127	98	64	56	49	45	40	36	25	29	24	28
4	0	558	411	409	302	205	168	132	130	90	69	67	60	54	49	29	36	46	30	33
5	0	510	445	392	277	212	176	119	104	92	89	57	72	52	44	33	22	34	24	24
6	0	551	409	390	302	224	169	130	110	93	70	61	57	60	58	47	45	37	30	38
7	0	532	438	389	308	202	166	130	111	91	84	68	72	45	36	25	32	32	29	24
8	0	507	439	409	318	216	160	136	108	83	134	56	137	55	59	43	24	37	31	30
9	7	495	432	416	296	232	189	119	104	76	190	67	119	47	56	46	37	31	39	22
10	2219	513	393	386	279	220	138	103	114	99	236	50	66	57	47	46	34	31	54	34
11	18000	486	418	433	287	211	145	124	96	96	227	59	59	58	41	43	43	36	56	27
12	28633	507	474	386	274	182	139	123	106	66	135	53	65	46	44	46	37	30	35	27
13	15324	538	450	382	298	188	159	121	106	84	94	74	47	62	31	43	29	41	35	25
14	4692	555	463	374	272	221	165	128	83	84	88	57	61	41	37	36	33	22	23	32
15	1714	515	454	349	307	192	177	125	109	96	80	66	48	46	33	34	36	29	34	28
16	1219	526	443	380	301	218	149	105	122	89	73	73	63	53	40	47	33	46	30	29
17	1148	530	477	368	299	198	160	112	94	85	70	60	60	38	43	41	26	24	21	28
[illegible]	1095	490	418	336	296	216	146	122	103	86	78	64	61	45	45	48	38	40	32	38
[illegible]	1050	452	450	371	268	209	161	114	117	70	56	67	59	38	55	42	44	36	31	56
[illegible]	1095	487	438	391	258	229	157	116	104	71	72	57	49	57	41	45	34	37	28	31
[illegible]	[illegible]	475	424	357	285	201	139	119	102	80	70	60	50	53	46	34	36	28	29	19
[illegible]	[illegible]	512	486	373	243	195	155	115	91	82	74	51	42	42	43	36	48	24	28	31
[illegible]	[illegible]	487	500	348	272	213	130	113	119	80	74	51	47	53	49	24	35	30	31	24
[illegible]	[illegible]	573	436	386	284	196	140	106	99	82	68	53	57	49	45	42	42	29	30	24
[illegible]	[illegible]	[illegible]	474	384	257	178	178	120	90	94	73	71	66	47	39	45	34	41	30	23
[illegible]	[illegible]	[illegible]	423	397	276	175	163	137	97	65	73	64	55	66	62	41	39	33	42	28
27	[illegible]	[illegible]	430	351	276	197	154	102	80	87	52	66	49	49	55	43	40	31	22	20
28	77[illegible]		452	345	233	197	158	122	101	85	68	58	60	50	55	42	26	37	32	28
29	792		[illegible]	349	266	168	128	114	90	73	75	61	49	59	41	36	36	31	28	30
30	801		[illegible]	354	292	207	141	130	100	82	77	58	62	47	43	34	40	30	30	27
31	779		[illegible]	[illegible]	222	169	138	120	110	69	73	55	46	42	41	41	34	27	31	25
32	749	[illegible]	[illegible]	[illegible]	262	204	130	104	94	81	79	102	56	46	47	35	32	35	26	27
33	764	438	[illegible]	[illegible]	243	192	151	119	105	92	75	87	49	46	41	32	31	32	35	41
34	707	502	[illegible]	[illegible]	267	169	168	102	100	71	69	65	45	35	50	37	44	44	28	35
35	690	464	411		253	192	145	115	85	96	72	62	52	38	54	50	30	34	29	25
36	724	460	395		214	187	148	113	94	86	64	63	61	39	35	31	33	25	40	27
37	649	427	440		340	181	152	111	88	98	60	67	57	49	46	29	41	30	18	31
38	655	435	474	[illegible]	362	181	135	127	102	88	63	58	50	39	44	31	32	30	23	29
39	685	464	497	346	264	183	138	114	86	76	53	58	52	49	36	37	35	29	25	28
40	690	476	464	349	246	173	130	127	90	79	55	49	52	43	39	39	39	32	21	22
41	647	497	407	316	249	172	145	104	94	87	60	55	44	52	44	40	32	38	29	34
[illegible]	598	582	451	325	275	152	135	116	105	82	60	59	64	50	44	44	39	28	23	31
[illegible]	667	491	441	334	270	183	135	114	104	76	78	59	45	45	33	39	33	31	24	25
[illegible]	597	398	399	336	252	207	133	114	111	82	78	82	45	41	41	37	24	37	34	28
[illegible]	658	428	433	329	256	190	128	129	82	58	72	89	45	53	44	34	50	32	29	25
[illegible]	591	425	430	300	228	194	151	95	93	83	76	95	51	50	43	34	63	33	41	22
[illegible]	564	423	460	359	212	162	120	132	88	74	65	53	41	44	30	39	68	46	27	26
[illegible]	611	458	381	358	254	157	118	124	72	88	65	71	56	54	38	33	37	21	29	22
	557	486	407	289	204	187	139	88	95	110	56	51	46	47	38	33	38	28	22	24

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7/5294[illegible].K:1 54529-43-A 92-02750-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	[illegible]	[illegible]	24	15	23	20	16	11	7	11	11	13	9	3	7	12	10	9	3	4
1	3[illegible]		22	12	26	15	16	25	15	12	10	13	6	12	8	11	10	8	6	4
2	23		26	16	15	17	11	15	13	11	8	6	13	10	6	6	9	5	4	3
3	25		28	20	25	14	14	16	20	14	7	7	6	9	16	10	6	6	13	6
4	31		[illegible]3	14	17	21	16	12	17	12	11	7	6	10	8	7	5	9	14	3
5	28		[illegible]	26	26	14	11	16	11	11	13	11	12	13	4	8	6	6	6	8
6	28		[illegible]	26	24	14	14	15	8	10	5	9	12	10	10	8	6	7	6	16
7	22			28	20	9	11	11	14	14	8	7	7	8	10	6	8	15	7	5
8	28			20	19	14	11	15	18	8	8	10	9	6	14	12	6	8	8	9
9	32			20	23	14	19	11	10	27	13	9	11	9	10	7	6	3	5	4
10	30	26		[illegible]3	21	14	17	16	11	61	14	11	11	12	11	5	6	7	5	8
11	24	29		[illegible]4	23	18	22	19	11	159	14	9	14	6	5	4	11	11	7	5
12	17	30	2[illegible]	9	15	19	30	13	11	193	8	6	7	11	10	4	3	7	5	7
13	28	24	15	8	21	22	17	15	13	111	7	8	9	8	11	10	11	11	8	7
14	27	34	18	9	21	20	21	10	10	25	10	13	9	9	8	11	11	3	8	13
15	18	29	31	[illegible]7	19	14	20	14	9	15	15	10	13	8	7	19	8	8	5	5
16	22	25	27	24	24	15	23	15	10	10	7	4	4	7	7	32	3	8	8	9
17	29	22	31	21	20	21	23	20	16	10	11	6	8	9	6	18	7	6	3	8
18	27	27	26	14	18	16	18	12	14	9	17	10	8	8	12	13	8	9	9	4
19	23	25	35	23	21	12	14	16	9	11	11	11	4	6	9	9	10	4	5	1[illegible]
20	27	27	40	30	23	18	11	15	14	9	13	6	13	8	8	8	10	7	5	8
21	25	22	34	27	22	12	12	11	10	14	7	15	10	6	15	7	9	4	3	5
22	28	31	24	28	24	16	13	13	12	10	14	11	15	6	4	9	14	13	1	5
23	21	33	20	33	19	22	15	11	10	10	12	14	9	13	9	3	5	7	8	6
24	24	24	27	42	20	26	14	13	12	13	12	10	13	6	8	6	7	10	1	7
25	21	20	21	21	16	12	13	7	10	11	9	9	13	4	6	9	5	5	12	9
26	28	26	25	16	20	19	11	15	8	12	9	10	9	10	6	9	13	11	3	9
27	25	24	25	25	18	13	10	8	6	10	13	6	8	5	9	11	3	6	4	1
28	21	20	33	25	19	13	16	26	12	12	14	13	12	8	4	8	4	9	5	7
29	20	20	20	21	24	17	21	16	9	5	8	7	6	7	9	9	6	9	8	6
30	23	23	16	24	23	16	9	19	11	8	8	7	4	12	13	10	5	10	5	2
31	20	18	23	19	17	20	17	20	9	16	11	13	11	6	11	9	3	10	9	3
32	26	15	20	23	20	19	20	16	9	9	14	10	6	9	16	7	6	5	8	11
33	21	17	28	21	12	22	22	18	10	7	7	6	14	8	9	8	9	7	3	7
34	20	21	16	11	18	11	24	16	9	13	11	12	6	8	9	5	8	6	10	7
35	33	29	18	20	24	19	16	15	16	13	10	14	5	9	8	7	6	6	10	10
36	19	26	20	21	26	18	16	11	11	5	9	7	10	13	8	7	4	6	2	8
[illegible]	22	28	14	17	22	13	17	19	10	11	10	7	13	4	8	7	5	2	9	10
[illegible]	[illegible]	32	20	16	27	19	18	10	15	7	13	10	10	5	10	7	6	6	9	9
39	18	22	19	18	29	20	16	14	14	14	7	14	8	8	3	5	10	8	9	9
40	21	15	22	26	23	14	16	9	10	15	12	17	10	4	3	7	9	10	7	3
41	31	27	26	25	11	16	10	12	11	7	14	12	10	8	8	9	5	2	0	9
42	28	20	24	21	18	24	11	11	14	8	10	6	14	9	11	5	6	2	6	3
43	26	19	22	26	15	19	13	15	14	16	9	11	8	10	6	3	14	3	9	6
44	22	38	33	20	17	16	10	10	14	16	9	19	5	8	3	6	7	9	5	7
45	21	18	21	17	19	14	11	13	8	10	5	19	10	9	13	6	10	6	5	7
46	24	29	15	29	17	8	15	17	12	10	6	13	8	7	5	5	4	12	9	3
47	29	19	27	20	23	16	14	12	10	12	12	15	9	8	10	8	3	7	12	5
48	38	24	19	16	23	16	10	14	17	12	7	9	11	7	5	5	15	5	9	5
49	19	22	30	18	20	17	21	13	11	8	9	4	13	3	8	3	6	4	13	4

9 2 1 2 0 1 1 9 0 6

TITLE: 54529-44-A 92-02751-L-1

FILE: 5452944A.K:1

CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 11 13 92 9 32 0 11/12/91 @ 12 33 3-23-92 EAtapel

TIME OF COUNT: 3 20 92 16 59 0

(-542273. MINUTES DECAY TIME)

LIVE TIME: 63 HOURS 46 MINUTES 51 SECONDS = 3826.85 MINUTES

ELAPSED TIME: 63 HOURS 50 MINUTES 24 SECONDS = 3830.40 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

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54529-44-A 92-02751-L-1

5452944A.K;1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	229611	1182	917	789	700	493	377	336	211	183	197	145	122	109	89	91	76	68	58	65
1	234	1145	947	[illegible]	668	469	367	440	205	203	150	126	123	98	105	87	70	76	68	65
2	0	1189	926	[illegible]	623	474	357	363	253	199	175	145	128	102	112	74	89	82	55	51
3	1719	1354	933	[illegible]	668	490	341	303	229	196	161	137	131	107	106	87	67	83	50	60
4	18248	1224	939	882	662	430	350	291	213	184	161	145	123	119	126	94	77	63	79	60
5	35307	1144	883	782	663	442	371	274	220	180	149	132	152	111	98	94	76	55	74	56
6	30272	1052	905	846	661	473	366	269	217	188	146	152	125	107	102	78	82	76	60	60
7	12238	1110	928	871	633	433	357	306	209	191	210	157	148	115	89	72	83	69	53	57
8	3245	1086	909	853	652	462	368	273	236	188	251	141	240	103	103	73	98	70	62	62
9	983	1079	927	830	600	450	344	289	255	188	390	110	298	108	106	81	66	71	60	52
10	37855	1071	918	784	656	448	320	243	220	179	538	119	183	118	81	77	72	82	96	44
11	778292	1063	962	869	628	422	367	274	202	206	472	131	145	129	108	87	95	82	128	75
12	410309	1068	991	831	602	431	324	261	245	190	313	141	135	94	94	93	79	60	115	72
13	261267	1148	898	850	604	420	332	259	217	202	231	137	115	112	83	81	75	62	72	55
14	67532	1061	949	831	554	407	339	293	187	191	164	154	116	104	112	69	82	78	66	69
15	887297	1096	944	853	589	454	314	274	202	188	137	147	128	141	78	98	68	77	53	73
16	720126	1136	953	794	609	431	309	280	212	201	145	128	136	96	88	97	95	62	62	52
17	566798	992	916	800	563	476	342	260	199	173	146	142	112	118	103	89	82	89	58	73
18	437649	999	929	805	571	435	329	283	214	185	174	118	107	107	75	91	75	76	76	87
19	328658	1085	972	830	540	416	343	250	222	176	154	135	104	110	85	84	68	83	62	92
20	242872	921	910	801	610	419	327	234	232	188	158	122	96	110	99	88	72	56	67	79
21	177152	1014	980	777	596	397	323	258	226	172	136	149	127	103	111	65	83	60	60	51
22	128429	1061	975	769	591	439	337	278	232	176	169	126	104	100	82	75	71	64	52	64
23	91334	1035	944	817	648	387	325	227	203	183	128	134	118	111	110	79	71	49	59	79
24	65736	1096	940	808	514	407	292	257	226	192	139	142	116	82	78	79	77	64	60	55
25	46165	1053	898	824	633	437	354	239	215	166	124	127	114	96	113	77	81	69	58	53
26	32790	997	953	772	561	415	346	248	212	180	132	117	102	113	102	84	79	75	52	51
27	23294	966	911	745	540	389	317	251	223	169	169	122	115	84	126	71	71	64	70	49
28	16259	964	915	781	570	436	303	250	209	172	156	141	99	97	115	91	86	62	61	61
[illegible]	11893	987	925	785	523	366	307	237	209	184	128	123	109	95	84	68	60	57	61	56
[illegible]	[illegible]394	965	931	663	573	427	294	228	198	185	140	132	116	91	84	82	83	67	49	59
[illegible]	[illegible]48	1002	882	739	561	391	317	232	198	167	163	149	116	102	79	90	96	62	64	57
[illegible]	[illegible]	982	929	732	528	428	316	249	186	173	157	227	114	106	77	78	74	58	67	54
[illegible]	[illegible]	1011	903	740	524	374	345	214	211	163	142	211	117	86	95	80	69	61	62	54
[illegible]	[illegible]	995	864	811	563	387	306	224	207	180	137	158	102	96	83	88	77	67	70	51
[illegible]	[illegible]	[illegible]43	915	934	528	397	279	222	179	174	174	130	116	102	90	83	90	71	63	49
[illegible]	[illegible]	[illegible]9	939	777	502	370	326	237	202	173	138	118	122	89	79	68	90	75	54	58
[illegible]	[illegible]		892	719	684	398	333	210	193	173	144	125	111	90	81	78	82	69	55	56
38	16[illegible]		909	733	831	364	340	222	217	169	132	129	117	109	88	69	83	73	71	52
39	155[illegible]		1056	676	612	398	281	237	207	137	147	104	113	80	94	100	79	53	69	54
40	136[illegible]		[illegible]	696	543	408	301	232	191	184	112	107	98	82	81	85	72	89	62	54
41	1377		[illegible]	699	542	381	310	215	201	162	154	124	99	89	82	97	89	61	48	59
42	1445		[illegible]	[illegible]99	555	366	318	249	195	174	130	118	117	105	73	72	88	59	44	56
43	1439	1[illegible]			522	419	304	234	194	162	125	109	98	103	113	73	56	67	55	54
44	1335	94[illegible]			508	417	288	253	216	174	135	125	123	98	82	95	72	73	60	58
45	1[illegible]0	930			500	429	279	235	193	172	122	160	97	103	86	82	77	81	68	55
46	1336	947			519	397	274	262	198	158	145	177	100	106	86	83	121	69	57	53
47	1233	923	[illegible]		467	393	290	233	180	152	114	144	132	110	91	83	123	70	59	54
48	1152	977	[illegible]		465	346	286	218	205	170	121	136	95	90	77	95	97	70	74	61
49	1225	925	89[illegible]		491	370	273	220	192	195	152	134	94	98	86	80	83	67	45	55

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5452944A.K:1 29-44-A 92-02751-L-1

	1000	1050	1100	11[illegible]	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
[illegible]	[illegible]	53	58	47	51	29	36	25	32	26	19	28	27	16	26	14	14	14	14	17
1	[illegible]	68	62	45	47	39	38	30	36	24	25	20	24	19	21	10	12	17	12	15
2	[illegible]	[illegible]	64	53	47	40	40	20	25	23	23	27	16	15	17	13	13	14	14	14
3	[illegible]	[illegible]	43	36	44	49	36	23	37	23	16	19	18	19	19	16	18	16	11	12
4	[illegible]	[illegible]	57	43	54	39	36	29	36	27	18	23	18	20	13	15	12	13	16	11
5	46	[illegible]	[illegible]	52	57	37	35	29	32	20	28	17	14	12	23	24	17	13	16	10
6	40	[illegible]	[illegible]	55	55	31	37	26	20	28	19	24	18	14	13	8	9	14	11	15
7	66	[illegible]	[illegible]	48	37	36	23	22	27	30	23	24	12	10	16	21	18	11	13	14
8	63	39	[illegible]	45	57	39	26	27	33	19	18	20	19	18	12	17	21	12	17	11
9	58	45	[illegible]	42	45	42	37	35	35	38	21	23	23	15	15	18	13	16	14	12
10	56	44	[illegible]	45	50	36	43	31	26	88	33	26	12	10	15	25	16	7	16	15
11	47	53	[illegible]	46	38	49	40	25	29	200	28	19	25	22	17	15	14	15	13	19
12	47	63	[illegible]	[illegible]	38	34	28	37	24	415	27	18	21	19	8	21	14	15	23	8
13	50	57	46	[illegible]	37	35	31	18	26	331	21	16	16	28	15	17	15	9	13	16
14	67	57	45	[illegible]	41	28	38	23	26	181	20	18	25	16	21	21	11	22	19	15
15	57	52	50	[illegible]	45	38	31	29	29	68	23	16	26	22	18	33	14	13	20	12
16	46	38	50	[illegible]	52	39	31	25	24	29	17	21	15	13	24	39	16	18	20	19
17	53	56	41	[illegible]	47	40	48	19	25	26	26	12	21	14	16	52	23	9	10	21
18	58	55	39	[illegible]	47	41	37	33	24	25	11	20	24	13	15	48	13	14	9	16
19	41	55	59	[illegible]	47	26	43	19	34	19	20	16	19	7	19	29	13	14	22	21
20	49	42	79	[illegible]	33	36	40	25	20	25	28	19	20	17	10	17	19	17	15	13
21	49	45	91	53	44	37	32	19	31	32	22	29	17	21	14	13	13	17	19	14
22	52	50	69	54	41	37	30	32	32	26	21	24	16	22	23	13	12	25	21	17
23	60	44	54	79	49	30	46	27	25	20	24	24	22	19	15	18	14	16	6	16
24	51	54	54	54	44	35	29	36	29	28	27	18	14	17	15	19	19	11	11	12
25	56	36	47	61	58	36	34	23	28	29	25	22	20	10	20	15	16	18	12	8
26	46	54	49	51	43	38	40	31	21	21	20	22	18	12	14	16	22	15	15	11
27	47	53	50	42	40	37	24	33	34	27	17	27	24	19	25	15	21	18	11	25
28	58	47	51	37	32	27	29	38	22	19	14	15	23	16	22	18	15	17	11	11
29	43	52	59	67	34	38	31	49	24	23	22	19	19	10	14	18	11	18	19	10
30	61	61	41	41	39	30	37	40	27	26	17	18	13	19	19	18	8	12	12	13
31	41	48	47	46	52	39	33	37	22	25	15	17	19	22	23	11	18	17	19	15
32	59	51	46	46	42	45	33	23	21	17	11	27	17	21	27	21	14	18	17	15
33	49	56	61	41	39	43	51	26	26	14	18	21	21	19	35	17	20	14	19	16
34	53	53	49	53	55	24	50	34	25	20	22	24	23	22	13	15	14	12	9	15
35	39	42	43	46	46	32	37	30	21	22	17	24	24	18	19	25	19	26	20	16
36	39	46	47	50	42	44	36	26	41	24	16	26	21	22	14	21	18	25	12	10
37	53	48	47	27	35	42	32	36	28	28	18	26	18	12	24	10	13	21	13	12
38	53	49	62	47	50	38	31	27	21	16	17	16	18	18	19	10	14	18	16	18
39	52	45	42	44	56	36	28	30	21	22	29	21	22	13	20	18	19	12	16	13
40	63	54	49	30	51	31	41	27	35	18	22	32	14	15	24	9	15	14	17	17
41	47	46	47	57	41	25	32	39	27	21	17	22	18	17	18	18	12	17	18	6
42	57	57	43	34	51	33	26	33	27	28	13	30	24	22	18	22	20	9	15	16
43	55	52	59	63	40	40	39	35	27	26	22	28	21	14	22	21	17	17	14	17
44	43	57	53	47	41	21	34	23	21	28	18	26	13	18	18	15	18	13	15	16
45	60	68	48	36	41	41	21	28	23	23	17	30	9	13	12	14	17	15	10	16
46	44	47	40	44	37	34	25	35	26	19	18	29	24	16	16	12	18	11	18	11
47	51	53	43	45	39	45	20	33	30	22	14	16	18	18	18	14	19	11	14	15
48	42	54	30	49	33	30	36	32	23	18	25	35	16	17	8	20	18	17	19	18
49	67	60	45	49	59	51	32	31	20	24	18	21	28	11	17	13	21	10	12	7

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II.B. Sample Analysis

Groundwaters- Diode HH

DIODE HH RAYGUN ANALYSIS

DIODE HH NAME: EALegel

L.R.B.# 54529 TIME ZERO= / / :

Geometry: 500 ml Marinelli Beaker Parameters:

UIC = [170, 6] Spectra:#channels 2048 Gain: 1.0 KeV/Ch

Sample Name	Ver #	Weight (g)	Date	Time	Shelf #	PU on/ off	% Dead Time	Live Time	Elasped Time	Initials	Comments
54529-45A	1	.5	3/2/92	1652				144000	2401.82	EAL/EAL	92-02752 -L-1
-32A	1	.5	3/4/92	~~0703~~ 1011	3/4/92 EAL			86710	1446.28	EAL/EAL	92-02742 -L-6
-30A	1	.5	3/5/92	1027				95473	1592.43	EAL/EAL	92-02742 -L-3
-44A	1	.5	3/6/92	1306				243644	4047.10	EAL/EAL	92-02751 -L-1
-43A	1	.5	3/9/92	837				102490	1709.46	EAL/EAL	92-02750 -L-1
-42A	1	.5	3/10/92	1717				86700	1446.10	EAL/EAL	92-02749 -L-1
-41A	1	.5	3/11/92	1733				86100	1436.09	EAL/EAL	92-02748 -L-1
-39A	1	.5	3/12/92	1733				85970	1433.93	EAL/EAL	92-02746 -L-1
-31A	1	.5	3/13/92	1732				229120	3821.54	EAL/EAL	92-02742 -L-5
-29B	1	.5	3/16/92	0927				110547	1843.84	EAL/EAL	92-02742 -L-2
-29A	1	.5	3/17/92	1615				64392	1074.00	EAL/EAL	92-02742 -L-1
-40A	1	.5	3/18/92	1720				71730	1196.41	EAL/EAL	92-02747 -L-1
-38A	1	.5	3/19/92	1323				98650	1645.40	EAL/EAL	92-02745 -L-1
-37A	1	.5	3/20/92	1659				229824	3833.30	EAL/EAL	92-02744 -L-1
-36A	1	.5	3/23/92	859				92288	1539.30	EAL/EAL	92-02743 -L-1
-28A	1	.5	3/24/92	1043				101953	1700.50	EAL/EAL	92-02741 -L-1
-27A	1	.5	3/25/92	1510				88493	1475.00	EAL/EAL	92-02740 -L-1
-37A	2	.5	3/26/92	1550				61423	1024.50	EAL/EAL	92-02744-L -1

Elwood Legel

9 2 1 2 9 1 9 7 2

Raygun - RSX Version 10-Jan-90 (28-MAR-1992 16:01:30)

Analysis performed by: E. A. LEPEL

Sample: 54529-27-A 92-02740-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 11:37:00

Count date: 25-Mar-1992 at 15:10:00

Decay: 184.1d (15910380. seconds)

Count times: REAL TIME 24.58h (88500.000 seconds)
LIVE TIME 24.56h (88433.000 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452927a.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

3/27/92
EA Lepel

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.3	70.	78.	9500.	2224.*	74.40	3.852E-01	100.0	2560.
2	85.1	85.	87.	2647.	457.*	84.25	2.663E-01	100.0	626.
3	90.3	90.	92.	2400.	318.*	89.43	2.266E-01	100.0	817.
4	93.7	92.	95.	3237.	518.*	92.82	2.085E-01	100.0	858.
5	186.7	185.	188.	2439.	373.*	185.69	1.124E-01	100.0	264.
6	239.6	236.	243.	8961.	5749.*	238.60	1.247E-01	100.0	5765.
7	301.1	300.	302.	1065.	260.*	299.99	1.292E-01	100.0	260.
8	339.2	335.	340.	2429.	1026.*	338.10	1.366E-01	100.0	1071.
9	352.9	352.	355.	1013.	195.*	351.76	1.332E-01	100.0	117.
10	410.7	410.	413.	764.	126.*	409.55	1.382E-01	100.0	125.
11	464.1	462.	465.	774.	232.*	462.83	1.452E-01	100.0	247.
12	512.0	509.	515.	1865.	1055.*	510.74	1.492E-01	100.0	1117.
13	584.6	582.	587.	1817.	1250.*	583.25	1.557E-01	100.0	1242.
14	610.8	610.	612.	496.	223.*	609.40	1.601E-01	100.0	157.
15	728.7	726.	732.	761.	308.*	727.15	1.643E-01	100.0	265.
16	796.4	795.	800.	524.	198.*	794.79	1.853E-01	82.1	106.
17	862.3	861.	864.	334.	135.*	860.61	1.741E-01	100.0	141.
18	913.0	911.	915.	1119.	896.*	911.29	1.760E-01	100.0	906.
19	966.4	964.	969.	393.	179.*	964.70	1.679E-01	100.0	210.
20	970.9	969.	972.	707.	561.*	969.13	1.930E-01	100.0	481.
21	1122.1	1120.	1125.	270.	92.*	1120.25	1.819E-01	100.0	66.
22	1463.0	1459.	1467.	864.	742.*	1460.75	1.694E-01	100.0	749.
23	1590.1	1586.	1593.	177.	77.*	1587.78	1.804E-01	100.0	90.
24	1594.3	1592.	1597.	126.	71.*	1591.98	1.698E-01	100.0	64.

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25 1767.0 1764. 1771. 155. 81.* 1764.48 1.771E-01 100.0 57.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.69 kev is ambiguously assigned; component has been removed.
U235 at 185.69 kev is ambiguously assigned; component has been removed.
Sc 46 at1120.25 kev is ambiguously assigned; component has been removed.
Ta182 at1120.25 kev is ambiguously assigned; component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	(interferences) dev (sig)	pCi /L	error (%)
1 K 40	- - - -	1.615E+00	8.728E-05	- - - - - - - - - -			8.728E+01	100.01
	1460.75	1.615E+00	8.728E-05	1.00	100.00	0.00		
2 Tl208	- - - -	2.333E-01	1.261E-05	- - - - - - - - - -			1.261E+01	82.27
	510.74	7.788E-01	4.210E-05	0.30	100.00	1.36		
	583.25	1.980E-01	1.070E-05	1.18	100.00	-0.35		
3 Bi214	- - - -	4.242E-01	2.293E-05	- - - - - - - - - -			2.293E+01	80.75
	609.40	3.566E-01	1.927E-05	1.19	100.00	-0.37		
	1120.25	1.233E+00	6.663E-05	0.34	100.00	1.28		
4 Pb212	- - - -	3.474E-01	1.878E-05	- - - - - - - - - -			1.878E+01	100.00
	238.60	3.474E-01	1.878E-05	1.00	100.00	0.00		
5 Pb214	- - - -	3.617E-01	1.955E-05	- - - - - - - - - -			1.955E+01	100.00
	351.76	3.617E-01	1.955E-05	1.00	100.00	0.00		
6 Ac228	- - - -	9.992E-01	5.401E-05	- - - - - - - - - -			5.401E+01	54.98
	338.10	1.293E+00	6.989E-05	0.77	100.00	0.44		
	794.79	4.581E+00	2.476E-04	0.22	82.07	1.66		
	911.29	7.0[illegible]3E-01	3.810E-05	1.42	100.00	-0.81		
	969.13	1.258E+00	6.800E-05	0.79	100.00	0.40		

The following are upper limit values:

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```
Be 7  - - - - 1.542E+01   8.333E-04   - - - - - - - - -  8.333E+02 100.00
Sc 46 - - - - 8.220E-01   4.443E-05   - - - - - - - - -  4.443E+01 100.00
Cr 51 - - - - 1.306E+02   7.062E-03   - - - - - - - - -  7.062E+03 100.00
Mn 54 - - - - 2.743E-01   1.483E-05   - - - - - - - - -  1.483E+01 100.00
Fe 59 - - - - 6.912E+00   3.736E-04   - - - - - - - - -  3.736E+02 100.00
Co 58 - - - - 1.060E+00   5.728E-05   - - - - - - - - -  5.728E+01 100.00
Co 60 - - - - 2.005E-01   1.084E-05   - - - - - - - - -  1.084E+01 100.00
Zn 65 - - - - 6.814E-01   3.683E-05   - - - - - - - - -  3.683E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
Zr 95 - - - - 2.655E+00   1.435E-04   - - - - - - - - -  1.435E+02 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
Nb 94 - - - - 1.710E-01   9.245E-06   - - - - - - - - -  9.245E+00 100.00
Nb 95 - - - - 6.776E+00   3.663E-04   - - - - - - - - -  3.663E+02 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
Ru103 - - - - 9.751E+00   5.271E-04   - - - - - - - - -  5.271E+02 100.00
Ru106 - - - - 3.775E+00   2.041E-04   - - - - - - - - -  2.041E+02 100.00
Ag110m - - - - 1.014E+00  5.481E-05   - - - - - - - - -  5.481E+01 100.00
Sn113 - - - - 9.660E-01   5.222E-05   - - - - - - - - -  5.222E+01 100.00
Sn125 - - - - 2.926E+06   1.581E+02   - - - - - - - - -  1.581E+08 100.00
Sn117m - - - - 2.437E+03  1.317E-01   - - - - - - - - -  1.317E+05 100.00
Sb124 - - - - 3.073E+00   1.661E-04   - - - - - - - - -  1.661E+02 100.00
Sb125 - - - - 1.604E+00   8.670E-05   - - - - - - - - -  8.670E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
Te129m - - - - 3.410E+02  1.843E-02   - - - - - - - - -  1.843E+04 100.00
```

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Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

Unable to compute upper limit for I131 , Tdecay > 20*T1/2.

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 1.360E+00	7.350E-05	- - - - - - - - -	7.350E+01	100.00
Cs136	- - - - 5.953E+03	3.218E-01	- - - - - - - - -	3.218E+05	100.00
Cs137	- - - - 2.047E-01	1.107E-05	- - - - - - - - -	1.107E+01	100.00
Ba140	- - - - 3.066E+04	1.669E+00	- - - - - - - - -	1.669E+06	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.249E+01	6.750E-04	- - - - - - - - -	6.750E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 1.822E+00	9.849E-05	- - - - - - - - -	9.849E+01	100.00
Eu154	- - - - 1.429E+00	7.725E-05	- - - - - - - - -	7.725E+01	100.00
Eu155	- - - - 1.356E+00	7.331E-05	- - - - - - - - -	7.331E+01	100.00
Hf175	- - - - 1.124E+00	6.077E-05	- - - - - - - - -	6.077E+01	100.00
Hf181	- - - - 5.369E+00	2.902E-04	- - - - - - - - -	2.902E+02	100.00
Ta182	- - - - 2.753E+00	1.488E-04	- - - - - - - - -	1.488E+02	100.00
Pb210	- - - - 3.048E+03	1.648E-01	- - - - - - - - -	1.648E+05	100.00
Ra226	- - - - 3.020E+00	1.633E-04	- - - - - - - - -	1.633E+02	100.00
U235	- - - - 6.214E-01	3.359E-05	- - - - - - - - -	3.359E+01	100.00
U238	- - - - 3.817E+01	2.063E-03	- - - - - - - - -	2.063E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.239E+00	1.210E-04	- - - - - - - - -	1.210E+02	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	74.40	3.8523E-01	100.0	0.0000000
2	84.25	2.6635E-01	100.0	0.4966925
3	89.43	2.2659E-01	100.0	0.0000000
4	92.82	2.0851E-01	100.0	0.0000000
7	299.59	1.2920E-01	100.0	8.0412701E-11

10	409.55	1.3816E-01	100.0	0.0000000
11	462.83	1.4517E-01	100.0	0.1514414
15	727.15	1.6433E-01	100.0	2.2815353E-05
17	860.61	1.7414E-01	100.0	3.9673359E-06
19	964.70	1.6791E-01	100.0	6.6766451E-04
23	1587.78	1.8036E-01	100.0	3.3374238E-08
24	1591.98	1.6981E-01	100.0	0.0000000
25	1764.48	1.7706E-01	100.0	8.3794184E-02

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-154

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:58:36)

Analysis performed by: E. A. LEPEL

Sample: 54529-28-A 92-02741-L-1
Weight: 0.50000 L

Irradiation date: 23-Sep-1991 at 11:38:00

Count date: 24-Mar-1992 at 10:43:00

Decay: 183.0d (15807900. seconds)

Count times: REAL TIME 28.34h (102030.00 seconds)
LIVE TIME 28.32h (101953.01 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmorn. HH

Spectrum from file : 5452928A.HH:1

Background subtractions from file: ve:[116,1]Backg. HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.8	73.	79.	8956.	2568.*	74.71	3.589E-01	100.0	2952.
2	88.4	87.	90.	3982.	960.*	87.34	2.164E-01	100.0	942.
3	90.8	90.	92.	2745.	131.*	89.69	2.187E-01	100.0	942.
4	94.0	92.	95.	3881.	1044.*	92.87	1.846E-01	100.0	989.
5	210.1	209.	211.	2256.	574.*	208.86	1.115E-01	100.0	525.
6	239.8	237.	244.	10470.	7010.*	238.60	1.940E-01	100.0	6646.
7	271.1	270.	272.	1456.	349.*	269.82	1.177E-01	100.0	317.
8	278.6	277.	280.	1575.	213.*	277.35	1.163E-01	100.0	225.
9	301.1	301.	302.	937.	286.*	299.84	1.234E-01	100.0	300.
10	329.1	327.	330.	1376.	239.*	327.76	1.265E-01	100.0	274.
11	339.6	338.	345.	3202.	1218.*	338.27	1.221E-01	100.0	1235.
12	353.1	349.	356.	2313.	462.*	351.73	2.552E-01	35.6	135.
13	410.9	408.	412.	1122.	246.*	409.50	1.256E-01	100.0	144.
14	464.3	463.	455.	745.	270.*	462.83	1.361E-01	100.0	285.
15	512.2	508.	517.	2571.	1261.*	510.69	1.376E-01	100.0	1288.
16	584.8	583.	588.	2179.	1556.*	583.22	1.588E-01	100.0	1431.
17	611.0	608.	612.	934.	388.*	609.36	2.758E-01	65.7	182.
18	729.0	728.	733.	841.	349.*	727.28	1.603E-01	100.0	306.
19	796.9	795.	798.	397.	139.*	795.10	1.570E-01	100.0	122.
20	862.3	860.	864.	449.	174.*	860.47	1.586E-01	100.0	162.
21	913.1	911.	915.	1326.	1054.*	911.21	1.682E-01	100.0	1045.
22	966.8	963.	969.	535.	209.*	964.89	1.664E-01	100.0	242.
23	970.9	969.	973.	873.	645.*	968.99	1.899E-01	100.0	555.
24	1122.2	1120.	1124.	267.	97.*	1120.69	1.688E-01	100.0	76.

3/27/92
E.A. Lepel

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25	1463.2	1460.	1465.	974.	885.*	1460.75	1.533E-01	100.0	862.
26	1590.6	1589.	1594.	200.	114.*	1588.07	1.667E-01	100.0	103.
27	1595.3	1594.	1598.	149.	77.*	1592.77	1.677E-01	100.0	74.
28	1623.4	1618.	1624.	155.	64.*	1620.76	1.632E-01	100.0	32.
29	1767.0	1765.	1769.	162.	109.*	1764.27	1.634E-01	100.0	66.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Sc 46 at1120.09 kev is ambiguously assigned: component has been removed.
Ta182 at1120.09 kev is ambiguously assigned: component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	1.461E+00	7.898E-05	- - - - - - - - -			7.898E+01	100.01
	1460.75	1.461E+00	7.898E-05	1.00	100.00	0.00		
2 Eu155	- - - -	7.081E-01	3.828E-05	- - - - - - - - -			3.828E+01	100.00
	87.34	7.081E-01	3.828E-05	1.00	100.00	0.00		
3 Tl208	- - - -	2.398E-01	1.296E-05	- - - - - - - - -			1.296E+01	81.08
	510.69	7.182E-01	3.882E-05	0.33	100.00	1.89		
	583.22	2.020E-01	1.092E-05	1.19	100.00	-0.53		
4 Pb212	- - - -	5.399E-01	2.918E-05	- - - - - - - - -			2.918E+01	100.01
	238.60	5.399E-01	2.918E-05	1.00	100.00	0.00		
5 Pb214	- - - -	6.927E-01	3.744E-05	- - - - - - - - -			3.744E+01	35.57
	351.73	6.927E-01	3.744E-05	1.00	35.57	0.00		
6 Bi214	- - - -	7.174E-01	3.878E-05	- - - - - - - - -			3.878E+01	49.99
	609.36	6.141E-01	3.319E-05	1.17	65.72	-0.73		
	1120.09	1.144E+00	6.182E-05	0.63	100.00	1.06		
	1764.27	1.072E+00	5.794E-05	0.67	100.00	0.94		
7 Ac228	- - - -	9.295E-01	5.024E-05	- - - - - - - - -			5.024E+01	56.11

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338.27	1.155E+00	6.245E-05	0.80	100.00	0.55
795.10	3.879E+00	2.097E-04	0.24	100.00	2.16
911.21	6.730E-01	3.638E-05	1.38	100.00	-1.08
968.99	1.238E+00	6.691E-05	0.75	100.00	0.71

The following are upper limit values:

Be 7	- - - - 1.402E+01	7.578E-04	- - - - - - - - -	7.578E+02	100.00
Sc 46	- - - - 7.803E-01	4.218E-05	- - - - - - - - -	4.218E+01	100.00
Cr 51	- - - - 1.191E+02	6.437E-03	- - - - - - - - -	6.437E+03	100.00
Mn 54	- - - - 2.527E-01	1.366E-05	- - - - - - - - -	1.366E+01	100.00
Fe 59	- - - - 6.244E+00	3.375E-04	- - - - - - - - -	3.375E+02	100.00
Co 58	- - - - 9.575E-01	5.176E-05	- - - - - - - - -	5.176E+01	100.00
Co 60	- - - - 1.866E-01	1.009E-05	- - - - - - - - -	1.009E+01	100.00
Zn 65	- - - - 6.364E-01	3.440E-05	- - - - - - - - -	3.440E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 2.507E+00	1.355E-04	- - - - - - - - -	1.355E+02	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 1.602E-01	8.658E-06	- - - - - - - - -	8.658E+00	100.00
Nb 95	- - - - 6.482E+00	3.504E-04	- - - - - - - - -	3.504E+02	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 8.903E+00	4.812E-04	- - - - - - - - -	4.812E+02	100.00
Ru106	- - - - 3.542E+00	1.914E-04	- - - - - - - - -	1.914E+02	100.00
Ag110m	- - - - 9.545E-01	5.159E-05	- - - - - - - - -	5.159E+01	100.00
Sn113	- - - - 8.941E-01	4.833E-05	- - - - - - - - -	4.833E+01	100.00
Sn125	- - - - 2.624E+06	1.419E+02	- - - - - - - - -	1.419E+08	100.00
Sn117m	- - - - 2.176E+03	1.176E-01	- - - - - - - - -	1.176E+05	100.00
Sb124	- - - - 2.838E+00	1.534E-04	- - - - - - - - -	1.534E+02	100.00
Sb125	- - - - 1.532E+00	8.283E-05	- - - - - - - - -	8.283E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 3.117E+02	1.685E-02	- - - - - - - - -	1.685E+04	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

Unable to compute upper limit for I131 , Tdecay > 20*T1/2.

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 1.279E+00	6.915E-05	- - - - - - - - -	6.915E+01	100.00
Cs136	- - - - 5.349E+03	2.891E-01	- - - - - - - - -	2.891E+05	100.00
Cs137	- - - - 1.913E-01	1.034E-05	- - - - - - - - -	1.034E+01	100.00
Ba140	- - - - 2.743E+04	1.483E+00	- - - - - - - - -	1.483E+06	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.152E+01	6.228E-04	- - - - - - - - -	6.228E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 1.715E+00	9.269E-05	- - - - - - - - -	9.269E+01	100.00
Eu154	- - - - 1.346E+00	7.275E-05	- - - - - - - - -	7.275E+01	100.00
Hf175	- - - - 1.037E+00	5.603E-05	- - - - - - - - -	5.603E+01	100.00
Hf181	- - - - 4.808E+00	2.599E-04	- - - - - - - - -	2.599E+02	100.00
Ta182	- - - - 2.595E+00	1.402E-04	- - - - - - - - -	1.402E+02	100.00
Pb210	- - - - 2.879E+03	1.556E-01	- - - - - - - - -	1.556E+05	100.00
Ra226	- - - - 2.939E+00	1.589E-04	- - - - - - - - -	1.589E+02	100.00
U235	- - - - 5.993E-01	3.239E-05	- - - - - - - - -	3.239E+01	100.00
U238	- - - - 3.664E+01	1.980E-03	- - - - - - - - -	1.980E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.106E+00	1.139E-04	- - - - - - - - -	1.139E+02	100.00

The following peaks were not identified:
* energy gammas/sec peterr CI *

1	74.71	3.5093E-01	100.0	0.0000000
3	89.69	2.1873E-01	100.0	0.0000000
4	92.87	1.8457E-01	100.0	0.0000000
5	208.86	1.1145E-01	100.0	7.0957569E-03
7	269.82	1.1768E-01	100.0	1.4739692E-04
8	277.35	1.1633E-01	100.0	3.0288035E-07
9	299.84	1.2336E-01	100.0	3.2517869E-06
10	327.76	1.2650E-01	100.0	2.0440752E-02
13	409.50	1.2564E-01	100.0	0.0000000
14	462.83	1.3609E-01	100.0	0.1672113
18	727.26	1.6030E-01	100.0	1.6144610E-05
20	860.47	1.5856E-01	100.0	2.3556064E-05
22	964.89	1.6640E-01	100.0	4.4699866E-04
26	1588.07	1.6675E-01	100.0	9.9256212E-08
27	1592.77	1.6772E-01	100.0	0.0000000
28	1620.76	1.6324E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

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Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:59:07)

Analysis performed by: E. A. LEPEL

Sample: 54529-29-A 92-02742-L-1
Weight: 0.50000 L

Irradiation date: 20-Sep-1991 at 10:16:00

Count date: 17-Mar-1992 at 16:15:00

Decay: 179.2d (15487140. seconds)

Count times: REAL TIME 17.90h (64440.000 seconds)
LIVE TIME 17.89h (64392.000 seconds)

Dead time: 0.07 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452929A.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	77.2	76.	78.	2423.	1211.*	76.80	3.425E-01	100.0	1864.
2	85.0	84.	88.	3233.	377.*	84.57	3.205E-01	100.0	456.
3	93.3	93.	94.	1378.	250.*	92.84	2.606E-01	100.0	625.
4	129.2	127.	130.	2077.	185.*	128.81	1.524E-01	100.0	199.
5	209.9	208.	211.	1804.	420.*	209.44	1.389E-01	100.0	331.
6	239.0	237.	243.	6089.	4146.*	238.60	1.422E-01	100.0	4198.
7	300.8	300.	301.	569.	179.*	300.38	1.514E-01	100.0	190.
8	328.6	326.	329.	915.	237.*	328.16	1.548E-01	100.0	173.
9	339.0	337.	340.	1409.	749.*	338.52	1.577E-01	100.0	780.
10	352.7	351.	354.	720.	127.*	352.29	1.560E-01	100.0	85.
11	463.6	462.	464.	530.	241.*	463.13	1.682E-01	100.0	180.
12	511.3	505.	514.	1608.	786.*	510.81	1.726E-01	100.0	813.
13	583.9	582.	585.	1248.	976.*	583.41	1.814E-01	100.0	904.
14	610.1	607.	612.	539.	186.*	609.61	1.770E-01	100.0	115.
15	727.9	726.	730.	453.	202.*	727.45	1.989E-01	100.0	193.
16	795.7	794.	797.	286.	119.*	795.27	2.003E-01	100.0	77.
17	911.8	910.	913.	824.	697.*	911.37	2.043E-01	100.0	660.
18	965.5	962.	968.	384.	180.*	965.02	2.087E-01	100.0	153.
19	969.6	968.	972.	561.	420.*	969.17	2.314E-01	100.0	350.
20	1461.2	1458.	1463.	586.	519.*	1460.75	2.114E-01	100.0	545.
21	1588.8	1583.	1592.	151.	97.*	1588.35	1.726E-01	100.0	65.
22	1593.3	1592.	1595.	86.	66.*	1592.83	1.607E-01	100.0	47.

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++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	2.015E+00	1.089E-04	- - - - - - - - - -			1.089E+02	100.01
	1460.75	2.015E+00	1.089E-04	1.00	100.00	0.00		
2 Tl208	- - - -	2.715E-01	1.468E-05	- - - - - - - - - -			1.468E+01	82.19
	510.81	8.997E-01	4.863E-05	0.30	100.00	1.88		
	583.41	2.304E-01	1.245E-05	1.18	100.00	-0.48		
3 Pb212	- - - -	3.944E-01	2.132E-05	- - - - - - - - - -			2.132E+01	100.00
	238.60	3.944E-01	2.132E-05	1.00	100.00	0.00		
4 Pb214	- - - -	4.233E-01	2.288E-05	- - - - - - - - - -			2.288E+01	100.00
	352.29	4.233E-01	2.288E-05	1.00	100.00	0.00		
5 Bi214	- - - -	3.941E-01	2.130E-05	- - - - - - - - - -			2.130E+01	100.00
	609.61	3.941E-01	2.130E-05	1.00	100.00	0.00		
6 Ac228	- - - -	1.136E+00	6.140E-05	- - - - - - - - - -			6.140E+01	56.46
	338.52	1.490E+00	8.054E-05	0.76	100.00	0.64		
	795.27	4.942E+00	2.671E-04	0.23	100.00	2.07		
	911.37	8.168E-01	4.415E-05	1.39	100.00	-1.05		
	969.17	1.506E+00	8.141E-05	0.75	100.00	0.66		

The following are upper limit values:

Be 7	- - - -	1.643E+01	8.883E-04	- - - - - - - - -			8.883E+02	100.00
Sc 46	- - - -	9.561E-01	5.168E-05	- - - - - - - - -			5.168E+01	100.00
Cr 51	- - - -	1.315E+02	7.108E-03	- - - - - - - - -			7.108E+03	100.00
Mn 54	- - - -	3.157E-01	1.707E-05	- - - - - - - - -			1.707E+01	100.00

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   Fe 59  - - - - 7.737E+00   4.182E-04   - - - - - - - -  4.182E+02 100.00
   Co 58  - - - - 1.127E+00   6.090E-05   - - - - - - - -  6.090E+01 100.00
   Co 60  - - - - 2.356E-01   1.274E-05   - - - - - - - -  1.274E+01 100.00
   Zn 65  - - - - 7.523E-01   4.067E-05   - - - - - - - -  4.067E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 3.024E+00   1.635E-04   - - - - - - - -  1.635E+02 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 2.027E-01   1.095E-05   - - - - - - - -  1.095E+01 100.00
   Nb 95  - - - - 7.264E+00   3.927E-04   - - - - - - - -  3.927E+02 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 1.053E+01   5.692E-04   - - - - - - - -  5.692E+02 100.00
   Ru106  - - - - 4.332E+00   2.341E-04   - - - - - - - -  2.341E+02 100.00
   Ag110m - - - - 1.185E+00   6.405E-05   - - - - - - - -  6.405E+01 100.00
   Sn113  - - - - 1.095E+00   5.920E-05   - - - - - - - -  5.920E+01 100.00
   Sn125  - - - - 2.291E+06   1.239E+02   - - - - - - - -  1.239E+08 100.00
   Sn117m - - - - 2.198E+03   1.188E-01   - - - - - - - -  1.188E+05 100.00
   Sb124  - - - - 3.151E+00   1.703E-04   - - - - - - - -  1.703E+02 100.00
   Sb125  - - - - 1.897E+00   1.025E-04   - - - - - - - -  1.025E+02 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 3.538E+02   1.912E-02   - - - - - - - -  1.912E+04 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I131 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
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Cs134	- - - - 1.610E+00	8.701E-05	- - - - - - - - -	8.701E+01	100.00
Cs136	- - - - 5.287E+03	2.858E-01	- - - - - - - - -	2.858E+05	100.00
Cs137	- - - - 2.374E-01	1.283E-05	- - - - - - - - -	1.283E+01	100.00
Ba140	- - - - 2.803E+04	1.515E+00	- - - - - - - - -	1.515E+06	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.300E+01	7.026E-04	- - - - - - - - -	7.026E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 2.103E+00	1.137E-04	- - - - - - - - -	1.137E+02	100.00
Eu154	- - - - 1.727E+00	9.334E-05	- - - - - - - - -	9.334E+01	100.00
Eu155	- - - - 1.460E+00	7.891E-05	- - - - - - - - -	7.891E+01	100.00
Hf175	- - - - 1.264E+00	6.830E-05	- - - - - - - - -	6.830E+01	100.00
Hf181	- - - - 5.522E+00	2.985E-04	- - - - - - - - -	2.985E+02	100.00
Ta182	- - - - 3.048E+00	1.647E-04	- - - - - - - - -	1.647E+02	100.00
Pb210	- - - - 3.654E+03	1.975E-01	- - - - - - - - -	1.975E+05	100.00
Ra226	- - - - 3.665E+00	1.981E-04	- - - - - - - - -	1.981E+02	100.00
U235	- - - - 7.440E-01	4.022E-05	- - - - - - - - -	4.022E+01	100.00
U238	- - - - 4.520E+01	2.443E-03	- - - - - - - - -	2.443E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.623E+00	1.418E-04	- - - - - - - - -	1.418E+02	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	76.80	3.4249E-01	100.0	0.0000000
2	84.57	3.2047E-01	100.0	0.5907938
3	92.84	2.6058E-01	100.0	0.0000000
4	129.81	1.5242E-01	100.0	0.0000000
5	209.44	1.3850E-01	100.0	5.4750284E-03
7	300.38	1.5136E-01	100.0	4.2395722E-11
8	328.16	1.5480E-01	100.0	9.2605350E-04
11	463.13	1.6819E-01	100.0	0.1759885
15	727.45	1.9091E-01	100.0	2.1297890E-05
18	965.02	2.0872E-01	100.0	2.7750089E-04
21	1588.35	1.7261E-01	100.0	3.6450022E-06
22	1592.03	1.6070E-01	100.0	5.0862232E-02

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If CI >	0	Confidence threshold was not exceeded
CI =	0	Energy Window test failure
CI =	-1	Extreme Half Life test failure
CI =	-2	Extreme As. Gamma comparison test failure
CI =	-3	Unable to estimate area of Assoc. Gamma

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 15:59:49)

Analysis performed by: E. A. LEPEL

Sample: 54529-29-B 92-02742-L-2
Weight: 0.50000 L

Irradiation date: 20-Sep-1991 at 10:16:00

Count date: 16-Mar-1992 at 9:27:00

Decay: 178.0d (15376260. seconds)

Count times: REAL TIME 30.73h (110630.00 seconds)
LIVE TIME 30.71h (110546.99 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452929B.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.4	72.	78.	9666.	2719.*	74.81	3.359E-01	100.0	3200.
2	85.0	84.	87.	4396.	904.*	84.41	2.317E-01	100.0	782.
3	87.8	87.	88.	2360.	293.*	87.18	2.342E-01	100.0	1021.
4	90.3	90.	91.	2049.	287.*	89.68	2.027E-01	100.0	1021.
5	93.7	93.	94.	2381.	643.*	93.08	1.874E-01	100.0	1072.
6	129.7	129.	130.	1993.	353.*	129.04	1.167E-01	100.0	341.
7	186.3	185.	187.	2424.	391.*	185.67	1.029E-01	100.0	330.
8	210.0	209.	211.	2455.	710.*	209.38	1.048E-01	100.0	569.
9	239.2	238.	246.	11262.	7300.*	238.60	1.043E-01	100.0	7207.
10	300.9	300.	303.	1677.	392.*	300.34	1.131E-01	100.0	325.
11	328.8	327.	331.	1836.	361.*	328.21	1.189E-01	100.0	297.
12	339.0	337.	341.	2565.	1141.*	338.44	1.206E-01	100.0	1339.
13	352.5	352.	353.	688.	166.*	351.95	1.204E-01	100.0	146.
14	463.9	463.	465.	862.	347.*	463.34	1.306E-01	100.0	309.
15	511.7	508.	515.	2430.	1281.*	511.16	1.328E-01	100.0	1396.
16	584.0	581.	586.	2342.	1672.*	583.40	1.412E-01	100.0	1552.
17	610.0	608.	611.	720.	268.*	609.43	1.427E-01	100.0	197.
18	728.0	725.	729.	818.	388.*	727.47	1.512E-01	100.0	331.
19	795.8	795.	798.	457.	186.*	795.29	1.483E-01	100.0	132.
20	836.3	835.	838.	345.	95.*	835.76	1.508E-01	100.0	78.
21	861.4	860.	865.	545.	192.*	860.89	1.512E-01	100.0	176.
22	912.0	910.	915.	1456.	1152.*	911.44	1.490E-01	100.0	1133.
23	965.4	963.	968.	510.	223.*	964.89	1.553E-01	100.0	263.
24	969.8	968.	974.	1061.	760.*	969.24	3.059E-01	100.0	602.

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25	1461.2	1458.	1464.	1007.	859.*	1460.75	1.682E-01	100.0	935.
26	1588.8	1587.	1591.	169.	89.*	1588.32	1.624E-01	100.0	112.
27	1593.7	1591.	1595.	189.	117.*	1593.28	1.548E-01	100.0	80.
28	1764.8	1763.	1767.	142.	89.*	1764.32	1.512E-01	100.0	72.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.67 kev is ambiguously assigned: component has been removed.
U235 at 185.67 kev is ambiguously assigned: component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	(interferences) dev (sig)	pCi /L	error (%)
1 K 49	- - - -	1.603E+00	8.666E-05	- - - - - - - - - -			8.666E+01	100.01
	1460.75	1.603E+00	8.666E-05	1.00	100.00	0.00		
2 Mn 54	- - - -	2.242E-01	1.212E-05	- - - - - - - - - -			1.212E+01	100.01
	835.76	2.242E-01	1.212E-05	1.00	100.00	0.00		
3 Tl208	- - - -	2.115E-01	1.143E-05	- - - - - - - - - -			1.143E+01	82.06
	511.16	6.922E-01	3.742E-05	0.31	100.00	1.51		
	583.40	1.792E-01	9.688E-06	1.18	100.00	-0.39		
4 Bi214	- - - -	3.177E-01	1.717E-05	- - - - - - - - - -			1.717E+01	100.00
	609.43	3.177E-01	1.717E-05	1.00	100.00	0.00		
5 Pb212	- - - -	2.889E-01	1.562E-05	- - - - - - - - - -			1.562E+01	100.00
	238.60	2.889E-01	1.562E-05	1.00	100.00	0.00		
6 Pb214	- - - -	3.267E-01	1.766E-05	- - - - - - - - - -			1.766E+01	100.00
	351.95	3.267E-01	1.766E-05	1.00	100.00	0.00		
7 Ac228	- - - -	7.759E-01	4.194E-05	- - - - - - - - - -			4.194E+01	67.59
	338.44	1.139E+00	6.157E-05	0.68	100.00	0.69		
	795.29	3.659E+00	1.978E-04	0.21	100.00	1.71		
	911.44	5.985E-01	3.235E-05	1.30	100.00	-0.64		

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The following are upper limit values:

Be 7	- - - - 1.239E+01	6.697E-04	- - - - - - - - -	6.697E+02	100.00
Sc 46	- - - - 7.325E-01	3.959E-05	- - - - - - - - -	3.959E+01	100.00
Cr 51	- - - - 9.826E+01	5.312E-03	- - - - - - - - -	5.312E+03	100.00
Fe 59	- - - - 5.600E+00	3.027E-04	- - - - - - - - -	3.027E+02	100.00
Co 58	- - - - 8.532E-01	4.612E-05	- - - - - - - - -	4.612E+01	100.00
Co 60	- - - - 1.799E-01	9.727E-06	- - - - - - - - -	9.727E+00	100.00
Zn 65	- - - - 5.679E-01	3.070E-05	- - - - - - - - -	3.070E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 2.252E+00	1.217E-04	- - - - - - - - -	1.217E+02	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 1.552E-01	8.391E-06	- - - - - - - - -	8.391E+00	100.00
Nb 95	- - - - 5.554E+00	3.002E-04	- - - - - - - - -	3.002E+02	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 7.964E+00	4.305E-04	- - - - - - - - -	4.305E+02	100.00
Ru106	- - - - 3.321E+00	1.795E-04	- - - - - - - - -	1.795E+02	100.00
Ag110m	- - - - 8.962E-01	4.844E-05	- - - - - - - - -	4.844E+01	100.00
Sn113	- - - - 8.142E-01	4.401E-05	- - - - - - - - -	4.401E+01	100.00
Sn125	- - - - 1.770E+06	9.567E+01	- - - - - - - - -	9.567E+07	100.00
Sn117m	- - - - 1.588E+03	8.585E-02	- - - - - - - - -	8.585E+04	100.00
Sb124	- - - - 2.545E+00	1.376E-04	- - - - - - - - -	1.376E+02	100.00
Sb125	- - - - 1.443E+00	7.802E-05	- - - - - - - - -	7.802E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 2.703E+02	1.461E-02	- - - - - - - - -	1.461E+04	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

Unable to compute upper limit for I131 , Tdecay > 20*T1/2.

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 1.157E+00	6.257E-05	- - - - - - - - -	6.257E+01	100.00
Cs136	- - - - 3.813E+03	2.061E-01	- - - - - - - - -	2.061E+05	100.00
Cs137	- - - - 1.816E-01	9.814E-06	- - - - - - - - -	9.814E+00	100.00
Ba140	- - - - 2.069E+04	1.119E+00	- - - - - - - - -	1.119E+06	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 9.818E+00	5.307E-04	- - - - - - - - -	5.307E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 1.611E+00	8.710E-05	- - - - - - - - -	8.710E+01	100.00
Eu154	- - - - 1.258E+00	6.800E-05	- - - - - - - - -	6.800E+01	100.00
Eu155	- - - - 1.183E+00	6.394E-05	- - - - - - - - -	6.394E+01	100.00
Hf175	- - - - 9.287E-01	5.020E-05	- - - - - - - - -	5.020E+01	100.00
Hf181	- - - - 4.208E+00	2.275E-04	- - - - - - - - -	2.275E+02	100.00
Ta182	- - - - 2.462E+00	1.331E-04	- - - - - - - - -	1.331E+02	100.00
Pb210	- - - - 2.817E+03	1.523E-01	- - - - - - - - -	1.523E+05	100.00
Ra226	- - - - 2.728E+00	1.474E-04	- - - - - - - - -	1.474E+02	100.00
U235	- - - - 5.646E-01	3.052E-05	- - - - - - - - -	3.052E+01	100.00
U238	- - - - 3.499E+01	1.892E-03	- - - - - - - - -	1.892E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.015E+00	1.089E-04	- - - - - - - - -	1.089E+02	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	74.81	3.3592E-01	100.0	0.0000000
2	84.41	2.3172E-01	100.0	0.5388321
3	87.18	2.3416E-01	100.0	0.0000000
4	85.68	2.0268E-01	100.0	0.0000000

5	93.08	1.8741E-01	100.0	0.0000000
6	129.04	1.1665E-01	100.0	0.0000000
8	209.38	1.0484E-01	100.0	9.4672525E-03
10	300.34	1.1306E-01	100.0	2.5168315E-11
11	328.21	1.1886E-01	100.0	6.0686823E-03
14	463.34	1.3060E-01	100.0	0.1587513
18	727.47	1.5117E-01	100.0	2.0906124E-05
21	860.89	1.5121E-01	100.0	7.8255971E-06
23	964.89	1.5526E-01	100.0	1.1528190E-03
24	969.24	3.0593E-01	100.0	7.3041305E-02
26	1588.32	1.6236E-01	100.0	5.5467621E-07
27	1593.28	1.5477E-01	100.0	7.7716835E-02
28	1764.32	1.5116E-01	100.0	0.1077820

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

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Raygun - RSX Version 10-Jan-90 (26-MAR-1992 17:07:37)

Analysis performed by: E. A. LEPEL

Sample: 54529-30-A 92-02742-L-3
Weight: 0.50000 L

Irradiation date: 0-Feb-1992 at 12:00:00

Count date: 5-Mar-1992 at 10:27:00

Decay: 32.9d (2845620.0 seconds)

Count times: REAL TIME 26.54h (95545.000 seconds)
LIVE TIME 26.52h (95473.000 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452930A.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.8	73.	78.	8017.	2367.*	74.92	3.772E-01	100.0	2764.
2	85.2	84.	87.	4091.	342.*	84.29	2.789E-01	100.0	675.
3	88.6	87.	90.	4117.	897.*	87.69	2.361E-01	100.0	882.
4	93.8	93.	95.	3080.	642.*	92.88	2.107E-01	100.0	926.
5	186.9	186.	188.	2268.	300.*	186.02	1.173E-01	100.0	285.
6	210.1	205.	211.	4882.	536.*	209.20	1.253E-01	100.0	491.
7	239.5	236.	243.	10285.	6380.*	238.60	1.271E-01	100.0	6224.
8	339.1	337.	340.	2293.	1095.*	338.21	1.431E-01	100.0	1156.
9	352.9	349.	355.	2172.	312.*	352.03	1.550E-01	59.6	126.
10	410.3	408.	412.	1315.	151.*	409.49	1.544E-01	100.0	135.
11	511.8	509.	516.	2389.	1131.*	510.96	1.608E-01	100.0	1206.
12	584.0	583.	586.	1828.	1338.*	583.21	1.638E-01	100.0	1340.
13	610.0	609.	614.	986.	356.*	609.21	2.645E-01	67.2	170.
14	662.5	658.	664.	6512.	5831.*	661.72	8.867E+00	1.8	90.
15	728.1	726.	730.	662.	273.*	727.32	1.667E-01	100.0	286.
16	795.9	793.	797.	484.	206.*	795.16	1.696E-01	92.1	114.
17	861.6	860.	862.	325.	149.*	860.80	1.747E-01	100.0	152.
18	912.0	909.	916.	1365.	999.*	911.27	1.692E-01	100.0	979.
19	955.9	954.	958.	412.	214.*	955.18	1.638E-01	100.0	227.
20	969.8	968.	972.	887.	620.*	969.68	2.242E-01	100.0	520.
21	1461.4	1458.	1463.	914.	808.*	1460.75	1.780E-01	100.0	808.
22	1588.9	1587.	1590.	141.	95.*	1588.31	1.628E-01	100.0	97.
23	1593.0	1592.	1594.	136.	90.*	1592.40	1.640E-01	100.0	70.
24	1621.6	1621.	1624.	67.	30.*	1620.96	1.789E-01	100.0	30.

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25	1730.6	1729.	1732.	72.	31.*	1730.06	1.670E-01	100.0	17.
26	1765.0	1763.	1767.	149.	99.*	1764.45	1.686E-01	100.0	62.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 186.02 Kev is ambiguously assigned; component has been removed.
U235 at 186.02 Kev is ambiguously assigned; component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

(interferences)

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
1 K 40	- - - -	1.697E+00	9.174E-05	- - - - - - - - -			9.174E+01	100.01
	1460.75	1.697E+00	9.174E-05	1.00	100.00	0.00		
2 Cs137	- - - -	1.043E+01	5.636E-04	- - - - - - - - -			5.636E+02	2.09
	661.72	1.043E+01	5.636E-04	1.00	2.09	0.00		
3 Tl208	- - - -	2.331E-01	1.260E-05	- - - - - - - - -			1.260E+01	82.55
	510.96	7.989E-01	4.318E-05	0.29	100.00	1.50		
	583.21	1.982E-01	1.072E-05	1.18	100.00	-0.37		
4 Bi214	- - - -	6.474E-01	3.500E-05	- - - - - - - - -			3.500E+01	57.52
	609.21	5.888E-01	3.183E-05	1.10	67.17	-0.31		
	1764.45	1.106E+00	5.977E-05	0.59	100.00	0.88		
5 Pb212	- - - -	3.049E-01	1.648E-05	- - - - - - - - -			1.648E+01	100.00
	238.60	3.049E-01	1.648E-05	1.00	100.00	0.00		
6 Pb214	- - - -	4.207E-01	2.274E-05	- - - - - - - - -			2.274E+01	59.65
	352.03	4.207E-01	2.274E-05	1.00	59.65	0.00		
7 Ac228	- - - -	8.508E-01	4.599E-05	- - - - - - - - -			4.599E+01	66.94
	338.21	1.288E+00	6.965E-05	0.66	100.00	0.72		
	795.16	3.990E+00	2.157E-04	0.21	92.06	1.81		
	911.27	6.446E-01	3.484E-05	1.32	100.00	-0.68		

±11.8

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The following are upper limit values:

Be 7	- - - - 2.461E+00	1.330E-04	- - - - - - - - -	1.330E+02	100.00
Sc 46	- - - - 2.368E-01	1.280E-05	- - - - - - - - -	1.280E+01	100.00
Cr 51	- - - - 3.187E+00	1.722E-04	- - - - - - - - -	1.722E+02	100.00
Mn 54	- - - - 1.892E-01	1.023E-05	- - - - - - - - -	1.023E+01	100.00
Fe 59	- - - - 6.288E-01	3.399E-05	- - - - - - - - -	3.399E+01	100.00
Co 58	- - - - 2.303E-01	1.245E-05	- - - - - - - - -	1.245E+01	100.00
Co 60	- - - - 1.845E-01	9.971E-06	- - - - - - - - -	9.971E+00	100.00
Zn 65	- - - - 4.174E-01	2.256E-05	- - - - - - - - -	2.256E+01	100.00
Zr 89	- - - - 2.121E+02	1.146E-02	- - - - - - - - -	1.146E+04	100.00
Zr 95	- - - - 5.076E-01	2.744E-05	- - - - - - - - -	2.744E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 1.671E-01	9.031E-06	- - - - - - - - -	9.031E+00	100.00
Nb 95	- - - - 3.407E-01	1.842E-05	- - - - - - - - -	1.842E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Nb 95m	- - - - 4.291E+02	2.320E-02	- - - - - - - - -	2.320E+04	100.00
Mo 99	- - - - 6.757E+03	3.652E-01	- - - - - - - - -	3.652E+05	100.00
Ru103	- - - - 7.736E-01	4.181E-05	- - - - - - - - -	4.181E+01	100.00
Ru106	- - - - 3.129E+00	1.691E-04	- - - - - - - - -	1.691E+02	100.00
Ag110m	- - - - 7.300E-01	3.946E-05	- - - - - - - - -	3.946E+01	100.00
Sn113	- - - - 4.211E-01	2.276E-05	- - - - - - - - -	2.276E+01	100.00
Sn125	- - - - 5.685E+01	3.073E-03	- - - - - - - - -	3.073E+03	100.00
Sn117m	- - - - 1.411E+00	7.626E-05	- - - - - - - - -	7.626E+01	100.00
Sb124	- - - - 5.240E-01	2.832E-05	- - - - - - - - -	2.832E+01	100.00
Sb125	- - - - 1.587E+00	8.577E-05	- - - - - - - - -	8.577E+01	100.00
Sb127	- - - - 2.625E+02	1.419E-02	- - - - - - - - -	1.419E+04	100.00
Te132	- - - - 2.125E+02	1.149E-02	- - - - - - - - -	1.149E+04	100.00

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Te129m	- - - - 1.583E+01	8.554E-04	- - - - - - - - -	8.554E+02	100.00

Unable to compute upper limit for Te131m. Tdecay > 20*T1/2.

I131	- - - - 1.924E+01	1.040E-03	- - - - - - - - -	1.040E+03	100.00

Unable to compute upper limit for I132 . Tdecay > 20*T1/2.

Unable to compute upper limit for I133 . Tdecay > 20*T1/2.

Cs134	- - - - 1.130E+00	6.106E-05	- - - - - - - - -	6.106E+01	100.00
Cs136	- - - - 1.880E+00	1.016E-04	- - - - - - - - -	1.016E+02	100.00
Ba140	- - - - 9.029E+00	4.881E-04	- - - - - - - - -	4.881E+02	100.00
La140	- - - - 2.404E+00	1.299E-04	- - - - - - - - -	1.299E+02	100.00
Ce141	- - - - 5.129E-01	2.772E-05	- - - - - - - - -	2.772E+01	100.00

Unable to compute upper limit for Ce143 . Tdecay > 20*T1/2.

Ce144	- - - - 1.283E+00	6.936E-05	- - - - - - - - -	6.938E+01	100.00
Eu154	- - - - 1.334E+00	7.209E-05	- - - - - - - - -	7.209E+01	100.00
Eu155	- - - - 1.266E+00	6.844E-05	- - - - - - - - -	6.844E+01	100.00
Hf175	- - - - 2.609E-01	1.410E-05	- - - - - - - - -	1.410E+01	100.00
Hf181	- - - - 5.081E-01	2.747E-05	- - - - - - - - -	2.747E+01	100.00
Ta182	- - - - 1.099E+00	5.940E-05	- - - - - - - - -	5.940E+01	100.00
Pb210	- - - - 1.708E+04	9.231E-01	- - - - - - - - -	9.231E+05	100.00
Ra226	- - - - 3.119E+00	1.686E-04	- - - - - - - - -	1.686E+02	100.00
U235	- - - - 6.411E-01	3.465E-05	- - - - - - - - -	3.465E+01	100.00
U238	- - - - 3.724E+01	2.013E-03	- - - - - - - - -	2.013E+03	100.00
Np239	- - - - 2.047E+04	1.106E+00	- - - - - - - - -	1.106E+06	100.00
Am241	- - - - 2.272E+00	1.228E-04	- - - - - - - - -	1.228E+02	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	74.92	3.7724E-01	100.0	0.0000000
2	84.29	2.7891E-01	100.0	0.4969496
3	87.69	2.3611E-01	100.0	0.0000000
4	92.88	2.1057E-01	100.0	0.0000000
6	209.20	1.2527E-01	100.0	3.1909070E-03

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10	409.49	1.5438E-01	100.0	0.0000000
15	727.32	1.6666E-01	100.0	1.4855702E-04
17	860.80	1.7471E-01	100.0	8.4207804E-06
19	965.18	1.6383E-01	100.0	1.1305694E-03
20	969.08	2.2422E-01	100.0	0.5108570
22	1588.31	1.6276E-01	100.0	6.8491937E-07
23	1592.40	1.6404E-01	100.0	0.0000000
24	1620.96	1.7888E-01	100.0	0.0000000
25	1730.06	1.6701E-01	100.0	3.8724354E-10

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:00:20)

Analysis performed by: E. A. LEPEL

Sample: 54529-31-A 92-02742-L-5
Weight: 0.50000 L

Irradiation date: 20-Sep-1991 at 10:16:00

Count date: 13-Mar-1992 at 17:32:00

Decay: 175.3d (15146160. seconds)

Count times: REAL TIME 2.65d (229292.00 seconds)
LIVE TIME 2.65d (229120.00 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452931A.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.4	72.	78.	20259.	5935.*	74.82	2.326E-01	100.0	6633.
2	85.0	84.	87.	9098.	1583.*	84.37	1.642E-01	100.0	1621.
3	88.8	87.	90.	9256.	1637.*	88.16	1.495E-01	100.0	2116.
4	90.8	90.	92.	6300.	319.*	90.14	1.455E-01	100.0	2116.
5	94.6	92.	95.	8754.	2196.*	93.94	1.221E-01	100.0	2222.
6	129.9	129.	130.	4069.	551.*	129.27	8.231E-02	100.0	708.
7	186.1	186.	189.	6287.	696.*	185.52	7.072E-02	100.0	685.
8	239.2	237.	245.	24456.	15570.*	238.60	1.504E-01	100.0	14936.
9	271.0	270.	272.	3228.	759.*	270.37	7.827E-02	100.0	712.
10	301.0	300.	302.	2005.	659.*	300.35	8.138E-02	100.0	674.
11	328.9	327.	330.	3201.	680.*	328.29	8.382E-02	100.0	615.
12	339.0	337.	342.	6127.	2625.*	338.43	8.328E-02	100.0	2775.
13	352.9	350.	354.	3475.	835.*	352.25	1.847E-01	63.1	303.
14	410.2	410.	411.	1153.	298.*	409.59	8.715E-02	100.0	324.
15	463.9	463.	465.	1701.	589.*	463.27	9.256E-02	100.0	640.
16	511.6	507.	515.	5491.	2640.*	510.99	9.489E-02	100.0	2894.
17	584.0	581.	585.	4601.	3270.*	583.38	1.006E-01	100.0	3217.
18	596.8	595.	600.	1638.	223.	596.19	1.293E-01	24.8	0.
19	610.0	606.	613.	2705.	891.*	609.41	2.867E-01	92.0	408.
20	662.5	662.	664.	893.	176.*	661.95	1.024E-01	100.0	216.
21	728.0	725.	729.	1701.	761.*	727.44	1.077E-01	100.0	687.
22	795.8	793.	798.	1249.	406.*	795.19	1.029E-01	100.0	273.
23	803.5	801.	805.	777.	90.	802.93	1.028E-01	100.0	0.
24	836.2	836.	837.	429.	131.*	835.66	1.121E-01	100.0	163.

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25	861.3	860.	864.	1019.	362.*	860.75	1.087E-01	100.0	364.
26	912.0	910.	915.	3033.	2384.*	911.40	1.053E-01	100.0	2348.
27	965.4	964.	968.	974.	464.*	964.82	1.091E-01	100.0	544.
28	969.8	968.	973.	1973.	1401.*	969.21	1.437E-01	100.0	1247.
29	1120.9	1118.	1124.	775.	249.*	1120.35	1.112E-01	100.0	170.
30	1238.6	1238.	1241.	395.	106.*	1238.05	1.224E-01	100.0	69.
31	1461.3	1457.	1465.	2210.	1865.*	1460.75	1.086E-01	100.0	1938.
32	1588.4	1586.	1591.	389.	200.*	1587.84	1.088E-01	100.0	232.
33	1593.1	1591.	1595.	373.	227.*	1592.56	1.053E-01	100.0	167.
34	1630.9	1628.	1633.	262.	102.*	1630.37	1.035E-01	100.0	84.
35	1765.0	1763.	1770.	429.	208.*	1764.43	1.160E-01	100.0	148.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.52 Kev is ambiguously assigned: component has been removed.
U235 at 185.52 Kev is ambiguously assigned: component has been removed.
Sc 46 at1120.35 Kev is ambiguously assigned: component has been removed.
Ta182 at1120.35 Kev is ambiguously assigned: component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	1.035E+00	5.594E-05	- - - - - - - - - -			5.594E+01	100.00
	1460.75	1.035E+00	5.594E-05	1.00	100.00	0.00		
2 Mn 54	- - - -	1.659E-01	8.969E-06	- - - - - - - - - -			8.969E+00	100.01
	835.66	1.659E-01	8.969E-06	1.00	100.00	0.00		
3 Cs137	- - - -	1.215E-01	6.566E-06	- - - - - - - - - -			6.566E+00	100.00
	661.95	1.215E-01	6.566E-06	1.00	100.00	0.00		
4 Tl208	- - - -	1.505E-01	8.135E-06	- - - - - - - - - -			8.135E+00	82.09
	510.98	4.942E-01	2.671E-05	0.30	100.00	1.70		
	583.38	1.276E-01	6.897E-06	1.18	100.00	-0.44		
5 Bi214	- - - -	7.030E-01	3.800E-05	- - - - - - - - - -			3.800E+01	56.25
	609.41	6.383E-01	3.450E-05	1.10	91.96	-0.27		
	1120.35	7.532E-01	4.072E-05	0.93	100.00	0.16		

	1764.43	7.605E-01	4.111E-05	0.92	100.00	0.19		
6 Pb212	- - - -	4.157E-01	2.247E-05	- - - - - - - - - -			2.247E+01	100.01
	238.60	4.157E-01	2.247E-05	1.00	100.00	0.00		
7 Pb214	- - - -	5.012E-01	2.709E-05	- - - - - - - - - -			2.709E+01	63.13
	352.25	5.012E-01	2.709E-05	1.00	63.13	0.00		
8 Ac228	- - - -	5.442E-01	2.942E-05	- - - - - - - - - -			2.942E+01	67.40
	338.43	7.859E-01	4.248E-05	0.69	100.00	0.75		
	795.19	2.536E+00	1.371E-04	0.21	100.00	1.92		
	911.49	4.203E-01	2.272E-05	1.29	100.00	-0.72		

The following are upper limit values:

Be 7	- - - -	6.681E+00	4.692E-04	- - - - - - - - -	4.692E+02 100.00
Sc 46	- - - -	4.802E-01	2.596E-05	- - - - - - - - -	2.596E+01 100.00
Cr 51	- - - -	6.580E+01	3.557E-03	- - - - - - - - -	3.557E+03 100.00
Fe 59	- - - -	3.754E+00	2.029E-04	- - - - - - - - -	2.029E+02 100.00
Co 58	- - - -	5.895E-01	3.186E-05	- - - - - - - - -	3.186E+01 100.00
Co 60	- - - -	1.261E-01	6.816E-06	- - - - - - - - -	6.816E+00 100.00
Zn 65	- - - -	3.950E-01	2.135E-05	- - - - - - - - -	2.135E+01 100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - -	1.563E+00	8.451E-05	- - - - - - - - -	8.451E+01 100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	1.088E-01	5.879E-06	- - - - - - - - -	5.879E+00 100.00
Nb 95	- - - -	3.686E+00	1.992E-04	- - - - - - - - -	1.992E+02 100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - -	5.366E+00	2.900E-04	- - - - - - - - -	2.900E+02 100.00
Ru106	- - - -	2.307E+00	1.247E-04	- - - - - - - - -	1.247E+02 100.00
Ag110m	- - - -	6.181E-01	3.341E-05	- - - - - - - - -	3.341E+01 100.00

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Sn113	- - - -	5.715E-01	3.089E-05	- - - - - - - - -	3.089E+01	100.00
Sn125	- - - -	1.084E+06	5.862E+01	- - - - - - - - -	5.862E+07	100.00
Sn117m	- - - -	1.026E+03	5.544E-02	- - - - - - - - -	5.544E+04	100.00
Sb124	- - - -	1.665E+00	9.002E-05	- - - - - - - - -	9.002E+01	100.00
Sb125	- - - -	1.009E+00	5.455E-05	- - - - - - - - -	5.455E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - -	1.795E+02	9.703E-03	- - - - - - - - -	9.703E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

Unable to compute upper limit for I131 , Tdecay > 20*T1/2.

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	8.393E-01	4.537E-05	- - - - - - - - -	4.537E+01	100.00
Cs136	- - - -	2.365E+03	1.278E-01	- - - - - - - - -	1.278E+05	100.00
Ba143	- - - -	1.285E+04	6.948E-01	- - - - - - - - -	6.948E+05	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	6.549E+00	3.540E-04	- - - - - - - - -	3.540E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	1.122E+00	6.066E-05	- - - - - - - - -	6.066E+01	100.00
Eu154	- - - -	8.967E-01	4.847E-05	- - - - - - - - -	4.847E+01	100.00
Eu155	- - - -	8.257E-01	4.463E-05	- - - - - - - - -	4.463E+01	100.00
Hf175	- - - -	6.394E-01	3.456E-05	- - - - - - - - -	3.456E+01	100.00
Hf181	- - - -	2.942E+00	1.590E-04	- - - - - - - - -	1.590E+02	100.00
Ta182	- - - -	1.601E+00	8.654E-05	- - - - - - - - -	8.654E+01	100.00
Pb210	- - - -	1.996E+03	1.079E-01	- - - - - - - - -	1.079E+05	100.00
Ra226	- - - -	1.882E+00	1.017E-04	- - - - - - - - -	1.017E+02	100.00
U235	- - - -	3.865E-01	2.089E-05	- - - - - - - - -	2.089E+01	100.00

U238 - - - - 2.412E+01 1.304E-03 - - - - - - - - - 1.304E+03 100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241 - - - - 1.397E+00 7.549E-05 - - - - - - - - - 7.549E+01 100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	74.82	2.3260E-01	100.0	0.0000000
2	84.37	1.6419E-01	100.0	0.5246680
3	88.16	1.4950E-01	100.0	0.0000000
4	90.14	1.4545E-01	100.0	0.0000000
5	93.94	1.2207E-01	100.0	0.0000000
6	129.27	8.2306E-02	100.0	0.0000000
9	270.37	7.8269E-02	100.0	1.4174421E-04
10	300.35	8.1378E-02	100.0	3.9545492E-05
11	328.29	8.3820E-02	100.0	2.7342703E-02
14	409.59	8.7150E-02	100.0	0.0000000
15	463.27	9.2555E-02	100.0	0.1545245
18	596.19	1.2934E-01	24.9	0.0000000
21	727.44	1.0771E-01	100.0	1.6291611E-05
23	802.93	1.0284E-01	100.0	4.7622571E-08
25	860.75	1.0871E-01	100.0	6.8518780E-06
27	964.82	1.0908E-01	100.0	5.8233654E-04
28	969.21	1.4372E-01	100.0	0.4678037
30	1238.05	1.2245E-01	100.0	1.6830053E-02
32	1587.84	1.0878E-01	100.0	1.6135294E-07
33	1592.56	1.0528E-01	100.0	0.0000000
34	1630.37	1.0355E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

9 2 1 1 , 0 1 3 1 2

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 17:08:04)

Analysis performed by: E. A. LEPEL

3/27/92
E A Lepel

Sample: 54529-32-A 92-02742-L-6
Weight: 0.50000 L

Irradiation date: 0-Feb-1992 at 12:00:00

Count date: 4-Mar-1992 at 10:11:00

Decay: 31.9d (2758260.0 seconds)

Count times: REAL TIME 24.10h (86776.000 seconds)
LIVE TIME 24.09h (86710.000 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116.2]effmarn.HH

Spectrum from file : 5452932A.HH;1

Background subtractions from file: ve:[116.1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bkgd
1	75.6	74.	78.	6160.	2130.*	74.87	3.851E-01	100.0	2510.
2	85.0	84.	87.	3734.	766.*	84.34	2.729E-01	100.0	613.
3	88.9	87.	90.	3767.	477.*	88.22	2.592E-01	100.0	801.
4	93.6	91.	95.	4560.	941.*	92.95	2.186E-01	100.0	841.
5	186.2	185.	189.	3293.	304.*	185.51	1.231E-01	100.0	259.
6	239.3	236.	243.	9315.	5661.*	238.60	1.354E-01	100.0	5653.
7	271.0	269.	272.	1602.	394.*	270.31	1.353E-01	100.0	270.
8	300.9	300.	303.	1566.	311.*	300.25	1.424E-01	100.0	255.
9	339.1	338.	340.	1865.	1013.*	338.41	1.536E-01	100.0	1050.
10	463.9	463.	465.	822.	241.*	463.28	1.769E-01	100.0	242.
11	511.7	507.	514.	2097.	945.*	511.88	1.695E-01	100.0	1095.
12	584.0	582.	587.	1897.	1243.*	583.34	1.703E-01	100.0	1217.
13	610.1	609.	611.	551.	234.*	609.46	1.759E-01	100.0	154.
14	662.4	658.	664.	5978.	5355.*	661.79	8.969E+00	1.8	82.
15	726.1	724.	733.	988.	368.*	727.45	2.012E-01	100.0	260.
16	795.7	795.	797.	326.	139.*	795.11	1.812E-01	100.0	103.
17	861.6	860.	862.	269.	116.*	861.01	1.798E-01	100.0	138.
18	911.9	910.	915.	1109.	860.*	911.36	1.728E-01	100.0	889.
19	965.3	964.	966.	245.	112.*	964.74	1.906E-01	100.0	206.
20	969.8	968.	972.	706.	524.*	969.18	1.737E-01	100.0	472.
21	1461.3	1459.	1465.	798.	698.*	1460.75	1.767E-01	100.0	733.
22	1588.0	1586.	1591.	142.	65.*	1588.31	1.862E-01	100.0	88.
23	1593.7	1591.	1595.	143.	86.*	1593.20	1.802E-01	100.0	63.
24	1764.9	1763.	1767.	125.	80.*	1764.39	1.781E-01	100.0	56.

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++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.51 kev is ambiguously assigned; component has been removed.
U235 at 185.51 kev is ambiguously assigned; component has been removed.
Matrix is singular in MLR:
an element of w is zero
Pb214 is being removed from the component set due to a matrix singularity.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
					(interferences)			
1 K 40	- - - -	1.685E+00	9.106E-05	- - - - - - - - - -			9.106E+01	100.00
	1460.75	1.685E+00	9.106E-05	1.00	100.00	0.00		
2 Cs137	- - - -	1.055E+01	5.701E-04	- - - - - - - - - -			5.701E+02	2.10
	661.79	1.055E+01	5.701E-04	1.00	2.10	0.00		
3 Tl208	- - - -	2.419E-01	1.308E-05	- - - - - - - - - -			1.308E+01	82.71
	511.00	8.418E-01	4.550E-05	0.29	100.00	1.48		
	583.34	2.060E-01	1.114E-05	1.17	100.00	-0.36		
4 Bi214	- - - -	3.916E-01	2.117E-05	- - - - - - - - - -			2.117E+01	100.00
	609.46	3.916E-01	2.117E-05	1.00	100.00	0.00		
5 Pb212	- - - -	3.245E-01	1.754E-05	- - - - - - - - - -			1.754E+01	100.00
	238.60	3.245E-01	1.754E-05	1.00	100.00	0.00		
6 Ac228	- - - -	8.316E-01	4.495E-05	- - - - - - - - - -			4.495E+01	66.96
	795.11	4.260E+00	2.303E-04	0.20	100.00	1.68		
	911.36	6.581E-01	3.557E-05	1.26	100.00	-0.55		
	969.18	1.077E+00	5.823E-05	0.77	100.00	0.47		

The following are upper limit values:

Pa 7	- - - -	2.526E+00	1.366E-04	- - - - - - - - -			1.366E+02	100.00

± 12

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Sc 46	- - - -	2.511E-01	1.357E-05	- - - - - - - - -	1.357E+01 100.00
Cr 51	- - - -	3.229E+00	1.745E-04	- - - - - - - - -	1.745E+02 100.00
Mn 54	- - - -	1.887E-01	1.020E-05	- - - - - - - - -	1.020E+01 100.00
Fe 59	- - - -	6.252E-01	3.379E-05	- - - - - - - - -	3.379E+01 100.00
Co 58	- - - -	2.349E-01	1.270E-05	- - - - - - - - -	1.270E+01 100.00
Co 60	- - - -	1.940E-01	1.049E-05	- - - - - - - - -	1.049E+01 100.00
Zn 65	- - - -	4.397E-01	2.377E-05	- - - - - - - - -	2.377E+01 100.00
Zr 89	- - - -	1.731E+02	9.357E-03	- - - - - - - - -	9.357E+03 100.00
Zr 95	- - - -	5.244E-01	2.835E-05	- - - - - - - - -	2.835E+01 100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	1.797E-01	9.711E-06	- - - - - - - - -	9.711E+00 100.00
Nb 95	- - - -	3.408E-01	1.842E-05	- - - - - - - - -	1.842E+01 100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Nb 95m	- - - -	3.680E+02	1.989E-02	- - - - - - - - -	1.989E+04 100.00
Mo 99	- - - -	5.250E+03	2.838E-01	- - - - - - - - -	2.838E+05 100.00
Ru103	- - - -	7.799E-01	4.216E-05	- - - - - - - - -	4.216E+01 100.00
Ru106	- - - -	3.256E+00	1.760E-04	- - - - - - - - -	1.760E+02 100.00
Ag110m	- - - -	7.638E-01	4.128E-05	- - - - - - - - -	4.128E+01 100.00
Sn113	- - - -	4.432E-01	2.396E-05	- - - - - - - - -	2.396E+01 100.00
Sn125	- - - -	5.276E+01	2.852E-03	- - - - - - - - -	2.852E+03 100.00
Sn117m	- - - -	1.405E+00	7.597E-05	- - - - - - - - -	7.597E+01 100.00
Sb124	- - - -	5.624E-01	3.040E-05	- - - - - - - - -	3.040E+01 100.00
Sb125	- - - -	1.674E+00	9.046E-05	- - - - - - - - -	9.046E+01 100.00
Sb127	- - - -	2.209E+02	1.194E-02	- - - - - - - - -	1.194E+04 100.00
Te132	- - - -	1.778E+02	9.610E-03	- - - - - - - - -	9.610E+03 100.00
Te129m	- - - -	1.593E+01	8.609E-04	- - - - - - - - -	8.609E+02 100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

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I131	- - - -	1.830E+01	9.892E-04	- - - - - - - - -	9.892E+02	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	1.254E+00	6.776E-05	- - - - - - - - -	6.776E+01	100.00
Cs136	- - - -	1.766E+00	9.546E-05	- - - - - - - - -	9.546E+01	100.00
Ba140	- - - -	9.095E+00	4.916E-04	- - - - - - - - -	4.916E+02	100.00
La140	- - - -	1.773E+00	9.584E-05	- - - - - - - - -	9.584E+01	100.00
Ce141	- - - -	5.202E-01	2.812E-05	- - - - - - - - -	2.812E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	1.348E+00	7.286E-05	- - - - - - - - -	7.286E+01	100.00
Eu154	- - - -	1.412E+00	7.634E-05	- - - - - - - - -	7.634E+01	100.00
Eu155	- - - -	1.329E+00	7.182E-05	- - - - - - - - -	7.182E+01	100.00
Hf175	- - - -	2.732E-01	1.477E-05	- - - - - - - - -	1.477E+01	100.00
Hf181	- - - -	5.210E-01	2.816E-05	- - - - - - - - -	2.816E+01	100.00
Ta182	- - - -	1.153E+00	6.231E-05	- - - - - - - - -	6.231E+01	100.00
Pb210	- - - -	1.855E+04	1.003E+00	- - - - - - - - -	1.003E+06	100.00
Pb214	- - - -	6.034E-01	3.262E-05	- - - - - - - - -	3.262E+01	100.00
Ra226	- - - -	3.236E+00	1.749E-04	- - - - - - - - -	1.749E+02	100.00
U235	- - - -	6.646E-01	3.592E-05	- - - - - - - - -	3.592E+01	100.00
U238	- - - -	3.947E+01	2.133E-03	- - - - - - - - -	2.133E+03	100.00
Np239	- - - -	1.571E+04	8.494E-01	- - - - - - - - -	8.494E+05	100.00
Am241	- - - -	2.372E+00	1.282E-04	- - - - - - - - -	1.282E+02	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	74.87	3.8512E-01	100.0	0.0000000
2	84.34	2.7288E-01	100.0	0.5163971
3	88.22	2.5921E-01	100.0	0.0000000
4	92.55	2.1862E-01	100.0	0.0000000
7	270.31	1.3525E-01	100.0	9.7283410E-06
8	300.25	1.4241E-01	100.0	5.9536563E-11
9	339.41	1.5359E-01	100.0	0.5247132

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10	463.28	1.7691E-01	100.0	0.1412069
15	727.45	2.0119E-01	100.0	2.0630225E-05
17	861.01	1.7977E-01	100.0	9.6453959E-06
19	964.74	1.9059E-01	100.0	3.8323800E-05
22	1586.31	1.6616E-01	100.0	3.8913934E-09
23	1593.20	1.8018E-01	100.0	0.4499197
24	1764.39	1.7814E-01	100.0	0.1391177

```
 If CI >  0  Confidence threshold was not exceeded
    CI =  0  Energy Window test failure
    CI = -1  Extreme Half Life test failure
    CI = -2  Extreme As. Gamma comparison test failure
    CI = -3  Unable to estimate area of Assoc. Gamma
```

Options - in - Effect

```
CALIBRATE
PRINT              sy:lphh.lst
LIBRARY            ve:[116,3]nTOBACO.dat
INDIRECT           sy:ray.hh
UPPER←LIMIT
USER←NAME          E. A. LEPEL
ACTIVITY
UNITS              pCi/L        1e+6
OPTION←LIST
```

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Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:01:00)

Analysis performed by: E. A. LEPEL

Sample: 54529-36-A 92-02743-L-1
Weight: 0.50000 L

Irradiation date: 24-Sep-1991 at 7:10:00

Count date: 23-Mar-1992 at 8:59:00

Decay: 181.1d (15644940. seconds)

Count times: REAL TIME 25.66h (92358.000 seconds)
LIVE TIME 25.64h (92288.000 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452936A.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bkgd
1	75.3	72.	78.	8213.	2421.*	74.66	3.699E-01	100.0	2672.
2	84.9	84.	86.	2815.	346.*	84.23	2.712E-01	100.0	653.
3	88.6	86.	90.	4551.	969.*	87.96	2.292E-01	100.0	852.
4	93.6	91.	96.	4945.	1006.*	92.95	1.959E-01	100.0	895.
5	186.4	185.	188.	2470.	283.*	185.60	1.108E-01	100.0	276.
6	239.4	237.	243.	9105.	6186.*	238.60	1.217E-01	100.0	6016.
7	339.2	336.	341.	2465.	1041.*	338.24	1.320E-01	100.0	1118.
8	464.2	462.	467.	1138.	289.*	463.07	1.422E-01	100.0	258.
9	512.1	509.	519.	2563.	1313.*	510.96	1.828E-01	100.0	1166.
10	584.5	582.	587.	1877.	1291.*	583.29	1.516E-01	100.0	1296.
11	610.9	609.	612.	772.	379.*	609.60	3.166E-01	54.6	164.
12	726.9	727.	731.	673.	326.*	727.49	1.631E-01	100.0	277.
13	796.6	793.	798.	507.	177.*	795.10	1.604E-01	100.0	110.
14	837.3	835.	841.	456.	117.*	835.72	1.592E-01	100.0	65.
15	862.1	858.	863.	443.	161.*	860.53	1.621E-01	100.0	147.
16	912.9	911.	915.	1249.	1015.*	911.31	1.693E-01	100.0	946.
17	966.6	962.	969.	529.	199.*	964.95	1.731E-01	100.0	219.
18	970.9	969.	973.	736.	541.*	969.15	1.691E-01	100.0	502.
19	1122.2	1120.	1123.	232.	107.*	1120.36	1.791E-01	100.0	68.
20	1463.0	1460.	1465.	811.	718.*	1460.75	1.734E-01	100.0	781.
21	1590.2	1588.	1593.	159.	90.*	1587.72	1.658E-01	100.0	93.
22	1595.3	1593.	1597.	139.	79.*	1592.82	1.708E-01	100.0	67.
23	1765.8	1765.	1769.	156.	106.*	1764.11	1.947E-01	92.4	60.

3/27/92
SA Lepel

D03-185

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.60 kev is ambiguously assigned; component has been removed.
U235 at 185.60 kev is ambiguously assigned; component has been removed.
Sc 46 at1120.36 kev is ambiguously assigned; component has been removed.
Ta182 at1120.36 kev is ambiguously assigned; component has been removed.
Matrix is singular in MLR:
an element of w is zero
Pb214 is being removed from the component set due to a matrix singularity.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi ∠	peak frac	err (%)	dev (sig) (interferences)	pCi ∠	error (%)
1 K 40	- - - -	1.653E+00	8.934E-05	- - - - - - - - - -			8.934E+01	100.00
	1460.75	1.653E+00	8.934E-05	1.00	100.00	0.00		
2 Mn 54	- - - -	2.383E-01	1.288E-05	- - - - - - - - - -			1.288E+01	100.00
	835.72	2.383E-01	1.288E-05	1.00	100.00	0.00		
3 Tl208	- - - -	2.226E-01	1.203E-05	- - - - - - - - - -			1.203E+01	84.88
	510.96	9.537E-01	5.155E-05	0.23	100.00	1.66		
	583.29	1.927E-01	1.042E-05	1.15	100.00	-0.34		
4 Bi214	- - - -	7.978E-01	4.313E-05	- - - - - - - - - -			4.313E+01	43.93
	609.60	7.050E-01	3.811E-05	1.13	54.62	-0.52		
	1120.36	1.213E+00	6.559E-05	0.66	100.00	0.74		
	1764.11	1.277E+00	6.902E-05	0.62	92.42	0.88		
5 Pb212	- - - -	3.382E-01	1.828E-05	- - - - - - - - - -			1.828E+01	100.00
	238.60	3.382E-01	1.828E-05	1.00	100.00	0.00		
6 Ac228	- - - -	9.265E-01	5.008E-05	- - - - - - - - - -			5.008E+01	56.03
	338.24	1.249E+00	6.744E-05	0.74	100.00	0.56		
	795.10	3.962E+00	2.141E-04	0.23	100.00	1.66		
	911.31	6.772E-01	3.661E-05	1.37	100.00	-0.80		
	969.15	1.101E+00	5.952E-05	0.84	100.00	0.34		

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The following are upper limit values:

Be 7	- - - - 1.436E+01	7.764E-04	- - - - - - - - -	7.764E+02	100.00
Sc 46	- - - - 7.985E-01	4.316E-05	- - - - - - - - -	4.316E+01	100.00
Cr 51	- - - - 1.178E+02	6.367E-03	- - - - - - - - -	6.367E+03	100.00
Fe 59	- - - - 6.353E+00	3.434E-04	- - - - - - - - -	3.434E+02	100.00
Co 58	- - - - 9.608E-01	5.194E-05	- - - - - - - - -	5.194E+01	100.00
Co 60	- - - - 2.006E-01	1.084E-05	- - - - - - - - -	1.084E+01	100.00
Zn 65	- - - - 6.531E-01	3.530E-05	- - - - - - - - -	3.530E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 2.632E+00	1.422E-04	- - - - - - - - -	1.422E+02	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 1.667E-01	9.010E-06	- - - - - - - - -	9.010E+00	100.00
Nb 95	- - - - 6.396E+00	3.457E-04	- - - - - - - - -	3.457E+02	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 9.268E+00	5.010E-04	- - - - - - - - -	5.010E+02	100.00
Ru106	- - - - 3.677E+00	1.988E-04	- - - - - - - - -	1.988E+02	100.00
Ag110m	- - - - 9.957E-01	5.382E-05	- - - - - - - - -	5.382E+01	100.00
Sn113	- - - - 9.260E-01	5.006E-05	- - - - - - - - -	5.006E+01	100.00
Sn125	- - - - 2.519E+06	1.362E+02	- - - - - - - - -	1.362E+08	100.00
Sn117m	- - - - 2.070E+03	1.119E-01	- - - - - - - - -	1.119E+05	100.00
Sb124	- - - - 3.051E+00	1.649E-04	- - - - - - - - -	1.649E+02	100.00
Sb125	- - - - 1.586E+00	8.573E-05	- - - - - - - - -	8.573E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 3.161E+02	1.708E-02	- - - - - - - - -	1.708E+04	100.00

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Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

Unable to compute upper limit for I131 , Tdecay > 20*T1/2.

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 1.310E+00	7.083E-05	- - - - - - - - -	7.083E+01	100.00
Cs136	- - - - 5.045E+03	2.727E-01	- - - - - - - - -	2.727E+05	100.00
Cs137	- - - - 2.057E-01	1.112E-05	- - - - - - - - -	1.112E+01	100.00
Ba140	- - - - 2.636E+04	1.425E+00	- - - - - - - - -	1.425E+06	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.151E+01	6.219E-04	- - - - - - - - -	6.219E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 1.807E+00	9.766E-05	- - - - - - - - -	9.766E+01	100.00
Eu154	- - - - 1.389E+00	7.506E-05	- - - - - - - - -	7.506E+01	100.00
Eu155	- - - - 1.309E+00	7.078E-05	- - - - - - - - -	7.078E+01	100.00
Hf175	- - - - 1.066E+00	5.761E-05	- - - - - - - - -	5.761E+01	100.00
Hf181	- - - - 4.952E+00	2.677E-04	- - - - - - - - -	2.677E+02	100.00
Ta182	- - - - 2.630E+00	1.421E-04	- - - - - - - - -	1.421E+02	100.00
Pb210	- - - - 3.013E+03	1.628E-01	- - - - - - - - -	1.628E+05	100.00
Pb214	- - - - 5.341E-01	2.887E-05	- - - - - - - - -	2.887E+01	100.00
Ra226	- - - - 3.000E+00	1.622E-04	- - - - - - - - -	1.622E+02	100.00
U235	- - - - 6.189E-01	3.345E-05	- - - - - - - - -	3.345E+01	100.00
U238	- - - - 3.791E+01	2.049E-03	- - - - - - - - -	2.049E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.185E+00	1.181E-04	- - - - - - - - -	1.181E+02	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	74.66	3.6986E-01	100.0	0.0000000
2	84.23	2.7119E-01	100.0	0.4798090
3	87.96	2.2916E-01	100.0	0.0000000

4	92.95	1.9588E-01	100.0	0.0000000
8	463.07	1.4221E-01	100.0	0.1598772
12	727.49	1.6306E-01	100.0	2.9138662E-05
15	860.53	1.6207E-01	100.0	8.3205614E-06
17	964.95	1.7309E-01	100.0	1.3640347E-04
21	1587.72	1.6578E-01	100.0	4.3731816E-08
22	1592.82	1.6997E-01	100.0	5.5838421E-02

```
If CI >  0  Confidence threshold was not exceeded
   CI =  0  Energy Window test failure
   CI = -1  Extreme Half Life test failure
   CI = -2  Extreme As. Gamma comparison test failure
   CI = -3  Unable to estimate area of Assoc. Gamma
```

D03-189

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:01:21)

Analysis performed by: E. A. LEPEL

Sample: 54529-37-A 92-02744-L-1
Weight: 0.50000 L

Irradiation date: 13-Nov-1991 at 9:28:00

Count date: 20-Mar-1992 at 16:59:00

Decay: 128.3d (11086260. seconds)

Count times: REAL TIME 2.66d (229998.00 seconds)
LIVE TIME 2.66d (229824.00 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452937A.HH:1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.7	72.	79.	22819.	6185.*	74.65	2.355E-01	100.0	6653.
2	85.1	84.	87.	9239.	1817.*	84.02	1.644E-01	100.0	1626.
3	87.8	87.	89.	7197.	642.*	86.76	1.658E-01	100.0	2122.
4	91.9	89.	93.	10745.	1936.*	90.82	1.346E-01	100.0	2229.
5	93.8	93.	96.	8780.	1691.*	92.78	1.297E-01	100.0	2229.
6	129.9	128.	130.	6182.	818.*	128.81	8.308E-02	100.0	710.
7	186.7	186.	188.	4943.	690.*	185.52	7.159E-02	100.0	687.
8	199.4	197.	201.	6880.	349.	198.24	7.195E-02	100.0	0.
9	210.1	209.	211.	5076.	1247.*	208.91	7.460E-02	100.0	1183.
10	239.8	235.	243.	25048.	15529.*	238.60	1.296E-01	100.0	14982.
11	271.2	269.	274.	5866.	964.*	269.97	7.771E-02	100.0	715.
12	278.3	278.	279.	2020.	452.*	277.07	7.820E-02	100.0	508.
13	296.2	295.	299.	4081.	444.	294.91	1.294E-01	19.8	0.
14	301.1	301.	302.	2056.	614.*	299.83	8.139E-02	100.0	676.
15	329.0	328.	330.	2514.	559.*	327.72	8.492E-02	100.0	617.
16	339.6	338.	344.	6747.	2557.*	338.25	8.413E-02	100.0	2783.
17	353.1	352.	356.	3513.	834.*	351.71	1.833E-01	63.6	304.
18	410.8	410.	411.	1238.	353.*	409.38	8.845E-02	100.0	325.
19	464.3	463.	466.	2126.	655.*	462.80	9.190E-02	100.0	642.
20	512.2	509.	516.	5235.	2781.*	510.69	9.481E-02	100.0	2903.
21	584.8	582.	588.	5186.	3349.*	583.21	9.966E-02	100.0	3227.
22	597.7	596.	600.	1427.	162.	596.09	1.082E-01	100.0	0.
23	610.5	609.	612.	2028.	1004.*	609.30	3.523E-01	74.6	409.
24	729.1	727.	733.	2068.	778.*	727.30	1.064E-01	100.0	689.

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25	787.1	783.	788.	1094.	230.	785.32	1.741E-01	19.3	0.
26	796.8	792.	798.	1421.	420.*	795.01	1.120E-01	100.0	274.
27	837.7	837.	839.	571.	140.*	835.87	1.097E-01	100.0	163.
28	862.4	858.	864.	1295.	391.*	860.54	1.076E-01	100.0	365.
29	913.1	910.	915.	3123.	2476.*	911.12	1.053E-01	100.0	2356.
30	966.8	964.	969.	1012.	427.*	964.77	1.065E-01	100.0	546.
31	971.0	969.	972.	1820.	1435.*	968.97	1.719E-01	100.0	1251.
32	1122.3	1120.	1124.	710.	326.*	1120.13	1.674E-01	100.0	170.
33	1410.9	1410.	1412.	206.	69.	1408.41	1.133E-01	100.0	0.
34	1463.3	1459.	1466.	2280.	1950.*	1460.75	1.123E-01	100.0	1944.
35	1590.8	1589.	1593.	348.	180.*	1588.08	1.122E-01	100.0	233.
36	1595.2	1593.	1597.	368.	211.*	1592.47	1.089E-01	100.0	167.
37	1623.2	1622.	1626.	223.	71.*	1620.51	1.095E-01	100.0	72.
38	1633.3	1632.	1637.	277.	92.*	1630.58	1.109E-01	100.0	85.
39	1767.1	1763.	1769.	486.	225.*	1764.21	1.280E-01	100.0	149.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.52 Kev is ambiguously assigned; component has been removed.
U235 at 185.52 Kev is ambiguously assigned; component has been removed.
Sc 46 at1120.13 Kev is ambiguously assigned; component has been removed.
Ta182 at1120.13 Kev is ambiguously assigned; component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	1.071E+00	5.789E-05	- - - - - - - - - -			5.789E+01	100.00
	1460.75	1.071E+00	5.789E-05	1.00	100.00	0.00		
2 Mn 54	- - - -	1.464E-01	7.912E-06	- - - - - - - - - -			7.912E+00	100.00
	835.87	1.464E-01	7.912E-06	1.00	100.00	0.00		
3 Tl208	- - - -	1.468E-01	7.933E-06	- - - - - - - - - -			7.933E+00	82.19
	510.69	4.862E-01	2.628E-05	0.30	100.00	1.59		
	583.21	1.245E-01	6.730E-06	1.18	100.00	-0.41		
4 Bi214	- - - -	8.528E-01	4.610E-05	- - - - - - - - - -			4.610E+01	51.86
	609.30	7.843E-01	4.240E-05	1.09	74.65	-0.27		
	1120.13	1.135E+00	6.133E-05	0.75	100.00	0.57		

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	1764.21	8.392E-01	4.536E-05	1.02	100.00	-0.04		
5 Pb212	- - - -	3.418E-01	1.848E-05	- - - - - - - - - -			1.848E+01	100.00
	238.60	3.418E-01	1.848E-05	1.00	100.00	0.00		
6 Pb214	- - - -	6.476E-01	3.500E-05	- - - - - - - - - -			3.500E+01	18.99
	294.91	6.743E-01	3.645E-05	0.96	19.79	0.46		
	351.71	4.975E-01	2.689E-05	1.30	63.61	-1.08		
7 Ac228	- - - -	5.340E-01	2.887E-05	- - - - - - - - - -			2.887E+01	67.89
	338.25	7.616E-01	4.226E-05	0.68	100.00	0.72		
	795.01	2.718E+00	1.469E-04	0.20	100.00	1.83		
	911.12	4.139E-01	2.237E-05	1.29	100.00	-0.66		

The following are upper limit values:

Be 7	- - - -	4.679E+00	2.529E-04	- - - - - - - - -	2.529E+02	100.00
Sc 46	- - - -	3.296E-01	1.782E-05	- - - - - - - - -	1.782E+01	100.00
Cr 51	- - - -	2.049E+01	1.107E-03	- - - - - - - - -	1.107E+03	100.00
Fe 59	- - - -	1.786E+00	9.654E-05	- - - - - - - - -	9.654E+01	100.00
Co 58	- - - -	3.820E-01	2.065E-05	- - - - - - - - -	2.065E+01	100.00
Co 60	- - - -	1.259E-01	6.806E-06	- - - - - - - - -	6.806E+00	100.00
Zn 65	- - - -	3.585E-01	1.938E-05	- - - - - - - - -	1.938E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - -	9.396E-01	5.079E-05	- - - - - - - - -	5.079E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	1.078E-01	5.825E-06	- - - - - - - - -	5.825E+00	100.00
Nb 95	- - - -	1.455E+00	7.863E-05	- - - - - - - - -	7.863E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - -	2.352E+00	1.271E-04	- - - - - - - - -	1.271E+02	100.00
Ru106	- - - -	2.200E+00	1.189E-04	- - - - - - - - -	1.189E+02	100.00
Ag110m	- - - -	5.481E-01	2.963E-05	- - - - - - - - -	2.963E+01	100.00

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Sn113	- - - - 4.353E-01	2.353E-05	- - - - - - - - -	2.353E+01	100.00
Sn125	- - - - 3.698E+04	1.999E+00	- - - - - - - - -	1.999E+06	100.00
Sn117m	- - - - 9.985E+01	5.397E-03	- - - - - - - - -	5.397E+03	100.00
Sb124	- - - - 9.887E-01	5.344E-05	- - - - - - - - -	5.344E+01	100.00
Sb125	- - - - 9.818E-01	5.307E-05	- - - - - - - - -	5.307E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 6.766E+01	3.657E-03	- - - - - - - - -	3.657E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 4.253E+04	2.299E+00	- - - - - - - - -	2.299E+06	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134.	- - - - 8.232E-01	4.450E-05	- - - - - - - - -	4.450E+01	100.00
Cs136	- - - - 1.961E+02	1.060E-02	- - - - - - - - -	1.060E+04	100.00
Cs137	- - - - 1.265E-01	6.835E-06	- - - - - - - - -	6.835E+00	100.00
Ba140	- - - - 1.005E+03	5.430E-02	- - - - - - - - -	5.430E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 2.430E+00	1.314E-04	- - - - - - - - -	1.314E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 1.013E+00	5.475E-05	- - - - - - - - -	5.475E+01	100.00
Eu154	- - - - 8.731E-01	4.719E-05	- - - - - - - - -	4.719E+01	100.00
Eu155	- - - - 8.227E-01	4.447E-05	- - - - - - - - -	4.447E+01	100.00
Hf175	- - - - 4.088E-01	2.210E-05	- - - - - - - - -	2.210E+01	100.00
Hf181	- - - - 1.365E+00	7.381E-05	- - - - - - - - -	7.381E+01	100.00
Ta182	- - - - 1.239E+00	6.697E-05	- - - - - - - - -	6.697E+01	100.00
Pb210	- - - - 2.736E+03	1.479E-01	- - - - - - - - -	1.479E+05	100.00
Ra226	- - - - 1.907E+00	1.031E-04	- - - - - - - - -	1.031E+02	100.00

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9 2 1 2 9 1 0 1 6

```
U235  - - - - 3.937E-01   2.128E-05  - - - - - - - - -  2.128E+01 100.00

U238  - - - - 2.499E+01   1.351E-03  - - - - - - - - -  1.351E+03 100.00

Unable to compute upper limit for Np239 .  Tdecay > 20*T1/2.

Am241  - - - - 1.408E+00   7.611E-05  - - - - - - - - -  7.611E+01 100.00
```

The following pecks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	74.65	2.3553E-01	100.0	0.0000000
2	84.02	1.6443E-01	100.0	0.4139875
3	86.76	1.6576E-01	100.0	0.0000000
4	90.82	1.3456E-01	100.0	0.0000000
5	92.78	1.2966E-01	100.0	0.0000000
6	128.81	8.3081E-02	100.0	0.0000000
8	198.24	7.1953E-02	100.0	0.0000000
9	208.91	7.4603E-02	100.0	7.2035855E-03
11	269.97	7.7708E-02	100.0	2.9241535E-04
12	277.07	7.8203E-02	100.0	7.6655809E-08
14	299.83	8.1392E-02	100.0	4.0024615E-06
15	327.72	8.4924E-02	100.0	6.9493532E-02
18	409.38	8.8454E-02	100.0	0.0000000
19	462.80	9.1905E-02	100.0	0.1516039
22	596.09	1.0018E-01	100.0	0.0000000
24	727.30	1.0643E-01	100.0	1.8328088E-05
25	785.32	1.7411E-01	19.3	1.6492941E-05
28	860.54	1.0757E-01	100.0	7.1009044E-06
30	964.77	1.0647E-01	100.0	1.1319912E-03
31	968.97	1.7192E-01	100.0	0.2447691
33	1408.41	1.1328E-01	100.0	0.0000000
35	1588.08	1.1222E-01	100.0	2.5792772E-07
36	1592.47	1.0892E-01	100.0	0.0000000
37	1620.51	1.0951E-01	100.0	0.0000000
38	1630.58	1.1091E-01	100.0	0.0000000

```
If CI >  0  Confidence threshold was not exceeded
   CI =  0  Energy Window test failure
   CI = -1  Extreme Half Life test failure
   CI = -2  Extreme As. Gamma comparison test failure
   CI = -3  Unable to estimate area of Assoc. Gamma
```

9 2 1 2 9 1 0 1 7

Raygun - RSX Version 10-Jan-90 (28-MAR-1992 16:03:09)

Analysis performed by: E. A. LEPEL

Sample: 54529-37-A 92-02744-L-1 RECOUNT
Weight: 0.50000 L

Irradiation date: 13-Nov-1991 at 9:28:00

Count date: 26-Mar-1992 at 15:50:00

Decay: 134.3d (11600520. seconds)

Count times: REAL TIME 17.08h (61470.000 seconds)
LIVE TIME 17.06h (61423.000 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452937a.hh;2

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.2	71.	80.	6971.	1775.*	74.60	4.415E-01	100.0	1778.
2	93.6	93.	95.	1825.	312.*	93.03	2.576E-01	100.0	596.
3	129.7	129.	132.	2064.	279.*	129.05	1.551E-01	100.0	190.
4	186.2	185.	188.	1671.	239.*	185.49	1.347E-01	100.0	184.
5	209.9	206.	211.	2411.	407.*	209.20	1.431E-01	100.0	316.
6	239.4	238.	245.	6188.	4192.*	238.60	1.667E-01	100.0	4004.
7	339.2	337.	345.	2094.	762.*	338.25	1.567E-01	100.0	744.
8	464.1	460.	465.	766.	190.*	463.10	1.762E-01	100.0	172.
9	512.1	510.	514.	1134.	705.*	510.96	1.850E-01	100.0	776.
10	584.5	582.	586.	1220.	894.*	583.32	1.864E-01	100.0	862.
11	610.8	610.	612.	334.	145.*	609.60	1.925E-01	100.0	189.
12	728.9	727.	731.	433.	201.*	727.53	2.006E-01	100.0	184.
13	796.3	795.	798.	292.	122.*	794.88	2.122E-01	100.0	73.
14	862.1	861.	865.	262.	109.*	860.55	1.970E-01	100.0	98.
15	912.9	911.	916.	799.	631.*	911.35	2.015E-01	100.0	630.
16	966.6	965.	969.	273.	146.*	964.91	2.044E-01	100.0	146.
17	970.8	969.	973.	493.	377.*	969.17	1.969E-01	100.0	334.
18	1463.0	1458.	1465.	606.	525.*	1460.75	2.117E-01	100.0	520.
19	1593.4	1588.	1593.	99.	52.*	1588.03	2.050E-01	100.0	62.
20	1594.9	1593.	1597.	97.	96.*	1592.53	2.118E-01	100.0	45.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for

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system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.49 Kev is ambiguously assigned; component has been removed.
U235 at 185.49 Kev is ambiguously assigned; component has been removed.
Matrix is singular in MLR:
an element of w is zero
Pb214 is being removed from the component set due to a matrix singularity.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	2.018E+00	1.091E-04	- - - - - - - - -			1.091E+02	100.00
	1460.75	2.018E+00	1.091E-04	1.00	100.00	0.00		
2 Tl208	- - - -	2.739E-01	1.481E-05	- - - - - - - - -			1.481E+01	82.68
	510.96	9.504E-01	5.137E-05	0.29	100.00	1.46		
	583.32	2.332E-01	1.261E-05	1.17	100.00	-0.36		
3 Bi214	- - - -	4.287E-01	2.317E-05	- - - - - - - - -			2.317E+01	100.00
	609.60	4.287E-01	2.317E-05	1.00	100.00	0.00		
4 Pb212	- - - -	4.421E-01	2.390E-05	- - - - - - - - -			2.390E+01	100.00
	238.60	4.421E-01	2.390E-05	1.00	100.00	0.00		
5 Ac228	- - - -	1.077E+00	5.820E-05	- - - - - - - - -			5.820E+01	56.29
	338.25	1.459E+00	7.885E-05	0.74	100.00	0.54		
	794.88	5.159E+00	2.788E-04	0.21	100.00	1.62		
	911.35	7.936E-01	4.290E-05	1.36	100.00	-0.73		
	969.17	1.262E+00	6.824E-05	0.85	100.00	0.30		

The following are upper limit values:

Be 7	- - - -	9.335E+00	5.046E-04	- - - - - - - -			5.046E+02	100.00
Sc 46	- - - -	6.760E-01	3.654E-05	- - - - - - - -			3.654E+01	100.00
Cr 51	- - - -	4.495E+01	2.430E-03	- - - - - - - -			2.430E+03	100.00
Mn 54	- - - -	2.896E-01	1.566E-05	- - - - - - - -			1.566E+01	100.00
Fe 59	- - - -	3.767E+00	2.036E-04	- - - - - - - -			2.036E+02	100.00

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```
   Co 58  - - - - 7.627E-01   4.123E-05  - - - - - - - - -  4.123E+01 100.00
   Co 60  - - - - 2.390E-01   1.292E-05  - - - - - - - - -  1.292E+01 100.00
   Zn 65  - - - - 6.906E-01   3.733E-05  - - - - - - - - -  3.733E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 1.889E+00   1.021E-04  - - - - - - - - -  1.021E+02 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 2.071E-01   1.119E-05  - - - - - - - - -  1.119E+01 100.00
   Nb 95  - - - - 3.029E+00   1.637E-04  - - - - - - - - -  1.637E+02 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 4.869E+00   2.632E-04  - - - - - - - - -  2.632E+02 100.00
   Ru106  - - - - 4.062E+00   2.196E-04  - - - - - - - - -  2.196E+02 100.00
   Ag110m - - - - 1.059E+00   5.724E-05  - - - - - - - - -  5.724E+01 100.00
   Sn113  - - - - 8.396E-01   4.538E-05  - - - - - - - - -  4.538E+01 100.00
   Sn125  - - - - 8.923E+04   4.823E+00  - - - - - - - - -  4.823E+06 100.00
   Sn117m - - - - 2.444E+02   1.321E-02  - - - - - - - - -  1.321E+04 100.00
   Sb124  - - - - 2.078E+00   1.123E-04  - - - - - - - - -  1.123E+02 100.00
   Sb125  - - - - 1.852E+00   1.001E-04  - - - - - - - - -  1.001E+02 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 1.431E+02   7.737E-03  - - - - - - - - -  7.737E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
   I131   - - - - 1.259E+05   6.807E+00  - - - - - - - - -  6.807E+06 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
   Cs134  - - - - 1.562E+00   8.441E-05  - - - - - - - - -  8.441E+01 100.00
```

Cs136	- - - -	5.033E+02	2.720E-02	- - - - - - - - -	2.720E+04 100.00
Cs137	- - - -	2.462E-01	1.331E-05	- - - - - - - - -	1.331E+01 100.00
Ba140	- - - -	2.516E+03	1.360E-01	- - - - - - - - -	1.360E+05 100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	5.149E+00	2.783E-04	- - - - - - - - -	2.783E+02 100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	1.943E+00	1.050E-04	- - - - - - - - -	1.050E+02 100.00
Eu154	- - - -	1.669E+00	9.021E-05	- - - - - - - - -	9.021E+01 100.00
Eu155	- - - -	1.002E+00	5.415E-05	- - - - - - - - -	5.415E+01 100.00
Hf175	- - - -	8.292E-01	4.482E-05	- - - - - - - - -	4.482E+01 100.00
Hf181	- - - -	2.709E+00	1.464E-04	- - - - - - - - -	1.464E+02 100.00
Ta182	- - - -	2.509E+00	1.356E-04	- - - - - - - - -	1.356E+02 100.00
Pb210	- - - -	5.026E+03	2.717E-01	- - - - - - - - -	2.717E+05 100.00
Pb214	- - - -	6.414E-01	3.467E-05	- - - - - - - - -	3.467E+01 100.00
Ra226	- - - -	3.595E+00	1.943E-04	- - - - - - - - -	1.943E+02 100.00
U235	- - - -	7.389E-01	3.994E-05	- - - - - - - - -	3.994E+01 100.00
U238	- - - -	4.584E+01	2.478E-03	- - - - - - - - -	2.478E+03 100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - -	2.678E+00	1.447E-04	- - - - - - - - -	1.447E+02 100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	74.60	4.4149E-01	100.0	0.0000000
2	93.03	2.5761E-01	100.0	0.0000000
3	129.05	1.5513E-01	100.0	0.0000000
5	209.20	1.4307E-01	100.0	1.7775688E-03
8	453.10	1.7617E-01	100.0	0.1296844
12	727.53	2.0056E-01	100.0	3.1080450E-05
14	860.55	1.9698E-01	100.0	9.8885412E-06
16	964.91	2.0441E-01	100.0	1.3576250E-04
19	1588.03	2.0499E-01	100.0	1.3510648E-06
20	1592.53	2.1181E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded

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CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

9 2 1 2 9 1 0 2 2

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:01:38)

Analysis performed by: E. A. LEPEL

Sample: 54529-38-A 92-02745-L-1
Weight: 0.50000 L

Irradiation date: 13-Nov-1991 at 10:23:00

Count date: 19-Mar-1992 at 13:23:00

Decay: 127.1d (10983600. seconds)

Count times: REAL TIME 27.42h (98724.000 seconds)
LIVE TIME 27.40h (98650.000 seconds)

Dead time: 0.07 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn. HH

Spectrum from file : 5452938A.HH;1

Background subtractions from file: ve:[116,1]Backg. HH

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S A Lepel

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (KeV)	Gammas /sec	Err % SD	System bkgd
1	75.2	72.	78.	8631.	2425.*	74.64	3.585E-01	100.0	2856.
2	85.0	84.	87.	3944.	646.*	84.46	2.524E-01	100.0	698.
3	88.8	87.	90.	3902.	633.*	88.22	2.274E-01	100.0	911.
4	93.5	93.	94.	2107.	568.*	92.86	1.988E-01	100.0	957.
5	186.4	185.	187.	2090.	262.*	185.66	1.094E-01	100.0	295.
6	239.4	238.	243.	9037.	6417.*	238.60	1.165E-01	100.0	6431.
7	339.2	338.	342.	2380.	1118.*	338.27	1.274E-01	100.0	1195.
8	352.9	351.	354.	1289.	368.*	352.00	1.918E-01	44.5	131.
9	410.5	409.	412.	900.	155.*	409.55	1.339E-01	100.0	139.
10	464.1	462.	465.	848.	228.*	463.00	1.392E-01	100.0	276.
11	512.0	508.	517.	2566.	1204.*	510.91	1.451E-01	100.0	1246.
12	584.7	583.	586.	1840.	1390.*	583.45	1.522E-01	100.0	1385.
13	610.8	609.	612.	842.	455.*	609.60	3.852E-01	46.5	176.
14	663.2	661.	667.	778.	159.*	661.85	1.551E-01	100.0	93.
15	728.9	726.	732.	902.	368.*	727.47	1.599E-01	100.0	296.
16	796.6	795.	798.	402.	133.*	795.17	1.658E-01	100.0	118.
17	837.5	836.	838.	248.	81.*	835.96	1.598E-01	100.0	70.
18	862.1	859.	865.	539.	165.*	860.54	1.617E-01	100.0	157.
19	913.0	910.	917.	1399.	1020.*	911.35	1.625E-01	100.0	1011.
20	966.5	966.	969.	378.	192.*	964.70	1.718E-01	100.0	234.
21	970.9	969.	972.	757.	574.*	969.18	1.712E-01	100.0	537.
22	1122.2	1121.	1126.	316.	128.*	1120.36	1.678E-01	100.0	73.
23	1240.7	1239.	1242.	167.	49.*	1238.64	1.829E-01	100.0	30.
24	1463.0	1459.	1467.	958.	810.*	1460.75	1.622E-01	100.0	834.

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25	1590.3	1589.	1592.	148.	93.*	1587.86	1.694E-01	100.0	100.
26	1594.9	1594.	1597.	131.	72.*	1592.45	1.748E-01	100.0	72.
27	1632.7	1631.	1634.	107.	51.*	1630.16	1.757E-01	100.0	36.
28	1766.9	1765.	1769.	164.	115.*	1764.27	1.992E-01	92.6	64.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.66 Kev is ambiguously assigned; component has been removed.
U235 at 185.66 Kev is ambiguously assigned; component has been removed.
Sc 46 at1120.36 Kev is ambiguously assigned; component has been removed.
Ta182 at1120.36 Kev is ambiguously assigned; component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	1.546E+00	8.359E-05	- - - - - - - - - -			8.359E+01	100.00
	1460.75	1.546E+00	8.359E-05	1.00	100.00	0.00		
2 Mn 54	- - - -	2.122E-01	1.147E-05	- - - - - - - - - -			1.147E+01	100.00
	835.96	2.122E-01	1.147E-05	1.00	100.00	0.00		
3 Cs137	- - - -	1.835E-01	9.917E-06	- - - - - - - - - -			9.917E+00	100.00
	661.85	1.835E-01	9.917E-06	1.00	100.00	0.00		
4 Tl208	- - - -	2.240E-01	1.211E-05	- - - - - - - - - -			1.211E+01	82.21
	510.91	7.435E-01	4.019E-05	0.30	100.00	1.70		
	583.45	1.900E-01	1.027E-05	1.18	100.00	-0.43		
5 Bi214	- - - -	9.252E-01	5.001E-05	- - - - - - - - - -			5.001E+01	38.83
	609.60	8.577E-01	4.636E-05	1.08	46.48	-0.41		
	1120.36	1.137E+00	6.145E-05	0.81	100.00	0.45		
	1764.27	1.307E+00	7.063E-05	0.71	92.60	0.77		
6 Pb212	- - - -	3.069E-01	1.659E-05	- - - - - - - - - -			1.659E+01	100.01
	238.60	3.069E-01	1.659E-05	1.00	100.00	0.00		
7 Pb214	- - - -	5.204E-01	2.813E-05	- - - - - - - - - -			2.813E+01	44.49

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	352.00	5.204E-01	2.813E-05	1.00	44.49	0.00		
B Ac228	- - - -	8.797E-01	4.755E-05	- - - - - - - - - -			4.755E+01	56.41
	338.27	1.183E+00	6.395E-05	0.74	100.00	0.62		
	795.17	4.023E+00	2.175E-04	0.22	100.00	1.90		
	911.35	6.387E-01	3.453E-05	1.38	100.00	-0.92		
	969.18	1.095E+00	5.920E-05	0.80	100.00	0.48		

The following are upper limit values:

Be 7	- - - -	6.938E+00	3.750E-04	- - - - - - - - -	3.750E+02	100.00
Sc 46	- - - -	4.787E-01	2.587E-05	- - - - - - - - -	2.587E+01	100.00
Cr 51	- - - -	2.961E+01	1.601E-03	- - - - - - - - -	1.601E+03	100.00
Fe 59	- - - -	2.695E+00	1.457E-04	- - - - - - - - -	1.457E+02	100.00
Co 58	- - - -	5.609E-01	3.032E-05	- - - - - - - - -	3.032E+01	100.00
Co 60	- - - -	1.891E-01	1.022E-05	- - - - - - - - -	1.022E+01	100.00
Zn 65	- - - -	5.358E-01	2.896E-05	- - - - - - - - -	2.896E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - -	1.412E+00	7.630E-05	- - - - - - - - -	7.630E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	1.636E-01	8.842E-06	- - - - - - - - -	8.842E+00	100.00
Nb 95	- - - -	2.144E+00	1.159E-04	- - - - - - - - -	1.159E+02	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - -	3.365E+00	1.819E-04	- - - - - - - - -	1.819E+02	100.00
Ru106	- - - -	3.259E+00	1.762E-04	- - - - - - - - -	1.762E+02	100.00
Ag110m	- - - -	8.112E-01	4.385E-05	- - - - - - - - -	4.385E+01	100.00
Sn113	- - - -	6.365E-01	3.440E-05	- - - - - - - - -	3.440E+01	100.00
Sn125	- - - -	4.877E+04	2.636E+00	- - - - - - - - -	2.636E+06	100.00
Sn117m	- - - -	1.379E+02	7.455E-03	- - - - - - - - -	7.455E+03	100.00

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9 2 1 2 5 9 1 0 2 5

Sb124	- - - - 1.520E+00	8.215E-05	- - - - - - - - -	8.215E+01	100.00
Sb125	- - - - 1.475E+00	7.974E-05	- - - - - - - - -	7.974E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 9.882E+01	5.342E-03	- - - - - - - - -	5.342E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 5.432E+04	2.936E+00	- - - - - - - - -	2.936E+06	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 1.227E+00	6.634E-05	- - - - - - - - -	6.634E+01	100.00
Cs136	- - - - 2.671E+02	1.444E-02	- - - - - - - - -	1.444E+04	100.00
Ba140	- - - - 1.390E+03	7.514E-02	- - - - - - - - -	7.514E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 3.508E+00	1.896E-04	- - - - - - - - -	1.896E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 1.522E+00	8.227E-05	- - - - - - - - -	8.227E+01	100.00
Eu154	- - - - 1.307E+00	7.065E-05	- - - - - - - - -	7.065E+01	100.00
Eu155	- - - - 1.244E+00	6.724E-05	- - - - - - - - -	6.724E+01	100.00
Hf175	- - - - 6.075E-01	3.284E-05	- - - - - - - - -	3.284E+01	100.00
Hf181	- - - - 1.966E+00	1.063E-04	- - - - - - - - -	1.063E+02	100.00
Ta182	- - - - 1.820E+00	9.836E-05	- - - - - - - - -	9.836E+01	100.00
Pb210	- - - - 4.238E+03	2.291E-01	- - - - - - - - -	2.291E+05	100.00
Ra226	- - - - 2.907E+00	1.571E-04	- - - - - - - - -	1.571E+02	100.00
U235	- - - - 6.002E-01	3.245E-05	- - - - - - - - -	3.245E+01	100.00
U238	- - - - 3.636E+01	1.965E-03	- - - - - - - - -	1.965E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.141E+00	1.157E-04	- - - - - - - - -	1.157E+02	100.00

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The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	74.64	3.5848E-01	100.0	0.0000000
2	84.46	2.5240E-01	100.0	0.5534360
3	86.22	2.2741E-01	100.0	0.0000000
4	92.86	1.9880E-01	100.0	0.0000000
9	409.55	1.3390E-01	100.0	0.0000000
10	463.00	1.3924E-01	100.0	0.1593363
15	727.47	1.5985E-01	100.0	2.0376809E-05
18	860.54	1.6166E-01	100.0	9.1689390E-06
20	964.78	1.7179E-01	100.0	1.0812037E-04
23	1238.64	1.8292E-01	100.0	1.4390507E-02
25	1587.86	1.6937E-01	100.0	1.4965310E-08
26	1592.45	1.7483E-01	100.0	0.0000000
27	1630.16	1.7567E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-204

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:01:54)

Analysis performed by: E. A. LEPEL

Sample: 54529-39-A 92-02746-L-1
Weight: 0.50000 L

Irradiation date: 12-Nov-1991 at 8:44:00

Count date: 12-Mar-1992 at 17:33:00

Decay: 121.4d (10486140. seconds)

Count times: REAL TIME 23.90h (86035.000 seconds)
LIVE TIME 23.88h (85970.000 seconds)

Dead time: 0.08 percent

Detector: HH pos 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]Jeffmarn.HH

Spectrum from file : 5452939A.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.4	74.	80.	7548.	2378.*	75.03	3.703E-01	100.0	2489.
2	85.1	85.	87.	2673.	532.*	84.72	2.677E-01	100.0	608.
3	88.8	87.	92.	5034.	875.*	87.62	2.442E-01	100.0	794.
4	93.8	92.	95.	3251.	576.*	93.42	2.103E-01	100.0	834.
5	129.9	127.	130.	2956.	375.*	129.41	1.330E-01	100.0	266.
6	186.3	183.	189.	4079.	428.*	185.71	1.162E-01	100.0	257.
7	239.2	238.	244.	8492.	5716.*	238.60	1.254E-01	100.0	5604.
8	278.2	278.	280.	1067.	199.*	277.51	1.273E-01	100.0	190.
9	328.9	327.	330.	1235.	265.*	328.16	1.388E-01	100.0	231.
10	339.0	338.	342.	2160.	1054.*	338.24	1.374E-01	100.0	1041.
11	352.8	351.	355.	1362.	310.*	352.03	1.816E-01	46.9	114.
12	463.9	461.	466.	1065.	271.*	462.91	1.476E-01	100.0	240.
13	511.8	508.	516.	2091.	1042.*	510.72	1.541E-01	100.0	1086.
14	563.4	562.	565.	481.	110.*	562.23	1.525E-01	100.0	45.
15	584.0	578.	588.	2401.	1363.*	582.82	2.367E-01	100.0	1207.
16	610.8	609.	611.	732.	449.*	608.81	4.673E-01	35.8	153.
17	728.1	727.	730.	544.	270.*	726.67	1.738E-01	100.0	258.
18	795.8	793.	797.	449.	180.*	794.35	1.700E-01	100.0	103.
19	861.2	859.	867.	572.	190.*	859.64	1.653E-01	100.0	137.
20	912.0	910.	914.	1119.	901.*	910.29	1.787E-01	100.0	881.
21	965.3	963.	968.	402.	190.*	963.49	1.720E-01	100.0	204.
22	969.8	969.	973.	758.	564.*	968.01	2.402E-01	100.0	469.
23	1120.8	1119.	1123.	251.	111.*	1118.82	1.819E-01	100.0	64.
24	1451.2	1450.	1453.	[illegible]	733.*	1450.66	1.656E-01	100.0	727.

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25	1586.4	1587.	1590.	124.	69.*	1585.66	1.942E-01	100.0	87.
26	1593.2	1592.	1595.	134.	76.*	1590.41	1.961E-01	100.0	87.
27	1764.7	1763.	1768.	156.	98.*	1761.70	1.898E-01	93.6	56.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.71 kev is ambiguously assigned; component has been removed.
U235 at 185.71 kev is ambiguously assigned; component has been removed.
Sc 46 is being removed from the component set.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	1.578E+00	8.532E-05	- - - - - - - - - -			8.532E+01	100.00
	1458.66	1.578E+00	8.532E-05	1.00	100.00	0.00		
2 Eu155	- - - -	8.543E-01	4.618E-05	- - - - - - - - - -			4.618E+01	100.00
	86.72	8.543E-01	4.618E-05	1.00	100.00	0.00		
3 Tl208	- - - -	3.555E-01	1.921E-05	- - - - - - - - - -			1.921E+01	77.70
	510.72	7.880E-01	4.259E-05	0.45	100.00	1.30		
	582.82	2.949E-01	1.594E-05	1.21	100.00	-0.49		
4 Bi214	- - - -	1.057E+00	5.711E-05	- - - - - - - - - -			5.711E+01	33.75
	608.81	1.040E+00	5.624E-05	1.02	35.80	-0.10		
	1118.62	1.232E+00	6.661E-05	0.86	100.00	0.34		
5 Pb212	- - - -	3.284E-01	1.775E-05	- - - - - - - - - -			1.775E+01	100.01
	238.60	3.284E-01	1.775E-05	1.00	100.00	0.00		
6 Pb214	- - - -	4.928E-01	2.664E-05	- - - - - - - - - -			2.664E+01	46.95
	352.03	4.928E-01	2.664E-05	1.00	46.95	0.00		
7 Ac228	- - - -	9.052E-01	4.893E-05	- - - - - - - - - -			4.893E+01	67.08
	338.24	1.273E+00	6.882E-05	0.71	100.00	0.68		
	794.35	4.115E+00	2.224E-04	0.22	100.00	1.85		

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910.29 7.007E-01 3.788E-05 1.29 100.00 -0.69

The following are upper limit values:

Be 7	- - - - 6.974E+00	3.770E-04	- - - - - - - - -	3.770E+02	100.00
Sc 46	- - - - 4.984E-01	2.694E-05	- - - - - - - - -	2.694E+01	100.00
Cr 51	- - - - 2.796E+01	1.512E-03	- - - - - - - - -	1.512E+03	100.00
Mn 54	- - - - 2.492E-01	1.347E-05	- - - - - - - - -	1.347E+01	100.00
Fe 59	- - - - 2.706E+00	1.463E-04	- - - - - - - - -	1.463E+02	100.00
Co 58	- - - - 5.854E-01	3.164E-05	- - - - - - - - -	3.164E+01	100.00
Co 60	- - - - 2.025E-01	1.094E-05	- - - - - - - - -	1.094E+01	100.00
Zn 65	- - - - 5.688E-01	3.074E-05	- - - - - - - - -	3.074E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 1.343E+00	7.258E-05	- - - - - - - - -	7.258E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 1.749E-01	9.452E-06	- - - - - - - - -	9.452E+00	100.00
Nb 95	- - - - 2.047E+00	1.106E-04	- - - - - - - - -	1.106E+02	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 3.322E+00	1.796E-04	- - - - - - - - -	1.796E+02	100.00
Ru106	- - - - 3.540E+00	1.914E-04	- - - - - - - - -	1.914E+02	100.00
Ag110m	- - - - 8.696E-01	4.701E-05	- - - - - - - - -	4.701E+01	100.00
Sn113	- - - - 6.560E-01	3.546E-05	- - - - - - - - -	3.546E+01	100.00
Sn125	- - - - 3.384E+04	1.829E+00	- - - - - - - - -	1.829E+06	100.00
Sn117m	- - - - 1.120E+02	6.053E-03	- - - - - - - - -	6.053E+03	100.00
Sb124	- - - - 1.520E+00	8.219E-05	- - - - - - - - -	8.219E+01	100.00
Sb125	- - - - 1.599E+00	8.642E-05	- - - - - - - - -	8.642E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - -	9.264E+01	5.008E-03	- - - - - - - - -	5.008E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - -	3.457E+04	1.869E+00	- - - - - - - - -	1.869E+06	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	1.339E+00	7.235E-05	- - - - - - - - -	7.235E+01	100.00
Cs136	- - - -	2.182E+02	1.180E-02	- - - - - - - - -	1.180E+04	100.00
Cs137	- - - -	2.032E-01	1.098E-05	- - - - - - - - -	1.098E+01	100.00
Ba140	- - - -	1.066E+03	5.774E-02	- - - - - - - - -	5.774E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	3.405E+00	1.841E-04	- - - - - - - - -	1.841E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	1.632E+00	8.824E-05	- - - - - - - - -	8.824E+01	100.00
Eu154	- - - -	1.479E+00	7.995E-05	- - - - - - - - -	7.995E+01	100.00
Hf175	- - - -	6.261E-01	3.384E-05	- - - - - - - - -	3.384E+01	100.00
Hf181	- - - -	1.995E+00	1.078E-04	- - - - - - - - -	1.078E+02	100.00
Ta182	- - - -	1.900E+00	1.027E-04	- - - - - - - - -	1.027E+02	100.00
Pb210	- - - -	4.753E+03	2.569E-01	- - - - - - - - -	2.569E+05	100.00
Ra226	- - - -	3.127E+00	1.690E-04	- - - - - - - - -	1.690E+02	100.00
U235	- - - -	6.442E-01	3.482E-05	- - - - - - - - -	3.482E+01	100.00
U238	- - - -	4.101E+01	2.217E-03	- - - - - - - - -	2.217E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - -	2.304E+00	1.245E-04	- - - - - - - - -	1.245E+02	100.00

The following peaks were not identified:

#	energy	gammas/sec	peterr	CI *
1	75.03	3.7026E-01	100.0	0.0000000
3	87.62	2.4424E-01	100.0	0.0000000
4	93.42	2.1035E-01	100.0	0.0000000

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5	129.41	1.3300E-01	100.0	0.0000000
8	277.51	1.2732E-01	100.0	4.0124617E-05
9	328.16	1.3883E-01	100.0	8.8366640E-02
12	462.91	1.4764E-01	100.0	0.1745359
14	562.23	1.5247E-01	100.0	3.9181785E-07
17	726.67	1.7377E-01	100.0	0.4765852
19	859.64	1.6530E-01	100.0	1.8634273E-03
21	963.49	1.7204E-01	100.0	1.0911719E-03
22	968.01	2.4016E-01	100.0	0.4464552
25	1585.66	1.9424E-01	100.0	2.3527639E-08
26	1590.41	1.9613E-01	100.0	0.0000000
27	1761.70	1.8976E-01	93.6	0.5067665

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-209

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:02:10)

Analysis performed by: E. A. LEPEL

Sample: 54529-40-A 92-02747-L-1
Weight: 0.50000 L

Irradiation date: 12-Nov-1991 at 9:44:00

Count date: 18-Mar-1992 at 17:20:00

Decay: 127.3d (11000160. seconds)

Count times: REAL TIME 19.94h (71784.000 seconds)
LIVE TIME 19.92h (71730.000 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452940A.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.2	70.	78.	7823.	1975.*	74.53	4.238E-01	100.0	2077.
2	85.0	84.	86.	2285.	681.*	84.33	2.805E-01	100.0	507.
3	88.7	86.	90.	3650.	484.*	88.01	2.769E-01	100.0	662.
4	93.7	93.	94.	1602.	487.*	93.04	2.318E-01	100.0	696.
5	129.9	129.	132.	2498.	307.*	129.18	1.464E-01	100.0	222.
6	186.3	186.	187.	1029.	149.*	185.52	1.278E-01	100.0	214.
7	239.4	236.	247.	8505.	4558.*	238.60	1.374E-01	100.0	4676.
8	301.1	300.	302.	864.	220.*	300.17	1.426E-01	100.0	211.
9	339.2	338.	341.	1589.	801.*	338.26	1.548E-01	100.0	869.
10	410.7	410.	411.	384.	111.*	409.66	1.577E-01	100.0	101.
11	464.1	462.	465.	658.	225.*	463.01	1.601E-01	100.0	200.
12	512.1	508.	516.	1713.	890.*	510.93	1.636E-01	100.0	906.
13	584.7	583.	586.	1403.	1072.*	583.43	1.797E-01	100.0	1007.
14	610.8	609.	612.	626.	335.*	609.49	3.929E-01	40.4	128.
15	728.9	725.	730.	585.	239.*	727.50	1.913E-01	100.0	215.
16	796.8	796.	800.	344.	100.*	795.26	1.947E-01	100.0	86.
17	862.1	858.	865.	475.	100.*	860.52	1.852E-01	100.0	114.
18	913.0	910.	915.	1039.	818.*	911.29	2.320E-01	100.0	735.
19	966.6	961.	969.	428.	204.*	964.83	1.736E-01	100.0	170.
20	970.9	969.	973.	586.	456.*	969.16	2.247E-01	100.0	390.
21	1463.1	1460.	1456.	676.	596.*	1460.75	1.920E-01	100.0	607.
22	1590.2	1589.	1593.	112.	60.*	1587.67	2.039E-01	100.0	73.
23	1767.0	1762.	1771.	176.	110.*	1764.20	3.859E-01	44.7	46.

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++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.52 kev is ambiguously assigned: component has been removed.
U235 at 185.52 kev is ambiguously assigned: component has been removed.
Matrix is singular in MLR:
an element of w is zero
Pb214 is being removed from the component set due to a matrix singularity.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	1.838E+00	9.933E-05	- - - - - - - - - -			9.933E+01	100.00
	1460.75	1.838E+00	9.933E-05	1.00	100.00	0.00		
2 Tl208	- - - -	2.655E-01	1.435E-05	- - - - - - - - - -			1.435E+01	81.67
	510.93	8.386E-01	4.533E-05	0.32	100.00	1.45		
	583.43	2.244E-01	1.213E-05	1.18	100.00	-0.39		
3 Bi214	- - - -	8.748E-01	4.729E-05	- - - - - - - - - -			4.729E+01	40.46
	609.49	8.748E-01	4.729E-05	1.00	40.46	0.00		
4 Pb212	- - - -	3.618E-01	1.956E-05	- - - - - - - - - -			1.956E+01	100.01
	238.60	3.618E-01	1.956E-05	1.00	100.00	0.00		
5 Ac228	- - - -	1.218E+00	6.586E-05	- - - - - - - - - -			6.586E+01	55.14
	338.26	1.438E+00	7.770E-05	0.85	100.00	0.32		
	795.26	4.723E+00	2.553E-04	0.26	100.00	1.58		
	911.29	9.116E-01	4.928E-05	1.34	100.00	-0.72		
	969.16	1.439E+00	7.772E-05	0.85	100.00	0.32		

The following are upper limit values:

Be 7	- - - -	8.146E+00	4.403E-04	- - - - - - - - - -			4.403E+02	100.00
Sc 46	- - - -	5.956E-01	3.219E-05	- - - - - - - - - -			3.219E+01	100.00
Cr 51	- - - -	3.508E+01	1.896E-03	- - - - - - - - - -			1.896E+03	100.00

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   Mn 54  - - - - 2.600E-01   1.405E-05   - - - - - - - -  1.405E+01 100.00
   Fe 59  - - - - 3.296E+00   1.782E-04   - - - - - - - -  1.782E+02 100.00
   Co 58  - - - - 6.389E-01   3.454E-05   - - - - - - - -  3.454E+01 100.00
   Co 60  - - - - 2.108E-01   1.139E-05   - - - - - - - -  1.139E+01 100.00
   Zn 65  - - - - 6.097E-01   3.295E-05   - - - - - - - -  3.295E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 1.652E+00   8.931E-05   - - - - - - - -  8.931E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 1.913E-01   1.034E-05   - - - - - - - -  1.034E+01 100.00
   Nb 95  - - - - 2.592E+00   1.401E-04   - - - - - - - -  1.401E+02 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 3.994E+00   2.159E-04   - - - - - - - -  2.159E+02 100.00
   Ru106  - - - - 3.729E+00   2.015E-04   - - - - - - - -  2.015E+02 100.00
   Ag110m - - - - 9.943E-01   5.375E-05   - - - - - - - -  5.375E+01 100.00
   Sn113  - - - - 7.506E-01   4.057E-05   - - - - - - - -  4.057E+01 100.00
   Sn125  - - - - 5.050E+04   2.730E+00   - - - - - - - -  2.730E+06 100.00
   Sn117m - - - - 1.620E+02   8.757E-03   - - - - - - - -  8.757E+03 100.00
   Sb124  - - - - 1.828E+00   9.881E-05   - - - - - - - -  9.881E+01 100.00
   Sb125  - - - - 1.747E+00   9.443E-05   - - - - - - - -  9.443E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 1.188E+02   6.422E-03   - - - - - - - -  6.422E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
   I131   - - - - 6.423E+04   3.472E+00   - - - - - - - -  3.472E+06 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
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Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 1.531E+00	8.273E-05	- - - - - - - - -	8.273E+01	100.00
Cs136	- - - - 3.171E+02	1.714E-02	- - - - - - - - -	1.714E+04	100.00
Cs137	- - - - 2.306E-01	1.246E-05	- - - - - - - - -	1.246E+01	100.00
Ba140	- - - - 1.678E+03	9.070E-02	- - - - - - - - -	9.070E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 4.166E+00	2.252E-04	- - - - - - - - -	2.252E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 1.803E+00	9.748E-05	- - - - - - - - -	9.748E+01	100.00
Eu154	- - - - 1.585E+00	8.567E-05	- - - - - - - - -	8.567E+01	100.00
Eu155	- - - - 1.477E+00	7.985E-05	- - - - - - - - -	7.985E+01	100.00
Hf175	- - - - 7.241E-01	3.914E-05	- - - - - - - - -	3.914E+01	100.00
Hf181	- - - - 2.374E+00	1.283E-04	- - - - - - - - -	1.283E+02	100.00
Ta182	- - - - 2.242E+00	1.212E-04	- - - - - - - - -	1.212E+02	100.00
Pb210	- - - - 4.892E+03	2.644E-01	- - - - - - - - -	2.644E+05	100.00
Pb214	- - - - 6.121E-01	3.309E-05	- - - - - - - - -	3.309E+01	100.00
Ra226	- - - - 3.405E+00	1.841E-04	- - - - - - - - -	1.841E+02	100.00
U235	- - - - 7.035E-01	3.803E-05	- - - - - - - - -	3.803E+01	100.00
U238	- - - - 4.266E+01	2.306E-03	- - - - - - - - -	2.306E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.522E+00	1.363E-04	- - - - - - - - -	1.363E+02	100.00

The following peaks were not identified:

#	energy	gammas/sec	pctcrr	CI *
1	74.53	4.2375E-01	100.0	0.0000000
2	84.33	2.8652E-01	100.0	0.5132258
3	88.01	2.7689E-01	100.0	0.0000000
4	93.04	2.3184E-01	100.0	0.0000000
5	129.18	1.4644E-01	100.0	0.0000000
8	308.17	1.4256E-01	100.0	8.5769260E-11
10	409.66	1.5767E-01	100.0	0.0000000
11	463.01	1.6013E-01	100.0	0.1619176
15	727.50	1.9133E-01	100.0	2.1061944E-05

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17	860.52	1.8519E-01	100.0	1.4690325E-05
19	964.83	1.7362E-01	100.0	9.0141622E-03
22	1587.67	2.0386E-01	100.0	4.3682087E-07
23	1764.28	3.8591E-01	44.7	0.1628756

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-214

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:02:29)

Analysis performed by: E. A. LEPEL

Sample: 54529-41-A 92-02748-L-1
Weight: 0.50000 L

Irradiation date: 12-Nov-1991 at 10:20:00

Count date: 11-Mar-1992 at 17:33:00

Decay: 120.3d (10393980. seconds)

Count times: REAL TIME 23.93h (86165.000 seconds)
LIVE TIME 23.92h (86100.008 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452941A.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.3	72.	78.	7759.	2251.*	74.77	3.847E-01	100.0	2493.
2	84.8	83.	86.	3421.	474.*	84.26	2.745E-01	100.0	609.
3	88.7	86.	90.	4404.	865.*	88.09	2.430E-01	100.0	795.
4	94.0	92.	96.	4082.	915.*	93.47	2.039E-01	100.0	835.
5	129.9	126.	132.	5011.	418.*	129.29	1.338E-01	100.0	266.
6	186.3	184.	187.	2433.	296.*	185.69	1.173E-01	100.0	257.
7	210.0	208.	212.	2939.	611.*	209.42	1.205E-01	100.0	443.
8	239.2	236.	246.	10204.	6147.*	238.60	3.373E-01	100.0	5613.
9	328.9	327.	329.	1001.	275.*	328.26	1.384E-01	100.0	231.
10	339.0	338.	340.	1715.	1033.*	338.43	1.385E-01	100.0	1043.
11	352.9	350.	354.	1483.	452.*	352.27	3.125E-01	27.5	114.
12	410.3	410.	412.	672.	173.*	409.66	1.448E-01	100.0	122.
13	464.0	461.	466.	1119.	266.*	463.35	1.528E-01	100.0	241.
14	511.7	509.	517.	2141.	1073.*	511.04	1.551E-01	100.0	1087.
15	584.0	581.	588.	2027.	1281.*	583.34	1.587E-01	100.0	1209.
16	610.1	608.	612.	933.	491.*	609.42	5.332E-01	31.9	153.
17	662.2	660.	663.	440.	113.*	661.54	1.704E-01	100.0	81.
18	728.0	726.	729.	586.	286.*	727.38	1.815E-01	100.0	258.
19	773.7	771.	775.	419.	97.*	773.04	1.939E-01	58.1	0.
20	861.3	860.	864.	393.	158.*	860.60	1.735E-01	100.0	137.
21	912.0	910.	914.	1099.	896.*	911.31	1.725E-01	100.0	883.
22	935.3	934.	936.	181.	62.	934.63	1.750E-01	100.0	0.
23	965.5	964.	968.	364.	186.*	964.85	1.818E-01	100.0	264.
24	969.8	968.	973.	700.	534.*	969.10	1.780E-01	100.0	469.

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25	1121.0	1117.	1122.	326.	145.*	1120.33	2.339E-01	58.5	64.
26	1461.5	1459.	1465.	821.	718.*	1460.75	1.807E-01	100.0	728.
27	1588.8	1586.	1590.	149.	71.*	1588.03	2.055E-01	100.0	87.
28	1593.3	1592.	1595.	126.	58.*	1592.57	2.149E-01	100.0	63.
29	1765.0	1761.	1766.	164.	119.*	1764.25	2.818E-01	62.5	56.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.69 kev is ambiguously assigned; component has been removed.
U235 at 185.69 kev is ambiguously assigned; component has been removed.
Sc 46 at1120.33 kev is ambiguously assigned; component has been removed.
Ta182 at1120.33 kev is ambiguously assigned; component has been removed.
Ru106 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	1.723E+00	9.311E-05	- - - - - - - - - -			9.311E+01	100.01
	1460.75	1.723E+00	9.311E-05	1.00	100.00	0.00		
2 Cs137	- - - -	2.015E-01	1.089E-05	- - - - - - - - - -			1.089E+01	100.00
	661.54	2.015E-01	1.089E-05	1.00	100.00	0.00		
3 Tl208	- - - -	2.325E-01	1.257E-05	- - - - - - - - - -			1.257E+01	82.50
	511.04	7.928E-01	4.285E-05	0.29	100.00	1.73		
	583.34	1.977E-01	1.069E-05	1.18	100.00	-0.43		
4 Bi214	- - - -	1.295E+00	7.000E-05	- - - - - - - - - -			7.000E+01	25.92
	609.42	1.187E+00	6.417E-05	1.09	31.93	-0.70		
	1120.33	1.585E+00	8.566E-05	0.82	58.49	0.76		
	1764.25	1.848E+00	9.992E-05	0.70	62.52	1.17		
5 Pb212	- - - -	8.823E-01	4.769E-05	- - - - - - - - - -			4.769E+01	100.00
	238.60	8.823E-01	4.769E-05	1.00	100.00	0.00		
6 Pb214	- - - -	8.481E-01	4.584E-05	- - - - - - - - - -			4.584E+01	27.50
	352.27	8.481E-01	4.584E-05	1.00	27.50	0.00		
7 Ac228	- - - -	8.794E-01	4.753E-05	- - - - - - - - - -			4.753E+01	60.20

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338.43	1.263E+00	6.935E-05	0.69	100.00	0.77
911.31	6.762E-01	3.655E-05	1.30	100.00	-0.73
969.10	1.136E+00	6.143E-05	0.77	100.00	0.55

The following are upper limit values:

Be 7	- - - - 6.810E+00	3.681E-04	- - - - - - - - -	3.681E+02	100.00
Sc 46	- - - - 4.982E-01	2.693E-05	- - - - - - - - -	2.693E+01	100.00
Cr 51	- - - - 2.750E+01	1.486E-03	- - - - - - - - -	1.486E+03	100.00
Mn 54	- - - - 2.408E-01	1.302E-05	- - - - - - - - -	1.302E+01	100.00
Fe 59	- - - - 2.726E+00	1.473E-04	- - - - - - - - -	1.473E+02	100.00
Co 58	- - - - 5.920E-01	3.200E-05	- - - - - - - - -	3.200E+01	100.00
Co 60	- - - - 1.965E-01	1.062E-05	- - - - - - - - -	1.062E+01	100.00
Zn 65	- - - - 5.927E-01	3.204E-05	- - - - - - - - -	3.204E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Zr 95	- - - - 1.390E+00	7.511E-05	- - - - - - - - -	7.511E+01	100.00

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - - 1.801E-01	9.734E-06	- - - - - - - - -	9.734E+00	100.00
Nb 95	- - - - 2.050E+00	1.108E-04	- - - - - - - - -	1.108E+02	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 3.175E+00	1.716E-04	- - - - - - - - -	1.716E+02	100.00
Ru106	- - - - 3.305E+00	1.786E-04	- - - - - - - - -	1.786E+02	100.00
Ag110m	- - - - 8.932E-01	4.828E-05	- - - - - - - - -	4.828E+01	100.00
Sn113	- - - - 6.722E-01	3.633E-05	- - - - - - - - -	3.633E+01	100.00
Sn125	- - - - 3.211E+04	1.736E+00	- - - - - - - - -	1.736E+06	100.00
Sn117m	- - - - 1.064E+02	5.750E-03	- - - - - - - - -	5.750E+03	100.00
Sb124	- - - - 1.549E+00	8.374E-05	- - - - - - - - -	8.374E+01	100.00
Sb125	- - - - 1.592E+00	8.606E-05	- - - - - - - - -	8.606E+01	100.00

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Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 9.240E+01	4.995E-03	- - - - - - - - -	4.995E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 3.318E+04	1.794E+00	- - - - - - - - -	1.794E+06	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 1.387E+00	7.498E-05	- - - - - - - - -	7.498E+01	100.00
Cs136	- - - - 2.004E+02	1.083E-02	- - - - - - - - -	1.083E+04	100.00
Ba140	- - - - 1.037E+03	5.606E-02	- - - - - - - - -	5.606E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 3.330E+00	1.800E-04	- - - - - - - - -	1.800E+02	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 1.624E+00	8.779E-05	- - - - - - - - -	8.779E+01	100.00
Eu154	- - - - 1.484E+00	8.022E-05	- - - - - - - - -	8.022E+01	100.00
Eu155	- - - - 1.345E+00	7.268E-05	- - - - - - - - -	7.268E+01	100.00
Hf175	- - - - 6.174E-01	3.337E-05	- - - - - - - - -	3.337E+01	100.00
Hf181	- - - - 1.895E+00	1.024E-04	- - - - - - - - -	1.024E+02	100.00
Ta182	- - - - 1.918E+00	1.037E-04	- - - - - - - - -	1.037E+02	100.00
Pb210	- - - - 4.821E+03	2.606E-01	- - - - - - - - -	2.606E+05	100.00
Ra226	- - - - 3.134E+00	1.694E-04	- - - - - - - - -	1.694E+02	100.00
U235	- - - - 6.459E-01	3.491E-05	- - - - - - - - -	3.491E+01	100.00
U238	- - - - 3.960E+01	2.140E-03	- - - - - - - - -	2.140E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 2.313E+00	1.250E-04	- - - - - - - - -	1.250E+02	100.00

The following peaks were not identified:
* energy gammas/sec peterr CI *

1	74.77	3.8467E-01	100.0	0.0000000
2	84.26	2.7454E-01	100.0	0.4889385
3	88.09	2.4304E-01	100.0	0.0000000
4	93.47	2.0389E-01	100.0	0.0000000
5	129.29	1.3381E-01	100.0	0.0000000
7	209.42	1.2049E-01	100.0	2.8042765E-03
9	328.26	1.3835E-01	100.0	9.1442131E-02
12	409.66	1.4484E-01	100.0	0.0000000
13	463.35	1.5277E-01	100.0	0.1467457
18	727.38	1.8149E-01	100.0	1.0548603E-05
19	773.04	1.9392E-01	58.1	3.3416777E-04
20	860.60	1.7348E-01	100.0	5.7813163E-06
22	934.63	1.7496E-01	100.0	9.9217333E-02
23	964.85	1.8177E-01	100.0	1.0049920E-04
27	1586.03	2.0551E-01	100.0	2.8255875E-10
28	1592.57	2.1486E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

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Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:02:45)

Analysis performed by: E. A. LEPEL

Sample: 54529-42-A 92 -02749-L-1
Weight: 0.50000 L

Irradiation date: 12-Nov-1991 at 10:58:00

Count date: 10-Mar-1992 at 17:17:00

Decay: 119.3d (10304340. seconds)

Count times: REAL TIME 24.10h (86766.000 seconds)
LIVE TIME 24.08h (86700.000 seconds)

Dead time: 0.08 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452942A.HH:1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.3	74.	78.	6055.	2239.*	74.74	3.766E-01	100.0	2510.
2	90.3	90.	92.	2420.	336.*	89.79	2.288E-01	100.0	801.
3	93.5	92.	96.	4081.	703.*	92.99	2.111E-01	100.0	841.
4	186.2	186.	189.	2490.	314.*	185.70	1.175E-01	100.0	259.
5	239.2	237.	243.	8708.	5958.*	238.60	1.918E-01	100.0	5652.
6	300.9	300.	301.	802.	255.*	300.34	1.331E-01	100.0	255.
7	328.0	328.	329.	704.	209.*	328.27	1.389E-01	100.0	233.
8	339.0	334.	342.	3135.	1069.*	338.45	1.381E-01	100.0	1050.
9	352.7	347.	355.	2227.	405.*	352.18	2.664E-01	34.2	115.
10	463.9	462.	465.	801.	288.*	463.30	1.441E-01	100.0	242.
11	511.7	508.	516.	2052.	941.*	511.09	1.570E-01	100.0	1095.
12	584.0	581.	585.	1756.	1265.*	583.40	1.618E-01	100.0	1217.
13	610.0	606.	613.	1242.	528.*	609.45	5.860E-01	29.8	154.
14	728.0	726.	733.	877.	298.*	727.43	1.771E-01	100.0	260.
15	795.8	794.	800.	551.	142.*	795.17	1.758E-01	100.0	103.
16	836.5	836.	837.	160.	59.*	835.86	1.729E-01	100.0	62.
17	861.1	860.	863.	371.	183.*	860.53	1.725E-01	100.0	138.
18	912.0	910.	915.	1161.	909.*	911.36	1.740E-01	100.0	889.
19	965.5	963.	968.	368.	141.*	964.94	1.763E-01	100.0	206.
20	969.8	968.	971.	709.	570.*	969.21	2.417E-01	100.0	472.
21	1120.9	1120.	1122.	212.	118.*	1120.27	1.909E-01	100.0	64.
22	1461.4	1457.	1464.	841.	739.*	1460.75	1.676E-01	100.0	733.
23	1588.9	1588.	1591.	123.	79.*	1588.29	1.720E-01	100.0	88.
24	1592.7	1591.	1594.	110.	69.*	1592.08	1.669E-01	100.0	63.

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25 1765.0 1761. 1766. 148. 111.* 1764.34 2.458E-01 72.1 56.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.70 kev is ambiguously assigned; component has been removed.
U235 at 185.70 kev is ambiguously assigned; component has been removed.
Sc 46 at1120.27 kev is ambiguously assigned; component has been removed.
Ta182 at1120.27 kev is ambiguously assigned; component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	(interferences) dev (sig)	pCi /L	error (%)
1 K 40	- - - -	1.598E+00	8.638E-05	- - - - - - - - - -			8.638E+01	100.00
	1460.75	1.598E+00	8.638E-05	1.00	100.00	0.00		
2 Mn 54	- - - -	2.256E-01	1.219E-05	- - - - - - - - - -			1.219E+01	100.01
	835.66	2.256E-01	1.219E-05	1.00	100.00	0.00		
3 Tl208	- - - -	2.371E-01	1.281E-05	- - - - - - - - - -			1.281E+01	82.42
	511.09	8.027E-01	4.339E-05	0.30	100.00	1.64		
	583.40	2.014E-01	1.089E-05	1.18	100.00	-0.41		
4 Bi214	- - - -	1.333E+00	7.203E-05	- - - - - - - - - -			7.203E+01	26.63
	609.45	1.305E+00	7.052E-05	1.02	29.82	-0.17		
	1120.27	1.294E+00	6.993E-05	1.03	100.00	-0.07		
	1764.34	1.612E+00	8.712E-05	0.83	72.06	0.56		
5 Pb212	- - - -	5.013E-01	2.710E-05	- - - - - - - - - -			2.710E+01	100.00
	238.60	5.013E-01	2.710E-05	1.00	100.00	0.00		
6 Pb214	- - - -	7.229E-01	3.908E-05	- - - - - - - - - -			3.908E+01	34.17
	352.18	7.229E-01	3.908E-05	1.00	34.17	0.00		
7 Ac228	- - - -	8.817E-01	4.766E-05	- - - - - - - - - -			4.766E+01	67.59
	338.45	1.279E+00	6.916E-05	0.69	100.00	0.72		
	795.17	4.252E+00	2.299E-04	0.21	100.00	1.84		

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        911.36  6.820E-01   3.687E-05  1.29 100.00 -0.68
The following are upper limit values:
   Be  7  - - - - 6.719E+00   3.632E-04   - - - - - - - -  3.632E+02 100.00
   Sc 46  - - - - 5.106E-01   2.760E-05   - - - - - - - -  2.760E+01 100.00
   Cr 51  - - - - 2.654E+01   1.435E-03   - - - - - - - -  1.435E+03 100.00
   Fe 59  - - - - 2.513E+00   1.358E-04   - - - - - - - -  1.358E+02 100.00
   Co 58  - - - - 5.652E-01   3.055E-05   - - - - - - - -  3.055E+01 100.00
   Co 60  - - - - 1.925E-01   1.041E-05   - - - - - - - -  1.041E+01 100.00
   Zn 65  - - - - 6.074E-01   3.283E-05   - - - - - - - -  3.283E+01 100.00
Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.
   Zr 95  - - - - 1.397E+00   7.553E-05   - - - - - - - -  7.553E+01 100.00
Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.
   Nb 94  - - - - 1.763E-01   9.532E-06   - - - - - - - -  9.532E+00 100.00
   Nb 95  - - - - 1.995E+00   1.078E-04   - - - - - - - -  1.078E+02 100.00
Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.
Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.
   Ru103  - - - - 3.155E+00   1.705E-04   - - - - - - - -  1.705E+02 100.00
   Ru106  - - - - 3.419E+00   1.848E-04   - - - - - - - -  1.848E+02 100.00
   Ag110m - - - - 8.795E-01   4.754E-05   - - - - - - - -  4.754E+01 100.00
   Sn113  - - - - 6.622E-01   3.579E-05   - - - - - - - -  3.579E+01 100.00
   Sn125  - - - - 2.883E+04   1.559E+00   - - - - - - - -  1.559E+06 100.00
   Sn117m - - - - 1.001E+02   5.409E-03   - - - - - - - -  5.409E+03 100.00
   Sb124  - - - - 1.404E+00   7.589E-05   - - - - - - - -  7.589E+01 100.00
   Sb125  - - - - 1.565E+00   8.458E-05   - - - - - - - -  8.458E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
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Te129m	- - - -	9.008E+01	4.869E-03	- - - - - - - - -	4.869E+03 100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - -	3.028E+04	1.637E+00	- - - - - - - - -	1.637E+06 100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - -	1.336E+00	7.219E-05	- - - - - - - - -	7.219E+01 100.00
Cs136	- - - -	1.895E+02	1.025E-02	- - - - - - - - -	1.025E+04 100.00
Cs137	- - - -	2.038E-01	1.102E-05	- - - - - - - - -	1.102E+01 100.00
Ba140	- - - -	9.746E+02	5.268E-02	- - - - - - - - -	5.268E+04 100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - -	3.220E+00	1.741E-04	- - - - - - - - -	1.741E+02 100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - -	1.595E+00	8.619E-05	- - - - - - - - -	8.619E+01 100.00
Eu154	- - - -	1.429E+00	7.725E-05	- - - - - - - - -	7.725E+01 100.00
Eu155	- - - -	8.522E-01	4.607E-05	- - - - - - - - -	4.607E+01 100.00
Hf175	- - - -	5.974E-01	3.229E-05	- - - - - - - - -	3.229E+01 100.00
Hf181	- - - -	1.884E+00	1.018E-04	- - - - - - - - -	1.018E+02 100.00
Ta182	- - - -	1.929E+00	1.043E-04	- - - - - - - - -	1.043E+02 100.00
Pb210	- - - -	4.829E+03	2.610E-01	- - - - - - - - -	2.610E+05 100.00
Ra226	- - - -	3.128E+00	1.691E-04	- - - - - - - - -	1.691E+02 100.00
U235	- - - -	6.453E-01	3.488E-05	- - - - - - - - -	3.488E+01 100.00
U238	- - - -	4.107E+01	2.220E-03	- - - - - - - - -	2.220E+03 100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - -	2.289E+00	1.237E-04	- - - - - - - - -	1.237E+02 100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI %
1	74.74	3.7659E-01	100.0	0.0000000
2	89.79	2.2885E-01	100.0	0.0000000
3	92.99	2.1112E-01	100.0	0.0000000

6	300.34	1.3313E-01	100.0	7.1470924E-07
7	328.27	1.3890E-01	100.0	6.4930312E-02
10	463.30	1.4408E-01	100.0	0.1902998
14	727.43	1.7709E-01	100.0	1.3567447E-05
17	860.53	1.7248E-01	100.0	8.6241189E-06
19	964.94	1.7629E-01	100.0	7.2762754E-04
20	969.21	2.4170E-01	100.0	0.4445550
23	1588.29	1.7198E-01	100.0	5.1567872E-07
24	1592.08	1.6694E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

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Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:03:07)

Analysis performed by: E. A. LEPEL

Sample: 54529-43-A 92-02750-L-1
Weight: 0.50000 L

Irradiation date: 13-Nov-1991 at 9:32:00

Count date: 9-Mar-1992 at 8:37:00

Decay: 117.0d (10105500. seconds)

Count times: REAL TIME 28.49h (102567.00 seconds)
LIVE TIME 28.47h (102490.00 seconds)

Dead time: 0.08 percent

Detector: HH pos ⊕ 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452943A.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.2	74.	78.	6850.	2441.*	74.66	3.435E-01	100.0	2967.
2	85.0	84.	87.	4209.	783.*	84.47	2.472E-01	100.0	725.
3	88.7	87.	90.	4165.	704.*	88.15	2.253E-01	100.0	946.
4	93.7	91.	94.	4119.	1054.*	93.19	1.894E-01	100.0	994.
5	129.8	128.	132.	4248.	526.*	129.22	1.198E-01	100.0	317.
6	186.4	186.	187.	1618.	357.*	185.88	1.071E-01	100.0	306.
7	239.2	235.	244.	11334.	6788.*	238.60	1.143E-01	100.0	6681.
8	296.1	295.	298.	1515.	266.	295.51	1.744E-01	28.7	0.
9	300.7	298.	302.	1915.	363.*	300.17	1.198E-01	100.0	302.
10	328.9	327.	330.	1413.	306.*	328.30	1.243E-01	100.0	275.
11	339.0	337.	342.	2774.	1208.*	338.45	1.246E-01	100.0	1241.
12	352.8	352.	354.	1019.	315.*	352.22	1.396E-01	59.0	136.
13	410.0	409.	412.	981.	223.*	409.43	1.298E-01	100.0	145.
14	463.9	463.	464.	576.	240.*	463.33	1.394E-01	100.0	286.
15	511.7	508.	514.	2140.	1200.*	511.09	1.385E-01	100.0	1294.
16	584.0	581.	585.	1959.	1412.*	583.39	1.444E-01	100.0	1439.
17	610.0	608.	612.	958.	410.*	609.42	3.022E-01	60.5	183.
18	662.5	661.	665.	584.	124.*	661.93	1.520E-01	100.0	96.
19	729.0	726.	731.	787.	348.*	727.40	1.505E-01	100.0	307.
20	795.6	795.	797.	352.	151.*	794.99	1.590E-01	100.0	122.
21	836.7	835.	838.	330.	100.*	836.69	1.559E-01	100.0	73.
22	861.4	857.	863.	596.	213.*	860.79	1.573E-01	100.0	163.
23	912.0	909.	915.	1371.	1019.*	911.35	1.609E-01	100.0	1051.
24	965.7	963.	968.	503.	244.*	965.04	1.591E-01	100.0	243.

25	969.8	968.	971.	789.	623.*	969.17	1.571E-01	100.0	558.
26	1120.9	1120.	1124.	275.	89.*	1120.22	1.755E-01	100.0	76.
27	1461.4	1458.	1465.	1005.	878.*	1460.75	1.578E-01	100.0	867.
28	1589.8	1585.	1592.	208.	113.*	1588.28	1.517E-01	100.0	104.
29	1593.8	1592.	1596.	133.	69.*	1593.15	1.573E-01	100.0	75.
30	1765.0	1760.	1768.	233.	144.*	1764.26	2.905E-01	66.2	66.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.88 kev is ambiguously assigned; component has been removed.
U235 at 185.88 kev is ambiguously assigned; component has been removed.
Sc 46 at1120.22 kev is ambiguously assigned; component has been removed.
Ta182 at1120.22 kev is ambiguously assigned; component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy Kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	1.505E+00	8.132E-05	- - - - - - - - - -			8.132E+01	100.01
	1460.75	1.505E+00	8.132E-05	1.00	100.00	0.00		
2 Mn 54	- - - -	2.024E-01	1.094E-05	- - - - - - - - - -			1.094E+01	100.00
	836.09	2.024E-01	1.094E-05	1.00	100.00	0.00		
3 Cs137	- - - -	1.797E-01	9.715E-06	- - - - - - - - - -			9.715E+00	100.00
	661.93	1.797E-01	9.715E-06	1.00	100.00	0.00		
4 Tl208	- - - -	2.116E-01	1.144E-05	- - - - - - - - - -			1.144E+01	82.28
	511.09	7.075E-01	3.824E-05	0.30	100.00	1.65		
	583.39	1.797E-01	9.712E-06	1.18	100.00	-0.42		
5 Bi214	- - - -	7.271E-01	3.930E-05	- - - - - - - - - -			3.930E+01	52.99
	609.42	6.729E-01	3.637E-05	1.09	60.52	-0.31		
	1120.22	1.189E+00	6.427E-05	0.61	100.00	0.92		
6 Pb212	- - - -	2.981E-01	1.611E-05	- - - - - - - - - -			1.611E+01	100.00
	238.60	2.981E-01	1.611E-05	1.00	100.00	0.00		

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 7 Pb214  - - - - 3.788E-01   2.047E-05  - - - - - - - - - -  2.047E+01  59.04

          352.22  3.788E-01   2.047E-05  1.00  59.04  0.00

 8 Ac228  - - - - 8.565E-01   4.629E-05  - - - - - - - - - -  4.629E+01  56.08

          338.45  1.153E+00   6.232E-05  0.74 100.00  0.61
          794.99  3.843E+00   2.077E-04  0.22 100.00  1.03
          911.35  6.301E-01   3.406E-05  1.36 100.00 -0.05
          969.17  1.002E+00   5.415E-05  0.05 100.00  0.34

The following are upper limit values:

   Be  7  - - - - 5.894E+00   3.186E-04  - - - - - - - - -  3.186E+02 100.00

   Sc 46  - - - - 4.429E-01   2.394E-05  - - - - - - - - -  2.394E+01 100.00

   Cr 51  - - - - 2.266E+01   1.225E-03  - - - - - - - - -  1.225E+03 100.00

   Fe 59  - - - - 2.211E+00   1.195E-04  - - - - - - - - -  1.195E+02 100.00

   Co 58  - - - - 4.862E-01   2.628E-05  - - - - - - - - -  2.628E+01 100.00

   Co 60  - - - - 1.835E-01   9.919E-06  - - - - - - - - -  9.919E+00 100.00

   Zn 65  - - - - 5.151E-01   2.784E-05  - - - - - - - - -  2.784E+01 100.00

Unable to compute upper limit for Zr 89 ,  Tdecay > 20*T1/2.

   Zr 95  - - - - 1.208E+00   6.532E-05  - - - - - - - - -  6.532E+01 100.00

Unable to compute upper limit for Zr 97 ,  Tdecay > 20*T1/2.

   Nb 94  - - - - 1.618E-01   8.745E-06  - - - - - - - - -  8.745E+00 100.00

   Nb 95  - - - - 1.714E+00   9.265E-05  - - - - - - - - -  9.265E+01 100.00

Unable to compute upper limit for Nb 97 ,  Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m,  Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 ,  Tdecay > 20*T1/2.

   Ru103  - - - - 2.762E+00   1.493E-04  - - - - - - - - -  1.493E+02 100.00

   Ru106  - - - - 3.079E+00   1.665E-04  - - - - - - - - -  1.665E+02 100.00

   Ag110m - - - - 8.000E-01   4.324E-05  - - - - - - - - -  4.324E+01 100.00

   Sn113  - - - - 5.939E-01   3.210E-05  - - - - - - - - -  3.210E+01 100.00

   Sn125  - - - - 2.134E+04   1.153E+00  - - - - - - - - -  1.153E+06 100.00

   Sn117m - - - - 8.250E+01   4.459E-03  - - - - - - - - -  4.459E+03 100.00
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   Sb124  - - - - 1.250E+00   6.757E-05  - - - - - - - - -  6.757E+01 100.00
   Sb125  - - - - 1.462E+00   7.901E-05  - - - - - - - - -  7.901E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 7.886E+01   4.263E-03  - - - - - - - - -  4.263E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
    I131  - - - - 2.250E+04   1.216E+00  - - - - - - - - -  1.216E+06 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
   Cs134  - - - - 1.260E+00   6.812E-05  - - - - - - - - -  6.812E+01 100.00
   Cs136  - - - - 1.500E+02   8.106E-03  - - - - - - - - -  8.106E+03 100.00
   Ba140  - - - - 7.956E+02   4.300E-02  - - - - - - - - -  4.300E+04 100.00
Unable to compute upper limit for La140 ,  Tdecay > 20*T1/2.
   Ce141  - - - - 2.823E+00   1.526E-04  - - - - - - - - -  1.526E+02 100.00
Unable to compute upper limit for Ce143 ,  Tdecay > 20*T1/2.
   Ce144  - - - - 1.450E+00   7.837E-05  - - - - - - - - -  7.837E+01 100.00
   Eu154  - - - - 1.321E+00   7.141E-05  - - - - - - - - -  7.141E+01 100.00
   Eu155  - - - - 1.210E+00   6.541E-05  - - - - - - - - -  6.541E+01 100.00
   Hf175  - - - - 5.367E-01   2.901E-05  - - - - - - - - -  2.901E+01 100.00
   Hf181  - - - - 1.634E+00   8.832E-05  - - - - - - - - -  8.832E+01 100.00
   Ta182  - - - - 1.703E+00   9.208E-05  - - - - - - - - -  9.208E+01 100.00
   Pb210  - - - - 4.472E+03   2.417E-01  - - - - - - - - -  2.417E+05 100.00
   Ra226  - - - - 2.858E+00   1.545E-04  - - - - - - - - -  1.545E+02 100.00
    U235  - - - - 5.894E-01   3.186E-05  - - - - - - - - -  3.186E+01 100.00
    U238  - - - - 3.726E+01   2.014E-03  - - - - - - - - -  2.014E+03 100.00
Unable to compute upper limit for Np239 ,  Tdecay > 20*T1/2.
   Am241  - - - - 2.1095+00   1.135E-04  - - - - - - - - -  1.135E+02 100.00
```

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The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	74.66	3.4346E-01	100.0	0.0000000
2	84.47	2.4724E-01	100.0	0.5573956
3	88.15	2.2534E-01	100.0	0.0000000
4	93.19	1.8943E-01	100.0	0.0000000
5	129.22	1.1977E-01	100.0	0.0000000
8	295.51	1.7436E-01	28.8	0.3648439
9	300.17	1.1985E-01	100.0	6.5093909E-11
10	328.30	1.2427E-01	100.0	1.8307706E-02
13	409.43	1.2978E-01	100.0	0.0000000
14	463.33	1.3938E-01	100.0	0.1529082
19	727.40	1.5054E-01	100.0	4.2609172E-05
22	860.79	1.5729E-01	100.0	6.0300731E-06
24	965.04	1.5907E-01	100.0	2.0505727E-04
28	1588.28	1.5169E-01	100.0	9.2415377E-08
29	1593.15	1.5727E-01	100.0	0.2653617
30	1764.26	2.9047E-01	66.2	0.1816385

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-229

Raygun - RSX Version 18-Jan-90 (26-MAR-1992 16:09:18)

3/27/92
E A Lepel

Analysis performed by: E. A. LEPEL

Sample: 54529-44-A 92-02751-L-1
Weight: 0.50000 L

Irradiation date: 12-Nov-1991 at 12:33:00

Count date: 6-Mar-1992 at 13:06:00

Decay: 115.0d (9937980.0 seconds)

Count times: REAL TIME 2.81d (242826.00 seconds)
LIVE TIME 2.81d (242644.00 seconds)

Dead time: 0.07 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452944A.HH;1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	74.4	71.	77.	20070.	5683.*	73.86	2.281E-01	100.0	7025.
2	78.0	77.	78.	6651.	584.	77.46	2.647E-01	38.1	0.
3	85.0	84.	86.	7431.	2358.*	84.45	2.349E-01	100.0	1716.
4	88.7	86.	90.	11990.	973.*	88.13	1.520E-01	100.0	2241.
5	94.4	92.	95.	9038.	2173.*	93.82	1.182E-01	100.0	2354.
6	129.8	128.	132.	10036.	861.*	129.31	7.937E-02	100.0	750.
7	186.1	185.	188.	6520.	694.*	185.60	6.868E-02	100.0	725.
8	199.2	198.	202.	7143.	460.	198.64	6.664E-02	25.6	0.
9	210.0	207.	211.	7918.	1515.*	209.44	7.087E-02	100.0	1249.
10	239.1	236.	243.	24603.	15925.*	238.60	7.457E-02	100.0	15818.
11	271.0	270.	272.	3518.	992.*	270.43	7.477E-02	100.0	754.
12	300.9	300.	303.	3635.	813.*	300.37	7.633E-02	100.0	714.
13	328.8	327.	330.	3286.	721.*	328.26	7.983E-02	100.0	652.
14	339.0	338.	343.	6456.	2702.*	338.45	8.143E-02	100.0	2938.
15	352.7	350.	353.	2869.	628.*	352.16	1.005E-01	100.0	321.
16	410.1	408.	411.	2148.	342.*	409.54	8.458E-02	100.0	343.
17	463.9	463.	465.	1835.	710.*	463.33	8.790E-02	100.0	678.
18	511.5	508.	516.	5757.	2823.*	510.96	9.104E-02	100.0	3065.
19	563.5	562.	566.	1585.	160.*	562.94	9.455E-02	100.0	126.
20	583.9	580.	586.	5485.	3575.*	583.42	9.616E-02	100.0	3407.
21	610.0	609.	612.	1745.	738.*	609.51	1.715E-01	100.0	432.
22	662.2	661.	665.	1308.	185.*	661.67	1.002E-01	100.0	228.
23	728.0	725.	731.	2035.	775.*	727.42	1.015E-01	100.0	727.
24	756.1	755.	758.	827.	190.	755.60	1.316E-01	22.7	0.

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25	764.3	763.	767.	966.	131.	763.73	1.013E-01	100.0	0.
26	795.7	792.	798.	1507.	404.*	795.12	1.029E-01	100.0	289.
27	836.3	835.	840.	1034.	168.*	835.78	1.041E-01	100.0	172.
28	861.1	859.	862.	916.	423.*	860.61	9.950E-02	100.0	386.
29	911.9	910.	914.	3112.	2498.*	911.38	1.059E-01	100.0	2487.
30	965.3	964.	968.	1033.	509.*	964.78	1.044E-01	100.0	576.
31	969.7	968.	972.	1946.	1422.*	969.18	1.050E-01	100.0	1320.
32	1121.0	1116.	1123.	897.	238.*	1120.42	1.099E-01	100.0	180.
33	1378.6	1377.	1379.	222.	55.	1378.04	1.151E-01	100.0	0.
34	1461.3	1457.	1464.	2393.	2074.*	1460.75	1.045E-01	100.0	2053.
35	1496.3	1494.	1497.	204.	58.*	1495.81	1.032E-01	100.0	74.
36	1588.4	1587.	1591.	383.	211.*	1587.88	1.075E-01	100.0	246.
37	1593.1	1591.	1596.	468.	269.*	1592.53	1.318E-01	100.0	177.
38	1620.9	1618.	1623.	293.	107.*	1620.41	1.045E-01	100.0	76.
39	1764.6	1763.	1767.	349.	212.*	1764.11	1.086E-01	100.0	157.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.60 kev is ambiguously assigned; component has been removed.
U235 at 185.60 kev is ambiguously assigned; component has been removed.
Sc 46 at1120.42 kev is ambiguously assigned; component has been removed.
Ta182 at1120.42 kev is ambiguously assigned; component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig) (interferences)	pCi /L	error (%)
1 K 40	- - - -	9.964E-01	5.386E-05	- - - - - - - - - -			5.386E+01	100.01
	1460.75	9.964E-01	5.386E-05	1.00	100.00	0.00		
2 Mn 54	- - - -	1.348E-01	7.289E-06	- - - - - - - - - -			7.289E+00	100.00
	835.78	1.348E-01	7.289E-06	1.00	100.00	0.00		
3 Zr 95	- - - -	8.505E-01	4.597E-05	- - - - - - - - - -			4.597E+01	22.68
	755.60	8.505E-01	4.597E-05	1.00	22.68	0.00		
4 Nb 95	- - - -	1.020E+00	5.513E-05	- - - - - - - - - -			5.513E+01	100.00
	763.73	1.020E+00	5.513E-05	1.00	100.00	0.00		
5 Cs137	- - - -	1.184E-01	6.400E-06	- - - - - - - - - -			6.400E+00	100.00

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	661.67	1.184E-01	6.400E-06	1.00	100.00	0.00		
6 Tl208	- - - -	1.411E-01	7.625E-06	- - - - - - - - - -			7.625E+00	82.13
	510.96	4.648E-01	2.513E-05	0.30	100.00	1.77		
	583.42	1.196E-01	6.466E-06	1.18	100.00	-0.46		
7 Bi214	- - - -	5.047E-01	2.728E-05	- - - - - - - - - -			2.728E+01	60.77
	609.51	3.819E-01	2.064E-05	1.32	100.00	-0.82		
	1120.42	7.445E-01	4.024E-05	0.68	100.00	0.82		
	1764.11	7.122E-01	3.850E-05	0.71	100.00	0.74		
8 Pb212	- - - -	1.942E-01	1.050E-05	- - - - - - - - - -			1.050E+01	100.00
	238.60	1.942E-01	1.050E-05	1.00	100.00	0.00		
9 Pb214	- - - -	2.727E-01	1.474E-05	- - - - - - - - - -			1.474E+01	100.00
	352.16	2.727E-01	1.474E-05	1.00	100.00	0.00		
10 Ac228	- - - -	5.649E-01	3.054E-05	- - - - - - - - - -			3.054E+01	56.04
	339.45	7.534E-01	4.072E-05	0.75	100.00	0.64		
	795.12	2.486E+00	1.344E-04	0.23	100.00	1.97		
	911.38	4.145E-01	2.241E-05	1.36	100.00	-0.92		
	969.18	6.690E-01	3.616E-05	0.84	100.00	0.40		

The following are upper limit values:

Be 7	- - - -	3.778E+00	2.042E-04	- - - - - - - - -	2.042E+02	100.00
Sc 46	- - - -	2.839E-01	1.534E-05	- - - - - - - - -	1.534E+01	100.00
Cr 51	- - - -	1.415E+01	7.650E-04	- - - - - - - - -	7.650E+02	100.00
Fe 59	- - - -	1.402E+00	7.576E-05	- - - - - - - - -	7.576E+01	100.00
Co 58	- - - -	3.165E-01	1.711E-05	- - - - - - - - -	1.711E+01	100.00
Co 60	- - - -	1.162E-01	6.280E-06	- - - - - - - - -	6.280E+00	100.00
Zn 65	- - - -	3.257E-01	1.760E-05	- - - - - - - - -	1.760E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	1.049E-01	5.673E-06	- - - - - - - - -	5.673E+00	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

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Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - - 1.821E+00	9.842E-05	- - - - - - - - -	9.842E+01	100.00
Ru106	- - - - 2.020E+00	1.092E-04	- - - - - - - - -	1.092E+02	100.00
Ag110m	- - - - 5.071E-01	2.741E-05	- - - - - - - - -	2.741E+01	100.00
Sn113	- - - - 3.822E-01	2.066E-05	- - - - - - - - -	2.066E+01	100.00
Sn125	- - - - 1.376E+04	7.440E-01	- - - - - - - - -	7.440E+05	100.00
Sn117m	- - - - 4.998E+01	2.702E-03	- - - - - - - - -	2.702E+03	100.00
Sb124	- - - - 8.385E-01	4.532E-05	- - - - - - - - -	4.532E+01	100.00
Sb125	- - - - 9.361E-01	5.060E-05	- - - - - - - - -	5.060E+01	100.00

Unable to compute upper limit for Sb127 , Tdecay > 20*T1/2.

Unable to compute upper limit for Te132 , Tdecay > 20*T1/2.

Te129m	- - - - 5.007E+01	2.707E-03	- - - - - - - - -	2.707E+03	100.00

Unable to compute upper limit for Te131m, Tdecay > 20*T1/2.

I131	- - - - 1.314E+04	7.104E-01	- - - - - - - - -	7.104E+05	100.00

Unable to compute upper limit for I132 , Tdecay > 20*T1/2.

Unable to compute upper limit for I133 , Tdecay > 20*T1/2.

Cs134	- - - - 7.739E-01	4.183E-05	- - - - - - - - -	4.183E+01	100.00
Cs136	- - - - 9.326E+01	5.041E-03	- - - - - - - - -	5.041E+03	100.00
Ba140	- - - - 4.683E+02	2.531E-02	- - - - - - - - -	2.531E+04	100.00

Unable to compute upper limit for La140 , Tdecay > 20*T1/2.

Ce141	- - - - 1.765E+00	9.541E-05	- - - - - - - - -	9.541E+01	100.00

Unable to compute upper limit for Ce143 , Tdecay > 20*T1/2.

Ce144	- - - - 9.432E-01	5.099E-05	- - - - - - - - -	5.099E+01	100.00
Eu154	- - - - 8.358E-01	4.518E-05	- - - - - - - - -	4.518E+01	100.00
Eu155	- - - - 8.041E-01	4.346E-05	- - - - - - - - -	4.346E+01	100.00
Hf175	- - - - 3.430E-01	1.854E-05	- - - - - - - - -	1.854E+01	100.00
Hf181	- - - - 1.049E+00	5.671E-05	- - - - - - - - -	5.671E+01	100.00

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Ta182	- - - - 1.095E+00	5.919E-05	- - - - - - - - -	5.919E+01	100.00
Pb210	- - - - 2.955E+03	1.597E-01	- - - - - - - - -	1.597E+05	100.00
Ra226	- - - - 1.840E+00	9.947E-05	- - - - - - - - -	9.947E+01	100.00
U235	- - - - 3.795E-01	2.051E-05	- - - - - - - - -	2.051E+01	100.00
U238	- - - - 2.295E+01	1.241E-03	- - - - - - - - -	1.241E+03	100.00

Unable to compute upper limit for Np239 , Tdecay > 20*T1/2.

Am241	- - - - 1.346E+00	7.276E-05	- - - - - - - - -	7.276E+01	100.00

The following peaks were not identified:

#	energy	gammas/sec	pcterr	CI *
1	73.86	2.2806E-01	100.0	0.0000000
2	77.46	2.6469E-01	38.1	0.0000000
3	84.45	2.3487E-01	100.0	0.5507729
4	88.13	1.5197E-01	100.0	0.0000000
5	93.82	1.1822E-01	100.0	0.0000000
6	129.31	7.9365E-02	100.0	0.0000000
8	198.64	8.6640E-02	25.6	0.0000000
9	209.44	7.0875E-02	100.0	4.0499689E-03
11	270.43	7.4765E-02	100.0	5.9308139E-05
12	300.37	7.6328E-02	100.0	1.2305730E-10
13	326.26	7.9834E-02	100.0	0.1269082
16	409.54	8.4576E-02	100.0	0.0000000
17	463.33	8.7900E-02	100.0	0.1635562
19	562.94	9.4552E-02	100.0	4.8727674E-08
23	727.42	1.0152E-01	100.0	2.4234865E-05
28	860.61	9.9497E-02	100.0	1.3711497E-05
30	964.78	1.0437E-01	100.0	2.3721420E-04
33	1376.04	1.1510E-01	100.0	2.0632434E-07
35	1495.81	1.0315E-01	100.0	0.0000000
36	1587.88	1.0751E-01	100.0	1.6287743E-08
37	1592.53	1.3175E-01	100.0	0.0000000
38	1620.41	1.0453E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

D03-2234

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 16:09:34)

Analysis performed by: E. A. LEPEL

Sample: 54529-45-A 92-02752-L-1
Weight: 0.50000 L

Irradiation date: 15-Nov-1991 at 11:53:00

Count date: 2-Mar-1992 at 16:52:00

Decay: 108.2d (9349140.0 seconds)

Count times: REAL TIME 40.03h (144109.00 seconds)
LIVE TIME 40.00h (144000.00 seconds)

Dead time: 0.06 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effmarn.HH

Spectrum from file : 5452945A.HH:1

Background subtractions from file: ve:[116,1]Backg.HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	75.9	72.	80.	15487.	3734.*	74.84	2.954E-01	100.0	4169.
2	85.3	84.	87.	5626.	833.*	84.22	2.095E-01	100.0	1019.
3	90.9	90.	92.	3886.	456.*	89.87	1.764E-01	100.0	1330.
4	93.8	92.	96.	6697.	1119.*	92.75	1.641E-01	100.0	1397.
5	186.7	185.	187.	3063.	363.*	185.72	9.099E-02	100.0	430.
6	210.0	208.	211.	3980.	818.*	209.02	9.363E-02	100.0	741.
7	239.6	236.	243.	14763.	9466.*	238.60	9.816E-02	100.0	9387.
8	301.0	300.	304.	2693.	502.*	300.07	1.012E-01	100.0	424.
9	339.1	338.	343.	3960.	1656.*	338.13	1.076E-01	100.0	1744.
10	352.9	352.	354.	1451.	392.*	351.99	1.112E-01	84.5	191.
11	463.9	462.	468.	1979.	387.*	462.99	1.153E-01	100.0	402.
12	511.8	509.	515.	3034.	1631.*	510.93	1.203E-01	100.0	1819.
13	563.6	562.	564.	616.	102.*	562.70	1.235E-01	100.0	75.
14	584.1	581.	585.	2847.	2021.*	583.18	1.260E-01	100.0	2022.
15	610.1	609.	611.	997.	553.*	609.20	2.801E-01	74.8	256.
16	662.5	661.	665.	834.	127.*	661.62	1.340E-01	100.0	136.
17	728.1	727.	730.	916.	443.*	727.27	1.361E-01	100.0	432.
18	756.4	753.	757.	640.	119.	755.51	1.384E-01	28.7	0.
19	795.9	792.	797.	806.	247.*	795.04	1.333E-01	100.0	172.
20	836.7	836.	837.	257.	93.*	835.90	1.325E-01	100.0	102.
21	861.7	860.	864.	616.	205.*	860.92	1.370E-01	100.0	229.
22	912.0	910.	914.	1935.	1588.*	911.24	1.563E-01	100.0	1476.
23	965.8	961.	968.	854.	340.*	964.99	1.379E-01	100.0	342.
24	969.9	968.	973.	1276.	891.*	969.11	1.593E-01	100.0	764.

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25	1461.4	1457.	1465.	1443.	1218.*	1460.75	1.399E-01	100.0	1218.
26	1588.8	1586.	1591.	258.	129.*	1588.24	1.438E-01	100.0	146.
27	1593.1	1591.	1595.	227.	122.*	1592.53	1.424E-01	100.0	105.
28	1621.3	1619.	1622.	122.	53.*	1620.72	1.322E-01	100.0	45.
29	1764.9	1762.	1767.	221.	132.*	1764.35	1.361E-01	100.0	93.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]nTOBACO.dat
Ra226 at 185.72 kev is ambiguously assigned; component has been removed.
U235 at 185.72 kev is ambiguously assigned; component has been removed.
Ru106 is being removed from the component set.
Cs134 is being removed from the component set.

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /L	peak frac	err (%)	dev (sig)	pCi /L	error (%)
						(interferences)		
1 K 40	- - - -	1.333E+00	7.208E-05	- - - - - - - - - -			7.208E+01	100.00
	1460.75	1.333E+00	7.208E-05	1.00	100.00	0.00		
2 Mn 54	- - - -	1.689E-01	9.128E-06	- - - - - - - - - -			9.128E+00	100.00
	835.90	1.689E-01	9.128E-06	1.00	100.00	0.00		
3 Zr 95	- - - -	8.261E-01	4.465E-05	- - - - - - - - - -			4.465E+01	28.72
	755.51	8.261E-01	4.465E-05	1.00	28.72	0.00		
4 Cs137	- - - -	1.583E-01	8.555E-06	- - - - - - - - - -			8.555E+00	100.00
	661.62	1.583E-01	8.555E-06	1.00	100.00	0.00		
5 Tl208	- - - -	1.843E-01	9.963E-06	- - - - - - - - - -			9.963E+00	82.22
	510.93	6.127E-01	3.312E-05	0.30	100.00	1.77		
	583.18	1.564E-01	8.454E-06	1.18	100.00	-0.45		
6 Bi214	- - - -	6.813E-01	3.683E-05	- - - - - - - - - -			3.683E+01	60.70
	609.20	6.235E-01	3.370E-05	1.09	74.84	-0.31		
	1764.35	8.527E-01	4.825E-05	0.76	100.00	0.60		
7 Pb212	- - - -	2.537E-01	1.372E-05	- - - - - - - - - -			1.372E+01	100.00
	238.60	2.537E-01	1.372E-05	1.00	100.00	0.00		

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8 Pb214	- - - -	3.018E-01	1.631E-05	- - - - - - - - - -			1.631E+01	84.53
	351.99	3.018E-01	1.631E-05	1.00	84.53	0.00		
9 Ac228	- - - -	8.270E-01	4.470E-05	- - - - - - - - - -			4.470E+01	55.30
	338.13	9.928E-01	5.367E-05	0.83	100.00	0.42		
	795.04	3.215E+00	1.738E-04	0.26	100.00	1.88		
	911.24	6.106E-01	3.300E-05	1.35	100.00	-0.90		
	969.11	1.013E+00	5.476E-05	0.82	100.00	0.47		

The following are upper limit values:

Be 7	- - - -	4.493E+00	2.429E-04	- - - - - - - - -	2.429E+02	100.00
Sc 45	- - - -	3.635E-01	1.965E-05	- - - - - - - - -	1.965E+01	100.00
Cr 51	- - - -	1.551E+01	8.381E-04	- - - - - - - - -	8.381E+02	100.00
Fe 59	- - - -	1.716E+00	9.278E-05	- - - - - - - - -	9.278E+01	100.00
Co 58	- - - -	3.838E-01	2.074E-05	- - - - - - - - -	2.074E+01	100.00
Co 60	- - - -	1.527E-01	8.252E-06	- - - - - - - - -	8.252E+00	100.00
Zn 65	- - - -	4.322E-01	2.336E-05	- - - - - - - - -	2.336E+01	100.00

Unable to compute upper limit for Zr 89 , Tdecay > 20*T1/2.

Unable to compute upper limit for Zr 97 , Tdecay > 20*T1/2.

Nb 94	- - - -	1.350E-01	7.297E-06	- - - - - - - - -	7.297E+00	100.00
Nb 95	- - - -	1.181E+00	6.384E-05	- - - - - - - - -	6.384E+01	100.00

Unable to compute upper limit for Nb 97 , Tdecay > 20*T1/2.

Unable to compute upper limit for Nb 95m, Tdecay > 20*T1/2.

Unable to compute upper limit for Mo 99 , Tdecay > 20*T1/2.

Ru103	- - - -	2.062E+00	1.115E-04	- - - - - - - - -	1.115E+02	100.00
Ru106	- - - -	2.619E+00	1.416E-04	- - - - - - - - -	1.416E+02	100.00
Ag110m	- - - -	6.433E-01	3.477E-05	- - - - - - - - -	3.477E+01	100.00
Sn113	- - - -	4.692E-01	2.536E-05	- - - - - - - - -	2.536E+01	100.00
Sn125	- - - -	1.064E+04	5.751E-01	- - - - - - - - -	5.751E+05	100.00
Sn117m	- - - -	4.544E+01	2.456E-03	- - - - - - - - -	2.456E+03	100.00

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   Sb124  - - - - 1.003E+00   5.420E-05   - - - - - - - - -  5.420E+01 100.00
   Sb125  - - - - 1.204E+00   6.510E-05   - - - - - - - - -  6.510E+01 100.00
Unable to compute upper limit for Sb127 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for Te132 ,  Tdecay > 20*T1/2.
   Te129m - - - - 5.590E+01   3.022E-03   - - - - - - - - -  3.022E+03 100.00
Unable to compute upper limit for Te131m,  Tdecay > 20*T1/2.
    I131  - - - - 9.215E+03   4.981E-01   - - - - - - - - -  4.981E+05 100.00
Unable to compute upper limit for  I132 ,  Tdecay > 20*T1/2.
Unable to compute upper limit for  I133 ,  Tdecay > 20*T1/2.
   Cs134  - - - - 9.920E-01   5.362E-05   - - - - - - - - -  5.362E+01 100.00
   Cs136  - - - - 8.522E+01   4.607E-03   - - - - - - - - -  4.607E+03 100.00
   Ba140  - - - - 4.098E+02   2.215E-02   - - - - - - - - -  2.215E+04 100.00
Unable to compute upper limit for La140 ,  Tdecay > 20*T1/2.
   Ce141  - - - - 1.988E+00   1.075E-04   - - - - - - - - -  1.075E+02 100.00
Unable to compute upper limit for Ce143 ,  Tdecay > 20*T1/2.
   Ce144  - - - - 1.196E+00   6.467E-05   - - - - - - - - -  6.467E+01 100.00
   Eu154  - - - - 1.072E+00   5.797E-05   - - - - - - - - -  5.797E+01 100.00
   Eu155  - - - - 1.016E+00   5.492E-05   - - - - - - - - -  5.492E+01 100.00
   Hf175  - - - - 4.262E-01   2.304E-05   - - - - - - - - -  2.304E+01 100.00
   Hf181  - - - - 1.210E+00   6.541E-05   - - - - - - - - -  6.541E+01 100.00
   Ta182  - - - - 1.404E+00   7.591E-05   - - - - - - - - -  7.591E+01 100.00
   Pb210  - - - - 4.085E+03   2.208E-01   - - - - - - - - -  2.208E+05 100.00
   Ra226  - - - - 2.395E+00   1.294E-04   - - - - - - - - -  1.294E+02 100.00
    U235  - - - - 4.937E-01   2.669E-05   - - - - - - - - -  2.669E+01 100.00
    U238  - - - - 2.954E+01   1.597E-03   - - - - - - - - -  1.597E+03 100.00
Unable to compute upper limit for Np239 ,  Tdecay > 20*T1/2.
   Am241  - - - - 1.773E+00   9.582E-05   - - - - - - - - -  9.582E+01 100.00
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The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	74.84	2.9536E-01	100.0	0.0000000
2	84.22	2.0946E-01	100.0	0.4760035
3	89.87	1.7638E-01	100.0	0.0000000
4	92.75	1.6406E-01	100.0	0.0000000
6	209.02	9.3633E-02	100.0	1.5647355E-02
8	300.07	1.0118E-01	100.0	1.0266551E-10
11	462.99	1.1528E-01	100.0	0.1488957
13	562.70	1.2354E-01	100.0	5.8578756E-08
17	727.27	1.3606E-01	100.0	1.3230124E-05
21	860.92	1.3697E-01	100.0	6.1936166E-06
23	964.99	1.3789E-01	100.0	1.4242107E-03
26	1588.24	1.4381E-01	100.0	2.4478626E-07
27	1592.53	1.4237E-01	100.0	0.0000000
28	1620.72	1.3222E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

Options - in - Effect

CALIBRATE	
PRINT	sy:lphh.lst
LIBRARY	ve:[116,33]nTOBACO.dat
INDIRECT	sy:ray.hh
UPPER←LIMIT	
USER←NAME	E. A. LEPEL
ACTIVITY	
UNITS	pCi/L 1e+6
OPTION←LIST	

DOE-2239

DIODE HH SPECTRAL "RAW" DATA

TITLE: 54529-27-A 92-02740-L-1

FILE: 5452927A.HH;1

* CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 9 23 91 ~~11 30~~ 0 // 37

3/27/92 SAHepel

TIME OF COUNT: 3 25 92 15 10 0

(265172. MINUTES DECAY TIME)

LIVE TIME: 24 HOURS 33 MINUTES 53 SECONDS = 1473.88 MINUTES

ELAPSED TIME: 24 HOURS 35 MINUTES 0 SECONDS = 1475.00 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

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5452927A.HH:1 54529-27-A 92-02740-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	88433	969	770	627	533	332	305	226	170	137	110	95	86	84	98	67	56	48	48	45
1	5	892	663	614	491	362	420	203	153	146	140	127	87	96	76	58	52	50	37	33
2	0	880	612	644	496	357	332	251	177	150	129	109	102	93	70	69	50	44	44	35
3	0	873	690	603	443	335	257	318	167	129	131	115	83	79	57	58	54	63	43	39
4	7	920	726	641	453	363	278	213	170	137	125	109	115	90	91	55	65	51	43	44
5	5	896	716	613	499	338	250	231	197	146	109	118	101	68	75	74	65	44	55	40
6	16	879	727	590	526	321	219	182	186	147	121	118	91	76	83	66	55	49	54	39
7	37	844	658	592	528	314	265	215	160	152	110	100	102	87	80	88	59	68	54	32
8	288	863	722	604	470	336	247	184	160	130	111	105	80	85	72	61	57	29	44	34
9	574	861	706	578	505	314	291	195	156	138	127	93	85	80	83	55	55	50	35	31
10	795	890	692	619	871	324	286	217	204	118	179	106	174	87	78	59	63	43	39	34
11	1041	823	636	607	542	341	256	216	222	127	312	103	226	72	76	51	57	61	56	36
12	1270	909	637	586	457	275	263	204	165	138	562	109	96	94	84	65	63	120	248	41
13	1498	807	678	601	447	341	244	195	173	154	337	105	85	109	73	59	53	100	558	23
14	1454	836	706	595	486	290	265	209	170	294	217	151	97	107	70	72	45	53	212	36
15	1381	811	623	586	483	308	245	213	146	188	131	85	75	90	59	59	52	37	45	37
16	1570	882	661	564	449	287	261	186	162	128	111	96	77	86	80	67	64	34	40	108
17	1478	891	672	582	497	334	254	188	151	145	123	106	87	74	60	59	50	54	40	104
18	1503	823	652	562	442	322	257	187	131	128	97	102	82	85	72	78	42	47	35	54
19	1570	785	653	574	436	283	234	198	149	133	118	97	91	94	88	72	56	49	49	54
20	1579	834	662	568	433	322	249	208	147	121	120	96	82	75	63	71	59	56	36	203
21	1485	917	686	518	407	528	234	199	148	145	127	101	82	67	67	67	54	44	44	335
22	1549	846	649	532	426	357	243	189	164	132	104	113	84	80	69	56	54	42	29	115
23	1481	1028	698	547	415	287	223	177	168	130	102	105	80	69	70	85	52	48	47	35
24	1467	911	637	539	422	321	244	197	158	136	107	112	85	75	95	85	43	39	36	39
25	1412	1385	627	506	439	324	261	193	165	107	116	87	90	94	72	63	52	45	39	33
26	1337	1221	662	562	433	328	249	163	158	145	109	116	72	68	71	59	56	48	40	53
27	1403	1008	623	555	428	291	280	165	157	120	116	76	94	93	93	51	62	37	29	32
28	1386	1350	711	641	452	386	269	217	142	145	106	103	98	90	134	55	55	30	41	40
29	1412	737	690	557	447	348	409	196	144	115	102	103	63	90	211	41	45	40	33	36
30	1316	770	839	530	393	306	267	151	154	136	129	85	94	89	112	57	43	38	28	43
31	1228	750	650	547	378	285	255	204	124	128	102	88	81	67	71	56	57	46	35	32
32	1293	741	646	517	422	284	233	184	148	142	99	101	90	79	69	63	62	49	36	36
33	1291	741	651	503	436	253	238	176	159	160	96	121	74	93	63	59	59	42	26	40
34	1236	716	639	522	421	317	248	151	134	132	103	639	84	85	67	71	51	50	36	39
35	1269	1031	610	530	429	280	246	188	141	130	93	712	73	89	70	63	40	49	42	42
36	1123	825	650	673	428	267	245	195	134	122	114	143	76	91	70	79	52	41	50	36
37	1167	791	629	704	424	300	247	185	156	140	102	101	82	68	73	79	84	35	38	32
38	1173	1103	660	532	446	292	273	195	126	125	101	91	83	90	66	56	75	54	35	34
39	1130	708	645	470	2838	320	821	168	162	115	115	108	63	66	73	67	53	40	36	33
40	1130	872	655	533	3204	285	597	188	146	122	109	103	91	68	61	45	72	46	40	35
41	1104	820	642	518	498	271	281	179	136	129	123	93	85	74	71	65	52	39	60	45
42	1101	708	632	502	709	278	236	176	159	117	86	100	65	82	65	52	77	33	38	36
43	1045	885	626	523	414	285	218	182	131	116	96	88	70	89	55	56	58	36	35	27
44	1051	955	637	514	368	278	205	184	147	111	98	101	66	83	74	52	44	44	37	35
45	979	685	690	519	378	293	211	189	137	121	109	86	90	84	83	61	50	49	45	28
46	976	668	660	466	341	367	202	186	125	118	112	98	88	90	68	145	51	46	34	28
47	1000	653	638	496	337	276	209	157	143	126	107	120	96	85	81	133	62	50	42	24
48	955	676	623	446	375	268	227	155	135	113	89	116	84	81	61	65	58	50	25	37
49	936	671	565	494	331	227	186	179	130	128	110	86	79	87	57	64	49	36	51	37

D03-24c

5452927A.HH:1 54529-27-A 92-02740-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	28	25	33	30	37	29	18	21	22	10	14	17	8	11	9	7	6	20	5	7
1	39	37	25	27	28	23	21	22	14	17	13	9	9	12	9	5	9	8	9	5
2	49	26	36	23	26	24	24	24	20	16	11	14	17	6	6	10	11	12	6	10
3	35	33	35	29	25	27	19	16	25	12	17	14	6	12	15	5	17	12	14	15
4	41	32	27	27	26	25	21	13	14	14	18	6	9	7	8	14	6	9	4	5
5	38	36	25	29	21	21	19	22	17	19	7	10	9	10	11	4	12	11	10	10
6	33	37	36	28	29	32	19	25	18	17	13	11	8	11	16	8	12	9	13	9
7	32	25	24	16	32	23	24	15	17	17	14	16	6	19	8	6	8	8	9	8
8	36	25	36	38	37	19	21	15	17	9	12	13	11	10	7	6	9	6	9	13
9	28	36	23	29	24	23	19	22	12	16	10	19	8	8	13	9	6	12	8	8
10	33	37	21	28	22	20	22	9	22	27	14	3	15	8	9	7	6	9	6	3
11	35	44	42	27	30	21	14	20	22	56	18	10	6	16	11	10	13	5	6	11
12	34	30	44	39	38	25	19	15	11	188	22	8	12	14	9	14	12	6	11	8
13	25	36	27	25	32	24	21	19	14	330	14	8	10	11	10	8	7	11	9	5
14	37	34	43	25	31	28	21	18	21	178	15	15	8	16	12	10	2	8	4	8
15	41	30	28	35	26	25	23	15	14	34	12	10	9	13	12	15	8	12	5	10
16	28	40	28	33	24	29	23	15	11	22	13	12	12	10	10	26	14	11	8	14
17	32	30	29	27	30	20	17	19	16	13	10	14	11	13	12	41	13	11	8	10
18	33	32	33	24	26	25	20	17	15	10	12	13	10	9	10	27	7	11	9	7
19	34	27	30	37	24	19	18	21	20	12	14	11	7	13	12	15	17	9	12	7
20	43	33	38	31	28	17	26	25	13	14	9	8	13	7	8	10	8	8	6	8
21	42	25	48	37	40	20	22	17	20	20	14	16	17	5	9	11	14	11	9	10
22	34	32	66	31	39	24	28	26	18	20	13	10	16	12	7	11	13	8	9	6
23	39	29	56	38	21	24	25	23	13	11	12	9	22	10	11	8	7	9	9	7
24	39	25	32	23	28	25	31	18	17	14	7	12	16	12	11	8	7	8	6	11
25	18	32	30	34	35	24	12	23	24	16	13	8	8	12	8	10	11	16	4	8
26	38	23	27	30	18	31	18	22	8	14	7	7	12	10	8	10	12	9	3	8
27	34	33	30	22	30	23	20	32	16	17	12	14	10	15	6	9	8	6	5	8
28	34	28	33	32	32	14	22	19	16	11	12	13	11	8	12	10	11	10	7	10
29	35	23	25	38	31	19	24	19	11	9	11	13	15	11	4	9	10	7	4	4
30	29	42	17	20	27	20	23	29	18	11	10	10	12	11	4	8	11	9	13	9
31	30	37	23	19	29	33	26	26	20	14	17	19	12	9	12	7	12	12	9	17
32	35	36	25	28	22	23	16	21	19	21	11	18	20	8	12	12	16	10	15	4
33	28	27	35	24	29	31	19	14	16	13	13	24	30	4	12	9	6	7	11	6
34	31	33	20	34	21	20	17	19	15	16	12	13	16	10	13	12	12	8	10	7
35	38	19	27	21	37	19	19	20	13	12	13	12	8	5	7	10	12	6	10	6
36	30	31	36	26	39	19	23	12	14	18	9	13	11	12	10	14	10	11	11	13
37	29	27	27	19	19	23	15	15	19	19	8	13	9	15	12	9	8	6	9	13
38	27	41	35	29	24	28	17	14	14	16	19	21	9	12	11	13	5	8	11	4
39	31	39	26	27	36	22	14	17	14	13	16	23	7	9	8	12	6	5	8	8
40	21	38	26	22	44	24	16	21	14	4	17	41	10	10	14	6	6	9	11	6
41	29	31	22	33	33	16	14	20	14	15	6	31	11	9	7	13	9	9	12	7
42	39	37	31	38	34	31	18	11	12	11	12	21	11	11	14	4	9	6	13	6
43	34	31	27	35	30	29	17	17	13	11	3	14	7	5	9	13	12	10	10	7
44	28	30	28	24	33	22	17	16	18	17	11	34	7	13	12	7	10	14	6	11
45	33	40	27	26	21	20	19	14	15	9	6	30	10	12	10	18	8	12	3	6
46	32	33	32	35	28	26	25	21	21	15	11	27	7	5	8	10	18	10	11	12
47	37	34	24	29	24	23	21	15	20	21	9	21	10	17	12	14	11	7	5	12
48	39	29	33	20	33	17	13	13	14	21	8	10	5	8	7	9	10	11	7	9
49	34	28	33	33	23	24	18	12	17	15	12	10	11	4	10	13	7	6	10	10

D03-24

TITLE: 54529-28-A 92-02741-L-1

FILE: 5452928A.HH:1

* CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 9 23 91 11 38 0

TIME OF COUNT: 3 24 92 10 43 0

3/27/92 SA Lopez

(263465. MINUTES DECAY TIME)

LIVE TIME: 28 HOURS 19 MINUTES 13 SECONDS = 1699.22 MINUTES

ELAPSED TIME: 28 HOURS 20 MINUTES 30 SECONDS = 1700.50 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

003-244

957

5452928A.HH:1 54529-28-A 92-02741-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	101953	1069	859	727	641	393	308	249	178	161	131	108	111	97	101	78	66	52	50	43
1	5	1023	815	737	599	404	532	242	191	180	155	112	105	95	90	76	74	59	44	44
2	0	1077	776	704	576	385	485	255	191	146	139	118	122	98	93	69	68	43	58	53
3	2	1030	739	678	548	428	323	480	173	139	145	119	115	100	104	65	58	62	57	46
4	4	1152	751	757	591	406	385	317	189	197	130	117	130	84	109	71	44	49	53	49
5	7	1040	776	823	573	406	287	269	180	179	123	125	95	83	83	73	78	66	60	41
6	7	1012	881	698	578	374	310	254	177	144	137	130	114	92	81	97	61	47	63	42
7	63	971	826	695	586	356	334	218	229	167	124	114	109	78	85	94	64	57	58	39
8	398	997	799	735	549	388	312	208	204	171	136	109	112	89	97	83	79	56	55	53
9	764	989	830	687	607	386	310	230	192	166	166	148	132	80	84	69	71	45	41	32
10	1026	976	853	724	957	362	287	223	230	150	190	101	181	100	87	92	58	56	53	43
11	1185	990	771	692	692	356	286	204	290	180	295	129	354	89	89	68	50	77	69	45
12	1548	1014	770	704	551	380	281	213	206	160	607	117	155	109	91	94	51	135	223	45
13	1674	967	800	667	532	380	329	226	183	181	473	113	165	163	82	72	67	121	616	58
14	1658	1047	800	687	558	396	306	218	200	298	242	158	113	101	70	89	72	60	360	50
15	1615	1007	789	661	513	384	289	208	172	266	169	127	182	103	86	74	64	53	59	53
16	1692	979	823	639	573	365	286	248	175	157	147	133	94	103	66	80	50	60	45	103
17	1826	952	749	603	527	422	290	199	165	152	146	126	114	102	82	72	60	57	56	144
18	1804	982	764	669	514	380	266	210	194	154	120	110	111	110	62	81	69	54	46	65
19	1777	929	758	659	516	346	300	218	168	137	137	164	92	98	84	90	44	47	49	70
20	1660	1006	759	680	549	383	284	226	181	157	139	110	127	102	72	95	74	63	43	209
21	1761	969	783	641	502	619	293	212	190	166	141	145	93	87	82	101	49	41	48	379
22	1776	932	730	654	495	454	279	210	169	169	141	131	99	88	91	72	66	53	54	169
23	1839	1110	658	677	533	346	280	211	193	145	141	131	103	92	81	88	73	47	38	47
24	1720	1148	781	679	504	346	296	208	195	164	138	129	112	83	85	99	64	39	44	41
25	1677	1419	726	656	536	381	318	227	186	148	141	121	115	108	81	77	58	63	54	59
26	1756	1623	839	645	505	336	269	217	192	153	127	121	91	96	76	84	45	61	43	49
27	1690	1090	789	661	473	361	300	240	189	153	126	103	98	93	74	76	76	58	49	38
28	1666	1665	826	683	475	431	302	197	184	135	144	126	95	86	137	63	58	44	38	54
29	1585	989	779	653	528	441	432	215	173	159	119	127	98	103	292	67	53	51	40	31
30	1469	829	1013	692	433	342	342	195	194	158	129	94	102	89	138	72	66	51	45	34
31	1463	889	796	647	505	315	272	209	180	148	132	130	102	88	97	55	54	55	37	37
32	1448	819	794	662	469	321	291	212	180	140	153	86	105	86	95	59	68	62	55	39
33	1434	830	772	595	469	319	293	210	169	147	148	145	115	91	82	54	61	59	43	45
34	1485	824	749	648	488	313	282	215	166	138	121	632	112	87	81	96	61	59	52	54
35	1423	1118	775	616	480	325	256	202	196	139	113	926	106	85	87	73	49	39	49	39
36	1399	1059	697	705	495	327	268	219	168	146	114	234	103	108	72	54	59	56	61	38
37	1391	941	792	830	492	329	259	211	190	135	109	138	91	102	73	93	94	66	55	39
38	1370	1291	765	648	527	330	262	205	176	136	108	104	102	93	58	78	79	44	47	43
39	1285	842	737	605	2467	339	794	240	177	145	112	98	95	87	89	62	70	56	45	57
40	1296	909	750	618	4512	346	869	194	168	141	105	123	103	89	71	68	67	51	41	42
41	1230	1030	805	635	613	350	271	220	185	152	121	105	79	70	88	67	66	42	32	44
42	1234	807	780	621	842	298	280	209	171	142	123	103	101	109	78	53	84	56	43	47
43	1367	1004	721	572	572	328	250	226	187	123	146	99	91	100	77	72	68	44	32	45
44	1257	1211	749	652	445	321	238	195	170	155	133	118	104	80	85	53	48	61	47	45
45	1242	859	780	577	365	302	238	187	167	134	127	121	96	88	81	73	51	51	48	37
46	1103	745	750	608	421	435	223	200	168	131	120	124	95	105	72	102	52	61	45	37
47	1121	704	796	604	419	366	233	218	172	137	130	114	86	92	80	143	46	47	37	47
48	1102	725	739	610	434	310	239	214	171	144	132	150	103	95	73	79	50	60	37	45
49	1111	809	604	609	357	293	247	185	153	155	135	104	95	89	73	62	60	58	49	42

D08-245

5452928A.HH:1 54529-28-A 92-02741-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1953
0	50	50	34	27	34	27	19	20	17	24	16	17	15	10	13	11	8	16	12	13
1	39	41	37	26	34	42	19	21	31	20	12	17	11	6	6	6	7	17	8	16
2	39	39	30	27	30	30	22	24	22	18	19	10	16	9	14	9	10	13	9	10
3	61	31	50	26	39	25	28	24	25	10	24	14	14	11	10	7	9	8	13	7
4	55	35	34	50	36	23	17	31	27	13	23	15	18	8	12	9	8	11	7	8
5	26	26	33	37	28	35	28	22	15	16	12	8	7	11	9	10	10	7	9	12
6	45	51	32	34	41	24	30	24	25	16	16	16	9	11	3	7	10	4	10	9
7	35	39	27	23	27	13	28	29	19	19	16	12	15	10	9	13	15	9	6	16
8	39	28	29	49	35	28	24	23	17	15	14	13	9	14	8	10	8	7	5	10
9	34	30	37	40	37	23	26	23	18	11	12	17	10	13	14	10	6	6	6	11
10	33	39	42	30	35	26	18	19	25	21	11	15	13	12	15	8	13	12	8	14
11	50	45	39	38	28	28	12	10	18	53	14	13	7	11	9	13	6	7	8	8
12	49	26	47	26	35	31	16	17	30	152	11	13	12	13	10	13	10	7	8	7
13	36	44	49	44	40	30	32	30	27	485	19	13	14	14	13	12	10	13	12	6
14	43	44	43	31	37	33	15	28	19	287	12	7	16	17	10	10	12	11	15	22
15	35	39	41	34	25	22	23	19	17	56	25	11	14	22	9	13	14	13	14	4
16	46	45	26	37	33	25	30	22	17	12	14	14	5	7	13	36	14	6	12	8
17	34	50	43	32	33	32	19	12	25	14	17	16	16	14	10	60	13	8	8	14
18	44	50	33	27	34	37	28	16	19	12	16	11	16	14	8	36	9	14	10	12
19	35	34	48	34	39	29	34	20	17	15	14	13	17	14	12	17	9	4	12	7
20	36	36	39	35	34	28	25	13	16	16	14	12	15	14	11	9	3	6	14	11
21	39	25	47	24	26	26	20	18	17	9	15	11	18	14	13	10	15	13	12	7
22	45	29	78	34	32	26	16	24	21	19	16	10	23	16	10	8	9	16	11	8
23	33	32	64	23	38	18	13	23	22	20	20	12	34	7	15	13	10	11	7	13
24	38	29	39	32	24	29	22	20	20	15	14	14	32	4	16	11	5	7	9	9
25	36	27	33	34	30	34	18	19	16	24	18	12	13	9	11	11	16	15	12	8
26	44	34	33	39	43	39	28	18	24	12	16	17	10	12	7	6	9	9	10	9
27	47	36	39	33	38	27	24	28	15	22	10	15	17	12	12	13	7	17	10	12
28	40	34	50	36	31	26	21	25	19	16	11	12	14	9	10	10	15	13	12	10
29	45	39	42	32	39	31	24	20	16	16	14	17	25	14	12	8	8	4	5	9
30	45	33	26	40	29	24	31	28	20	17	15	10	8	13	11	15	18	10	9	9
31	35	42	33	41	41	24	30	33	25	15	16	19	10	11	11	8	9	11	12	17
32	28	40	28	34	28	28	24	24	16	16	14	14	25	9	17	11	16	8	13	11
33	45	26	32	44	31	26	28	21	15	15	14	19	29	12	16	9	13	4	20	14
34	49	37	36	40	31	28	23	12	22	12	15	21	27	6	11	14	15	8	7	11
35	49	39	43	35	32	31	25	25	17	17	20	13	19	12	11	8	10	12	6	9
36	43	40	28	50	33	20	16	18	19	14	8	12	13	6	13	9	11	9	13	7
37	39	39	35	35	32	23	27	26	22	14	17	13	17	15	6	9	6	10	7	16
38	40	31	35	23	34	26	17	28	13	12	11	13	12	11	14	9	13	11	14	11
39	42	40	30	43	31	28	21	26	21	14	13	20	17	16	6	8	12	15	8	5
40	31	39	38	37	58	27	37	27	22	14	14	49	18	12	12	10	10	8	11	12
41	41	47	35	30	34	26	22	15	16	10	18	52	27	10	14	14	14	10	11	9
42	44	36	44	29	32	31	16	18	13	28	18	30	10	11	9	10	10	9	9	9
43	35	36	44	31	25	17	16	19	21	13	13	20	12	9	9	8	10	19	12	9
44	53	38	37	33	22	25	37	19	19	13	9	29	5	20	13	13	10	10	15	3
45	42	51	31	36	25	22	33	18	15	14	14	44	26	15	12	14	8	7	11	12
46	35	39	34	35	30	31	18	14	17	13	16	41	11	8	12	10	8	18	12	12
47	47	30	28	33	28	22	17	13	26	12	21	17	10	5	8	9	13	12	10	8
48	37	37	33	24	31	20	33	23	18	30	11	18	12	12	8	14	13	12	12	15
49	37	41	27	41	31	18	23	15	16	26	10	12	14	24	18	8	8	16	10	9

D03-246

TITLE: 54529-29-A 92-02742-L-1

FILE: 5452929A.HH;1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 12 91 12 0 0 9/20/91 @ 10 16

TIME OF COUNT: 3 17 92 16 15 0

(181695. MINUTES DECAY TIME)

LIVE TIME: 17 HOURS 53 MINUTES 12 SECONDS = 1073.20 MINUTES

ELAPSED TIME: 17 HOURS 54 MINUTES 0 SECONDS = 1074.00 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR RKR:	0
NOV:	1

3/23/92
GA Lopel

D03-247

5452929A.HH:1 54529-29-A 92-02742-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	64392	663	526	444	367	243	246	149	123	102	82	70	81	76	53	50	45	29	32	30
1	5	677	477	450	374	232	323	166	114	115	93	81	66	64	50	43	37	31	32	26
2	0	681	450	419	341	234	164	193	107	107	79	68	65	59	57	47	40	41	25	25
3	0	644	478	427	334	282	190	211	118	89	80	76	65	65	54	35	43	37	33	35
4	3	652	457	451	348	257	176	150	121	110	86	67	66	58	60	48	50	41	35	29
5	4	650	515	470	365	226	215	145	122	86	90	73	91	66	56	49	37	41	35	21
6	7	624	556	456	345	263	209	133	113	100	92	79	67	47	46	66	37	47	37	24
7	30	636	475	434	329	228	185	141	117	103	85	78	64	53	48	58	44	35	32	23
8	279	612	478	448	354	219	194	146	116	96	109	80	68	71	79	51	33	36	34	31
9	494	632	503	385	463	254	198	140	139	118	111	67	97	62	63	50	34	41	24	27
10	576	594	531	434	636	246	178	148	184	91	163	87	155	55	62	51	38	41	53	38
11	742	611	489	402	351	239	207	131	138	106	365	78	88	58	52	59	29	99	268	28
12	976	605	506	406	340	236	162	136	114	99	297	91	67	70	68	41	33	57	491	39
13	1013	630	475	411	320	246	174	149	115	211	167	85	55	84	71	52	40	32	102	35
14	1027	652	491	434	355	257	181	161	121	220	129	93	62	71	45	48	37	31	24	55
15	1007	623	491	438	319	257	165	120	129	94	67	75	50	52	52	47	34	34	32	84
16	1047	621	494	404	343	225	176	155	114	93	84	89	54	71	63	44	48	35	26	82
17	1050	609	502	431	342	206	171	156	109	87	93	69	67	59	61	36	28	42	27	43
18	1135	598	530	402	336	223	166	144	109	97	67	69	74	62	55	45	42	29	29	57
19	1137	611	473	386	307	249	159	127	114	98	80	73	59	48	57	61	43	38	26	206
20	1052	622	452	387	336	280	143	130	120	108	77	80	51	61	45	44	32	31	27	231
21	1141	631	465	430	312	366	202	129	101	85	77	108	59	68	47	48	45	33	28	38
22	1117	629	566	394	314	228	182	124	110	92	85	64	59	68	61	58	29	31	31	29
23	1139	784	477	489	324	225	167	131	122	102	84	80	57	69	59	58	41	32	28	24
24	1093	633	486	413	314	214	175	117	126	104	84	68	65	53	43	50	31	42	27	31
25	967	1117	441	399	304	226	157	131	103	98	84	61	59	64	46	46	38	38	25	22
26	1058	705	474	389	318	206	178	130	104	80	81	81	73	47	62	37	32	30	22	32
27	958	806	482	427	297	258	180	137	113	97	72	71	52	49	104	35	36	26	49	39
28	949	852	496	408	318	289	272	148	97	92	85	69	68	41	173	32	29	37	22	24
29	997	490	561	368	305	200	285	144	102	79	62	78	66	56	64	41	43	38	25	32
30	904	584	538	372	284	221	167	139	121	104	68	70	68	74	50	47	38	34	18	29
31	949	534	423	368	326	189	156	141	121	84	84	69	69	70	39	49	44	30	28	33
32	915	501	503	422	301	182	174	118	118	83	70	96	63	65	47	52	38	28	32	24
33	833	474	451	399	310	226	193	130	110	88	78	367	79	48	44	59	43	41	32	29
34	876	561	467	437	309	212	175	125	121	85	87	637	69	59	49	39	32	29	33	25
35	890	738	464	352	288	215	144	136	111	81	77	148	64	43	38	48	48	26	35	25
36	867	596	461	563	317	207	160	121	121	86	77	60	59	45	53	57	55	32	27	29
37	836	663	502	419	309	217	196	137	99	90	94	56	60	62	58	52	49	31	32	35
38	819	675	492	403	545	223	294	132	108	69	67	71	80	58	52	37	38	30	29	26
39	809	505	459	375	3135	211	698	145	120	90	61	65	65	58	60	40	35	34	25	28
40	782	662	513	303	943	182	221	139	95	94	72	63	64	55	61	46	39	31	24	27
41	773	565	409	371	437	192	149	124	100	88	82	63	62	64	54	38	43	39	31	27
42	779	505	454	392	432	198	156	118	114	108	84	73	71	54	54	45	47	36	32	22
43	779	720	468	366	288	189	166	124	99	93	84	58	57	49	51	33	28	29	18	18
44	723	658	431	383	228	211	157	148	108	93	75	66	56	62	48	51	42	34	22	23
45	741	475	422	369	230	212	161	142	110	87	78	43	65	54	49	84	48	39	27	21
46	696	447	438	329	240	213	152	106	108	93	69	83	58	57	43	54	44	24	41	22
47	696	506	449	354	262	185	146	148	96	81	90	80	51	49	57	57	35	29	32	22
48	703	515	442	369	240	202	161	126	95	86	73	74	65	57	49	38	21	34	36	25
49	692	400	435	351	248	190	154	124	114	85	81	40	60	66	49	47	38	27	24	23

D03-248

5452929A.HM:1 54529-29-A 92-02742-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1953
0	25	24	22	22	26	18	9	10	11	10	17	12	8	4	5	6	5	6	9	11
1	38	29	20	20	23	16	13	9	12	13	9	7	5	7	3	8	8	10	5	7
2	31	25	30	24	19	16	21	11	15	13	9	6	8	7	14	11	4	7	10	5
3	37	33	29	25	18	6	9	12	8	13	12	4	12	7	5	8	5	5	5	7
4	28	28	32	35	21	18	15	15	15	9	12	7	9	12	10	3	8	4	8	9
5	23	30	14	21	21	20	18	13	8	7	9	12	4	5	2	5	5	4	6	5
6	17	19	22	25	18	20	13	14	20	11	6	8	11	7	4	9	7	7	6	7
7	19	19	26	18	15	14	9	16	10	15	9	10	6	7	12	3	7	6	6	8
8	24	16	29	19	23	13	19	10	14	13	8	14	6	8	7	6	4	5	5	10
9	20	19	24	20	15	23	7	14	12	32	9	14	11	8	8	7	4	7	9	8
10	28	27	17	26	22	14	18	19	10	123	12	6	9	6	10	4	8	6	8	4
11	27	23	33	30	22	18	15	14	19	217	19	5	7	8	9	9	7	4	5	6
12	20	29	24	17	22	17	10	13	11	175	9	5	5	2	6	8	7	5	4	11
13	21	34	24	18	16	15	13	18	11	26	16	7	10	5	9	10	5	4	10	7
14	23	23	23	21	22	19	14	10	17	8	8	8	7	10	6	28	3	9	5	7
15	27	29	28	21	20	26	14	13	15	9	9	8	11	8	11	19	7	4	10	3
16	30	19	23	13	21	16	12	16	9	8	7	6	5	9	5	24	5	4	8	8
17	19	37	26	26	13	15	18	16	12	6	9	5	5	12	4	7	5	3	6	6
18	32	30	20	25	20	6	11	12	10	13	10	8	7	5	7	5	6	5	5	4
19	21	32	19	25	16	15	10	18	11	7	8	4	9	11	10	5	7	2	4	10
20	26	28	29	14	17	13	16	4	15	10	13	10	13	7	6	9	5	7	5	6
21	10	24	37	21	13	19	17	17	14	11	8	6	23	8	8	4	9	2	6	9
22	16	16	26	14	11	19	13	10	16	11	6	6	15	5	8	6	5	4	5	5
23	22	24	23	18	14	19	20	11	14	10	11	13	12	6	7	4	6	7	3	3
24	20	19	27	19	23	15	20	13	7	7	7	16	7	7	12	7	5	7	5	9
25	30	22	22	22	24	14	12	10	13	6	12	5	7	7	7	9	3	6	5	6
26	21	19	16	23	9	26	14	14	11	15	5	1	7	4	8	6	9	5	7	7
27	19	30	25	23	19	16	11	19	13	9	10	9	4	11	7	11	5	4	5	1
28	22	23	20	23	21	21	15	16	10	11	5	8	10	9	8	6	9	9	3	4
29	23	25	15	20	18	16	15	17	15	11	8	13	13	5	12	17	1	6	4	3
30	23	30	18	17	23	19	13	20	16	12	8	14	9	7	12	6	3	5	12	7
31	18	33	24	22	21	21	18	14	18	8	9	11	14	3	11	9	3	7	9	3
32	20	22	14	19	20	12	16	11	11	7	11	13	10	11	2	2	3	8	13	8
33	24	16	20	16	15	10	29	15	13	7	6	11	6	7	5	11	6	1	5	7
34	22	21	19	17	17	21	14	17	15	8	4	13	9	7	5	6	10	8	7	13
35	32	18	22	27	23	13	8	8	8	11	10	8	9	6	5	5	8	3	12	6
36	15	17	23	14	14	14	11	20	7	7	12	6	6	6	4	8	5	12	6	6
37	29	20	26	23	26	14	16	15	10	7	3	15	7	14	11	5	9	2	7	4
38	20	27	21	20	29	19	20	12	19	8	5	24	16	2	7	11	10	10	4	6
39	25	19	20	21	29	16	8	16	11	8	10	30	12	3	4	7	9	5	10	6
40	19	19	24	33	22	16	15	17	16	7	14	15	10	6	2	11	8	12	11	6
41	26	20	22	24	26	15	10	7	6	3	11	14	6	3	8	6	10	6	7	9
42	20	19	18	16	25	14	14	13	16	12	7	15	3	5	4	8	6	12	9	10
43	19	21	24	25	16	24	13	14	10	12	11	33	11	4	6	8	12	6	3	7
44	21	27	26	11	25	17	14	22	15	15	7	28	12	7	13	3	6	6	6	1
45	26	30	30	18	15	22	19	9	13	9	10	10	6	9	1	11	2	3	6	3
46	20	33	27	30	16	17	7	12	8	20	11	4	8	9	10	8	7	8	5	2
47	20	29	16	20	15	17	9	10	11	22	9	4	9	5	9	7	15	8	8	6
48	27	34	23	23	22	19	16	11	14	5	8	4	10	7	7	7	10	5	3	4
49	14	19	27	32	12	12	17	11	18	14	8	6	7	10	6	2	9	4	4	3

003-249

TITLE: 54529-29-B 92-02742-L-2

FILE: 5452929B.MA;1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 12 91 12 0 0 9/20/91 @ 10 16

TIME OF COUNT: 3 16 92 9 27 0

(179847. MINUTES DECAY TIME)

LIVE TIME: 30 HOURS 42 MINUTES 27 SECONDS = 1842.45 MINUTES

ELAPSED TIME: 30 HOURS 43 MINUTES 50 SECONDS = 1843.83 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D03-330

54529298.HH:1 54529-29-B 92-02742-L-2

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	110547	1187	904	791	608	431	402	271	211	189	183	117	102	86	109	70	80	53	62	41
1	5	1129	892	748	575	425	578	245	249	156	156	128	120	105	109	66	60	64	63	45
2	0	1134	832	761	613	444	350	342	235	166	142	107	115	102	118	86	67	54	58	54
3	1	1106	787	759	601	450	347	346	222	160	149	141	110	104	108	85	59	53	47	58
4	6	1207	839	778	596	436	355	251	207	172	144	131	114	114	110	75	90	58	58	53
5	11	1093	880	773	600	426	298	256	223	152	151	120	112	94	93	88	70	59	58	40
6	7	1084	958	760	632	420	334	253	202	165	159	128	112	87	103	109	49	54	58	38
7	49	1035	796	692	614	395	334	245	230	172	140	126	91	98	84	84	69	61	72	63
8	378	1122	857	745	554	418	319	252	190	162	160	101	116	97	120	71	66	50	56	39
9	780	1058	796	702	674	423	283	248	190	190	187	118	171	101	96	73	56	52	47	57
10	1083	1101	793	718	1135	407	332	253	207	156	247	110	265	102	81	82	53	66	78	51
11	1286	1114	868	739	646	393	284	259	252	197	539	123	168	136	85	78	71	145	329	47
12	1603	1090	817	685	561	403	315	242	211	161	639	117	110	123	91	93	59	139	648	56
13	1957	1025	812	695	565	402	338	250	194	255	317	131	103	157	105	84	72	70	282	53
14	1815	1098	897	747	552	355	318	248	245	407	170	131	145	113	69	85	70	64	65	63
15	1739	1095	814	688	528	408	287	252	189	200	171	120	106	98	92	97	62	61	54	127
16	1857	1085	893	667	549	401	261	235	226	160	130	122	98	91	91	81	73	59	39	120
17	1997	1087	846	756	563	384	278	257	195	172	136	121	106	100	98	88	76	52	40	57
18	2014	955	810	669	574	416	314	236	199	168	143	137	83	100	82	80	80	59	45	90
19	1940	1015	783	625	577	397	318	247	201	177	132	135	109	101	99	102	68	68	43	302
20	1988	1020	807	658	566	452	298	204	188	178	126	126	108	92	82	88	72	56	63	392
21	1959	1061	847	697	547	742	267	229	174	162	150	141	121	84	87	82	55	59	55	135
22	1895	1053	803	706	540	428	298	227	220	161	117	123	106	89	90	76	76	52	55	46
23	1879	1239	813	676	546	378	278	259	190	146	154	122	122	94	68	128	49	47	44	53
24	1843	1174	819	688	600	380	323	228	193	145	123	119	91	96	88	77	57	54	43	43
25	1847	1669	823	653	543	373	305	252	201	167	155	123	100	97	90	83	62	62	50	34
26	1758	1619	844	691	498	383	285	224	190	174	147	142	113	85	99	72	69	59	47	42
27	1742	1268	823	685	491	392	324	248	191	148	122	135	109	88	151	82	61	55	45	42
28	1721	1644	782	699	553	539	409	260	196	139	138	107	124	104	317	59	59	75	54	51
29	1718	932	974	733	507	423	488	232	186	179	142	118	123	99	161	89	61	47	44	53
30	1682	933	1019	705	552	376	313	238	183	162	136	114	115	105	81	59	67	60	31	47
31	1643	921	768	676	494	351	302	235	172	158	128	117	115	99	76	71	74	49	50	38
32	1644	886	858	718	514	347	285	211	173	158	155	155	104	102	87	76	61	63	40	44
33	1545	893	764	693	480	389	305	252	195	154	136	467	110	112	77	92	71	61	58	47
34	1502	942	842	634	514	347	294	226	160	139	144	1096	107	84	84	71	50	56	58	45
35	1442	1287	837	742	520	375	249	214	181	144	123	372	97	98	85	59	71	56	52	46
36	1458	1099	821	863	520	351	286	234	170	158	138	135	114	91	67	91	105	58	39	43
37	1474	1068	785	819	485	360	296	224	178	146	117	111	114	84	78	81	97	50	55	35
38	1444	1292	873	668	615	357	371	215	177	176	169	117	106	98	83	58	72	62	43	49
39	1319	875	777	625	4476	346	1131	199	186	178	136	98	106	99	73	70	61	41	57	36
40	1333	1049	842	691	2869	367	483	238	163	144	129	115	103	113	89	61	80	58	47	35
41	1364	1000	851	619	646	353	284	238	206	160	145	104	94	89	83	75	80	59	60	54
42	1334	853	833	681	831	327	263	232	201	171	133	126	95	107	76	69	73	52	43	39
43	1299	1142	780	637	514	326	275	207	178	162	143	116	103	85	94	80	53	47	51	39
44	1313	1239	813	599	468	340	267	198	171	159	123	114	104	99	82	60	73	76	39	31
45	1312	850	838	658	419	313	262	243	172	144	125	113	109	93	90	130	55	50	49	58
46	1251	845	755	615	424	413	283	236	193	159	120	139	133	109	95	168	65	41	45	51
47	1223	809	761	598	390	370	244	192	168	139	131	150	103	104	60	90	68	54	49	45
48	1159	815	784	640	430	351	247	187	163	142	118	133	89	104	98	69	66	55	41	42
49	1228	788	718	659	438	366	275	225	190	130	133	127	116	118	72	52	53	41	55	47

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5452929B.HH:1 54529-29-B 92-02742-L-2

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	43	29	46	41	25	32	22	29	21	26	22	19	13	11	16	11	14	10	9	5
1	54	42	36	35	36	32	31	35	36	23	15	10	20	9	13	8	13	6	13	12
2	54	50	25	44	36	34	32	27	29	21	21	17	11	12	12	14	11	12	8	9
3	47	38	34	39	33	29	26	28	23	21	15	12	10	15	11	13	11	10	8	8
4	42	34	37	34	44	24	24	22	20	17	10	16	8	14	11	11	16	10	12	13
5	38	46	42	41	25	24	15	18	16	15	20	18	14	14	9	14	5	10	14	15
6	34	30	50	35	33	41	22	27	27	27	14	8	16	15	13	16	10	16	12	12
7	34	43	33	30	42	31	17	24	29	19	13	17	5	13	17	9	12	7	13	12
8	50	45	33	28	48	27	18	16	24	25	17	18	14	11	15	8	14	7	12	11
9	51	50	37	35	29	31	24	32	20	52	19	15	16	14	8	12	8	6	14	8
10	30	38	24	32	38	29	24	25	27	156	24	13	13	18	12	20	15	5	13	7
11	38	46	46	24	42	35	32	23	16	383	20	10	10	21	6	13	13	19	9	14
12	49	37	39	30	29	27	26	24	9	295	28	13	9	15	16	11	15	6	7	15
13	56	31	44	37	32	30	19	18	18	71	12	12	13	11	9	19	11	9	7	10
14	34	39	41	38	42	40	18	17	20	25	19	20	19	11	15	38	15	9	12	7
15	43	49	35	31	43	26	29	23	21	13	17	14	10	15	15	45	10	10	10	7
16	42	60	33	29	46	39	30	21	17	18	8	14	16	17	16	23	10	12	7	14
17	35	35	44	35	23	34	22	19	21	22	17	14	13	17	14	17	8	10	8	6
18	50	25	50	44	45	32	28	22	21	24	9	16	12	10	8	9	8	11	8	15
19	33	33	38	37	33	32	26	20	15	16	22	14	14	7	13	8	10	15	13	13
20	32	42	51	34	34	29	28	29	20	15	13	16	22	8	17	8	11	7	10	5
21	33	27	75	38	38	30	23	19	19	13	19	7	29	13	21	12	6	9	11	11
22	55	47	44	37	28	29	26	20	17	14	11	12	26	15	10	12	12	13	14	10
23	43	36	44	41	35	30	23	17	15	12	8	9	15	14	14	9	9	8	9	9
24	35	43	36	40	35	22	25	31	18	19	11	15	8	14	13	5	12	16	10	12
25	42	52	44	34	38	32	17	10	30	17	12	10	18	9	12	10	13	13	13	8
26	40	39	45	39	51	33	24	25	20	11	13	12	17	16	11	20	18	15	10	10
27	35	39	31	40	31	25	26	19	26	18	19	15	13	11	15	14	9	13	10	16
28	56	38	31	37	34	28	28	35	20	19	18	12	12	11	22	10	17	12	10	14
29	43	54	39	36	35	20	26	21	10	16	15	14	18	17	10	12	10	9	14	9
30	35	43	37	31	38	36	27	21	17	15	14	23	32	11	17	16	10	12	11	10
31	49	36	34	54	36	25	21	30	20	24	17	18	30	10	12	11	13	8	13	10
32	45	33	34	41	33	27	31	30	16	9	18	21	35	9	10	6	5	9	13	11
33	36	36	41	42	36	36	27	20	10	17	10	19	12	14	10	11	10	11	15	8
34	36	36	32	36	33	29	22	17	22	16	9	15	21	14	7	14	8	12	9	7
35	32	38	33	38	40	24	20	18	18	11	11	11	11	12	11	8	9	9	8	6
36	37	36	45	34	49	28	26	26	17	20	23	11	15	9	10	10	13	14	10	16
37	32	34	22	31	32	19	24	20	26	10	14	29	10	15	17	4	10	22	15	11
38	39	30	26	28	42	35	30	25	22	6	13	43	25	8	16	11	5	14	5	8
39	**47**	**37**	**30**	**33**	**56**	**31**	**31**	**27**	**17**	**21**	**16**	**52**	**16**	**18**	**9**	**9**	**11**	**9**	**6**	**8**
40	**44**	**27**	**42**	**27**	**32**	**28**	**26**	**23**	**18**	**15**	**15**	**26**	**20**	**19**	**10**	**8**	**13**	**8**	**17**	**13**
41	**51**	**42**	**38**	**35**	**34**	**24**	**22**	**25**	**25**	**11**	**16**	**19**	**9**	**8**	**16**	**12**	**9**	**11**	**14**	**11**
42	37	33	35	41	24	25	28	21	23	16	10	49	7	20	17	5	10	8	16	7
43	25	41	48	49	36	29	22	27	13	24	10	46	10	7	11	10	13	21	9	5
44	51	62	31	37	34	37	20	25	21	12	12	59	12	14	8	13	9	13	7	12
45	38	55	37	37	36	32	25	25	20	18	15	16	14	15	14	10	9	15	14	9
46	30	41	42	47	25	28	16	19	14	29	23	11	11	12	9	8	12	8	11	12
47	31	27	27	32	32	33	24	16	21	26	21	14	8	9	9	14	14	10	10	12
48	47	41	43	32	44	32	26	19	28	18	12	10	13	6	16	14	15	10	10	10
49	47	36	39	42	39	30	20	20	23	14	13	16	8	14	12	11	13	12	7	9

D03-254

TITLE: 54529-30-A 92-02742-L-3

FILE: 5452930A.HH;1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 15 91 11 53 0

2/1/92 @1200
~~9/20/91 @10 16~~

3/23/92
9A Lopel

TIME OF COUNT: 3 5 92 10 27 0

(159754. MINUTES DECAY TIME)

LIVE TIME: 26 HOURS 31 MINUTES 13 SECONDS = 1591.22 MINUTES

ELAPSED TIME: 26 HOURS 32 MINUTES 25 SECONDS = 1592.42 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D03-253

5452930A.HH:1 54529-30-A 92-02742-L-3

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	95473	1112	882	725	657	418	379	279	242	215	166	125	124	99	85	65	55	61	53	51
1	5	1109	834	734	657	433	609	282	220	220	188	124	106	109	96	70	56	36	44	45
2	0	1070	800	749	614	451	383	339	242	222	164	130	120	110	97	67	60	64	53	42
3	1	1112	793	768	639	449	351	458	225	226	153	146	121	107	76	69	66	59	44	49
4	1	1175	799	780	599	436	365	272	229	227	195	141	105	98	78	79	61	70	52	34
5	6	1061	827	815	646	426	327	269	248	214	176	153	95	96	96	65	55	37	51	39
6	6	1085	890	727	652	464	336	310	271	240	192	159	117	120	97	109	61	51	55	53
7	18	1034	754	715	633	405	349	260	230	189	140	142	114	92	91	82	79	59	43	35
8	147	976	823	681	627	459	349	266	237	239	162	123	102	105	74	65	75	47	53	32
9	644	1024	844	733	633	413	332	239	249	234	187	145	168	146	79	67	63	39	40	55
10	967	1042	867	754	968	485	334	291	299	210	274	150	296	116	79	79	51	66	82	49
11	1209	1063	819	744	723	472	288	286	289	213	484	155	172	377	71	62	50	127	252	34
12	1614	945	781	746	594	496	303	288	241	240	586	125	117	2714	93	67	59	132	571	43
13	1817	1003	817	710	578	438	325	260	216	267	323	163	121	2747	93	68	64	45	271	44
14	1655	1060	788	767	558	397	345	274	244	397	280	161	112	307	78	84	52	47	56	46
15	1521	984	791	703	621	442	328	257	242	244	171	138	96	78	93	102	46	52	53	84
16	1751	1009	853	735	571	467	343	248	220	221	164	125	98	99	83	71	63	60	51	143
17	1775	1023	815	781	593	460	345	242	235	252	180	122	101	86	89	83	64	56	35	59
18	1823	980	793	717	582	385	298	249	234	243	138	126	114	79	84	76	51	52	45	83
19	1870	989	835	682	586	400	361	253	212	189	150	134	126	65	90	85	76	49	55	233
20	1793	985	808	682	587	429	354	288	248	192	136	136	107	108	82	71	65	62	43	324
21	1789	975	771	699	515	692	307	260	227	212	147	130	94	76	89	72	45	41	52	127
22	1735	955	824	739	585	406	339	266	204	223	162	136	103	92	66	68	57	40	50	43
23	1765	1116	823	650	535	377	306	275	219	209	160	124	102	90	77	59	59	55	39	33
24	1738	1232	840	674	551	397	335	248	235	226	140	131	111	74	79	77	57	47	55	31
25	1743	1357	858	686	537	378	299	259	250	199	155	117	104	77	75	66	49	43	51	39
26	1739	1668	827	744	554	387	341	252	233	221	132	111	97	99	81	72	68	40	43	33
27	1630	1041	793	788	495	397	349	262	209	211	155	126	107	90	103	57	44	42	43	36
28	1662	1003	789	667	531	514	349	281	246	185	135	102	105	83	242	49	56	52	52	49
29	1655	869	866	703	538	485	467	273	220	197	154	149	92	86	151	53	53	49	37	31
30	1617	880	1008	677	522	386	350	234	230	198	149	115	112	85	85	45	60	50	36	42
31	1587	868	793	655	535	365	304	235	242	189	150	109	89	89	77	69	67	44	49	55
32	1518	871	798	647	555	400	314	261	230	180	144	121	104	82	83	68	69	61	52	34
33	1465	870	801	645	514	392	298	265	226	189	132	340	95	98	64	67	66	36	32	39
34	1505	870	782	654	506	377	328	239	199	179	157	963	107	77	70	67	61	34	45	42
35	1434	1148	824	637	586	367	313	262	203	194	125	402	90	81	91	54	53	51	57	41
36	1405	1002	786	738	538	381	294	253	231	175	128	123	110	86	62	100	70	54	39	32
37	1329	991	721	823	521	382	321	232	251	184	138	106	100	96	90	72	93	57	42	36
38	1373	1310	795	707	573	366	360	255	244	176	127	114	95	104	74	49	57	49	49	49
39	1272	874	737	634	3332	388	1078	238	227	174	145	147	92	99	77	64	59	59	53	37
40	1345	942	795	613	3280	394	534	243	254	174	147	118	103	89	69	50	54	56	44	43
41	1272	1033	855	641	668	357	281	262	231	176	151	111	102	85	73	45	69	50	37	32
42	1242	781	826	600	682	331	329	258	239	180	139	130	100	83	84	63	65	42	31	39
43	1254	1050	753	644	561	352	278	257	242	179	144	121	97	84	77	60	65	34	43	34
44	1317	1105	817	677	437	319	274	250	226	161	134	104	99	88	79	74	35	52	59	35
45	1314	748	801	649	440	363	277	264	204	157	135	120	106	89	61	107	57	49	49	25
46	1191	813	806	657	425	442	272	227	202	145	136	114	94	104	81	149	60	37	50	34
47	1171	879	783	621	412	398	202	237	263	102	151	136	91	92	77	54	53	47	43	41
48	1159	777	720	647	457	349	307	228	217	149	109	111	110	92	79	49	60	53	44	30
49	1131	791	732	654	410	352	273	253	223	194	135	110	125	96	73	53	51	65	44	49

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5452930A.HH:1 54529-30-A 92-02742-L-3

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
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1	41	32	37	33	31	31	19	23	29	19	19	11	14	9	8	8	11	9	10	9
2	41	41	32	24	30	31	23	21	11	19	22	12	9	10	10	8	10	9	6	14
3	47	40	26	45	33	38	25	25	13	17	17	8	11	10	10	7	8	10	12	9
4	30	34	37	36	27	34	23	22	13	12	10	17	15	16	11	16	6	10	11	5
5	41	35	31	33	23	22	26	19	20	22	18	11	10	11	15	8	15	9	12	3
6	45	42	25	33	33	31	24	18	19	9	18	14	9	13	14	12	11	7	8	5
7	42	30	38	28	29	21	22	22	22	15	16	17	9	8	10	10	11	4	13	13
8	32	32	36	40	37	29	26	15	19	23	16	12	17	10	9	12	9	6	14	3
9	29	26	35	26	36	33	21	17	25	29	20	16	11	9	15	9	9	12	8	10
10	38	29	42	22	24	25	23	19	13	139	18	13	14	11	6	8	8	11	11	2
11	55	32	45	28	25	23	19	25	19	340	13	13	13	10	9	14	6	15	4	9
12	32	50	46	40	41	23	22	25	20	312	13	12	13	17	7	4	6	9	9	5
13	32	43	32	31	30	28	20	16	32	71	12	10	8	9	22	10	11	6	7	11
14	30	45	38	35	28	14	18	25	22	14	15	15	8	9	12	30	4	8	12	8
15	27	39	30	42	22	21	13	19	19	12	14	11	26	7	12	51	11	7	4	7
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17	47	43	43	34	39	34	20	21	6	6	7	17	14	12	6	10	14	10	10	10
18	34	45	29	31	31	24	20	16	20	21	19	5	15	11	9	9	9	5	10	7
19	35	39	28	34	30	30	20	16	17	11	10	8	15	8	10	11	9	8	9	.
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24	30	31	30	39	29	31	12	13	20	12	10	13	15	11	18	4	12	7	10	3
25	34	37	35	35	27	15	20	21	18	11	21	10	12	8	11	9	6	14	9	10
26	31	32	43	35	32	26	19	19	21	18	14	15	15	10	11	7	12	6	14	3
27	34	41	25	32	30	31	22	27	25	15	9	10	18	7	14	18	9	9	10	3
28	36	34	35	26	38	33	24	17	15	16	15	14	11	11	8	13	14	12	12	7
29	34	48	38	31	31	25	16	28	13	13	11	14	13	13	11	10	10	6	14	3
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31	35	26	28	28	30	32	24	13	15	8	18	20	24	7	25	14	7	16	9	14
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35	34	44	35	29	29	21	28	25	18	14	13	13	11	12	8	14	10	5	8	3
36	42	34	37	23	19	20	19	20	18	19	7	12	11	9	8	10	8	7	6	11
37	42	21	39	42	33	33	19	17	19	14	25	26	9	7	5	11	4	6	9	4
38	31	30	34	31	28	25	26	20	18	7	16	35	18	6	9	15	9	11	13	5
39	30	24	32	15	38	27	23	15	18	11	13	53	14	9	9	8	10	9	11	3
40	43	39	31	29	22	27	13	22	14	13	22	27	14	11	16	12	15	4	12	4
41	42	31	35	33	27	26	22	20	16	12	16	11	7	16	7	8	7	9	6	11
42	35	31	29	35	36	23	21	12	9	12	16	35	15	11	8	10	5	9	12	10
43	35	30	37	32	30	27	19	20	15	17	14	56	8	18	11	10	14	12	3	10
44	42	34	32	44	23	25	24	15	20	5	12	35	18	15	10	21	10	12	4	3
45	35	36	33	31	25	20	27	13	14	19	17	12	10	15	8	11	6	8	12	8
46	37	37	41	30	33	15	26	16	21	20	6	12	17	6	7	14	15	8	14	15
47	44	42	30	30	31	29	28	18	21	37	15	11	10	9	16	13	15	12	10	5
48	33	37	34	22	30	37	34	15	23	15	13	13	5	11	5	12	10	4	15	11
49	41	35	22	26	25	21	24	17	29	23	16	15	11	8	13	15	15	6	9	12

D03-455

TITLE: 54529-31-A 92-02742-L-5

FILE: 5452931A.HH;1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 12 91 12 0 0 9/20/91 @ 10 16

TIME OF COUNT: 3 13 92 17 32 0.

(176812. MINUTES DECAY TIME)

LIVE TIME: 63 HOURS 38 MINUTES 40 SECONDS = 3818.67 MINUTES

ELAPSED TIME: 63 HOURS 41 MINUTES 32 SECONDS = 3821.53 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKG:	0
NOV:	1

3/23/92
SA Lopez

D03-259

683

5452931A.HH;1 54529-31-A 92-02742-L-5

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	229120	2408	1853	1623	1464	987	829	574	412	336	296	272	245	207	209	189	131	109	107	89
1	5	2402	1755	1574	1377	865	1229	617	494	353	355	281	283	218	233	178	139	132	114	86
2	0	2440	1705	1541	1335	851	747	743	424	351	326	260	257	204	201	165	140	137	119	109
3	0	2355	1749	1631	1325	923	682	967	455	413	305	257	253	197	195	159	177	126	120	96
4	10	2527	1796	1632	1328	964	721	574	420	380	321	293	235	197	210	167	177	147	128	89
5	16	2391	1808	1690	1283	881	633	517	439	406	333	274	220	197	220	164	144	124	164	88
6	21	2246	2006	1540	1342	914	622	515	425	391	292	246	235	210	201	245	136	98	133	87
7	54	2229	1787	1570	1347	857	706	539	425	365	315	256	235	219	181	205	142	125	115	99
8	417	2277	1799	1585	1244	875	671	526	415	384	316	286	231	192	218	181	149	127	139	104
9	1477	2167	1755	1590	1388	898	659	528	419	369	374	281	373	209	220	176	142	122	88	114
10	2072	2245	1776	1570	2119	824	681	483	622	365	547	277	748	204	196	183	129	174	180	100
11	2773	2135	1743	1549	1348	818	682	496	531	327	1255	267	388	209	221	166	136	299	637	104
12	3432	2108	1679	1547	1269	817	669	528	416	355	1311	282	254	286	206	163	145	274	1395	116
13	3504	2146	1804	1608	1218	848	601	489	432	543	669	309	241	289	207	168	118	138	577	98
14	3564	2348	1787	1528	1236	853	671	466	414	767	376	310	216	228	191	180	135	134	124	115
15	3691	2170	1773	1526	1209	855	600	515	390	391	318	286	233	207	182	163	149	120	120	284
16	3784	2212	1844	1636	1218	854	657	504	448	359	315	265	219	209	169	184	124	100	94	265
17	3937	2362	1703	1567	1208	866	579	520	430	347	322	245	219	217	175	172	127	136	106	141
18	4217	2116	1753	1477	1182	810	653	502	420	308	324	244	235	220	192	210	124	122	134	169
19	4027	2143	1663	1458	1132	802	582	503	426	354	328	271	201	205	158	195	112	162	119	564
20	4054	2132	1679	1497	1193	946	655	472	429	361	286	278	231	181	196	189	135	137	104	786
21	3945	2118	1720	1435	1137	1381	643	493	455	360	293	291	239	212	217	161	135	127	99	242
22	3995	2191	1746	1437	1162	901	612	507	416	381	258	269	216	228	205	192	142	130	103	105
23	3921	2505	1678	1474	1187	799	644	526	423	317	291	274	226	209	198	188	136	117	111	187
24	3863	2452	1701	1465	1190	827	597	453	406	367	318	295	197	224	170	195	126	102	107	85
25	3845	3471	1772	1446	1177	754	654	510	379	354	269	257	196	235	201	179	142	126	92	92
26	3750	3391	1812	1439	1180	772	622	574	392	342	304	245	208	206	201	140	145	135	93	95
27	3625	2652	1691	1403	1183	819	631	467	404	358	298	238	212	201	314	169	147	118	101	89
28	3675	3517	1753	1357	1183	1208	804	543	408	347	292	292	234	193	633	152	144	114	134	87
29	3578	1916	1808	1405	1054	833	1090	494	424	350	285	263	225	210	352	147	153	109	134	93
30	3503	1971	2181	1455	1072	798	676	496	420	330	302	245	215	207	163	140	153	121	103	93
31	3432	1823	1696	1398	1051	833	610	478	421	346	321	274	230	195	178	143	158	127	115	102
32	3315	1903	1782	1394	1105	778	648	454	403	369	292	278	214	194	178	173	138	122	139	101
33	3285	1883	1762	1360	1131	776	659	455	406	344	306	888	211	230	164	177	145	117	101	119
34	3250	2033	1733	1397	1187	800	648	431	405	376	287	2409	236	198	180	162	147	122	125	89
35	3100	2712	1725	1376	1138	771	581	474	400	325	272	752	212	184	183	151	128	98	119	81
36	3044	2241	1734	1842	1060	734	582	479	408	342	286	241	191	214	172	217	232	129	124	91
37	2993	2112	1774	1564	1124	732	637	466	400	325	274	231	217	203	176	184	197	131	100	78
38	3066	2584	1582	1411	1399	779	839	499	392	344	292	267	268	187	185	166	144	111	108	79
39	2967	1937	1604	1398	9532	784	2378	477	388	329	275	238	226	232	163	128	132	119	94	97
40	2891	2223	1820	1347	6225	738	1053	471	366	340	272	233	191	213	155	167	149	126	91	91
41	2876	2230	1768	1344	1353	728	590	472	388	346	274	245	226	201	177	148	164	118	113	91
42	2851	1847	1564	1377	1837	746	630	471	383	330	277	241	206	205	164	144	137	132	137	82
43	2701	2483	1646	1300	1034	737	596	441	339	312	296	216	218	189	196	143	149	135	93	85
44	2707	2603	1743	1340	985	672	548	470	359	348	284	218	215	216	179	153	137	127	103	93
45	2550	1901	1670	1376	957	771	525	460	377	330	243	247	236	203	159	203	98	133	125	95
46	2606	1701	1621	1326	911	924	514	461	400	313	267	300	203	197	186	349	115	106	109	85
47	2431	1717	1634	1296	916	751	542	532	391	327	285	307	189	222	155	172	142	116	110	94
48	2557	1740	1562	1303	964	691	540	479	375	309	290	287	225	225	169	150	130	110	93	79
49	[illegible]	[illegible]	1587	1416	882	719	526	456	358	325	272	252	202	207	150	136	118	134	92	93

D03-257

5452931A.HH:1 54529-31-A 92-02742-L-5

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	94	92	76	65	94	64	57	48	41	44	37	36	38	24	28	28	20	17	19	29
1	102	80	80	83	88	67	47	50	58	36	32	32	28	28	18	16	14	22	27	20
2	134	80	83	83	75	82	46	55	42	55	42	45	28	20	30	17	22	25	21	16
3	98	83	81	75	61	62	54	60	44	47	40	33	26	29	27	37	26	15	16	19
4	92	85	85	78	76	67	59	54	41	36	40	32	22	21	24	20	27	25	22	14
5	87	95	84	95	79	63	55	50	37	40	36	29	32	28	23	27	23	23	26	26
6	84	69	94	85	75	68	65	58	41	34	34	32	28	33	46	28	25	23	21	22
7	75	86	71	74	78	79	62	45	35	43	30	36	34	25	36	29	28	24	31	20
8	81	83	90	71	73	68	38	45	55	46	40	35	33	14	25	24	24	22	15	22
9	94	84	92	85	97	66	48	58	62	94	28	37	29	36	24	29	17	30	18	17
10	65	93	69	63	83	62	67	52	48	303	46	28	34	29	27	27	25	20	17	12
11	97	69	92	73	72	52	47	50	45	609	30	26	33	25	19	27	25	21	20	19
12	91	82	74	79	69	68	54	45	37	687	36	23	31	41	23	25	17	25	21	20
13	95	93	71	70	58	52	46	41	47	149	49	26	28	26	20	44	28	17	19	13
14	100	108	74	73	62	86	49	45	41	39	43	30	30	30	25	74	19	20	12	24
15	84	120	70	80	69	62	47	46	47	40	28	25	22	26	23	112	21	23	19	21
16	100	98	77	76	63	55	50	39	44	32	34	22	34	24	18	70	28	17	25	18
17	124	86	75	76	59	58	53	54	54	33	32	21	31	42	29	35	18	19	18	39
18	96	71	81	63	70	50	51	45	42	28	34	36	23	21	27	36	17	24	27	21
19	109	63	92	78	85	73	57	45	54	34	33	31	43	22	25	29	19	17	21	2[illegible]
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22	84	95	112	79	70	74	55	60	46	33	35	33	44	25	28	28	28	28	23	21
23	92	92	100	80	64	62	45	47	38	30	23	28	26	26	21	22	31	25	22	28
24	89	66	78	96	71	55	51	56	46	36	34	32	32	28	33	15	25	26	27	16
25	81	82	68	84	81	61	41	62	46	26	38	38	16	27	33	25	31	32	25	16
26	94	97	77	84	85	70	62	65	44	31	24	26	46	30	20	19	22	22	24	20
27	81	64	76	65	69	53	48	46	38	39	33	35	27	30	19	23	26	24	28	25
28	76	91	79	87	90	56	56	64	53	30	32	22	33	26	26	27	36	16	21	18
29	111	93	88	72	74	61	47	51	47	32	24	29	34	24	38	25	25	16	33	21
30	81	90	86	62	81	72	66	53	51	29	31	41	50	23	42	34	40	20	22	23
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32	74	90	74	84	81	67	65	49	45	32	30	29	42	26	28	18	28	29	25	20
33	103	89	88	74	88	72	88	46	42	33	28	27	32	25	23	19	23	18	23	23
34	93	80	99	74	61	68	52	42	58	34	47	40	21	19	15	25	26	17	23	21
35	111	91	75	83	71	[illegible]	56	50	[illegible]	27	[illegible]	[illegible]	[illegible]	31	32	20	11	27	[illegible]	[illegible]
36	85	71	72	75	73	57	53	47	42	29	40	33	27	23	28	28	23	26	22	29
37	77	93	84	74	73	55	51	55	53	36	32	48	25	22	25	24	19	21	15	20
38	107	102	85	90	114	63	45	39	30	30	49	109	30	26	31	24	32	27	28	19
39	94	81	61	68	117	51	57	41	34	39	30	101	49	22	22	30	25	20	27	22
40	84	85	79	65	91	53	54	49	38	32	32	53	30	20	29	29	32	29	30	17
41	91	68	81	80	73	59	53	54	35	33	23	45	29	24	27	24	20	25	15	26
42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	50	43	[illegible]	[illegible]	75	32	20	16	22	37	20	22	28
43	74	78	74	65	70	64	56	49	28	36	25	117	30	20	22	19	26	24	16	23
44	77	92	67	85	73	52	57	46	40	28	36	89	25	39	22	18	20	23	28	24
45	76	106	85	62	82	51	43	52	39	27	23	47	37	27	26	15	21	30	21	27
46	92	77	82	73	74	61	53	43	35	53	21	27	25	24	25	20	35	28	23	21
47	80	93	84	78	78	61	51	41	46	66	28	33	29	25	12	21	29	33	33	29
48	77	112	90	93	69	53	53	53	44	27	40	32	27	34	30	23	30	31	25	18
49	91	79	74	74	72	59	66	38	47	44	32	16	22	30	19	30	35	21	35	29

003-458

TITLE: 54529-32-A 92-02742-L-6

FILE: 5452932A.HH;1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 15 91 11 53 0 ~~9/20/91 13 16~~ 2/1/92 @ 1200

TIME OF COUNT: 3 4 92 10 11 0

(156296. MINUTES DECAY TIME)

3/23/92
EA Lopel

LIVE TIME: 24 HOURS 5 MINUTES 10 SECONDS = 1445.17 MINUTES

ELAPSED TIME: 24 HOURS 6 MINUTES 16 SECONDS = 1446.27 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FLW:	0
NOV:	1

003-459

5452932A.HH;1 54529-32-A 92-02742-L-6

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	86710	972	808	633	594	388	384	256	202	206	149	128	99	100	58	76	40	43	42	33
1	5	946	755	720	584	412	524	218	198	187	159	121	103	77	87	61	49	40	54	35
2	0	929	676	683	623	350	323	307	211	212	139	107	91	96	89	67	53	53	42	41
3	0	1021	605	691	571	404	335	387	188	205	139	107	136	92	81	52	68	49	42	34
4	3	1011	738	740	578	394	332	265	224	213	152	118	107	88	86	58	63	42	43	29
5	2	997	778	704	590	352	298	232	216	205	156	125	113	90	69	69	57	48	50	31
6	7	946	786	670	540	396	299	282	221	193	137	127	95	103	73	74	47	69	41	45
7	18	931	795	672	593	406	321	277	228	190	149	116	117	80	84	86	53	51	47	43
8	109	905	765	728	517	360	313	262	195	184	151	107	97	93	84	67	62	59	38	34
9	525	897	717	663	603	376	278	261	222	191	168	128	137	95	82	66	48	42	40	41
10	814	549	735	656	919	366	304	236	272	209	219	109	247	118	77	67	49	53	67	23
11	1062	907	716	638	573	364	313	243	249	192	458	100	167	439	82	64	57	104	256	34
12	1389	874	767	684	540	386	315	253	201	177	510	120	89	2605	89	63	43	112	497	53
13	1552	936	728	629	545	372	276	227	222	253	288	141	110	2383	67	71	62	39	195	42
14	1564	978	771	641	512	371	273	230	213	360	162	121	102	244	71	59	54	32	45	52
15	1449	865	717	662	545	376	318	255	213	209	134	114	105	82	70	74	53	43	47	103
16	1549	925	783	577	544	353	281	212	240	173	143	120	109	83	69	71	43	55	25	90
17	1544	901	715	618	562	344	307	236	195	215	137	108	96	90	69	62	58	51	37	41
18	1630	915	700	606	543	387	321	234	228	188	132	130	92	77	54	61	45	55	35	57
19	1604	869	660	629	497	367	298	229	196	171	134	123	120	66	74	83	47	52	44	225
20	1763	895	709	621	504	423	300	216	205	199	146	107	92	67	63	65	59	41	42	299
21	1602	923	683	602	507	619	307	207	196	195	146	139	103	71	63	51	52	45	29	88
22	1544	886	767	611	473	393	308	243	225	185	135	117	94	73	64	66	46	40	51	33
23	1603	1081	740	606	504	322	254	213	210	188	151	114	71	78	78	75	35	47	38	29
24	1512	1009	679	573	513	381	310	236	214	187	120	113	92	65	72	65	55	59	43	29
25	1593	1324	695	647	539	333	268	257	208	171	125	97	82	71	77	65	48	58	37	33
26	1614	1324	720	629	493	350	289	241	221	213	128	115	90	77	75	53	50	48	39	38
27	1463	1044	753	569	475	326	267	222	211	178	115	97	101	92	116	38	46	45	42	41
28	1520	1459	766	616	476	470	344	224	201	180	132	109	90	74	211	63	55	45	33	28
29	1383	780	794	599	450	378	439	231	222	182	102	121	86	77	133	49	56	56	45	35
30	1450	781	929	599	473	371	292	264	197	186	123	115	93	71	76	77	50	45	29	39
31	1331	790	727	561	472	336	273	222	178	162	129	99	101	71	89	71	49	44	25	43
32	1401	800	726	595	512	345	272	215	207	189	130	125	91	75	72	61	48	38	43	38
33	1307	734	756	614	459	346	304	195	182	155	129	360	102	78	68	72	47	45	37	34
34	1280	829	715	574	490	328	288	249	187	154	125	880	93	84	52	52	41	45.	39	34
35	1282	1064	689	616	459	348	304	242	202	151	133	289	103	79	60	53	63	44	47	29
36	1270	977	685	759	507	366	289	251	185	169	142	116	74	59	62	85	70	35	40	33
37	1251	904	691	652	515	324	272	198	203	139	105	127	102	87	57	68	67	49	42	32
38	1167	1147	718	550	587	319	370	240	201	132	135	99	68	67	62	50	57	51	41	32
39	1151	798	691	627	3398	334	997	204	191	149	131	107	96	68	61	58	40	34	33	44
40	1157	958	715	584	2536	295	498	246	216	158	137	135	102	74	62	55	39	55	33	23
41	1177	893	757	619	582	314	274	236	205	166	122	91	95	65	55	74	56	37	41	32
42	1145	[illegible]	707	595	732	336	275	198	172	165	116	95	100	69	62	60	50	37	35	29
43	1173	1000	689	501	458	335	248	239	182	149	143	97	84	94	71	49	31	44	41	38
44	1163	1005	697	627	413	325	272	225	211	159	150	120	84	74	60	40	31	49	40	32
45	1170	[illegible]	713	577	450	319	266	236	205	148	166	103	90	83	73	118	50	47	43	41
46	1001	[illegible]	719	595	415	437	[illegible]	219	198	146	115	113	101	67	74	134	49	45	47	38
47	1095	[illegible]	642	623	417	359	263	216	196	138	119	135	94	77	69	74	45	41	33	29
48	1068	[illegible]	691	557	416	313	276	211	195	162	120	103	91	93	71	53	42	49	43	37
49	1071	[illegible]	645	[illegible]	[illegible]	317	263	214	188	142	133	113	94	81	80	58	37	37	30	41

D03-2200

5452932A.HH:1 54529-32-A 92-02742-L-6

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	44	28	20	26	22	24	27	15	14	16	14	11	9	9	11	10	5	14	9	12
1	38	30	33	21	20	29	20	21	17	24	20	13	15	13	8	10	10	10	8	3
2	42	36	32	23	36	23	26	6	12	9	15	4	19	8	7	5	17	8	7	8
3	31	31	32	34	33	28	20	20	20	23	13	11	8	9	14	10	9	8	7	5
4	37	20	29	34	28	21	21	16	20	17	14	10	8	3	10	9	13	6	7	9
5	37	38	30	27	42	24	17	16	17	17	9	14	6	12	8	11	14	12	9	13
6	28	29	45	38	20	28	24	15	20	19	12	8	10	9	8	7	10	6	6	11
7	31	30	24	32	29	22	12	18	20	7	9	18	13	8	8	12	1	11	8	7
8	25	24	30	34	27	22	15	21	17	8	9	12	14	9	15	7	16	7	14	5
9	25	34	20	30	19	22	26	11	22	32	19	19	22	10	14	5	19	13	8	12
10	37	27	31	37	23	26	20	19	13	116	12	6	10	11	8	13	7	9	10	10
11	35	34	39	31	33	25	19	21	17	317	15	10	10	17	10	6	13	8	4	9
12	30	32	33	23	29	19	18	18	15	255	13	11	11	14	3	9	5	5	6	9
13	35	28	28	17	28	25	16	9	9	45	14	13	13	9	9	15	6	10	10	7
14	33	32	26	25	17	23	13	14	14	19	8	15	11	9	15	32	4	8	9	3
15	40	33	27	22	23	25	26	22	20	14	7	16	15	12	5	42	5	11	10	13
16	35	31	35	33	26	13	21	13	16	9	10	7	14	12	15	25	9	16	7	7
17	37	39	24	24	28	17	28	19	15	15	11	3	15	7	10	11	8	5	8	13
18	30	34	35	31	34	21	23	13	13	11	18	11	6	8	12	5	10	5	8	10
19	29	26	37	32	28	25	25	20	16	12	10	10	11	3	10	4	14	7	4	3
20	36	28	48	38	20	21	25	17	18	11	12	5	22	7	8	13	13	8	11	4
21	37	26	71	30	36	29	33	19	19	12	22	10	21	12	12	6	6	6	11	7
22	28	26	42	38	30	18	22	18	15	12	11	6	12	11	6	14	13	6	10	12
23	31	37	35	31	20	26	16	27	14	14	15	10	13	15	6	7	10	12	11	8
24	35	34	30	38	32	18	16	14	11	13	12	6	5	8	10	8	5	8	9	11
25	27	30	35	23	32	26	31	23	20	16	14	11	6	7	17	10	5	11	13	5
26	36	41	32	26	26	23	21	19	20	13	19	12	13	7	9	6	12	7	12	6
27	27	36	32	29	18	23	24	13	16	13	6	10	9	18	9	10	11	6	11	7
28	34	31	28	22	32	22	21	29	21	9	11	8	13	10	12	10	9	7	3	14
29	33	34	30	40	30	28	31	22	15	7	8	13	8	7	13	13	5	7	6	11
30	33	39	26	31	30	30	15	13	14	10	14	13	24	14	11	11	16	6	5	11
31	40	35	28	22	20	24	23	17	11	15	16	19	29	4	6	6	7	8	7	13
32	24	14	30	31	27	21	22	10	21	16	8	13	22	4	9	8	7	10	10	7
33	31	29	44	27	32	24	25	19	20	13	12	15	10	10	8	11	6	8	8	17
34	34	23	21	26	34	19	22	14	27	7	11	10	7	9	7	12	2	10	7	3
35	44	18	29	20	34	33	15	29	11	8	15	11	3	19	6	7	10	4	12	8
36	35	26	27	23	31	14	18	17	23	19	9	17	11	8	6	11	11	13	6	9
37	22	35	27	28	26	20	16	6	14	23	10	17	16	14	3	7	8	10	7	6
38	33	37	38	38	30	26	14	16	16	13	12	32	14	12	9	13	8	11	13	4
39	42	31	35	30	42	21	22	11	14	13	11	42	12	11	6	10	3	9	12	5
40	44	26	32	25	29	19	22	12	16	8	11	18	13	14	10	10	6	8	9	10
41	34	28	38	29	28	24	22	22	15	16	9	16	8	5	13	11	6	4	10	9
42	33	17	25	36	24	24	15	26	14	13	6	30	12	10	8	6	12	9	9	5
43	30	32	30	25	32	23	11	16	11	9	11	38	13	6	3	8	11	11	1	10
44	28	31	34	29	28	17	22	25	15	9	10	44	10	7	7	8	7	9	7	9
45	27	32	28	24	24	19	21	17	11	13	8	10	10	13	12	14	8	7	8	9
46	23	28	30	33	27	16	23	19	20	18	9	10	10	12	10	7	2	11	9	5
47	27	31	20	24	33	13	24	15	13	24	11	8	11	8	14	9	15	8	6	7
48	35	37	32	29	29	19	16	14	16	15	11	14	10	4	6	11	14	5	10	8
49	27	34	21	23	24	20	17	18	17	15	9	0	10	14	10	2	12	11	7	7

TITLE: 54529-36-A 92-02743-L-1

FILE: 5452936A.HH;1

* CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 13 91 10 23 0 9/24/91 @ 07 10

TIME OF COUNT: 3 23 92 8 59 0

(188556. MINUTES DECAY TIME)

LIVE TIME: 25 HOURS 38 MINUTES 8 SECONDS = 1538.13 MINUTES

ELAPSED TIME: 25 HOURS 39 MINUTES 18 SECONDS = 1539.30 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/27/91 PA Lopel

DO3-262

7 of 8

5452936A.HM:1 54529-36-A 92-02743-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	953
0	92208	965	803	654	573	356	305	220	171	141	135	103	101	94	91	77	51	42	56	55
1	5	930	714	636	524	313	518	251	201	153	140	122	94	80	75	53	52	44	51	45
2	0	913	663	643	503	353	331	253	176	138	122	104	115	86	101	69	40	50	43	46
3	0	893	713	631	505	338	256	447	174	144	133	89	96	95	108	74	47	44	34	39
4	10	964	649	655	477	381	287	242	193	143	150	103	87	85	81	82	64	51	58	53
5	10	935	669	697	509	354	264	202	169	151	119	116	102	93	91	70	63	57	55	43
6	7	874	783	637	539	369	256	218	191	140	107	106	108	87	95	75	62	51	60	42
7	75	866	727	671	493	330	282	195	183	158	121	98	113	96	83	100	59	45	48	34
8	362	928	700	702	526	370	259	207	191	155	131	108	93	100	82	58	51	47	50	45
9	694	877	782	592	555	343	247	231	190	154	129	119	118	81	84	81	43	53	52	37
10	877	875	697	595	914	363	296	213	212	156	189	97	210	93	79	80	53	61	43	43
11	1142	845	664	606	563	338	260	198	216	136	323	120	328	101	69	71	54	60	63	38
12	1378	891	699	619	490	362	255	205	169	152	601	105	116	108	69	79	55	137	305	42
13	1566	877	688	599	483	338	240	174	167	159	421	126	94	131	77	61	57	85	596	49
14	1445	940	715	665	487	322	266	208	184	297	221	144	91	103	86	81	58	43	219	43
15	1487	849	729	586	482	333	289	211	169	222	164	109	88	86	67	91	52	57	57	53
16	1594	898	683	579	494	347	254	201	178	163	136	115	84	86	89	64	51	30	40	109
17	1671	914	740	638	483	330	244	195	184	146	143	108	96	102	75	68	44	38	44	119
18	1659	854	710	588	457	333	269	205	168	129	116	105	96	85	61	50	57	45	35	53
19	1633	867	638	603	456	296	231	200	169	142	120	107	82	79	75	63	53	51	42	59
20	1591	834	632	595	486	324	249	197	189	130	123	98	103	72	60	82	56	46	49	208
21	1619	914	659	636	462	567	263	187	167	120	100	100	103	91	84	87	59	50	42	307
22	1573	873	715	570	443	373	244	195	154	129	112	89	88	82	81	53	49	48	43	121
23	1575	1118	732	560	461	360	262	192	163	135	107	127	96	70	74	70	39	41	36	43
24	1572	912	736	587	458	319	249	206	146	120	114	123	77	83	63	87	55	49	35	32
25	1559	1460	706	642	439	289	224	181	168	136	107	104	97	92	86	68	42	46	47	40
26	1510	1291	752	632	469	315	255	238	162	138	107	98	90	84	65	67	56	43	42	39
27	1515	1109	750	568	483	327	260	217	152	151	107	91	86	93	77	68	56	53	37	41
28	1434	1370	740	611	472	434	284	205	139	140	131	100	66	77	158	50	49	40	28	45
29	1354	747	767	551	447	329	408	206	184	142	101	113	88	89	259	65	63	45	32	40
30	1453	792	878	596	444	310	273	178	153	131	113	98	91	84	107	61	49	44	39	23
31	1352	760	720	536	434	337	226	191	167	144	117	115	88	92	72	51	52	49	34	43
32	1380	848	712	593	454	301	257	184	165	130	125	107	95	78	68	57	63	38	46	33
33	1260	766	724	553	462	281	268	187	162	137	114	145	95	90	64	69	56	47	42	30
34	1262	833	700	590	431	303	263	214	151	141	110	676	95	79	75	78	48	40	43	41
35	1275	1111	692	569	428	285	227	181	138	119	116	690	91	86	60	61	51	49	44	32
36	1232	871	711	660	450	297	243	202	162	121	115	161	97	75	71	70	61	53	55	45
37	1150	946	694	655	440	310	266	198	144	157	102	98	103	72	87	78	88	47	37	41
38	1225	1122	672	566	523	319	253	197	156	119	117	96	76	82	82	79	79	55	42	43
39	1150	749	704	537	3318	330	864	196	124	131	112	91	79	82	71	74	61	53	41	41
40	1173	872	739	554	3058	300	568	194	157	117	119	107	89	87	70	59	55	36	44	35
41	1076	817	721	540	519	298	271	161	140	116	111	91	86	94	83	48	61	43	44	43
42	1130	749	656	550	784	283	218	197	157	147	112	96	82	76	74	50	83	39	36	35
43	1000	976	616	540	463	309	225	195	169	130	103	108	73	76	81	58	69	47	30	39
44	1091	1003	683	531	359	254	226	201	136	125	105	87	83	77	70	59	41	45	36	35
45	1037	723	647	408	397	285	228	182	150	111	113	97	97	89	67	61	47	45	40	39
46	1052	677	696	518	392	400	222	177	157	127	113	92	91	88	68	126	42	51	37	29
47	537	641	668	459	374	340	217	174	137	108	117	116	80	85	68	133	49	57	44	40
48	508	700	660	524	404	265	240	169	160	134	109	108	88	110	76	70	58	60	36	35
49	1000	750	632	606	379	270	194	192	140	102	106	93	91	88	62	58	67	52	51	34

003-263

5452936A.HH:1 54529-36-A 92-02743-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	35	40	31	22	23	29	19	33	18	19	17	10	19	4	4	6	18	26	9	9
1	37	37	36	33	38	26	32	19	20	14	12	12	14	11	10	10	10	7	8	7
2	45	42	27	31	30	26	21	23	23	14	13	12	20	9	9	7	6	11	8	9
3	45	38	33	34	30	36	22	19	14	21	17	11	14	11	9	7	3	5	9	19
4	41	45	26	33	24	27	23	18	27	11	16	10	15	16	11	8	8	5	8	9
5	35	34	34	29	34	30	32	21	25	17	16	12	7	9	11	12	13	9	10	13
6	36	36	28	31	38	32	24	23	20	15	15	10	12	8	12	12	12	10	8	5
7	41	33	22	29	28	21	19	17	22	17	9	9	13	17	17	10	9	5	8	14
8	37	28	38	29	24	30	20	18	19	16	13	10	15	11	11	9	14	11	8	12
9	41	25	30	36	23	28	22	20	19	23	12	17	10	11	13	4	12	12	10	16
10	29	31	41	31	32	26	22	19	26	18	14	17	9	10	14	12	6	12	8	11
11	34	34	40	27	35	19	26	15	13	68	26	7	10	14	16	15	7	11	11	11
12	48	32	22	37	30	25	19	18	16	172	16	18	7	13	13	9	7	6	10	6
13	39	26	30	32	22	23	27	17	25	317	17	8	9	9	17	14	11	11	5	11
14	39	37	28	27	26	24	26	20	12	197	16	11	8	10	10	6	18	4	10	6
15	30	45	44	38	28	28	25	24	19	39	13	10	16	8	11	15	6	6	9	9
16	31	50	37	26	31	22	21	24	15	14	13	13	9	6	12	44	13	12	13	13
17	26	33	36	16	25	20	25	25	13	15	19	16	10	12	12	50	14	14	11	9
18	31	35	31	39	25	17	12	20	30	17	17	11	10	14	10	34	14	8	7	8
19	35	45	32	35	24	22	31	14	23	16	18	11	12	7	14	13	16	7	7	1[illegible]
20	37	34	38	32	28	24	27	22	19	12	16	14	10	11	13	9	13	10	10	6
21	23	35	48	34	35	19	19	20	15	14	16	13	13	15	19	8	10	9	6	6
22	38	40	78	31	27	25	15	16	9	19	16	12	18	6	11	8	9	8	17	10
23	47	37	68	29	22	31	25	19	11	14	10	8	30	11	10	9	10	5	11	5
24	34	38	31	27	22	20	15	16	13	17	10	18	18	12	11	10	5	10	11	3
25	31	24	27	31	31	24	21	25	21	10	8	10	16	7	10	15	12	11	6	5
26	26	39	34	32	36	25	12	18	16	18	11	14	10	13	10	8	9	11	6	11
27	31	29	41	29	33	28	18	23	15	11	14	12	14	10	11	6	17	7	16	9
28	31	34	34	32	27	20	20	27	19	11	17	6	13	9	12	16	10	13	11	10
29	38	33	24	23	27	22	25	28	20	13	13	10	10	10	16	6	11	10	12	9
30	34	43	26	35	34	23	17	23	15	17	15	9	8	16	10	5	3	21	15	4
31	35	35	27	39	23	32	29	19	16	18	13	9	21	16	9	3	17	8	12	9
32	34	32	23	17	32	26	25	24	18	9	11	21	20	12	21	9	12	5	13	8
33	33	34	37	34	48	25	28	15	20	13	13	11	33	8	12	11	10	10	10	5
34	37	34	30	33	24	24	22	23	15	13	7	9	22	9	8	10	12	16	15	7
35	30	32	36	29	23	41	17	6	12	14	13	15	15	13	11	9	12	7	19	5
36	40	27	39	39	15	22	23	14	15	12	14	14	11	8	18	9	8	6	10	7
37	26	35	25	31	19	20	23	17	24	19	11	18	6	10	9	12	14	8	4	11
38	36	45	41	22	35	17	29	29	14	16	11	14	10	15	3	9	6	14	5	8
39	42	27	44	34	39	29	17	21	22	16	13	24	6	9	5	14	7	8	8	7
40	34	35	34	27	49	32	19	19	20	15	17	49	11	8	6	9	10	10	12	8
41	35	30	43	36	37	19	20	19	17	17	12	37	13	12	11	9	10	18	11	10
42	41	21	35	35	26	27	23	21	19	14	9	16	15	11	8	14	6	4	3	4
43	35	28	30	25	33	27	25	19	20	18	15	19	18	11	8	9	14	9	11	5
44	37	31	32	25	20	18	22	14	14	15	6	28	16	9	10	12	14	17	5	7
45	25	38	34	23	28	19	25	17	17	16	15	41	10	17	7	8	21	4	13	5
46	40	34	35	32	34	25	14	19	20	5	13	38	10	14	8	8	7	11	9	4
47	34	37	22	19	21	23	22	20	13	16	13	13	12	9	6	11	8	7	6	10
48	30	32	27	25	33	26	20	23	13	27	11	12	13	22	12	11	14	12	19	7
49	41	32	24	30	39	21	23	18	17	21	7	9	15	13	13	6	11	11	8	12

D03-264

TITLE: 54529-37-A 92-02744-L-1

FILE: 5452937A.HH;1

* CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 13 91 10 23 0 11/13/91 0928 3/23/92 EAhapel

TIME OF COUNT: 3 20 92 16 59 0

(184715. MINUTES DECAY TIME)

LIVE TIME: 63 HOURS 50 MINUTES 24 SECONDS = 3830.40 MINUTES

ELAPSED TIME: 63 HOURS 53 MINUTES 18 SECONDS = 3833.30 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
[illegible] LAB:	0
[illegible] FLG	0
[illegible] MLT:	0
[illegible]	0
[illegible]	0
[illegible]	0
[illegible]	0
OVR PKR	0
NOV:	1

D03-265

5452937A.HH:1 54529-37-A 92-02744-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	229824	2475	1895	1547	1417	930	721	570	469	373	351	285	281	232	208	170	149	136	110	113
1	5	2447	1843	1624	1318	890	1172	536	431	351	342	278	252	239	190	170	150	126	113	88
2	0	2513	1771	1572	1288	937	884	614	470	374	350	264	241	212	215	186	135	129	108	103
3	2	2424	1812	1614	1271	931	684	1114	472	360	328	263	272	216	215	165	142	112	117	97
4	11	2551	1842	1651	1266	957	710	697	500	390	336	275	246	224	211	176	175	127	115	129
5	30	2341	1813	1824	1327	888	715	547	448	399	328	247	278	212	214	176	160	125	115	103
6	34	2273	2041	1565	1280	887	731	541	443	367	318	255	247	201	173	179	138	113	132	109
7	237	2240	1836	1567	1355	922	658	521	431	365	320	305	228	197	221	252	152	131	144	94
8	1100	2362	1699	1505	1286	842	676	491	454	388	323	289	243	231	201	199	168	130	103	85
9	1721	2287	1731	1543	1329	899	687	547	418	361	365	281	263	227	220	139	136	136	110	105
10	2168	2252	1827	1574	2170	835	666	518	576	394	446	268	502	194	213	169	151	129	118	120
11	2878	2239	1778	1512	1577	836	661	491	662	345	690	297	900	234	202	205	145	158	150	107
12	3532	2274	1737	1597	1214	879	632	525	437	331	1406	260	363	232	197	173	152	309	524	91
13	3794	2256	1720	1503	1198	836	648	512	436	392	1106	279	237	294	198	153	139	300	1411	102
14	3687	2360	1801	1549	1268	849	665	530	427	734	552	327	250	267	183	175	134	133	757	100
15	3673	2200	1715	1553	1243	854	646	518	455	623	357	299	253	210	197	177	148	122	163	114
17	3878	2186	1806	1488	1287	848	652	512	425	377	313	274	260	209	190	182	131	144	91	236
1[illegible]	4051	2249	1730	1525	1275	609	642	524	417	358	285	280	243	246	195	169	150	132	105	381
18	4195	2187	1707	1524	1162	832	661	502	449	362	323	266	251	208	204	178	144	131	103	132
19	4179	2194	1730	1421	1216	838	659	552	405	348	287	295	235	237	173	168	151	134	125	129
20	417[illegible]	2220	1772	1472	1167	883	605	499	408	352	315	294	238	216	182	222	149	137	93	448
21	416[illegible]	[illegible]	1624	1527	1171	1327	666	470	409	332	303	264	229	198	195	182	182	188	90	838
22	4028		1725	1478	1186	1147	635	494	432	331	303	296	237	240	216	166	161	108	117	413
23	4010	[illegible]	[illegible]13	1469	1122	825	626	462	387	343	301	289	239	228	184	191	138	148	100	88
24	3979	2[illegible]	[illegible]	1504	1093	846	643	473	432	339	301	239	250	235	202	229	115	120	87	99
25	3867	34[illegible]	[illegible]	1521	1163	762	652	505	418	357	301	254	231	224	213	160	126	115	109	87
26	3847	3680	[illegible]	1482	1160	750	626	478	405	347	279	262	239	214	193	158	138	113	114	94
27	3681	2593	[illegible]	1463	1127	784	631	508	439	350	312	286	241	228	207	143	145	103	86	96
[illegible]	3627	3772	1[illegible]	1418	1128	1037	675	523	428	369	294	253	231	181	309	144	150	122	98	110
29	3581	2018	194[illegible]	1434	1192	983	1097	538	406	366	342	252	217	212	633	141	145	110	99	87
30	3585	1899	2373	1434	1163	778	742	497	433	357	288	286	217	192	364	160	146	134	91	84
31	3477	1949	1755	1439	1127	785	644	530	379	347	311	266	266	204	186	155	146	126	96	103
32	3493	1980	1831	1470	1092	752	641	421	401	327	298	283	225	199	192	138	144	120	104	91
33	3367	1913	1769	1457	1186	797	701	522	403	317	281	382	261	201	177	164	163	123	103	77
34	3355	1961	1808	1453	1102	758	665	480	393	360	275	1394	223	227	169	190	141	117	106	103
35	3128	2658	1674	1365	1131	806	595	464	385	319	275	2107	208	219	163	151	117	128	128	93
36	3217	2391	1708	1728	1143	714	593	495	382	327	267	495	222	201	185	182	122	121	152	102
37	2978	2229	1760	1803	1116	761	598	488	391	340	272	266	219	233	172	212	200	107	114	93
[illegible]	3076	2966	1699	1412	1164	754	647	494	391	342	324	259	232	202	179	195	222	111	117	95
[illegible]	2894	2002	1711	1362	5980	792	1817	488	394	334	286	248	253	219	216	136	149	120	117	89
	2886	2187	1742	1408	9861	790	1904	473	386	361	289	229	222	229	173	135	123	119	86	114
	[illegible]931	2350	1922	1398	1416	747	609	474	405	320	289	236	218	216	175	137	134	181	105	92
[illegible]2	26[illegible]	1874	1644	1350	1999	720	626	499	395	325	295	270	223	202	155	142	186	132	91	95
43	275[illegible]	[illegible]332	1768	1306	1238	724	588	489	389	310	296	226	220	218	176	151	158	112	99	89
44	2756	[illegible]	1696	1379	933	684	564	504	380	325	278	254	213	214	198	171	121	119	105	118
45	2737		1745	1321	934	732	550	501	410	321	322	241	216	220	175	171	132	134	112	93
46	2631	1[illegible]	[illegible]2	1325	969	996	579	496	357	318	311	262	220	216	188	260	144	116	102	87
47	2545	1716	[illegible]	1325	879	877	550	461	375	356	284	301	211	189	179	342	95	107	111	85
48	2497	1777		1399	968	745	545	452	361	341	275	312	235	222	170	184	136	111	108	87
49	2410	1880	[illegible]	1421	906	731	556	446	360	299	302	271	207	220	178	142	133	120	109	78

003-266

5452937A.HH;1 54529-37-A 92-02744-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	103	87	79	79	74	67	56	44	52	44	48	17	22	29	29	21	27	39	22	24
1	119	66	68	62	86	67	56	43	35	48	32	22	34	25	23	24	32	39	24	29
2	120	89	79	72	68	75	63	39	49	22	35	31	30	23	25	31	27	27	26	22
3	119	87	85	73	67	74	46	45	43	53	35	33	34	28	24	22	20	29	25	22
4	114	75	70	90	92	64	48	53	51	38	49	29	26	21	19	28	17	23	21	27
5	119	87	83	78	92	65	64	53	45	53	42	26	23	22	25	20	21	23	40	29
6	103	80	69	79	75	82	66	44	41	48	27	34	39	31	26	24	27	23	31	18
7	91	84	82	79	75	59	63	51	42	54	34	25	39	20	21	24	28	16	38	31
8	100	87	80	92	75	58	57	51	38	44	35	27	32	23	25	27	24	15	30	19
9	89	93	99	75	63	67	51	39	32	48	28	24	27	19	34	25	29	21	21	21
10	94	85	68	69	96	71	57	40	68	57	37	22	34	18	24	31	27	19	35	31
11	80	65	80	68	84	61	51	41	74	108	48	36	31	41	32	27	28	30	14	27
12	83	93	98	78	69	49	49	54	64	357	50	27	34	26	32	25	26	16	28	23
13	105	98	111	75	86	57	53	47	32	818	46	38	30	28	35	30	24	28	21	28
14	103	93	80	70	73	63	55	36	49	706	42	28	38	27	23	30	34	27	23	18
15	101	85	66	92	72	59	65	45	34	143	46	34	39	36	21	49	20	30	21	19
16	87	95	93	65	70	54	61	64	54	43	27	23	24	22	24	58	22	21	22	36
17	109	119	74	91	84	58	64	56	49	30	43	28	27	21	21	119	26	25	16	26
18	95	83	74	64	78	69	51	53	44	38	38	29	32	32	22	78	25	25	23	25
[illegible]	87	77	98	66	81	60	52	49	50	46	29	30	32	37	26	42	24	19	19	31
[illegible]	82	84	81	90	69	59	62	60	52	27	32	39	25	19	22	24	26	34	30	21
[illegible]	88	96	110	75	69	61	54	45	47	33	15	34	29	34	25	26	19	29	24	25
[illegible]	82	91	209	85	71	63	54	59	47	29	36	33	46	26	31	24	28	18	16	30
23		80	186	74	67	62	58	60	44	36	32	24	59	30	23	30	27	35	15	21
24		91	124	88	84	60	51	35	43	42	35	29	54	27	19	20	17	33	24	24
25	[illegible]	[illegible]	74	86	86	53	53	51	35	41	36	32	31	35	37	21	22	25	23	20
26	9[illegible]		85	89	65	62	67	56	36	45	37	31	33	16	30	23	23	22	21	26
27	72		75	86	80	45	48	56	51	43	28	28	38	37	32	21	25	33	20	21
28	89	[illegible]	[illegible]	76	74	49	45	46	36	30	33	33	40	29	28	23	19	16	27	28
29	86	65	[illegible]	84	65	74	51	51	36	31	37	31	30	29	27	15	29	23	23	21
30	85	94	[illegible]	88	67	54	66	84	55	29	28	28	23	38	25	21	39	32	30	21
31	87	97	[illegible]	80	77	58	52	64	46	25	33	34	27	18	36	17	28	20	28	23
32	97	90	[illegible]	78	87	58	61	46	40	50	25	40	46	19	50	21	25	36	25	20
33	96	84	70	79	66	78	43	67	44	40	33	41	68	32	41	15	22	27	12	25
34	98	87	79	90	74	52	54	46	42	22	34	42	63	22	19	24	19	27	20	22
[illegible]	82	65	79	91	69	55	59	39	53	31	28	41	36	29	33	22	25	27	33	18
[illegible]	94	88	85	[illegible]	66	58	70	36	39	32	37	32	32	39	18	29	16	27	17	28
[illegible]	105	77	75	[illegible]	81	61	55	55	40	38	22	26	32	23	29	29	15	13	23	25
[illegible]	[illegible]	71	82	[illegible]	74	55	65	44	50	37	30	29	29	17	24	24	30	25	32	22
39	86	76	76	84	93	47	64	52	38	31	25	51	25	28	31	17	25	25	26	17
40	90	73	76	87	94	80	53	46	45	33	20	88	54	32	23	18	25	27	20	20
41	85	80	88	80	114	57	60	45	48	34	40	98	40	26	31	27	22	26	24	19
42	96	81	85	74	83	69	53	36	53	36	26	69	38	25	25	20	32	29	21	23
43	80	68	85	86	77	46	55	49	40	36	34	42	29	24	28	22	20	30	22	21
44	87	81	82	67	67	67	51	55	40	37	46	78	26	32	25	29	21	24	31	20
45	97	85	54	73	57	56	58	45	46	35	28	104	30	21	26	28	15	21	27	29
46	86	95	58	83	70	74	52	44	46	31	41	91	26	31	22	18	27	17	28	23
47	99	83	62	64	79	49	46	62	46	40	36	53	22	27	19	33	20	24	18	21
48	80	86	75	61	63	48	49	57	46	46	34	28	18	26	33	27	24	28	23	20
49	73	90	84	86	69	51	51	51	44	58	20	34	27	24	35	22	38	25	16	19

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TITLE: 54529-37-A 92-02744-L-1 RECOUNT

FILE: 5452937A.HH;2

* CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 9 23 91 11 38 0

11/13/91 0928

3/27/92 SAL

TIME OF COUNT: 3 26 92 15 50 0

(266652. MINUTES DECAY TIME)

LIVE TIME: 17 HOURS 3 MINUTES 43 SECONDS = 1023.72 MINUTES

ELAPSED TIME: 17 HOURS 4 MINUTES 30 SECONDS = 1024.50 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

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5452937A.HH:2 54529-37-A 92-02744-L-1 RECOUNT

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	61423	670	510	407	342	240	212	143	127	92	84	67	59	56	62	51	52	28	38	25
1	5	683	439	428	313	273	353	141	123	90	80	58	45	59	46	38	37	32	32	29
2	8	606	444	431	367	193	207	171	111	114	88	80	67	58	47	58	45	30	26	19
3	1	650	489	389	350	238	175	215	116	94	81	57	72	49	56	46	47	30	29	36
4	5	677	444	430	338	246	174	171	113	112	103	74	71	64	44	47	45	23	27	33
5	3	615	495	489	366	236	182	121	104	98	94	60	56	51	62	49	47	37	32	36
6	10	567	531	402	347	230	185	142	111	93	73	66	76	50	66	45	41	34	28	26
7	49	608	455	420	353	247	160	139	102	91	79	79	59	63	51	64	45	30	45	28
8	268	609	451	410	351	236	174	132	128	104	91	68	53	47	61	46	42	32	31	35
9	459	564	510	377	399	235	201	121	124	89	77	71	58	41	57	49	39	32	27	25
10	602	592	490	388	616	214	178	146	152	100	116	59	112	58	51	41	35	25	40	28
11	699	575	431	434	345	231	193	123	134	111	209	64	149	59	44	35	36	38	35	24
12	909	541	446	308	315	213	148	128	119	103	415	66	73	73	48	41	30	97	188	29
13	968	577	475	407	331	221	189	126	132	113	257	60	50	98	58	52	38	54	375	31
14	948	634	487	427	320	224	182	132	100	106	137	96	61	64	50	46	26	35	131	19
15	1026	553	460	356	300	208	199	145	103	145	74	70	56	64	43	51	35	38	36	33
16	1030	576	477	354	323	200	171	132	95	80	88	82	70	60	47	42	38	43	34	77
17	1087	612	470	392	316	226	195	133	113	96	80	72	52	69	56	39	41	30	21	79
18	1079	543	450	383	297	210	141	148	116	97	76	73	65	55	55	47	42	30	25	42
19	1056	554	450	415	274	241	172	142	101	89	94	83	52	52	40	50	35	28	29	42
20	1078	579	432	402	323	233	142	134	101	71	81	79	61	49	49	48	29	29	23	141
21	1123	565	461	412	344	373	163	121	97	100	68	83	66	57	49	38	46	34	26	207
22	1100	578	445	368	329	251	156	152	91	98	76	67	60	45	49	53	40	33	26	71
23	1079	688	435	357	285	219	166	137	91	77	83	70	61	46	41	48	44	23	32	32
24	1033	612	446	356	267	216	181	126	100	90	76	75	61	57	44	55	39	32	23	21
25	1010	998	445	387	289	193	191	133	102	100	89	92	64	55	42	42	31	41	30	17
26	965	812	450	394	293	209	175	142	99	78	73	72	58	68	40	44	43	29	25	37
27	943	819	479	390	284	204	186	119	101	95	70	68	71	51	53	39	35	32	28	14
28	982	686	445	359	289	296	192	136	94	94	78	67	55	56	101	28	44	40	22	21
29	906	511	547	375	288	228	283	123	108	80	88	62	65	42	149	43	41	22	19	30
30	946	502	580	382	285	219	165	136	106	79	73	69	63	51	74	43	32	34	22	23
31	859	466	448	364	284	192	160	127	99	71	69	60	57	57	56	45	40	27	30	20
32	902	501	489	367	296	197	142	108	94	88	80	69	51	52	44	48	50	38	21	20
33	868	517	475	354	317	186	158	119	113	77	83	103	56	54	44	53	35	34	35	19
34	843	543	412	356	290	215	166	131	96	86	63	478	52	46	56	44	42	30.	35	22
35	814	728	452	393	328	182	138	118	93	87	70	484	58	59	48	46	37	35	31	24
36	771	561	458	456	300	223	157	132	84	85	59	86	56	57	45	46	46	29	23	20
37	751	608	428	430	284	189	151	131	114	74	72	58	65	46	40	56	44	27	28	27
38	778	751	429	392	342	200	185	135	88	94	94	60	53	67	47	44	39	32	35	30
39	779	512	447	336	2201	219	578	118	99	88	69	70	70	53	37	44	33	29	23	25
40	843	575	478	382	1949	217	371	119	97	74	72	71	61	67	34	35	31	27	21	31
41	708	580	458	380	359	163	159	123	108	99	78	67	81	48	51	49	39	29	30	30
42	741	511	433	392	515	193	185	134	109	87	81	62	59	45	59	39	47	27	21	25
43	700	651	405	322	295	195	158	123	107	91	66	53	58	49	45	49	39	26	30	21
44	703	667	471	351	266	180	152	108	105	99	86	65	47	52	42	35	36	29	20	30
45	726	507	470	346	261	191	155	110	111	85	67	73	53	60	39	50	41	34	20	16
46	716	444	439	334	209	204	133	104	117	83	62	69	68	39	40	99	30	38	32	26
47	620	426	440	331	228	192	155	129	99	89	73	79	52	58	49	88	40	25	25	22
48	670	436	413	361	217	165	160	128	107	73	76	81	63	55	52	55	33	26	23	21
49	630	485	413	385	213	180	141	131	90	64	72	65	62	64	47	27	35	32	25	21

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5452937A.HH;2 54529-37-A 92-02744-L-1 RECOUNT

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	18	19	16	25	19	22	20	11	11	11	6	5	5	5	6	9	9	10	5	2
1	25	32	16	20	19	12	14	8	14	9	7	11	8	9	12	6	6	7	3	6
2	31	18	19	24	24	21	16	14	14	16	12	13	7	10	5	3	4	5	7	3
3	35	26	20	13	22	19	13	17	13	9	10	10	9	8	7	7	6	7	8	5
4	19	29	17	22	14	22	11	19	11	6	10	5	5	5	8	4	2	6	10	7
5	22	25	17	28	27	17	19	9	10	12	7	3	6	10	3	4	6	5	12	11
6	26	29	17	22	13	24	16	18	12	18	8	3	8	5	8	7	10	9	5	10
7	25	27	22	23	26	20	11	15	14	10	9	4	7	9	8	0	4	5	7	8
8	28	15	20	12	14	18	15	10	7	11	12	8	8	7	8	5	9	9	6	4
9	25	25	20	18	20	19	20	9	15	18	8	9	11	7	2	5	8	14	7	2
10	33	25	16	22	32	9	16	7	17	20	12	8	9	9	3	8	4	10	6	8
11	31	20	18	16	24	15	7	11	19	35	12	8	4	8	3	9	9	7	3	9
12	28	17	28	26	22	18	20	8	14	134	12	8	10	6	7	9	9	10	9	5
13	22	25	25	20	19	15	12	14	16	228	12	11	13	9	6	13	6	4	4	6
14	25	28	27	10	20	19	16	15	10	130	8	5	8	10	11	4	7	7	5	9
15	17	25	19	29	16	14	12	14	14	30	15	3	6	7	12	14	7	6	8	5
16	19	21	20	16	23	13	8	13	11	9	10	10	5	4	8	20	6	9	4	6
17	22	26	23	17	13	19	9	11	11	10	7	7	8	8	6	31	7	5	6	12
18	25	21	26	17	24	19	22	13	12	9	9	2	8	7	4	14	4	5	7	9
19	21	11	18	15	21	20	15	12	11	7	6	9	7	6	7	7	8	5	5	8
20	35	20	26	21	23	26	13	13	16	8	8	9	8	5	12	7	5	5	7	12
21	14	23	28	25	17	9	16	11	11	2	4	14	11	8	12	6	10	8	7	2
22	25	19	40	15	21	23	21	11	12	9	13	12	13	9	5	6	4	4	5	2
23	29	21	33	28	18	16	12	14	6	12	4	6	14	6	7	5	9	6	3	7
24	20	23	24	23	25	12	22	13	15	7	10	13	10	10	9	9	6	10	4	5
25	23	19	25	30	17	14	13	13	21	8	8	4	11	7	10	4	13	5	10	9
26	21	25	19	21	13	8	13	13	9	3	8	12	7	8	8	5	4	5	3	2
27	21	25	14	21	30	10	11	20	12	13	11	9	13	6	7	7	8	11	4	2
28	32	29	18	15	25	15	19	13	8	18	7	5	7	4	10	7	10	4	3	13
29	17	27	20	21	14	16	12	22	14	13	4	9	5	5	3	6	6	5	10	6
30	14	21	21	14	23	15	11	16	9	12	10	6	4	5	6	7	5	6	4	6
31	21	25	25	24	21	19	13	19	11	6	7	4	8	7	8	11	6	12	5	6
32	25	20	15	15	6	15	8	14	15	7	12	14	16	7	14	5	9	4	3	9
33	17	21	23	15	20	20	13	7	14	5	9	14	15	2	3	10	7	6	13	9
34	21	20	28	17	18	19	24	6	9	4	9	6	15	12	5	6	3	7	12	7
35	18	21	20	20	13	17	21	5	9	15	8	11	8	10	6	6	7	8	6	4
36	28	17	18	12	18	11	8	14	9	12	11	5	11	10	2	9	4	3	7	7
37	15	19	14	20	27	12	14	18	10	7	5	14	3	7	6	4	5	6	6	4
38	18	26	11	14	25	11	16	12	15	9	10	9	5	9	11	11	6	4	4	1
39	17	25	15	12	24	22	12	11	8	10	8	14	7	10	7	3	6	9	10	8
40	22	23	14	13	32	17	16	9	18	14	6	26	6	5	10	5	5	3	7	10
41	26	23	13	22	19	14	14	12	13	7	9	25	7	6	12	10	8	9	7	5
42	24	33	16	11	23	22	14	9	10	10	8	13	2	10	12	4	6	3	1	4
43	18	22	27	22	19	19	12	9	8	10	6	11	10	9	8	6	7	5	4	3
44	22	20	14	22	16	20	19	15	19	16	5	23	6	8	9	6	9	6	7	5
45	22	13	15	26	14	17	14	12	8	11	6	36	6	6	13	7	9	7	8	6
46	22	28	21	15	17	22	13	7	8	11	11	18	8	10	6	4	4	4	6	7
47	29	25	17	23	15	14	16	13	13	7	3	9	8	3	6	7	9	7	7	8
48	17	25	15	19	23	17	15	14	7	16	7	6	5	5	2	9	14	9	4	5
49	18	19	14	15	16	16	14	17	7	12	12	10	8	8	11	5	5	7	8	9

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TITLE: 54529-38-A 92-02745-L-1

FILE: 5452938A.HH:1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 13 91 10 23 0

TIME OF COUNT: 3 19 92 13 23 0

(183060. MINUTES DECAY TIME)

LIVE TIME: 27 HOURS 24 MINUTES 10 SECONDS = 1644.17 MINUTES

ELAPSED TIME: 27 HOURS 25 MINUTES 24 SECONDS = 1645.40 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/23/92 GA Lopel

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5452938A.HH;1 54529-38-A 92-02745-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	98650	1090	826	668	578	420	333	240	197	156	123	110	104	92	98	87	68	54	47	42
1	5	1061	748	639	535	362	525	239	194	148	152	135	110	77	85	73	56	52	52	52
2	0	970	768	681	578	382	349	323	176	181	154	113	127	83	82	79	66	63	45	44
3	1	996	734	696	527	390	334	469	188	161	137	139	104	95	107	74	54	49	57	44
4	5	1127	718	720	554	437	290	258	198	182	112	127	109	91	90	96	61	43	43	46
5	8	988	769	760	557	366	303	205	182	153	137	96	95	90	84	91	67	59	47	39
6	18	1011	825	690	552	343	303	249	191	166	149	138	104	86	75	76	61	51	79	50
7	68	926	795	663	571	384	266	213	185	152	137	128	94	94	92	107	47	58	66	46
8	404	938	715	708	547	386	266	230	184	147	145	110	120	80	67	80	70	53	43	46
9	689	973	818	633	569	378	273	217	188	137	149	115	117	97	98	79	50	60	43	38
10	949	985	810	665	1026	369	263	220	257	177	221	111	239	86	102	64	59	67	57	38
11	1235	992	762	627	599	370	287	223	259	136	386	126	346	98	60	65	70	71	89	55
12	1495	949	765	635	511	364	287	249	196	166	605	115	140	107	75	64	54	138	281	49
13	1628	917	774	594	482	354	277	219	180	176	405	138	99	151	82	80	69	91	592	44
14	1537	999	736	695	530	364	300	221	170	304	237	147	104	127	81	88	63	57	232	53
15	1528	960	755	633	499	379	315	196	163	202	149	113	102	98	68	88	46	55	55	43
16	1653	907	797	645	552	318	268	200	212	146	134	126	99	103	85	76	63	53	47	131
17	1766	977	775	666	522	376	277	218	167	152	135	139	103	94	91	52	64	46	46	127
[illegible]	1808	972	710	645	512	344	271	222	185	159	119	104	105	85	74	86	61	52	43	59
[illegible]	1639	927	736	619	487	354	268	226	184	146	128	113	95	77	78	87	54	52	39	61
[illegible]	1670	909	717	613	533	378	266	184	175	137	121	122	102	89	68	93	63	58	44	219
[illegible]	1779	943	750	643	511	616	260	211	151	159	115	133	109	78	69	80	62	59	45	351
[illegible]	[illegible]	942	760	622	501	401	263	211	178	151	119	124	81	99	66	67	54	53	48	126
[illegible]	[illegible]	1138	732	633	500	323	265	192	183	156	120	135	86	96	81	84	66	52	48	45
[illegible]	[illegible]	980	754	649	514	362	275	222	173	159	94	120	87	84	80	78	50	50	58	50
[illegible]	[illegible]	1575	742	642	519	343	241	215	158	162	117	104	98	85	73	80	49	43	30	53
[illegible]	[illegible]	[illegible]	766	615	508	339	271	205	176	151	136	101	96	96	79	66	60	58	38	37
[illegible]	[illegible]	[illegible]	779	624	492	348	269	238	168	139	122	109	100	95	82	65	49	54	47	54
[illegible]	[illegible]	[illegible]	804	613	505	462	317	232	167	146	112	107	109	78	186	80	62	61	56	40
29	[illegible]	[illegible]	765	603	470	350	455	214	180	143	120	92	110	83	266	59	67	39	51	33
30	147[illegible]	[illegible]	967	622	524	363	315	219	176	152	117	98	106	91	120	69	48	50	52	39
31	1450	[illegible]	715	637	473	315	260	191	198	134	106	124	96	83	77	65	82	39	40	35
32	1417	[illegible]	[illegible]	622	506	315	274	202	148	140	111	105	94	84	92	66	69	49	64	34
33	1397	[illegible]	[illegible]	628	464	333	257	186	178	137	137	154	97	71	91	70	65	44	39	35
34	1428	845	[illegible]	[illegible]	473	328	285	193	184	154	124	704	37	85	69	84	52	52	47	38
35	1332	1167	[illegible]	[illegible]	489	327	241	184	176	126	127	827	68	99	76	72	67	29	68	43
36	1360	983	[illegible]	[illegible]	461	302	278	211	171	155	125	155	84	85	79	77	62	47	56	31
37	1301	945	[illegible]	[illegible]	460	299	260	211	149	146	119	107	92	95	73	85	93	58	45	41
38	1251	1117	[illegible]	[illegible]	559	354	299	217	174	136	118	88	99	100	82	85	93	40	39	43
39	1316	854	659	[illegible]	3546	327	949	190	148	152	142	126	94	96	67	76	55	56	45	41
40	1229	986	733		3114	311	624	200	192	146	102	91	92	65	82	69	61	39	39	52
41	1204	930	737		511	328	253	193	162	145	123	112	104	105	71	64	56	40	39	41
42	1267	751	703		882	321	255	187	187	131	132	111	83	80	82	71	70	49	37	35
43	1234	1063	686	[illegible]	505	322	218	205	152	140	127	106	122	83	97	57	63	50	48	35
44	1184	1044	765	[illegible]	404	317	234	179	169	130	119	95	90	96	79	63	65	51	43	39
[illegible]	1193	749	767	528	413	353	249	195	151	127	102	96	82	96	79	73	59	48	50	42
[illegible]	1143	728	693	552	396	477	230	204	166	140	122	101	93	84	55	126	62	66	49	41
[illegible]	1128	758	708	574	406	317	269	183	153	123	113	128	105	88	72	135	43	45	43	34
[illegible]	1092	746	669	553	388	332	217	223	162	135	116	135	87	90	82	68	64	56	45	39
[illegible]	1034	720	684	612	386	276	228	214	170	118	112	90	100	82	63	64	62	56	45	39

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5452938A.HH:1 54529-38-A 92-02745-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	36	42	[illegible]	29	26	32	29	26	13	15	22	19	16	9	12	7	15	19	13	13
1	28	27	27	27	25	28	17	25	22	21	13	11	19	11	7	8	8	15	9	9
2	47	38	43	31	35	34	31	21	13	19	16	10	13	16	9	8	14	13	9	11
3	42	38	24	23	39	25	23	28	19	19	21	21	19	15	8	11	7	14	7	14
4	49	32	36	29	33	33	31	25	13	14	19	11	15	11	11	6	9	6	4	9
5	40	49	35	25	33	20	26	22	13	13	21	16	15	8	17	6	8	8	9	10
6	45	25	38	37	28	40	27	14	20	22	21	15	11	9	13	9	8	6	5	12
7	41	39	39	37	26	32	16	26	24	16	12	10	8	13	9	9	4	18	9	8
8	31	48	33	44	39	24	27	24	17	16	17	17	12	13	12	7	13	13	6	6
9	37	30	35	32	43	21	25	30	22	18	14	15	6	13	16	9	8	6	11	4
10	40	39	34	27	28	32	21	24	17	20	14	21	9	9	12	8	14	9	13	4
11	37	35	38	23	39	29	24	20	15	39	14	16	14	19	18	5	13	7	15	11
12	30	42	36	31	24	26	25	24	32	206	21	12	8	9	9	8	10	13	14	7
13	43	45	36	38	27	27	15	17	15	363	15	18	11	5	18	15	13	9	7	8
14	[illegible]	24	22	24	34	26	23	28	22	233	12	10	12	5	9	8	3	12	9	13
15		38	43	32	35	16	31	23	20	39	23	13	9	13	5	24	5	11	13	9
16		[illegible]	39	31	34	22	29	25	21	18	17	10	5	18	15	36	11	10	12	8
17			37	30	37	25	32	23	29	22	23	16	10	17	13	49	13	5	14	11
18			22	37	25	29	16	17	12	25	14	17	16	13	13	33	10	8	6	16
19			30	36	25	27	22	20	22	19	11	8	12	13	6	22	17	13	6	1[illegible]
20			53	38	33	30	29	16	16	14	16	15	7	13	8	10	13	4	12	5
21			[illegible]	35	32	24	30	33	10	14	5	10	16	8	6	14	9	7	9	11
22				39	28	23	23	21	20	12	14	11	24	12	10	12	7	10	11	6
23	3[illegible]			27	44	30	21	14	18	12	14	13	25	14	21	12	13	8	15	11
24	32			33	30	23	19	21	26	17	11	10	15	6	12	10	11	16	8	11
25	27			30	27	34	17	22	13	8	14	20	11	7	12	10	10	9	10	13
26	33			40	29	21	20	24	15	13	8	15	17	13	10	4	7	8	5	12
27	44			31	22	20	26	26	25	14	15	12	17	6	3	11	10	8	11	8
28	30			29	43	34	21	19	27	13	10	14	15	15	6	12	18	5	10	7
29	51	36		[illegible]	30	21	33	26	22	12	14	10	14	11	16	14	13	4	5	9
30	41	31			29	19	23	34	25	11	17	14	7	12	8	13	9	9	3	11
31	32	52	[illegible]		25	24	20	15	13	6	21	12	24	20	12	10	13	5	6	10
32	52	49	35		28	27	24	15	20	21	19	20	32	11	22	11	13	8	11	7
33	33	32	38	[illegible]	29	34	21	20	11	13	12	20	36	13	22	8	17	8	9	13
34	35	36	30	[illegible]	30	27	30	22	13	9	17	10	15	12	11	10	13	6	13	9
35	33	36	28	31	38	28	22	25	20	17	18	14	10	12	12	6	8	7	9	15
36	26	34	32	34	30	21	23	25	16	13	10	20	15	10	10	14	13	10	12	10
37	24	41	33	27	34	20	10	23	23	13	14	11	13	11	13	11	8	13	10	16
38	47	39	41	35	28	31	24	23	12	11	10	13	13	12	11	8	11	16	9	7
39	30	36	27	35	33	25	21	14	12	20	23	23	13	13	12	13	10	6	11	10
40	37	47	33	31	48	23	21	17	19	13	19	55	15	13	6	10	8	15	6	8
41	33	36	39	21	51	30	19	23	20	12	23	48	21	12	9	9	7	13	10	11
42	36	38	39	23	35	23	21	15	19	14	20	22	10	13	8	16	14	6	9	15
43	35	30	41	28	27	28	25	18	14	8	13	14	14	10	13	15	2	11	15	15
44	36	36	25	29	29	35	30	21	15	16	13	35	8	6	11	10	6	10	5	9
45	30	36	33	37	30	23	17	22	16	11	17	52	6	11	13	10	16	17	7	9
46	43	34	35	26	28	21	28	26	22	19	6	20	12	13	11	3	12	2	12	10
47	30	39	29	26	25	20	29	23	22	22	17	16	11	12	9	11	8	9	9	8
48	34	39	30	27	39	32	27	21	12	28	15	14	9	15	16	10	14	11	5	13
49	31	46	36	32	28	14	18	21	23	16	14	15	12	10	7	13	15	13	8	10

D03-[illegible]

TITLE: 54529-39-A 92-02746-L-1

FILE: 5452939A.HH:1

* CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 15 91 11 53 0 11/12/91@0844

TIME OF COUNT: 3 12 92 17 33 0

(170260. MINUTES DECAY TIME)

LIVE TIME: 23 HOURS 52 MINUTES 50 SECONDS = 1432.83 MINUTES

ELAPSED TIME: 23 HOURS 53 MINUTES 55 SECONDS = 1433.92 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/23/92 EA Lopel

D03-274

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5452939A.HH:1 54529-39-A 92-02746-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	85970	893	744	605	543	335	299	222	165	145	137	95	105	68	82	71	50	50	35	31
1	5	920	676	624	493	326	467	219	169	138	118	120	94	57	80	61	42	42	48	30
2	0	906	631	602	504	336	273	311	186	144	111	128	86	87	87	61	67	51	46	38
3	1	912	656	611	477	346	271	396	160	155	124	107	98	83	91	70	63	49	38	44
4	2	954	616	641	476	345	252	221	181	168	129	91	85	91	75	54	65	46	62	38
5	10	856	678	677	505	352	233	215	162	136	117	87	95	85	82	60	48	41	60	44
6	7	896	719	556	480	300	269	180	154	118	108	92	98	76	86	87	50	42	44	36
7	22	848	666	585	498	362	244	186	186	150	139	101	80	75	77	83	63	61	40	36
8	138	844	652	597	484	306	256	220	173	149	135	90	76	100	74	66	62	40	39	38
9	544	841	693	586	507	338	254	197	189	134	137	99	151	70	88	57	55	52	38	33
10	765	801	670	584	853	343	286	214	277	130	204	95	408	70	96	71	57	62	69	35
11	1009	838	667	581	509	297	233	189	190	136	430	84	173	76	73	70	50	115	250	45
12	1330	862	690	581	467	280	232	174	142	148	523	122	93	115	69	65	51	96	526	34
13	1525	810	661	574	433	307	238	186	157	200	269	134	98	99	68	67	59	53	222	42
14	1529	879	707	626	489	345	266	191	177	311	157	131	90	89	75	78	58	56	52	46
15	1418	844	684	546	466	307	249	170	145	135	121	94	103	58	72	67	56	47	42	107
16	1445	802	687	600	456	304	238	184	160	135	115	88	99	74	56	54	45	45	49	87
17	1454	809	636	581	499	310	229	187	141	116	113	101	108	81	66	59	57	46	48	54
18	1660	784	656	598	452	335	225	204	144	131	119	96	92	89	65	61	52	30	36	66
19	1623	821	656	560	450	324	244	171	182	128	98	106	88	68	79	87	48	41	53	218
20	1572	859	653	594	397	336	238	167	166	129	118	81	84	80	66	64	56	55	38	290
21	1556	876	637	558	451	543	252	208	147	118	108	112	114	73	73	65	55	41	43	109
22	1525	779	609	542	408	307	252	178	159	134	113	99	97	74	72	69	51	42	37	38
23	1542	980	665	578	428	325	276	178	151	134	113	89	94	75	82	92	56	33	36	37
24	1537	942	608	540	416	323	254	180	152	116	103	88	80	64	58	63	53	44	43	28
25	1402	1321	624	546	462	285	238	190	145	132	112	76	72	76	80	44	60	50	43	30
26	1407	1264	701	613	447	290	239	196	161	133	99	92	74	64	69	58	49	54	32	30
27	1409	1010	658	560	446	282	260	170	162	140	101	90	87	101	108	62	48	43	36	28
28	1393	1415	661	560	470	417	302	206	169	137	121	104	91	83	226	54	42	37	33	41
29	1340	807	754	526	414	355	410	191	154	144	105	111	86	75	132	64	41	38	35	36
30	1406	789	883	516	409	295	263	185	140	135	111	100	87	82	78	60	44	31	44	34
31	1340	704	658	529	431	283	213	199	146	132	114	114	82	82	65	59	67	45	36	31
32	1244	750	676	526	441	293	249	171	158	127	102	101	90	89	52	59	58	53	45	40
33	1269	732	670	556	412	290	268	183	163	115	120	334	97	80	59	72	57	39	49	32
34	1263	719	669	586	440	325	219	157	137	141	95	925	81	68	69	54	50	44	41	38
35	1214	1059	696	563	424	272	226	190	128	137	113	307	99	75	59	71	52	33	43	31
36	1227	826	626	671	428	285	236	185	158	122	104	107	72	65	72	60	78	32	35	37
37	1165	788	667	631	393	262	222	188	121	139	96	99	79	71	63	70	63	54	39	38
38	1114	1111	635	536	504	311	341	173	142	125	118	99	65	80	70	74	59	49	43	35
39	1099	779	690	536	3571	299	973	145	136	121	110	98	72	77	71	47	61	46	40	40
40	1108	840	673	507	2380	264	383	200	163	128	100	79	75	77	63	54	64	42	37	28
41	1027	821	625	522	482	295	227	157	145	112	111	82	95	65	69	55	68	41	35	36
42	1101	695	686	540	705	267	244	172	157	112	92	96	78	71	60	62	60	51	42	32
43	1047	869	650	497	398	309	213	161	145	121	102	102	82	53	50	59	57	45	38	34
44	984	1011	669	484	362	281	218	187	180	125	91	94	73	68	72	58	45	58	29	41
45	1004	676	691	472	344	251	206	183	152	115	96	87	82	83	73	109	52	39	35	41
46	972	648	597	449	369	453	234	152	144	132	107	110	85	75	74	142	48	49	35	43
47	1024	666	628	505	340	307	200	158	147	122	123	117	90	73	65	80	47	43	45	37
48	936	610	641	497	335	279	196	188	136	120	111	107	84	90	87	44	49	44	45	33
49	903	661	595	565	357	267	206	174	152	128	109	98	81	77	53	49	43	58	37	40

D03-23

8 7 6

54529390.HH:1 54529-39-A 92-02746-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	32	33	30	25	24	32	29	15	20	14	15	14	13	8	6	13	9	10	4	8
1	31	34	19	32	35	17	25	19	20	14	11	9	11	11	4	10	6	6	6	7
2	57	32	29	34	33	19	18	24	26	15	13	14	17	9	10	8	11	6	4	9
3	42	33	35	32	22	25	27	19	21	23	19	15	10	12	9	13	10	10	8	17
4	37	44	28	35	31	27	23	20	22	17	10	10	13	7	9	17	8	11	11	13
5	38	26	30	34	32	15	26	20	22	9	15	8	14	7	7	6	13	15	7	7
6	36	28	27	34	30	41	15	18	18	16	12	9	9	14	12	8	7	8	8	8
7	30	30	29	30	39	22	17	23	24	6	17	10	7	13	12	10	6	9	16	12
8	36	25	30	25	35	22	28	20	18	18	12	14	12	8	7	5	8	9	17	9
9	34	27	32	21	23	22	15	18	19	36	11	12	8	11	12	15	10	17	11	10
10	42	34	42	29	37	24	19	13	15	119	15	13	13	10	6	6	5	8	8	10
11	27	26	23	26	27	20	15	14	17	320	14	9	7	17	7	9	14	6	5	8
12	35	24	45	37	24	20	21	23	16	241	16	11	13	9	9	13	19	6	11	7
13	34	45	21	19	35	34	23	24	18	72	17	11	11	8	11	12	4	12	9	7
14	36	24	28	27	21	22	21	24	18	12	13	13	10	6	17	42	12	10	5	8
15	39	32	25	29	30	24	13	23	13	15	13	10	13	11	14	48	10	4	9	4
16	22	44	21	31	18	27	24	17	8	10	9	9	13	12	6	29	7	13	12	8
17	41	35	34	23	25	18	16	22	11	17	14	20	8	18	11	13	8	11	12	9
18	29	42	23	33	33	30	27	15	11	15	12	9	11	9	12	12	4	4	12	8
19	26	29	39	28	27	21	22	11	18	19	11	11	9	10	15	10	9	6	14	10
20	32	32	56	34	29	24	22	13	19	15	17	14	20	6	8	11	2	7	16	8
21	35	33	77	27	31	14	17	22	15	9	16	11	32	6	5	11	6	3	6	4
22	32	24	36	26	28	24	18	20	14	12	9	10	24	8	7	7	11	9	8	5
23	29	22	43	30	29	31	25	23	17	10	18	10	11	9	8	10	3	11	9	8
24	27	37	48	39	22	26	14	15	12	15	8	9	13	10	10	9	13	7	9	17
25	38	33	24	34	26	27	32	20	8	16	5	11	19	10	7	16	7	8	10	12
26	34	26	34	23	28	24	20	10	18	12	12	7	16	10	18	9	6	3	8	7
27	34	35	32	34	28	22	15	17	17	15	18	5	16	9	5	6	12	9	7	8
28	38	36	38	19	35	24	21	35	11	12	16	8	13	11	15	10	14	12	11	7
29	28	28	25	27	26	30	29	26	14	13	17	6	19	5	16	8	11	5	6	5
30	31	33	18	26	37	17	21	22	17	13	6	17	21	7	20	8	12	9	11	12
31	43	30	32	27	25	22	22	19	17	21	17	15	18	11	21	9	8	10	4	10
32	28	31	24	35	24	32	19	14	24	14	14	16	21	9	8	14	10	11	8	9
33	35	39	29	25	27	27	25	16	11	16	15	13	13	12	10	13	6	10	7	12
34	40	30	34	30	32	26	22	15	18	11	14	12	10	5	11	7	9	7	5	6
35	24	34	25	16	28	25	16	20	19	10	18	12	15	8	12	6	9	6	8	10
36	33	33	27	23	25	20	20	22	11	17	13	11	13	8	10	8	17	4	8	7
37	35	32	27	17	32	30	17	18	12	10	14	23	6	13	5	3	9	7	9	6
38	25	31	37	28	37	18	19	20	17	10	16	42	12	8	8	5	10	16	8	10
39	31	30	30	32	50	25	18	17	16	15	17	40	14	14	10	7	4	2	10	6
40	43	37	24	32	31	20	29	15	15	7	11	19	10	10	14	16	7	9	10	5
41	34	30	29	33	26	21	25	21	12	13	6	12	6	12	9	10	4	9	6	9
42	38	26	31	30	27	26	19	14	17	14	15	26	7	12	5	7	10	4	11	9
43	28	26	33	24	22	19	23	16	15	11	16	53	14	11	9	8	8	9	7	7
44	37	42	38	32	29	33	25	18	16	7	18	40	6	4	7	10	12	8	9	9
45	41	40	27	27	19	26	27	19	10	9	9	15	8	8	5	14	14	9	11	11
46	23	42	28	34	28	28	21	8	14	22	5	12	13	9	15	13	11	12	8	10
47	20	38	19	26	40	19	11	17	11	19	10	8	14	10	12	6	13	5	8	9
48	42	31	28	32	29	24	29	11	10	14	12	12	6	8	9	7	13	7	11	13
49	26	38	21	20	28	18	20	14	18	15	13	19	5	14	10	10	10	11	5	13

003-279

TITLE: 54529-40-A 92-02747-L-1

FILE: 5452940A.HH;1

* CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 12 91 12 0 0 09.44 3/23/92 E.A. Rogel

TIME OF COUNT: 3 ~~19~~ 18 92 17 20 0

(184640. MINUTES DECAY TIME)

LIVE TIME: 19 HOURS 55 MINUTES 30 SECONDS = 1195.50 MINUTES

ELAPSED TIME: 19 HOURS 56 MINUTES 24 SECONDS = 1196.40 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D03-277

5452940A.HH:1 54529-40-A 92-02747-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	71730	730	602	517	440	295	232	197	135	104	91	81	90	65	67	50	53	36	42	34
1	5	773	577	511	403	271	362	163	165	90	110	83	70	65	72	55	40	45	37	26
2	0	782	554	554	414	286	270	187	143	114	95	78	110	62	59	58	50	36	35	15
3	0	733	543	507	447	272	205	339	149	125	94	88	86	69	63	45	45	42	35	24
4	3	807	548	489	397	295	238	190	135	140	88	97	72	57	64	56	59	37	21	38
5	8	732	585	547	409	289	202	169	147	111	102	77	85	71	75	54	50	42	35	35
6	13	715	620	541	409	281	197	169	148	119	85	89	84	62	71	62	40	35	60	25
7	42	748	560	502	407	290	227	158	136	108	107	63	75	59	72	59	40	41	38	25
8	301	695	524	472	394	280	203	177	162	120	99	88	97	63	79	62	51	40	33	25
9	531	652	604	504	428	255	212	151	126	113	107	90	82	65	67	56	44	39	27	22
10	669	676	570	526	672	297	218	163	183	128	150	83	191	63	69	50	46	47	47	36
11	861	715	545	462	384	269	215	168	201	103	245	86	253	85	54	63	34	62	48	28
12	1026	708	552	474	413	259	178	155	134	119	431	81	100	93	68	56	25	112	228	38
13	1186	709	553	472	394	261	207	173	142	120	311	85	65	116	59	61	40	82	492	31
14	1091	756	591	444	396	268	203	163	116	248	154	95	68	88	56	59	49	49	181	29
15	1091	715	533	474	385	264	207	153	131	171	114	90	84	62	69	69	42	44	43	45
16	1239	676	592	444	365	283	200	167	138	104	102	87	68	71	56	52	35	31	32	75
17	1240	720	483	481	369	262	203	157	127	96	82	88	67	70	55	51	43	35	33	77
18	1317	687	534	428	341	267	206	152	133	110	81	85	73	63	60	72	48	29	34	43
19	1310	660	565	476	353	264	198	145	118	117	77	77	81	81	45	54	40	32	31	62
20	1278	689	554	474	357	271	196	163	159	115	106	76	58	69	63	80	35	46	31	143
21	1188	702	553	460	386	484	183	145	115	92	88	81	59	69	58	50	39	38	33	262
22	1315	713	526	427	341	312	202	150	117	106	89	89	63	55	54	46	41	42	34	86
23	1195	836	509	473	372	223	222	174	128	96	85	89	71	54	56	58	40	33	29	33
24	1238	742	533	465	346	266	183	172	115	99	93	66	63	72	64	77	44	41	35	21
25	1197	1221	522	445	339	254	196	144	112	122	102	76	68	54	59	57	41	35	23	25
26	1159	979	568	491	370	229	221	139	131	110	95	89	79	59	58	40	39	29	37	29
27	1195	887	535	455	357	250	199	147	123	107	89	75	76	67	69	43	43	40	39	36
28	1138	1054	541	463	360	349	202	129	136	104	86	80	73	64	111	62	35	33	30	29
29	1077	590	621	449	323	276	338	176	106	108	86	83	74	67	197	50	53	31	25	21
30	1132	605	728	458	334	241	246	147	121	107	94	68	69	55	91	44	49	40	38	33
31	1081	590	562	483	359	265	179	155	130	103	90	89	69	63	48	44	47	33	31	41
32	1057	574	569	407	364	226	193	153	130	122	107	68	81	75	59	53	43	31	31	33
33	1027	580	541	433	339	255	216	160	124	103	83	125	68	75	58	60	37	37	33	26
34	934	663	535	459	367	257	188	152	120	121	93	514	74	69	70	51	39	44	35	27
35	1034	899	570	438	339	238	195	147	123	108	101	651	65	67	53	52	34	34	52	32
36	964	723	552	528	354	214	162	142	115	122	93	113	70	67	47	54	42	46	48	22
37	918	752	536	501	354	267	176	165	138	104	89	60	61	53	45	68	64	32	40	27
38	950	856	523	406	389	245	219	158	134	106	92	83	83	75	62	46	54	43	43	39
39	941	597	542	428	2501	276	664	170	125	90	87	87	56	65	52	44	32	41	33	31
40	915	722	579	435	2377	248	497	142	127	137	101	83	75	63	61	56	38	35	25	22
41	899	660	515	379	413	217	209	135	108	103	89	80	74	68	61	50	52	30	26	27
42	834	534	521	396	547	236	186	154	119	93	91	76	72	54	49	49	62	44	33	27
43	878	761	507	427	361	228	195	145	123	115	104	82	54	73	46	50	50	34	24	31
44	834	841	532	422	316	212	183	147	106	117	86	82	59	76	57	51	41	30	26	27
45	815	544	503	399	305	244	157	144	112	111	83	75	68	61	56	37	37	33	34	25
46	795	537	543	415	311	346	163	112	121	87	96	87	65	66	42	83	38	54	27	33
47	788	554	551	377	277	245	193	129	117	104	104	92	65	68	51	97	34	38	25	27
48	779	578	501	450	279	218	174	144	130	110	87	88	69	70	50	62	57	42	25	26
49	766	560	514	416	272	245	179	135	114	86	97	81	60	79	69	49	35	43	43	30

003-278

5452940A.HH:1 54529-40-A 92-02747-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	27	34	25	18	16	23	22	19	22	17	5	12	15	6	6	6	11	11	7	9
1	33	23	26	27	11	27	14	16	13	16	17	12	10	10	6	7	6	10	11	10
2	33	28	27	27	24	26	11	17	8	12	15	7	8	8	9	10	8	8	11	5
3	36	20	20	27	30	18	14	9	15	15	10	5	12	9	11	4	5	8	9	7
4	25	32	31	37	25	22	14	23	17	16	14	5	11	12	11	10	10	7	9	13
5	25	32	19	27	24	17	16	12	10	13	13	10	6	7	7	10	9	9	9	3
6	21	25	31	27	22	27	19	22	14	18	8	8	6	8	5	8	2	4	6	8
7	30	31	24	23	25	16	19	13	19	12	4	8	12	7	7	4	6	14	10	8
8	22	33	26	27	27	26	15	12	11	12	10	13	7	8	5	7	5	4	8	6
9	28	29	32	23	21	28	21	8	14	11	9	9	9	11	5	9	10	4	8	6
10	24	24	30	20	21	15	16	16	17	15	13	8	9	12	5	3	8	10	4	7
11	25	34	16	21	22	21	17	15	14	49	16	9	12	7	11	12	8	5	5	6
12	25	26	33	22	25	20	20	18	18	146	15	10	4	6	11	9	3	5	9	4
13	29	13	35	27	18	17	19	10	9	247	11	8	8	12	10	13	12	6	13	1
14	29	23	23	28	16	22	14	12	16	177	13	9	8	9	8	10	8	4	13	9
15	29	23	25	29	20	21	19	17	13	29	20	5	11	16	11	13	5	4	3	5
16	33	38	23	22	23	19	12	20	11	13	20	15	10	5	6	27	5	6	9	9
17	33	39	11	29	28	14	12	20	14	10	16	5	12	10	8	37	8	6	9	11
18	27	32	15	19	22	25	24	22	23	7	10	10	8	12	6	27	9	5	4	11
19	29	25	29	19	24	19	13	17	7	10	11	5	9	8	8	19	3	7	5	6
20	34	24	22	17	23	20	19	18	17	9	15	7	5	6	2	11	6	11	4	5
21	26	30	36	20	17	21	14	12	11	14	13	12	13	10	5	10	4	9	3	3
22	24	27	60	25	30	24	27	12	24	12	10	5	5	9	7	7	9	4	4	7
23	33	20	39	17	34	17	14	17	12	12	12	6	24	11	6	7	5	12	9	3
24	34	17	32	16	25	18	21	14	9	12	8	10	21	9	5	10	11	10	11	6
25	32	27	18	34	21	17	19	22	9	12	7	5	8	12	16	9	13	8	3	4
26	28	20	23	28	17	18	16	18	18	11	10	12	10	6	7	3	9	11	10	1
27	31	27	26	19	17	22	21	13	20	16	13	7	11	13	7	11	10	5	9	3
28	26	20	22	26	25	14	19	23	14	13	11	14	12	9	3	8	2	7	6	9
29	28	18	29	25	22	27	17	14	10	11	12	5	12	4	11	11	9	3	11	5
30	32	23	29	17	25	19	18	33	13	10	13	14	13	8	10	7	8	3	3	11
31	26	31	33	20	30	12	12	10	16	13	10	5	11	10	12	11	7	5	4	6
32	35	25	18	35	17	36	11	14	14	9	3	6	14	8	8	6	8	6	5	5
33	21	32	23	26	19	14	12	8	8	9	13	8	19	13	7	6	11	5	7	5
34	26	32	25	32	19	26	19	21	15	8	6	22	20	5	9	10	7	7	5	9
35	30	24	23	28	20	22	16	12	10	10	8	10	6	6	12	0	6	3	3	4
36	28	12	26	29	21	20	15	16	10	12	4	8	12	6	6	10	4	9	8	4
37	20	21	27	25	16	22	14	14	14	10	8	6	5	9	6	6	6	8	12	7
38	31	20	24	31	25	21	17	20	20	13	11	3	8	8	9	6	2	12	10	11
39	32	23	23	23	26	18	14	13	14	14	6	15	5	12	6	6	8	7	10	5
40	23	23	23	34	33	19	16	30	15	9	10	42	9	8	6	4	7	7	2	7
41	21	32	21	24	25	18	14	7	12	9	12	29	8	6	14	6	14	2	2	7
42	27	27	32	33	29	12	12	16	9	9	8	12	9	10	11	8	11	9	8	5
43	22	21	31	18	17	29	11	19	16	11	10	14	14	7	6	10	5	3	6	7
44	25	28	21	28	22	21	14	11	13	11	10	17	7	8	5	17	8	6	5	2
45	20	37	25	31	25	23	16	21	17	11	4	47	3	8	6	5	13	8	7	8
46	27	25	23	21	23	27	14	14	16	9	9	25	10	9	5	4	8	6	8	9
47	25	29	21	20	22	27	19	12	18	11	12	12	2	7	10	10	8	12	7	12
48	31	37	24	27	29	15	16	18	19	18	8	11	14	14	5	7	10	10	6	9
49	26	21	25	22	24	19	15	13	9	12	12	11	6	12	4	9	5	6	4	7

D03-279

TITLE: 54529-41-A 92-02748-L-1

FILE: 5452941A.HM:1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 15 91 11 53 0 11/12/91 @ 10 20

TIME OF COUNT: 3 11 92 17 33 0

(168820. MINUTES DECAY TIME)

LIVE TIME: 23 HOURS 55 MINUTES 0 SECONDS = 1435.00 MINUTES

ELAPSED TIME: 23 HOURS 56 MINUTES 5 SECONDS = 1436.08 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FKR:	0
NOV:	1

3/23/92 EA Lopez

D03-280

532

5452941A.HH:1 54529-41-A 92-02748-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	86100	937	748	612	551	333	315	221	184	142	117	112	96	89	95	75	61	53	36	40
1	5	908	707	613	489	347	459	225	183	139	119	101	114	81	75	65	51	42	41	33
2	0	939	694	599	521	357	272	330	193	125	107	84	92	87	93	61	68	50	59	31
3	0	920	666	641	504	344	254	468	157	154	124	105	101	83	99	64	54	41	50	35
4	3	931	597	657	488	342	296	239	168	155	117	105	100	93	78	57	56	42	56	42
5	9	861	709	696	492	318	261	194	166	135	98	86	93	77	75	62	78	43	62	30
6	12	886	764	592	492	368	255	210	180	155	123	102	87	96	84	103	67	53	45	35
7	19	850	700	636	476	313	258	189	155	130	121	93	82	67	74	64	57	37	49	27
8	133	903	660	552	479	337	272	190	177	117	98	106	90	85	90	64	53	57	43	37
9	575	881	707	621	549	334	275	202	160	105	160	113	154	78	60	53	45	40	42	44
10	778	869	670	588	880	377	223	196	255	131	201	113	397	85	95	66	64	65	65	39
11	995	884	687	571	557	297	263	205	223	148	459	98	159	108	72	72	63	121	243	41
12	1297	817	650	570	474	313	258	204	192	156	510	98	93	136	96	56	57	104	527	50
13	1421	847	649	552	445	305	268	209	158	197	252	123	74	119	68	83	55	50	213	34
14	1541	882	679	609	436	303	260	192	156	284	167	119	98	81	86	65	53	53	51	43
15	1331	875	698	600	442	318	258	215	164	185	128	91	86	73	76	68	55	44	37	105
16	1447	882	705	560	438	344	260	201	158	149	136	102	77	81	65	65	50	47	27	107
17	1448	892	618	558	427	272	277	209	162	131	128	103	89	85	73	69	69	57	49	52
18	1517	881	683	597	459	347	249	209	158	154	112	82	71	96	81	68	45	46	35	56
19	1626	806	686	609	477	323	257	190	155	149	129	105	108	63	72	94	55	40	39	227
20	1603	848	650	573	454	352	271	191	170	126	105	110	89	71	92	75	43	55	50	305
21	1558	826	675	559	441	548	245	192	164	134	121	117	87	81	78	68	45	55	38	94
22	1526	843	702	561	468	337	262	192	164	131	90	117	87	80	67	73	49	32	37	33
23	1559	1036	637	549	459	330	237	183	165	116	112	128	95	79	60	104	65	57	39	49
24	1584	883	617	513	454	325	241	187	163	126	104	92	84	48	84	94	45	44	35	33
25	1424	1379	634	526	419	335	221	189	158	146	110	111	74	94	67	80	55	45	37	42
26	1445	1273	666	595	430	307	225	192	137	137	123	97	70	78	80	42	49	50	38	29
27	1388	1030	672	554	428	304	277	187	163	118	100	102	90	87	130	44	57	43	46	43
28	1366	1315	663	582	437	415	306	192	131	132	111	92	86	87	237	68	39	63	41	39
29	1354	705	759	559	430	353	418	207	156	126	134	90	83	78	139	69	43	53	41	39
30	1326	691	904	551	432	309	222	207	139	140	110	91	98	74	70	56	60	49	41	33
31	1290	767	673	598	412	270	242	197	145	116	113	100	86	88	82	61	54	43	26	32
32	1298	608	674	556	459	299	234	194	169	132	112	104	77	91	61	58	62	39	41	37
33	1299	728	654	518	378	295	248	195	152	137	112	349	85	88	71	75	56	45	35	44
34	1277	734	625	544	409	289	221	199	166	123	102	906	76	80	77	61	50	58	54	36
35	1179	1117	657	544	406	338	238	168	150	119	89	279	91	64	61	76	45	49	65	38
36	1221	842	692	700	450	315	234	179	148	124	109	94	87	91	91	75	74	44	62	39
37	1131	871	651	645	474	299	213	161	160	111	118	102	90	75	59	63	68	54	35	27
38	1138	1111	659	506	539	338	322	200	163	126	118	93	89	88	73	58	49	36	44	31
39	1117	713	652	483	3662	309	977	188	150	126	122	84	100	71	71	63	39	45	42	35
40	1076	867	702	528	2275	296	416	186	130	127	109	99	82	84	63	48	80	39	44	32
41	1104	844	699	500	553	273	221	197	161	123	104	99	81	81	59	61	65	36	32	49
42	1065	697	653	506	711	259	266	170	154	115	118	87	84	73	79	69	54	41	34	37
43	1036	950	638	507	475	287	246	163	149	144	124	95	93	74	58	65	44	48	46	39
44	1108	1056	686	503	347	281	201	179	147	123	99	99	85	73	60	60	49	50	47	34
45	965	689	691	501	375	315	214	184	137	113	127	89	80	76	67	81	46	52	47	27
46	1033	690	627	518	343	456	217	199	138	126	112	90	79	87	71	105	45	44	37	34
47	1008	613	614	502	331	301	212	172	130	104	95	104	77	70	58	64	57	54	44	42
48	1036	677	631	537	346	281	205	160	144	95	93	95	100	82	78	58	54	51	31	35
49	984	752	632	560	325	275	230	169	136	116	115	101	102	98	73	53	57	50	35	44

003-771

5452941A.HH:1 54529-41-A 92-02748-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	34	27	29	26	33	21	18	25	18	21	14	12	18	10	11	11	8	12	10	14
1	41	33	37	21	24	25	21	24	12	16	11	7	19	9	14	9	11	9	7	15
2	45	34	33	40	26	21	21	19	21	13	18	14	13	8	5	10	5	9	10	5
3	34	24	30	31	29	19	22	26	24	13	15	17	13	5	12	5	11	11	8	3
4	29	31	36	27	37	25	23	17	11	15	15	11	13	6	12	3	9	11	4	7
5	35	29	28	32	38	30	20	16	12	20	10	14	9	11	12	5	10	4	8	8
6	30	41	31	41	27	18	17	20	13	11	10	14	10	8	10	7	7	10	6	9
7	30	39	34	37	20	21	21	23	25	14	11	13	10	9	8	6	14	15	8	12
8	29	31	30	33	39	21	18	15	18	12	15	10	14	9	9	5	7	11	10	7
9	27	44	30	30	33	21	22	20	38	48	17	8	15	7	6	13	4	9	4	9
10	42	30	24	33	26	20	26	25	18	115	26	13	10	15	11	3	11	15	13	8
11	37	29	35	26	23	27	20	21	17	289	20	9	10	11	12	10	11	7	13	13
12	35	34	26	29	28	26	21	15	18	285	18	8	7	11	14	10	6	4	14	6
13	35	28	26	34	28	25	20	26	14	52	19	5	9	6	7	15	12	8	6	15
14	33	38	32	29	33	23	28	17	17	15	15	17	6	15	9	34	10	11	4	6
15	44	45	39	29	33	19	17	18	10	17	16	6	6	12	9	60	4	11	3	12
16	33	30	24	25	28	16	19	19	20	14	15	10	10	13	7	35	8	12	13	10
17	31	36	31	29	29	20	16	12	21	11	14	11	14	10	8	7	5	5	6	5
18	36	31	42	25	32	24	24	16	16	20	13	12	9	6	13	10	17	7	5	11
19	38	41	36	30	41	27	22	13	17	8	8	14	7	10	11	7	5	7	8	8
20	25	38	58	29	28	25	20	16	19	15	13	12	18	8	7	14	7	14	8	7
21	22	34	98	32	32	27	25	23	19	15	15	12	21	9	7	15	7	7	9	9
22	31	30	61	30	22	20	25	16	17	10	16	11	20	10	19	7	11	10	9	7
23	44	34	29	28	35	40	23	12	12	13	16	10	12	6	8	10	10	11	9	10
24	34	39	28	36	30	19	22	14	23	14	12	10	11	16	17	7	6	8	10	13
25	40	32	28	22	22	20	19	16	18	9	8	16	13	7	9	8	8	7	4	8
26	24	27	27	28	35	22	14	17	16	10	10	9	14	12	7	7	9	9	10	12
27	30	29	33	25	29	30	21	24	16	14	18	12	10	11	9	8	4	11	9	9
28	37	37	26	32	22	27	19	33	19	13	9	13	9	15	9	6	11	9	7	6
29	32	27	30	29	36	25	16	25	13	18	14	12	14	6	20	13	11	13	9	8
30	35	27	30	38	24	17	12	25	21	10	10	18	13	9	18	16	11	12	8	6
31	32	34	30	23	16	26	25	18	16	19	8	14	23	14	16	15	8	6	6	9
32	37	26	28	29	21	23	18	17	28	15	8	14	15	7	8	5	3	11	6	10
33	36	38	22	30	23	19	23	23	19	7	10	16	14	14	12	8	6	11	10	11
34	32	28	28	31	33	21	18	13	14	10	15	8	9	15	11	4	7	8	4	9
35	38	37	27	41	38	27	19	17	19	8	15	13	15	10	6	12	9	9	5	8
36	44	28	29	22	23	29	24	25	18	9	13	16	8	12	15	4	10	6	9	13
37	25	44	28	25	27	23	15	16	13	13	11	27	13	12	16	6	11	9	8	5
38	36	28	30	33	40	29	18	16	12	14	18	38	20	9	9	9	11	13	8	8
39	30	34	33	31	49	15	23	20	11	9	16	50	9	10	6	7	11	11	9	6
40	33	29	29	28	37	23	18	24	12	10	25	18	16	19	16	11	8	11	7	8
41	40	31	24	28	33	25	27	11	16	16	8	14	15	15	7	6	12	10	3	4
42	28	27	31	27	33	21	21	18	16	13	11	30	11	11	11	8	6	10	9	4
43	24	39	23	32	32	29	18	23	22	18	5	40	12	8	11	8	11	7	9	8
44	28	43	31	27	26	28	22	15	14	6	11	38	7	11	6	5	13	7	5	12
45	38	42	31	35	33	29	18	16	15	19	17	18	13	10	13	10	7	11	10	6
46	41	40	31	37	25	22	19	20	21	25	11	12	15	7	7	9	13	10	7	6
47	31	35	22	29	23	18	17	18	15	23	6	8	13	11	11	7	11	9	9	10
48	30	27	33	32	27	27	19	17	19	8	7	6	13	10	11	8	16	10	3	9
49	37	33	26	24	19	23	19	22	23	11	19	15	5	10	10	9	14	10	14	9

D03-242

TITLE: 54529-42-A 92 -02749-L-1

FILE: 5452942A.HH;1

* CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 15 91 11 53 0. 11/12/91 @ 10 58

TIME OF COUNT: 3 10 92 17 17 0

(167364. MINUTES DECAY TIME)

LIVE TIME: 24 HOURS 5 MINUTES 0 SECONDS = 1445.00 MINUTES

ELAPSED TIME: 24 HOURS 6 MINUTES 6 SECONDS = 1446.10 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

3/23/92
GAKapel

D03-286

5452942A.HH:1 54529-42-A 92 -02749-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	86700	955	736	613	558	316	339	210	160	143	152	107	98	86	87	60	57	48	39	37
1	5	932	687	616	495	359	463	207	204	151	114	104	95	79	72	74	70	49	43	47
2	0	909	664	641	487	345	262	338	179	152	119	83	108	65	83	79	58	43	44	34
3	0	906	656	620	506	350	262	372	174	131	139	108	94	77	85	74	47	40	42	47
4	5	945	701	634	509	357	278	262	192	152	136	106	82	92	78	66	72	62	39	44
5	8	901	694	656	519	371	265	207	186	133	121	100	84	85	76	75	59	44	59	38
6	8	896	755	599	545	326	239	195	172	123	130	110	97	76	78	95	57	45	42	29
7	20	861	662	579	492	366	255	187	169	134	114	90	99	83	67	67	65	55	53	35
8	141	863	659	604	464	366	252	220	171	136	134	102	94	76	76	53	60	40	32	34
9	540	831	714	597	537	331	281	230	173	117	136	107	168	75	97	56	49	46	36	49
10	807	853	710	608	842	309	264	188	233	133	205	116	398	99	80	68	45	70	69	49
11	1038	827	699	560	518	336	245	198	197	160	451	82	195	69	78	73	55	142	254	37
12	1295	843	647	603	457	332	244	207	180	143	503	112	98	120	83	70	54	100	551	45
13	1564	835	678	542	437	336	244	183	161	214	226	136	93	104	78	80	65	59	205	42
14	1550	906	656	637	513	343	235	205	143	282	144	117	100	83	70	63	58	45	43	43
15	1374	848	686	628	467	283	267	226	153	162	124	95	69	79	77	71	46	48	40	83
16	1514	840	751	554	504	352	261	213	179	129	129	92	78	82	65	62	44	40	38	89
17	1483	897	702	596	483	305	274	164	148	136	111	109	85	70	70	64	62	50	47	41
18	1546	834	614	581	466	318	242	191	149	144	122	111	78	71	72	69	46	45	40	65
19	1581	866	673	563	489	318	236	179	170	143	111	98	82	92	76	106	53	57	31	222
20	1590	871	638	549	472	354	246	216	181	136	118	110	87	82	65	64	61	48	34	321
21	1588	829	656	582	450	515	238	199	158	117	123	87	92	84	80	59	48	43	38	101
22	1484	843	619	544	477	310	267	214	154	122	105	110	77	78	74	78	60	48	37	30
23	1546	1064	665	555	460	324	251	181	148	134	126	109	75	82	71	95	44	39	37	27
24	1473	951	691	573	428	291	265	190	153	149	112	84	92	85	72	69	47	48	29	27
25	1498	1398	691	560	448	339	241	208	150	138	123	103	65	81	69	50	54	50	47	45
26	1434	1268	656	613	462	308	234	217	144	120	127	99	92	86	76	65	67	44	45	28
27	1436	1102	668	589	442	305	246	201	167	153	112	100	75	98	131	54	47	36	36	36
28	1416	1336	660	562	405	409	317	202	136	140	120	96	84	75	232	57	63	33	45	21
29	1357	740	728	550	415	323	387	196	177	124	114	95	96	69	136	70	45	49	47	35
30	1338	784	864	512	438	300	243	182	149	130	116	95	85	74	76	51	58	50	31	32
31	1316	740	661	542	367	325	228	185	169	114	106	107	86	79	76	63	64	42	36	40
32	1308	732	696	560	430	281	254	177	157	104	95	124	74	93	74	66	45	51	44	36
33	1301	729	635	570	420	270	242	161	138	152	133	359	84	74	76	82	53	44	38	39
34	1263	743	673	565	452	310	252	186	141	126	114	859	99	77	82	70	56	52.	39	35
35	1266	1020	658	557	407	291	278	169	140	110	102	307	89	71	60	57	48	47	50	40
36	1185	841	595	728	396	330	239	183	159	145	98	95	79	70	62	79	81	47	53	45
37	1204	907	642	666	447	269	238	216	132	132	111	98	82	67	68	69	79	51	38	34
38	1171	1107	685	543	530	281	351	198	127	131	111	103	74	67	72	69	48	33	34	28
39	1122	705	629	553	3981	316	974	182	175	125	124	106	78	78	66	59	54	43	34	30
40	1137	884	691	528	2133	282	362	171	150	149	108	95	74	71	67	45	64	49	41	30
41	1108	838	684	526	499	264	223	175	156	131	108	96	98	89	73	51	64	50	39	37
42	1077	698	623	505	698	281	218	189	155	119	114	96	88	67	64	39	66	46	39	33
43	1032	960	594	491	420	296	199	190	141	112	120	87	67	78	83	54	57	36	35	32
44	1006	903	681	506	357	270	222	160	137	97	116	84	88	87	64	61	48	58	49	45
45	1037	736	661	521	356	303	205	176	156	120	101	97	80	75	75	105	51	49	50	34
46	954	734	621	527	350	420	195	180	163	114	123	102	87	77	65	121	41	30	44	51
47	908	622	669	517	346	298	211	164	144	115	95	114	82	84	72	74	42	46	35	30
48	977	672	679	497	361	292	214	169	141	137	112	93	72	85	68	66	47	52	45	27
49	901	704	616	506	331	262	206	184	141	105	110	78	100	92	57	67	40	50	40	37

484-800

5452942A.HH;1 54529-42-A 92 -02749-L-1

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35	30	30	28	25	34	15	13	17	15	13	19	12	13	13	6	10	8	7	9	5
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41	33	28	25	27	20	18	16	19	21	17	6	18	12	9	10	9	5	9	7	10
42	31	39	29	31	30	17	17	23	6	11	6	33	5	10	6	14	9	14	10	10
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48	32	22	36	27	30	18	26	20	18	21	10	7	8	11	9	6	7	11	5	3
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D03-289

457

TITLE: 54529-43-A 92-02750-L-1

FILE: 54529430.HH:1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 15 91 11 53 0 11/13/91 @ 09 32 3/23/92

TIME OF COUNT: 3 9 92 8 37 0 EA Lopel

(165404. MINUTES DECAY TIME)

LIVE TIME: 28 HOURS 28 MINUTES 10 SECONDS = 1708.17 MINUTES

ELAPSED TIME: 28 HOURS 29 MINUTES 27 SECONDS = 1709.45 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LOG:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVL EXP:	0
NOW:	1

003-286

317

5452943A.HH:1 54529-43-A 92-02750-L-1

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1	5	1016	765	736	575	404	549	224	194	161	137	111	98	89	87	72	62	59	56	42
2	6	1001	796	672	575	378	326	352	179	155	133	117	113	95	99	75	70	52	33	34
3	0	1058	786	663	571	435	298	431	188	213	138	107	101	89	89	90	65	67	53	39
4	2	1033	716	760	578	417	291	236	191	178	135	111	113	83	99	84	66	55	64	49
5	3	1080	790	753	595	388	301	218	188	156	126	125	125	90	104	86	47	47	75	51
6	11	1004	883	721	607	373	312	226	206	172	117	124	102	108	100	106	75	38	53	54
7	31	1063	773	706	568	403	309	238	179	179	153	117	121	90	79	76	52	57	57	44
8	171	995	796	711	588	400	287	237	187	163	152	106	119	84	88	66	70	67	52	37
9	653	1036	775	720	603	377	283	207	233	166	198	115	172	103	94	79	60	63	63	51
10	935	1044	801	675	1001	400	301	247	289	175	237	120	378	86	82	62	61	69	72	35
11	1240	952	718	699	575	356	290	231	236	162	515	129	186	95	111	76	55	143	276	27
12	1455	1026	807	713	557	377	300	229	223	165	577	136	111	139	101	68	66	135	601	43
13	1773	581	797	600	531	380	304	228	188	221	297	159	90	139	78	81	56	61	253	49
14	1705	1035	779	719	581	369	284	241	154	355	164	153	107	162	80	91	62	52	57	49
15	1755	595	790	645	536	404	313	203	219	163	128	147	122	109	83	84	59	52	49	125
16	1710	593	832	658	580	391	271	239	190	159	149	113	96	90	79	75	47	52	41	139
17	1756	1045	776	672	557	359	284	215	176	173	118	109	122	106	94	79	60	53	53	72
18	1030	953	751	658	511	365	295	249	205	163	131	125	76	84	77	89	58	59	52	79
19	1015	502	736	639	559	357	281	209	183	175	134	143	94	102	70	95	48	72	49	251
20	1510	507	717	621	505	400	304	220	191	157	127	138	100	87	87	81	55	49	46	359
21	1779	541	823	668	472	595	267	216	202	144	132	122	95	93	85	76	64	47	37	198
22	1071	535	778	680	541	393	306	247	185	133	145	124	109	84	75	81	48	61	30	37
23	1045	1144	752	624	529	342	286	213	173	174	153	114	82	91	79	110	58	50	44	43
24	1803	1042	765	655	504	360	283	218	166	148	142	114	102	112	78	84	52	47	42	54
25	1731	1056	723	648	528	377	266	220	206	160	127	120	95	90	69	63	53	60	44	49
26	1015	1397	741	667	495	356	272	216	173	152	149	131	93	75	86	67	50	56	53	43
27	1004	1159	740	635	494	388	306	215	206	140	129	108	98	76	125	63	57	57	85	36
28	1647	1536	768	650	502	408	358	190	176	142	145	117	95	84	279	75	60	56	53	37
29	1453	847	916	620	528	395	467	215	169	157	142	112	109	105	133	71	65	68	56	33
30	1573	867	1023	643	490	357	282	251	175	166	127	106	108	93	87	69	64	48	47	45
31	1572	884	750	602	442	341	258	217	203	151	136	122	104	99	77	64	72	59	45	39
32	1451	871	791	665	406	330	282	217	183	149	140	131	101	89	64	78	62	42	41	44
33	1454	837	694	642	491	358	326	207	194	127	128	367	106	84	75	104	65	58	53	44
34	1451	851	704	642	515	353	267	215	162	145	130	1007	117	100	60	77	51	56	58	39
35	1454	1279	774	638	510	324	250	236	189	152	140	332	95	94	80	85	71	48	53	41
36	1330	1075	771	819	507	290	280	217	169	151	120	105	96	94	78	98	52	69	53	43
37	1350	1014	726	799	496	341	275	218	184	135	112	112	101	92	82	74	102	45	63	49
38	1334	1215	764	585	627	332	401	240	175	150	119	91	107	94	74	74	65	55	39	36
39	1349	855	719	659	4250	388	1057	234	184	157	125	107	99	104	89	63	56	58	35	45
40	1313	1017	816	640	2479	292	473	206	188	160	134	115	104	92	99	67	82	63	35	35
41	1302	567	792	506	613	332	285	196	174	148	142	111	102	95	62	77	67	60	35	49
42	1347	859	852	622	621	303	283	217	158	146	140	100	89	77	84	69	69	55	45	42
43	1347	1018	749	610	561	333	253	196	158	132	136	116	112	84	74	66	59	38	41	34
44	1306	1177	745	615	430	318	247	205	170	114	131	119	117	78	72	66	57	52	40	35
45	1310	707	809	603	371	356	273	200	178	140	135	114	84	103	60	132	57	50	40	37
46	1312	511	707	584	380	451	242	186	158	134	133	173	103	117	73	139	53	50	31	50
47	315	710	714	574	400	343	210	201	164	147	116	132	106	96	83	81	53	54	49	43
48	1347	511	719	587	416	308	260	106	174	133	125	108	93	75	67	65	46	58	40	45
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5452943A.HH:1 54529-43-A 92-02750-L-1

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3	35	41	31	30	34	18	31	25	20	18	18	16	16	10	14	10	14	6	13	19
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31	42	29	37	30	24	33	26	22	19	23	14	21	27	15	16	14	9	8	4	14
32	33	36	35	29	36	35	24	21	15	12	16	14	28	8	14	8	11	7	18	3
33	35	44	41	32	38	22	23	23	19	14	15	10	14	7	12	11	12	10	12	9
34	43	34	38	37	20	28	27	27	25	17	12	10	19	11	10	15	10	6	10	3
35	43	32	45	24	25	25	20	18	18	17	18	13	9	16	9	11	9	15	10	9
36	41	35	33	35	30	21	25	30	20	15	14	10	10	5	11	13	16	9	15	13
37	31	35	37	34	32	23	27	20	15	13	22	19	12	13	13	9	6	7	12	12
38	37	26	36	44	44	20	19	29	18	13	13	34	10	10	10	8	11	7	12	8
39	39	31	40	43	58	28	21	19	16	9	17	56	20	11	10	11	15	9	9	11
40	48	33	44	39	44	30	18	21	14	12	15	31	14	10	9	7	8	10	11	7
41	44	29	33	27	29	22	15	22	15	14	13	15	14	7	11	12	7	17	6	11
42	45	25	36	42	37	24	26	28	11	15	14	22	18	12	13	13	10	13	11	10
43	20	30	34	34	40	36	21	19	15	13	11	32	13	13	9	9	14	4	5	4
44	31	41	47	30	28	23	16	19	12	23	11	42	6	10	13	8	9	12	11	11
45	44	41	33	26	32	33	29	15	20	19	9	23	12	10	6	9	5	6	8	5
46	30	41	35	33	30	27	17	16	12	23	11	14	9	9	11	9	7	16	11	3
47	34	31	30	34	28	23	27	30	21	26	19	12	12	16	8	5	8	17	16	9
48	20	42	30	31	39	31	36	18	23	10	19	15	13	9	15	6	13	8	21	12
49	[illegible]	[illegible]	[illegible]	[illegible]	41	34	34	12	25	17	8	11	4	9	[illegible]	7	11	8	10	7

003-286

TITLE: 54529-44-A 92-02751-L-1

FILE: 54529440.HH:1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 15 91 11 53 0 11/12/91 @ 12 33

3/23/92
E A Lopez

TIME OF COUNT: 3 6 92 13 6 0

(161353. MINUTES DECAY TIME)

LIVE TIME: 67 HOURS 24 MINUTES 4 SECONDS = 4044.07 MINUTES

ELAPSED TIME: 67 HOURS 27 MINUTES 6 SECONDS = 4047.10 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FLW:	0
NOV:	1

D03-289

5452944A.HH:1 54529-44-A 92-02751-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	242644	2540	1988	1699	1458	944	919	599	491	396	348	296	239	223	223	160	156	137	144	102
1	5	2480	1870	1696	1392	948	1243	596	392	416	343	316	261	211	197	181	135	124	129	90
2	6	2450	1795	1718	1380	930	752	798	481	399	390	294	265	241	251	137	143	138	194	114
3	2	2538	1800	1660	1298	976	721	876	424	402	317	253	239	214	206	159	140	125	119	111
4	7	2618	1687	1731	1338	1021	675	538	469	389	345	272	291	192	262	196	188	137	117	185
5	10	2483	1836	1733	1313	913	717	533	450	409	351	262	258	201	240	189	135	117	152	91
6	17	2335	2068	1590	1372	915	731	560	434	381	340	294	276	228	218	248	147	135	131	87
7	39	2361	1836	1672	1311	909	654	552	437	362	327	360	246	233	225	213	159	120	95	109
8	311	2304	1842	1682	1334	946	683	553	458	394	362	290	242	230	218	177	136	124	95	107
9	1317	2300	1911	1631	1509	866	663	538	482	383	419	294	376	244	231	156	160	133	111	122
10	1584	2318	1888	1621	2352	873	722	540	677	382	583	255	699	221	172	160	134	177	193	101
11	2076	2305	1857	1564	1412	859	693	543	531	402	1331	258	417	232	192	168	139	354	931	102
12	3332	2209	1721	1612	1212	880	667	527	431	343	1324	291	253	338	203	165	159	252	1473	93
13	4300	2270	1845	1622	1262	868	679	529	453	598	640	342	233	287	198	181	136	116	511	93
14	4116	2310	1750	1617	1213	844	685	524	460	803	418	341	233	235	196	219	145	128	124	149
15	3855	2273	1830	1549	1162	868	693	545	440	434	360	312	237	223	190	207	136	123	103	294
16	4034	2317	1845	1607	1273	842	687	575	418	352	328	299	233	240	210	172	147	104	131	253
17	4137	2340	1789	1588	1340	857	660	548	491	328	308	269	233	223	198	187	121	120	107	145
18	4245	2292	1804	1561	1207	851	659	521	443	401	311	255	213	194	185	200	152	141	115	183
19	4327	2158	1785	1538	1209	816	659	519	383	324	316	266	211	216	185	267	137	153	123	643
20	4180	2242	1804	1518	1238	1817	661	514	462	399	323	325	243	195	191	190	136	150	113	783
21	4233	2258	1815	1535	1182	1591	648	537	424	392	307	265	240	182	196	160	134	125	111	229
22	4140	2247	1842	1525	1248	920	698	453	448	308	288	294	223	238	191	181	154	129	104	113
23	4150	2272	1746	1538	1228	791	654	515	445	358	341	286	217	211	221	242	150	131	107	95
24	4073	2243	1772	1583	1221	857	663	575	469	357	321	296	233	285	174	177	133	127	130	84
25	3820	2277	1821	1527	1179	828	619	527	421	347	318	263	237	220	198	179	150	126	130	109
26	3501	2264	1897	1571	1195	851	632	514	481	350	355	301	226	239	230	172	135	118	107	119
27	3941	2290	1779	1504	1129	825	722	527	438	367	320	259	227	209	369	178	121	122	117	69
28	3833	2271	1864	1572	1181	1139	878	494	382	370	380	232	242	232	600	150	134	125	103	105
29	3655	1555	2098	1487	1183	845	1027	528	436	376	296	279	219	236	319	177	145	114	95	112
30	3569	2282	2331	1408	1135	821	659	484	375	356	331	283	231	226	186	146	139	123	94	95
31	3461	1995	1878	1435	1194	790	611	539	425	333	291	290	246	201	185	166	167	134	112	100
32	3434	2055	1865	1546	1140	733	655	491	408	324	306	311	260	214	173	161	142	123	115	73
33	3413	1978	1837	1496	1202	847	613	467	414	350	294	1074	199	235	190	188	143	126	114	84
34	3452	2158	1811	1469	1110	729	614	471	432	374	317	2566	259	265	183	177	141	117.	102	107
35	3275	2035	1838	1494	1130	785	661	554	387	320	326	737	198	195	180	170	158	114	129	109
36	3325	2340	1867	1509	1159	798	636	495	424	314	303	284	223	212	219	232	204	147	127	97
37	3327	2332	1813	1468	1208	748	619	504	412	305	278	256	240	192	190	190	193	123	135	99
38	3175	2310	1808	1449	1530	828	1087	453	416	360	287	246	274	213	185	136	169	129	93	109
39	3045	1540	1724	1410	10800	818	2628	494	380	335	249	255	214	201	191	161	160	118	90	116
40	2901	2047	1539	1455	5458	755	893	503	407	334	278	263	240	208	189	163	150	100	195	102
41	1985	2040	1919	1498	1500	815	650	511	399	354	267	256	248	192	190	159	183	120	75	101
42	1911	1938	1739	1434	1872	732	627	521	419	354	314	257	224	219	186	179	175	127	135	92
43	1830	2140	1724	1392	1076	836	645	491	408	337	279	254	225	238	183	183	137	153	111	97
44	1801	2017	1818	1356	986	745	584	495	389	328	276	242	234	329	179	179	136	129	91	91
45	1835	1918	1787	1511	992	772	592	439	402	340	279	316	235	227	163	310	117	143	131	97
46	1717	1917	1773	1362	1012	710	565	518	439	336	296	350	197	234	167	337	127	129	116	96
47	1711	1911	1787	1319	963	739	573	474	395	353	294	350	231	206	173	169	159	134	101	73
48	1767	1911	1673	1380	941	713	552	517	353	345	285	271	238	244	174	153	149	149	111	100
49	1777	1917	1664	1318	972	731	596	518	402	355	255	271	254	247	170	136	137	133	97	99

D03-2390

54529440.HH:1 54529-44-A 92-02751-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	104	85	80	75	91	56	69	55	45	45	43	36	35	35	20	32	25	25	23	22
1	124	79	93	71	68	74	65	59	39	43	41	32	29	20	29	18	33	22	29	22
2	127	96	75	82	70	62	70	43	57	46	39	39	32	32	23	22	37	32	33	27
3	103	93	71	66	77	84	60	51	50	46	47	39	42	23	32	33	21	25	27	25
4	90	54	86	86	78	81	58	47	42	51	33	23	34	13	43	27	16	18	24	16
5	73	93	66	89	79	60	55	60	56	37	39	33	34	25	34	29	21	26	24	29
6	95	79	81	86	78	53	54	44	50	42	33	35	27	24	30	27	24	22	27	25
7	83	96	93	92	92	66	71	51	44	67	43	34	35	26	23	25	23	23	25	19
8	85	79	87	93	72	62	60	61	60	70	32	34	21	27	18	23	29	24	18	17
9	74	83	79	76	75	54	54	39	60	110	42	31	27	31	30	26	25	27	32	26
10	97	86	89	75	70	55	52	56	62	375	43	24	34	42	19	26	30	22	23	33
11	76	109	87	81	106	46	51	56	44	847	45	23	25	20	28	14	17	22	23	29
12	97	101	90	82	93	77	48	46	45	706	39	35	19	20	32	23	21	25	33	24
13	93	85	86	74	62	68	67	43	46	169	42	36	25	23	32	38	29	21	25	25
14	92	98	83	90	71	64	69	48	46	49	38	33	28	32	30	101	28	20	22	23
15	100	93	76	84	80	77	57	59	50	30	40	25	32	35	38	108	17	25	21	23
16	90	121	85	85	82	55	64	53	45	26	47	37	30	32	31	65	24	28	23	21
17	90	83	90	93	78	63	62	63	41	33	26	32	36	43	30	36	29	25	29	21
18	81	75	87	78	78	67	53	50	39	30	33	18	35	25	31	26	26	36	23	25
19	93	81	98	69	77	64	62	55	36	56	29	33	37	32	22	21	24	16	23	23
20	90	98	131	70	92	62	62	50	43	41	36	22	56	24	30	36	31	19	24	25
21	90	98	103	78	71	67	48	57	55	37	32	33	81	18	26	23	20	23	25	29
22	77	80	119	63	93	64	50	51	39	27	30	40	47	31	19	30	24	34	20	22
23	95	88	104	79	76	62	58	53	47	34	26	33	37	20	23	31	38	18	25	34
24	93	78	81	98	73	68	50	53	45	27	39	24	31	21	24	26	28	28	27	24
25	89	101	86	87	81	65	68	62	57	43	27	23	46	23	31	20	27	25	23	30
26	94	71	71	76	88	61	38	44	32	33	36	37	34	29	28	22	30	20	27	22
27	77	86	82	80	78	69	49	58	43	33	29	26	34	29	31	29	13	30	15	19
28	92	93	74	79	68	72	53	81	37	39	30	23	38	21	27	32	23	27	24	21
29	81	88	85	71	99	57	46	83	49	35	34	22	36	28	39	26	23	14	28	23
30	95	97	79	73	90	62	67	54	45	37	38	37	51	34	58	41	32	21	31	24
31	100	88	72	77	81	64	39	51	42	37	35	46	74	29	34	26	23	18	25	17
32	70	76	80	71	75	74	62	38	47	39	28	41	45	26	23	31	25	19	25	21
33	91	79	79	78	76	76	65	55	40	36	26	42	47	22	26	24	31	27	18	20
34	82	66	85	74	65	73	70	59	41	38	34	31	22	29	23	28	30	25	28	29
35	96	91	80	92	79	48	51	59	39	32	36	41	31	41	30	25	31	23	19	23
36	95	95	93	73	66	53	72	57	42	27	31	30	33	41	29	25	34	21	20	22
37	112	63	85	75	83	64	44	57	47	33	26	65	37	29	31	20	37	27	19	29
38	85	90	101	90	90	55	59	45	40	33	39	107	49	26	21	23	27	37	25	28
39	82	82	85	64	102	72	50	56	41	49	39	102	39	26	16	34	27	12	26	21
40	74	88	93	90	77	55	61	47	44	30	37	63	32	23	30	27	32	17	14	37
41	84	77	92	82	85	55	52	42	44	32	29	46	32	20	26	29	19	19	27	25
42	90	79	74	79	61	57	61	58	45	37	23	100	20	29	24	20	27	25	18	22
43	77	93	85	86	80	58	54	62	41	27	38	128	22	41	25	24	28	26	17	23
44	81	89	71	66	73	67	43	58	43	39	33	105	23	22	27	30	27	20	21	22
45	80	100	71	91	73	55	56	57	50	43	35	47	29	24	32	25	22	18	20	27
46	103	56	83	97	84	51	59	48	48	63	27	42	31	24	23	34	26	30	21	25
47	103	50	77	89	80	51	58	55	46	59	35	31	40	29	21	22	27	32	25	25
48	[illegible]	77	91	66	51	69	71	56	45	33	33	21	38	28	32	30	30	30	29	23
49	[illegible]	[illegible]	78	66	57	61	47	35	50	29	36	37	29	28	39	23	23	29	18	21

D03-231

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TITLE: 54529-45-A ~~V82~~-02752-L-1

FILE: 5452945A.HH;1

CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 11 15 91 11 53 0

TIME OF COUNT: 3 2 92 16 52 0

(155819. MINUTES DECAY TIME)

3/23/92
E A Hogel

LIVE TIME: 40 HOURS 0 MINUTES 0 SECONDS = 2400.00 MINUTES

ELAPSED TIME: 40 HOURS 1 MINUTES 49 SECONDS = 2401.82 MINUTES

(DEAD TIME = 0.001)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.500000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR FLO:	0
NOV:	1

D03-296

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5452945A.HR:1 54529-45-A 92-02752-L-1

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	[illegible]	1597	1127	975	888	561	493	351	272	226	217	178	154	160	118	112	84	92	79	69
1	[illegible]	[illegible]	1142	1008	790	547	759	311	294	218	213	195	143	152	147	115	97	104	62	52
2	[illegible]	[illegible]	1058	[illegible]	792	589	525	430	389	239	216	146	156	131	[illegible]	97	74	75	33	79
3	[illegible]	[illegible]	1127	[illegible]	799	591	497	644	273	239	228	167	150	136	[illegible]	107	57	69	72	73
4	[illegible]	[illegible]	[illegible]	[illegible]	904	569	446	377	303	245	191	174	149	135	[illegible]	[illegible]	78	82	63	74
5	[illegible]	[illegible]	1115	[illegible]	847	551	421	330	292	222	217	189	145	150	[illegible]	117	94	85	35	55
6	[illegible]	[illegible]	1290	[illegible]	820	542	411	345	270	226	180	163	177	125	[illegible]	[illegible]	69	76	75	53
7	[illegible]	[illegible]	1187	[illegible]	703	556	433	362	289	253	214	165	157	135	[illegible]	[illegible]	63	75	60	53
8	[illegible]	[illegible]	1067	[illegible]	873	537	424	351	290	246	194	144	134	145	[illegible]	54	111	56	57	43
9	[illegible]	[illegible]	1081	[illegible]	874	572	415	317	300	213	251	166	256	119	[illegible]	87	59	81	64	71
10	[illegible]	[illegible]	1111	[illegible]	1352	565	413	344	367	223	305	107	502	124	[illegible]	69	76	93	[illegible]	77
11	[illegible]	[illegible]	1079	[illegible]	891	578	431	324	330	219	662	156	289	148	[illegible]	[illegible]	73	159	363	63
12	[illegible]	[illegible]	1112	[illegible]	772	532	430	336	265	233	906	103	148	194	[illegible]	107	76	109	971	69
13	[illegible]	[illegible]	1097	[illegible]	700	409	435	352	202	310	439	213	147	194	[illegible]	[illegible]	51	51	440	67
14	[illegible]	[illegible]	[illegible]	[illegible]	770	511	421	335	277	414	270	230	176	142	97	[illegible]	[illegible]	[illegible]	[illegible]	83
15	[illegible]	[illegible]	[illegible]	[illegible]	771	591	410	318	249	249	211	144	118	150	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	162
16	[illegible]	[illegible]	1152	[illegible]	777	595	431	340	258	252	193	174	193	149	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	205
17	[illegible]	[illegible]	1080	[illegible]	[illegible]	517	365	297	289	238	157	101	156	149	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31
18	[illegible]	[illegible]	1165	[illegible]	703	511	376	338	274	233	159	100	147	116	[illegible]	[illegible]	83	79	[illegible]	123
19	[illegible]	[illegible]	[illegible]	[illegible]	705	545	381	331	278	215	157	109	150	139	[illegible]	[illegible]	59	103	[illegible]	302
20	[illegible]	[illegible]	1112	[illegible]	736	557	389	332	245	269	193	195	193	152	[illegible]	[illegible]	81	[illegible]	[illegible]	503
21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	591	395	323	231	[illegible]	[illegible]	[illegible]	107	131	[illegible]	[illegible]	76	53	[illegible]	164
22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	516	434	350	263	275	115	[illegible]	152	147	151	[illegible]	105	[illegible]	[illegible]	68
23	[illegible]	[illegible]	[illegible]	[illegible]	715	519	431	324	257	163	193	193	147	179	[illegible]	136	75	75	[illegible]	55
24	[illegible]	[illegible]	[illegible]	[illegible]	723	499	431	307	219	137	176	116	114	135	[illegible]	117	59	71	[illegible]	53
25	[illegible]	[illegible]	[illegible]	[illegible]	771	465	379	300	261	312	216	160	139	154	[illegible]	[illegible]	61	69	[illegible]	74
26	[illegible]	[illegible]	[illegible]	[illegible]	704	565	416	345	249	245	165	153	142	136	115	162	61	74	71	53
27	[illegible]	[illegible]	[illegible]	[illegible]	700	514	411	325	256	337	161	149	163	133	194	[illegible]	57	71	61	73
28	[illegible]	[illegible]	[illegible]	[illegible]	650	706	465	303	241	152	170	101	131	136	351	117	69	81	57	61
29	[illegible]	[illegible]	1151	[illegible]	653	526	715	324	255	221	195	175	142	116	255	53	[illegible]	60	70	59
30	[illegible]	[illegible]	[illegible]	[illegible]	652	487	455	324	263	207	177	166	153	132	131	95	[illegible]	65	70	51
31	[illegible]	[illegible]	1112	[illegible]	703	460	378	294	221	219	202	107	142	119	[illegible]	[illegible]	73	73	73	57
32	[illegible]	[illegible]	1097	[illegible]	697	452	352	277	259	253	159	173	150	173	[illegible]	[illegible]	62	83	73	57
33	[illegible]	[illegible]	1151	[illegible]	705	478	391	287	247	211	171	[illegible]	153	117	96	[illegible]	67	71	51	53
34	[illegible]	[illegible]	1130	[illegible]	697	465	436	301	259	214	189	1455	161	133	107	101	96	59	69	63
35	[illegible]	[illegible]	[illegible]	[illegible]	701	452	358	339	264	219	173	654	122	130	112	92	73	75	79	53
36	[illegible]	[illegible]	1134	[illegible]	697	511	385	301	239	218	208	[illegible]	156	170	[illegible]	[illegible]	120	66	73	64
37	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	479	378	288	255	254	173	101	[illegible]	134	91	[illegible]	137	65	59	59
38	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	468	427	275	222	268	152	151	133	173	91	99	76	82	73	63
39	[illegible]	[illegible]	[illegible]	[illegible]	4771	550	1503	290	204	195	170	154	[illegible]	129	[illegible]	81	85	63	[illegible]	39
40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	395	295	240	197	164	[illegible]	[illegible]	107	[illegible]	[illegible]	[illegible]	61	51	55
41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	395	367	201	219	177	[illegible]	173	115	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	40
42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	384	287	256	315	167	133	157	[illegible]	[illegible]	[illegible]	93	79	57	53
43	[illegible]	[illegible]	[illegible]	[illegible]	755	[illegible]	374	278	233	232	193	97	[illegible]	175	[illegible]	[illegible]	[illegible]	63	51	39
44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	471	337	295	228	165	[illegible]	[illegible]	[illegible]	175	[illegible]	[illegible]	61	67	77	51
45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	277	249	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	307	260	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	107	[illegible]	[illegible]	[illegible]	54
47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	202	231	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	295	320	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	292	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

003-299

54529458.HH:1 54529-45-0 92-02752-L-1

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	66	52	57	42	45	32	40	20	39	27	16	19	16	15	18	18	12	12	19	5
1	51	39	50	45	39	52	45	31	39	35	30	23	24	14	21	16	16	15	13	15
2	77	52	48	50	51	43	35	37	35	28	16	18	20	21	18	17	14	20	19	19
3	61	52	53	65	39	44	37	35	30	22	19	15	19	14	7	14	16	15	13	14
4	61	48	59	49	63	47	27	37	22	21	10	26	19	15	11	19	15	14	17	8
5	48	59	43	44	50	39	32	29	26	32	21	18	19	15	11	19	23	8	17	15
6	57	49	50	62	46	39	44	33	24	20	16	23	19	20	21	8	16	12	19	19
7	55	59	44	61	48	33	33	26	40	32	19	26	18	29	19	26	17	19	15	8
8	45	49	45	45	48	35	42	27	32	35	29	22	16	25	17	21	17	17	14	15
9	73	42	56	55	50	40	34	21	34	43	26	29	26	12	17	22	15	11	9	14
10	45	57	57	43	60	37	32	20	42	181	26	18	14	20	9	12	12	19	14	14
11	61	39	53	40	60	41	29	24	34	504	24	21	15	16	14	8	15	13	12	9
12	53	50	63	52	55	41	43	33	34	403	24	22	20	19	21	15	16	17	15	13
13	57	45	54	45	51	41	33	32	29	177	32	17	22	15	18	20	15	13	9	14
14	47	47	53	51	40	44	30	26	26	33	25	21	26	23	13	50	15	12	11	13
15	5	54	48	45	47	55	39	36	28	25	26	15	19	17	9	60	17	18	19	15
16	61	61	51	50	47	40	39	26	23	23	16	23	17	20	13	41	16	14	13	15
17	57	55	55	45	37	35	26	34	29	18	16	22	11	24	11	10	5	19	8	12
18	51	67	50	51	42	32	31	45	19	23	15	17	14	21	10	11	14	18	19	16
19	61	52	63	46	46	26	35	27	24	19	12	20	18	11	14	17	15	10	15	11
20	47	50	76	47	49	32	42	37	19	22	31	24	24	16	17	14	15	5	13	15
21	57	51	125	45	35	34	34	23	30	15	22	25	42	13	16	20	11	15	9	19
22	53	53	68	47	49	35	31	22	31	24	17	25	23	25	21	13	16	17	11	12
23	51	44	56	47	47	42	43	37	21	37	23	17	17	16	15	16	17	19	19	12
24	55	50	52	55	54	37	41	37	32	19	14	13	23	12	13	14	15	14	12	21
25	64	55	49	60	51	25	35	38	16	22	14	21	18	4	19	14	15	12	17	13
26	55	45	48	43	33	46	32	23	28	28	18	23	13	15	14	17	19	22	9	9
27	69	53	50	47	39	35	29	30	34	16	28	14	21	18	15	18	15	14	20	12
28	50	47	45	43	37	41	40	63	20	15	17	19	20	14	12	23	11	16	11	14
29	53	50	43	47	43	38	41	39	19	13	16	19	11	15	25	20	17	7	12	14
30	51	43	63	49	50	45	36	33	37	18	21	36	26	14	29	10	17	21	14	15
31	53	54	46	55	52	41	32	19	25	24	51	50	44	12	25	21	21	12	20	17
32	55	45	49	43	34	44	35	35	27	20	24	23	25	14	21	12	18	14	14	13
33	56	52	56	56	40	45	29	25	31	25	16	17	25	16	16	15	15	9	14	15
34	51	47	49	32	40	34	37	32	18	16	21	21	7	18	19	17	22	13.	17	19
35	46	55	44	41	45	33	30	17	24	23	26	20	21	15	20	17	8	12	17	15
36	56	41	43	49	37	36	25	36	21	17	27	23	17	17	17	13	15	17	9	9
37	57	50	42	61	54	38	32	27	31	16	26	41	16	17	13	18	15	15	16	19
38	42	53	39	53	65	42	42	29	25	15	25	54	22	18	17	12	11	17	16	12
39	60	49	42	55	62	36	36	36	17	17	18	78	20	15	12	18	22	15	18	14
40	50	51	54	63	51	47	33	32	35	14	20	32	14	17	11	4	11	16	16	14
41	68	52	37	48	50	35	34	25	26	24	14	30	16	21	21	15	21	12	13	15
42	51	43	46	49	42	48	37	19	33	15	15	49	18	18	18	18	14	15	19	11
43	70	60	45	34	51	36	32	21	32	28	20	67	16	20	15	18	13	13	12	13
44	58	60	47	49	38	39	25	25	20	23	21	56	22	13	10	15	18	18	11	11
45	57	51	66	49	36	47	35	39	29	30	17	25	17	18	15	17	19	17	15	19
46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25	20	21	22	30	27	16	20	14	21	12	13	12
47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24	23	16	18	12	15	19	19	12	23	17	12	17
48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25	35	[illegible]	[illegible]	17	[illegible]	[illegible]	23	11	[illegible]	[illegible]	17	[illegible]
49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15	17	[illegible]	[illegible]	[illegible]	[illegible]

D03-294

II.D. Calibration of ^{137}Cs Spike

Raygun - RSX Version 10-Jan-90 (26-MAR-1992 13:56:17)

Analysis performed by: E. A. LEPEL

Sample: 54124-71-3 200 LMDA OF 1892-136-500
Weight: 1.00000 g

Irradiation date: 0-Feb-1992 at 5:00:00

Count date: 24-Feb-1992 at 10:52:00

Decay: 24.2d (2094720.0 seconds)

Count times: REAL TIME 3.11d (268830.00 seconds)
LIVE TIME 3.09d (266819.00 seconds)

Dead time: 0.75 percent

Detector: L pos * 6 Geometry Factor: 1.000

Efficiencies and shape parameters from file: ve:[116,2]effpt6inb. L

Spectrum from file : 54124713.1;1

Background subtractions from file: ve:[116,1]Backg. L

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	126.3	125.	127.	2031.	232.*	63.26	3.948E-01	100.0	258.
2	149.8	144.	152.	6449.	857.*	75.01	8.898E-01	88.9	357.
3	169.1	168.	172.	3396.	408.*	84.65	2.916E-01	100.0	204.
4	185.2	182.	189.	6213.	1447.*	92.71	1.968E-01	100.0	1420.
5	287.9	287.	289.	2119.	253.*	144.03	1.744E-01	100.0	245.
6	371.6	365.	377.	8967.	1422.*	185.87	2.104E-01	100.0	1445.
7	477.3	474.	480.	4320.	1091.*	238.71	2.470E-01	100.0	1024.
8	677.0	675.	678.	1357.	204.*	338.54	2.906E-01	100.0	224.
9	1022.1	1015.	1030.	5172.	2698.*	511.03	3.464E-01	100.0	2714.
10	1166.4	1164.	1170.	1070.	333.*	583.16	3.355E-01	100.0	338.
11	1323.6	1317.	1329.	27355.	26256.*	661.75	8.965E+01	1.3	233.
12	1693.9	1690.	1696.	556.	218.*	846.87	3.611E-01	100.0	227.
13	1823.0	1820.	1827.	625.	276.*	911.36	3.764E-01	100.0	303.
14	1938.9	1933.	1942.	550.	150.*	969.33	3.895E-01	100.0	166.
15	2921.9	2916.	2929.	1027.	807.*	1460.68	4.149E-01	100.0	786.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: ve:[116,3]mixedamer.dat

^{137}Cs - 1892-136-500

At T_ϕ = 2/1/92

^{137}Cs Total Activity = 105.4 d/s ± 1.61%

$$\frac{105.4\ d/s}{.1998\ ml} = 527.5\ \frac{d/s}{ml}$$

@ 2/1/92

3/25/92
EA Lepel

D03-296

256

** Least-squares Results **

nuclide	energy kev	dps at zero time	uCi /g	peak frac	err (%)	dev (sig)	pCi /g	error (%)
						(interferences)		
1 Cs137	- - - -	1.054E+02	2.848E-03	- - - - - - - - -			2.848E+03	1.61
	661.75	1.054E+02	2.848E-03	1.00	1.61	1.00		

The following are upper limit values:

Co 57	- - - -	3.782E-01	1.022E-05	- - - - - - - - -			1.022E+01	100.00
Co 60	- - - -	4.669E-01	1.262E-05	- - - - - - - - -			1.262E+01	100.00
Sr 85	- - - -	6.116E-01	1.653E-05	- - - - - - - - -			1.653E+01	100.00
Y 88	- - - -	5.517E-01	1.491E-05	- - - - - - - - -			1.491E+01	100.00
Cd109	- - - -	6.112E+00	1.652E-04	- - - - - - - - -			1.652E+02	100.00
Sn113	- - - -	5.869E-01	1.586E-05	- - - - - - - - -			1.586E+01	100.00
Ce139	- - - -	2.651E-01	7.165E-06	- - - - - - - - -			7.165E+00	100.00
Hg203	- - - -	4.691E-01	1.268E-05	- - - - - - - - -			1.268E+01	100.00
Am241	- - - -	1.286E+00	3.475E-05	- - - - - - - - -			3.475E+01	100.00

The following peaks were not identified:

*	energy	gammas/sec	pcterr	CI *
1	63.26	3.9475E-01	100.0	0.0000000
2	75.01	8.8982E-01	88.9	0.0000000
3	84.65	2.9164E-01	100.0	0.0000000
4	92.71	1.9678E-01	100.0	0.0000000
5	144.03	1.7435E-01	100.0	0.0000000
6	185.87	2.1041E-01	100.0	0.0000000
7	238.71	2.4705E-01	100.0	0.0000000
8	338.54	2.9060E-01	100.0	0.0000000
9	511.03	3.4637E-01	100.0	0.0000000
10	583.16	3.3558E-01	100.0	0.0000000
12	846.87	3.6107E-01	100.0	0.0000000
13	911.36	3.7642E-01	100.0	0.0000000
14	969.33	3.8952E-01	100.0	0.0000000
15	1460.68	4.1492E-01	100.0	0.0000000

If CI > 0 Confidence threshold was not exceeded
CI = 0 Energy Window test failure
CI = -1 Extreme Half Life test failure
CI = -2 Extreme As. Gamma comparison test failure
CI = -3 Unable to estimate area of Assoc. Gamma

003-297

TITLE: 54124-71-3 200 LMDA OF 1892-136-500

FILE: 54124713.L:1

^{137}Cs std.

CHANNELS: 4096

SHELF: 6

DIODE: L

TIME ZERO: 2 1 92 5 0 0

TIME OF COUNT: 2 25 92 10 52 0

(34912.0 MINUTES DECAY TIME)

3/25/92
E A Lopez

LIVE TIME: 74 HOURS 6 MINUTES 59 SECONDS = 4446.98 MINUTES

ELAPSED TIME: 74 HOURS 40 MINUTES 30 SECONDS = 4480.50 MINUTES

(DEAD TIME = 0.007)

FLUX CORR. FACT.: 0.000000

GAIN: 0.500000 KEV/CHAN

WEIGHT: 1.00000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

003-396

54124713.L;1 54124-71-3 200 LMDA OF 1892-136-500

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	175	130	118	111	123	89	98	69	53	64	61	47	51	47	49	31	40	29	42	31
1	148	111	114	98	120	81	75	54	70	57	40	58	54	42	68	52	42	46	27	35
2	157	126	98	92	113	84	101	67	65	65	54	69	51	49	46	46	42	43	44	45
3	139	128	114	105	110	83	93	59	75	58	60	50	47	45	46	43	51	33	31	27
4	162	143	114	128	109	94	83	67	74	77	63	68	56	40	50	48	46	45	33	39
5	158	124	112	107	117	93	89	69	76	71	43	65	54	38	52	40	44	25	44	40
6	157	139	104	108	109	96	84	56	69	62	54	57	77	42	50	57	34	42	35	39
7	148	123	105	101	132	102	89	73	63	64	48	34	56	56	43	38	35	41	39	39
8	169	136	107	92	103	85	98	59	87	66	49	42	67	52	40	32	40	38	33	25
9	168	130	109	115	119	77	93	67	66	57	67	60	61	50	58	41	45	35	39	34
10	170	104	126	118	106	99	88	63	73	62	46	72	59	60	52	33	44	37	50	49
11	165	135	111	106	97	89	91	65	66	42	64	68	53	60	54	63	39	47	50	29
12	156	134	104	111	114	87	86	58	68	65	49	43	50	51	45	54	30	32	47	40
13	181	128	131	104	109	85	107	79	66	75	60	55	60	52	39	38	33	49	20	40
14	157	130	126	116	100	61	102	60	72	57	67	66	43	54	52	52	43	44	27	31
15	173	128	116	149	112	89	97	72	70	72	47	58	50	44	52	45	33	49	35	43
16	192	115	140	196	107	83	109	66	74	59	49	55	47	53	56	39	32	49	44	35
17	202	133	141	189	109	98	102	70	61	59	42	46	59	53	35	53	34	38	26	31
18	255	124	112	174	128	93	144	51	69	62	62	49	58	52	48	49	53	49	38	36
19	308	141	133	131	117	77	248	60	61	46	50	58	55	47	38	33	43	41	33	40
20	439	116	92	115	136	92	590	88	58	56	52	58	39	68	51	45	58	40	29	37
21	537	134	104	98	117	94	1661	81	63	53	50	59	68	70	48	39	93	45	41	32
22	618	126	128	89	117	82	3957	72	52	53	60	56	44	58	50	38	88	40	50	44
23	556	138	97	94	131	84	6431	53	65	70	57	55	56	54	55	59	123	40	28	37
24	471	100	105	109	104	88	6637	50	62	72	48	48	47	43	41	45	83	41	31	27
25	417	119	98	91	119	111	4691	60	67	53	59	62	45	54	48	44	69	45	51	23
26	268	131	107	96	121	98	2035	58	60	50	45	56	48	54	46	37	62	42	32	38
27	233	126	108	96	91	77	607	64	49	48	52	48	43	36	53	44	49	41	35	38
28	198	109	122	105	105	84	178	62	51	72	61	48	49	53	47	43	37	37	36	29
29	147	100	132	114	93	77	74	49	55	58	44	55	56	49	50	41	33	47	40	36
30	158	109	125	92	101	75	66	58	60	56	60	48	46	45	39	46	47	53	39	37
31	139	112	108	99	91	97	65	70	55	45	45	58	54	46	36	34	41	36	46	31
32	137	106	105	119	85	89	72	62	55	66	66	47	52	55	51	55	48	45	48	42
33	154	123	103	115	88	98	76	67	53	54	71	43	45	42	51	37	46	36	43	37
34	138	129	134	108	94	91	70	74	60	58	65	57	48	42	41	36	41	33	43	37
35	139	110	132	85	95	76	62	67	64	65	64	45	61	57	49	49	44	35	47	37
36	133	106	120	98	85	90	68	77	60	59	55	62	32	54	53	32	40	42	51	34
37	128	118	112	104	93	88	63	76	71	54	59	47	45	49	49	42	43	32	59	35
38	130	112	128	89	106	96	64	86	53	63	65	59	45	59	41	46	38	48	67	34
39	157	119	123	117	95	74	55	82	68	63	73	48	42	39	50	43	37	30	84	31
40	116	113	150	117	79	84	70	91	63	45	45	47	43	63	42	46	48	35	62	24
41	119	122	108	124	72	83	66	70	69	37	47	66	56	64	47	44	35	31	49	41
42	138	111	103	131	86	99	81	85	54	49	57	44	45	68	45	41	40	37	45	37
43	125	113	119	120	114	82	69	74	67	53	52	58	45	92	41	47	43	31	34	24
44	145	108	95	123	79	88	69	79	52	61	51	43	42	114	46	49	46	37	35	47
45	135	126	108	115	93	93	68	72	58	61	46	44	51	86	42	47	34	39	42	32
46	149	138	100	110	97	91	59	79	65	50	52	45	43	69	40	46	38	44	36	33
47	125	122	116	117	99	111	62	83	60	49	48	58	46	47	48	37	33	47	45	42
48	130	105	108	112	83	108	76	70	62	76	55	46	50	44	50	46	31	38	45	39
49	148	113	88	106	104	73	66	62	56	62	59	52	54	46	46	39	44	36	31	35

C
U
C

003-699

II.E. Detector Calibrations

II.E.1. Diode K - Effmarna.K

54124-71-1 500cc marinelli Beaker

200λ of mixed STD 54124-70-0

pipette # 50690-40-1 500.0 gms of 0.1N HCl

balance 510-06-01-005

54124-71-2 blue dot point Source

pipetted 2-21-92 200λ of mixed STD 54124-70-0

pipette # 50690-40-1

54124-71-3 200λ of ^{137}Cs 1892-136-500

pipette # 50690-40-1 Balance 510-06-01-005

Blue dot point source

pipetted 2-25-92

Project No. _____ Date of Work _____

Entered By Donna Edwards Date 2-19-92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

70

MIXED STD

54124-70-0 std ordered by LEPEL

DO NOT DILUTE STD

Amersham International plc
Amersham Laboratories

54124-70-0

[redacted]

CALIBRATION No. 0140

Description Product code: QCY.48 Solution number: R2/15/56

This mixed radionuclide gamma-ray reference standard consists of a solution in 4M HCl of the ten radionuclides listed below.

Measurement and Accuracy Reference time: 1200 GMT on 1 February 1992

Mass of solution: 5.3164 grams Density: 1.078 g/ml at 20°C

Parent radionuclide	Gamma-ray energy (keV)	Gamma rays per second per gram of solution	Random uncertainty	Systematic uncertainty	Overall uncertainty
Americium 241	59.54	1134	± 0.2 %	± 2.1 %	± 2.3 %
Cadmium 109	88.03	645	± 0.2 %	± 3.0 %	± 3.2 %
Cobalt 57	122.1	580	± 0.1 %	± 1.8 %	± 1.9 %
Cerium 139	165.9	713	± 0.3 %	± 1.2 %	± 1.5 %
Mercury 203	279.2	1999	± 0.3 %	± 2.0 %	± 2.3 %
Tin 113	391.7	2201	± 0.1 %	± 4.5 %	± 4.6 %
Strontium 85	514.0	3913	± 0.3 %	± 1.4 %	± 1.7 %
Caesium 137	661.7	7509	± 0.2 %	± 2.0 %	± 2.2 %
Yttrium 88	898.0	6295	± 0.2 %	± 3.5 %	± 3.7 %
Cobalt 60	1173	3413	± 0.3 %	± 0.4 %	± 0.7 %
Cobalt 60	1333	3416	± 0.3 %	± 0.4 %	± 0.7 %
Yttrium 88	1836	6671	± 0.2 %	± 3.4 %	± 3.6 %

Purity At the reference time the solution also contained the following impurities:

Cadmium-115m less than 2.6 becquerels (0.070 nanocuries) per gram.
Chlorine-36 equal to 16.4 becquerels (0.44 nanocuries) per gram.
Cobalt-56 less than 0.24 becquerels (0.0065 nanocuries) per gram.
Indium-114m equal to 6.0 becquerels (0.16 nanocuries) per gram.

Remarks Further details, including composition of the solution, methods of measurement, decay scheme assumptions, decay tables and definitions of uncertainties, are given in the data sheet accompanying this certificate.

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving explicit NIST traceability as defined in NCRP58 (1986).

Approved Signatory

G D H Parker Page 1 of 1 Amersham

This certificate is issued in accordance with the conditions of accreditation granted by the National Measurement Accreditation Service, which has assessed the measurement capability of the laboratory and its traceability to appropriate national standards and to the unity of measurement realised at the corresponding national standards laboratory. Copyright of this certificate is owned jointly by the British Crown and the Amersham Laboratory and may not be reproduced other than in full except with the prior written approval of the Head of Network and the Acting Laboratory.

Project No. _____ Date of Work _____

Entered By Donald R Edwards Date 2-19-92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

2-19-92 mittler

20λ pipette
50690-40-4

1061705
1059743
19.62

1059500
1067549
19.51

1075414
1073451
19.63

1059755
1057804
19.51

$\bar{X}$ 19.57 2-19-92 DRE

510-06-03-011
CALIBRATION DATE 1-16-92
Expires - 4-16-92

200λ pipette
50690-40-1

977383
957377
200.06

997411
977380
200.31

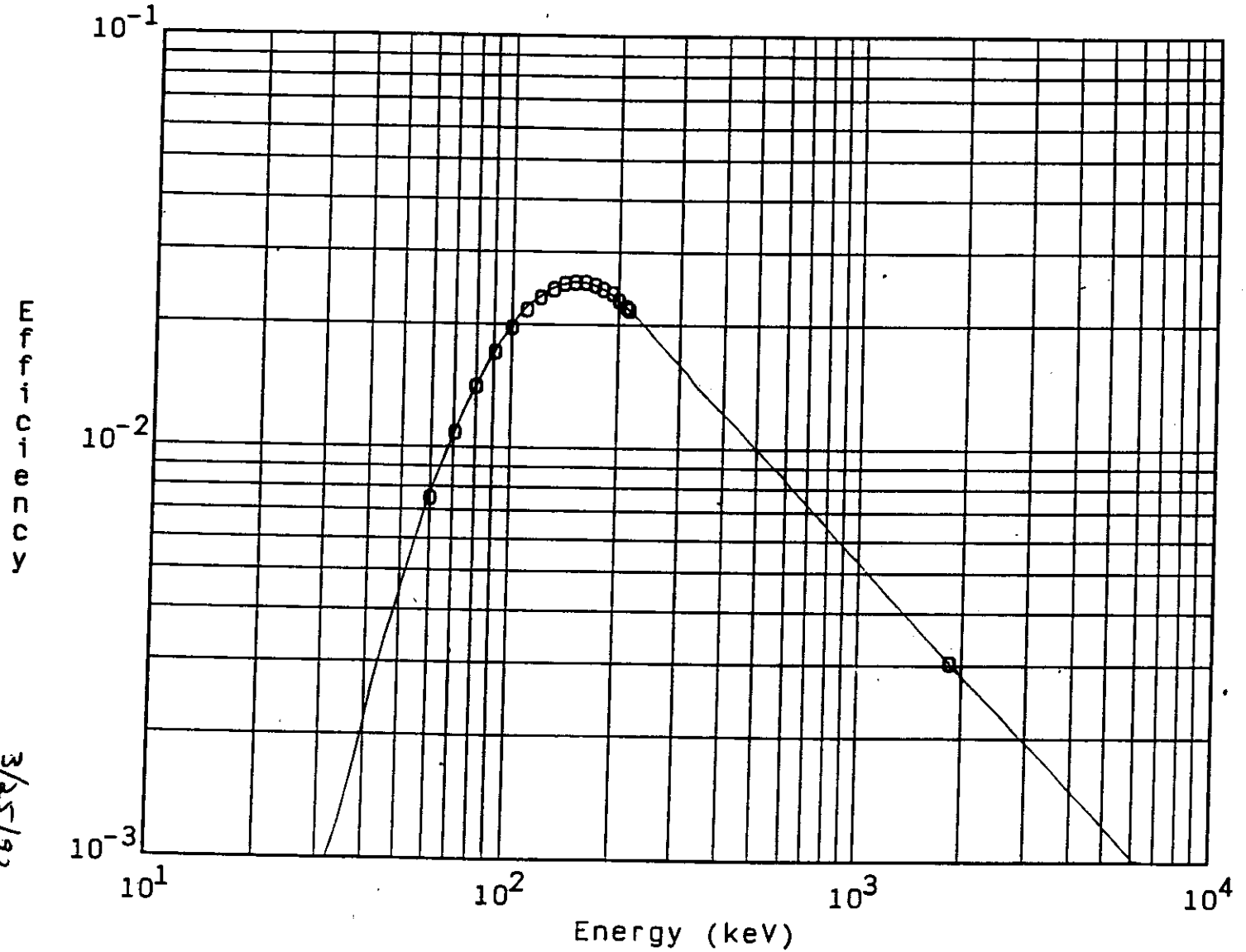
1017407
997401
200.06

1037317
1017407
199.10

$\bar{X}$ 199.88 2-19-92 DRE

9 2 1 1 . 9 1 1 . 7

effmarn.k → EFF MARNA.K



3/25/92
EA Kaul

D03-305

Raygun - Portable Version 17-Jul-90 (25-MAR-1992 11:15:54)

Analysis performed by: E. A. LEPEL

Sample: 54124-71-1 AMERSHAM STD 200 L IN MARINELLI BEAK
Weight: 1.00000 grams

Irradiation date: 0-Feb-1992 at 5:00:00

Count date: 19-Feb-1992 at 9:38:00

Decay: 19.2d (1658280.0 seconds)

Count times: REAL TIME 23.19h (83499.000 seconds)
LIVE TIME 23.00h (82793.000 seconds)

Dead time: 0.85 percent

Detector: K pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: effmarn. K

Spectrum from file : 54124711.k;1

Background subtractions from file: [-.bkg]Backg. K

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	72.2	67.	75.	597142.	35907.*	73.09	4.333E-01	3.2	34.
2	82.0	82.	82.	68808.	3816.	82.90	4.609E-02	9.6	0.
3	87.4	85.	89.	490075.	175673.	88.29	2.122E+00	0.5	0.
4	121.2	118.	123.	588946.	235943.	122.10	2.850E+00	0.4	0.
5	135.8	133.	138.	375837.	34939.	136.68	4.220E-01	2.4	0.
6	165.0	163.	167.	535530.	274303.	165.89	3.313E+00	0.3	0.
7	186.0	186.	186.	48051.	619.*	186.87	1.204E-02	100.0	159.
8	254.1	253.	256.	148911.	18999.	254.94	2.295E-01	2.8	0.
9	278.1	275.	282.	666380.	445847.	278.94	5.385E+00	0.2	0.
10	390.5	387.	395.	585646.	438863.	391.32	5.301E+00	0.2	0.
11	512.8	505.	515.	675223.	545655.	513.61	6.591E+00	0.2	0.
12	660.3	656.	665.	445200.	340051.*	661.06	4.107E+00	0.2	33.
13	812.9	809.	815.	53827.	11714.	813.68	1.415E-01	2.8	0.
14	890.1	890.	892.	19724.	431.	890.82	6.634E-03	100.0	0.
15	896.9	892.	900.	604294.	548629.	897.64	6.627E+00	0.1	0.
16	1156.0	1156.	1156.	3499.	215.*	1156.66	5.213E-03	100.0	12.
17	1172.4	1167.	1176.	294584.	263010.*	1173.01	3.176E+00	0.2	30.
18	1324.2	1320.	1328.	33109.	8232.	1324.86	9.943E-02	2.8	0.
19	1331.9	1328.	1335.	254980.	241752.*	1332.50	2.920E+00	0.5	31.
20	1460.1	1460.	1462.	7451.	175.*	1460.69	4.903E-03	100.0	290.
21	1712.3	1712.	1714.	3370.	217.	1712.85	3.442E-03	100.0	0.
22	1836.1	1826.	1840.	316277.	308801.	1836.64	3.730E+00	0.2	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: [-.library]5412470_1998.std
which is assumed to be a properly constructed Calibration Certificate.

Delta T = 19.19306 Days
The following Energy - Efficiency pairs have been calculated.

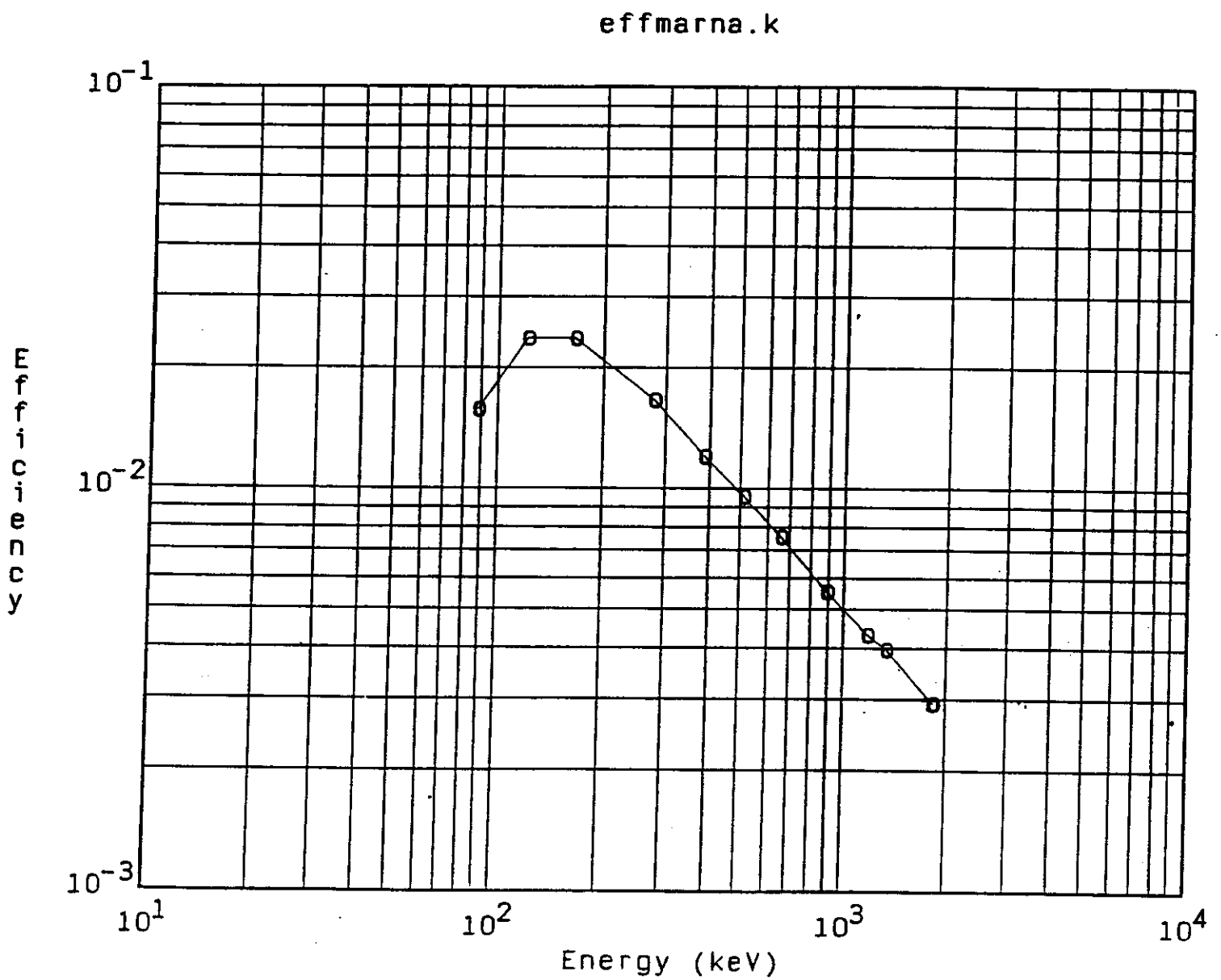
5.300E-01	2.600E-03	-6.020E+00	1.730E-03	3.213E-01	
9.147E-01	9.998E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
-1.919E+01	2.305E+00	-1.840E-02			
-1.919E+01	2.305E+00	0.000E+00			

-1 1.0

88.29	1.58E-02
122.10	2.37E-02
165.89	2.38E-02
278.94	1.67E-02
391.32	1.21E-02
513.61	9.62E-03
661.06	7.62E-03
897.64	5.54E-03
1173.01	4.36E-03
1332.50	4.00E-03
1836.64	2.94E-03

Options - in - Effect

Master_file	MASTSTD.K
CALIBRATE	
PRINT	lpk.lst
USER_NAME	E. A. LEPEL
OPTION_LIST	
CALC_EFFICIENCY	[-.library]5412470_1998.std


effmarna.k
Efficiency
10^{-1}
10^{-2}
10^{-3}
10^{1}
10^{2}
10^{3}
10^{4}
Energy (keV)

```
 5.300E-01  2.600E-03 -6.020E+00  1.730E-03  3.213E-01
 0.000E-01  0.000E+00  0.000E+00  0.000E+00  0.000E+00
-1.919E+01  2.305E+00 -1.840E-02
-1.919E+01  2.305E+00  0.000E+00
11         1.0
  88.29      1.58E-02
 122.10      2.37E-02
 165.89      2.38E-02
 278.94      1.67E-02
 391.32      1.21E-02
 513.61      9.62E-03
 661.06      7.62E-03
 897.64      5.54E-03
1173.01      4.36E-03
1332.50      4.00E-03
1836.64      2.94E-03
```

TITLE: 54124-71-1 AMERSHAM STD 200 L IN MARINELLI BEAK

FILE: 54124711.K:1

* CHANNELS: 2048

SHELF: 0

DIODE: K

TIME ZERO: 2 1 92 5 0 0

TIME OF COUNT: 2 20 92 9 38 0

(27638.0 MINUTES DECAY TIME)

LIVE TIME: 22 HOURS 59 MINUTES 53 SECONDS = 1379.88 MINUTES

ELAPSED TIME: 23 HOURS 11 MINUTES 39 SECONDS = 1391.65 MINUTES

(DEAD TIME = 0.008)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 1.00000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	90

D03-310

II.E.2. Diode K - Effmarn.HH

54124-71-1 500cc marinelli Beaker
200λ of mixed STD 54124-70-0
pipette # 50690-40-1 500.0 gms of 0.1N HCl
balance 510-06-01-005

54124-71-2 blue dot point Source
pipetted 2-21-92 200λ of mixed STD 54124-70-0
pipette # 50690-40-1

54124-71-3 200λ of ^{137}Cs 1892-136-500
pipette # 50690-40-1 Balance 510-06-01-005
Blue dot point source

pipetted 2-25-92

Project No. _____ Date of Work _____
Entered By Donna Edwards Date 2-19-92
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

70

MIXED STD

54124-70-0 std ordered by LEPEL

DO NOT DILUTE STD

Amersham International plc
Amersham Laboratories

54124-70-0

[redacted]

NAMAS
CALIBRATION
No. 0145

Description Product code: QCT.48 Solution number: R2/15/56

This mixed radionuclide gamma-ray reference standard consists of a solution in 4M HCl of the ten radionuclides listed below.

Measurement and Accuracy Reference time: 1700 GMT on 1 February 1992

Mass of solution: 5.3164 grams Density: 1.076 g/ml at 20°C

Parent radionuclide	Gamma-ray energy (keV)	Gamma rays per second per gram of solution	Random uncertainty	Systematic uncertainty	Overall uncertainty
Americium-241	59.54	1134	± 0.2 %	± 2.1 %	± 2.3 %
Cadmium-109	88.03	645	± 0.2 %	± 3.0 %	± 3.2 %
Cobalt-57	122.1	588	± 0.1 %	± 1.8 %	± 1.9 %
Cerium-139	165.9	713	± 0.3 %	± 1.2 %	± 1.5 %
Mercury-203	279.2	1999	± 0.3 %	± 2.0 %	± 2.3 %
Tin-113	391.7	2281	± 0.1 %	± 4.5 %	± 4.6 %
Strontium-85	514.0	3913	± 0.3 %	± 1.4 %	± 1.7 %
Cadmium-137	661.7	2509	± 0.2 %	± 2.0 %	± 2.2 %
Yttrium-88	898.0	6295	± 0.2 %	± 3.5 %	± 3.7 %
Cobalt-60	1173	3413	± 0.3 %	± 0.4 %	± 0.7 %
Cobalt-60	1333	3418	± 0.3 %	± 0.4 %	± 0.7 %
Yttrium-88	1836	6671	± 0.2 %	± 3.4 %	± 3.6 %

Purity At the reference time the solution also contained the following impurities:

Cadmium-115m less than 2.6 becquerels (0.070 nanocuries) per gram.
Chlorine-36 equal to 16.4 becquerels (0.44 nanocuries) per gram.
Cobalt-56 less than 0.24 becquerels (0.0065 nanocuries) per gram.
Indium-114m equal to 6.8 becquerels (0.16 nanocuries) per gram.

Remarks Further details, including composition of the solution, methods of measurement, decay scheme assumptions, decay tables and definitions of uncertainties, are given in the data sheet accompanying this certificate.

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving explicit NIST traceability as defined in NCRP98 (1989).

Approved Signatory

G D R Parker Page 1 of 1 Amersham

This certificate is issued in accordance with the conditions of accreditation granted by the National Measurement Accreditation Service, which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realised at the corresponding national standards laboratory. Copyright of this certificate is owned jointly by the British Crown and the issuing laboratory and may not be reproduced other than in full except with the prior written approval of the Head of National and the issuing laboratory.

Project No. _____ Date of Work _____

Entered By Donald R Edwards Date 2-19-92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

2-19-92 mittler

20λ pipette
50690-40-4

1061705
1059743
19.62

1059500
1067549
19.51

1075414
1073451
19.63

1059755
1057804
19.51

$\bar{X}$ 19.57 2-19-92 DRF

510-06-03-011
CALIBRATION DATE 1-16-92
Expires - 4-16-92

200λ pipette
50690-40-1

977383
957377
200.06

997411
977380
200.31

1017407
997401
200.06

1037317
1017407
199.10

$\bar{X}$ 199.88 2-19-92 DRF

RAYGUN Library: 5412470x.std → 5412470_194P.std.

contains 10 nuclides and 12 gamma rays.

Nuclide	Parent	Daughtr	Use	Half Life	Certif. Day	Err(%)
Co 57	-	-	0	270.02 d	31-Jan-1992	2.30
Co 60	-	-	0	5.27 y	31-Jan-1992	1.90
Sr 85	-	-	0	64.73 d	31-Jan-1992	1.70
Y 88	-	-	0	106.60 d	31-Jan-1992	3.60
Cd 109	-	-	0	453.36 d	31-Jan-1992	3.20
Sn 113	-	-	0	115.10 d	31-Jan-1992	4.60
Cs 137	-	-	0	30.10 y	31-Jan-1992	2.20
Ce 139	-	-	0	137.50 d	31-Jan-1992	1.50
Hg 203	-	-	0	46.49 d	31-Jan-1992	2.30
Am 241	-	-	0	433.14 y	31-Jan-1992	2.30

Gamma Ray	Nuclide	Gammas/sec	As. Gamma	As. Gamma
59.540	Am 241	2.439E+02	.000	.000
88.040	Cd 109	1.387E+02	.000	.000
122.070	Co 57	1.265E+02	.000	.000
165.850	Ce 139	1.534E+02	.000	.000
279.170	Hg 203	4.300E+02	.000	.000
391.710	Sn 113	4.906E+02	.000	.000
513.990	Sr 85	8.417E+02	.000	.000
661.620	Cs 137	5.397E+02	.000	.000
898.020	Y 88	1.354E+03	.000	.000
1173.230	Co 60	7.341E+02	.000	.000
1332.510	Co 60	7.348E+02	.000	.000
1836.010	Y 88	1.435E+03	.000	.000

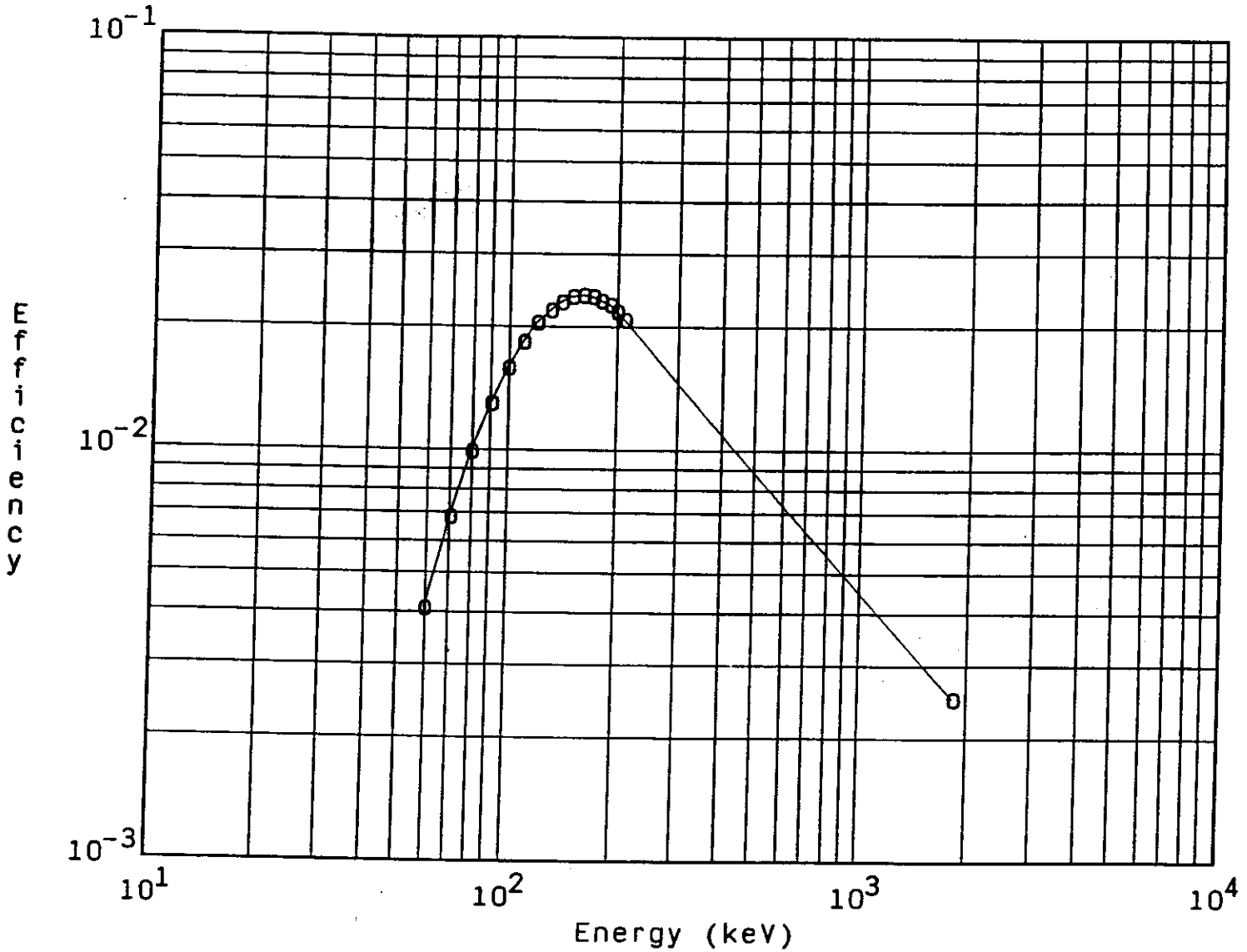
3/25/92
QA Legal

RAYGUN Library: 5412470x.std

contains 10 nuclides and 12 gamma rays.

Nuclide	Parent Gamma Ray	Daughtr Gammas/sec	Use	Half Life As. Gamma	Certif. Day As. Gamma	Err(%)
Co 57	-	-	0	270.02 d	31-Jan-1992	2.30
	122.070	1.265E+02		.000	.000	
Co 60	-	-	0	5.27 y	31-Jan-1992	1.90
	1173.230	7.341E+02		.000	.000	
	1332.510	7.348E+02		.000	.000	
Sr 85	-	-	0	64.73 d	31-Jan-1992	1.70
	513.990	8.417E+02		.000	.000	
Y 88	-	-	0	106.60 d	31-Jan-1992	3.60
	898.020	1.354E+03		.000	.000	
	1836.010	1.435E+03		.000	.000	
Cd 109	-	-	0	453.36 d	31-Jan-1992	3.20
	88.040	1.387E+02		.000	.000	
Sn 113	-	-	0	115.10 d	31-Jan-1992	4.60
	391.710	4.906E+02		.000	.000	
Cs 137	-	-	0	30.10 y	31-Jan-1992	2.20
	661.620	5.397E+02		.000	.000	
Ce 139	-	-	0	137.50 d	31-Jan-1992	1.50
	165.850	1.534E+02		.000	.000	
Hg 203	-	-	0	46.49 d	31-Jan-1992	2.30
	279.170	4.300E+02		.000	.000	
Am 241	-	-	0	433.14 y	31-Jan-1992	2.30
	59.540	2.439E+02		.000	.000	

3/25/92
PA Legal



3/25/92 SAhanel

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 6.446E+00  3.131E-03 -2.131E+00  8.832E-04  6.968E-01
 0.000E+01  0.000E+01  0.000E+00  0.000E+00  0.000E+00  0.
-1.919E+01  2.305E+00 -1.840E-02
-1.919E+01  2.305E+00  0.000E+00
        17  1.0
 60.00000    ,  4.1366210E-03
 70.00000    ,  6.8681818E-03
 80.00000    ,  9.9363299E-03
 90.00000    ,  1.3040722E-02
 100.0000    ,  1.5934695E-02
 110.0000    ,  1.8448787E-02
 120.0000    ,  2.0488719E-02
 130.0000    ,  2.2021489E-02
 140.0000    ,  2.3058297E-02
 150.0000    ,  2.3638846E-02
 160.0000    ,  2.3818666E-02
 170.0000    ,  2.3659866E-02
 180.0000    ,  2.3224842E-02
 190.0000    ,  2.2572340E-02
 200.0000    ,  2.1755265E-02
 209.2861    ,  2.0889547E-02
 1835.430    ,  2.5022377E-03
```

EFFMARN.HH

Calibration curve for 500 ml Marinelli beaker counted on detector HH.
Count was 54124-711.hh;1 using 54124-70-0 Amersham std, 0.200 ml.

Calibration performed 3/25/92 by EAL

3/25/92 QA Lesel

Raygun - Portable Version 17-Jul-90 (25-MAR-1992 13:20:48)

Analysis performed by: E. A. LEPEL

Sample: 54124-71-~~X~~ 200 LMDA IN .5 L MARINELLI BEAKER

Irradiation date: 0-Feb-1992 at 5:00:00

Count date: 24-Feb-1992 at 9:20:00

Decay: 24.2d (2089200.0 seconds)

Count times: REAL TIME 32.08h (115471.00 seconds)
LIVE TIME 31.88h (114765.00 seconds)

Dead time: 0.61 percent

Detector: HH pos # 0 Geometry Factor: 1.000

Efficiencies and shape parameters from file: [-.effic]efflbot4. HH

Spectrum from file : 54124711.hh;1

Background subtractions from file: [-.bkg]Backg. HH

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	60.0	57.	61.	456600.	93499.	59.39	8.147E-01	1.0	0.
2	73.4	67.	76.	735378.	64396.*	72.74	5.321E-01	4.2	3330.
3	88.1	87.	89.	410823.	232154.*	87.45	2.010E+00	3.2	1529.
4	122.9	118.	124.	733447.	294587.	122.25	2.567E+00	0.4	0.
5	137.0	134.	138.	338710.	39934.	136.42	3.480E-01	2.0	0.
6	166.7	163.	168.	683538.	349581.	166.07	3.046E+00	0.3	0.
7	239.2	237.	240.	186996.	7040.*	238.60	1.927E-02	100.0	7436.
8	256.0	254.	257.	186102.	24563.	255.31	2.140E-01	2.4	0.
9	280.0	278.	281.	666913.	525243.*	279.34	4.574E+00	0.2	263.
10	392.5	387.	394.	708972.	535493.	391.86	4.666E+00	0.2	0.
11	514.9	508.	516.	787807.	650968.	514.22	5.672E+00	0.1	0.
12	662.4	657.	664.	531297.	422033.*	661.72	3.676E+00	0.2	157.
13	815.0	811.	819.	86869.	16278.	814.23	1.418E-01	2.4	0.
14	822.8	821.	825.	40011.	814.	822.04	8.952E-03	100.0	0.
15	898.9	890.	901.	756582.	658862.	898.15	5.741E+00	0.1	0.
16	911.9	910.	914.	38841.	1481.*	911.13	8.867E-03	100.0	1215.
17	1173.9	1169.	1177.	361991.	325659.	1173.17	2.838E+00	0.2	0.
18	1325.4	1321.	1329.	41270.	22163.	1324.56	1.931E-01	1.0	0.
19	1333.0	1329.	1336.	313500.	283192.	1332.24	2.468E+00	0.4	0.
20	1461.6	1459.	1464.	19305.	980.*	1460.75	6.149E-03	100.0	1125.
21	1836.3	1824.	1839.	377741.	367578.	1835.43	3.203E+00	0.2	0.
22	2037.5	2033.	2042.	1895.	300.	2036.62	2.613E-03	20.8	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

Gamma-ray and nuclide lookup from file: [-.library]5412470_1998.std

3/25/92 EA Lepel

which is assumed to be a properly constructed Calibration Certificate.

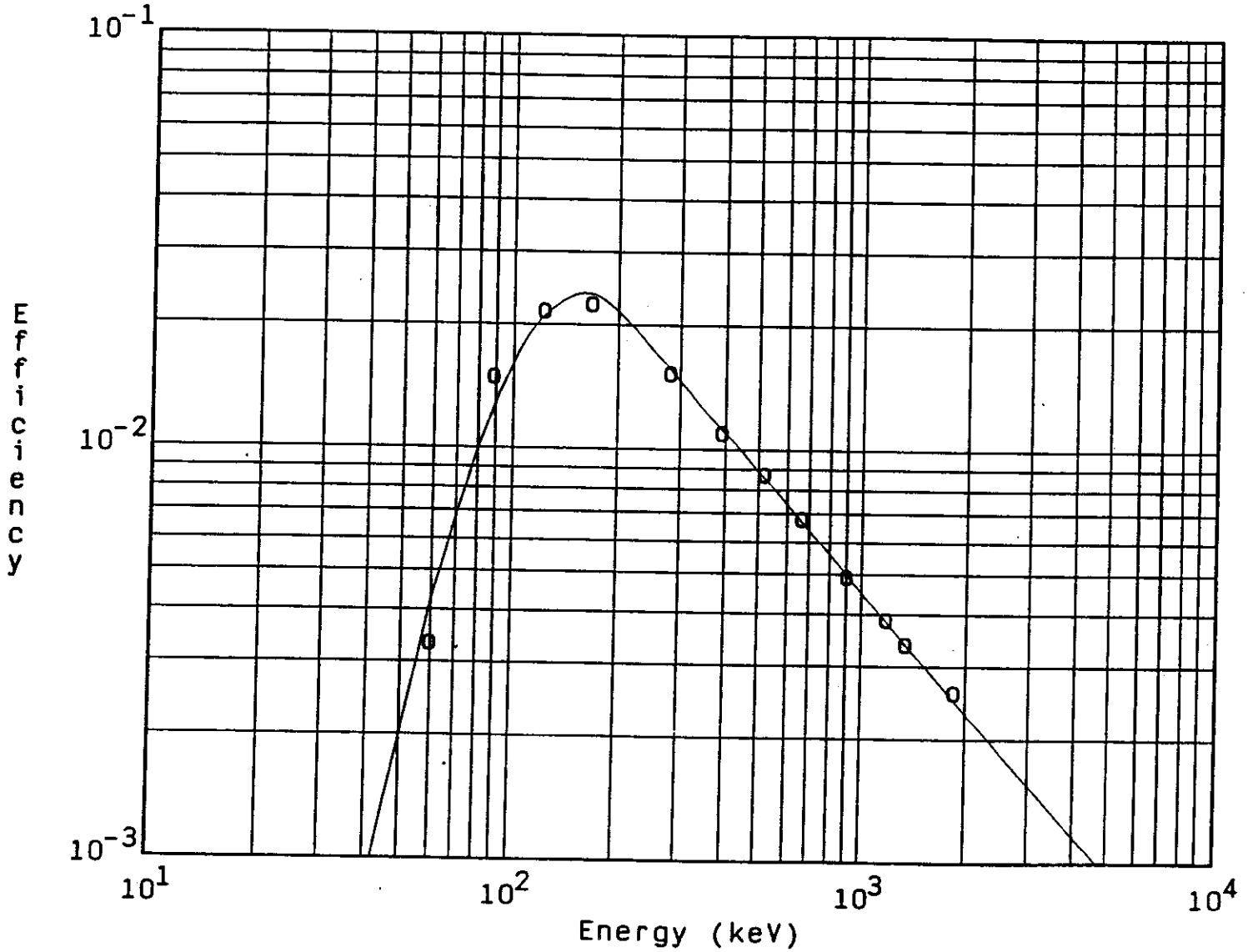
Delta T = 24.18056 Days
The following Energy - Efficiency pairs have been calculated.

```
  6.446E+00  3.131E-03 -2.131E+00  8.832E-04  6.968E-01
 -6.099E-01  9.999E-01  0.000E+00  0.000E+00  0.000E+00  0.000E+00
 -1.919E+01  2.305E+00 -1.840E-02
 -1.919E+01  2.305E+00  0.000E+00
-1          1.0
   59.39      3.34E-03
   87.45      1.50E-02
  122.25      2.16E-02
  166.07      2.24E-02
  279.34      1.53E-02
  391.86      1.10E-02
  514.22      8.73E-03
  661.72      6.82E-03
  898.15      4.96E-03
 1173.17      3.90E-03
 1332.24      3.39E-03
 1835.43      2.61E-03
```

Options - in - Effect

```
Master_file          MASTSTD.HH
CALIBRATE
PRINT                lps.lst
USER_NAME            E. A. LEPEL
OPTION_LIST
CALC_EFFICIENCY      [-.library]5412470_1998.std
```

3/25/92 EA Lepel



3/25/92 EAFagel

D03-321

TITLE: 54124-71-1 200 LMDA IN .5 L MARINELLI BEAKER

FILE: 54124711.HH;1

* CHANNELS: 2048

SHELF: 0

DIODE: HH

TIME ZERO: 2 1 92 5 0 0 ✓

TIME OF COUNT: 2 25 92 9 20 0 ✓

(34828.8 MINUTES DECAY TIME)

LIVE TIME: 31 HOURS 52 MINUTES 45 SECONDS = 1912.75 MINUTES

ELAPSED TIME: 32 HOURS 4 MINUTES 31 SECONDS = 1924.52 MINUTES

(DEAD TIME = 0.006)

FLUX CORR. FACT.: 0.000000

GAIN: 1.00000 KEV/CHAN

WEIGHT: 0.000000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	104

3/25/92
SA Lopel

54124711.HH:1 54124-71-1 200 LMDA IN .5 L MARINELLI BEAKER

	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
0	114765	77089	60911	57863	50245	41246	30739	25611	19546	18928	15747	12818	12730	13659	12191	8927	7893	7859	100116	8081
1	5	75890	61103	57068	50259	41147	30554	24976	19414	18447	15659	12940	12635	13713	11904	8882	7750	7800	10173	8089
2	0	76118	61580	57266	50463	41145	30816	25256	19497	18611	15899	12923	12761	13630	11569	8932	7813	7849	7491	8025
3	25	75694	61801	56522	50180	40817	30543	25039	19473	18642	15652	12817	12581	13670	11391	8832	7776	7768	7515	7987
4	362	75319	62879	57427	50179	40741	30819	24748	19527	18906	15615	12808	12943	13743	11139	8839	7772	7889	7492	8051
5	489	74087	62336	57057	49555	44594	30415	24350	19173	18574	15863	12731	12551	13771	11003	8737	7763	7830	7355	8092
6	693	73646	62829	57487	50198	59479	30410	24628	19427	18648	15658	12744	12674	13796	10871	9003	7835	7938	7427	8112
7	3588	74607	62521	57329	49758	41288	30414	24117	19544	18610	15630	12579	12898	13949	10703	8802	7801	7857	7395	7969
8	22125	75208	63316	57608	49898	39509	30159	24216	19285	18791	15874	12841	13012	14060	10884	8954	7644	7655	7509	8002
9	45968	78994	63282	57396	49417	39584	29874	23920	19267	18821	16001	12776	12808	14040	10540	8702	7584	7818	7326	7822
10	61013	148269	63374	57586	50163	39305	30516	24209	19017	18579	17501	12731	13023	15486	10594	8709	7662	7919	7633	7883
11	75362	79522	63090	57302	49412	38991	30771	23882	19155	18627	20672	12609	12894	36809	10436	8571	7779	7764	7830	7847
12	89586	67316	64041	57644	49667	39001	30407	23814	18865	18526	22534	12625	12926	212490	10303	8887	7825	7929	8039	7741
13	97598	66975	63192	57384	49460	38553	29894	23619	18932	18788	25889	12635	12952	197257	10304	8752	8040	7818	7691	7601
14	97566	67619	64362	57557	49613	38422	29854	23765	18826	190201	81994	12679	12737	27206	10200	8748	11714	7951	7598	7574
15	96589	67145	63282	59262	49099	37879	29926	23289	19087	186274	14516	12761	13030	13232	10225	8591	16794	7769	7459	7125
16	101621	67310	64195	202578	49166	37863	29978	23681	19154	18735	72826	12628	12825	13275	10084	8538	10758	7848	7568	7225
17	106544	67623	63881	252127	48767	37652	29630	23038	18868	18615	13756	12615	12959	13024	10045	8657	7998	7887	7561	6940
18	109015	68389	64236	54630	49269	37963	29689	23388	18663	18769	13799	12954	12907	13184	10127	8401	7969	7909	7660	6927
19	108852	68873	64558	51675	49363	37463	29434	23193	18733	18734	13465	12776	12831	13306	10006	8502	7992	7992	7453	6985
20	108739	68769	65068	52559	49189	37493	29687	23281	18986	18685	13697	12721	13053	13367	9966	8448	7825	8164	7686	7161
21	108360	74564	65959	51990	48520	37981	29451	23128	18719	18229	13314	12966	12737	13167	9876	8403	7975	7766	7496	6795
22	107856	73780	144681	52200	48333	37410	29617	22825	18779	18185	13683	12906	13031	13297	9896	8409	8119	7896	7571	6619
23	106082	83153	266238	52328	48512	36693	29508	22911	18971	18270	13387	12606	13207	13575	9950	8358	8208	7883	7606	6581
24	105837	81372	62707	52575	48783	37014	29732	22893	19223	18289	13375	12787	13079	13486	9877	8363	7904	7992	7540	6688
25	103794	73694	58226	52286	48352	37063	29231	22944	18919	18108	13402	12701	13176	13334	9614	8352	7805	7951	7632	6548
26	103194	75961	58964	52444	48514	37167	29350	22848	18903	18028	13592	12846	13098	13443	10014	8199	7764	7982	7704	6625
27	101313	65041	58848	52075	48474	36820	29118	22286	18899	17990	13314	12651	13111	13081	9858	8320	7739	7962	7718	6491
28	100929	65892	58990	52072	48685	38323	29305	22969	18655	17704	13541	12806	13012	13408	9865	8138	7846	7931	7692	6735
29	98961	64846	58680	51899	47886	108239	29385	22504	18951	17353	13201	12720	12905	13507	9703	8122	7711	8100	7762	6427
30	97465	65801	59136	51867	47994	431969	29117	22579	18903	17310	13332	12644	13281	13452	9705	8263	7752	8043	7733	6564
31	96235	65388	58595	51400	47353	88382	29071	22292	18863	16859	13175	12502	13057	13636	9645	8086	7618	8095	7667	6361
32	95055	67561	59302	51610	47376	33105	29098	22604	18839	16701	13247	12995	13262	13445	9548	8152	7763	8068	7834	6514
33	92953	74454	59094	51094	47117	32597	28855	22148	18668	16801	13222	12945	13087	13551	9611	8097	7830	8018	7726	6421
34	92480	69178	59790	51382	46674	32443	29465	22119	18580	16408	13187	13825	13185	13469	9520	7944	7792	8143	7770	6595
35	91037	75836	59959	50961	46243	32440	28834	22324	18622	16425	13113	12861	13333	13834	9633	8062	7876	8188	7936	6486
36	90049	74136	61995	51603	46695	32056	28788	22331	18763	16455	12935	12819	13396	13758	9577	8048	7860	8375	7787	6547
37	88013	69845	90200	51630	45999	32006	28787	22389	18727	16212	12876	12731	13489	13527	9135	7980	7710	8264	7846	6359
38	87124	143781	66766	51509	45557	32118	28898	22453	18746	16281	13177	12663	13198	13738	9393	7924	7835	8334	7972	6481
39	86104	197197	59887	51293	48474	31794	29286	22471	18678	16223	13032	12761	13147	13455	9389	7851	7498	8065	7875	6435
40	85506	62027	60575	51300	46966	32156	28440	22998	18778	15919	13177	12697	13305	13443	9403	8012	7582	8365	7867	6423
41	83347	60282	59997	50922	44006	31859	28047	34397	18630	15997	13168	12732	13272	13439	9325	7725	7736	8491	7813	6368
42	82584	60484	59780	50744	44283	31596	27963	273581	18809	15988	13129	12698	13289	13805	9221	7918	7743	8533	8090	6331
43	82049	60584	59607	50272	43263	31312	27415	279683	18737	15917	13118	12843	13274	13538	9257	7794	7786	8409	7925	6393
44	81417	60448	59718	50337	43612	31571	27019	31000	18706	15896	13166	12631	13368	13596	9154	7897	7791	8806	7905	6275
45	80218	60326	58814	50043	42456	31230	26743	20122	18580	15847	12911	12715	13614	13362	9178	7927	7754	9027	7958	6364
46	79114	60476	59056	49877	42518	31286	26705	19690	18738	16068	12816	12820	13502	13319	9218	7914	7758	10704	8953	6394
47	77698	60665	58866	49640	41532	31079	26006	19591	18665	15881	13112	12850	13606	13039	9046	7741	7720	29104	7823	6359
48	77747	60650	58166	49648	41954	31100	25854	19690	18479	15739	13058	12862	13561	13018	8966	7932	7690	195804	8019	6345
49	76866	60277	58033	50177	41375	30632	25060	19497	18612	15614	12883	12665	13309	12588	9102	7698	7957	359050	7846	6321

54124711.HH:1 54124-71-1 200 LMDA IN .5 L MARINELLI BEAKER

	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
0	6377	5947	6083	4507	3303	2823	2809	2561	2703	3045	3280	3788	4275	2300	1588	842	736	255	192	205
1	6340	5978	6020	4377	3233	2767	2789	2593	2714	3053	3303	3882	4344	2290	1493	813	665	264	211	195
2	6485	5877	6030	4363	3296	2773	2884	2576	2674	3120	3312	3766	4413	2306	1505	784	700	262	292	191
3	6293	5985	6077	4338	3311	2857	2789	2646	2756	2998	3317	3891	4285	2263	1383	789	706	271	219	203
4	6360	5788	6179	4536	3175	2914	2882	2690	2705	3056	3380	3941	4554	2327	1486	771	706	245	207	195
5	6227	5943	6107	4333	3106	2777	2881	2627	2781	3092	3332	3907	4289	2213	1464	786	681	243	186	175
6	6231	6063	6115	4346	3189	2825	2938	2593	2731	2990	3447	3916	4447	2249	1426	780	716	253	208	203
7	6160	5902	5955	4276	3160	2778	2873	2622	2863	3039	3358	4076	4200	2174	1448	768	632	258	209	217
8	6310	5813	6198	4441	3178	2801	2906	2574	2758	2982	3335	3948	4184	2274	1375	803	665	264	247	205
9	6184	5884	6122	4246	3167	2860	2805	2670	2763	3108	3381	3946	4139	2192	1376	751	638	248	205	177
10	6239	5880	6029	4313	3220	2860	2884	2549	2766	3206	3424	3956	4071	2181	1330	822	734	259	193	175
11	6056	5829	6010	4426	3182	2863	2835	2696	2756	3377	3479	3926	3749	2166	1294	825	723	246	212	165
12	6137	5653	6008	4396	3157	2880	2871	2680	2764	3399	3360	4100	3777	2187	1419	777	687	228	215	203
13	6091	5854	6017	4272	3199	2833	2871	2653	2778	3117	3428	3995	3431	2149	1534	785	726	209	194	191
14	6297	5808	5919	4252	3040	2811	2775	2649	2972	3098	3436	3961	3444	2153	1271	776	688	230	208	205
15	6102	5859	5807	4318	3043	2825	2985	2609	2730	3044	3474	4042	3183	2104	1291	816	704	204	234	213
16	6248	5867	5857	4335	3009	2865	2910	2653	2753	3122	3521	4104	3274	2117	1292	755	669	214	220	205
17	6170	5895	5744	4306	3122	2801	2889	2592	2849	3041	3382	4106	3059	2150	1249	753	730	234	202	187
18	6249	6001	5675	4495	3148	2794	2911	2702	2840	3124	3453	4035	2938	2135	1227	765	724	233	224	214
19	6120	5833	5428	4478	3090	2808	2918	2584	2849	3035	3385	4138	2943	2111	1253	719	658	227	187	203
20	6166	5922	5257	4719	3118	2796	2907	2696	2907	3128	3475	4063	2906	2093	1139	788	695	230	209	191
21	6109	5746	5137	5818	3001	2949	3007	2676	2860	3177	3581	4022	2769	1996	1122	761	692	223	207	196
22	6041	5984	5097	17294	3062	2801	3165	2702	2877	3083	3457	4179	2914	1990	1146	791	719	242	187	184
23	6038	6031	5148	87103	3050	2719	3519	2704	2896	3151	3538	4173	2817	1997	1185	655	709	227	183	204
24	6231	6023	5050	163406	2908	2881	4821	2691	2828	3107	3557	4076	2805	2013	1111	721	718	208	210	198
25	5986	5996	4859	67185	3035	2853	6784	2768	2798	3207	3432	4281	2755	1971	1069	755	768	241	203	183
26	6177	5983	4978	8207	3017	2893	7012	2603	2905	3177	3541	4301	2786	1949	1120	726	747	234	214	197
27	6059	5756	4768	3869	2833	2790	5345	2608	2939	3248	3485	4131	2741	1911	1088	769	782	217	212	191
28	6010	6246	4896	3591	2919	2815	3886	2701	2842	3200	3666	4227	2737	1933	1059	690	820	211	217	205
29	5937	6008	4686	3692	2987	2755	3731	2712	2842	3150	3589	4193	2645	1841	998	759	883	230	216	189
30	6013	5995	4798	3703	2946	2847	4588	2632	2874	3246	3684	4257	2678	1810	1041	733	931	191	218	204
31	6021	5887	4723	3653	2943	2821	12360	2653	2894	3249	3627	4217	2596	1904	1009	752	1108	208	184	179
32	6080	5978	4740	3620	2976	2893	60279	2732	2910	3150	3616	4397	2611	1851	1009	719	1512	211	199	181
33	5935	5938	4732	3572	2850	2772	134701	2681	2873	3276	3659	4179	2641	1806	1010	747	3628	187	206	181
34	6151	5816	4653	3569	2920	2799	82112	2691	2915	3152	3588	4225	2541	1857	970	776	14848	229	191	185
35	5946	5941	4498	3649	2950	2854	12796	2674	2939	3094	3662	4180	2499	1756	983	722	60509	238	193	194
36	6052	5939	4613	3529	2989	2823	2933	2750	2880	3128	3609	4272	2520	1820	964	693	136997	239	209	182
37	6008	6030	4508	3607	2893	2919	2561	2774	2862	3237	3802	4318	2508	1756	969	699	117665	219	202	180
38	6028	5835	4471	3478	2964	2937	2638	2729	2848	3186	3775	4364	2548	1722	971	754	32955	221	194	184
39	5946	5995	4578	3515	3014	2908	2636	2669	2824	3314	3719	4443	2447	1808	915	758	2878	238	196	191
40	5921	5985	4544	3559	2838	2874	2546	2750	2972	3138	3677	4399	2468	1776	930	725	481	213	183	172
41	6169	6020	4457	3466	2882	2871	2582	2666	2853	3224	3692	4387	2473	1759	924	788	319	209	212	189
42	6002	6089	4600	3558	2908	2777	2596	2733	2990	3282	3754	4345	2401	1688	869	706	293	224	214	196
43	5900	5922	4305	3543	2880	2745	2676	2674	2935	3243	3805	4351	2465	1744	909	711	306	214	196	169
44	5895	6048	4508	3416	2943	2796	2624	2746	3053	3384	3844	4363	2371	1635	893	710	303	199	188	185
45	5958	6077	4428	3374	2882	2815	2670	2675	2982	3256	3839	4416	2311	1634	816	737	305	219	171	185
46	5898	6068	4481	3446	2869	2882	2695	2855	2910	3243	3698	4550	2402	1643	864	736	273	198	174	174
47	5980	5934	4359	3392	2915	2790	2583	2709	2956	3273	3857	4230	2375	1605	884	716	245	214	214	184
48	5749	6074	4453	3517	2852	2725	2648	2739	3015	3218	3801	4464	2257	1654	880	716	256	217	203	179
49	5912	6201	4318	3248	2759	2821	2608	2756	2936	3411	3759	4334	2320	1463	885	650	254	219	184	181

II.E.2. Diode L -Effpt6inb.L

54124-71-1 500cc marinelli Beaker

200λ of mixed STD 54124-70-0

pipette # 50690-40-1 500.0 gms of 0.1N HCl

balance 510-06-01-005

54124-71-2 blue dot point source

pipetted 2-25-92 200λ of mixed STD 54124-70-0

pipette # 50690-40-1

54124-71-3 200λ of ^{137}Cs 1892-136-500

pipette # 50690-40-1 Balance 510-06-01-005

pipetted 2-25-92

Blue dot point source

Project No. _____ Date of Work _____

Entered By [illegible] Date 2-19-92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

70

MIXED STD

54124-70-0 STD ordered by LEPEL

DO NOT DILUTE STD

Amersham International plc
Amersham Laboratories

54124-70-0

[redacted]

CALIBRATION No. 0140

Description Product code: QCY.46 Solution number: R2/15/56

This mixed radionuclide gamma-ray reference standard consists of a solution in 4M HCl of the ten radionuclides listed below.

Measurement and Accuracy Reference time: 1200 GMT on 1 February 1992

Mass of solution: 5.3164 grams Density: 1.076 g/ml at 20°C

Parent radionuclide	Gamma-ray energy (keV)	Gamma rays per second per gram of solution	Random uncertainty	Systematic uncertainty	Overall uncertainty
Americium-141	59.54	1134	± 0.2 %	± 2.1 %	± 2.3 %
Cadmium-109	30.00	645	± 0.2 %	± 3.0 %	± 3.2 %
Cobalt-57	122.1	500	± 0.1 %	± 1.8 %	± 1.9 %
Cesium-139	165.9	713	± 0.3 %	± 1.2 %	± 1.5 %
Mercury-203	279.2	1599	± 0.3 %	± 2.0 %	± 2.3 %
Tin-113	391.7	2281	± 0.1 %	± 4.5 %	± 4.6 %
Strontium-85	514.0	3913	± 0.3 %	± 1.4 %	± 1.7 %
Cesium-137	661.7	2509	± 0.2 %	± 2.0 %	± 2.2 %
Yttrium-88	898.0	6299	± 0.2 %	± 3.5 %	± 3.7 %
Cobalt-60	1173	3413	± 0.3 %	± 0.4 %	± 0.7 %
Cobalt-60	1333	1410	± 0.3 %	± 0.4 %	± 0.7 %
Yttrium-88	1830	6671	± 0.2 %	± 3.4 %	± 3.6 %

Purity At the reference time the solution also contained the following impurities:

Cadmium-115m less than 2.6 becquerels (0.070 nanocuries) per gram.
Chlorine-36 equal to 16.4 becquerels (0.44 nanocuries) per gram.
Cobalt-56 less than 0.24 becquerels (0.0065 nanocuries) per gram.
Indium-114m equal to 6.0 becquerels (0.16 nanocuries) per gram.

Remarks Further details, including composition of the solution, methods of measurement, decay scheme assumptions, decay tables and definitions of uncertainties, are given in the data sheet accompanying this certificate.

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving explicit NIST traceability as defined in NCRP85 (1985).

Approved Signatory

G B H Parker

Page 1 of 1

Amersham

[illegible]

Project No. _____ Date of Work _____

Entered By Donald R Edwards Date 2-19-92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

D03-327

2-19-92 initials

20λ pipette
50690-40-4

1061705
1059743
19.62

1059500
1067549
19.51

1075414
1073451
19.63

1059755
1057804
19.51

$\bar{X}$ 19.57 2-19-92 DAF

± .07

(.34%)

(510-06-03-011)
CALIBRATION DATE 1-16-92
Expires - 4-16-92

200λ pipette
50690-40-1

977383
957377
200.06

997411
977380
200.31

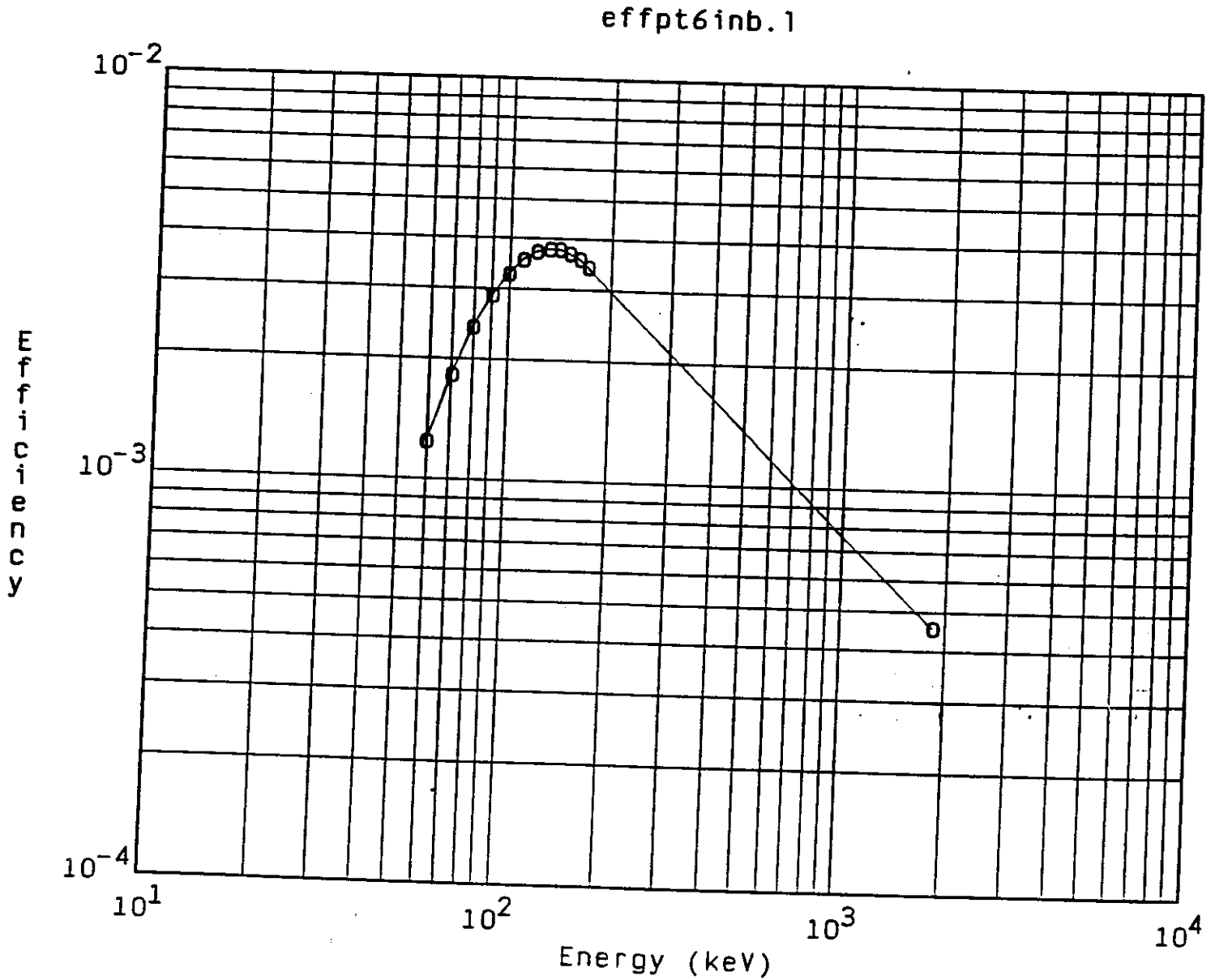
1017407
997401
200.06

1037317
1017407
199.10

$\bar{X}$ 199.88 2-19-92 DAF

± 0.53

(.27%)



3/30/92 S.Akopol

D03-329

```
  5.000E-01  2.500E-03 -1.030E+01  6.050E-03  1.992E-01
  0.000E-01  0.000E-01  0.000E+00  0.000E+00  0.000E+00  0.
 -1.919E+01  2.305E+00 -1.840E-02
 -1.919E+01  2.305E+00  0.000E+00
         13  1.0
  60.00000    ,  1.2433887E-03
  70.00000    ,  1.8335211E-03
  80.00000    ,  2.4005470E-03
  90.00000    ,  2.8914490E-03
  100.0000    ,  3.2778808E-03
  110.0000    ,  3.5513183E-03
  120.0000    ,  3.7165671E-03
  130.0000    ,  3.7860456E-03
  140.0000    ,  3.7755633E-03
  150.0000    ,  3.7015509E-03
  160.0000    ,  3.5794331E-03
  169.9797    ,  3.4231474E-03
  1835.810    ,  4.6011360E-04
```

effpt6inb.l
Efficiency curve for point source at 6 in on diode L using holder b

Created 3/25/92 EAL

3/30/92 EAkeel

Raygun - Portable Version 17-Jul-90 (25-MAR-1992 14:34:20)

Analysis performed by: E. A. LEPEL

Sample: 54124-71-2 200 LDAL OF 54124-71-2 AMERSHAM STD
Weight: 1.00000 grams

Irradiation date: 0-Feb-1992 at 5:00:00

Count date: 23-Feb-1992 at 11:52:00

Decay: 23.3d (2011920.0 seconds)

Count times: REAL TIME 21.26h (76542.000 seconds)
LIVE TIME 20.89h (75200.000 seconds)

Dead time: 1.75 percent

Detector: L pos # 6 Geometry Factor: 1.000

Efficiencies and shape parameters from file: [-.effic]effltc220. L

Spectrum from file : 54124712.1;1

Background subtractions from file: [-.bkg]Backg. L

	Peak channel	Region start	Region end	Gross counts	Net area ++	Energy (keV)	Gammas /sec	Err % SD	System bkgd
1	118.9	115.	123.	48503.	21828.	59.55	2.903E-01	1.3	0.
2	141.3	141.	143.	9937.	494.	70.76	1.003E-02	100.0	0.
3	145.6	143.	148.	21948.	3303.	72.92	4.393E-02	9.6	0.
4	149.9	148.	151.	13578.	2004.	75.04	2.664E-02	12.3	0.
5	164.6	163.	165.	10008.	474.	82.39	1.027E-02	100.0	0.
6	169.3	168.	171.	13495.	931.	84.74	1.238E-02	17.3	0.
7	175.9	173.	180.	52404.	29504.	88.06	3.923E-01	0.9	0.
8	244.0	239.	247.	61178.	32525.	122.10	4.325E-01	1.0	0.
9	272.9	270.	277.	30402.	4129.	136.53	5.491E-02	5.8	0.
10	331.8	328.	335.	59918.	36031.	165.97	4.791E-01	0.8	0.
11	510.3	508.	514.	16469.	2709.	255.18	3.603E-02	6.4	0.
12	558.6	553.	563.	67331.	48266.	279.34	6.418E-01	0.6	0.
13	783.6	775.	789.	69592.	55623.	391.84	7.397E-01	0.5	0.
14	1028.2	1017.	1034.	83090.	71719.	514.10	9.537E-01	0.4	0.
15	1323.7	1318.	1329.	51578.	44541.*	661.82	5.910E-01	0.6	96.
16	1628.8	1625.	1633.	3970.	1241.	814.29	1.651E-02	6.6	0.
17	1796.5	1785.	1804.	79782.	73404.	898.15	9.761E-01	0.4	0.
18	2346.9	2338.	2353.	38879.	36155.	1173.28	4.808E-01	0.6	0.
19	2650.1	2642.	2657.	3566.	987.	1324.81	1.312E-02	11.4	0.
20	2665.5	2657.	2673.	34753.	33629.	1332.50	4.472E-01	1.9	0.
21	2923.6	2920.	2926.	1146.	213.*	1461.51	4.805E-03	100.0	234.
22	3672.4	3658.	3680.	41689.	41026.	1835.81	5.456E-01	0.5	0.

++ Net Peak Area above the Compton Continuum before correction for system background. Values flagged with a * are subsequently corrected for system background before calculation of absolute emission rate (gams/sec).

3/30/92 EA Lepel

Gamma-ray and nuclide lookup from file: [-.library]5412470_1998.std
which is assumed to be a properly constructed Calibration Certificate.

Delta T = 23.28611 Days
The following Energy - Efficiency pairs have been calculated.

5.000E-01	2.500E-03	-1.030E+01	6.050E-03	1.992E-01	
1.268E-01	4.999E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
-1.919E+01	2.305E+00	-1.840E-02			
-1.919E+01	2.305E+00	0.000E+00			

-1 1.0

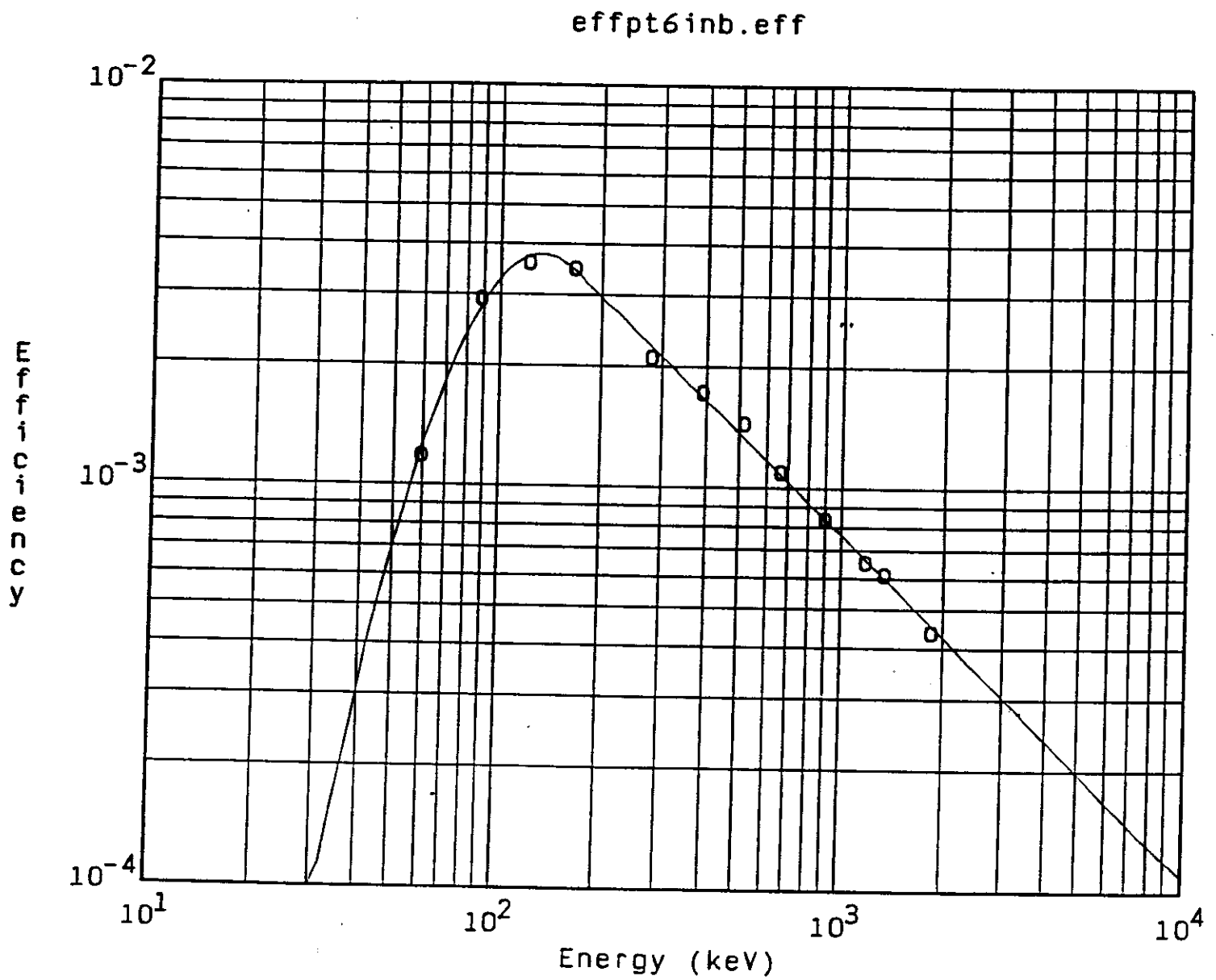
59.55	1.19E-03
88.06	2.93E-03
122.10	3.63E-03
165.97	3.51E-03
279.34	2.11E-03
391.84	1.73E-03
514.10	1.45E-03
661.82	1.10E-03
898.15	8.39E-04
1173.28	6.60E-04
1332.50	6.14E-04
1835.81	4.42E-04

Options - in - Effect

Master_file	MASTSTD.L
CALIBRATE	
PRINT	lpl.lst
USER_NAME	B. A. LEPEL
OPTION_LIST	
CALC_EFFICIENCY	[-.library]5412470_1998.std

3/30/92 BALepel

DO3-356



3/30/92 RA-Lopel

TITLE: 54124-71-2 200 LDAL OF 54124-71-2 AMERSHAM STD

PT Source

FILE: 54124712.L:1

CHANNELS: 4096

SHELF: 6

DIODE: L

TIME ZERO: 2 1 92 5 0 0

3/25/92 EAKegel

TIME OF COUNT: 2 24 92 11 52 0

(33532.0 MINUTES DECAY TIME)

LIVE TIME: 20 HOURS 53 MINUTES 20 SECONDS = 1253.33 MINUTES

ELAPSED TIME: 21 HOURS 15 MINUTES 42 SECONDS = 1275.70 MINUTES

(DEAD TIME = 0.018)

FLUX CORR. FACT.: 0.000000

GAIN: 0.500000 KEV/CHAN

WEIGHT: 1.00000

PLT INT:	0
PLT LAB:	0
ANTI FLG	0
SLP MLT:	0
AREA REJ:	0
PTR:	0
ERR REJ:	0
ZER LEV:	0
OVR PKR:	0
NOV:	1

D03-334

962

II.F. Deficiency Report

9 2 1 1 . 9 1 1 3

DEFICIENC. REPORT

Page 1 of 1

1. DR #	2. Date	3. QA Plan #
92-017	3/25/92	MCS-033
4. Impact Level	**5. Project/Activity #**	**6. Org Code #**
I	1100 EM-1 (19432)	D7E50

7. Project/Activity Title
GEA Analysis of Waters for 1100 EM-1 Program

8. Requirement and source of requirement:
(Document #, Revision, and Title)
PNL-ALO-470, Rev Ø, Procedure for Maintaining Control of Germanium Spectrometers Used for Gamma-Ray Spectroscopy

9. Description of Deficiency:
A control count taken on 3/23/92 fell outside the 3 Sigma range as specified in Section 3.2. Additional Control Counts also have fallen outside the 3 sigma range

10. NCR Required? Yes ___ No X
NCR # _____

11. Elwood Lepel 3/25/92
Originator's Signature/Date

12. Evaluation and Corrective Action:
a. Cause of Deficiency:
On 3/23/92 I noted that the display of spectral data for Diode K did not look right. I ran a control count and noted that the data was outside the 3 sigma limit. I had an instrument technician look at the MCA and he adjusted the exercised switches on the MCA. I reran the control count and am still getting data outside the 3 sigma limit. The cause has not yet been determined.

13a. Criteria #	13b. Deficiency Code	13c. Cause Code	13d. SCL
12	G5	X	III

14. Closeout/Corrective Action Complete:
Comments:

12b. Effect of deficiency on validity and integrity of results
☐ None ☐ Unknown ☒ Some ☐ Significient

Explain:
The last control count for Diode K was taken 3/18/92 & was within control. Any counts taken after 3/18/92 are suspect.

12c. If some, significant, or unknown effect; identify results effected (or potentially effected):
5452932A.Kil (92-02742-L-6)
5452943A.Kil (92-02750-L-1)
5452944A.Kil (92-02751-L-1)
Samples counted since last good control count.

12d. Action to correct deficiency:
This data will not be reported. The samples will be counted on Diode HH.

12e. Action to preclude recurrence:
Have not determined cause. Equipment is 15 years old and breakdowns are expected. Rest of samples will be counted on Diode HH for this project.

Expected Completion date: 3/27/92

12f. Contact Client?: Yes ☐ No ☒
If Yes:
Contacted: _____ (Name) On: _____ (Date)
By: _____ (Name)
Client's Response:

12g. [signature] 4/2/92
Cognizant Manager Signature/Date

12h. [signature] 4/2/92
PQD Representative Signature/Date

[signature] 4/2/92
PQD Representative Signature/Date

Distribution: Cog. Mgr, PQD Rep., QS&R, Originator, Project File

PAP-70 1502, Rev. 1, Exhibit 1, Page 1 of 3

D03-336

INSTRUCTIONS FOR USING THE DEFICIENCY REPORT (DR) FORM

TO BE COMPLETED BY THE DR ORIGINATOR:

BLOCK 1. Enter deficiency report number - obtained from the QS&R Clerk (6-8866).

2. Enter the date the DR was initiated.

3. Enter the QA Plan number of the project or the activity where the deficiency was identified. For Impact Level III projects or activities where the PNL Good Practices Standard serves as the QA Plan state "GPS".

4. Enter the impact level of the activity or the area where the deficiency was identified if an impact level specific to the activity/area exists. Otherwise, use the overall project impact level as identified on the Project Impact Level Approval form.

5. Enter the project number/work order/etc., of the project or activity where the deficiency was found.

6. Identify the organization number (e.g., D7H00) responsible for the activity affected by the deficiency. This may be different from the originating project organization number.

7. Enter the title of the project or the activity where the deficiency was identified.

8. Enter the requirement and the source of the requirement for the activity affected by the deficiency. Include the document number, title, and revision when available.

9. Provide a complete description of the deficiency. Deficiencies must be based on failure to meet the stated or the implied purpose, the written requirements, or when the quality of data is indeterminate.

10. If the deficiency affects a hardware item, check if an NCR is required and, if so, record the NCR number (see PAP-70-1501).

11. The DR Originator signs and dates this line and forwards the original DR to the Cognizant Manager for evaluation with a copy to the PQD Representative.

TO BE COMPLETED BY THE COGNIZANT MANAGER WITH PQD REPRESENTATIVE ASSISTANCE IF NEEDED:

12a. Provide the root cause of the deficiency by reviewing items 1 through 11, background information, and discussing the deficiency with appropriate staff.

12b. Provide the effect on validity and integrity of project results. Check the appropriate box and provide an explanation. Project results are to be considered impacted if there was some effect, significant effect, or unknown effect.

II.E. Detector Controls

Detector Reliability System
Detector HH

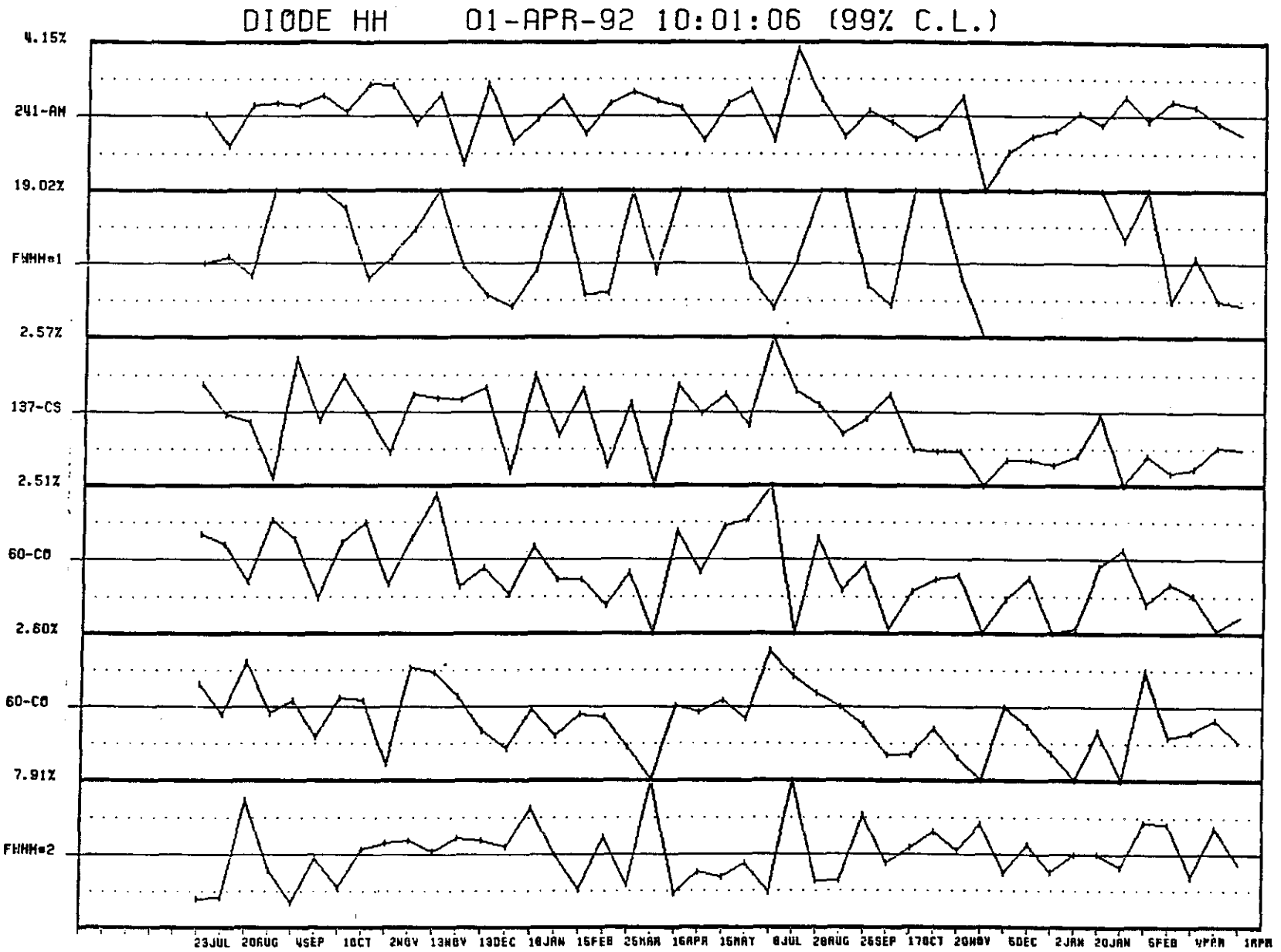
01-APR-92 10:01:05

Time Zero 6-DEC-84 9:36:45

Operator I.D.: SA Lepel

Corrected C/M

Date of Count	241-AM	FWHM#1	137-CS	60-CO	60-CO	FWHM#2
23-JUL-90	1063.	1.083	2033.	3732.	3300.	1.800
8-AUG-90	1045.	1.099	2012.	3719.	3264.	1.801
20-AUG-90	1069.	1.047	2006.	3671.	3323.	2.000
4-SEP-90	1070.	1.475	1968.	3748.	3265.	1.857
4-SEP-90	1069.	1.502	2051.	3725.	3280.	1.791
14-SEP-90	1075.	1.500	2008.	3649.	3237.	1.881
1-OCT-90	1066.	1.237	2038.	3719.	3283.	1.823
17-OCT-90	1082.	1.039	2014.	3746.	3280.	1.899
2-NOV-90	1081.	1.100	1986.	3668.	3207.	1.911
2-NOV-90	1058.	1.178	2026.	3726.	3318.	1.918
13-NOV-90	1075.	1.519	2024.	3781.	3312.	1.893
6-DEC-90	1034.	1.073	2023.	3664.	3285.	1.923
13-DEC-90	1082.	0.9940	2030.	3689.	3244.	1.918
2-JAN-91	1047.	0.9630	1972.	3654.	3224.	1.903
18-JAN-91	1060.	1.063	2040.	3715.	3269.	1.981
30-JAN-91	1074.	1.512	1998.	3674.	3239.	1.888
15-FEB-91	1052.	0.9980	2030.	3673.	3264.	1.817
5-MAR-91	1070.	1.000	1975.	3640.	3260.	1.925
25-MAR-91	1078.	1.474	2020.	3681.	3226.	1.827
12-APR-91	1072.	1.057	1923.	3418.	3030.	2.081
16-APR-91	1067.	1.481	2032.	3734.	3274.	1.810
6-MAY-91	1048.	1.469	2013.	3684.	3267.	1.853
15-MAY-91	1070.	1.476	2026.	3740.	3280.	1.842
20-JUN-91	1078.	1.041	2005.	3751.	3260.	1.871
8-JUL-91	1048.	0.9570	2074.	3809.	3337.	1.813
15-AUG-91	1103.	1.094	2029.	3546.	3308.	2.121
29-AUG-91	1073.	1.500	2019.	3726.	3289.	1.836
3-SEP-91	1051.	1.500	1998.	3660.	3273.	1.834
25-SEP-91	1066.	1.021	2009.	3693.	3253.	1.967
1-OCT-91	1059.	0.9640	2026.	3610.	3218.	1.871
17-OCT-91	1049.	1.491	1987.	3657.	3217.	1.901
5-NOV-91	1056.	1.476	1986.	3673.	3248.	1.935
20-NOV-91	1074.	1.040	1986.	3678.	3214.	1.897
5-DEC-91	2.200	0.0000	-2.351	976.6	884.3	1.950
5-DEC-91	1041.	1.470	1980.	3648.	3272.	1.851
20-DEC-91	1051.	1.464	1980.	3675.	3251.	1.910
2-JAN-92	1054.	1.470	1976.	3588.	3219.	1.854
17-JAN-92	1064.	1.480	1983.	3612.	3187.	1.889
20-JAN-92	1058.	1.474	2012.	3689.	3245.	1.888
5-FEB-92	1074.	1.144	1959.	3710.	3174.	1.862
5-FEB-92	1060.	1.501	1982.	3642.	3313.	1.952
14-FEB-92	1072.	0.9760	1971.	3668.	3238.	1.949
4-MAR-92	1068.	1.095	1974.	3654.	3244.	1.842
18-MAR-92	1058.	0.9770	1989.	3608.	3259.	1.942
1-APR-92	1052.	0.9650	1987.	3625.	3232.	1.867
	1063.	1.081	2014.	3699.	3273.	1.890


DIODE HH 01-APR-92 10:01:06 (99% C.L.)
4.15%
241-AM
19.02%
FWHM=1
2.57%
137-CS
2.51%
60-CO
2.60%
60-CO
7.91%
FWHM=2
23JUL 20AUG 4SEP 18CT 2NOV 13NOV 13DEC 10JAN 15FEB 25MAR 16APR 15MAY 8JUL 28AUG 25SEP 17OCT 20NOV 6DEC 2JAN 20JAN 5FEB 4MAR 1APR

II.C. M & TE Records

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS LEPEL EA P8-08	STANDARDS CODE NUMBER 510-06-01-005		NEW / MODIFY	REFERENCE NUMBER 356222	
			ORGANIZATION CODE D7E50	WORK ORDER M22117	
INSTRUMENT ELECTRONIC BALANCE METTLER PC4400	SERIAL NUMBER C19031	PROPERTY NUMBER	RECALL STATUS 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 1	RECALL CYCLE 90	TOLERANCE HISTORY IIII
	ROOM 8C / BUILDING 329	SERVICE DEPARTMENT 7		DATE RECEIVED 920101	TOLERANCE AS RECEIVED 1 IN 2 OUT 3 NA 4 FAILED 1
SENDER	COMMENTS			SHIPPING DAY NA	

INSTRUMENT SPECIFICATIONS
+/-.1 G .1G-4KG

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS

	EXPIRATION DATE		EXPIRATION DATE
002-82-02-033	1/30/92	- - -	
- - -		- - -	
- - -		- - -	

REMARKS

PROCEDURE NUMBER WHC-06-00-BAL REV.1 PC-4400

TRAINING HOURS

CALIBRATION HOURS 1 0

REPAIR HOURS

OTHER HOURS

MATERIALS

TOTAL CHARGE = ($120 x SUM OF HOURS) + MATERIAL

DATE CALIBRATED	DATE DUE
1-16-92	4-16-92

AMBIENT TEMPERATURE =

TEST POINT	AS FOUND	FINAL
1 KG	1000.0 grams	Same
2 KG	2000.0 "	"
3 KG	3000.0 "	"
4 KG	4000.1 "	"

APPROVED BY	CALIBRATED BY			PAGE
W Hinchley 012192	BS	WHC STD LAB 53	Hanford Operations and Engineering Contractor for the United States Department of Energy Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	1 OF 1

D03-342

WESTINGHOUSE STANDARDS LABORATORY PHYSICAL AND ELECTRICAL REPORT

CUSTODIAN/ADDRESS: LEPEL EA P8-08	STANDARDS CODE NUMBER: 510-06-03-011		NEW / MODIFY	REFERENCE NUMBER: 356224	
			ORGANIZATION CODE: D7E50	WORK ORDER: M22117	
INSTRUMENT: BEAM BALANCE METTLER H51AR	SERIAL NUMBER: 625265	PROPERTY NUMBER: N/A	RECALL STATUS: 1 ACTIVE 2 NONRECALL 3 SUSPENDED 4 DELETED 1	RECALL CYCLE: 90	TOLERANCE HISTORY: IIII
	ROOM: 11B / BUILDING: 329	SERVICE DEPARTMENT: 7		DATE RECEIVED: 920101	TOLERANCE AS RECEIVED: 1 IN 2 OUT 3 NA 4 FAILED 1
SENDER:	COMMENTS:			SHIPPING DAY: NA	

INSTRUMENT SPECIFICATIONS: +/- 1.6 MG 0-160 GRAMS

STANDARD(S) USED IN CALIBRATION TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OR NATIONALLY RECOGNIZED STANDARDS

	EXPIRATION DATE		EXPIRATION DATE
002-81-02-033	1/30/92		

REMARKS:

PROCEDURE NUMBER: WHC-06-00-BAL REV.1 H-51

TRAINING HOURS:

CALIBRATION HOURS: 1.0

REPAIR HOURS:

OTHER HOURS:

MATERIALS:

TOTAL CHARGE = ($120 x SUM OF HOURS) + MATERIAL

DATE CALIBRATED: 1-16-92 DATE DUE: 4-16-92

AMBIENT TEMPERATURE =

TEST POINT	AS FOUND	FINAL
50 MG	.04997 gms	Same
100 MG	.09993 "	"
79.90 GRAMS+OPTICS	79.99917 "	"
80.00 GRAMS	79.99924 "	"

APPROVED BY	CALIBRATED BY				PAGE
W Hinckley 012192	BS	WHC STD LAB 53	Hanford Operations and Engineering Contractor for the United States Department of Energy	Westinghouse Hanford Company Subsidiary of Westinghouse Electric Corporation Box 1970, Richland, WA 99352	1 OF

D03-345

2-19-92 initials

20λ pipette
50690-40-4

1061705
1059743
19.62

1059500
1067549
19.51

1075414
1073451
19.63

1059755
1057804
19.51

$\bar{X}$ 19.57 2-19-92

± .07
(.34%)

S10-06-03-011
CALIBRATION DATE 1-16-92
Expires - 4-16-92

200λ pipette
50690-40-1

977383
957377
200.06

997411
977380
200.31

1017407
997401
200.06

1037317
1017407
199.10

$\bar{X}$ 199.88 2-19-92

± 0.53
(.27%)

Detector Reliability System
Detector K

24-MAR-92 13:31:44

Time Zero 6-DEC-84 9:36:45

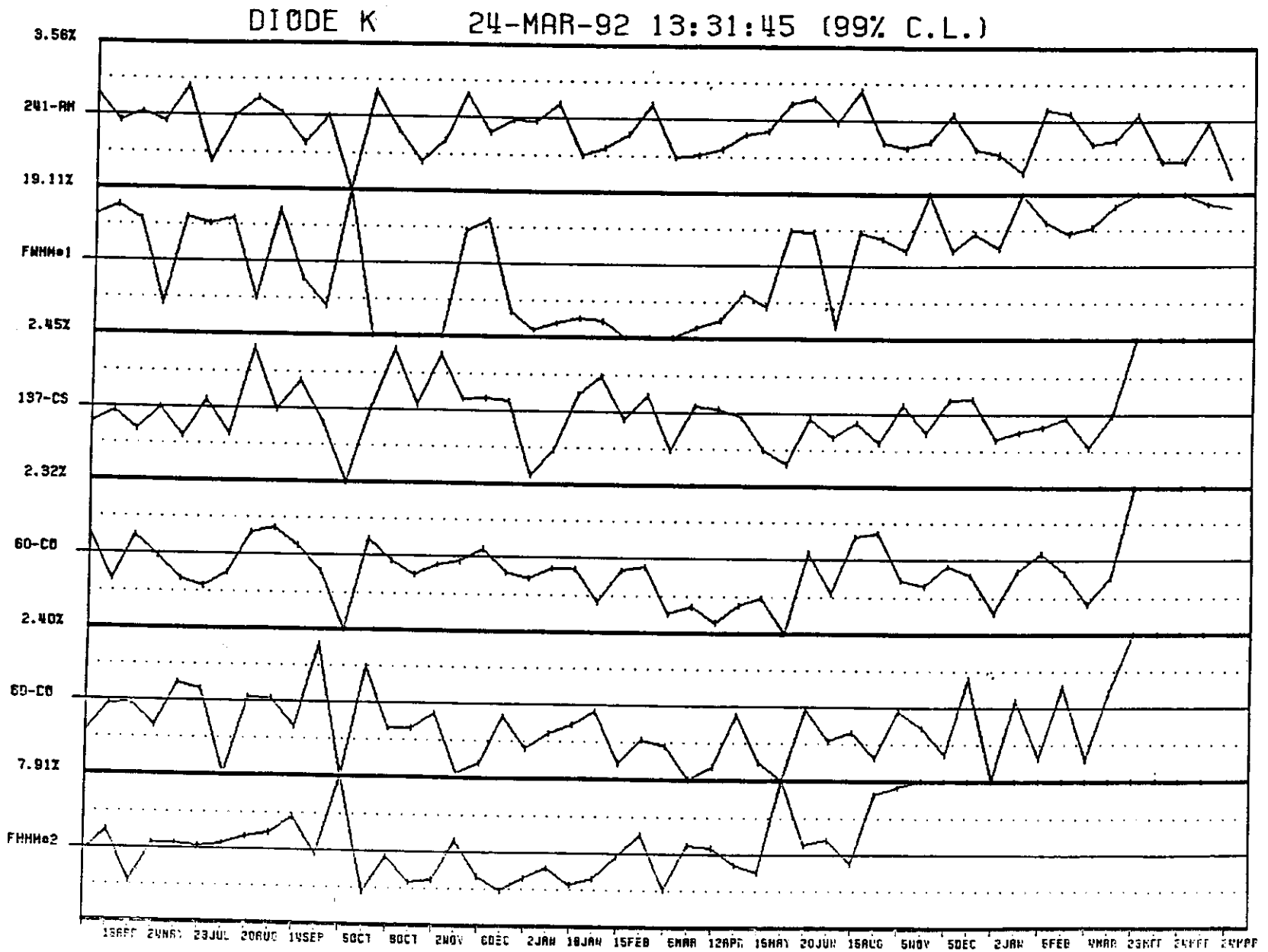
Operator I.D.: EAhegel

Date of Count	241-AM	FWHM#1	137-CS	60-CO	60-CO	FWHM#2
			Corrected C/M			
29-JUN-90	1436.	1.562	2074.	3970.	3568.	2.022
23-JUL-90	1384.	1.541	2100.	3960.	3561.	2.016
8-AUG-90	1415.	1.559	2076.	3977.	3457.	2.022
20-AUG-90	1428.	1.269	2136.	4029.	3552.	2.037
4-SEP-90	1418.	1.589	2094.	4036.	3550.	2.044
14-SEP-90	1397.	1.341	2114.	4013.	3519.	2.080
1-OCT-90	1416.	1.239	2085.	3981.	3615.	2.003
5-OCT-90	848.5	8.085	1155.	2019.	1937.	7.050
8-OCT-90	1433.	1.117	2095.	4023.	3509.	1.924
9-OCT-90	1406.	1.105	2136.	3996.	3518.	1.999
17-OCT-90	1385.	1.137	2098.	3978.	3518.	1.945
2-NOV-90	1399.	1.137	2133.	3991.	3537.	1.950
13-NOV-90	1432.	1.521	2102.	3996.	3467.	2.035
6-DEC-90	1405.	1.559	2104.	4010.	3479.	1.957
13-DEC-90	1414.	1.227	2102.	3982.	3533.	1.927
2-JAN-91	1413.	1.158	2049.	3975.	3496.	1.955
2-JAN-91	1425.	1.187	2067.	3987.	3513.	1.978
18-JAN-91	1390.	1.204	2106.	3987.	3525.	1.943
30-JAN-91	1395.	1.194	2119.	3945.	3540.	1.956
15-FEB-91	1405.	1.087	2089.	3986.	3480.	2.001
5-MAR-91	1425.	1.101	2106.	3990.	3509.	2.050
5-MAR-91	1389.	1.127	2068.	3931.	3501.	1.934
25-MAR-91	1391.	1.172	2099.	3942.	3441.	2.030
12-APR-91	1395.	1.198	2097.	3920.	3477.	2.023
6-MAY-91	1406.	1.303	2092.	3943.	3538.	1.987
15-MAY-91	1408.	1.250	2068.	3952.	3484.	1.972
20-JUN-91	1427.	1.532	2059.	3500.	2895.	3.016
20-JUN-91	1430.	1.524	2091.	4010.	3544.	2.031
8-JUL-91	1414.	1.182	2078.	3958.	3508.	2.043
15-AUG-91	1435.	1.528	2088.	4030.	3518.	1.991
1-OCT-91	1400.	1.503	2075.	4034.	3489.	2.141
5-NOV-91	1397.	1.458	2100.	3976.	3543.	2.156
20-NOV-91	1401.	1.887	2081.	3968.	3524.	2.179
5-DEC-91	1420.	1.457	2104.	3994.	3494.	2.171
20-DEC-91	1396.	1.522	2105.	3982.	3582.	2.215
2-JAN-92	1393.	1.464	2077.	3935.	3411.	2.226
17-JAN-92	1380.	2.184	2082.	3988.	3556.	2.467
5-FEB-92	1423.	1.562	2086.	4010.	3489.	2.270
14-FEB-92	1421.	1.520	2092.	3985.	3573.	2.281
4-MAR-92	1399.	1.546	2071.	3945.	3488.	2.309
18-MAR-92	1402.	1.621	2093.	3979.	3565.	2.391
23-MAR-92	1420.	1.987	2280.	4435.	3903.	2.591
23-MAR-92	1388.	1.721	2267.	4431.	3990.	2.432
24-MAR-92	1387.	1.854	2285.	4406.	3932.	2.543
24-MAR-92	1414.	1.633	2297.	4341.	3893.	2.533
24-MAR-92	1376.	1.617	2280.	4407.	3849.	2.600
	1415.	1.402	2095.	4001.	3548.	2.011

In Control

Out of Control 3/25/92 EAhegel

D03-345


DIODE K 24-MAR-92 13:31:45 (99% C.L.)
3.56%
241-AM
19.11%
FWHM#1
2.45%
137-CS
2.32%
60-CO
2.40%
60-CO
7.91%
FWHM#2
23JUL
20AUG
14SEP
5OCT
8OCT
2NOV
6DEC
2JAN
18JAN
15FEB
6MAR
12APR
15MAY
20JUN
15AUG
5NOV
5DEC
2JAN
6FEB
4MAR

D03-346