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: 3 of 5

0022140
3 of 5

1100-EM-1 GROUNDWATER CHARACTERIZATION
PHASE I

DATA PACKAGE/REPORT No. 1

Revision 0

APPENDIX C

ICP-MS for Tc-99

Table of Contents

C01 - Summary Results
C02 - Raw Data

1100-EM-1
Tc-99 by ICP/MS
EJ Wyse

March 16, 1992

Analysis Narrative

The subject project samples and their accompanying QC samples were prepared for ICP/MS analysis as described on pages 12,13 of BNW LRB 54526. The water samples were non-turbid and were analyzed as received, without digestion. Aliquots were taken after shaking and an internal standard (50 ppb In) was added to each sample and standard. Samples were analyzed according to procedures PNL-ALO-280 (ICP/MS Analysis) and PNL-ALO-281 (ICP/MS Determination of ^{99}Tc). Samples were prepared and analyzed in Building 3708, 300 Area.

Modifications to the above procedures were required in order to meet analysis requirements for detection limits, precision, and accuracy. An ultrasonic nebulizer was employed to increase ICP/MS sensitivity for ^{99}Tc; the use of this nebulizer necessitated use of a 1 ppb Mg, In, Pb tune solution (for signal optimization and stability checking) as opposed to a 0.1 ppm solution as designated in PNL-ALO-280. The use of a tune solution 100-fold more dilute than specified in the procedure necessitated relaxation of precision limits; this limit was therefore extended from the current 7% RSD to 15% RSD. These modifications were implemented under MCS-033 QA Plan criteria. Using these modifications, we were able to attain detection limits of 0.6 ppt ^{99}Tc, equivalent to 10 pCi/L in radiometric terms. It should be emphasized that the tune solution is used only to optimize the instrument sensitivity and to check instrument precision. Because the exact concentration of the tune solution is unimportant, the stringent protocol followed for preparing calibration standards (with regard to documentation, volumetrics, SRM's, etc.) is not applicable for preparing the tune solution. This is also true for the internal standard preparation; as with the tune solution, the measurement of the internal standard is made on a *relative* rather than an *absolute* basis.

Several runs were required to complete the analysis. In the first analysis, high blank problems were encountered and the results were suspect. Accordingly, a second analysis was performed with improved blank control; the results of this analysis were used for the data presented. A third qualitative analysis was performed to confirm the absence of Ru, a potential interference for ^{99}Tc. No Ru was found at levels significant to the ^{99}Tc present in the samples.

Results of the ICP/MS analyses are presented in Table 1. Each determination result is the average of two signal integrations or runs. If the relative standard deviation of the duplicate run values varies by more than 10% of the mean, a mean value ± 1 standard deviation is reported, otherwise a mean only value is given. In two cases (for samples with ^{99}Tc concentrations within 2-times the detection limit) variations in duplicate sample runs exceeded 50% RSD and are classified 'semiquantitative' according to PNL-ALO-280, section 5.1. Unit conversion from ppt to pCi/L was originally made using the 16.95 factor as specified in PNL-ALO-281, however this factor was

calculated based on a half-life for ^{99}Tc of 2.13 x 10^5 years. The half-life on the SRM certificate was reported as 2.111±0.036 x 10^5 years. Although this value is statistically identical to the one used in PNL-ALO-281, the results were recalculated based on the half-life reported on the SRM certificate for the sake of consistency (the difference amounted to approximately 1%). Quality control samples were run according to project specific guidelines, and included blank, blank spike, sample spike, and replicate sample analyses.

Accuracy estimates for the analysis are displayed in Table 2. These estimates are based on results for recoveries of blank spike and sample spike samples. Two blank spike and 3 sample spike samples were run in the analysis. Mean recovery obtained was 109 % with a range of 102-121 %. The analysis performance criteria of ±25 % accuracy was thus met.

Precision estimates are reported in Table 3. These estimates are based on replicate sample analysis results (not individual sample run results) and include data for 1 blank spike and 2 replicate sample sets. A mean precision value of 10.4 % RSD was obtained, with a range of 1.2-17 %. The precision performance criteria of ±25 % was met.

Significant signal suppression was encountered in the ICP/MS analysis, presumably due to the high salt and mineral content of the samples. Matrix separation procedures would enable achievement of lower detection limits and better analysis precision, yielding more conclusive ^{99}Tc data with less analysis uncertainty. A preliminary matrix isolation and preconcentration procedure is available for testing and evaluation. This procedure involves ^{99}Tc ion exchange and cleanup. Approximately 2 man-months of effort would be required to test, evaluate, and implement the procedures. We recommend investigation of this new methodolgy as improved data quality and lower limits of detection would result.

Filename: 1100EM1.DP1D

Table 1. 1100-EM-1: Tc-99 by ICP/MS

March 16, 1992

All samples analyzed as duplicate runs. RSD's ≥10% of the mean value is reported with ± 1 standard deviation. Detection limit for analysis = 0.6 ppt. See following page for accuracy and precision estimate information.

Client Sample No.	ALO Sample No.		ICP/MS Sample No.	[Tc-99] in ppt (LLD = 0.6)	[Tc-99] in pCi/L
DI H2O			2204q1	<0.6	<10
DI H2O			2204q41	<0.6	<10
DI H2O + spike			2204q10	51.1	876
DI H2O + spike			2204q35	52±9	890±150
3708 tap water			2204q3	0.7	12
B01572	92-02724		2204q4	1.0±0.7**	17±12**
B01573	92-02725		2204q7	0.9±0.4	15±7
B01574	92-02726		2204q8	1.4	24
B01575	92-02727		2204q9	7.1±1.6	121±27
B01575 spike	92-02727*		2204q30	61.7	1058
B015S9	92-02728		2204q11	7.3±1.5	125±25
B015T1	92-02729		2204q13	7.5±0.9	128±15
B015T3	92-02730		2204q14	8.7	149
B015T5	92-02731		2204q15	6.9	118
B015T7	92-02732		2204q16	8.1	139
B015T9	92-02733		2204q18	4.9	84
B015V1	92-02734		2204q19	6.7	115
B015V3	92-02735		2204q21	8.2±1.5	141±25
B015V5	92-02736		2204q22	<0.6	<10
B015V7	92-02737		2204q24	<0.6	<10
B015V8 Rep 1	92-02738		2204q25	9.8±1.7	172±30
B015V8 Rep 2	92-02738		2204q40	5.1	139
B015V9	92-02739		2204q26	<0.6	<10
B015W0	92-02740		2204q27	<0.6	<10
B015W1	92-02741		2204q28	<0.6	<10
B015W2	92-02742		2204q29	<0.6	<10
B015W3	92-02743		2204q38	<0.6	<10
B015W3 spike	92-02743*		2204q12	49.8	853
B01BV6 Rep 1	92-02744		2204q5	8.9±2.4	150±40
B01BV6 Rep 2	92-02744		2204q39	7±3	120±50
B01BV9	92-02745		2204q44	8.3±2.6	140±40
B01BW2	92-02746		2204q32	7.1	121
B01BW5	92-02747		2204q33	6.1	104
B01BW5 spike	92-02747*		2204q20	65.4±7.1	1120±120
B01BW8	92-02748		2204q34	5.8±0.7	99±12
B01BX1	92-02749		2204q36	5.0±1.4	86±24
B01C11	92-02751		2204q42	1.0±1.8**	17±31**
B01C28	92-02752		2204q43	1.2	20
B01C38	92-02750		2204q37	5.0±0.5	86±9

*spike

**Because RSD > 50%, result is SEMIQUANTITATIVE.

JKD rec'd
3/26/92

QUALITY CONTROL DATA REVIEW

Project/Work Package: 19432/M82776

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

Requested Analysis: ICP-MS for Tc-99

ALO Sample Numbers: 92-02724 - 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

3/31/92
Date

C02-001

DON'T SAY IT --- *Write It!*

DATE: February 19, 1992

TO: Bruce Prentice

FROM: Eric Wyse

SUBJECT: Approval of Procedure Modifications for 1100-EM-1

Pursuant to our conversations at yesterday's 1100-EM-1 meeting, I would like your written approval (per MCS-033) on the following modifications to PNL-ALO-280 and 281 that were incorporated in the 1100-EM-1 analysis to meet program requirements:

1) A 1 ppb Mg, In, and Pb tune solution was used instead of the 100 ppb solution typically used. PNL-ALO-280 suggests that any solution containing 50-500 ppb of a low, medium and high mass element can be used as a tune solution. The 1 ppb solution was best suited for the dynamic range of the ICP/MS using the ultrasonic nebulizer, and it was more representative of the technetium concentration than the 100 ppb solution.

2) Acceptance criteria for tune solution precision were extended to ±15% to account for the fewer total counts obtained using the 1 ppb solution. PNL-ALO-281 requires that the precision be <7% for isotope counts and isotope ratios of Mg, In, and Pb. As stated literally in the procedure, this criteria was met; however, the statement could be interpreted as meaning for all isotopes of Mg, In and Pb (one isotope of Mg was 9%), and for all possible isotope ratio combinations (including inter-element combinations). Intra-element isotope ratios came out <7%, but ratios between Mg/In and Pb/In came out 9% and 12% respectively. The procedure was never intended to include intra-element isotope ratios, even though we print these out for our information regarding relative mass response. Two out of three Mg isotopes with RSD's <7% was considered acceptable, especially because there would be no scanning below mass 80.

I would appreciate a memo from you indicating that you understand and approve these modifications before we submit the final report/data package. If you have any questions, please feel free to call me at 6-3074.

Battelle
Pacific Northwest Laboratories

Project Number 19432

Internal Distribution

Project File 19432
DW Koppenaal
File/LB

Date February 26, 1992

To EJ Wyse

From BA Prentice

Subject Procedure Modifications for 1100-EM-1

It is clear from our earlier discussions, and as detailed in your memo of February 19, 1992, that the temporary modifications you proposed to procedures PNL-ALO-280 and PNL-ALO-281 are entirely appropriate to meeting programmatic needs on Project 19432. Please proceed accordingly.

ES4-1800-001 (10/89)

C02-003

ICP/MS Data Report Cover Sheet

DATE: 2/7/92

QA IL: (I) II III Default QA Plan: MCS-033 Default Tech. Procedure: PNL-ALO-280

Additional QAP's or TP's: PNL-ALO-281 ; 1100-EM-1 Technical Proposal (10/91)

ALO Sample Numbers: 92-02724 thru 02752

PM (or Requestor), Company: COC's: BOB STREBEN, PNL ; PM: Bruce Prentice, PNL

Project #: 19432 WP #: M82773

Laboratory Record Book(s) (Include page #): 54526 pp 1-13 ; 54321 pp 109, 114

Group Leader: D.W. Koppenaal, Staff Scientist
Cog Scientist: E.J. Wyse, Scientist
Analyst(s): J.P. Bramson, Sr. Technician

SIGNATURES: Analyst [signature] 2/7/92
Preparer [signature] 2/7/92
Review: (Report) Technical
(Data Package) Completeness [signature] 2/25/92

M&TE Used (Check all that apply)

√	Item	3708 Bldg Room #	ID #	Calib.	Frequency	LRB
	VG ICP/MS PQI	115	WB36913	By User	Before Use	
✓	VG ICP/MS PQII+	108	WB62779	By User	Before Use	
✓	Mettler AJ100 Balance	111	512-06-01-014	HEDL	3 mos	
✓	Troemner Class S Weights	111	1199	HEDL	12 mos	
✓	Rainin Elec Pipet 0-10 ml	111	B12205	By User	6 mos/ Before Use	54526 pg 11
✓	Rainin Elec Pipet 0-10 ml	111	E18077	By User	6 mos/ Before Use	54526 pg 12
✓	Rainin Elec Pipet 0-1000 µl	111	A022998	By User	6 mos/ Before Use	54526 pp 11, 12
	Rainin Elec Pipet 0-100 µl	111	H920180	By User	6 mos/ Before Use	54526
	Rainin Elec Pipet 0-1000 µl	115	D913511	By User	6 mos/ Before Use	54526

Standards Used (See LRB #54526 pp 11, 13, 5-7)

Reference Material	Conc.	Stock Soln	[Calib Stds]
53960-28 (FROM NIST 4299-77)	49.0 ppb	450 ppt 49 ppt	1, 5, 10, 50, 100, 500, 1000, 5000 ppt

1100-EM-1: Tc-99 by ICP/MS

Accuracy and Precision Estimate Information

Table 2. Accuracy Estimate

Sample	[Tc-99]* measured	[Tc-99]* samp meas.	[Tc-99]* spiked	Recovery (%)
Blank (DI water) Spike #1	51.1	-	49.0	104
Blank (DI water) Spike #2	52.0	-	49.0	106
Sample (B01575) Spike	61.7	7.1	49.0	111
Sample (B015W3) Spike	49.8	<0.6	49.0	102
Sample (B01BW5) Spike	65.4	6.1	49.0	121
			mean	**109±8**

Table 3. Precision Estimate

Sample	[Tc-99]*	Average* ±SD	Overall Prec. RSD (%)
Blank (DI water) Spike #1	51.1		
Blank (DI water) Spike #2	52.0	51.6±0.6	1.2
B015V8 Rep 1	9.8		
B015V8 Rep 2	8.1	9.0±1.2	13
B01BV6 Rep 1	8.9		
B01BV6 Rep 2	7.0	8.0±1.3	17
		mean	**10.4**

*Results reported in ppt

Hand Calculations EW 2/25/92

Detection limit = 3 * std dev of background → ppt
(of BLANK) std dev of bkg = $\sqrt{\text{bkg cts}}$

	Raw PCts @ 99 amu	(In-115 int std) Raw PCts @ 115	Norm. 99
DI H_2O blank 2204 q 11	31 by Channel 3, 1, 4, 6, 10, 5, 2	2,743,604	31
100 ppt Std 2204 q 311	653	532,440	3365

$$\text{cts/ppt} = \frac{3365 - 31 \text{ cts}}{100 \text{ ppt}} = 33.34 \text{ cts/ppt}$$

$$\text{D.L.} = 3 * \sqrt{31 \text{ cts}} = \frac{16.7 \text{ cts}}{\cancel{36.897}\ 33.34 \text{ cts/ppt}} = 0.50 \text{ ppt}$$

EW 2/25/92 Given this information, the detection limit of the ~~instrument~~ instrument for this analysis EW 2/25/92 was conservatively estimated at 0.6 ppt, which corresponds to 10 pCi/L. (Calculated value was converted to radiometric units and rounded up for simplicity.)

EW 2/25/92

BNW-54526
1-15-92

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 BNWS OPERATING CONTRACT DE-AC06-76RLO 1830

M82773

	LABORATORY RECORD BOOK NUMBER BNW- 54526	This document consists of ..... pages, copy no. .....
	TITLE (INDICATE SUBJECT CONTENT) 1100-EM-1 : ICP/MS Analysis of Tc-99 in Groundwater	
AUTHOR · DIVISION AND DEPARTMENT		
PERIOD COVERED FROM	TO	

Route To	P. R. No.	Location	Route Date	Signature & Date
EJ Wyse	3C164	P8-08	1-15-92	EJ Wyse 1/16/92

C02-007

1/16/92

SCOPE of Laboratory Record Book 54526

This Laboratory Record Book (LRB) is for the exclusive use of the 1100-EM-1 Project (Project #19432). All balance and pipet calibrations, as well as sample and standard preparation that is done by the ICP/MS service center (3708 bldg) for the 1100-EM-1 project shall be documented in this LRB (#54526).

PROJECT SPECIFICS / MISC.

Project No. _____ Date of Work _____

Entered By [signature] Date 1/16/92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

2

1/16/92

Chain of Custody

Date Received/Time		C.O.C. Number ↓	Number of Samples	Receiver's Initials
11/15/92	13:50	1100-EM-01	4	
11/15/92	13:50	1100-EM-02	4	
11/15/92	13:50	1100-EM-03	4	
11/15/92	13:50	1100-EM-04	4	
11/15/92	13:50	1100-EM-05	4	
11/15/92	13:50	1100-EM-06	4	
11/15/92	13:50	1100-EM-07	4	
11/15/92	13:50	1100-EM-08	1	

Project No. _____ Date of Work _____

Entered By _____ Date 1/16/92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

1/42 RESERVED for REVIEWER'S SIGNATURES

Reviewer	Date	Pages Reviewed
DW Koppenaal	2/7/92	Pgs 1-13 incl.

Project No. _____ Date of Work _____

Entered By _____ Date _____

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

4

EJW 1/16/92

The following individuals are authorized to make entries into this Laboratory Record Book (BNW LRB # 54526):

P.R. #	Printed Name	Signature	Initials	Date	Title or Responsibility
3C154	Eric J Wyse	Eric J Wyse	EJW	1/16/92	Scientist II
3C496	JAMES BRAMSEN	James Bramsen	JB	1/16/92	SENIOR TECHNICIAN

MaTE

BNW LRB # 54526 pg 4

√	Item	3706 Bldg Room #	ID #	Calib.	Frequency	LRB
	VG ICP/MS PQI	115	WB36913	By User	Before Use	
	VG ICP/MS PQII+	108	WB62779	By User	Before Use	
	Mettler AJ100 Balance	111	512-06-01-014	HEDL	3 mos	
	Troemner Class S Weights	111	1199	HEDL	12 mos	
	Rainin Elec Pipet 0-10 ml	111	B12205	By User	6 mos/ Before Use	52433
	Rainin Elec Pipet 0-10 ml	111	E18077	By User	6 mos/ Before Use	52433
	Rainin Elec Pipet 0-1000 µl	111	A022998	By User	6 mos/ Before Use	52433
	Rainin Elec Pipet 0-100 µl	111	H920180	By User	6 mos/ Before Use	52433
	Rainin Elec Pipet 0-1000 µl	115	D913511	By User	6 mos/ Before Use	52433

Project No. _____ Date of Work _____

Entered By EJ Wyse Date 1/16/92

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2. _____ Date _____

U. S. Department of Commerce
Malcolm Baldrige
Secretary
National Bureau of Standards
Ernest Ambler, Director

Received 12/31/91

1/16/92

THIS IS A PHOTOCOPY OF THE CERTIFICATE WHICH IS BEING MAILED TO YOU UNDER SEPARATE COVER

National Bureau of Standards

BNW LRB #54526 pg 5

Certificate

Standard Reference Material 4288

Radioactivity Standard

Radionuclide	Technetium-99
Source identification	4288-77
Source description	Liquid in NBS borosilicate-glass ampoule
Solution composition	59.31 μg of Tc(VII) as potassium pertechnetate per gram of approximately 0.001 molar KOH (1)*
Mass	4.910 grams
Radioactivity concentration	3.759×10^4 Bq g^{-1}
Reference time	November, 1982
Measuring instrument	Liquid-scintillation counter (2)
Random uncertainty	0.27 percent (3)
Systematic uncertainty	1.35 percent (4)
Total uncertainty (Random plus systematic)	1.62 percent
Photon-emitting impurities	None observed (5)
Half life	$(2.111 \pm 0.036) \times 10^5$ years (6)

This Standard Reference Material was prepared in the Center for Radiation Research, Nuclear Radiation Division, Radioactivity Group, Dale D. Hoppes, Group Leader.

Washington, D.C. 20234
November, 1982

George A. Uriano, Chief
Office of Standard Reference Materials

1/16/92

*Notes on back

C02-012

BNW LRB # 54526 pg 6

54526 pg 6

FOOTNOTES

(1) The $KTcO_4$ was prepared by M.W. Heitzmann of the U.S. Food and Drug Administration from NH_4TcO_4 obtained from Oak Ridge National Laboratory. The solution density is 0.998 g cm^{-3} at 21.8°C, and the $KTcO_4$ concentration is 0.00060 molar. The UV spectrum of this material exhibited only the characteristic doublets at 243 and 287 nm [A].#

(2) Two liquid-scintillation counters were calibrated using the method of J.A.B. Gibson [B,C,D]. Three different radionuclides were used as the standard: ^3H, ^{14}C, and ^{60}Co. The results obtained using the three radionuclides agreed to within 0.32 percent. The ^{14}C result was used for confirmation only. The value given here is the unweighted mean of the ^3H and ^{60}Co results.

(3) Half the 99-percent confidence interval for the average of the ^3H result and the ^{60}Co result. The standard deviation of the mean of the ^3H result is 0.15 percent based on 6 degrees of freedom, and the standard deviation of the mean of the ^{60}Co result is 0.09 percent based on 9 degrees of freedom.

(4) The systematic uncertainty is the average of that for the ^3H result, 1.20 percent, and that for the ^{60}Co result, 1.49 percent. These values are linear sums of estimated upper limits of uncertainties due to the following;

	^3H	^{60}Co
a) reference material for standard radionuclide	0.63	0.68
b) source preparation	0.07	0.17
c) theoretical model	0.30	0.20
d) gamma-ray contribution to beta-particle detector		0.24
e) quenching	0.10	0.10
f) interpolation from calibration curve	0.10	0.10
	1.20	1.49

(5) The master solution from which these standards were prepared was examined with germanium gamma-ray spectrometers and no impurity was found. Limits of detection as a ratio of gamma-ray-emission rate to technetium-99 activity are

1×10^{-6} between 90 and 300 keV
1×10^{-7} between 300 and 1900 keV.

(6) NBS-measured half life based on the formula $T_{\frac{1}{2}} = N \ln(2)/A$, where N is the number of atoms, computed using an atomic mass for technetium-99 of 98.906254 ± 0.000002 grams and the gravimetrically determined mass of technetium-99, and A is the activity determined by liquid-scintillation counting. The value recommended by the Oak Ridge Nuclear Data Project is $(2.13 \pm 0.05) \times 10^5$ years. [E]

References on last page

4288

E. Wyse 1/16/92

CO2-013

The following individuals and organizations contributed to the characterization of this Standard Reference Material.

J.A.B. Gibson
Atomic Energy Research Establishment
Environmental and Medical Sciences Division
Harwell
United Kingdom

M.W. Heitzmann
U.S. Food and Drug Administration
Division of Drug Chemistry
Washington, D.C.

J.C. Leak
U.S. Food and Drug Administration
Division of Oncology and
Radiopharmaceutical Drug Products
Rockville, MD

For further information please contact Dr. Bert M. Coursey at (301) 921-2383.

REFERENCES

A. Boyd, G.E., J. Chem. Ed., 36, 3 (1959).

B. Gale, H.J. and Gibson, J.A.B., Atomic Energy Research Establishment Report AERE-R5067 (1965), Harwell, United Kingdom.

C. Gibson, J.A.B. and Marshall, M., Int. J. Appl. Radiat. Isotopes, 23, 321 (1972).

D. Gibson, J.A.B., Computed counting efficiencies as a function of merit figure for 14 beta-particle-emitting radionuclides (July, 1980). Unpublished data.

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BNW LRB # 54526 Pg 7

4288 1/16/92

1/16/92 Receipt of 1100-EM-1 Samples

Received the following samples from Bob Stieber on 11/15/92. Chains of custody were included (see 54526 pg 2).

1100-EM-1 Sample #	ALO Sample #	ANALYSIS
B01572	92-02724	2122q
B01573	92-02725	2204q
B01574	92-02726	2210q
B01575	92-02727	2211q
B015S9	92-02728	
B015T1	92-02729	
B015T3	92-02730	
B015T5	92-02731	
B015T7	92-02732	
B015T9	92-02733	
B015V1	92-02734	
B015V3	92-02735	
B015V5	92-02736	
B015V7	92-02737	
B015V8	92-02738	
B015V9	92-02739	
B015W0	92-02740	
B015W1	92-02741	
B015W2	92-02742	
B015W3	92-02743	
B01BV6	92-02744	
B01BV9	92-02745	
B01BW2	92-02746	
B01BW5	92-02747	
B01BW8	92-02748	
B01BX1	92-02749	
B01C38	92-02750	
B01C11	92-02751	
B01C28	92-02752	

BNW LRB # 54526 pg 8

Project No. _____ Date of Work _____

Entered By _____ Date 1/16/92

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Signed 1. _____ Date _____

2. _____ Date _____

1/16/92 PREPARATION

1/22/92 Standards prepared as described on page 11 (54526 pg 11).
Also refer to page 11 for balance check and pipet calibration for 1/22/92.

Samples (29)
0.25 ml 1 ppm In + 4.75 ml sample In STD - 52433-56
↳ (ADP B12205 in "multi" mode) ADP B12205

Two duplicates prepared in similar manner: (B015T1 + B015V8)

SPIKE SAMPLES (50ppt): (B015W2 + ~~B015~~ B01C11) 1/16/92
0.25 ml 1ppm In + 0.50ml 100x 53960-28 + 4.25 ml SAMPLE

B12205 A022998 B12205

BLANKS + BLANK SPIKES:
(2) DI H_2O 0.25 ml In 1ppm + 4.75 DI H_2O
(1) 3708 TAP WATER 0.25 ml In 1ppm + 4.75 TAP WATER (3708/RM111)
(2) BLANK SPIKE 0.25 ml In 1ppm + 0.50 ml 100x 53960-28 + 4.25 DI H_2O

Project No. _____ Date of Work _____
Entered By [signature] JBrown 3/3/92 Date 1/22/92
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

JJB 1/15/92 AS 100 BALANCE (512-06-01-014) PERFORMANCE CHECK
CAL. EXP. 1/16/92

WEIGHT	BALANCE READING
10 mg	0.0100 g
200 mg	0.1998 g
1 g	1.0000 g

PERFORMANCE OK JJB 1/15/92

PIPET	VOLUME	TRIAL 1	2	3	4	5	$\bar{x} \pm \sigma$
EDP-2	210 µl	.2071	.2068	.2075	.2062	.2072	.2070
A022998	250 µl	.2464	.2464	.2490	.2471	.2461	.2470
	1 ml	.9873	.9957	.9929	.9928	.9912	.9920

NIST Tc-99 4288-77

PREPARATION OF (SPIKE) SOLUTION STANDARD 53960-28: Tc-99

USING ABOVE CALIBRATED PIPET, PIPETTED 210 µl (.2070 ml) INTO A 250 ml VOL. FLASK HALF FILLED WITH DI H_2O AND 84.7 mg KOH. DILUTED TO VOLUME WITH DI H_2O.

[GW 3/13/92: 59.31 µg/g * 1000 ng/µg * 0.9988 g/ml = 59,191 ng/ml]

FINAL CONCENTRATION: $\frac{(.2070\ ml)(59{,}191\ ng/ml)}{250\ ml}$

= 49.01 ng/ml Tc-99

= 49.01 ppb in 0.006 M KOH

BNW LRB # 54526 pg 10

(from BNW LRB # 53960 pg 28)

[GW 3/13/92: ~~GW 3/13/92~~ ~50 mls dispensed and relinquished to Gwen Brodaczinski on 1/17/92.]

Project No. _____ Date of Work _____

Entered By [signature] Date 1/22/92

Disclosed To and Understood By

Signed 1. _____ Date _____

2. _____ Date _____

1/22/92 AJ100 Balance (512-06-01-014) Performance Check
Cal. Exp. 4/20/92

Weight	Balance Reading
100 mg	0.1000 g
500 mg	0.5000 g
1 g	1.0000 g
10 g	10.0002 g

Performance OK 1/22/92

DI H_2O: 18 MΩ @ 22°C (0.9978 g/ml) Values divided by density (gel volume) (÷ 0.9978)

Pipet	Volume	Trial 1	2	3	4	5	$\bar{X} \pm \sigma$
EDP-2	100 µl	0.1011	0.1000	0.1009	0.1005	0.1011	0.1009 ~~0.1007~~ ~~0.1009~~ ± 0.0005
A022998	500 µl	0.5057	0.5083	0.5099	0.5090	0.5072	0.5091 ~~0.5098~~ ± 0.0016
	1000 µl	1.0141	1.0204	1.0210	1.0192	1.0212	~~1.0171~~ 1.0215 ± 0.0029
EDP	1.00 ml	0.9839	0.9811	0.9797	0.9807	0.9792	0.9831 ± 0.0018
B12205	4.75 ml	4.7407	4.7649	4.7657	4.7687	4.7685	4.7723 ± 0.0119
	9.90 ml	9.9505	9.9745	9.9922	9.9996	9.9955	10.0048 ± 0.0203
→ Multi	0.25 ml	0.2409	0.2528	0.2409	0.2540	0.2505	0.2484 ± 0.0064

100X of 53960-28 prepared:

2 × (100 µl) using A022998 + 2 × (9.90 ml) using B12205

Conc	B12205		A022998		B12205
10 ppt	0.25 ml 1 ppm In	+	0.100 ml 100X 53960-28	+	4.65 mls DI H_2O (milli-Q 18 MΩ)
50 ppt	0.25 ml 1 ppm In	+	0.500 ml 100X 53960-28	+	4.25 mls DI H_2O
100 ppt	0.25 ml 1 ppm In	+	1.000 ml 100X 53960-28	+	3.75 mls DI H_2O
500 ppt	~~0.25~~ 0.50 ml 1 ppm In	+	0.100 ml 53960-28	+	9.40 mls DI H_2O
1 ppb	0.25 ml 1 ppm In	+	0.100 ml 53960-28	+	4.65 mls DI H_2O
5 ppb	0.25 ml 1 ppm In	+	0.500 ml 53960-28	+	4.25 mls DI H_2O

Project No. _____ Date of Work _____
Entered By _____ Date 1/22/92
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

JPB 2/4/92 AJ100 BALANCE (512-06-01-014) PERFORMANCE CHECK
CAL. EXP. 4-20-92

Weight	Balance Reading
100 mg	0.1000g
500 mg	0.4999g
1 g	0.9999g
10 g	10.0000g

BNW LRB # 54526 pg 12

Performance OK JPB 2/4/92

PIPET	VOLUME	TRIAL 1	2	3	4	5	$\bar{X} \pm \sigma$
EDP-2	100 µl	0.1012	0.1001	0.1004	0.1006	0.1005	0.1006 ± 0.0004
A022998	500 µl	0.4995	0.5008	0.5016	0.5019	0.5009	0.5009 ± 0.0009
	1000 µl	1.0006	1.0022	1.0006	1.0036	1.0038	1.0022 ± 0.0016
EDP	1.00 ml	0.9997	1.0099	1.0052	1.0034	1.0007	1.0038 ± 0.0041
E18077	4.75 ml	4.7757	4.7826	4.7712	4.7656	4.7711	4.7732 ± 0.0063
	9.90 ml	9.9434	9.9260	9.9307	9.9156	9.9129	9.9257 ± 0.0123
→ Multi	0.25 ml	0.2534	0.2665	0.2459	0.2630	0.2531	0.2564 ± 0.0083

Preparation JPB 2/4/92

SAMPLES

31 SAMPLES, INCLUDING 2 DUPLICATES, WERE PREPARED AS FOLLOWS:

0.25 ml In (52433-56) 1ppm + 9.75 ml SAMPLE
EDP E18077 in Multi mode ~~EDP A022998~~ EDP E18077 JPB 2/4/92

DUPLICATES: B01BV6 92-02744
B01BV8 92-02738

BLANKS

(2) DI H_2O 0.25 ml In (52433-56) 1ppm + 4.75 ml DI H_2O
(1) TAP WATER 0.25 ml In " 1ppm + 4.75 ml ~~DI H_2~~ TAP WATER (3708/111)
JPB 2/4/92

(CONTINUED ON Pg 13)

Project No. _____ Date of Work _____
Entered By JPBrannon Date 2/4/92
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

(CONTINUED FROM pg 12) JB 2/4/92

SPIKES

(7) DI H_2O SPIKE 0.25 ml In (52433-56) 1ppm + 0.500 ml 100x 53960-28 + 4.25 ml DI H_2O

JB 2/4/92 (8) SAMPLE SPIKE 0.25 ml In (52433-56) 1ppm + 0.500 ml 100X 53960-28 + 4.25 mls SAMPLE

SPIKED SAMPLES: B01545 92-02747
B01575 92-02727
B01543 92-02743

STANDARDS

100X OF 53960-28 PREPARED:
100 ml USING A022998 + 9.90 mls USING E18077
1000X OF 53960-28 PREPARED:
1 ml USING 100X 53960-28 + A022998 + 9 mls USING E18077
Prepared by [illegible] and logged by JP Bramson: [illegible] 2/7/92

CONC.	E18077		A022998		E18077
10ppt	0.25 ml 1ppm In	+	0.100 ml 100X 53960-28	+	4.65 mls DI H_2O (MILLI-Q 18MΩ)
50ppt	0.25 ml 1ppm In	+	0.500 ml 100X 53960-28	+	4.25 mls DI H_2O
100ppt	0.25 ml 1ppm In	+	1.000 ml 100X 53960-28	+	3.75 mls DI H_2O
500ppt	JB 2/4/92 ~~0.25 ml~~ 0.50 mls 1ppm In	+	0.100 ml 53960-28	+	9.40 mls DI H_2O
1ppt	0.25 ml 1ppm In	+	0.100 ml 1000X 53960-28	+	4.65 mls DI H_2O
5ppt	0.25 ml 1ppm In	+	0.500 ml 1000X 53960-28	+	4.25 mls DI H_2O

1ppm In → 52433-56

Project No. _____ Date of Work _____
Entered By JPBramson Date 2/4/92
Disclosed To and Understood By
Signed 1. _____ Date _____
2. _____ Date _____

15 1

PlasmaQuad Isotope Ratio Report

(Counts in Area Counts per second)

No Ratio for Iso1/Iso2 means either isotope 1 or isotope 2 is not iclude in the element menu used. Check the menu and isotope run procedure definition.

JPBrown 2/4/92

2 pages

PQ2tune--Normal Sample

Run	C 12	Na 23	Mg 24	Mg 25	Mg 26
1	2343737	154289	59257	7291	9404
2	2413768	160256	58043	7956	9276
3	2274059	155028	60925	7592	9243
4	2417763	166002	60292	8123	9383
5	2391949	168061	67669	9194	10401
Mean	2368255	160727	61237	8033	9533
Std	60323.21	6240.38	3757.61	725.38	491.10
RStd	2.55	3.88	6.14	9.03	5.15

Run	Ar0 56	Ar2 80	In113	In115	Pb206
1	22488	77663	9342	219255	12996
2	23623	79816	8751	196790	12772
3	23406	76896	9311	219750	12635
4	23448	81839	8403	197446	13643
5	24499	79975	9184	199349	13133
Mean	23493	79228	8999	206520	13036
Std	715.67	1975.34	405.21	11898.33	390.52
RStd	3.05	2.49	4.51	5.76	3.00

Run	Pb207	Pb208
1	12453	26387
2	11575	29023
3	12194	25791
4	10703	29704
5	11655	30461
Mean	11716	28373
Std	674.72	1964.24
RStd	5.76	6.92

Ratios for this sample:

Ratios for Mg

Run	24/ 26
1	6.30117
2	6.28421
3	6.59134

C02-021

PS 2

5	6.50379
Mean	6.42162
Std	0.13162
RSD%	2.04958
IP%	0.91660

Ratios for In

Run	113/115
1	0.04261
2	0.04447
3	0.04237
4	0.04259
5	0.04607
Mean	0.04362
Std	0.00161
RSD%	3.69613
IP%	1.65278

Run	Mg 24/In115	Pb208/In115
1	0.27025	0.12262
2	0.29495	0.14748
3	0.27725	0.11737
4	0.30536	0.15044
5	0.33945	0.15281
Mean	0.29745	0.13814
Std	0.02730	0.01678
RSD%	9.17705	12.1458
IP%	4.10410	5.43177

Ratios for Pb

Run	206/208
1	0.48337
2	0.44007
3	0.48993
4	0.45932
5	0.43113
Mean	0.46076
Std	0.02584
RSD%	5.60772
IP%	2.50785

PLASMAQUAD ELEMENT MENU 1100em1

Date Created :-22 January 1992 Time Created :-12:06:35

Mass Range :- 81.00 to 118.19 a.m.u.

Number Of Channels	=	512
Number Of Scan Sweeps	=	1000
Dwell Time (us)	=	160
Points per peak	=	5
Dac step between points	=	5
Number of Peak Jump Sweeps	=	20
Collector type	=	Pulse

EJ Wyse 2/7/92

1 of 1

Skipped mass regions :

PULSE COUNTING From	To	ANALOG From	To
11.50	23.50	12.00	23.50
27.50	41.50	27.50	41.50
79.50	80.50		
101.00	112.00		

Isotopes selected..

Element Name	Symbol	Selected Mass	Peak Jump dwell	Collector
Technetium	Tc	99	10240	Pulse
Indium	In	115	10240	Pulse

C02-023

ANALYSIS PROCEDURE LISTING : 2204q

Multi-element determination

Element menu used 1100em1
Internal Standard used .....In Mass : 115
New Response file used 2204q
Total number of samples 45

James Brannon 2/5/92 2 pages

SAMPLE IDENT	No Of RUNS	SAMPLE TYPE	Dil FACTOR	BLANK IDENT
2204q1	2	Sample	1.053	
2204q2	2	Standard	1.000	
		Standard Concentration file ..2204q2		
			Element	Conc.(pg/ml)
			Tc	1.0000000000
2204q3	2	Sample	1.053	
2204q4	2	Sample	1.053	
2204q5	2	Sample	1.053	
2204q6	2	Standard	1.000	
		Standard Concentration file ..2204q6		
			Element	Conc.(pg/ml)
			Tc	5.0000000000
2204q7	2	Sample	1.053	
2204q8	2	Sample	1.053	
2204q9	2	Sample	1.053	
2204q10	2	Sample	1.053	
2204q11	2	Sample	1.053	
2204q12	2	Sample	1.053	
2204q13	2	Sample	1.053	
2204q14	2	Sample	1.053	
2204q15	2	Sample	1.053	
2204q16	2	Sample	1.053	
2204q17	2	Standard	1.000	
		Standard Concentration file ..2204q17		
			Element	Conc.(pg/ml)
			Tc	10.000000000
2204q18	2	Sample	1.053	
2204q19	2	Sample	1.053	
2204q20	2	Sample	1.053	
2204q21	2	Sample	1.053	
2204q22	2	Sample	1.053	
2204q23	2	Standard	1.000	
		Standard Concentration file ..2204q23		
			Element	Conc.(pg/ml)
			Tc	50.000000000
2204q24	2	Sample	1.053	
2204q25	2	Sample	1.053	
2204q26	2	Sample	1.053	
2204q27	2	Sample	1.053	
2204q28	2	Sample	1.053	
2204q29	2	Sample	1.053	

2204q30	2	Sample	1.053
2204q31	2	Standard	1.000

Standard Concentration file ..2204q31

Element	Conc.(pg/ml)
Fe	100.00000000

2204q32	2	Sample	1.053
2204q33	2	Sample	1.053
2204q34	2	Sample	1.053
2204q35	2	Sample	1.053
2204q36	2	Sample	1.053
2204q37	2	Sample	1.053
2204q38	2	Sample	1.053
2204q39	2	Sample	1.053
2204q40	2	Sample	1.053
2204q41	2	Sample	1.053
2204q42	2	Sample	1.053
2204q43	2	Sample	1.053
2204q44	2	Sample	1.053
2204q45	2	Standard	1.000

Standard Concentration file ..2204q45

Element	Conc.(pg/ml)
Fe	500.00000000

2

J P Brunson
2/5/92 6 pages

Peak integrals (ACPS) for - 2204q1 Run 1

Tc 99 16 In 115 1600092

Peak integrals (ACPS) for - 2204q1 Run 2

Tc 99 11 In 115 1579623

Peak integrals (ACPS) for - 2204q2 Run 1

Tc 99 25 In 115 1520925

Peak integrals (ACPS) for - 2204q2 Run 2

Tc 99 23 In 115 1560058

Peak integrals (ACPS) for - 2204q3 Run 1

Tc 99 16 In 115 973777

Peak integrals (ACPS) for - 2204q3 Run 2

Tc 99 17 In 115 970297

Peak integrals (ACPS) for - 2204q4 Run 1

Tc 99 11 In 115 682090

Peak integrals (ACPS) for - 2204q4 Run 2

Tc 99 19 In 115 678622

Peak integrals (ACPS) for - 2204q5 Run 1

Tc 99 62 In 115 604346

Peak integrals (ACPS) for - 2204q5 Run 2

C02-026

Peak integrals (ACPS) for - 2204q5 Run 1

Tc 99 117 In 115 1443557

Peak integrals (ACPS) for - 2204q6 Run 2

Tc 99 104 In 115 1323075

Peak integrals (ACPS) for - 2204q7 Run 1

Tc 99 12 In 115 687698

Peak integrals (ACPS) for - 2204q7 Run 2

Tc 99 18 In 115 718573

Peak integrals (ACPS) for - 2204q8 Run 1

Tc 99 15 In 115 565976

Peak integrals (ACPS) for - 2204q8 Run 2

Tc 99 16 In 115 587798

Peak integrals (ACPS) for - 2204q9 Run 1

Tc 99 04 In 115 502520

Peak integrals (ACPS) for - 2204q9 Run 2

Tc 99 60 In 115 517593

Peak integrals (ACPS) for - 2204q10 Run 1

Tc 99 663 In 115 1019557

Peak integrals (ACPS) for - 2204q10 Run 2

Tc 99 680 In 115 986689

Peak integrals (ACPS) for - 2204q11 Run 1

Tc 99 34 In 115 375377

Peak integrals (ACPS) for - 2204q11 Run 2

Tc 99 50 In 115 423481

Peak integrals (ACPS) for - 2204q12 Run 1

Tc 99 523 In 115 809809

Peak integrals (ACPS) for - 2204q12 Run 2

Tc 99 521 In 115 768303

Peak integrals (ACPS) for - 2204q13 Run 1

Tc 99 27 In 115 278182

Peak integrals (ACPS) for - 2204q13 Run 2

Tc 99 36 In 115 314775

2

C02-027

Tc 99 39 In 115 307793

Peak integrals (ACPS) for - 2204q14 Run 2

Tc 99 38 In 115 322567

Peak integrals (ACPS) for - 2204q15 Run 1

Tc 99 23 In 115 244777

Peak integrals (ACPS) for - 2204q15 Run 2

Tc 99 28 In 115 273418

Peak integrals (ACPS) for - 2204q16 Run 1

Tc 99 24 In 115 205790

Peak integrals (ACPS) for - 2204q16 Run 2

Tc 99 26 In 115 231699

Peak integrals (ACPS) for - 2204q17 Run 1

Tc 99 45 In 115 291285

Peak integrals (ACPS) for - 2204q17 Run 2

Tc 99 41 In 115 283283

Peak integrals (ACPS) for - 2204q18 Run 1

Tc 99 7 In 115 104007

Peak integrals (ACPS) for - 2204q18 Run 2

Tc 99 11 In 115 148639

Peak integrals (ACPS) for - 2204q19 Run 1

Tc 99 13 In 115 135166

Peak integrals (ACPS) for - 2204q19 Run 2

Tc 99 13 In 115 133277

Peak integrals (ACPS) for - 2204q20 Run 1

Tc 99 169 In 115 211969

Peak integrals (ACPS) for - 2204q20 Run 2

Tc 99 245 In 115 262900

Peak integrals (ACPS) for - 2204q21 Run 1

Tc 99 38 In 115 372642

Peak integrals (ACPS) for - 2204q21 Run 2

Tc 99 48 In 115 368083

Peak integrals (ACPS) for - 2204q22 Run 1

Peak integrals (ACPS) for - 2204q22 Run 2

Tc 99 4 In 115 323c02

Peak integrals (ACPS) for - 2204q23 Run 1

Tc 99 348 In 115 543391

Peak integrals (ACPS) for - 2204q23 Run 2

Tc 99 326 In 115 534481

Peak integrals (ACPS) for - 2204q24 Run 1

Tc 99 2 In 115 271127

Peak integrals (ACPS) for - 2204q24 Run 2

Tc 99 4 In 115 289470

Peak integrals (ACPS) for - 2204q25 Run 1

Tc 99 36 In 115 239360

Peak integrals (ACPS) for - 2204q25 Run 2

Tc 99 31 In 115 256768

Peak integrals (ACPS) for - 2204q26 Run 1

Tc 99 4 In 115 307877

Peak integrals (ACPS) for - 2204q26 Run 2

Tc 99 2 In 115 279016

Peak integrals (ACPS) for - 2204q27 Run 1

Tc 99 3 In 115 273153

Peak integrals (ACPS) for - 2204q27 Run 2

Tc 99 0 In 115 256808

Peak integrals (ACPS) for - 2204q28 Run 1

Tc 99 3 In 115 235754

Peak integrals (ACPS) for - 2204q28 Run 2

Tc 99 3 In 115 233739

Peak integrals (ACPS) for - 2204q29 Run 1

Tc 99 1 In 115 219635

Peak integrals (ACPS) for - 2204q29 Run 2

Tc 99 3 In 115 220704

Peak integrals (ACPS) for - 2204q30 Run 1

Tc 99 147 In 115 192437

4

C02-029

Peak integrals (ACPS) for - 2204q30 Run 2

Tc 99 174 In 115 200470

Peak integrals (ACPS) for - 2204q31 Run 1

Tc 99 342 In 115 254757

Peak integrals (ACPS) for - 2204q31 Run 2

Tc 99 363 In 115 268988

Peak integrals (ACPS) for - 2204q32 Run 1

Tc 99 15 In 115 152496

Peak integrals (ACPS) for - 2204q32 Run 2

Tc 99 17 In 115 169483

Peak integrals (ACPS) for - 2204q33 Run 1

Tc 99 14 In 115 163620

Peak integrals (ACPS) for - 2204q33 Run 2

Tc 99 15 In 115 168536

Peak integrals (ACPS) for - 2204q34 Run 1

Tc 99 12 In 115 158797

Peak integrals (ACPS) for - 2204q34 Run 2

Tc 99 14 In 115 160131

Peak integrals (ACPS) for - 2204q35 Run 1

Tc 99 127 In 115 210507

Peak integrals (ACPS) for - 2204q35 Run 2

Tc 99 159 In 115 204915

Peak integrals (ACPS) for - 2204q36 Run 1

Tc 99 7 In 115 118727

Peak integrals (ACPS) for - 2204q36 Run 2

Tc 99 11 In 115 126251

Peak integrals (ACPS) for - 2204q37 Run 1

Tc 99 8 In 115 126666

Peak integrals (ACPS) for - 2204q37 Run 2

Tc 99 10 In 115 131383

Peak integrals (ACPS) for - 2204q38 Run 1

Tc 99 2 In 115 175774

Peak integrals (ACPS) for - 2204q38 Run 2

5

C02-030

Tc 99 [illegible] In 115 [illegible]

Peak integrals (ACPS) for - 2204q37 Run 1

Tc 99 0 In 115 97561

Peak integrals (ACPS) for - 2204q39 Run 1

Tc 99 14 In 115 107421

Peak integrals (ACPS) for - 2204q40 Run 1

Tc 99 15 In 115 141939

Peak integrals (ACPS) for - 2204q40 Run 2

Tc 99 10 In 115 87779

Peak integrals (ACPS) for - 2204q41 Run 1

Tc 99 1 In 115 144381

Peak integrals (ACPS) for - 2204q41 Run 2

Tc 99 1 In 115 145613

Peak integrals (ACPS) for - 2204q42 Run 1

Tc 99 3 In 115 80098

Peak integrals (ACPS) for - 2204q42 Run 2

Tc 99 0 In 115 81734

Peak integrals (ACPS) for - 2204q43 Run 1

Tc 99 2 In 115 81292

Peak integrals (ACPS) for - 2204q43 Run 2

Tc 99 2 In 115 81944

Peak integrals (ACPS) for - 2204q44 Run 1

Tc 99 6 In 115 71981

Peak integrals (ACPS) for - 2204q44 Run 2

Tc 99 11 In 115 80650

Peak integrals (ACPS) for - 2204q45 Run 1

Tc 99 855 In 115 121889

Peak integrals (ACPS) for - 2204q45 Run 2

Tc 99 814 In 115 113795

6

C02-031

GRAPH COEFFS FOR SELECTED ISOTOPES

FOR ANALYSIS PROCEDURE: 2204g

Date: 5 February 1992 Time: 10:13:57

Equation of line: y = a + bx + cx^2

Element	Mass	a	b	c	r
Technetium	99	15.32	22075370.09	0.00	0.99973

C02-032

FLASHQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:14:08
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q1
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.0437
Run 2	-0.1991
Mean	-0.0777
Std Dev	0.1717
Est Err	0.1214

2

C02-033

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:14:28
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q2
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.5066
Run 2	0.8642
Mean	0.6844
Std Dev	0.2543
Est Err	0.1798

3

C02-034

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:14:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q3
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.7475
Run 2	0.6291
Mean	0.6883
Std Dev	0.0837
Est Err	0.0592

4

C02-035

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:15:03
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q4
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.5002
Run 2	1.4488
Mean	0.9745
Std Dev	0.6708
Est Err	0.4743

5

C02-036

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:15:28
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q5
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	7.2105
Run 2	10.6580
Mean	8.9342
Std Dev	2.4378
Est Err	1.7238

6

C02-037

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:15:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q6
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	5.2278
Run 2	5.0204
Mean	5.1241
Std Dev	0.1466
Est Err	0.1037

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 11:15:05
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q7
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.6659
Run 2	1.2169
Mean	0.9414
Std Dev	0.3897
Est Err	0.2755

8

C02-039

FLASHAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:16:23
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q3
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	1.3888
Run 2	1.3782
Mean	1.3835
Std Dev	0.0075
Est Err	0.0053

9

C02-040

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 16:16:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q9
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	6.0340
Run 2	8.2325
Mean	7.1332
Std Dev	1.5545
Est Err	1.0992

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FILE: 2204q

Date: 5 February 1992 Time: 10:17:08
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q10
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	48.9196
Run 2	53.3099
Mean	51.1147
Std Dev	3.1044
Est Err	2.1951

4

C02-042

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:17:28
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q11
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	6.1945
Run 2	8.3356
Mean	7.2650
Std Dev	1.5140
Est Err	1.0706

12

C02-043

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:17:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q12
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	48.6102
Run 2	51.0153
Mean	49.8128
Std Dev	1.7007
Est Err	1.2026

13

C02-044

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:15:02
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q13
Number of Runs: 2

Element	Technetium
Mass	fc 99
Run 1	6.8839
Run 2	8.1631
Mean	7.5260
Std Dev	0.9010
Est Err	0.6371

14

C02-045

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:16:28
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q14
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	9.0146
Run 2	8.4443
Mean	8.7294
Std Dev	0.4033
Est Err	0.2852

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:18:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q15
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	6.6217
Run 2	7.1680
Mean	6.8948
Std Dev	0.3863
Est Err	0.2732

16

C02-047

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:19:02
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q16
Number of Runs: 2

Element	Technetium	
Mass	Tc	99
Run 1		8.2090
Run 2		7.8998
Mean		8.0544
Std Dev		0.2186
Est Err		0.1546

C02-048

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:19:20
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q17
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	10.5237
Run 2	10.0358
Mean	10.2798
Std Dev	0.3450
Est Err	0.2439

18

C02-049

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:19:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q18
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	4.6525
Run 2	5.1886
Mean	4.9205
Std Dev	0.3791
Est Err	0.2681

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:20:08
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q19
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	6.6663
Run 2	6.7712
Mean	6.7188
Std Dev	0.0741
Est Err	0.0524

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:20:28
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q20
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	60.4037
Run 2	70.4679
Mean	65.4358
Std Dev	7.1164
Est Err	5.0321

21

C02-052

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:20:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q21
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	7.2113
Run 2	9.2655
Mean	8.2384
Std Dev	1.4526
Est Err	1.0271

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:21:08
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q22
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	-0.4193
Run 2	0.1488
Mean	-0.1352
Std Dev	0.4017
Est Err	0.2841

23

C02-054

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:21:29
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q23
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	45.3411
Run 2	43.5251
Mean	44.4331
Std Dev	1.2841
Est Err	0.9080

24

C02-055

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:21:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q24
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.0064
Run 2	0.5124
Mean	0.2594
Std Dev	0.3578
Est Err	0.2530

25

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:22:08
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q25
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	10.9508
Run 2	8.6148
Mean	9.7828
Std Dev	1.6518
Est Err	1.1680

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:22:28
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q26
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.4380
Run 2	-0.0144
Mean	0.2118
Std Dev	0.3199
Est Err	0.2262

27

C02-058

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:22:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q27
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.2938
Run 2	-0.5754
Mean	-0.1408
Std Dev	0.6146
Est Err	0.4346

28

C02-059

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:23:07
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q28
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.2867
Run 2	0.2955
Mean	0.2911
Std Dev	0.0062
Est Err	0.0044

29

C02-060

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:23:28
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q29
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	-0.1849
Run 2	0.3561
Mean	0.0856
Std Dev	0.3826
Est Err	0.2705

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:23:48
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q30
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	57.6717
Run 2	65.7061
Mean	61.6889
Std Dev	5.6812
Est Err	4.0172

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:24:09
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are. In

2204q31
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	86.4413
Run 2	97.3423
Mean	91.3918
Std Dev	7.7082
Est Err	5.4505

32

C02-063

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:24:30
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q32
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	7.1369
Run 2	7.0564
Mean	7.0966
Std Dev	0.0570
Est Err	0.0403

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:24:50
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q33
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	6.1132
Run 2	6.1509
Mean	6.1320
Std Dev	0.0266
Est Err	0.0188

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:25:10
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q34
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	5.3136
Run 2	6.2602
Mean	5.7869
Std Dev	0.6693
Est Err	0.4733

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:25:31
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q35
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	45.4383
Run 2	58.6045
Mean	52.0214
Std Dev	9.3099
Est Err	6.5831

36

C02-067

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:25:51
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q36
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	3.9850
Run 2	5.9215
Mean	4.9533
Std Dev	1.3693
Est Err	0.9683

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:26:12
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q37
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	4.6367
Run 2	5.3572
Mean	4.9970
Std Dev	0.5095
Est Err	0.3603

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 13:26:32
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q38
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.1790
Run 2	0.1939
Mean	0.1864
Std Dev	0.0105
Est Err	0.0074

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:26:53
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q39
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	4.5982
Run 2	9.3216
Mean	6.9599
Std Dev	3.3399
Est Err	2.3617

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:27:13
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q40
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	7.7222
Run 2	8.3816
Mean	8.0519
Std Dev	0.4653
Est Err	0.3297

PLASMAGLAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:17:34
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q41
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	0.0999
Run 2	0.0928
Mean	0.0964
Std Dev	0.0050
Est Err	0.0035

42

C02-073

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:07:54
Concentrations are in ppt (pg/ml)
**** means no calibration available
Internal Standards used are: In

2204q42.
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	2.2648
Run 2	-0.2418
Mean	1.0115
Std Dev	1.7725
Est Err	1.2533

FLASHAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:28:15
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q43
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	1.2368
Run 2	1.2212
Mean	1.2290
Std Dev	0.0111
Est Err	0.0078

44

C02-075

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:28:35
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q44
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	6.4921
Run 2	10.1775
Mean	8.3348
Std Dev	2.6060
Est Err	1.8427

PLASMAQUAD ANALYSIS REPORT

STATISTICAL ANALYSIS FOR: 2204q

Date: 5 February 1992 Time: 10:23:56
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

2204q45
Number of Runs: 2

Element	Technetium
Mass	Tc 99
Run 1	508.0816
Run 2	517.8913
Mean	512.9865
Std Dev	6.9365
Est Err	4.9048

46

C02-077

PLASMAQUAD ANALYSIS REPORT

RUN PROCEDURE SUMMARY FOR: 2204q

Date: 5 February 1992 Time: 10:25:05
Concentrations are in ppt (pg/ml)
***** means no calibration available
Internal Standards used are: In

SAMPLES ELEMENTS : CDMCS

2204q1 Tc: -0.08 In: *****

2204q3 Tc: 0.69 In: *****

2204q4 Tc: 0.97 In: *****

2204q5 Tc: 8.93 In: *****

2204q7 Tc: 0.94 In: *****

2204q8 Tc: 1.38 In: *****

2204q9 Tc: 7.13 In: *****

2204q10 Tc: 51.11 In: *****

2204q11 Tc: 7.27 In: *****

2204q12 Tc: 49.81 In: *****

2204q13 Tc: [illegible] In: *****

2204q14 Tc: 8.73 In: *****

2204q15 Tc: 6.87 In: *****

2204q16 Tc: 3.05 In: *****

2204q18 Tc: 4.92 In: *****

2204q19 Tc: 6.72 In: *****

2204q20 Tc: 65.43 In: *****

2204q21 Tc: 8.24 In: *****

2204q22 Tc: -0.14 In: *****

2204q24 Tc: 0.26 In: *****

2204q25 Tc: 9.73 In: *****

2204q26 Tc: 0.21 In: *****

2204q27 Tc: -0.14 In: *****

2204q28 Tc: 0.29 In: *****

2204q29 Tc: 0.09 In: *****

2204q30 Tc: 61.68 In: *****

2204q32 Tc: 7.10 In: *****

48

2204q33 Tc: 6.13 In: *****

2204q34 Tc: 5.79 In: *****

2204q35 Tc: 52.02 In: *****

2204q36 Tc: 4.95 In: *****

2204q37 Tc: 5.00 In: *****

2204q38 Tc: 0.19 In: *****

2204q39 Tc: 6.96 In: *****

2204q40 Tc: 8.05 In: *****

2204q41 Tc: 0.10 In: *****

2204q42 Tc: 1.01 In: *****

2204q43 Tc: 1.23 In: *****

2204q44 Tc: 8.33 In: *****

Wipe 2/11/92

Qualitative Check for Ru.

→ No Ru observed in any sample.

Peak integrals (ACPS) for - 2211q1 Run 1

Tc 99 6 Ru 101 4 Ru 102 6

Peak integrals (ACPS) for - 2211q2 Run 1

Tc 99 7 Ru 101 4 Ru 102 6

Peak integrals (ACPS) for - 2211q3 Run 1

Tc 99 5 Ru 101 5 Ru 102 5

Peak integrals (ACPS) for - 2211q4 Run 1

Tc 99 24 Ru 101 5 Ru 102 5

Peak integrals (ACPS) for - 2211q5 Run 1

Tc 99 28 Ru 101 7 Ru 102 5

Peak integrals (ACPS) for - 2211q6 Run 1

Tc 99 28 Ru 101 4 Ru 102 6

Peak integrals (ACPS) for - 2211q7 Run 1

Tc 99 29 Ru 101 3 Ru 102 5

Peak integrals (ACPS) for - 2211q8 Run 1

Tc 99 19 Ru 101 3 Ru 102 5

Peak integrals (ACPS) for - 2211q9 Run 1

Tc 99 20 Ru 101 5 Ru 102 4

Peak integrals (ACPS) for - 2211q10 Run 1

Tc 99 17 Ru 101 4 Ru 102 5

Peak integrals (ACPS) for - 2211q11 Run 1

Tc 99 6 Ru 101 4 Ru 102 5

Peak integrals (ACPS) for - 2211q12 Run 1

Tc 99 17 Ru 101 3 Ru 102 4

Peak integrals (ACPS) for - 2211q13 Run 1

Tc 99 7 Ru 101 4 Ru 102 5

Peak integrals (ACPS) for - 2211q14 Run 1

Tc 99 6 Ru 101 3 Ru 102 4

Peak integrals (ACPS) for - 2211q15 Run 1

Tc 99 19 Ru 101 4 Ru 102 4

Peak integrals (ACPS) for - 2211q16 Run 1

Tc 99 5 Ru 101 2 Ru 102 3

Peak integrals (ACPS) for - 2211q17 Run 1

Tc 99 5 Ru 101 4 Ru 102 4

Peak integrals (ACPS) for - 2211q18 Run 1

Tc 99 5 Ru 101 4 Ru 102 5

Peak integrals (ACPS) for - 2211q19 Run 1

Tc 99 4 Ru 101 3 Ru 102 2

Peak integrals (ACPS) for - 2211q20 Run 1

Tc 99 5 Ru 101 4 Ru 102 3

Peak integrals (ACPS) for - 2211q21 Run 1

Tc 99 14 Ru 101 4 Ru 102 5

Peak integrals (ACPS) for - 2211q22 Run 1

Tc 99 10 Ru 101 3 Ru 102 4

Peak integrals (ACPS) for - 2211q23 Run 1

Tc 99 13 Ru 101 4 Ru 102 4

Peak integrals (ACPS) for - 2211q24 Run 1

Tc 99 10 Ru 101 4 Ru 102 3

Peak integrals (ACPS) for - 2211q25 Run 1

Tc 99 8 Ru 101 2 Ru 102 5

Peak integrals (ACPS) for - 2211q26 Run 1

Tc 99 8 Ru 101 4 Ru 102 3

Peak integrals (ACPS) for - 2211q27 Run 1

Tc 99 5 Ru 101 3 Ru 102 3

Peak integrals (ACPS) for - 2211q28 Run 1

Tc 99 4 Ru 101 3 Ru 102 3

Peak integrals (ACPS) for - 2211q29 Run 1

Tc 99 3 Ru 101 3 Ru 102 3

C02-082

Peak integrals (ACPS) for - 2211q30 Run 1

Tc 99	2 Ru 101	3 Ru 102	2

Peak integrals (ACPS) for - 2211q31 Run 1

Tc 99	6 Ru 101	5 Ru 102	4

C02-083

Ef Nype 2/25/92

SYSTEM CONFIGURATION PARAMETERS

Plasma Quad unit :
PQ II :Fixed torch box, Fixed Ext, Analog EDR,

Output Medium	: Printer	Integration Method	: constant area
Dump Medium	: Printer	Integration Area	: 0.80000
RAW Files in ASCII	: NO	Background Counts	: 35.0000
INT Files in ASCII	: NO	Dead Time (ns)	: 40.0000
Print Format	: NOT SELECTED	Quad Slew Factor	: 0.10000
Data Storage Drive	: E	I/O Units	: ppt
Data Base Name	: DEFAULT		
Set User Headers	: NO		
Auto Sampler Type	: Gilson 222	MCA Type	: VG MCA
Auto Sampler	: IN USE	Discriminator value:	20
Auto Shut Down	: YES	Safe Resting Mass	: 148.555
Sample Wash Time(s):	65		
Samp Uptake Time(s):	65		

Computer Type : COMPAQ 286
Printer Type In Use: Epson FX-85
Plotter Type In Use: Non Available

PULSE COUNTING SKIPPED MASS REGIONS

Low Mass	High Mass
11.500	23.500
27.500	41.500
79.500	80.500

EDR SKIPPED MASS REGIONS

Low Mass	High Mass
12.000	23.500
27.500	41.500

AUTO SAMPLER PARAMETERS

Rack Code :	22
Sample height above tube base (mm):	0
Probe depth in wash (mm) :	5

C02-084

JPB 2/4/92 1100-EM-1 SAMPLES FOR Tc-99

BNW LRB 54321 Pg 114

Element Menu 1100EM1 2 runs/sample 50ppb In as int std

ULTRASONIC NEBULIZER (marked unacceptable in PNL-ALO-280)

RSD for Mg-25 was > 7% as were iso. ratios for Mg/In + Pb/In. Both deemed acceptable due to using 1 ppb w/USN instead of 100 ppb w/pneumatic. See narrative!

2/7/92

2204g

1	DI WATER (H_2O)	31	100 ppt Tc-99
2	1 ppt Tc-99	32	92-2746
3	TAP WATER	33	92-2747
4	92-02724	34	92-2748
5	92-02744	35	DI WATER BLANK SPIKE
6	5 ppt Tc-99	36	92-2749
7	92-2725	37	92-2750
8	92-2726	38	92-2743
9	92-2727	39	92-2744
10	DI WATER BLANK SPIKE	40	92-02738
11	92-2728	41	DI WATER (H_2O)
12	92-02743 SPIKE	42	92-2751
13	92-2729	43	92-2752
14	92-2730	44	92-2745
15	92-2731	45	500 ppt Tc-99
16	92-2732		
17	10 ppt Tc-99		
18	92-2733		
19	92-2734		
Re-Turned 20	92-02747 SPIKE		
21	92-2735		
22	92-2736		
23	50 ppt Tc-99		
24	92-2737		
25	92-2738		
26	92-2739		
27	92-2740		
28	92-2741		
29	92-2742		
30	92-02727 SPIKE		

(see LRB 54526 1100-EM-1 pp 8-9)

Project No. _____ Date of Work _____

Entered By _____ Date _____

~~Disclosed To and Understood By~~ Reviewed

Signed 1. DW Kappenman Date 2/7/92

2. _____ Date _____

from PQ Software Manual
(Software issue 3.2.1b)

APPENDIX A

ALGORTHIMS USED

1 DEAD TIME CORRECTION :

Deadtime is the time taken by the multiplier to detect an incoming ion and process the resultant pulse. During this interval the system cannot respond to another incoming ion, and is therefore effectively "dead". It is obvious that this effect will become significant at high counting rates.

1.1 Contributions To Deadtime :

When an ion enters the electron multiplier a cascade of secondary electrons create a measurable pulse of around 10 nanoseconds duration. The multiplier takes a finite time to regenerate in preparation for the next ion event.

Each pulse is fed into a pre-amplifier which amplifies and discriminates the signal to give a 5volt TTL logic pulse of 50 nanoseconds duration. It follows that if two input pulses are separated by less than 50 nanoseconds it is unlikely that they will produce two distinct logic pulses.

The pre-amplifier output is feed into a multi-channel analyser in which the counting electrons have a pulse pair resolution of around 50 nanoseconds.

The combination of the above factors gives an overall pulse counting deadtime of around 100 to 150 nanoseconds in the VG PlasmaQuad.

1.2 Deadtime Correction Equation :

The software applies the following first order deadtime correction :

$$\text{True Counts} = \frac{MD}{D - Mt} \qquad [1]$$

Where :

M = Measured count.

D = Dwell time.

t = Dead time defined in the configuration file.

The correction is applied to each channel, not to the total integrated peak intensity. The integrated data files have this correction applied to them but the raw data files remain uncorrected.
From equation [1] it can be seen that an inputted deadtime of zero will result in no correction being applied to the measured count. If a deadtime of 100 nanoseconds is assumed, then the measured intensity of a true count rate of one million will be degraded by 10 percent.

C02-087

2 INTEGRATION ROUTINES :

In scanning mode on the VG PlasmaQuad the raw spectral data is acquired into the memory of a multi-channel analyser (MCA). Spectra can comprise either 512, 1024, 2048, 4096 (VG MCA only) channels and are stored by the computer as *.RAW files. The integration routines de-convolute this raw data, storing the integrated counts for each integral mass number as *.INT files. Two different approaches are employed, fixed range integration and valley integration, which can be selected in the System Configuration Utility.

The raw data is integrated using the following method :

For a given peak at mass M1 (see Fig.1 below) the channel associated with that mass is calculated from the mass calibration. The channels associated with the masses (M1-0.35) and (M1+0.35) are also calculated. When using valley integration the peak maximum is then searched for between these limits (MC).

If no maximum is found above the background defined in the configuration record then the peak limits are set to the integration range defined in the configuration record, with the peak centre being defined as that calculated from the mass calibration.

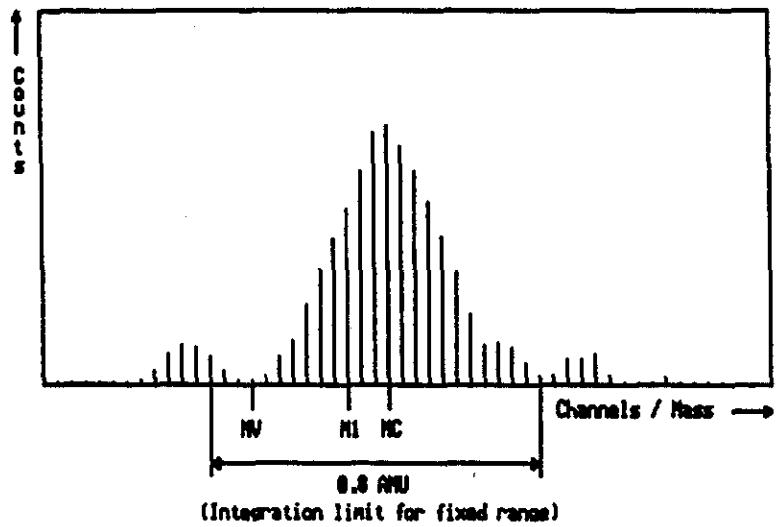

Fig. 1 To show integration ranges.

For fixed range integration the limits of the integration are determined by the number of channels occurring in the integration range (as set in the configuration record) centred around the channel calculated from the mass calibration.

$$Low\ channel = Channel\ for\ the\ mass\left(M1 - \frac{Integration\ range}{2}\right)$$

$$High\ channel = Channel\ for\ the\ mass\left(M1 + \frac{Integration\ range}{2}\right)$$

C02-088

$$\text{ACPS Factor} = \frac{\text{(DAC step per channel)}}{\text{(Dwell time per channel} \times \text{DAC step per AMU)}}$$

where

$$\text{DAC step per channel} = \frac{\text{(End DAC - Start DAC)}}{\text{(Number of Channels - 1)}}$$

$$\text{DAC Step per AMU} = \frac{65535}{300}$$

Note : This is set by the PQ controller electronics.

Thus :

$$\text{ACPS factor} = \frac{\text{(End DAC - Start DAC)}}{\text{((No Channels-1)} \times \text{Dwell Time} \times \text{DAC Step Per AMU)}}$$

C02-089

For valley integration the limits of the integration are determined by searching from the peak maximum down and up to the first minima. If no minimum is found then the limits are defined by the integration range set in the configuration record. In the case above the lower mass limit would be set to MV and the high mass limit would be the same as that set by the fixed range limit.

$$\text{Peak Integral} = \sum_{i=Lowchan}^{Highchan} (\text{Dead time corrected counts})$$

It is these values that are stored in the integrated data files.

2.1 Fixed Range Integration :

Using the mass calibration to define the centre of the peak, this routine sums all the channels over the peak width which has been selected in the System Configuration Utility. For example if the default peak width of 0.8 atomic mass units (amu) has been selected then the routine will sum the channels corresponding to m - 0.4 and m - 0.4, where m is the mass of interest.

This approach has been found useful when the doing the background subtraction of very small peaks near the ultimate detection limit for peaks of irregular shape as may occasionally be obtained using laser ablation or slurry nebulisation because of the particulate nature of the sample introduction.

Please note that an accurate mass calibration is imperative.

2.2 Valley Integration :

Using the mass calibration as a starting point, this routine searches over a range of +/- 0.35 amu for the peak maximum. The routine moves out on either side of this maximum, searching for a valley by looking for an increase in the counts. For this purpose a three point rolling average is used for peaks under 50 channels per amu wide (for example a full mass range scan) and a 5 point rolling average for peaks greater than 50 channels wide (for example a scan over a single element). The routine continues out to 0.5 amu either side of the peak maximum and ignores any false minima in this range. If no valley is detected then the integration is limited to this range of +/- 0.5 amu from the peak maximum.

If during the initial peak maximum a peak is not discovered higher than the background count rate, as specified in the System Configuration Utility, then the integration will be over a range of +/- 0.5 amu from the mass calibration peak centre. The background count rate should be set slightly higher than the random background noise of the instrument and is defaulted to 30 counts per second.

2.3 Area Counts Per Second :

In order that spectra acquired under different conditions of dwell time, number of channels and mass range may be directly compared the integrated data is calculated in Area Counts Per Second.
The ACPS factor for a given raw data file is defined as being :

C02-090

3 MULTI-ELEMENT CALCULATIONS :

The fully quantitative multi-element calculations use a standard or a series of standard solution(s) to create response curves for each element defined. These response curves are then used to calculate the concentrations of the samples from the integrated data.

3.1 Sample Counts :

For each isotope in the element menu the counts given are obtained from the integrated raw counts for that isotope. These counts are corrected for Area Counts Per Second (ACP's) and for any internal standards used.

$$\text{Sample Counts} = Counts \times ACPS\,Factor \times \frac{Original\ Int\ Std\ Counts}{Sample\ Int\ Std\ Counts}$$

Where more than one internal standard is used then a linear interpolation is performed between the two masses to obtain the correction factor for the mass of interest.

For a blank subtracted samples:

$$\text{Sample Counts} = Sample\ Counts - Blank\ Counts \qquad \text{(for each isotope)}$$

For multiple runs on a sample the mean and standard deviation are calculated for each isotope.

$$\text{Mean Counts} = \frac{\sum_{i=1}^{runs} Sample\ Counts}{Runs}$$

$$\text{Std Dev} = \sqrt{\sum_{i=1}^{runs} \frac{(Sample\ Counts - Mean\ Counts)^2}{(Runs - 1)}}$$

The estimate of error for a given standard is given as :

$$\text{Error} = \frac{Std\ Dev}{\sqrt{Runs}}$$

For a blank subtracted standard:

$$\text{Error} = \sqrt{(Blank\ Error)^2 + (Sample\ Error)^2}$$

The response counts for each of the standard samples, calculated as above, and the concentrations as defined by the relevant concentration file, are used to calculate the response curves for each isotope defined in the element menu using a Least Squares fit weighted to $\frac{1}{(Std\ Dev)^2}.(\sigma)^2$ where only one run is used, then the standard deviation is approximated to the square root of the counts for all points.

3.2 Response Graph Fitting :

This routine fits a polynomial to determine the calibration curve for counts to concentration. This can be chosen as a first or second order polynomial fit (m = 1, 2).

C02-091

$$y(x) = \sum_{i=1}^{m} c_i X^{i-1}$$

where,

c_i are the polynomial coefficients to be determined,

X is the concentration,

$y(x)$ is the expected count rate for concentration X.

A set of points are measured using solutions of known concentration :

N - number of points measured,

X_k - concentration (known) for solution k,

Y_k - measured count rate for concentration X_k,

W_k - $\frac{1}{\sigma_k^2}$ weighting factor;

a measure of accuracy of each calibration point

The weighted least squares calibration is determined by a calculation which minimises the square of the differences between the fitted model $y(x)$ and the actual measured values Y.

C02-092

The misfit, χ^2, is defined as :

$$\chi^2 = \sum_{k=1}^{N} W_k (Y_k - y(X_k))^2$$

$$= \sum_{k=1}^{N} W_k \left(Y_k - \sum_{i=1}^{m} c_i X_k^{i-1} \right)^2$$

$$= \sum_{k=1}^{N} W_k \left(Y_k^2 - 2Y_k \sum_{i=1}^{m} c_i X_k^{i-1} + \left(\sum_{i=1}^{m} c_i X_k^{i-1} \right)^2 \right)$$

This expression takes the form :

$$\chi^2 = \chi_o^2 + \underline{B} \cdot \underline{c} + \frac{1}{2} \underline{c} \cdot \underline{A} \cdot \underline{c}$$

where c_i is the coefficient of the fitted polynomial.

$$\chi_o^2 = \sum_{k=1}^{N} W_k Y_k^2$$

$$B_i = -2 \sum_{k=1}^{N} W_k Y_k X_k^{i-1}$$

$$A_{ij} = 2 \sum_{k=1}^{N} W_k Y_k^{i-1} X_k^{j-1}$$

The minimum of χ^2 may be calculated by solving the matrix problem :

$$\underline{A} \cdot \underline{c} = \underline{B}$$

formal solution

$$\underline{c} = \underline{A}^{-1} \cdot \underline{B}$$

which is done numerically using a Gauss-Jordan method for matrix inversion with partial pivoting *(Ref. NUMERICAL RECIPES (The Art of Scientific Computing), Section 2.1; Publisher : Cambridge University Press; ISBN : 0-521-30811-9).*

C02-093

Where a single internal standard is used the normalisation factor applied is given by :

$$Normalisation\ factor = \frac{I_0}{I_n}$$

where

I_0 = *integral counts for the first sample at the mass of the internal standard.*

I_n = *integral counts for sample n at the mass of the internal standard.*

Where multiple internal standards are used, the normalisation factor is given by :

1 : For masses less than the mass of the first internal standard

$$Normalisation\ factor = \frac{I_0}{I_n}$$

where

I_0 = *integral counts for the first sample at the mass of the first internal standard.*

I_n = *integral counts for sample n at the mass of the first internal standard.*

2 : For masses greater than the mass of the last internal standard

$$Normalisation\ factor = \frac{I_0}{I_n}$$

where

I_0 = *integral counts for the first sample at the mass of the last internal standard.*

I_n = *integral counts for sample n at the mass of the last internal standard.*

3 : For masses between two internal standards a linear interpolation is made between the two factors. Thus for mass x between two internal standards (at masses m1 and m2), the normalisation factor is given by :

$$Factor_{m1} = \frac{I_{0m1}}{I_{nm1}}$$

$$Factor_{m2} = \frac{I_{0m2}}{I_{nm2}}$$

$$\text{Normalisation factor}_{mx} = Factor_{m1} + (m_x - m_1) * \frac{(Factor_{m2} - Factor_{m1})}{(m_2 - m_1)}$$

5 AUTOMATIC RECALIBRATION

Where recalibration standards are included in an analysis procedure the full analysis programs check for any drift in the instrument and perform a recalibration when the drift is greater (positive or negative) than the drift limit set by the user.
The integral counts for each recalibration standard are compared to those of the first recalibration standard, and if the absolute difference is greater

C02-094

(A matrix is defined as

```
FOR i = 1 TO NumberOf Points
   Matrix[i,Cols] = Matrix[i,Cols] + (Counts * (Conc)i * (1/2Sigma))
    FOR j = 1 to i
         Matrix[i,j] = Matrix[i,j] + (2Sigma * (Conc)i  * (Conc)j
    END
END
```

and then solved.)

Having calculated the response curves for each isotope from the standards defined in the analysis procedure the sample concentrations are then calculated.

For each run of each sample and blank the sample counts are calculated as above and used to calculate the concentration from the response curve coefficients, using the Newton-Raphson method *(Ref. NUMERICAL RECIPES (The Art of Scientific Computing), Section 9.4; Publisher : Cambridge University Press; ISBN : 0-521-30811-9).* Where a sample is defined as a blank subtracted sample the mean blank concentration is then subtracted. The mean concentration, standard deviation and estimate of error are then calculated for each sample.

Where statistics have been selected the concentration results for each run for each sample are printed for all the isotopes selected.

Summary results are always printed for each sample in the run procedure. The mean for each element is calculated and for elements with more than one isotope a weighted mean is calculated. The means are weighted according to the error for each isotope as described below:

$$\text{Weighted Conc} = \sum_{i=1}^{isotopes} \frac{Mean\ Iso\ Conc}{Iso\ Error}$$

$$\text{Error} = \sum_{i=1}^{isotopes} \frac{1}{Iso\ Error}$$

$$\text{Weighted Elemental Concentration} = \frac{Weighted\ Conc}{Error}$$

4 INTERNAL STANDARD CORRECTION :

The fully quantitative multi-element calculations may use one or more internal standards to correct for instrument drift and / or matrix suppression. Where this is to be used, ALL samples (including standards and blanks) defined in the analysis procedure MUST have the internal standard(s) present at the same concentration. The actual concentration is not important however ideally the internal standard should be in the mid range of the concentrations expected. Internal standard correction is done by normalising the integral counts to the first sample defined in the procedure.

C02-095

than the %drift limit set by the user the standards and standard blanks defined in the procedure are rerun. When the multi-element calculations are performed the samples after this new set of standards will use the calibration curves calculated from the new standards.
The drift is given as :

$$\text{Total Drift} = \sum_{i=1}^{i=255} \text{ABS}(I_{0i} - I_{Ni})$$

$$\%\ \text{Drift} = \frac{\text{Total drift}}{\left(\sum_{i=1}^{i=255} I_{0i}\right)}$$

where

I_{0i} = integral at mass i of the first recalibration standard

I_{Ni} = integral at mass i of the current recalibration standard

C02-096

7 Isotope Dilution

On entering the module three tables are displayed . The top left hand side table show the structure of any analytical procedure , sample name , type, number of runs and the weight of the sample. This is shown for each sample. In the table on top right hand side the spikes are shown . A list of spikes may be present for any SAMPLE, not standards. In the table at the bottom of the screen the details of an individual spike are shown. The spike highlighted by the cursor in the second table has its details shown in the bottom table. The information shown are the isotopes available , abundances of both the natural sample and the spiked sample, the weight of the spike, ratio of isotopes of interest, Atomic weights of both the natural and spiked samples and the identification by which the spike is recalled.

Great importance is placed on the preparation for the spikes. You need to know the concentrations of the spike and the sample you intend to spike. After preparing the spike and adding it to the sample. The data you need to have is the weight of the sample ,10 grams average on a PQ for sample uptake, which you enter in the top table for each sample. Now you need to create the spike ,CREATE SPIKES(F6) then NEW SPIKES(F7) , the ratio of the spiked isotope to the unspiked isotope ,weight of the spike in nanograms, relative abundance of the isotopes in the spike. At the present time it is possible to have up to 8 spikes declared against each sample.
Now after creating each spike you can assign them to particular sample.
All the info for the spikes is already in the integrated data file of the spiked sample, and since we have just entered the spike information as described above. All the info is ready, you just need to add the spikes references to the sample which contains the (unknown + spike) and then you have set everything up. This is achieved by ALTER SPIKES(F4) and then with the new list of options use NEW SPIKE(F2) then you enter the spike identification ,its name.

After adding all the spikes START CALCS (F5). On the print out you will see that the ratio is a big number ,divide it by the value for the mass discrimination for the correct value. If you use the Isotope Ratio procedure you can check the ratio values.

The mass discrimination is used if you have standard declared in your procedure for a value to be calculated , else it defaults to 1. Which is good enough over the mass ranges used in most cases.

Below is a summary of all the commands and options available for this program:-

ADD SAMPLE

Add a sample, of type sample, blank, standard or the usual combinations, to the procedure.

DELETE SAMPLE

Delete a sample from the list of the procedure.

SELECT FIELD

This is function is used to change the field highlighted by the cursor. So the user can alter the sample name, type, number of runs or weight of the sample . Suitable prompts are used to allow the user to enter the correct type of data.

C02-097

6 MULTI-ELEMENT INTERFERENCE CORRECTION

The following equations are applied to the integrated data to correct for interferences when interference correction has been selected ON in any of the multi-element calculation modes.

Codes used to define the equations are as follows.

I82 : the original integrated data value at mass 82.

?%ArCl77 : a temporary store for the calculated intensity of ArCl at mass 77.

As75 : the new integral value for As at mass 75 to be used in the calculations.

ArCl corrections on As75 and Se77

$Se77 = I82 * \frac{7.5}{8.84}$ Se RESULT at mass 77

$?\%ArCl77 = I77 - Se77$ Intensity of ArCl at mass 77

$?\%ArCl75 = ?\%ArCl77 * \frac{75.4}{24.6}$ Intensity of ArCl at mass 75

$As75 = I75 - ?\%AsCl75$ As RESULT at mass 75

ClO corrections on V51

$Cr53 = I52 * \frac{9.5}{83.8}$ Cr RESULT at mass 53

$?\%ClO53 = I53 - Cr53$ Intensity of ClO at mass 53

$?\%ClO51 = ?ClO53 * \frac{75.4}{24.6}$ Intensity of ClO at mass 51

$V51 = I51 - ?\%ClO51$ V RESULT at mass 51

The equations are applied to the raw integrals and the new integral values calculated are subsituted into the integrate data structure which is then treated the same way as uncorrected data.
Interference correction is never applied to standards or to standard blanks. Where the same blank is used for both standards and blanks the blank is not corrected for interferences before it is subtracrted from the standards, however, it IS corrected before it is subtracted from subsequent samples.

Please note that these equations are not editable by users, however, if a different set of equations are required a file to enable these may be obtained on request to VG Elemental.

C02-098

ALTER SPIKES

This function is basically how the user assigns the spikes to a sample, or removes them or make changes specifically to a spike for that sample. This gives the options of :-

CHANGE SPIKES

Allows modifications to the spike for that particular sample . This has the following function keys options :-

CHANGE ABUND

Alter the abundance highlighted by the cursor, either natural or spiked.

CHANGE WEIGHT

Alter the weight of the spike used.

CHANGE RATIO

Alter the ratio reference/tracer, by selecting the isotopes required.

NAT AT WGT

Alter the atomic weight of the naturally occurring element.

SPIKE AT WGT

Alter the atomic weight of the spike.

CHANGE IDENT

Alter the identification of the spike.

NEW SPIKE

Add a spike reference to be against a sample.

DELETE SPIKE

Delete a spike reference from a sample.

START CALCS

Start the calculations for the samples with spike defined against them.

CREATE SPIKES

Here is where the info for the spikes is held and added, the following options are used :-

CHANGE ABUND

Alter the abundance highlighted by the cursor , either natural or spiked.

C02-099

CHANGE WEIGHT

For weight of the spike.

CHANGE RATIO

Enter the information for the reference and tracer isotopes.

NAT AT WGT

Alter the atomic weight of the naturally occurring element.

SPIKE AT WGT

Alter the atomic weight of the spike.

CHANGE IDENT

Alter the identification of the spike.

NEW SPIKE

Add a new spike to the list of spikes. This will prompt the user for the element to be spiked , weight of the spike and the ratio to be used. Then the user can use the function keys to alter the necessary data.

GET SPIKE

Retrieve a spike which has already be defined to be edited on .

SAVE SPIKE

Save a spike under an identifying name.

DELETE SPIKE

As it says delete a spike from the list of spikes held.

GET PROC

Fetch a procedure from the list of analytical procedures available.

SAVE PROC

Save a procedure, as an isotope dilution procedure. Note this procedure cannot then be editted as a multi-element procedure.

LIST PROC

List a procedure, this will show the spikes as defined for each sample.

C02-100

The equation used to calculate the results for an isotope dilution experiment is :

isotopdil

$$Concentration = K.W_{sp}\frac{(A_{sp} - B_{sp}R)}{(W_s(B_sR - A_s))}$$

Concentration is given in nanograms per gram , then altered to appear as PPB or PPT

K = ratio of the natural atomic weight to the atomic weight of the spike

W_{sp} *- weight of spike in nanograms*

$A_{sp}B_{sp}$ *- abundance of isotopes A and B found in the spike*

R- measured altered ratio of isotopes A and B

W_s *- weight of sample in grams*

A_sB_s *- abundance of isotopes A and B found in the sample*

C02-101

2204q11
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199214:54:34

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

ICP/MS
Mass Spectra for
2204q1 through 45

2/25/92

```
     0      0
     0      0
     0      0
     0      0
     0      0
    16 160.000000  1000

Pulse counting values
 20 24 10 5 2 1 0 1
 3 4 12 4 6 7 6 8
 8 2 0 0 0 1 1 3
 4 9 5 5 10 6 3 0
 1 1 0 0 14 28 28 35
 49 43 34 33 10 0 1 1
 1 0 9 20 23 36 37 45
 23 11 6 0 0 0 0 5
 33 41 87 78 100 57 71 42
 2 0 0 1 0 4 24 54
 43 70 72 58 47 21 2 0
 0 1 3 87 338 435 546 653
 556 498 342 106 3 1 1 0
 1 8 11 18 25 21 21 20
 9 5 0 0 0 0 4 23
 65 69 99 100 71 71 37 6
 0 0 0 0 2 14 14 10
 22 19 15 17 7 0 0 0
 0 3 11 18 47 68 64 65
 49 43 16 0 0 1 0 0
 0 0 1 0 2 1 1 0
 1 0 0 0 1 2 25 36
 46 53 67 55 35 26 2 0
 1 0 0 4 26 31 43 51
 33 31 26 12 2 0 1 2
 1 8 34 31 32 54 58 57
 30 9 0 0 0 1 0 6
 14 15 17 27 17 20 18 4
 0 0 0 0 5 18 43 53
 72 79 63 45 31 5 0 0
 0 0 0 0 3 1 4 6
 10 5 2 0 0 1 0 0
 6 17 23 35 26 48 39 27
 6 0 0 0 0 2 0 0
 0 1 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 4 3 2 0 3 0
 0 1 314 3699 11897 16213 20658 22272
 19342 16134 7415 966 15 0 0 0
 0 3 4 9 12 11 6 9
```

[illegible] 162273
317662 426770 520699 503118 426867 280746 72230 4302
11 2 0 1 1 6 8 9
8 8 10 2 1 1 0 0
1 1 0 2 3 0 4 1
4 1 0 1 1 0 0 0
2 5 4 11 10 3 5 1
2204q12
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199214:56:21

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

C02–104

```
      0      0
      0      0
      0      0
     16 160.000000  1000

Pulse counting values
 15 30 17 3 0 1 0 0
 0 4 6 8 8 7 8 7
 7 0 1 0 0 0 0 2
 7 7 6 7 5 8 4 0
 2 0 1 1 13 31 30 43
 39 44 33 40 11 0 2 0
 1 1 2 9 4 9 14 8
 9 8 1 0 0 0 0 1
 12 31 37 29 47 34 34 20
 6 0 0 0 0 5 5 20
 13 28 26 15 8 5 4 0
 1 2 2 33 121 180 212 252
 217 177 164 34 1 1 0 0
 1 2 1 2 0 4 5 1
 1 0 2 0 0 0 3 30
 60 79 76 99 94 78 43 9
 1 0 0 0 1 5 16 13
 16 30 17 14 3 0 0 0
 0 1 8 39 62 62 82 72
 71 47 11 0 0 1 3 1
 0 0 0 2 1 2 0 2
 0 0 0 1 0 3 27 35
 41 66 57 53 38 10 1 0
 0 0 0 8 21 40 33 39
 57 42 28 23 1 1 0 0
 0 5 20 33 59 82 65 57
 31 5 1 0 1 2 2 12
 20 20 39 51 35 28 13 4
 1 1 2 1 10 25 52 65
 84 92 85 66 27 4 0 0
 0 0 2 2 4 4 2 5
 2 0 0 0 0 0 1 0
 3 18 30 37 37 50 32 20
 7 0 0 0 0 2 1 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 2 2 3 0 1 1
 2 2 257 3316 11476 16211 20145 22169
 19416 16269 7500 974 12 1 0 0
 0 3 0 4 1 5 3 2
 0 0 1 1 7 231 25674 154258
 309607 419953 514683 500106 423198 283047 74314 4435
```

```
 14 0 1 1 0 3 3 6
 8 6 3 0 1 0 0 0
 0 0 0 3 2 3 3 2
 5 1 0 2 0 0 1 0
 6 2 8 10 11 7 6 4
2204q21
Acquired in Scan mode
Detector Mode Pulse
   1
 4 February 199215:00:02

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

C02-106

```
    0     0
   16 160.000000  1000

Pulse counting values
 20 18 19 1 0 0 0 1
 0 6 4 5 8 7 7 13
 6 0 0 0 0 1 0 0
 12 1 8 6 6 6 2 2
 1 1 0 1 9 19 29 35
 49 36 36 44 4 0 2 0
 1 0 3 8 29 22 30 25
 26 13 8 0 0 0 1 2
 16 35 55 53 49 48 41 21
 1 0 0 0 1 2 13 26
 25 47 34 36 27 11 0 2
 0 0 1 43 164 220 288 334
 305 268 166 63 3 0 0 1
 0 6 16 21 31 35 29 21
 22 4 0 0 0 1 1 29
 50 63 105 137 78 69 34 7
 0 1 0 0 2 6 21 18
 27 20 23 13 10 0 0 0
 0 0 3 28 41 58 67 47
 63 30 14 0 0 0 0 1
 1 0 2 0 0 1 1 0
 0 0 1 0 1 3 15 32
 26 46 51 37 33 19 2 0
 1 0 0 5 6 14 25 36
 28 25 24 6 0 0 1 1
 1 7 21 26 33 37 41 43
 15 4 0 0 1 1 1 2
 11 18 18 17 19 19 9 2
 0 1 1 1 4 21 31 35
 37 40 50 35 8 1 0 0
 0 2 1 3 7 7 7 11
 8 3 1 0 0 2 0 0
 0 11 19 18 21 27 22 21
 3 0 0 0 0 0 0 0
 0 0 2 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 1 0 0 0 1 0
 1 0 179 3149 11051 15699 19730 21664
 19103 15559 7556 942 17 1 2 0
 0 0 5 3 4 2 7 6
 2 0 0 1 5 210 22687 143279
 296140 407701 499280 486513 410482 275275 72882 4438
 20 1 0 0 0 2 2 3
 3 7 5 5 0 1 0 1
```

C02-107

0 0 1 0 5 0 2 3
4 1 6 0 1 0 0 2
2 1 8 7 18 3 4 2
2204q12
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199215:01:50

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

C02-108

Pulse counting values

13 16 12 4 0 0 0 1
1 4 0 6 12 9 10 9
2 3 1 0 0 0 0 4
5 5 12 7 7 6 1 1
0 1 1 1 8 24 35 28
58 42 28 29 5 0 0 1
0 1 2 6 16 9 19 12
7 9 1 0 1 1 0 2
7 21 24 26 26 24 29 19
1 2 1 0 0 0 3 12
8 18 17 16 7 6 1 0
0 0 1 21 77 110 132 151
162 110 85 27 0 0 1 1
0 1 1 0 11 7 4 9
3 1 2 0 0 0 4 31
60 69 91 100 106 87 25 2
0 2 1 0 2 3 11 22
24 30 15 13 5 1 0 1
0 0 9 25 39 48 62 44
45 36 8 2 0 0 0 0
1 1 0 0 1 0 1 0
1 0 1 0 1 2 14 24
37 56 50 36 35 15 1 1
1 1 2 2 11 16 13 32
26 20 33 11 0 0 1 0
0 2 10 19 25 32 37 23
22 3 1 1 0 1 3 1
9 13 20 13 19 12 4 2
0 0 0 0 2 11 23 33
47 45 39 23 8 4 1 2
0 1 3 6 5 8 13 11
5 9 4 0 0 0 1 0
5 4 17 23 22 34 24 14
2 0 0 0 0 0 1 1
0 1 1 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 3 1 1 1 0 0
0 1 153 2978 11097 15926 19995 22002
19489 15992 7589 966 16 0 0 0
0 0 0 2 3 2 4 1
2 0 2 1 3 233 21304 141566
301667 414286 508135 499680 424055 287219 76422 4567
13 1 2 0 2 3 7 2
5 4 8 0 1 0 0 0
1 0 0 0 2 2 3 3
2 1 0 1 1 0 0 0

2204q11
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199215:05:32

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
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0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

C02-110

Base Scaling Values
70 69 37 7 1 1 1 1
0 1 8 10 3 13 12 8
4 0 1 0 0 0 1 1
2 4 9 8 6 2 1 2
1 0 0 15 343 932 1322 1720
1831 1819 1604 1225 348 15 1 1
1 51 399 972 1476 1628 1976 1713
1485 1010 248 4 0 0 7 1860
10626 21589 28173 33607 36071 31157 26496 14277
2063 18 0 4 50 2249 10149 17541
21897 25763 26379 22631 18025 7485 571 0
2 10 2382 46185 155232 216376 267390 317341
298883 251059 183166 53705 1430 4 2 2
1 11 22 40 48 52 44 45
23 11 2 0 0 0 3 33
55 105 102 100 105 87 50 9
0 0 0 0 2 8 14 23
29 22 23 20 7 0 0 1
0 4 38 169 231 307 309 311
254 171 60 5 0 0 0 0
0 0 0 4 0 0 1 0
0 1 0 0 0 10 66 144
185 219 232 202 171 58 6 0
1 0 1 29 125 217 220 307
323 262 189 87 2 0 0 0
3 43 159 240 325 362 328 283
184 36 5 1 0 0 3 31
101 162 181 229 210 184 92 18
1 1 0 0 29 148 300 447
504 520 431 356 185 16 1 1
0 1 1 3 5 4 4 7
6 1 2 0 3 1 2 1
30 106 145 160 246 207 170 129
28 1 0 0 2 0 0 0
0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 300 322 138 15 1 0
1 2 162 2104 7516 10769 13177 14893
12762 10788 4982 627 13 0 1 0
13 134 373 430 525 596 460 347
145 13 1 0 5 154 16961 100820
198402 268736 329819 318285 270471 183312 49270 2911
12 0 0 1 17 54 114 123
175 148 125 85 11 1 2 0
0 2 1 2 2 3 5 4
3 1 1 0 1 0 2 0
3 12 11 12 22 10 13 0
2204q32

Detector Mode Pulse
2
4 February 19:21:07:20

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
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0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
98 98 42 10 0 1 0 0

C02-112

4 0 1 0 2 0 0 2
4 4 4 11 3 2 0 2
0 1 0 16 359 927 1495 1756
2119 1960 1757 1308 378 19 0 0
1 45 404 997 1414 1711 1995 1884
1553 999 267 5 1 2 3 1766
10626 22576 29478 35315 38381 32644 27842 15313
2359 16 1 1 36 2195 10798 18252
22965 27529 28319 23805 19186 8165 629 3
1 12 1900 45387 161637 227848 282747 333270
317165 267310 196574 59108 1634 2 0 0
1 2 6 16 28 17 23 22
15 2 0 0 0 0 4 30
49 72 87 92 80 70 44 7
0 2 1 0 1 7 21 14
29 20 15 21 10 0 0 2
0 1 40 161 235 240 328 300
245 189 64 1 0 0 2 1
0 0 0 0 2 0 2 1
0 1 0 1 0 6 75 120
174 222 227 214 171 73 7 1
0 0 1 33 134 212 262 340
316 284 221 76 4 0 0 1
6 37 164 238 340 393 369 269
200 47 2 1 1 1 4 36
103 157 191 219 194 161 86 21
0 1 1 1 32 108 328 421
559 546 484 385 168 15 1 0
0 2 4 2 8 2 7 4
2 2 1 1 0 0 0 2
27 92 156 198 231 216 189 134
37 0 0 0 0 1 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 354 328 159 27 3 1
1 1 131 1968 7301 10835 13255 14676
12754 10824 5116 702 16 0 0 0
9 126 315 451 524 558 516 392
141 13 0 1 6 95 14913 96044
197433 266942 327168 321148 270379 184896 50813 3040
10 1 0 3 18 51 117 131
188 161 112 76 16 3 0 0
0 0 1 2 2 2 4 4
3 2 1 0 1 0 0 0
3 7 8 11 10 15 10 5
2204q41
Acquired in Scan mode
Detector Mode Pulse

4 February 199215:11:02

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
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0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
299 290 167 37 0 0 1 1
1 3 10 15 21 22 17 16
9 6 1 1 1 0 1 1

1 3 3 3 4 2 2 1 [illegible]
3 0 0 32 854 2165 3090 3808
4467 4133 3442 2743 776 45 2 0
1 46 528 1250 1758 2108 2462 2158
1822 1237 325 6 0 0 14 4132
24085 49043 64029 77392 82227 71234 60930 32778
5016 28 0 2 105 5209 22936 39120
49853 59296 59814 50889 40388 17234 1425 2
1 18 5308 103746 354022 506991 631238 739091
695740 588142 431836 129121 3276 0 1 1
2 4 33 35 47 49 39 30
21 4 1 0 0 1 1 19
38 44 79 55 45 52 22 3
0 1 0 0 0 11 15 14
14 20 11 10 5 1 0 0
0 2 119 471 665 847 1012 994
794 574 183 1 0 3 1 0
2 0 0 4 0 4 1 0
0 0 0 1 0 24 220 411
535 657 659 607 471 212 21 0
0 0 1 111 465 679 954 1155
1136 943 761 220 7 1 0 1
9 149 546 841 1113 1257 1166 988
690 155 4 0 0 0 15 140
389 547 643 773 713 520 286 65
0 0 0 0 109 496 1114 1437
1798 1922 1632 1353 569 61 0 0
1 0 1 0 5 0 3 6
2 3 1 0 0 0 1 5
93 335 515 686 807 784 612 507
104 7 0 0 1 0 1 1
0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 5 3 3 1 0 0
0 2 103 1534 5354 7426 9402 10301
9080 7594 3642 477 11 0 0 0
0 0 2 1 5 5 5 6
3 0 1 0 2 129 11751 71841
143910 192968 234655 226983 191366 130474 35939 2143
5 2 0 1 0 2 6 8
6 6 5 3 0 0 1 0
0 0 0 1 2 8 2 0
2 0 1 1 0 2 0 0
0 4 6 6 12 4 2 5
2204q42
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199215:12:48

```
Mass Cal
 0.0000000000
 0.0000000000
 0.0000000001
 0.0045471273
 -0.2581729325

X cal
234.375000
 0.00000000
 0.00386757
 -0.20534102
 215.635348

 81.00 118.1
  3
  512
 28016
  17866 26042

  22250 24682
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0

      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
     16 160.000000  1000

Pulse counting values
 524 483 301 69 2 0 1 0
 1 15 8 19 15 18 32 22
 16 1 0 1 0 0 1 3
 3 6 5 4 6 2 5 2
 3 0 0 36 820 2047 3109 3838
```

2 65 490 1270 1842 2034 2469 2177
1902 1233 339 3 0 1 21 4226
23972 48343 64607 76934 82364 69561 59786 32860
5007 35 1 2 85 5071 22846 39358
48914 59026 59856 50520 40154 17164 1419 3
6 17 5213 105097 353891 505927 629584 738200
690805 582688 428644 129495 3740 5 1 1
1 6 25 39 42 34 46 33
25 2 1 0 0 1 2 16
37 58 59 62 53 37 20 2
2 0 0 1 3 3 10 14
15 11 8 10 4 0 0 0
0 4 133 463 695 868 1016 936
815 603 182 6 1 0 0 0
2 1 1 1 3 1 1 3
0 0 0 0 0 35 188 457
538 659 662 603 429 236 18 0
0 1 1 105 486 782 914 1147
1212 1001 716 241 15 0 0 0
8 149 634 896 1148 1273 1164 1002
725 170 7 2 1 1 13 141
371 562 645 799 658 542 306 57
2 3 0 1 118 488 1075 1503
1818 1905 1722 1390 581 72 1 1
1 0 0 3 3 5 7 5
6 6 1 1 0 0 1 4
92 337 577 642 831 745 635 422
119 5 1 0 0 1 0 0
1 0 3 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 2 1 0 0 1
0 3 103 1462 5246 7733 9432 10474
8962 7560 3656 511 8 1 0 0
1 4 3 2 6 11 1 12
0 0 0 3 3 116 11767 71346
144550 192880 233913 224487 189455 129443 36369 2221
10 0 0 0 0 1 3 5
6 4 8 4 0 0 1 0
0 0 1 4 2 4 1 1
1 1 1 0 0 1 1 0
1 0 5 8 7 5 2 0
2204q51
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199215:16:30

Mass Cal

C02-117

```
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 548 517 309 54 0 1 0 1
 1 5 10 10 19 13 9 4
 9 1 0 1 0 0 1 0
 6 3 4 6 3 3 1 0
 0 0 1 69 1114 2852 4194 5041
 5845 5409 4411 3490 1056 54 0 0
 0 60 482 1186 1736 1999 2283 2059
```

[illegible]
32386 65418 85535 102270 107842 90207 77218 42079
6478 47 0 3 195 6979 30980 52055
65346 77684 78517 65261 51529 21788 1854 7
3 47 7575 144335 473627 675340 838787 972846
901227 759652 555441 165794 4495 6 0 2
5 50 115 179 195 247 182 160
102 34 0 0 0 0 6 44
82 91 111 110 106 103 47 5
1 0 0 2 3 13 17 28
29 37 26 20 8 0 0 0
1 6 85 343 541 642 817 706
580 405 138 6 1 0 0 0
6 5 19 14 14 14 6 6
2 0 0 1 0 22 158 332
424 505 489 431 287 152 21 1
0 1 2 69 369 600 703 838
800 669 545 173 6 0 0 0
12 152 430 628 812 892 818 706
460 114 4 0 1 0 6 89
277 389 488 530 458 365 228 27
1 0 1 1 104 403 835 1145
1322 1287 1151 994 376 44 1 0
1 0 2 5 14 17 19 23
21 16 3 0 0 1 1 1
56 241 411 539 546 528 464 281
85 1 0 0 0 1 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 0 0 0 0 0
0 0 10 12 3 3 0 0
0 3 110 1423 4890 6741 8477 9597
7847 6356 3074 444 12 0 0 1
1 3 7 9 9 12 10 8
2 0 2 2 2 148 11648 66455
131349 174427 208888 199783 166842 113699 31375 1961
6 0 0 2 13 52 112 105
106 106 98 43 9 0 0 0
0 3 14 42 52 64 70 40
46 22 4 0 0 0 0 10
39 125 182 211 182 166 145 44
2204q52
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199215:18:16

Mass Cal
0.0000000000
0.0000000000

C02-119

```
0.0000000001
0.0045471273
-0.2581729325

x cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 694 659 408 84 0 1 0 0
 2 3 16 13 19 12 11 7
 5 3 0 0 0 0 0 2
 1 7 2 4 3 1 0 0
 0 0 0 55 1092 2729 4182 4946
 5878 5556 4560 3368 1065 45 0 0
 0 68 479 1173 1642 2003 2266 1920
 1611 1141 265 6 0 1 32 5731
 31783 65439 85957 102236 108614 90552 76754 42513
```

66233 78057 77698 64927 51552 22406 1847 8
7 36 7211 142754 475783 683678 848851 980883
906745 762300 557689 168903 4658 6 2 0
6 41 116 192 193 206 204 174
97 19 0 0 1 0 8 29
62 100 109 110 77 79 29 4
0 0 0 1 5 6 15 20
21 35 12 12 4 0 0 1
0 6 97 347 537 651 784 716
588 439 134 8 0 1 0 0
4 15 12 22 24 13 20 8
4 1 1 0 0 17 151 349
398 498 517 408 371 157 15 1
2 1 2 79 353 541 728 894
819 715 494 187 9 0 0 0
9 128 411 642 834 934 860 793
516 111 7 0 0 0 9 98
282 365 472 538 465 385 250 38
2 0 1 0 82 404 803 1082
1337 1377 1092 1003 404 46 2 0
0 1 2 5 18 13 24 18
22 15 9 0 0 0 0 4
63 249 403 495 655 530 485 311
84 1 0 0 2 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 10 8 3 2 0 0
0 1 82 1050 3580 5148 6279 6829
5848 4877 2503 305 5 1 0 0
0 0 3 8 17 8 7 4
2 0 0 0 1 92 8161 47705
97909 130200 154882 147001 122585 84883 24089 1517
3 1 1 1 16 68 94 107
142 93 100 57 7 1 1 0
1 0 13 44 56 54 57 58
53 14 1 0 0 0 1 5
41 119 163 219 217 190 137 63
2204q61
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199215:21:57

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273

C02-121

-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
378 321 188 37 0 2 0 0
1 3 5 4 7 6 5 6
5 0 0 0 1 1 1 2
6 7 6 13 4 7 3 1
0 0 0 0 12 22 53 61
68 72 73 40 11 1 0 1
0 1 3 39 39 37 42 36
37 21 5 2 0 0 0 24
162 350 401 479 524 426 376 200
26 0 1 0 0 37 128 265
306 335 418 296 214 107 15 1

3996 3376 2432 718 14 0 0 0
0 2 16 26 20 24 27 19
18 3 2 1 0 0 4 22
51 70 87 77 64 55 28 3
0 2 0 1 3 7 14 21
15 17 9 19 10 1 0 0
1 1 5 22 31 28 47 40
33 33 6 2 0 1 0 0
0 1 0 2 2 0 4 1
0 0 0 0 1 5 17 27
31 44 39 35 38 17 1 0
1 1 0 2 19 15 26 18
24 24 17 4 1 0 0 1
0 3 11 17 27 39 36 30
19 6 1 0 0 0 0 5
7 13 10 15 11 8 6 1
0 0 0 1 1 10 19 28
39 49 36 29 12 0 0 0
0 0 1 16 30 44 35 32
32 19 15 1 0 0 1 0
3 7 13 19 20 23 14 12
2 0 1 0 0 1 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 1 3 1 0 2
1 1 207 3077 10902 15585 18941 20674
17503 14211 6919 994 24 1 1 0
0 1 2 2 4 7 1 4
1 0 0 1 6 234 22769 141318
294932 398681 483758 456217 374055 252599 69548 4784
17 0 2 0 2 0 5 11
3 3 7 2 0 0 0 0
0 0 1 3 2 5 0 3
4 3 0 0 0 1 1 0
2 6 9 13 7 7 4 5
2204q62
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199215:23:44

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

```
x cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 257 254 128 36 1 0 1 0
 0 4 9 5 10 7 7 6
 5 1 0 1 1 0 0 3
 3 5 10 9 7 7 2 1
 2 0 0 1 11 32 49 63
 67 72 50 34 9 2 1 0
 0 0 5 9 17 43 39 35
 21 16 4 2 2 0 1 28
 126 327 446 591 549 462 384 201
 28 1 0 0 0 44 147 274
 355 374 385 320 269 112 4 0
 0 0 24 565 2392 3275 4158 4761
 4367 3645 2521 771 25 0 3 0
```

17 0 1 0 0 0 1 16
50 63 81 73 63 44 27 4
0 0 0 0 2 4 10 11
17 10 15 10 8 1 0 3
0 0 7 24 30 38 52 48
45 32 6 1 0 1 0 0
0 0 0 0 2 0 0 1
0 0 0 0 0 1 8 26
37 61 49 41 31 17 3 2
0 1 0 5 11 15 36 22
36 23 22 6 0 1 0 0
1 5 23 36 38 56 31 37
21 1 1 0 1 1 0 2
9 15 17 13 16 12 9 0
2 0 1 1 3 9 21 45
34 49 56 39 21 0 0 0
0 0 3 11 23 36 34 36
21 27 7 0 1 2 0 0
4 7 19 23 30 25 21 12
3 1 0 0 0 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0
0 0 180 2697 9843 14314 17537 19165
16305 13452 6390 956 20 0 0 0
2 1 5 3 2 5 3 1
3 1 3 0 4 159 19636 126855
266985 367221 446045 425830 349363 236089 64880 4472
23 1 0 1 0 7 9 1
5 1 4 2 0 2 1 0
0 0 0 3 1 2 2 5
1 0 0 0 0 1 0 1
0 5 6 4 7 3 7 4
2204q71
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199215:27:25

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000

```
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 209 218 131 36 0 0 0 0
 0 6 3 2 3 7 2 4
 1 0 1 0 1 0 0 2
 0 3 6 5 2 1 0 1
 0 0 0 25 438 1094 1725 2007
 2334 2090 1829 1415 371 18 1 0
 0 99 1013 2411 3426 4155 4830 3943
 3408 2220 497 11 0 0 7 2340
 13044 26353 33898 40621 43473 35854 30144 16140
 2415 23 0 0 60 2867 13012 21896
 27193 32620 32737 26840 21178 8626 630 2
 3 18 2828 56901 191493 265923 327249 385888
 355578 292521 210692 60568 1577 2 0 1
 0 7 15 24 24 30 28 22
 16 4 0 0 0 1 4 17
```

C02-126

0 0 0 2 2 2 12 13
18 27 12 15 4 1 0 0
1 10 186 777 1194 1353 1609 1545
1253 954 277 15 1 0 0 0
1 2 0 5 1 2 0 0
0 0 0 0 1 54 352 667
871 1008 1083 956 726 305 26 0
0 2 2 153 849 1195 1623 1832
1847 1563 1141 421 13 0 0 0
13 292 906 1459 1793 1917 1776 1586
1064 289 10 0 0 0 18 234
625 911 1083 1193 1023 941 512 91
1 1 1 3 210 857 1735 2435
2976 3133 2598 2192 848 74 3 0
0 0 1 4 4 4 2 5
2 2 0 0 0 0 0 9
132 541 876 1080 1297 1178 1068 712
216 11 0 0 0 1 0 0
0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 7 3 1 2 1 0
0 1 117 1582 5423 7667 9567 10615
8989 7301 3439 443 5 1 0 0
4 3 11 16 14 6 10 4
4 0 1 0 5 124 12408 75053
148494 196155 238016 226645 189474 127862 34593 2064
12 0 0 1 2 2 5 4
7 2 4 3 0 0 0 1
0 0 1 4 3 0 2 2
6 0 0 0 1 1 1 0
5 3 7 8 3 7 3 1
2204q72
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199215:29:12

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757

C02-127

```
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 230 220 139 32 0 1 0 0
 0 2 1 2 7 7 4 4
 1 0 0 2 1 0 2 1
 5 2 1 0 2 3 0 0
 1 0 1 21 493 1142 1720 2083
 2400 2204 1825 1379 415 16 0 1
 1 108 971 2484 3450 4170 4805 4183
 3557 2219 515 9 1 0 10 2291
 13325 26957 35303 42177 45107 37062 31406 16973
 2489 17 0 0 63 2929 13442 22503
 28036 33971 33785 27446 21747 8966 699 1
 2 17 2919 57328 195844 274019 339258 399459
 368192 303518 220333 63541 1630 3 0 0
 1 5 18 24 23 29 22 23
 13 4 0 0 0 1 1 16
 32 45 53 69 59 36 24 2
 1 0 0 0 1 5 8 10
```

22 10 7 17 1 1 214
1 10 201 822 1122 1375 1628 1543
1312 952 290 14 1 2 0 0
0 0 0 0 1 1 2 1
1 1 0 0 0 53 309 713
837 1059 1129 920 696 331 34 0
0 0 2 168 795 1267 1594 1883
1833 1551 1176 385 15 0 0 0
10 283 958 1451 1881 2085 1829 1658
1134 284 11 0 0 0 17 218
632 876 1105 1201 1150 951 515 91
1 0 0 1 188 872 1881 2442
3019 3256 2814 2154 884 96 1 2
1 1 0 2 2 7 5 7
5 1 5 1 0 1 0 4
120 575 969 1127 1380 1196 1010 733
189 8 2 0 2 0 0 0
1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 3 4 3 0 1 2
0 0 97 1802 5803 8178 10037 11009
9391 7875 3607 532 11 1 0 0
0 3 6 14 12 18 13 9
2 0 1 1 3 105 12222 76995
153980 205415 250050 236884 197681 133545 36175 2158
7 0 1 1 1 8 5 8
8 5 3 3 0 2 0 0
1 2 0 0 2 1 4 4
1 1 0 1 0 0 0 0
5 2 3 11 8 5 4 3
2204q81
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199215:32:53

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

C02-129

```
81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000
```

Pulse counting values

```
 542 490 317 54 0 0 0 1
 3 9 26 26 27 34 29 22
 14 2 0 1 0 0 0 0
 2 4 0 3 0 4 0 0
 1 0 0 28 601 1587 2201 2657
 3179 2928 2399 1802 563 23 0 0
 0 20 220 514 738 873 943 873
 740 468 119 4 0 0 8 3120
 17550 35229 46178 55660 59280 49328 41773 22363
 3349 24 0 0 94 3690 16709 28220
 35661 42973 42305 35010 27594 11387 917 1
 0 13 3705 77600 259763 365196 452859 532357
 490126 404824 293232 83381 2101 2 0 0
 3 14 42 46 52 52 54 40
 27 9 0 1 0 0 4 16
 34 43 55 45 40 31 23 1
 0 1 0 2 3 5 10 15
 12 10 11 8 2 0 0 0
 0 4 142 528 805 1077 1253 1144
```

```
707 880 232 0 0 0 0 1
1 2 4 0 2 1 1 0
2 0 1 1 0 49 250 488
622 767 779 644 530 260 11 0
0 0 0 122 565 871 1125 1444
1334 1133 874 288 12 0 2 0
9 202 657 1056 1349 1542 1342 1209
803 185 4 0 0 0 17 176
455 654 747 894 763 673 330 57
1 0 0 1 136 640 1369 1829
2154 2323 2036 1570 649 70 1 0
0 0 1 3 3 4 2 8
5 3 1 0 0 0 0 5
91 412 667 887 943 918 759 480
130 11 0 0 1 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 3 1 1 0 0
0 1 108 1392 4431 6522 7974 8850
7503 6047 2952 414 7 0 0 0
0 1 0 3 1 4 3 5
3 0 0 1 3 81 9992 62646
123502 163271 198676 188752 155670 105667 28719 1739
8 0 0 0 0 1 6 3
5 2 4 1 0 1 0 0
0 1 2 0 1 4 2 1
1 1 1 0 0 0 1 1
3 6 5 5 4 6 3 1
2204482
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199215:34:42

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
```

C02-131

```
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 1148 1009 652 139 2 0 1 1
 3 11 21 32 30 38 29 28
 13 2 0 0 0 0 0 0
 2 3 3 0 1 1 1 0
 0 0 0 32 604 1545 2295 2927
 3354 3096 2488 1997 560 26 0 0
 0 21 238 583 699 915 992 941
 784 491 125 2 0 1 15 3248
 18290 37712 49952 58943 62560 52723 44429 23670
 3573 32 0 0 93 3885 17553 30088
 38336 45105 45531 37451 29574 12283 950 1
 6 18 4026 81179 272074 387002 485260 565373
 523825 433471 313612 89984 2386 3 2 1
 2 11 35 47 75 69 54 50
 32 8 1 1 0 0 2 13
 19 35 53 37 42 39 19 0
 0 0 0 0 0 3 8 9
 10 9 9 3 2 2 0 0
 0 7 144 574 903 1032 1301 1229
 1015 766 264 11 1 0 0 0
 0 1 2 0 2 1 1 0
```

```
1 0 0 0 1 20 245[illegible]
628 854 858 730 556 262 25 0
0 0 1 125 629 986 1256 1436
1399 1257 1027 289 16 0 0 0
7 237 716 1129 1405 1586 1466 1263
839 197 8 0 1 0 12 182
502 699 834 941 854 673 380 63
1 0 0 1 150 634 1423 2007
2383 2435 2111 1761 652 82 1 0
0 0 3 0 2 2 7 10
5 2 0 0 0 0 0 2
93 419 715 905 1122 900 831 573
147 6 0 0 0 0 0 0
0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 4 2 1 0 0 0
2 0 84 1318 4735 6773 8316 9165
7761 6511 3008 434 12 0 2 0
0 1 2 4 3 2 1 2
0 0 0 1 3 97 10025 62849
128448 170926 205183 195891 162008 109925 29889 1864
4 0 1 0 1 3 5 2
6 6 2 1 0 2 0 0
0 0 1 0 1 2 4 1
1 1 0 0 0 1 1 0
0 2 8 3 3 6 5 0
2204q91
Acquired in Scan mode
Detector Mode Pulse
   1
 4 February 199215:38:23

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
```

C02-133

```
17866 26042

22250 24682
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0

    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
   16 160.000000  1000

Pulse counting values
 1031 995 608 106 0 1 0 0
 0 4 23 11 19 30 17 4
 11 0-1 1 0 0 0 3
 1 5 3 1 6 6 2 1
 0 1 0 43 690 1780 2630 3251
 3744 3440 2873 2124 634 33 0 0
 0 55 429 999 1391 1622 1909 1605
 1416 917 207 6 0 1 15 3910
 21289 41700 55506 65797 69339 57925 49346 25910
 3776 25 1 0 110 4758 19875 33896
 42901 50656 50325 41936 32767 13187 1069 3
 4 28 5532 95564 307972 434442 540295 632594
 580944 481049 345351 96977 2470 1 0 0
 2 18 40 66 75 80 64 61
 35 4 1 1 0 1 2 18
 18 28 40 40 33 22 12 3
 0 0 0 0 1 2 2 12
 8 5 6 8 4 0 1 0
 1 4 80 324 539 637 754 732
 598 463 146 4 0 0 0 0
 0 0 0 3 2 2 1 1
 1 0 0 0 1 23 156 294
 417 480 512 414 343 141 16 0
```

```
0 1 4 75 350 515 699 815
810 717 532 182 9 1 0 1
6 110 459 620 813 892 811 752
495 129 6 0 0 1 12 112
264 353 484 548 506 421 237 40
0 0 2 1 77 384 736 1006
1371 1447 1176 964 426 48 0 0
0 1 3 3 13 14 11 15
9 14 3 0 0 0 0 2
62 270 399 516 593 528 473 328
85 5 0 0 0 0 0 0
0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 4 1 0 0 0 0
1 0 89 1266 4106 5990 7105 7759
6595 5259 2486 316 3 2 0 0
0 0 7 2 4 3 1 1
1 1 0 1 3 86 9596 56161
111887 147053 176198 167468 138110 93449 24893 1367
4 0 0 0 1 1 3 4
3 1 7 1 1 0 0 1
0 1 1 1 0 4 3 0
0 1 0 0 0 0 1 0
5 2 4 4 3 6 2 3
2204q92
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199215:40:11

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042
```

C02-135

```
22250 24682
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0

    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
   16 160.000000  1000
```

Pulse counting values

```
1309 1187 658 134 3 0 1 2
0 6 16 15 15 15 14 12
12 1 1 1 0 0 0 1
1 3 7 2 2 1 1 0
0 0 41 41 768 1866 2778 3309
3910 3653 2958 2239 671 32 0 0
0 29 395 1112 1511 1772 1944 1740
1489 941 248 4 0 0 19 3995
22255 44489 58358 69557 73168 61063 51973 27116
3931 25 2 1 99 4915 21107 35556
44930 53238 53161 44161 34482 13994 1046 4
6 16 5353 99909 325024 462055 573973 668849
614504 511366 365219 103593 2549 1 1 0
2 21 47 67 81 74 56 56
45 12 1 0 0 0 1 12
27 22 40 50 28 23 8 2
1 0 1 0 0 2 9 9
6 11 10 4 1 1 0 0
0 1 78 336 570 697 787 721
586 453 155 8 0 0 0 0
0 2 1 1 2 0 0 1
0 0 0 0 0 28 152 323
418 488 512 443 364 144 12 0
0 0 6 84 369 617 756 956
879 769 583 179 10 0 1 0
```

```
4 135 457 718 942 1028 727 747
561 141 4 0 0 0 9 111
312 444 528 589 516 390 247 40
0 0 0 0 71 403 873 1133
1546 1424 1258 1021 394 41 1 1
0 0 0 7 15 20 20 28
16 5 5 0 0 0 0 6
69 272 428 521 624 536 480 321
102 3 1 1 1 0 1 0
0 1 1 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 2 3 0 0 0
2 0 91 1272 4197 5946 7472 8008
6871 5560 2722 367 9 0 0 1
0 4 1 3 4 0 2 0
3 1 0 0 1 108 9649 58061
115575 152066 181563 171568 142204 95371 25401 1519
2 0 0 0 3 1 3 6
6 4 5 2 0 0 0 1
1 0 0 2 2 4 6 0
5 1 1 0 0 1 0 1
3 3 3 3 5 2 2 3
2204q101
Acquired in Scan mode
Detector Mode Pulse
   1
 4 February 199215:43:53

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
```

C02-137

```
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0

0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
16 160.000000  1000
```

Pulse counting values

```
663 605 365 82 2 1 1 0
1 1 3 6 8 10 5 6
3 0 0 0 0 2 0 5
5 3 4 4 4 7 2 1
0 0 0 3 11 22 30 42
27 40 25 22 12 3 0 0
0 2 10 21 22 40 31 37
31 28 5 0 0 0 0 13
57 134 210 218 230 205 182 90
9 0 1 1 0 19 71 115
171 164 153 139 124 47 4 1
0 1 14 281 993 1359 1676 2001
1785 1521 1153 320 8 1 0 0
0 1 3 6 1 6 6 3
2 2 0 0 0 0 3 18
43 62 58 77 71 49 22 4
0 0 1 0 1 6 12 8
16 17 18 10 1 0 0 0
0 2 5 20 42 39 58 48
31 24 8 0 0 1 0 0
0 1 1 2 0 0 0 0
0 0 0 0 2 0 9 23
26 27 44 24 21 9 2 1
0 0 0 1 8 17 17 22
21 20 26 9 0 0 0 0
0 2 8 21 26 20 31 23
17 8 0 0 1 0 1 1
```

```
 4 7 13 16 12 7 2 1
 0 1 0 0 2 6 19 26
 35 35 17 25 10 1 0 0
 0 0 18 71 164 189 204 226
 192 149 51 1 1 2 0 0
 0 7 13 16 15 19 13 4
 3 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 5 7 4 0 0 0
 1 1 145 2359 7840 10954 13555 14891
 12911 10701 5069 666 9 0 0 1
 0 0 6 7 12 8 6 3
 1 0 0 1 6 167 18212 106912
 210536 282802 345198 332373 280899 186202 49359 3092
 12 0 1 0 3 2 9 7
 10 8 2 2 2 1 0 1
 0 1 0 1 3 0 1 1
 2 0 1 1 0 1 0 1
 0 4 4 7 3 4 2 7
2204q102
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199215:45:40

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
```

```
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0

      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
     16 160.000000  1000

Pulse counting values
 432 428 260 60 0 0 0 1
 0 1 6 3 12 8 11 6
 1 1 0 0 0 0 2 4
 4 5 5 5 6 4 0 0
 1 0 0 0 4 23 19 25
 32 36 30 21 5 0 0 1
 0 2 7 14 30 30 38 32
 29 12 9 1 0 0 1 13
 37 91 112 144 148 125 92 57
 10 0 1 0 2 10 47 63
 89 130 119 107 89 39 2 1
 0 0 11 182 631 833 954 1230
 1205 898 685 181 10 0 0 0
 0 1 3 7 9 9 7 6
 5 1 0 1 1 0 6 16
 41 46 60 76 62 49 17 4
 0 0 0 0 2 5 9 6
 12 13 16 11 6 1 0 0
 0 1 5 18 29 24 27 30
 24 27 4 0 0 0 0 0
 0 1 0 2 1 0 1 0
 1 1 0 1 0 0 9 23
 29 37 32 40 33 7 2 0
 0 1 0 2 11 12 9 21
 17 25 14 11 0 2 1 0
 0 2 5 23 26 25 26 14
 13 2 0 0 0 0 1 3
 6 12 9 8 8 6 5 0
 1 1 0 0 2 3 18 19
```

```
24 22 24 14 10 170 0
1 1 19 90 156 198 219 229
193 145 47 2 0 0 0 1
4 8 13 14 14 9 12 9
4 0 1 0 0 0 0 2
0 2 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 6 4 4 1 1 2
0 2 192 2333 7345 10360 12907 14156
12189 10336 4668 641 7 0 0 1
1 1 5 3 8 2 8 1
6 0 1 0 6 207 17874 101551
200070 267523 326396 311694 264595 177324 47352 2913
8 0 0 0 1 2 6 3
8 5 3 3 0 1 0 1
0 1 2 1 1 1 3 2
3 3 0 0 0 0 0 2
1 5 2 6 7 10 3 2
2204q111
Acquired in Scan mode
Detector Mode Pulse
   1
 4 February 199215:49:22

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0      0
     0      0
     0      0
     0      0
```

```
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0

     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
    16 160.000000  1000
```

Pulse counting values

```
 744 699 423 74 0 1 0 1
 1 5 9 4 12 12 14 4
 4 0 0 0 0 1 0 2
 0 1 1 3 0 2 0 0
 1 0 0 57 844 1931 2766 3317
 3966 3586 3008 2270 635 11 0 0
 1 41 340 813 1131 1352 1457 1275
 1099 735 159 4 0 2 23 4827
 23217 44123 57848 69511 71867 60190 51311 26532
 3686 16 0 0 183 5620 21813 35131
 44262 53349 52514 43980 34211 13346 909 2
 3 24 7003 108403 329186 460323 569144 663223
 602968 507128 359382 98685 2311 3 1 0
 3 8 38 45 47 41 49 40
 24 5 0 0 1 0 19 183
 331 425 540 562 421 394 182 17
 0 0 1 1 13 36 79 99
 106 107 115 87 25 3 0 1
 2 3 99 322 491 634 684 603
 508 392 94 2 0 0 0 0
 1 0 0 2 1 2 1 0
 1 0 0 0 0 34 169 338
 411 486 599 467 347 150 13 0
 0 0 1 58 281 350 493 596
 559 453 364 98 4 0 0 0
 6 106 368 481 549 701 612 508
 339 80 4 0 1 0 16 72
 181 263 363 390 338 247 138 20
 1 0 1 1 60 293 565 744
 896 964 772 670 268 22 0 0
 0 0 0 1 7 12 9 20
```

```
51 228 278 354 396 348 309 223
47 2 0 0 0 0 1 1
0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 3 1 1 0 1
0 1 67 1061 3243 4356 5265 5759
4927 3909 1806 218 3 0 0 0
0 1 5 2 2 2 1 2
2 0 1 0 3 116 8567 45185
85606 111720 132651 124064 103598 67955 17590 982
7 0 0 1 0 0 1 4
6 2 2 1 0 0 0 0
1 1 2 3 2 2 0 2
3 1 0 0 0 0 0 0
2 6 4 7 7 4 2 2
2204q112
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199215:51:11

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0

      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
     16 160.000000  1000
```

Pulse counting values

```
 892 834 527 91 1 0 0 1
 1 8 4 8 6 4 9 6
 3 3 0 0 0 0 1 0
 3 6 1 4 4 1 0 0
 1 1 0 59 943 2207 3143 3831
 4441 3998 3365 2499 748 30 0 0
 1 57 344 954 1283 1560 1685 1429
 1231 806 180 2 1 2 27 5194
 25912 49867 66325 78570 81784 67372 57508 30097
 4128 23 1 1 164 6070 24412 40040
 50607 60252 58761 48526 37937 15157 1173 4
 6 31 7577 120950 372769 526601 653739 754803
 683338 570003 403189 111626 2697 2 0 0
 2 12 20 30 51 53 49 46
 19 5 1 1 1 1 31 205
 341 464 589 582 513 423 204 30
 0 1 1 1 15 53 80 117
 160 113 98 98 33 2 0 0
 0 7 107 355 592 653 785 790
 604 417 128 2 0 0 0 1
 0 1 1 2 0 2 0 1
 0 0 0 0 0 37 206 396
 475 592 590 478 430 164 11 0
 0 0 1 62 281 481 590 654
 657 563 401 119 5 1 0 0
 7 113 348 579 672 766 701 584
 435 81 2 0 0 0 11 93
 239 340 376 413 352 285 179 29
 1 1 0 2 71 336 711 849
 1019 1086 926 725 286 23 0 0
 0 0 4 4 12 14 17 17
 14 9 2 3 0 0 0 3
 53 204 332 389 460 431 359 249
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 1 0 0 0 2
0 0 93 1125 3670 4994 6181 6603
5570 4492 1958 236 2 0 0 0
1 1 2 5 2 2 2 0
0 0 3 0 5 100 9137 50668
97396 126439 149879 138519 114937 76686 19998 1139
3 0 1 0 0 3 3 2
4 4 4 5 0 0 0 0
0 0 1 2 2 2 1 0
1 2 0 1 2 0 0 0
2 5 3 6 1 2 5 2
2204q121
Acquired in Scan mode
Detector Mode Pulse
   1
 4 February 199215:54:53

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0

     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
    16 160.000000  1000

Pulse counting values
 520 466 305 52 4 0 0 0
 1 0 2 3 7 5 2 1
 3 1 0 0 1 0 0 1
 2 9 6 5 3 3 1 0
 0 0 0 1 13 27 18 40
 42 51 31 20 3 3 0 0
 0 2 8 26 28 33 41 50
 33 14 2 1 0 1 0 19
 102 231 324 352 381 302 275 165
 18 2 1 0 1 32 92 161
 238 285 229 223 191 63 1 0
 0 0 39 503 1622 2176 2525 3209
 2978 2523 1827 519 19 0 0 1
 0 2 4 5 7 5 7 2
 3 0 1 0 0 0 2 20
 33 50 59 69 59 41 13 4
 1 0 0 1 2 3 14 15
 7 12 9 8 2 0 1 1
 0 0 5 18 39 44 43 38
 40 32 10 3 0 2 0 0
 2 0 1 0 0 0 0 2
 0 0 0 1 1 2 17 23
 30 34 33 38 35 17 1 0
 0 1 0 7 12 32 38 43
 33 38 25 8 0 0 0 0
 1 4 17 21 34 30 31 31
 20 2 0 0 0 0 0 4
 17 11 16 22 20 20 13 0
 1 0 0 0 4 19 26 39
 34 59 44 44 11 2 0 0
 2 1 8 51 128 129 182 181
 171 103 44 2 0 0 0 0
 5 13 19 12 22 26 24 13
 4 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 3 7 1 0 0 0
1 0 180 2114 6524 8719 11028 12134
10410 8624 4044 537 5 1 0 0
0 2 0 6 2 4 3 3
1 0 0 1 3 171 16563 90636
171988 228557 276337 264820 223597 148660 38971 2266
4 1 0 1 4 0 5 5
8 2 5 4 1 0 0 0
0 1 1 0 2 2 6 2
3 0 0 0 0 0 0 0
2 6 5 4 8 6 7 2
2204q122
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199215:56:41

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0

     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
    16 160.000000  1000

Pulse counting values
 326 360 208 44 1 0 0 1
 0 2 1 4 2 3 4 6
 4 0 0 0 0 1 0 1
 3 4 5 6 4 2 1 1
 0 0 0 0 6 17 22 22
 28 32 13 13 5 1 0 0
 0 0 9 8 26 21 39 29
 26 17 2 1 0 0 0 3
 37 63 64 99 97 76 68 40
 4 0 0 0 0 10 72 42
 56 83 73 70 51 30 1 0
 0 1 8 115 379 540 618 765
 725 571 491 112 5 0 0 0
 1 1 3 2 3 5 1 4
 4 0 0 0 0 1 2 12
 34 36 43 66 81 36 25 4
 0 1 4 0 0 6 5 6
 7 11 10 3 5 0 1 1
 0 0 4 16 33 27 37 47
 33 17 3 2 0 0 0 1
 0 1 0 1 0 0 2 2
 0 0 0 0 2 2 7 12
 19 26 38 39 27 19 1 0
 0 0 1 4 11 21 30 30
 30 27 23 3 1 1 2 0
 4 4 21 23 22 30 36 18
 21 8 0 0 0 1 1 6
 6 14 14 15 12 14 9 3
 0 2 0 3 1 11 21 31
 32 44 36 27 17 1 0 0
 0 2 14 65 124 161 155 173
 137 117 46 1 1 1 1 0
 1 8 20 17 23 22 14 5
 3 0 0 0 1 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 2 0 2 0 0
0 0 146 1786 5877 8333 10156 11359
10136 8261 3860 517 8 1 0 0
0 0 0 4 6 2 2 5
2 0 0 3 10 171 14364 82747
160868 214675 262628 254131 216510 144272 38444 2395
8 0 0 1 0 1 3 6
4 6 5 4 2 0 0 0
0 0 1 0 1 0 0 3
0 0 0 1 0 0 0 1
2 4 4 3 7 4 4 1
2204q131
Acquired in Scan mode
Detector Mode Pulse
   1
 4 February 199216:00:21

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
    0      0
    0      0
    0      0
    0      0
    0      0

    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
    0      0
   16 160.000000  1000

Pulse counting values
 579 608 346 78 0 0 1 0
 1 5 5 7 7 13 7 3
 2 0 0 1 0 0 0 1
 1 3 1 1 0 1 1 0
 2 0 0 34 730 1681 2381 2897
 3433 3189 2592 1995 575 26 0 2
 0 43 402 977 1344 1577 1730 1573
 1257 789 200 4 1 0 13 3966
 20063 39206 51138 60707 63446 52600 44965 23350
 3229 27 2 0 123 4653 18883 31374
 39429 46281 45957 37809 29762 11930 901 2
 7 25 5394 91767 286614 401617 499429 580026
 524564 439308 313270 86879 2074 2 0 0
 0 2 10 9 12 9 8 10
 2 3 1 0 0 0 2 16
 28 30 54 43 33 22 12 3
 0 0 0 1 2 2 11 7
 6 15 7 4 4 0 1 0
 1 6 84 236 415 480 546 541
 455 292 80 4 0 1 0 0
 0 2 0 1 2 1 0 2
 0 1 0 0 1 19 109 234
 297 357 408 294 248 105 10 0
 0 0 1 63 266 424 530 600
 603 458 369 119 5 0 0 0
 5 94 341 452 592 679 571 485
 371 86 1 2 0 0 7 80
 222 295 346 409 335 324 156 27
 0 0 1 0 83 326 658 809
 9941000 892 765 298 27 1 0
 1 0 1 3 4 9 10 10
 7 4 4 1 0 0 0 1
 46 199 315 423 448 398 335 259
 64 2 1 1 0 0 0 0
 0 1 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 1 5 1 0 0
0 1 71 707 2312 3282 3873 4439
3672 2942 1392 170 5 0 0 0
1 1 1 3 2 5 2 0
0 0 0 1 0 52 5872 33246
63962 83435 99073 92921 76752 51214 13394 748
3 0 0 0 1 2 3 5
1 4 8 0 2 0 0 0
0 1 0 0 3 0 0 3
4 0 0 1 0 0 0 0
1 7 3 10 7 9 4 2
2204q132
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199216:02:09

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00-118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
      0      0
      0      0

      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
     16 160.000000  1000
```

Pulse counting values

```
 771 709 424 85 0 0 0 0
 1 4 9 4 4 9 8 4
 5 0 1 0 0 0 0 1
 2 0 1 3 1 1 2 0
 2 0 0 41 808 1832 2823 3357
 3992 3527 2959 2174 634 27 0 0
 2 71 480 1069 1495 1780 1969 1757
 1388 907 197 6 0 2 18 4399
 22756 45202 58552 69539 72817 59983 50778 26322
 3769 17 1 1 137 5248 21807 36084
 45335 53811 52596 43164 33662 13489 1053 2
 2 21 5981 105242 330560 466973 580004 670100
 601397 498206 354858 98435 2330 4 0 1
 0 2 5 2 10 8 9 5
 6 0 0 0 0 1 0 13
 25 25 36 38 35 18 8 2
 1 2 0 1 1 1 3 3
 12 10 6 15 4 1 0 0
 1 2 95 294 440 555 679 600
 533 411 85 4 0 0 2 1
 1 1 0 1 0 0 1 0
 0 1 0 0 0 26 125 261
 334 444 423 350 302 128 11 1
 0 0 3 72 302 488 616 722
 711 601 444 123 13 0 0 0
 8 130 375 568 725 807 699 596
 408 89 3 0 1 0 10 94
 287 348 436 449 380 319 198 35
 1 0 0 0 80 363 701 927
 1178 1230 952 764 348 35 1 1
 0 0 1 5 7 9 15 4
 12 9 5 3 0 1 0 4
 57 185 340 426 530 470 372 234
 61 5 0 0 0 0 0 2
 0 1 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 5 1 0 1 0
0 0 64 773 2601 3766 4467 4870
4068 3307 1517 188 4 0 0 0
0 2 3 0 3 4 0 0
0 0 2 0 3 77 6675 37802
72320 95329 113086 105271 85213 56299 14723 867
1 1 0 0 2 2 6 2
5 5 4 2 0 0 0 1
0 2 0 2 2 1 3 1
1 0 3 0 0 1 2 0
1 3 7 5 11 4 4 3
2204q141
Acquired in Scan mode
Detector Mode Pulse
   1
4 February 199216:05:49

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
 0    0
16 160.000000  1000
```

Pulse counting values

```
729 698 409 79 0 0 0 1
1 2 1 8 6 8 5 3
2 1 0 0 0 1 0 3
2 1 1 1 2 1 1 0
0 1 0 53 805 1872 2708 3302
3784 3456 2828 2104 583 29 0 0
1 27 208 484 686 844 961 742
647 441 90 0 0 4 33 4667
22704 43359 56938 67216 69045 56290 48208 24413
3423 17 0 1 178 5442 21667 34480
43127 51002 49357 40243 31246 12372 869 3
9 29 6494 106225 322648 447808 552984 637046
570232 471223 332025 90815 2032 0 0 0
1 1 3 7 9 6 7 2
3 1 0 0 0 0 3 14
18 24 34 38 23 29 5 0
1 0 0 1 2 2 9 9
7 7 12 8 3 0 0 2
0 2 40 133 191 224 273 250
228 159 39 0 0 1 0 0
0 1 0 4 3 1 0 0
0 0 0 1 0 6 55 84
165 478 183 162 141 47 6 0
0 0 0 27 125 223 229 309
308 237 190 65 4 0 0 0
1 67 166 239 293 350 307 244
175 49 0 0 0 0 2 38
117 144 200 207 158 137 82 9
0 0 0 0 29 151 308 402
475 484 394 324 138 11 0 1
2 0 2 8 10 11 12 7
13 9 3 0 0 0 0 0
27 98 155 171 239 210 151 130
20 0 0 0 2 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 5 0 1 0 0 0
0 0 85 873 2742 3606 4421 4709
3884 3179 1459 159 5 0 1 0
0 3 0 0 1 2 0 1
0 0 1 1 6 71 7047 38581
71958 92479 110443 100849 83764 55001 14007 768
3 0 0 0 0 1 7 1
0 2 2 1 0 0 1 0
0 0 1 0 0 0 1 0
2 0 0 1 0 0 0 0
2 4 5 3 6 4 1 1
2204q142
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199216:07:38

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
     16 160.000000  1000
```

Pulse counting values

```
758 779 451 95 4 0 0 1
1 3 5 8 10 4 2 6
4 1 0 0 0 0 0 0
1 1 3 0 2 2 0 2
0 0 0 40 882 2061 2957 3566
4077 3788 2938 2211 658 29 2 0
0 37 222 556 797 861 986 795
685 495 108 2 1 1 29 4834
24637 47682 62153 72993 75544 60962 51676 27086
3673 17 0 1 140 5682 22673 37867
47307 56038 54279 43960 34414 13722 1088 3
11 31 6569 112059 350719 492957 609085 699647
622577 513326 361284 100168 2412 3 0 0
2 1 4 2 3 9 6 4
6 0 0 0 1 0 3 6
17 25 27 29 19 21 7 2
0 1 2 0 3 3 2 6
4 5 5 4 2 1 0 0
1 4 47 108 225 272 308 250
215 148 39 2 2 0 0 2
3 1 0 2 0 0 2 1
1 0 1 0 1 16 63 121
157 192 186 165 130 58 6 0
0 0 1 30 172 245 287 347
342 257 182 64 2 0 0 0
1 55 168 255 338 374 331 255
189 41 4 0 1 0 5 47
108 154 174 195 164 167 95 14
1 0 0 0 37 155 350 424
539 527 424 394 127 15 0 0
0 0 2 10 3 9 13 16
9 7 4 1 0 0 1 0
23 108 180 176 237 217 176 111
32 0 0 0 0 1 0 0
1 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0
0 0 82 901 2741 3850 4560 4937
4065 3464 1509 171 3 1 0 2
0 1 1 0 0 2 2 0
0 0 0 0 3 99 7029 39283
75667 98111 115327 106180 86561 57677 15227 802
1 0 0 2 0 3 2 5
0 3 3 0 0 0 0 0
0 1 1 0 2 3 1 0
1 1 0 0 0 1 0 1
1 3 3 3 1 5 0 1
2204q151
Acquired in Scan mode
Detector Mode Pulse
   1
 4 February 199216:11:19

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal.
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
```

```
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000
```

Pulse counting values

```
537 526 317 56 1 1 0 0
0 1 3 9 9 13 7 3
3 1 0 0 0 0 2 0
2 4 3 2 0 2 0 0
0 1 0 32 609 1430 2047 2491
2904 2491 2033 1594 422 20 0 0
0 39 273 689 916 1090 1161 995
861 517 119 4 2 1 15 3622
17160 32818 42621 50872 52241 42140 36146 18525
2645 20 0 0 114 3896 16397 26576
33122 38953 37555 30504 24000 9277 658 3
1 18 5210 80448 243771 337113 415962 481736
428900 351332 248201 68377 1637 5 0 0
2 11 17 27 45 28 20 23
6 2 0 0 0 0 0 9
20 18 18 17 18 24 7 2
1 0 0 1 0 2 3 3
5 6 3 4 0 0 0 0
0 2 24 123 204 248 282 235
227 157 36 3 0 0 0 0
0 1 0 0 3 1 3 0
0 1 0 0 0 10 55 89
164 197 161 159 118 52 6 1
1 0 1 33 109 192 265 337
283 256 184 65 4 0 0 0
5 69 162 240 284 332 288 250
175 35 2 0 0 1 7 41
112 159 169 199 171 129 86 12
0 1 0 0 38 142 268 379
423 473 365 328 167 11 1 0
1 0 1 5 6 10 4 9
4 3 3 0 0 1 0 2
19 111 149 198 237 171 174 112
37 1 0 0 1 1 0 0
1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 1 1 0 0 0
0 0 64 702 2100 3018 3596 3351
3110 2445 1155 [illegible] 0 0 0 0
0 1 1 2 1 2 1 0
0 1 [illegible]
[illegible]
2 0 1 0 0 [illegible] 1 2
0 1 4 0 2 [illegible]
0 0 [illegible] 0 0 0 1 1
1 1 1 1 2 1 0 0
0 2 [illegible] 2 5 2 1 0
22043102
Acquired in Scan mode
Detector mode Pulse
   2
 4 February 1[illegible]16:13:06

Gas Cal
0.0000000100
0.0000000010
0.0000000001
0.0048471273
-0.[illegible]1729320

X Cal
334.375000
0.00000000
0.00386757
-0.20534102
215.[illegible]348

31.00 113.1
 2
 612
23016
 17866 26041

 23250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
```

[illegible]

[illegible]

0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 3 2 0 0 0
0 3 49 683 2456 3240 3980 4159
3593 2862 1335 372 2 1 0 0
2 1 2 2 2 0 1 0
1 1 0 1 7 34 [illegible] 22873
54163 83262 98169 90293 73605 49174 12610 731
5 0 0 1 0 0 1 0
3 1 5 1 0 0 0 0
1 0 0 0 0 2 1 1
2 1 0 1 0 1 1 1
1 1 3 2 3 1 3 0
2204q161
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199216:16:47

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581739325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
2
512
2301c
17866 26042

22250 24632
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

C02-161

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 150.000002 .1000

Pulse counting values
477 414 212 46 1 0 0 0
2 4 3 5 4 5 3 0
2 0 0 0 0 0 0 0
2 1 4 1 1 0 0 1
2 2 0 24 311 1132 1749 2030
2389 2044 1727 1348 392 17 0 0
0 27 246 580 809 1006 1120 981
204 504 97 1 1 1 12 2337
14238 27762 36234 42275 43830 43462 39261 1[illegible]
2164 16 0 2 93 3340 13251 21902
27539 32732 41470 25700 20038 8194 617 0
3 14 3642 46154 203880 280328 307786 432077
357847 242403 206992 58916 1396 1 0 0
2 6 11 26 37 29 33 22
20 2 0 1 0 0 0 7
14 13 31 34 13 16 10 0
0 0 1 0 1 3 3 2
0 3 2 3 4 0 0 0
0 3 39 142 238 274 345 331
251 192 52 1 0 0 0 0
0 1 0 0 0 1 1 0
0 0 0 0 0 22 85 128
197 239 218 185 159 65 7 0
0 1 0 29 177 248 292 391
363 332 212 79 0 0 0 0
2 67 193 327 362 443 387 302
207 45 1 0 0 0 4 52
114 191 192 239 208 186 97 21
0 0 1 0 46 220 373 561
652 605 511 420 149 13 1 0
0 0 4 4 6 7 6 8
6 4 1 0 0 0 1 2
27 108 183 246 256 242 181 151
25 0 0 1 0 0 0 2
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0

```
 0 0 0 0 0 0 0 0
 0 0 3 1 2 0 0 0
 0 1 46 564 1817 2376 3073 3160
 2725 2101 1035 117 1 0 0 1
 0 0 1 3 4 4 2 1
 0 1 1 1 4 51 4600 25484
 43324 62299 73564 68582 55846 37530 [illegible] 437
 2 0 0 0 0 1 0 3
 2 3 1 4 1 0 0 2
 0 1 0 0 2 0 4 1
 0 0 0 0 0 1 2 0
 1 2 0 3 5 2 4 0
2204q162
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199216:18:33

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2561729325

X cal
224.375000
0.00000000
0.00386757
-0.20534102
215.233348

31.00 118.1
 3
 312
23016
 17866 26042

 22250 24632
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
15 1e3.000000  1000

Pulse counting values
591 518 283 14 0 2 0 1
0 0 4 3 3 7 2 4
2 0 0 0 0 0 0 1
1 3 5 1 2 0 1 1
0 0 0 38 582 1398 1955 2411
2018 2547 1930 1552 457 17 1 0
0 31 314 692 942 1110 1219 1074
919 556 120 2 1 4 6 3142
16342 32133 42634 49608 51450 41139 34863 18121
2638 29 1 1 79 3774 15551 25943
22503 38447 37041 25596 23193 9143 698 3
5 23 3933 79202 237592 332386 410704 470865
417084 340543 241887 67313 1621 4 0 0
4 0 18 36 24 40 34 19
18 2 0 1 0 1 2 10
17 21 25 16 20 16 9 1
0 0 1 0 3 2 1 3
4 4 2 3 2 0 0 0
0 1 52 175 286 345 423 351
297 247 47 2 0 0 0 0
0 0 2 0 1 1 2 0
0 1 0 0 0 15 83 164
217 256 236 239 169 60 5 0
0 0 1 28 187 239 365 447
470 364 234 84 3 0 0 0
5 74 227 367 438 446 464 358
223 34 2 0 0 0 8 66
163 226 283 281 252 202 111 23
0 0 0 0 60 202 500 621
680 716 608 481 173 19 0 0
0 1 0 3 3 4 11 7
7 6 3 0 0 0 0 2
33 143 207 266 341 284 250 169
37 2 0 2 1 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
```

C02-164

0 0 3 1 2 1 1 0
1 0 41 626 2081 2941 3392 3771
2739 2367 1091 153 2 0 0 0
0 0 1 0 2 2 1 1
0 0 0 0 0 56 4972 27977
54232 70303 84073 77042 62438 [illegible] 11682 101
1 0 0 0 0 2 1 3
5 2 3 0 0 0 0 0
0 0 0 0 1 2 3 0
1 0 0 1 1 0 0 0
0 2 2 2 5 3 3 0
2204q171
Acquired in scan mode
Detector Mode Pulse
1
4 February 1991 15:22:12

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471272
-0.2591729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

21.00 118.1
3
512
23016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

```
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
    16 160.0.10000  1000

Pulse counti... values
 150 157 98 20 2 0 0 0
 0 0 1 2 2 0 4 4
 1 1 0 1 0 0 0 2
 1 3 2 1 1 2 1 1
 0 0 0 0 1 5 14 14
 17 18 7 7 4 1 0 1
 1 0 0 5 6 6 3 6
 4 2 1 0 0 1 0 3
 29 49 60 59 91 67 65 30
 3 0 0 1 0 4 21 37
 41 55 49 45 34 16 4 0
 0 0 4 93 359 497 595 677
 699 604 422 130 4 0 0 0
 0 0 1 1 4 1 3 2
 0 0 0 0 0 1 2 4
 15 6 12 11 7 7 8 1
 3 0 2 0 0 2 2 4
 5 7 4 1 0 2 0 0
 0 0 0 1 9 10 10 11
 8 2 2 0 0 0 1 0
 0 0 2 0 0 0 2 0
 0 0 0 0 0 1 0 1
 6 14 12 9 6 3 1 0
 0 1 0 0 6 3 11 8
 6 7 10 2 0 0 1 0
 1 1 1 5 3 3 6 6
 4 2 0 0 0 0 1 0
 3 2 2 6 2 3 0 0
 0 0 0 0 1 1 1 6
 2 6 6 7 4 0 0 0
 0 0 1 1 8 14 20 18
 11 9 2 2 0 1 0 0
 1 2 3 2 5 2 4 2
 0 0 0 0 0 1 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 1 0 1 1 0 0
 0 0 45 736 2356 3345 4115 426
```

C02-166

```
 [illegible]
 1 0 1 0 0 0 1 2
 3 0 0 0 4 04 8496 21505
 34097 83362 102630 93063 32795 [illegible] 13947 1084
 3 0 0 1 1 2 0 2
 0 0 2 1 1 0 0 2
 0 1 0 0 0 1 1 1
 2 0 0 1 1 0 0 0
 1 1 0 1 4 3 1 0
2204q172
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 1992 16:24:03

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729323

X cal
234.375000
0.00000000
0.00336757
-0.20534102
213.635348

31.00 118.1
 3
 512
23016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    -0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
    16 160.000000  1000

Pulse Counting values
 105 121 22 [illegible]
 [illegible]
 3 3 1 0 1 [illegible] 2
 4 0 2 4 2 1 0 0
 0 0 0 0 5 7 7 11
 12 8 7 14 2 1 0 1
 1 0 3 4 4 5 0 3
 1 5 1 0 0 0 0 3
 10 13 28 26 38 35 32 16
 2 1 0 0 1 0 4 16
 27 26 28 24 30 3 1 0
 0 1 3 47 144 124 299 323
 329 232 194 38 3 1 1 0
 0 0 1 0 0 2 4 3
 0 0 0 1 0 1 2 4
 6 18 9 14 5 11 6 3
 1 0 0 0 0 1 1 1
 5 1 1 2 1 0 0 0
 1 0 1 3 4 10 7 10
 [illegible] 3 3 2 1 0 0 3
 [illegible] 0 0 0 1 0 [illegible]
 0 1 0 0 0 1 4 3
 9 8 5 11 0 4 0 0
 1 2 1 0 2 2 2 6
 [illegible] 3 3 0 0 0 0
 0 0 2 5 3 [illegible] 6
 4 0 1 1 2 0 0 1
 1 2 5 3 3 0 2 0
 0 0 0 0 0 1 4 10
 [illegible] 4 4 5 1 0 0 0
 0 0 0 3 4 13 6 23
 15 4 7 0 0 0 1 0
 0 3 3 5 2 3 2 1
 [illegible] 3 0 3 0 0 0 0
 1 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 1 0 2 1 0
 0 0 39 642 2302 3258 3630 4329
 3761 3214 1526 295 0 0 0 0
 0 1 2 0 1 0 0 0
```

```
 60981 82824 99363 96473 82278 [illegible] [illegible] 1003
 5 1 0 0 0 3 1 1
 2 1 1 1 0 0 0 0
 0 0 0 1 0 0 0 1
 1 1 0 0 0 0 0 0
 1 0 5 0 1 1 [illegible] 0
2204q181
Acquired in [illegible]
Detector [illegible]
   1
 4 February 1991[illegible]:27:48

Mass Cal
0.0000000000
0.0000000000
0.0006030001
[illegible].0345471272
-0.2581729325

[illegible] Cal
234.375000
0.00000000
0.00386757
-0.20534162
215.635348

21.00 118.1
 3
 512
25016
 17365 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 173 179 108 25 0 0 1 0
 1 1 4 4 2 4 5 2
 1 0 1 0 0 0 0 0
 [illegible] 2 1
 1 0 0 12 190 472 741 [illegible]
 [illegible] 943 [illegible] 532 1[illegible] [illegible] 0 1
 [illegible] 12 85 234 [illegible] 276 426 [illegible]
 [illegible] 217 [illegible] 1037
 [illegible] 11230 [illegible] 17671 [illegible] [illegible] [illegible]
 [illegible] 0 0 0 [illegible] 1234 5475 [illegible]
 11445 13583 17688 11017 5617 [illegible] 287 1
 1 7 1197 [illegible] 84482 117259 143511 [illegible]
 150742 [illegible] 93736 26003 632 0 0 0
 0 1 5 19 22 19 16 17
 10 0 0 0 0 0 0 6
 [illegible] 4 19 16 [illegible] 18 6 1
 1 0 0 0 0 [illegible] 1
 8 4 6 4 0 0 1 0
 1 0 12 61 87 89 117 106
 98 70 15 1 0 1 1 0
 0 1 0 0 0 0 0 0
 0 0 0 0 0 6 22 58
 71 72 75 [illegible] [illegible] 27 3 0
 2 0 0 16 [illegible] [illegible] 85 114
 136 118 75 22 0 0 0 0
 0 21 75 113 120 156 136 117
 72 14 1 0 0 0 7 16
 55 54 71 95 63 81 38 5
 0 0 0 1 18 63 138 174
 197 207 162 144 61 5 0 0
 0 0 1 0 2 1 2 2
 1 2 2 0 0 2 0 0
 9 44 71 77 93 78 71 51
 9 0 0 0 0 0 0 1
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 2 0 1 1 0 0
 2 0 16 276 678 1236 1446 1659
 1366 1123 5[illegible] 82 1 0 0 0
 0 1 1 1 4 3 0 1
 0 0 0 1 3 16 2089 12163
 22785 31615 37744 34917 19298 10725 [illegible]
```

C02-170

```
 0 0 0 0 0 0 1 1
 2 2 2 1 0 0 1 0
 0 0 0 1 1 0 0 0
 0 0 0 0 0 0 0 0
 0 3 0 1 1 1 0 0
2204q182
Acquired in Scan Mode
Detector Mode Pulse
   2
 4 February [illegible]

Pass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2521729325

X Cal
234.375000
1.00000000
0.00386757
-1.20534102
215.625349

[illegible].00 119.1
 3
 512
22016
 17856 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

0 0

1s 110.000000 1000

Pulse counting values

311 326 301 31 1 0 0 2

1 0 2 2 1 1 1 6

0 1 0 0 0 0 0 0

0 0 2 1 2 1 1 0

1 0 1 11 193 712 1018 1102

15.5 172 1127 1197 1417 5 1 0

0 12 129 307 412 384 268 140

474 336 76 7 1 0 5 1590

8535 17981 [illegible] 28751 27832 [illegible] 10001

1600 12 1 0 [illegible] 1890 3294 12120

17794 20938 16080 16377 12917 3285 401 1

2 11 1933 29322 128700 179744 117460 252403

225439 192854 131267 34957 890 2 0 0

1 8 8 30 75 76 31 12

10 2 0 2 0 0 0 2

10 7 2 16 [illegible] 7 0

0 0 1 0 0 1 1 4

1 3 2 0 1 0 0 1

0 0 24 89 107 136 147 139

128 97 24 1 0 0 0 0

2 1 0 0 2 0 1 0

1 0 0 0 0 5 42 88

101 87 107 117 79 26 2 1

0 1 0 14 92 139 162 179

168 140 129 35 6 0 0 0

1 22 78 187 168 215 212 154

109 24 1 0 0 1 4 22

72 79 105 127 75 37 30 0

0 0 1 0 23 0 176 241

184 327 224 192 89 12 0 1

0 0 0 1 4 1 1

1 0 2 0 1 0 0 0

[illegible] 0 89 126 105 113 100 61

[illegible] 1 0 0 0 2 2 0

1 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 1 0 0

0 0 24 349 1290 1744 2141 2361

1836 1530 792 58 2 0 0 0

1 0 1 1 3 2 2 1

1 1 2 0 1 20 2307 17714

34719 48732 44464 49541 40749 27040 7320 488

2 0 0 1 0 1 1 0

0 0 0 0 0 0 0 0

C02-172

0 1 0 0 0 0 0 1
2 2 2 3 3 2 2 1
2204q191
Acquired in Scan Mode
Detector Mode Pulse
1
4 February 19[illegible]

Mass Cal
0.000000000
0.000000000
0.000000000
0.0045471273
-0.2531729220

X cal
204.375000
0.00000000
0.00386757
-0.20534102
[illegible].635348

81.00 118.1
2
512
28015
17566 26042

22250 24582
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

C02-173

16 180.[illegible] 1000

Pulse counting values

437 371 [illegible] 0 0 0 0
0 1 4 3 2 2 [illegible] 5
3 1 1 0 1 1 1 0
1 0 3 0 3 1 [illegible] 0
0 0 0 [illegible] 67 152 200 293
195 231 242 [illegible] 58 3 1 0
0 50 489 1017 1452 1917 1996 1841
1456 956 [illegible] 0 2 3 362
1943 3[illegible] [illegible] 5931 6127 5129 [illegible] [illegible]
387 2 0 1 [illegible] 509 2043 3429
4449 5362 5021 4310 3512 1421 107 1
1 1 457 3470 27775 33760 47993 [illegible]
51374 43910 31219 [illegible] 240 0 0 0
1 [illegible] 0 1 1 [illegible]
1 0 0 1 1 0 [illegible] 26
53 58 91 107 67 54 25 0
0 0 0 1 [illegible] 9 13 16
16 17 17 10 [illegible] 1 0 0
0 1 39 152 253 241 319 295
280 184 55 2 0 0 0 0
0 0 0 2 [illegible] 0 0 1
0 0 0 0 0 [illegible] 79 139 [illegible]
183 229 239 209 156 72 1 0
0 1 0 33 159 229 293 339
325 301 224 [illegible] 1 3 1 0 0
1 61 165 250 354 256 325 282
179 55 3 [illegible] 10 55
132 169 200 201 210 171 95 10
1 0 0 2 31 164 324 459
520 553 479 411 155 16 0 1
0 0 0 6 1 2 3 3
3 4 2 0 0 0 1 0
26 96 145 202 258 223 192 141
42 1 1 0 0 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 1 0 0 0 0
0 0 26 257 1096 1869 1992 2790
1744 1532 884 105 1 1 0 1
0 0 1 0 1 1 1 0
0 0 0 0 1 51 2829 15657
30514 40448 43404 45492 38032 25111 7201 473
2 0 0 0 0 1 0 1
2 0 0 0 0 0 0 0
0 0 2 1 2 1 0 1
0 1 1 2 1 0 2 2

C02-174

2204q192
Acquired in Scan mode
Detector Mode Pulse
2
4 February [illegible]

Mass Cal
0.000000000
0.000000000
0.000000000
0.004547127
-0.258172923

X cal
234.375000
0.00000000
0.00286757
-0.20534102
215.625348

81.00 119.1
3
512
2.01
[illegible]

22250 2405
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 150.00 000 [illegible]

C02-175

Pulse counting values

[illegible]

C02-176

```
Measured in Scan Mode
Detector Mode Pulse
   1
 4 February 199216:39:4
```

```
[illegible] Cal
[illegible]
[illegible]
[illegible]
 [illegible]
-0.[illegible]
```

```
[illegible] Cal
[illegible]
[illegible]
0.00386757
-0.20834102
215.[illegible]

51.00 112.1
 2
 512
28016
 17366 26043

 22250 24632
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    10 160.[illegible]  1010

Pulse counting values
 479 408 341 43 1 0 1 0
```

C02-177

0 2 0 6 3 0 1 2
2 1 0 0 0 1 0 1
0 4 3 0 3 1 0 1
0 0 0 32 390 751 1575 1727
2181 2069 1721 1127 435 15 1 0
0 22 239 511 728 996 760 804
511 543 150 2 1 2 15 2334
11940 23807 31694 37269 39130 34570 30625 16702
2647 15 0 0 40 2871 11381 19178
24487 28971 21397 20319 20636 6714 737 2
1 14 3137 35548 172630 244377 305661 354274
332179 266265 214276 65012 1828 4 2 0
2 23 28 57 67 67 37 61
26 5 0 1 1 0 1 11
18 29 45 37 51 27 23 1
0 1 0 0 0 2 8 8
6 9 13 4 3 1 0 1
0 1 23 95 130 159 227 192
158 115 34 2 0 0 0 0
1 2 4 2 16 9 8 5
0 0 0 1 0 0 61 71
110 115 146 124 111 57 8 0
0 0 1 17 102 155 161 252
239 183 155 56 5 0 0 0
1 39 127 197 212 242 243 227
128 39 2 0 0 0 5 23
64 72 127 149 121 110 79 14
0 0 0 0 26 126 235 256
407 368 224 258 119 15 0 0
0 0 2 19 27 36 42 54
57 49 15 3 0 1 0 3
18 45 111 133 150 174 132 80
32 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 3 70 0 0
0 0 43 368 1793 2489 3091 3334
2784 2364 1152 170 3 0 0 0
0 1 0 3 2 0 1 1
0 0 0 0 3 31 4221 24097
46212 61833 74398 71927 60656 42186 11994 725
5 0 1 0 0 0 4 3
2 5 2 2 1 0 0 1
0 1 1 0 0 0 1 0
1 0 0 0 0 0 1 0
2 3 4 4 4 1 3 0
2204q202
Acquired in Scan mode
Detector Mode Pulse

C02-178

4 February 19[illegible]16:40:3[illegible]

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
356 377 195 55 1 0 2 0
2 0 5 3 1 11 3 7
0 0 0 0 0 0 0 0

C02-179

[illegible]
0 0 0 31 491 1330 1[illegible] 2106
2679 2511 [illegible] 1612 [illegible] 23 [illegible]
0 27 256 [illegible] [illegible] [illegible] 1323 [illegible]
945 699 142 [illegible] 1672
14391 29372 [illegible] 46311 [illegible] [illegible] [illegible] 31[illegible]
3657 26 0 1 [illegible] 2209 13412 [illegible]
30316 35521 [illegible] 30570 [illegible] 11194 1347 [illegible]
1 22 3295 14701 209686 302655 383422 476316
406767 352547 [illegible]3520 84058 2559 4 1 0
1 9 39 67 76 81 80 [illegible]
45 11 0 0 1 1 3 17
34 44 50 56 44 49 13 3
0 0 1 0 0 5 7 9
21 12 8 8 3 0 1 0
0 1 40 113 161 222 280 248
245 169 69 4 0 0 0 0
2 7 8 9 14 9 13 7
1 0 0 0 0 12 53 135
147 186 181 160 124 57 10 0
0 0 1 24 136 183 240 265
290 221 179 65 10 1 1 0
[illegible] 43 137 201 271 322 297 247
171 56 1 0 1 1 0 32
112 141 161 209 156 129 76 16
0 0 1 0 35 123 291 356
477 524 410 347 140 14 1 0
0 0 4 19 52 74 79 36
59 31 23 1 0 1 0 0
19 87 123 173 242 182 151 122
23 1 0 0 0 0 3 2
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 3 0 0 1 0
1 0 44 556 2182 3073 3807 4067
3473 2952 1442 221 2 0 0 0
1 0 3 3 5 1 1 5
1 0 0 3 2 74 5415 28798
57182 76563 92909 86521 74827 51028 15455 936
2 1 1 0 0 3 2 3
4 5 4 2 1 1 0 0
0 1 1 0 0 2 1 1
2 4 1 1 2 0 1 1
0 2 3 4 2 4 2 1
22044211
Acquired in Scan mode
Detector Mode Pulse
1
4 February 1992 15:44:14

C02-180

```
Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

31.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0

      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
      0     0
     16 1s0.000000  1000

False counting values
 355 297 200 57 0 0 0 0
 1 1 3 3 2 7 4 2
 6 0 0 1 0 0 0 2
 5 1 0 2 4 2 1 1
 0 0 1 4 274 690 1046 1255
```

1427 1422 1246 1026 271 6 0 1
3 134 1432 3536 3162 6008 7103 6726
6071 4082 926 10 0 2 2 1206
7774 15678 20568 28411 28011 28510 12341 12161
1608 8 0 1 16 1828 3821 14218
18099 22076 23648 21008 17643 6990 478 1
2 4 1028 32046 113313 151607 203248 242294
242235 215758 162532 44061 778 0 1 0
0 1 6 15 19 8 10 13
0 1 0 0 1 0 5 17
33 60 75 72 82 74 36 2
0 1 0 0 0 1 10 12
12 14 20 26 3 1 0 0
1 2 37 171 630 370 415 426
386 313 92 3 0 0 0 0
0 1 1 3 0 2 0 2
1 0 0 0 0 10 88 104
243 273 268 275 215 94 6 0
0 1 0 25 195 390 368 478
487 434 365 98 1 0 1 0
1 59 202 312 418 515 558 448
329 77 1 1 0 0 9 19
115 216 290 346 293 265 141 26
0 1 0 0 29 186 400 573
762 829 722 668 245 16 0 1
0 0 0 2 6 15 13 10
17 9 2 0 0 0 0 0
28 145 220 280 337 343 309 251
42 2 0 0 0 0 0 1
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 11 9 1 1 0 0
0 0 39 761 2778 3915 4978 5994
5268 4563 2109 231 2 0 0 0
0 3 7 12 17 7 12 11
1 0 0 2 0 17 5458 37362
75282 103299 121498 132010 116543 77874 19879 701
3 0 0 0 0 4 12 4
1 7 5 6 0 0 0 0
0 0 0 0 2 1 1 2
0 0 0 0 0 0 4 0
2 2 3 3 5 5 2 1
22044312
Acquired in Scan mode
Detector Mode False
2
4 February 1992 16:46:01

Mass Cal

C02-182

0.0000000000
0.0000000000
0.0000000000
0.0045471373
-0.2581729325

X cal
234.375000
0.00000000
0.00286757
-0.20834102
215.635248

91.00 113.1
3
512
28016
17866 25042

21250 24681
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
393 328 234 34 0 0 0 0
0 2 4 5 3 1 4 5
3 1 0 0 0 1 0 0
0 2 5 2 0 2 0 0
0 0 0 3 254 620 986 1207
1420 1375 1194 1006 264 10 1 0
0 112 1480 3767 5021 6031 6609 6673

C02-185

[illegible]
7359 1[illegible]
1745 [illegible] 0 0 22 1[illegible] 3276 14.53
18284 21[illegible] [illegible] 2099. 17[illegible] 7314 [illegible] 1
0 3 053 [illegible] 1[illegible] 1[illegible] [illegible] [illegible] 1[illegible]
241537 21[illegible] 1.1754 [illegible] [illegible] [illegible] 1
2 6 4 5 8 [illegible] 7 12
5 2 0 0 1 [illegible] 2 15
31 44 37 [illegible] 45 29 21 4
2 0 0 0 2 [illegible] 10 8
10 9 5 7 3 [illegible] 0
0 [illegible] 15 106 [illegible] 321 412 428
334 217 90 1 0 0 1 0
0 1 2 1 0 0 1 0
0 0 0 1 0 1. 87 155
312 270 288 282 328 37 3 0
0 0 0 39 105 339 396 447
476 462 354 111 5 1 0 0
2 [illegible]9 191 335 414 524 523 446
383 91 2 1 0 0 5 55
147 239 256 293 298 238 147 20
0 1 0 0 40 19. 416 356
751 808 [illegible] 32. 261 20 0 1
0 0 0 4 [illegible] 9 19 13
14 13 2 3 0 0 0 1
33 126 320 277 377 [illegible] [illegible] [illegible]
[illegible] 1 0 1 0 0 0 1
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 16 9 4 1 0 0
0 0 29 714 2658 2836 4752 3603
5144 4486 2147 248 1 0 0 0
0 0 8 11 18 17 10 7
5 0 0 1 1 15 4930 38659
73446 98398 123763 120188 116515 80599 20171 712
0 1 0 0 1 4 3 6
6 3 3 1 1 0 0 0
0 1 0 0 0 2 2 1
1 0 1 0 1 0 0 1
3 4 1 2 4 6 5 0
2204q221
Acquired in Scan mode
Detector Mode Pulse
1
4 February 1[illegible]16:49:[illegible]2

Mass Cal
0.0000000000
0.0000000000

C02-184

```
 ----------
0.0065471272
-0.2681729[illegible]

X cal
[illegible]34.375000
0.00000000
0.00386757
-0.20524102
215.[illegible]

31.00 113.1
 2
 512
28014
 17863 28042

 22250 24882
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.00000.  1000

Pulse counting values
 296 262 167 35 2 0 0 0
 0 2 7 9 7 12 11 10
 6 1 1 0 1 0 0 0
 0 0 0 2 2 0 0 0
 1 0 0 9 200 851 923 951
 1082 1148 1042 915 222 8 0 0
 1 14 100 292 282 487 524 532
 453 287 75 2 0 0 0 904
 5709 12414 16751 20081 22044 20453 18324 1047
```

1587 10 1 0 0 1294 3808 7887
12962 15670 16502 16093 12878 5192 3270
1 3 757 24734 89898 127509 161514 192964
195369 174140 132890 37719 [illegible]
0 0 2 5 6 8 6 4
4 2 0 1 0 1 0 7
12 14 38 20 21 25 10 0
0 0 0 1 0 1 0 0
0 0 1 0 1 0 0 0
0 0 28 197 [illegible] 343 462 480
272 702 72 1 0 0 0 0
0 0 0 0 1 0 2 0
1 0 0 0 0 19 85 179
252 281 308 217 242 129 8 0
0 0 0 28 134 306 415 532
592 450 397 116 5 0 1 0
2 59 234 321 496 574 578 525
367 95 1 0 0 0 1 59
163 242 300 230 333 293 178 15
1 0 1 0 [illegible] 211 469 626
823 878 526 716 314 24 0 0
1 0 0 0 1 1 0 1
0 0 0 0 0 0 0 1
36 186 264 [illegible] 392 391 374 232
53 1 1 0 0 0 1 1
0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 3 1 1 1 0 0
0 1450 795 [illegible] 3954 4966 6057
5731 6805 2210 212 3 0 1 0
0 0 5 3 3 5 0 5
2 0 0 0 0 22 5079 36626
78187 102519 128333 136738 121287 [illegible] 31854 [illegible]
4 1 0 0 0 2 1 3
3 2 2 3 1 0 0 0
0 0 1 2 1 5 1 0
1 1 1 0 0 2 1 0
2 4 2 4 2 1 1 0
2h04q222
Acquired in Scan mode
Detector Mode Pulse
2
4 February 1992 18:51:29

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273

C02-186

```
A cal
324.375000
0.010000
1.00286757
  .12052410E
  5.625240

01.00 1161
 3
 512
20016
 17966 22041

 21250 21682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 308 313 121 31 0 0 0 0
 1 0 8 7 13 1 11 13
 4 3 0 1 1 0 0 1
 1 0 0 2 1 2 0 1
 0 0 0 6 161 454 751 903
 1067 1064 997 766 224 9 2 0
 2 9 76 244 374 462 506 439
 429 300 53 1 1 2 0 822
 5705 12079 15995 19781 22066 17859 10021 10043
 1419 2 0 2 3 1040 5566 9526
 12626 15257 15461 14706 12141 5026 390 1
```

0 4 367 23133 88253 124307 136493 187889
189412 158802 137566 55614 183 0 0 0
1 1 6 3 2 11 1 1
5 0 0 0 0 0 0 5
15 17 14 22 20 22 6 0
0 0 0 0 0 2 3 0
17 2 3 7 1 0 0 0
0 2 46 138 260 336 454 417
292 271 90 4 1 0 0 0
0 0 1 1 1 1 0 0
0 0 0 0 0 12 78 153
214 272 307 291 332 70 4 0
0 0 0 37 171 307 398 476
505 471 405 117 4 0 0 1
1 57 233 285 475 571 590 500
324 83 3 0 1 1 4 55
136 249 319 328 330 269 157 24
0 0 1 0 31 222 416 463
794 907 870 717 282 17 0 0
0 0 1 0 0 1 0 1
1 0 1 0 2 1 0 2
33 152 225 314 358 342 245 205
84 1 0 1 0 0 0 1
1 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0.0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 0 4 1 0 0
0 1 19 544 2981 3703 4650 5a90
5308 4574 2147 250 0 0 0 0
0 0 4 2 2 4 0 2
1 0 0 1 2 11 6607 23004
71456 67196 122621 119706 1.5837 1191. 0 362 700
1 0 1 1 0 0 1 4
0 2 2 1 0 0 0 1
0 0 0 0 0 1 1 1
2 0 1 0 0 0 1 0
3 1 1 0 3 6 1 1
22044231
Acquired in Scan mode
Detector Mode Pulse

4 February 1992 10:10

Mass Cal
0.0000000000
0.0000000000
0.0001000001
0.0045471273
-0.2381729324

C02-188

```
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 210 196 142 32 1 0 0 0
 0 1 1 1 1 2 3 6
 1 0 0 1 0 0 0 3
 0 4 3 1 5 1 0 0
 0 0 0 0 3 6 2 12
 17 6 10 8 3 0 0 0
 1 0 4 4 11 8 10 12
 9 12 4 1 0 1 2 0
 4 7 14 17 20 17 15 10
 1 0 0 0 0 1 6 10
 7 20 18 22 7 12 2 0
 0 0 0 10 45 80 92 107
 112 108 66 19 0 0 0 0
```

C02-189

0 1 1 2 2 0 0 2
1 1 0 0 0 0 0 5
6 18 17 22 21 15 6 4
1 0 0 0 0 0 4 2
4 2 5 2 0 0 0 0
0 0 2 1 9 12 19 9
8 5 4 0 0 1 0 0
0 1 0 0 0 0 0 0
0 0 1 0 0 0 0 5
10 7 12 7 12 4 0 0
0 0 0 1 0 2 2 0
10 2 4 2 9 0 0 1
0 0 5 7 5 0 1 1
7 1 0 2 1 0 1 0
1 3 3 2 1 0 1 0
0 0 0 0 1 2 1 11
11 5 9 3 2 0 1 0
1 1 8 25 70 75 117 127
110 34 22 1 0 0 0 0
0 2 10 7 6 1 3 3
2 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 2 1 1 0 1
0 0 14 996 3311 3276 7010 8240
7952 6742 3182 359 5.0 0 0
1 0 2 2 4 0 1 3
0 0 1 0 0 20 6376 49527
107226 145373 150826 192394 173136 120970 30676 1222
3 0 0 0 2 0 2 0
5 2 3 3 0 1 0 0
0 0 0 1 1 0 0 3
0 3 1 0 0 0 0 0
1 2 2 3 3 2 1 1
2204c222
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199216:56:59

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0005471272
-0.2561729325

X cal
224.375000

C02-190

```
0.00386757
-0.20534102
215.635248

31.00 110.1
 3
 512
28016
 17365 28042

 22250 24621
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting value
 181 169 104 20 0 0 0 0
 0 1 0 5 3 7 1 1
 1 1 0 0 1 1 1 2
 3 2 1 3 3 2 1 1
 0 1 1 0 1 1 0 0
 [illegible] 14 9 9 2 0 1 0
 1 0 2 1 7 4 13 11
 11 5 2 0 0 0 1 1
 4 12 7 16 14 14 11 2
 2 0 1 0 0 1 0 0
 7 6 9 12 10 4 1 0
 1 1 1 4 61 45 84 89
 87 86 57 11 0 1 0 0
 0 1 0 0 2 0 0 0
 4 0 0 0 0 0 0 0
```

11 8 13 18 10 10 8 1
0 1 0 0 1 1 1 2
5 5 1 3 7 1 2 1
1 0 1 4 5 12 10 12
5 2 3 0 0 0 0 0
0 0 1 0 2 0 0 0
0 1 0 0 0 0 3 12
13 7 5 6 7 3 0 0
0 0 0 0 0 2 4 5
3 3 4 1 1 1 0 1
2 1 1 1 3 7 2 3
1 2 0 0 0 0 0 1
0 2 4 2 2 1 0 0
0 0 0 0 0 0 0 1
11 2 9 4 3 1 0 0
0 0 14 25 88 71 134 101
[illegible] 79 26 0 0 [illegible] 0
0 8 4 5 4 7 5 2
0 1 0 0 1 2 0 0
0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0
1 1 29 952 7779 5494 6807 9130
7556 6571 3217 379 6 0 1 0
0 1 4 1 0 1 3 4
2 0 1 1 0 19 6128 47729
103601 141438 175924 187030 169329 119546 30360 1298
2 0 1 0 0 1 0 0
1 2 4 4 0 0 0 0
1 0 0 0 0 1 1 4
2 1 1 0 1 0 0 2
0 1 1 5 3 2 2 0
20040241
Acquired in Scan mode
Detector Mode False
1
4 February 19 17:00:42

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729328

X cal
254.375000
0.00000000
0.00386757

[illegible]
215.626348

21.00 118.1
3
512
28016
17866 26042

22260 24622
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
228 239 159 21 0 0 0 0
0 3 2 10 6 8 14 10
3 0 0 0 0 0 0 0
0 2 0 1 2 1 0 0
0 1 0 3 160 518 796 907
1095 1105 932 793 212 4 0 0
0 5 140 320 438 589 710 699
594 294 100 1 0 0 1 659
5761 11689 15670 18975 21366 19418 17769 9291
1290 6 0 0 16 1112 5462 9460
12096 14795 16104 14720 12252 8047 342 2
2 2 626 20802 65096 122121 150440 133782
186545 166663 126893 35674 689 1 0 0
2 1 9 17 26 32 40 22
16 1 0 0 0 0 1 4
7 15 25 18 23 17 14 3
0 0 0 0 0 5 4 9

[illegible]
1 1 32 178 372 330 433 441
419 304 35 1 1 0 0 0
0 0 1 2 0 0 1 0
2 0 0 0 0 8 82 176
195 283 317 252 258 113 4 0
0 0 0 50 194 313 392 501
523 455 392 116 5 0 1 0
0 49 214 361 502 622 579 517
368 73 2 1 0 0 1 45
161 217 264 316 313 283 187 24
2 1 0 0 38 171 437 645
812 853 830 705 272 17 0 0
0 0 0 0 0 0 1 1
2 0 1 0 0 0 0 1
29 145 262 304 376 371 317 307
57 2 1 1 1 0 1 1
0 1 1 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 0 0 2 0 1
0 0 17 478 1931 2713 2567 4184
3027 3347 1251 192 1 0 0 0
0 1 2 0 2 3 1 0
1 0 0 0 0 12 2374 25585
53163 71586 91056 97537 87285 80894 1.425 .75
1 0 0 0 0 3 3 1
0 0 0 0 0 0 0 1
0 0 1 1 0 0 1 1
1 1 2 0 0 1 0 0
1 0 2 1 4 1 2 3
2204q242
Acquired in Scan mode
Selector Mode False
1
4 February 1997 17:02:30

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2531729326

X Cal
224.375000
0.00000000
0.00286757
-0.20534102
215.625368

C02-194

```
21.10 118.[illegible]
2
[illegible]12
[illegible].01[illegible]
[illegible]72[illegible] [illegible]

[illegible] [illegible]
    0    0
    [illegible]    [illegible]
    [illegible]    [illegible]
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0

    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
    0    0
   15 160.000000  1000

Pulse counting values
 336 342 176 45 0 0 0 0
 0 2 4 3 8 5 11 9
 4 1 1 1 0 1 0 0
 1 1 1 2 2 2 0 0
 0 0 0 5 200 510 697 998
 1162 1157 1051 780 260 2 0 0
 0 14 135 339 014 603 761 703
 631 492 103 6 0 1 1 813
 5801 12442 19732 20166 23178 21087 16635 10310
 1487 3 0 2 13 1145 5886 10227
 13251 15893 17590 15698 13019 8271 334 0
 0 4 499 23727 29994 120238 142878 196892
 199635 173379 135174 78780 804 1 0 0
 0 4 8 19 17 27 29 24
 10 4 0 0 1 0 0 5
 6 11 13 20 7 28 12 2
 0 0 0 0 2 3 3 3
 7 2 7 2 1 0 1 0
 0 1 41 185 297 405 459 501
```

C02-195

```
377 332 93 2 1 0 0 0
0 1 1 1 1 0 1 0
0 1 0 0 0 13 81 173
259 332 321 297 224 119 17 0
1 0 0 24 202 275 442 562
670 506 342 151 10 0 0 0
2 68 241 432 519 575 603 567
332 95 2 1 0 1 1 56
168 247 317 374 273 203 158 28
0 1 0 0 46 222 445 671
859 981 868 727 327 23 0 0
0 0 1 1 0 0 2 3
1 1 0 0 0 0 0 0
29 139 274 360 383 416 371 215
59 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 11 478 2002 2949 3689 4494
4296 3686 1736 229 1 0 1 0
0 0 0 1 0 0 1 0
1 0 0 0 2 11 3205 25932
56176 78066 97156 104703 93061 60222 16868 672
2 0 0 0 1 1 1 2
1 6 2 2 0 2 1 0
1 0 0 1 1 0 0 2
0 1 1 0 0 0 0 0
1 1 1 3 4 1 1 0
2204q251
Acquired in Scan mode
Detector Mode Pulse
  1
 4 February 199217:06:13

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
```


C02-196

```
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 344 820 198 47 2 1 0 0
 0 3 1 2 9 4 6 9
 6 0 0 0 0 0 0 0
 0 2 0 2 0 1 1 0
 1 0 0 8 278 816 1212 1575
 1831 1767 1520 1235 376 16 1 0
 0 15 200 449 720 817 987 918
 815 578 157 5 0 0 3 1395
 9744 20100 27168 32820 37233 33434 29772 16687
 2239 5 0 0 17 1396 9528 16406
 21352 25472 27361 24531 20658 8446 581 0
 0 3 1005 37614 147700 210252 266280 322369
 324507 288719 216799 80406 1190 0 0 0
 1 6 30 18 37 45 31 40
 17 6 1 1 1 0 4 4
 8 18 10 17 22 13 9 2
 0 0 0 0 0 2 4 0
 6 8 8 6 0 0 0 0
 1 0 32 144 242 265 314 319
 286 240 69 3 0 0 0 0
 0 0 0 1 0 0 0 0
```

C02-197

0 1 0 3 0 6 36 119
164 231 250 232 172 73 5 0
0 2 0 27 159 238 318 379
436 375 330 91 1 0 0 0
1 41 149 305 451 413 404 384
290 69 0 0 0 0 2 39
117 185 231 327 260 240 115 24
4 0 1 1 25 167 356 509
604 701 648 551 254 19 2 1
3 0 1 5 6 10 13 8
5 8 6 0 0 0 0 1
23 102 159 229 314 274 268 199
39 0 0 0 1 1 0 0.
1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 1 1 0 0 0
0 0 19 481 1754 2533 3261 3778
3425 2933 1377 153 2 0 0 0
0 1 1 1 3 4 5 3
0 0 0 0 1 7 2809 22015
47366 64715 81901 86354 76568 53706 13551 542
5 0 0 0 0 1 2 0
2 2 4 0 0 0 0 0
0 0 1 1 1 1 1 1
0 0 1 0 1 1 1 0
2 4 2 3 1 5 2 2
2204q252
Acquired in Scan mode
Detector mode Pulse
2
4 February 199217:08:00

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
231.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512

C02-198

```
26018
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 420 415 246 40 0 0 0 0
 1 3 4 3 0 5 6 3
 3 0 0 1 0 0 0 0
 0 1 1 1 1 0 2 0
 0 0 1 8 309 919 1401 1611
 2011 2011 1723 1338 401 17 0 0
 1 15 201 521 750 859 1067 1016
 845 594 139 3 0 2 1 1453
 10363 21881 29389 35559 39987 36553 32063 17121
 2417 4 0 1 15 1984 10373 18020
 23025 27780 29913 26323 21794 9114 660 0
 0 2 932 41809 157495 227607 287829 348655
 351895 306676 232548 64666 1208 2 0 0
 1 7 34 29 47 59 55 54
 38 6 0 0 0 0 0 5
 10 18 25 24 16 21 10 0
 1 1 0 1 0 0 2 2
 8 6 2 2 0 1 0 0
 0 1 36 163 244 286 362 369
 300 273 70 4 0 0 0 0
 0 1 0 0 0 0 1 1
 1 0 0 0 0 8 60 125
 181 267 257 245 221 79 8 2
```

0 0 0 26 165 236 332 488
459 453 328 95 4 0 0 0
0 56 190 295 406 457 476 441
300 68 0 1 1 0 5 50
124 190 223 257 261 215 144 17
1 1 0 1 37 183 308 842
896 815 728 577 251 29.0 1
1 0 1 5 5 10 14 6
14 4 0 1 0 0 0 0
47 1.7 192 312 320 325 304 220
47 2 0 1 0 1 0 0
1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 2 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 3 2 0 1 0 0
0 0 19 472 1811 2697 2361 3944
3780 3115 1460 185 0 1 0 0
0 0 2 6 3 5 7 1
1 0 0 0 0 8 3099 23642
51140 69218 57857 92635 81695 56751 14444 561
3 1 0 0 0 0 1 2
2 6 2 0 1 1 0 1
0 1 0 0 0 0 2 0
0 2 0 0 0 0 0 0
2 2 2 0 2 2 0 0
2204q261
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199217:11:40

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386737
-0.20524102
215.635248

81.00 118.1
3
912
28016
17866 26042

```
22250 24682
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0

    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
   16 160.000000  1000
```

Pulse counting values

```
214 188 127 21 0 0 0 0
0 0 1 0 3 1 4 3
1 0 0 0 0 0 0 0
2 1 2 2 0 1 0 1
0 142 4 209 519 612 1033
1259 1224 1050 860 257 7 0 0
0 30 436 1107 1627 1353 2190 2151
1958 1338 217 3 0 0 1 946
6234 13309 18123 21611 24623 22114 19720 10829
1511 7 0 0 11 1243 6381 10962
14308 17314 18712 16846 13861 5732 420 0
0 2 629 26565 96103 137896 174833 210225
213608 186982 143809 40072 792 1 0 0
0 1 2 3 1 1 2 0
0 0 1 0 0 0 0 9
18 30 25 35 30 19 14 2
1 1 0 0 0 1 3 7
13 12 4 6 1 0 0 0
0 3 74 328 556 690 817 789
687 577 165 5 0 0 0 0
0 0 0 2 0 0 1 0
0 0 1 0 0 17 135 305
413 551 621 473 445 194 17 0
0 0 0 53 398 592 798 921
1021 849 690 229 8 0 1 0
```

C02-201

```
 8 128 418 720 846 1124 1072 942
 668 188 4 0 0 0 9 109
 272 446 546 696 634 505 311 55
 0 0 0 0 96 388 840 1231
 1535 1776 1676 1323 875 39 1 1
 0 0 0 0 3 2 0 0
 0 3 0 1 0 0 0 3
 74 240 498 603 758 741 600 451
 97 5 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 1 1 0 0 0 1
 0 1 26 923 2217 3297 3937 4717
 4468 3845 1857 220 1 1 0 0
 0 0 2 2 1 0 1 1
 1 0 0 0 0 8 3733 28198
 60321 83167 104263 111229 97009 68327 17566 646
 2 0 0 0 0 1 4 1
 0 2 2 1 0 0 0 0
 0 0 0 1 0 0 1 1
 0 0 1 0 0 1 0 0
 0 0 1 0 8 3 2 0
2204q262
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199217:12:27

Mass-Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2881729326

A cal
234.375000
0.00000000
0.00336757
-0.20534102
215.633348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
```

```
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0

        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
        0       0
       16 160.000000  1000

Fuise counting values
 192 168 114 21 0 1 0 0
 1 0 1 4 1 2 3 1
 0 0 1 0 0 2 0 0
 2 0 0 2 4 0 1 0
 0 0 0 3 185 493 751 907
 1084 1055 952 797 256 11 1 1
 0 23-382 992 1423 1673 1958 1847
 1656 1172 252 2 0 0 3 314
 5527 12220 16232 19432 21944 30172 18008 9940
 1335 4 0 0 7 1114 5844 9898
 12957 15723 17069 16167 12760 5226 381 0
 1 3 518 22682 36464 123531 157300 188874
 193289 170337 130796 36839 716 0 0 0
 1 0 0 0 0 1 1 1
 1 0 0 0 0 0 1 6
 18 21 19 30 18 22 14 2
 0 1 0 0 Q 3 6 4
 4 4 4 2 2 0 0 1
 0 1 50 335 496 619 725 782
 664 518 148 4 0 0 0 0
 0 0 0 0 0 3 1 0
 0 2 1 0 0 11 148 256
 393 469 552 467 393 165 19' 1
 0 l 0 61 322 533 717 371
 677 820 651 214 7 0 0 1
 0 90 376 645 804 980 982 882
 631 137 4 0 0 0 5 79
```

C02-208

```
297 408 495 622 503 628 523 47
1 0 0 0 69 301 772 1135
1415 1582 1430 1186 560 53 0 0
0 1 0 0 0 2 0 0
2 0 1 0 0 0 0 2
60 242 406 534 666 617 563 444
95 4 0 0 0 0 0 0
1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0
0 1 27 496 1570 2877 3576 4408
4006 3399 1237 173 1 0 1 0
0 0 0 0 0 1 0 1
0 1 1 0 0 10 3226 25387
54465 74530 94618 101443 89203 62172 16248 394
0 0 0 0 0 0 0 2
1 3 1 0 0 0 0 1
1 0 1 0 1 3 1 1
0 0 0 0 0 0 0 1
0 3 3 2 4 1 2 0
2204q271
Acquired in Scan mode
Detector Mode Pulse
 1
 4 February 199217:17:10

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
```

C02-204

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
146 143 86 12 0 0 1 0
0 2 0 1 1 1 0 0
1 0 0 0 0 0 0 0
1 2 3 0 1 1 1 0
0 0 0 5 170 432 630 836
961 927 387 710 178 6 1 0
0 23 300 821 1159 1417 1706 1706
1490 1007 244 4 0 0 3 760
4011-10300 14310 17030 19408 17749 16846 2035
1169 6 0 0 3 979 4979 8832
11248 13988 14979 13264 11022 4751 328 1
0 2 472 20221 76204 108967 138293 168386
167114 149350 114906 32383 597 2 0 0
0 1 0 0 3 2 1 1
1 0 0 0 0 0 1 6
9 11 14 18 17 18 9 3
0 1 0 1 0 0 1 2
4 6 3 5 3 2 2 1
0 0 89 254 432 515 635 686
589 465 132 2 2 0 0 0
0 0 0 0 0 1 0 0
0 0 0 0 0 1 112 267
350 429 473 436 367 155 19 1
0 0 0 59 296 462 662 797
802 716 593 182 2 1 0 0
2 85 326 563 724 862 862 743
533 145 3 0 1 1 1 74
242 369 427 557 503 415 244 42
0 0 0 0 61 252 743 1015

```
 1169 1349 1268 1073 428 39 0 1
 1 0 0 1 0 1 0 2
 2 1 0 0 0 1 0 1
 37 215 356 467 573 634 535 379
 89 3 0 0 0 0 0 2
 0 1 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 1 0 0 0 0
 0 0 19 502 1965 2789 3495 4177
 3965 3422 1840 173 0 0 0 0
 0 0 1 1 2 0 0 2
 0 0 0 0 1 9 3356 25093
 53369 73061 92092 98187 87728 61571 18614 596
 2 0 0 0 0 2 5 1
 4 0 1 2 0 0 0 0
 0 0 1 1 4 1 0 1
 2 1 1 0 0 0 0 1
 1 0 2 2 3 0 1 1
2204q272
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 1992 17:18:57

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0049471272
-0.2981729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 513
2801a
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
```

C02-206

```
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0

0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
16 160.000000  1000

False counting values
129 138 71 16 0 0 0 2
0 0 0 0 2 1 1 0
0 1 0 0 1 0 0 1
0 0 1 1 0 2 1 1
0 0 0 3 161 467 661 777
892 974 820 714 173 7 0 0
0 21 300 857 1154 1450 1708 1608
1428 974 234 2 0 0 0 754
8706 10369 13779 16338 18855 17007 16555 8600
1203 7 0 0 4 908 4878 8292
11100 13405 14614 13151 10997 4611 324 1
1 3 427 19201 74015 106624 135201 161822
164291 146180 111621 32400 555 3 0 0
0 1 1 1 1 1 0 1
0 3 0 0 0 0 1 3
4 9 16 13 13 10 7 1
1 0 0 0 0 1 3 2
2 4 6 5 0 1 0 1
1 0 56 252 423 543 636 633
574 427 122 2 0 0 1 0
0 0 0 1 0 1 0 2
1 0 0 0 0 20 123 255
334 446 459 428 339 146 17 1
0 0 0 54 290 465 618 764
829 648 501 187 9 0 0 0
2 72 365 508 748 827 845 788
608 135 2 0 0 0 4 88
239 325 433 618 483 440 245 40
0 1 0 0 55 295 737 947
1232 1442 1240 1114 426 27 0 0
0 0 0 0 0 0 0 0
```

C02-207

0 1 0 0 0 0 0 0
37 198 344 460 574 391 [illegible]
98 2 1 0 0 0 0 0
1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0
1 0 13 469 1763 2569 3156 4048
3775 3262 1533 171 3 0 0 1
0 1 1 0 0 5 2 0
0 0 1 0 1 5 2993 23281
50405 68279 87248 92991 82416 54002 1497 585
2 0 0 0 0 2 0 2
2 1 2 0 0 0 0 0
0 1 0 2 0 0 1 0
0 0 0 0 0 0 0 0
0 1 1 4 4 1 2 0
2204q281
Acquired in Scan mode
Detector Mode Pulse
1
4 February 1992 17:23:42

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.9045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 113.1
V
S12
28016
17266 16042

22250 24632
0 0
0 0
0 0
0 0
0 0
0 0

```
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0

0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
16 160.000000  1000

Pulse counting values
 121 91 60 9 1 0 0 2
 0 1 2 1 3 0 2 0
 1 1 0 0 1 0 1 1
 0 0 1 0 0 0 1 0
 1 0 1 4 129 399 607 724
 872 903 744 606 193 5 1 0
 0 23 306 766 1007 1327 1580 1451
 1353 896 239 1 2 0 1 690
 4460 9558 12742 15504 17634 16231 14478 7785
 1051 1 0 0 9 956 4579 7988
 10290 12553 13347 12295 10346 4247 293 0
 0 2 430 18882 68995 98698 125576 151168
 152936 136283 104510 29443 488 0 0 2
 0 1 1 1 1 1 0 0
 2 1 0 1 0 0 1 7
 7 15 5 14 16 13 4 1
 0 0 0 0 1 0 0 2
 5 2 1 4 1 0 0 0
 0 1 59 231 429 492 660 653
 598 402 148 2 0 1 0 0
 1 0 0 0 0 0 1 0
 0 0 1 0 0 16 99 241
 304 418 408 392 318 141 14 0
 0 0 0 57 281 456 602 755
 769 645 536 197 10 0 0 1
 4 72 325 508 668 843 750 798
 501 134 0 0 0 0 1 70
 223 344 382 520 466 370 235 36
 0 1 1 0 63 284 688 974
 1106 1281 1230 1041 436 44 0 0
 0 1 0 0 1 1 2 0
 0 1 0 1 0 0 1 0
 40 197 360 445 527 564 499 369
```

```
100 2 0 0 0 1 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0
0 0 0 0 0 0 1 1
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0
0 0 0 0 0 0 0 1
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 17 911 1609 2400 3004 3727
3911 3047 1331 139 1 2 0 0
0 2 1 0 0 1 0 0
0 0 0 0 0 7 28:9 21311
46646 53704 30197 85111 75723 525:5 11597 734
2 0 0 0 1 0 1 1
0 2 1 2 0 0 0 0
0 1 0 0 1 0 1 0
0 1 0 1 0 0 0 0
1 1 2 1 1 0 0 1
2604q231.
Acquired in Scan mode
Detector Mode Pulse
  2
 9 February 1-0217:24:25

Mass Cal
0.000000000
0.000000000
0.000000001
7.004847127
-0.2[illegible]

X cal
2[illegible].[illegible]
0.00000003
0.00381757
-0.20534102
215.535345

31.50 113.1
 3
 512
2.01b
 1.[illegible] 2604[illegible]

 22290 24562
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

C02-210

```
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0

0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
0       0
 16 160.000000  1000

Pulse counting values
 111 122 70 8 1 0 0 0
 0 0 0 2 0 1 1 0
 1 0 0 1 0 0 0 1
 2 2 1 2 0 1 1 1
 0 0 0 1 132 390 584 676
 569 856 730 555 163 4 0 0
 0 29 303 739 1118 1266 1544 1482
 1291 934 205 1 0 0 2 611
 4437 9322 12641 15363 17393 15842 14141 7760
 1040 8 0 0 9 988 4573 7945
 10263 12431 13570 12048 10334 4183 299 1
 0 0 354 18230 68533 98533 125055 150193
 152272 134953 103493 29110 594 0 0 0
 0 0 0 0 1 1 1 0
 0 0 0 0 0 0 2 3
 1 6 14 9 3 16 5 4
 0 1 0 1 0 0 2 11
 6 3 3 2 0 0 0 0
 0 1 53 223 373 458 557 635
 524 397 123 1 0 0 0 1
 0 0 0 0 0 0 0 0
 0 0 0 0 0 14 122 234
 274 391 429 399 339 132 16 0
 0 1 1 42 256 454 631 707
 758 680 513 182 7 1 0 0
 4 85 282 542 716 814 788 683
 542 129 1 0 1 0 1 69
 210 315 434 479 495 396 220 37
 0 0 0 0 63 289 631 900
 1133 1367 1233 1069 419 35 0 0
 0 0 0 0 0 0 1 1
 1 1 0 1 1 0 0 1
 53 198 353 457 599 554 461 330
 95 5 0 1 0 0 0 0
 0 0 1 0 0 0 0 0
```

C02-211

0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 0
0 0 14 434 1592 2418 3038 3606
3340 3022 1355 142 4 0 0 0
0 1 1 0 0 1 0 2
0 1 0 0 0 5 2629 21667
45963 62697 79290 84929 75348 52397 13121 556
0 0 0 1 0 1 0 0
0 2 0 1 0 1 0 1
0 0 0 0 0 2 2 0
0 1 0 0 0 0 0 0
0 1 3 0 3 4 1 2
2204q291
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199217:28:10

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729323

X cal
254.375000
0.00000000
0.00386757
-0.20534102
215.633348

81.00 118.1
2
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

```
0     0
0     0
0     0
0     0
0     0
0     0
0     0

0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
   16 160.000000  1000
```

Pulse counting values

```
131 149 97 24 0 0 0 0
0 2 4 3 8 8 4 6
3 0 0 0 0 0 0 0
1 1 1 1 1 0 0 2
0 0 1 2 138 360 470 605
714 715 617 526 153 3 0 0
0 9 134 359 505 636 757 678
647 406 83 3 0 1 1 543
3853 7887 10533 12896 14819 13411 12087 6494
905 7 2 0 7 837 3751 6617
8458 10467 11391 10073 8437 3530 231 1
0 3 438 16146 58260 83862 105645 127324
129178 114594 88303 25124 477 0 0 0
0 0 3 8 13 12 8 9
7 1 0 1 0 0 1 7
3 13 14 17 20 11 7 0
0 0 0 0 0 0 1 4
4 1 4 4 0 1 0 0
0 1 73 247 444 540 711 637
628 501 117 3 0 0 0 1
0 1 1 0 0 0 0 1
2 0 0 0 0 13 130 230
340 418 491 413 358 168 12 0
0 0 1 62 316 468 642 796
822 725 637 201 8 0 0 2
1 105 311 570 784 900 874 765
547 127 2 0 1 1 8 82
252 385 491 567 535 450 272 32
3 0 0 0 59 313 762 1052
1278 1451 1334 1106 491 37 0 0
0 0 0 0 0 0 2 1
0 0 0 0 0 0 1 2
58 176 375 471 612 637 503 406
115 1 0 1 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 1
0 0 19 418 1484 2331 2842 3516
3187 2618 1229 150 2 0 0 0
0 0 2 0 1 3 1 0
0 0 0 0 0 11 2782 20303
43162 59149 74307 79542 70726 49489 12661 459
0 1 0 0 0 0 2 3
2 2 2 1 0 0 0 0
1 0 0 2 0 1 0 2
0 0 0 1 1 0 1 0
0 3 0 0 0 1 2 0
2204q292
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199217:30:00

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729375

X cal
224.375000
0.00000000
0.00386757
-0.20534102
215.835348

21.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

CO2-214

```
0     0
0     0
0     0
0     0

0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
16 160.000000  1000
```

Pulse counting values

```
224 231 132 24 1 0 0 0
1 1 2 5 12 2 7 13
1 0 0 0 1 1 1 0
1 1 1 0 0 1 1 0
0 0 0 1 127 350 528 615
734 751 639 566 185 8 0 0
0 20 130 278 514 625 816 712
633 417 94 0 0 0 0 566
3904 8431 11336 13439 15730 14060 12429 6963
976 3 1 0 5 804 3875 6866
9058 10867 11997 10469 8790 3632 279 0
0 1 350 15901 31765 85004 111915 134582
135752 121497 92505 26011 488 0 0 0
0 1 8 7 10 14 15 11
9 3 0 0 0 0 0 4
11 11 15 15 9 11 7 0
0 0 0 0 0 0 1 4
1 6 7 1 0 1 0 1
0 0 38 260 473 614 707 689
632 448 144 4 1 0 0 0
0 0 0 0 1 0 0 0
0 1 1 0 0 18 153 231
377 446 520 476 405 165 11 0
1 1 2 49 233 506 677 829
872 791 642 705 9 0 0 1
2 104 354 620 772 937 944 812
597 150 4 0 0 0 2 84
237 308 513 552 516 476 268 53
1 1 0 2 53 260 749 1099
1405 1373 1260 1210 502 32 1 0
1 0 1 0 2 1 0 0
1 0 0 0 1 2 0 0
98 224 412 526 587 638 571 398
104 2 0 2 0 0 2 0
0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
```

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 2 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 1 1 0 0 1
1 0 10 383 1491 2275 2761 3367
3325 2726 1402 165 2 0 0 0
0 0 0 1 1 2 4 0
1 2 0 0 0 4 2460 19546
43066 58936 74705 80947 71098 50212 13135 460
1 0 0 0 0 0 0 1
2 1 0 2 1 0 0 0
0 0 2 1 0 1 4 0
0 0 0 1 0 0 1 0
1 1 2 2 3 1 0 0
2204q301
Acquired in Scan mode
Detector Mode Pulse
  1
 4 February 199217:33:42

Mass Cal
0.0000000000
0.0000000000
0.0000060001
0.3049471273
-0.2581729325

λ cal
234.375000
0.00000000
0.00386757
-0.20534102
215.639348

81.00.1.3.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

C02-216

```
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
13 100.00 [illegible] 1000

False counting values
247 199 126 16 0 2 0 0
0 0 2 4 3 1 2 7
3 0 0 0 0 0 0 0
0 1 4 4 0 2 0 0
0 1 0 8 167 447 617 702
883 947 837 637 190 5 1 0
0 12 95 227 335 394 438 406
377 266 62 0 0 0 2 719
4925 9823 13440 16142 18674 17204 15060 8416
1199 4 0 0 7 921 4868 8124
10239 12888 14157 12536 10427 4396 270 0
0 1 516 20292 74019 105243 132594 160972
162430 143375 109977 31261 655 0 0 1
1 4 16 11 27 22 22 13
11 2 0 0 0 0 0 4
7 10 5 19 16 12 7 2
0 0 0 0 0 0 1 0
1 2 3 2 2 1 0 0
0 1 18 60 143 187 217 207
163 136 37 1 0 0 0 0
0 0 0 1 1 0 1 0
0 0 0 0 1 7 24 64
95 139 151 135 108 57 5 0
0 0 0 18 36 139 211 227
242 227 189 67 2 0 0 1
0 29 116 193 265 279 246 240
199 62 0 0 0 0 3 29
53 110 160 191 146 154 74 8
0 0 0 0 17 124 245 328
367 485 426 281 135 15 1 0
0 1 3 15 22 36 52 47
52 68 13 0 0 0 0 0
20 60 107 172 207 177 160 111
46 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
```

C02-217

```
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 3 2 0 0 0 0
 0 0 13 374 1366 1905 2433 3008
 2704 2491 1165 117 2 1 0 0
 0 0 0 1 2 0 0 1
 1 0 1 0 0 9 2316 17456
 37634 51755 65630 70363 62239 43269 10960 394
 0 1 0 0 2 1 2 4
 2 2 1 2 0 1 1 0
 0 1 1 1 4 1 2 0
 4 0 0 1 1 0 0 0
 1 3 3 4 4 4 2 0
2204q302
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199217:35:33

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729328

X cal
254.375000
0.00000000
0.00286757
-0.20534102
215.635348

81.00 118.1
 3
 512
20015
 17366 25042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
-0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 .1000

False counting values

270 247 148 21 0 0 0 1
0 2 3 1 3 4 1 7
1 0 0 1 0 . 0 0
0 0 2 1 0 0 0 0
0 0 0 3 149 441 634 784
890 947 809 734 189 8 0 0
0 12 90 227 326 412 477 446
423 292 60 0 0 0 1 725
5035 10609 13988 16556 19081 17580 15361 8800
1209 3 0 1 10 1087 4879 8480
11089 13263 14481 12713 10931 4413 303 0
0 8 469 20826 77070 109760 138174 165592
166595 146256 112550 31692 561 2 0 0
0 4 9 12 26 26 31 27
7 2 0 0 0 0 1 0
3 17 15 12 19 13 8 0
1 0 0 0 0 4 1 6
5 4 2 4 0 0 0 0
0 1 1 1 70 142 166 223 240
203 152 57 1 0 0 0 0
1 0 0 0 0 0 2 0
3 0 0 0 0 8 13 82
107 144 109 111 126 54 7 0
0 0 0 11 92 135 207 200
254 222 132 [illegible] 1 0 0 0
0 33 120 171 225 324 283 235
175 40 1 0 1 0 0 25
70 124 143 161 173 144 76 19
1 0 1 0 17 95 273 315
433 475 449 246 146 10 0 1
0 0 6 16 34 39 47 60
57 51 19 3 0 0 0 0
12 74 128 [illegible] 182 202 177 123
40 2 0 0 0 1 2 2
1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0

C02-219

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0
0 1 21 329 1317 2014 2561 3153
2959 2474 1090 169 0 0 1 0
1 0 0 1 4 4 1 2
0 0 0 0 0 2 2237 16023
39075 54167 58941 72402 84540 94330 11761 400
1 0 1 0 1 1 3 2
3 3 5 5 0 0 1 0
1 1 2 0 2 7 1 1
2 1 0 0 0 0 0 0
1 3 7 3 1 2 4 0
22094311
Required in Scan mode
Detector Mode Value

4 February 199217:39:16

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0040471272
-0.2881729825

X cal
134.075000
0.00000000
0.00385707
-0.20534102
215.635348

81.00 112.1
2
512
20016
1738 28.42

22250 Mass
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
```

```
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
 0      0
16 180.000000  1000

Pulse counting values
 119 108 92 11 2 0 0 0
 2 1 2 1 0 2 3 3
 0 0 0 0 0 0 0 0
 2 1 4 1 0 1 0 0
 0 0 0 0 1 1 7 4
 7 2 5 6 1 0 1 0
 0 1 6 10 5 13 15 14
 10 5 3 1 0 0 0 1
 2 4 2 10 9 9 13 3
 1 0 0 0 0 2 0 5
 8 15 4 7 9 5 0 0
 0 1 1 2 13 40 46 59
 64 50 32 7 0 0 0 0
 0 1 0 2 2 3 0 3
 2 1 0 0 0 0 0 5
 3 9 13 9 11 8 4 0
 0 1 0 0 1 1 0 2
 3 3 2 3 1 0 1 0
 1 0 1 0 3 2 9 6
 9 5 3 0 0 0 0 0
 1 0 0 0 0 0 2 0
 0 0 0 0 0 1 2 2
 5 8 4 7 1 1 0 1
 1 0 0 0 0 1 1 1
 3 1 2 1 0 0 0 0
 1 0 4 1 1 0 4 1
 7 0 1 0 1 0 1 0
 0 3 4 2 1 1 1 0
 0 0 0 0 0 1 1 5
 5 10 5 6 5 0 0 0
 0 0 5 32 57 87 114 134
 107 77 29 1 0 1 0 0
 1 3 2 1 3 3 3 0
 0 0 0 0 0 1 1 1
 0 0 1 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 1 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
```

0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 16 [illegible]
[illegible]
0 0 2 0 3 0 0 0
[illegible]
[illegible]
5 1 0 0 3 2 1 0
2 1 1 0 0 2 0 0
0 0 2 0 0 2 1 0
0 0 2 1 0 0 0 0
1 0 1 2 1 1 0 0
2304,312
Acquired in Scan mode
Detector mass value
2
4 February 1992 17:41:06

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.004547.273
-0.2581729325

X cal
234.375000
0.00000000
0.00384757
-0.20534102
[illegible]

91.00 118.1
2
512
28016
17366 26042

22240 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

CO2-222

```
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
15 160.000000  1000

Pulse counting values
 100 84 22 9 1 0 1 0
 0 1 3 0 2 1 2 1
 1 0 1 0 0 0 0 1
 2 3 2 0 0 1 0 0
 0 1 0 1 1 2 3 3
 1 8 8 5 2 0 0 0
 0 0 1 5 11 8 12 8
 0 2 4 0 1 1 0 1
 2 5 4 6 6 5 7 1
 1 0 0 1 0 0 5 7
 6 4 9 3 7 4 0 0
 0 0 0 3 15 24 33 52
 83 56 38 9 1 1 0 0
 0 0 0 0 0 1 0 1
 3 0 0 0 0 0 0 1
 4 4 9 7 6 11 5 3
 0 0 0 1 0 1 4 2
 0 3 4 1 0 0 2 0
 0 0 0 3 3 1 7 9
 4 6 1 0 0 0 0 0
 0 0 1 0 0 0 0 0
 1 0 0 0 0 0 2 1
 2 4 6 4 9 0 0 0
 0 0 0 0 2 2 3 6
 1 5 1 1 0 0 0 0
 0 0 0 2 2 1 2 4
 5 0 0 0 0 0 0 1
 0 1 1 4 4 3 2 1
 0 0 0 0 0 1 2 4
 4 2 5 7 1 0 0 1
 0 0 6 37 82 53 110 107
 130 107 32 0 0 0 1 0
 1 1 1 2 0 1 3 2
 0 0 0 0 0 1 0 0
 0 0 1 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 1 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
```

C02-225

0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 1
1 0 16 427 1719 2649 3411 4136
3851 3222 1587 190 2 0 0 0
0 0 0 1 1 1 0 0
1 0 1 0 1 10 2664 23304
52291 73171 91020 96886 80909 60977 15772 728
4 0 0 2 0 0 1 0
1 2 0 0 0 0 1 0
0 0 1 1 0 0 2 0
0 0 0 0 0 1 0 0
1 4 3 7 0 2 3 0
3304q321
Acquired in Scan mode
Detector Mode Pulse
1
4 February 1[illegible]44:48

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0345471270
-0.2081729324

X cal
234.375000
0.00000000
0.00385757
-0.20534102
215.635348

51.00 112.1
3
512
28016
17356 28042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
209 182 140 25 0 0 0 2
0 0 3 1 2 3 1 1
1 0 0 0 0 0 1 2
1 1 1 2 1 0 0 0
0 0 0 10 223 592 875 1090
1303 1334 11.5 957 283 0 0 0
0 3 75 175 [illegible] 310 363 293
337 210 48 0 0 0 0 1084
7046 14613 19493 23611 27693 24360 21877 12567
1757 13 0 0 12 1394 6827 11736
16255 18456 20257 18197 15014 6306 477 2
1 4 781 30207 107555 152691 193218 235650
238698 209579 160589 45482 909 0 0 0
0 3 12 21 20 29 24 22
10 3 1 0 0 0 1 3
3 13 16 21 24 17 9 1
0 0 0 0 0 0 3 3
4 2 2 2 1 0 0 1
0 0 9 53 61 87 106 109
103 65 16 1 0 1 0 1
1 2 1 0 3 0 3 1
1 0 0 0 1 2 18 37
67 75 51 68 67 36 0 0
0 0 1 6 46 87 104 131
128 101 81 23 0 0 0 0
1 10 71 90 112 139 146 104
79 28 1 0 0 0 2 14
36 61 74 38 78 62 27 10
1 0 9 0 18 53 95 144
197 216 179 182 48 5 0 0
0 0 0 1 6 5 3 3
5 4 3 0 0 0 0 1
7 36 61 58 103 77 81 60
7 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 4 1 0 1 0 0
0 0 11 2[illegible] 1110 1469 3020 2[illegible]
2223 1810 929 115 2 1 0 0
0 0 0 0 0 0 2 0
1 0 1 0 1 2 1250 14039
29730 41028 52753 55458 48873 34129 8872 323
1 0 0 0 0 2 0 0
0 0 1 0 0 0 0 0
0 0 0 0 0 1 1 1
0 0 0 0 0 0 0 0
1 3 1 3 2 4 2 3
2209q322
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199217:46:37

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
2
S12
28016
17816 28042

22350 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

C02-226

```
 0     0
 0     0
 0     0
 0     0
 0     0
 0     0
 0     0
 0     0
 0     0
 0     0
 0     0
16 160.000000  1000

Pulse counting values
 281 282 167 21 0 0 0 0
 0 0 1 2 1 0 2 3
 1 1 0 0 0 0 0 0
 1 2 3 1 5 0 0 0
 0 0 0 5 277 743 1052 1398
 1611 1629 1478 1164 351 14 0 0
 0 5 88 190 284 331 390 389
 330 220 42 0 0 0 1 1251
 8321 17569 23710 28678 33317 29362 26179 14291
 2114 11 0 0 15 1653 8206 14306
 18549 22672 24726 21694 17736 7371 503 0
 3 5 837 34234 129095 185158 233846 285305
 258077 250217 189400 53274 1090 1 0 0
 0 1 5 20 27 32 38 19
 14 2 0 0 0 0 1 5
 13 16 19 27 22 16 7 3
 1 0 0 0 0 4 4 4
 2 3 6 5 2 0 0 0
 0 0 11 83 70 92 123 112
 126 84 20 1 0 0 1 0
 1 1 2 3 4 3 5 0
 0 0 0 0 0 0 24 56
 88 85 79 94 72 15 0 0
 0 0 0 11 54 100 101 151
 159 119 116 27 1 0 0 0
 0 9 78 100 124 164 157 158
 95 26 1 1 2 0 0 9
 34 54 91 92 109 69 52 15
 0 0 0 0 13 88 154 158
 225 287 218 213 79 13 0 0
 1 1 2 1 3 6 5 5
 5 3 3 0 1 1 0 1
 19 38 85 101 96 119 103 75
 18 1 0 1 0 0 0 0
 1 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
```

0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0
0 1 12 280 1195 1944 2199 2505
2457 2109 982 115 1 0 0 0
0 0 0 2 1 0 1 1
1 0 0 1 0 4 1027 15151
33852 46131 58785 61987 51722 37280 9754 354
2 0 0 0 0 1 1 2
4 1 1 0 1 0 0 0
0 0 1 1 2 1 1 0
1 0 0 0 0 0 0 0
0 4 2 3 1 1 1 2
2204q231
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199217:50:19

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471270
-0.2581729325

X cal
224.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
2
512
28016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

C02-228

```
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
    16 160.000000  1000

Pulse counting values
 256 256 142 22 0 1 1 0
 0 1 1 1 2 1 1 2
 2 0 1 0 1 0 1 0
 1 2 0 0 0 1 0 1
 1 0 0 2 232 602 957 1105
 1345 1410 1207 894 262 16 0 0
 0 5 118 290 439 502 625 581
 568 326 98 1 0 0 2 1119
 7439 15125 20250 24438 28166 24909 21881 11733
 1684 8 0 0 14 1424 7013 12229
 15938 19215 20857 18484 14976 6171 456 0
 0 1 770 33460 110402 157326 179078 241542
 241720 211225 153884 44664 856 1 1 0
 1 0 19 30 30 40 33 39
 19 6 1 0 0 0 1 4
 20 26 45 31 44 26 10 2
 0 1 0 0 3 1 4 9
 5 13 12 15 2 0 0 0
 0 2 18 67 117 143 142 181
 118 115 25 3 0 0 0 0
 3 0 8 6 6 7 4 2
 1 0 1 0 1 7 26 56
 100 115 112 104 86 40 6 0
 0 1 1 12 67 112 168 175
 167 151 159 42 0 0 1 0
 1 27 94 136 166 182 214 166
 119 28 0 0 0 0 2 11
 54 83 104 110 109 95 60 13
 0 1 0 0 9 60 153 222
 247 275 274 225 102 9 0 0
 0 0 0 2 4 1 6 7
 2 5 2 0 0 0 1 0
 12 47 90 95 139 127 109 87
 21 0 0 0 1 1 0 0
 1 0 1 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
```

C02-229

```
0 0 2 0 1 0 0 0
 0 0 13 306 1113 1713 2129 2616
 2426 2010 931 37 1 0 0 0
 0 0 1 0 1 2 4 1
 1 0 0 0 1 5 1964 15044
 32390 45280 56948 59392 51855 33830 9257 372
 2 0 0 0 0 1 1 0
 0 2 2 3 0 1 0 0
 0 0 0 0 1 0 1 1
 1 0 2 0 0 0 0 0
 0 1 0 1 3 1 2 2
2204933
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 1992,7:52:08

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0049471273
-0.2081729225

X cal
224.375000
0.00000000
0.00386757
-0.20534102
215.535248

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
    16 160.000000  1000

Pulse counting values
 278 272 150 28 0 0 0 0
 0 4 1 6 2 1 4 8
 1 0 0 0 0 0 0 2
 0 1 2 1 1 0 0 0
 0 0 0 5 198 660 950 1209
 1395 1429 1237 987 290 8 0 0
 0 14 140 307 473 497 429 594
 562 349 91 1 0 0 3 1076
 7382 15831 21124 26317 29562 29849 22781 12383
 1747 3 0 0 5 1410 7240 12710
 16547 20033 21670 18884 18872 6368 473 0
 1 5 608 30123 114528 163934 206208 261243
 250723 217033 164826 46111 925 1 0 0
 0 9 23 40 51 46 45 34
 28 5 1 0 0 0 3 19
 14 32 35 41 39 29 10 4
 0 1 0 0 1 5 11 4
 9 4 5 3 1 0 0 0
 0 0 18 57 107 116 163 173
 142 112 31 0 0 0 0 0
 0 2 5 6 5 3 4 7
 1 0 0 0 0 4 27 75
 85 115 113 126 93 46 1 1
 0 0 0 15 51 111 153 172
 193 160 107 32 2 0 0 0
 0 22 72 145 180 207 220 166
 129 32 0 0 0 0 3 23
 49 97 98 129 101 97 62 10
 1 0 1 0 14 78 176 227
 283 330 300 275 82 10 2 1
 1 0 2 0 1 4 6 4
 2 6 2 1 0 0 1 1
 9 52 86 108 132 139 113 100
 25 0 0 0 0 2 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 1 0 0 0
 0 0 7 285 1200 1708 2210 2693
```

```
2494 2156 1028 118 0 0 0 0
1 0 1 1 4 5 2 1
1 0 0 0 0 3 1884 15090
33674 46632 50458 61758 [illegible] [illegible] [illegible] 395
2 0 0 0 0 1 3 0
4 0 4 0 0 0 0 0
0 0 0 0 2 1 2 0
0 0 0 0 0 0 0 0
0 1 3 3 5 2 0 0
2204q341
Acquired in Scan mode
Detector Mode Pulse
  1
 4 February 199217:55:50

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00388757
-0.20534102
215.125348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0

     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
     0      0
```

```
0     0
0     0
0     0
0     0
0     0
0     0
16 160.000000  1000

Pulse counting values
 265 239 158 26 1 1 0 1
 0 1 0 0 0 2 0 2
 0 0 1 0 0 0 0 0
 1 1 0 3 1 1 0 2
 0 0 0 6 229 863 984 1192
 1424 1528 1291 1006 274 10 1 0
 0 3 123 303 510 569 660 610
 537 353 91 0 2 0 1 1150
 7869 15916 21250 25851 29619 26063 22934 12419
 1736 5 0 2 6 1475 7633 13053
 16898 20237 21643 19299 16009 6707 504 0
 1 4 754 31496 117361 166601 209620 235179
 254211 217946 156099 44363 916 1 0 0
 2 8 10 12 14 28 22 21
 13 2 0 0 1 0 2 4
 8 5 14 12 26 12 4 0
 0 0 0 0 0 0 5 2
 6 5 2 2 0 0 1 0
 0 0 19 90 120 170 211 201
 188 145 46 2 0 0 0 0
 0 0 0 2 3 0 1 1
 0 0 0 0 0 2 34 79
 104 127 131 111 115 36 3 0
 0 1 0 15 68 153 199 244
 234 204 172 47 5 0 0 1
 2 26 101 185 223 232 222 237
 171 42 0 1 0 0 0 23
 52 101 127 152 156 102 72 17
 1 0 0 0 22 72 240 287
 378 424 344 301 141 16 0 0
 0 0 0 3 0 3 3 6
 0 8 1 0 0 0 0 0
 19 54 98 139 178 184 120 96
 74 1 1 0 1 0 0 0
 1 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 6 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 1 1 1 0 1 1
 0 0 11 267 1103 1669 2089 2519
 2255 2007 945 89 2 0 0 1
 0 0 1 0 1 2 1 2
```

```
 0 0 0 1 0 9 1920 14912
 31782 43959 [illegible]
 0 0 0 0 0 1 [illegible]
 1 2 2 1 0 0 [illegible]
 1 0 0 0 [illegible]
 1 0 [illegible] 0 0 0 0 1
 [illegible] 1 2 1 2 0
2[illegible]
Required in Slim mode
[illegible] Mesh Filter
   2
 4 February 1[illegible]

Mesh Cell
[illegible]
0.0000000000
0.0000000001
3.604547.272
-0.2581729225

X Cell
[illegible]
 .00003000
0.0038577
-0.2513101
[illegible]

[illegible]
 3
 112
[illegible]
 17886 2[illegible]

 32250 24[illegible]
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

C02–234

0 0
0 0
0 0
18 160.[illegible] 1100

Pulse counting values
262 293 162 [illegible] 1 0 0 0
0 0 1 0 1 2 2 1
0 0 0 0 0 0 0 1
0 0 0 0 2 1 0 0
0 0 0 6 281 699 964 1126
1494 1498 1[illegible] 988 274 14 0 0
0 8 130 [illegible] 1 524 711 [illegible]
363 [illegible] 1101
7572 16299 21378 26333 30049 [illegible] 12594
1352 7 0 0 10 1473 1463 12347
17133 20799 24544 19436 15905 8504 493 0
0 5 710 31090 113659 157537 212721 289505
[illegible] 222345 163341 97832 981 1 0 0
0 2 22 17 32 32 22 19
17 2 0 1 [illegible]
[illegible]
0 0 0 0 1 1 [illegible]
2 2 3 3 0 0 0 0
0 1 15 66 131 168 231 212
212 141 46 0 0 0 1 0
1 0 1 2 0 1 1 1
0 0 0 1 1 1 42 80
104 125 131 143 103 47 5 0
1 1 0 14 92 148 182 233
230 209 153 47 5 0 0 0
2 25 92 196 233 263 288 202
164 43 3 0 0 1 2 19
67 112 130 138 143 126 67 10
1 0 0 0 17 95 226 294
362 433 374 314 124 9 0 0
0 1 0 1 3 5 6 4
4 4 1 0 0 0 0 0
12 71 114 168 193 153 156 100
24 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 0 0 0 0 0
1 0 18 233 1172 1697 2110 1534
2173 1925 908 135 0 0 1 0
1 0 0 8 0 7 1 4
1 0 0 1 0 4 1904 14079
31263 4438[illegible] 58939 50184 35061 9232 392

C02-235

```
 0 0 0 0 0 0 1 1
 0 2 1 2 0 0 0 0
 0 0 0 0 1 0 0 0
 0 0 0 0 0 0 0 0
 0 1 0 1 4 1 1 1
2204q251
Acquired in Scan mode
Detector Mode Pulse
   1
 4 February 199212:01:22

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471272
-0.2581729325

X cal
234.375000
0.00000000
0.00286757
-0.20534102
215.635348

61.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

```
   0      0
  16 150.000000  1000

Pulse counting values
 97 94 66 14 0 0 0 0
 0 0 1 4 0 3 1 0
 1 0 0 1 0 0 0 0
 0 0 3 2 1 2 0 0
 0 0 1 0 0 0 2 0
 8 7 9 2 0 1 0 0
 0 0 1 2 3 5 1 5
 2 3 1 1 0 0 0 0
 2 5 6 6 7 5 5 0
 0 0 0 0 1 0 1 1
 3 6 8 8 7 1 0 1
 0 0 0 5 17 23 33 39
 30 47 28 8 1 1 0 0
 0 0 0 3 2 3 0 1
 2 0 0 0 2 0 0 1
 8 7 8 10 8 4 3 1
 0 0 0 0 0 0 1 2
 2 2 4 0 0 0 0 0
 1 1 0 4 2 9 3 4
 2 4 1 1 0 1 0 1
 0 0 0 0 1 0 0 1
 0 1 0 1 0 0 2 2
 2 4 10 8 7 2 0 1
 0 0 0 0 5 3 0 4
 6 4 1 1 0 0 0 0
 1 0 0 9 3 4 1 2
 1 0 0 1 0 0 1 1
 1 1 2 2 2 1 2 0
 0 1 0 0 0 1 3 5
 4 5 2 3 4 0 0 1
 0 0 3 11 22 26 41 44
 42 45 7 1 0 1 0 0
 0 1 3 0 6 2 2 5
 1 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 2 5 1 1 0 0
 1 0 10 337 1445 2187 2734 3191
 2049 2587 1145 169 7 0 0 0
 0 1 1 1 2 0 4 4
 0 1 0 0 2 15 2175 17741
 42565 58396 72643 76519 66339 45753 12598 598
 1 0 0 0 2 6 19 20
 24 15 26 9 0 0 0 0
```

C02-237

```
 1 0 2 8 7 12 17 13
 6 8 0 0 0 0 0 0
 10 24 34 29 38 40 30 17
2204q352
Acquired in Slow mode
Detector Mode Pulse
   2
 4 February 1992 18:03:11

Mass Cal
0.000000000
0.000000000
0.000000000
0.004897373
-0.2981729622

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635148

81.00 116.1
 3
 512
28016
 17866 28042

 22250 24382
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

C02-238

Pulse counting values

87 80 45 17 0 0 0 0
0 1 2 1 1 1 0 1
1 0 1 2 0 0 1 1
1 0 0 2 2 2 1 0
0 0 0 0 0 4 3 2
0 5 2 7 0 0 1 1
0 2 0 5 6 7 1 3
1 3 0 0 1 0 0 0
4 2 5 4 4 7 5 2
0 0 1 0 0 0 1 1
3 2 8 3 6 2 0 0
0 0 0 2 11 24 19 36
35 27 17 7 0 0 0 0
0 0 0 3 0 0 2 1
0 0 0 1 0 0 0 2
0 9 6 9 17 9 2 1
2 0 0 0 0 1 1 1
2 1 1 2 0 0 0 0
0 0 0 1 2 4 6 3
1 0 3 1 0 0 1 0
0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 4
1 10 8 3 2 3 0 0
0 0 0 0 2 0 1 2
4 5 4 1 0 0 0 0
0 0 1 1 1 0 2 2
5 0 0 2 0 1 0 0
1 1 1 3 2 2 1 0
0 2 0 1 0 0 0 3
9 8 3 2 0 0 0 0
0 0 2 11 28 55 48 64
50 30 16 0 0 0 0 0
2 2 2 3 1 2 1 0
1 0 0 1 0 0 0 0
1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 1 1 1 0 1
0 0 15 331 1304 2073 2636 3252
2937 2544 1245 126 0 0 0 0
0 0 1 0 2 0 3 0
1 0 0 1 0 7 1852 16964
41100 56577 70344 74431 65092 45813 12398 695
3 0 0 1 1 12 14 20
22 15 12 13 0 0 1 0
1 1 0 7 11 14 11 5
13 12 0 0 1 0 0 1

C02-229

```
 4 11 24 39 55 40 37 10
2204q361
Acquired in Scan mode
Detector Mode Pulse
   1
 4 February 1992 13:06:35

Mass Cal
0.00000000000
0.00000000000
0.00000000001
-0.48471273
-0.2861729325

X cal
237.375000
0.00000000
0.00386757
-0.20534102
215.625348

81.00 118.1
 0
 5.2
28016
 17366 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
   16 160.000000  1000
```

C02-240

164 147 73 22 0 0 0 0
1 2 1 2 3 4 2 1
2 0 0 1 0 1 0 0
1 0 1 4 0 0 0 1
0 0 0 3 148 377 525 701
377 862 719 608 157 3 0 0
0 6 79 172 248 312 403 352
317 237 60 0 1 1 0 589
4294 9147 12200 15306 17107 15217 13417 7445
1147 2 0 0 6 319 4309 7428
10039 11702 12907 11110 9109 3940 182 0
0 1 415 18427 68017 97274 123745 148736
147673 127872 97817 27658 518 0 0 0
0 10 17 34 42 52 44 42
16 5 0 0 0 0 0 10
10 10 16 22 24 15 15 1
0 0 0 0 0 2 4 8
3 6 6 0 2 0 0 1
0 0 9 43 76 106 120 123
96 99 14 1 0 1 0 1
1 1 1 2 3 1 3 1
0 0 0 0 0 2 23 60
62 79 77 73 61 31 5 1
0 1 1 14 50 67 109 141
131 111 97 34 1 0 0 0
3 21 46 93 122 169 164 122
59 27 2 0 0 0 0 12
63 60 97 65 30 73 37 5
0 1 0 0 4 49 117 166
193 250 216 166 68 3 1 0
0 0 0 0 1 2 6 4
1 0 0 0 0 0 0 0
8 22 53 73 114 111 76 58
9 1 0 0 1 0 0 0
1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 2 1 0 0 0
0 0 12 213 305 1243 1458 1967
1663 1454 697 94 1 0 0 0
0 0 0 2 3 2 2 1
0 0 0 0 0 1 1364 10822
23717 32827 41490 43621 37377 26309 6768 293
0 0 0 0 0 0 1 2
3 5 0 1 2 0 0 0
0 2 0 0 0 1 2 2
1 1 1 0 0 0 0 0
0 0 0 2 7 2 4 1
2204q362

C02-241

Acquired in Scan Mode
Detector Mode Pulse
2
4 February 1992 18:06:45

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471272
-0.2581729325

X cal
234.373000
0.00000000
0.00386757
-0.20534102
215.635348

01.00 118.1
3
512
28016
17826 26042

28250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
174 166 132 19 0 0 0 0

C02-242

0 1 0 0 0 1 2 0
1 0 0 0 0 0 0 0
0 2 0 0 0 0 1 0
0 0 0 1 152 394 824 787
873 891 326 349 189 2 0 0
0 0 91 175 312 319 393 397
381 236 65 2 0 0 1 669
4774 10073 13643 16248 18279 16339 14577 7706
1164 4 0 0 0 910 4514 8349
10456 12852 13642 12082 9787 6074 312 0
0 4 363 19862 74290 106265 133735 159621
158724 135998 104096 75623 562 1 0 0
0 6 20 26 44 44 44 40
24 4 0 0 0 0 0 0
14 12 19 20 21 25 5 0
0 0 0 0 0 0 2 4
3 9 0 1 2 0 0 0
0 0 10 45 71 97 123 115
120 73 31 1 0 0 0 0
0 0 2 1 0 2 0 1
0 0 0 0 0 4 38 42
55 81 91 83 73 45 4 0
2 0 0 12 51 83 101 110
162 110 103 40 1 1 1 1
0 14 64 99 131 142 155 135
71 27 1 0 0 1 1 11
39 71 82 88 108 72 37 11
0 0 0 0 5 62 125 165
237 275 215 196 83 9 0 0
0 0 0 3 5 0 0 5
0 5 2 1 0 0 0 0
4 24 39 79 99 101 84 62
19 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 1 1 2 0 0
1 0 4 220 859 1281 1604 2110
1831 1511 737 98 2 0 0 0
0 1 1 0 1 2 0 3
0 0 0 0 0 3 1301 11830
25085 34778 44428 46589 39689 27874 7287 313
2 0 0 0 0 0 3 0
2 2 2 0 0 0 0 0
0 1 0 1 1 0 0 0
1 0 0 0 1 0 0 1
1 0 1 2 3 3 2 0
2204q371
Acquired in Scan mode
Detector Mode Pulse

4 February 1992 12:29

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581728525

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
3
512
25016
17866 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 180.000000 1000

False counting values
214 198 122 22 0 0 0 0
0 0 2 2 3 0 2 1
1 0 0 0 0 0 0 0

C02-244

[illegible]
0 1 0 0 139 424 677 817
962 1018 909 727 184 2 0 0
1 2 84 227 290 383 433 437
332 217 84 1 0 1 1 697
5031 10722 14383 17506 19986 17326 10121 8110
1234 8 0 0 11 993 4973 8789
11231 15669 14831 12519 10420 4201 280 1
1 1 439 20507 79463 112331 141980 171207
170134 144787 108615 31051 628 0 0 0
0 8 22 44 63 56 65 45
28 7 1 0 0 0 2 11
14 19 26 24 33 22 9 2
1 0 0 0 2 2 2 0
8 7 6 2 6 0 0 0
0 0 28 83 110 133 163 143
130 95 33 1 1 1 1 1
0 1 4 5 4 2 4 2
1 0 0 1 0 4 34 51
82 112 98 105 71 38 5 0
1 0 0 13 61 105 137 120
185 146 108 40 1 0 0 0
1 18 109 117 183 180 220 177
119 27 0 0 0 1 1 18
50 85 38 124 129 112 52 15
0 0 0 0 12 85 190 231
251 326 287 223 89 10 0 0
0 0 0 1 2 4 2 2
2 4 0 0 0 1 0 1
15 34 91 105 124 123 108 60
18 2 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 3 0 0 0 0
0 0 2 248 864 1357 1691 1950
1865 1584 756 106 1 0 0 0
0 1 4 2 0 0 2 3
1 0 1 0 1 1 1472 11038
25032 35549 44301 45708 39323 27593 7237 305
1 0 1 1 1 7 17 22
39 41 26 28 4 1 0 0
0 0 2 6 13 16 20 14
12 11 0 0 0 0 1 2
10 35 32 41 53 43 30 9
2204q372
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199218:14:17

C02-245

```
Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471272
-0.2581789328

A Cal
234.370000
0.00000100
0.0038[illegible]757
-0.20534102
218.835348

81.00 118.1
 7
 512
22015
 17856 26042

 22250 24582
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0.    0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    15 150.000000  1000

Pulse counting values
 267 233 122 28 1 0 0 0
 0 0 3 0 0 4 0 1
 3 0 0 0 2 0 0 0
 0 2 1 0 0 1 0 0
 1 0 0 7 172 470 845 805
```

C02-246

[illegible]
0 10 77 232 254 328 456 448
261 259 61 0 0 0 0 739
[illegible] 11332 [illegible] 18348 21142 18402 15857 8278
[illegible] 7 [illegible] 5197 9144
11947 14262 [illegible] 13246 10973 4425 358 2
1 1 425 21415 42898 119381 149648 180033
179261 151470 114056 81050 820 1 0 1
1 10 30 39 50 53 63 60
[illegible] 12 1 1 0 1 2 9
13 21 32 42 [illegible] 22 18 0
0 0 1 1 2 3 4 3
5 8 9 2 1 [illegible] 0 2
1 1 14 67 99 134 149 175
130 114 36 0 0 0 0 0
0 4 2 4 3 4 5 5
0 0 0 0 0 0 32 50
91 132 117 99 56 48 7 0
0 0 0 13 72 104 154 178
184 134 140 43 1 0 0 0
0 28 75 184 190 220 212 168
132 30 0 0 0 0 1 16
63 85 114 116 107 99 56 12
0 0 0 0 13 65 150 258
287 329 289 228 102 10 1 0
0 1 0 2 2 2 0 1
3 4 0 0 1 0 0 0
10 51 83 99 151 119 121 95
23 1 0 0 0 0 3 0
1 2 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 3 2 0 0 0
0 0 3 203 925 1329 1703 2107
1923 1531 754 92 3 0 1 0
0 0 0 0 0 3 2 1
1 0 0 0 0 5 1433 11829
26092 33780 [illegible] 48474 40842 [illegible] 7280 334
0 0 0 0 4 7 20 22
35 45 23 17 3 1 1 1
0 1 2 12 13 34 19 21
14 7 1 0 0 0 0 0
8 22 47 71 67 53 39 19
2204q381
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199218:17:59

Mass Cal

C02-247

```
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

Y cal
234.375000
0.00000000
0.0038s757
-0.20834101
215.833048

81.00 118.1
 3
 512
2801s
 17866 26042

 22250 24652
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    15 160.000000  1000

Pulse counting values
 89 76 45 13 0 0 0 1
 0 2 0 2 0 2 3 0
 0 0 0 0 0 0 0 0
 1 0 1 1 1 1 0 0
 0 0 1 0 1 5 7 2
 4 2 9 4 0 0 0 0
 0 0 1 2 1 2 0 1
```

[illegible]
2 4 7 9 4 6 7 3
1 0 0 0 0 1 2 3
2 10 3 4 3 1 0 0
0 0 1 2 13 [illegible] 37 43
54 43 38 12 0 0 0 0
0 1 0 2 0 3 1 1
2 0 0 0 2 0 0 2
5 5 8 4 10 5 4 0
1 0 0 0 1 0 1 4
2 1 1 2 0 0 0 0
0 0 0 4 3 3 7 4
4 2 0 0 0 0 0 0
0 0 0 1 0 0 0 1
0 0 0 1 0 0 0 4
3 6 5 4 2 2 1 1
0 1 0 0 0 1 0 1
0 2 2 1 0 0 0 0
0 0 0 1 3 5 4 2
1 0 0 0 0 0 0 0
1 0 1 2 1 2 0 0
0 0 0 0 0 0 0 1
3 4 2 0 2 0 0 0
0 0 0 0 1 0 0 0
2 1 0 0 0 0 0 0
0 2 1 0 1 0 2 1
1 0 0 0 0 0 0 0
0 1 1 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 1 16 290 1194 1896 2418 2793
2574 2085 1008 134 2 0 0 0
0 0 1 1 1 0 0 1
1 1 0 1 0 1 1812 14785
35326 49762 61253 63871 54743 38556 10423 584
[illegible] 0 0 0 2 1 1 2
2 1 5 0 0 0 1 0
0 0 0 1 2 0 1 1
1 0 0 1 0 0 0 0
3 1 3 2 2 1 1 0
2a04q032
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199218:19:47

Mass Cal
0.0000000000
0.0000000000

C02-249

0.0000000001
0.0045471278
-0.2561729325

X cal
234.370000
1.00000000
0.00766727
-0.20534102
215.138048

31.00 112.1
3
512
28016
17363 28042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
72 66 41 9 0 0 0 0
0 1 0 1 0 2 1 0
3 0 0 0 0 0 1 0
0 0 0 2 0 0 1 0
1 1 0 0 1 2 3 3
3 7 7 3 0 0 0 1
1 0 1 1 1 1 3 0
3 0 1 1 0 0 0 0
1 3 2 5 10 7 2 3

0 0 0 0 0 0 0 0
3 2 4 1 3 2 3 0
0 0 0 0 14 20 19 29
24 24 25 4 0 0 0 0
1 0 1 0 1 2 1 1
0 0 0 0 0 1 0 2
3 5 10 7 0 2 7 0
0 0 0 0 0 2 2 1
4 6 1 2 0 1 0 0
0 0 0 0 4 3 7 1
3 1 1 0 0 1 0 1
0 0 0 1 0 0 1 0
1 0 0 0 0 0 2 3
5 5 6 8 1 5 1 0
1 0 0 1 1 3 1 4
3 3 1 1 0 0 0 3
0 0 2 4 1 4 2 1
0 0 0 0 0 1 0 1
0 1 0 0 0 0 1 0
0 0 0 0 1 1 3 2
2 3 2 3 0 0 0 0
0 0 0 0 1 0 0 2
0 0 0 1 0 0 0 1
0 1 3 1 2 2 1 1
2 0 0 0 1 0 0 1
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 1'2 273 1240 1907 2316 2746
2582 2161 992 135 3 0 0 0
0 2 0 0 0 0 0 0
0 0 0 0 0 2 1668 14458
34852 48651 59405 62944 54711 38302 10318 594
2 0 0 0 0 1 2 3
0 1 0 0 0 0 0 0
0 1 0 0 0 2 1 1
0 0 0 0 0 1 0 0
1 0 2 2 2 3 1 0
2204q391
Acquired in Scan mode
Detector Mode Pulse
1
4 February 19v210:23:30

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273

C02-251

```
-0.2581729323

X cal
284.375000
0.00000000
0.0028757
-0.20324102
215.638342

5.00 113.1
 J
 512
23016
 17865 26042

 22250 24632
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1900

Pulse counting values
 133 160 150 16 1 0 0 0
 0 1 2 2 2 1 2 2
 3 0 0 0 0 0 0 0
 0 0 1 1 0 0 0 0
 0 0 1 3 140 335 566 672
 805 724 451 512 125 6 1 0
 0 2 48 139 227 262 266 267
 228 162 37 0 0 1 1 599
 2966 8263 11106 13616 15343 13490 11748 6258
 925 6 0 0 6 779 3971 6555
 8380 10652 11316 9659 8014 3215 211 0
```

[illegible]
130759 112123 84151 23026 306 0 0 0
0 4 15 25 26 32 36 32
13 4 1 0 0 0 1 4
9 9 21 17 22 18 8 1
0 0 0 0 0 1 1 0
4 4 3 3 7 1 0 0
0 0 14 43 91 102 128 146
108 90 27 4 0 0 0 0
2 0 1 2 1 3 1 1
0 0 0 0 0 3 20 36
69 89 85 71 67 29 2 1
0 0 0 13 52 96 102 123
134 122 94 35 0 1 0 0
1 7 58 106 132 173 167 123
91 19 0 0 0 0 2 14
52 54 72 119 76 77 39 8
0 0 1 0 15 50 115 176
221 229 191 170 90 8 0 0
1 0 0 0 0 2 4 2
1 2 2 0 0 0 0 0
11 34 71 111 113 106 98 42
17 0 0 1 0 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 3 2 1 0 0 0
1 0 9 195 727 980 1332 1614
1397 1198 541 83 0 0 0 0
0 0 0 3 2 1 4 0
1 0 0 0 0 4 1207 9267
19839 27436 34737 35656 30280 20991 5139 213
1 1 0 0 2 8 19 16
24 32 18 12 3 0 0 0
1 0 3 6 14 12 12 12
11 9 1 1 0 0 1 0
6 25 20 40 44 45 36 9
2204q392
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199219:25:21

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

```
X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635345

81.00 115.1
 3
 512
23015
 17956 26042

 22250 24882
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 176 161 122 22 0 0 0 0
 0 1 6 1 1 1 3 0
 0 0 0 0 2 0 0 0
 1 1 2 1 2 0 0 0
 0 0 0 5 158 406 820 702
 922 864 744 576 161 10 0 0
 1 10 56 168 258 295 308 317
 228 171 36 1 0 2 0 692
 4528 9715 13022 15656 17915 15085 13404 9163
 989 5 1 0 10 875 4487 7782
 10181 12002 13148 11250 9059 3650 241 0
 0 3 506 19431 71997 102352 127142 153222
 150131 126073 85047 26095 452 1 0 0
```

[illegible]
24 2 1 0 0 0 0 2
17 20 22 27 17 15 3 1
0 0 0 0 0 0 2 4
5 8 8 7 1 1 0 0
0 0 11 37 91 111 157 130
114 74 31 1 0 0 0 0
1 3 3 3 4 4 3 2
0 0 0 1 0 10 31 48
87 93 91 105 37 36 3 0
0 0 0 14 57 113 155 146
172 133 104 35 1 0 0 0
1 27 78 118 154 182 191 176
115 13 0 0 0 1 2 13
60 67 97 109 83 75 43 1[illegible]
0 0 0 1 12 71 149 206
218 286 326 172 82 5 0 0
0 0 0 0 0 1 7 5
3 5 3 0 0 0 0 1
9 52 66 113 159 111 100 73
20 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 2 3 0 0 0
0 0 4 193 787 1211 1440 1732
1525 1325 801 79 0 0 0 0
0 3 0 0 3 2 1 0
0 0 1 0 0 4 1277 9931
21872 30213 38887 39510 33183 22560 9715 233
0 2 0 2 2 11 27 27
30 29 27 17 2 0 0 0
0 0 2 8 9 13 8 11
6 3 1 0 1 0 0 0
8 29 31 45 37 46 25 11
2204q401
Acquired In Scan mode
Detector Mode Pulse
1
4 February 199218:29:03

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000

C02-255

```
0.00000000
0.00386757
-0.20534102
215.635348

81.00 115.1
 3
 512
23415
 17366 36042

 22250 24602
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    15 180.000000  1000

Pulse counting values
 162 142 77 12 0 0 0 2
 0 0 0 1 0 5 3 1
 0 0 0 0 0 1 0 0
 0 0 0 1 0 1 0 0
 1 0 0 4 133 402 530 646
 822 749 674 514 144 6 0 0
 1 4 98 225 318 374 409 392
 311 199 47 1 0 0 1 721
 4556 8882 11849 14039 15866 13312 11497 5899
 797 3 0 0 13 907 4201 7120
 9067 11050 11533 9829 7769 3083 215 0
 0 1 539 18456 65571 92151 114100 136992
 132019 111832 82233 21751 435 0 0 1
 0 4 13 19 27 19 21 25
 7 3 0 0 0 0 1 2
```

C02-256

[illegible] 1
0 0 0 0 1 2 3 5
5 5 1 2 1 0 0 0
0 0 18 71 [illegible] 111 182 155
138 108 51 0 0 0 0 0
0 0 0 0 1 0 1 0
0 0 0 0 0 5 26 57
77 102 108 [illegible] 71 32 0 0
1 1 0 22 71 125 143 168
212 149 [illegible]
1 21 82 [illegible] 226 193 130
111 21 1 [illegible] 12
86 102 109 [illegible] 119 109 59 4
0 0 0 1 9 [illegible] 175 249
339 340 308 223 100 10 0 0
0 0 0 0 1 4 [illegible]
11 2 1 0 0 0 0 0
4 55 85 107 137 136 113 72
25 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 1 0 0 1 0
0 0 16 312 1370 1519 1935 2322
1983 1664 714 92 1 0 0 0
0 1 0 0 2 2 3 0
0 0 0 0 2 5 1981 14210
27365 40241 50677 51349 42923 27421 7328 [illegible]
0 1 0 0 0 0 0 0
2 1 0 1 0 0 1 0
0 0 0 0 1 0 0 1
0 1 0 0 0 2 0 0
0 1 0 2 0 3 0 0
21044402
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199218:20:58

Mass Cal
0.0000000000
0.0000000001
0.0000000001
0.0348471272
-0.2501727320

X cal
234.375000
0.00000000
0.00085757

C02-257

```
-0.20534102
215.625346

81.00 113.1
 3
 512
22016
 17555 26042

 22250 [illegible]
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0

      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
      0      0
    12 110.000000  1000

Pulse counting values
 165 145 84 19 0 1 0 0
 0 0 1 0 1 2 3 4
 1 0 0 1 0 0 0 1
 0 0 0 1 0 1 1 0
 0 0 1 7 162 336 564 616
 721 762 605 471 116 5 0 0
 1 [illegible] 217 [illegible] 367 439 402
 307 215 38 2 0 0 1 747
 4600 9163 11822 13754 15633 13137 11268 5904
 837 2 1 0 7 856 4360 7303
 9396 11061 11658 9672 7737 3038 204 0
 0 4 618 19209 68800 95255 116817 137953
 132856 110263 80274 21549 420 1 0 0
 0 5 8 19 18 30 23 17
 14 2 1 0 0 0 0 2
 7 2 6 14 14 1 3 0
 0 0 0 1 1 2 0 0
```

C02-258

[illegible]
1 0 17 55 104 161 177 192
136 107 35 1 0 0 0 0
0 1 0 0 1 0 1 0
1 0 0 0 0 2 27 69
96 117 128 114 91 46 1 1
0 1 0 18 76 140 161 200
220 189 149 32 3 0 0 0
1 27 92 151 179 248 226 175
129 89 0 0 0 0 1 13
68 91 165 187 141 112 67 6
0 1 0 0 16 75 174 231
327 339 320 284 98 3 0 0
0 0 0 1 0 5 4 5
3 1 0 1 0 2 0 1
13 68 91 115 147 146 116 93
19 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 0 0 0 0 0
0 0 10 124 620 935 1187 1402
1120 1043 479 41 0 0 0 0
0 0 1 0 0 0 2 2
0 0 0 0 0 8 1198 3709
10418 24937 31683 32099 26578 13132 4429 188
0 1 0 0 0 1 1 1
1 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0
1 1 2 0 4 2 0 0
2204q411
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199218:34:35

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2381729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.235348

C02-259

```
81.00 118.1
 3
 512
28016
 17866 25042

 22250 24582
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000
```

Pulse counting values

```
91 94 54 9 1 0 0 0
0 3 0 1 3 3 0 0
1 0 0 0 0 0 0 0
1 1 0 1 3 0 0 0
0 0 0 0 1 2 2 5
1 3 1 1 0 0 0 0
1 0 0 0 2 2 4 0
0 0 0 0 0 0 0 0
1 1 3 5 8 8 8 4
0 0 0 0 0 1 1 4
2 2 1 1 1 0 0 0
0 0 0 1 18 24 24 26
29 19 17 3 0 1 0 0
0 0 0 0 0 0 0 1
1 0 0 0 0 0 0 1
6 2 6 5 6 3 0 0
0 0 0 0 0 0 1 1
2 3 2 1 0 1 0 0
0 0 1 1 2 2 3 3
```

0 0 0 0 0 0 1 0
0 0 0 0 0 1 1 0
2 5 2 5 4 1 1 0
0 0 0 0 1 0 2 3
1 0 0 1 0 0 0 0
0 0 0 0 2 1 2 2
1 0 0 0 0 0 0 0
0 2 2 0 1 3 0 0
1 0 0 0 0 0 1 0
5 5 2 0 1 0 0 0
1 0 0 0 0 0 0 1
1 0 0 1 0 1 0 0
1 0 3 2 7 1 0 0
0 1 0 0 1 0 1 0
0 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 1 1 0
1 0 13 261 1102 1598 1945 2313
2116 1710 768 122 3 0 1 0
0 0 0 0 0 0 0 0
0 1 0 0 1 10 1966 13763
30412 40736 50847 51707 44982 29905 7268 444
1 0 0 0 0 1 0 0
1 2 0 0 1 1 0 0
1 0 0 1 2 0 0 1
0 0 0 0 0 1 0 0
0 2 0 1 0 1 3 0
22040412
Acquired in Scan mode
Detector Mode Pulse
2
4 February 1992 18:36:22

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.3045471273
-0.2581727325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1

C02-261

```
 3
 512
28016
 17866 26042

 22250 24282
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 49 45 30 5 0 0 0 0
 0 1 0 2 1 0 3 1
 1 0 1 1 0 0 1 1
 1 3 3 0 0 3 0 0
 0 0 0 1 1 3 4 1
 6 3 4 4 1 0 0 1
 0 0 0 0 3 0 0 0
 0 0 0 1 0 0 1 0
 0 3 5 5 3 2 5 1
 0 0 0 0 0 0 1 2
 1 1 2 4 2 0 0 0
 0 2 0 2 5 11 10 4
 18 12 6 2 0 0 0 0
 0 1 0 0 0 0 0 0
 0 0 0 0 1 0 0 2
 2 7 3 2 7 5 3 0
 0 0 0 0 1 0 0 1
 0 1 1 0 2 1 0 1
 0 0 0 0 1 2 2 2
 2 3 1 0 0 0 0 1
 0 0 0 0 1 0 0 0
```

C02-262

```
1 1 2 1 7 1 0 0
0 0 0 0 2 1 0 1
2 1 0 1 0 0 0 0
0 1 1 1 0 2 0 1
1 2 0 1 0 0 0 0
0 0 0 2 2 1 0 0
0 0 0 0 0 0 0 1
1 5 1 0 0 0 0 1
0 0 1 0 0 0 1 0
1 0 0 0 0 0 0 0
0 2 3 0 0 4 2 0
1 0 1 0 0 0 0 0
0 0 1 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 1 20 270 1108 1575 1963 2224
2119 1796 210 108 0 1 0 0
0 0 0 0 0 2 1 0
0 1 0 0 0 0 1803 14091
30797 41347 50455 52198 45157 30844 7833 419
1 0 1 0 0 1 1 3
0 1 1 1 0 0 0 0
1 0 0 0 0 1 0 1
0 0 0 0 0 0 0 0
0 1 3 2 0 0 0 0
2204q421
Acquired in Scan mode
Detector Mode False
   1
 4 February 199218:40:05

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635348

81.00 118.1
 3
 512
```

C02-263

```
26918
 17056 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0

     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
    16 160.000000  1000

Pulse counting values
 92 64 45 8 2 0 0 0
 0 0 1 5 2 3 1 1
 0 0 0 0 0 0 0 0
 1 0 0 0 0 2 1 2
 0 0 0 1 58 152 212 257
 310 290 236 170 58 1 1 0
 0 4 41 108 144 159 193 194
 143 112 13 0 0 1 0 313
 1657 3335 4363 5265 5849 5013 4455 2264
 319 0 0 0 6 399 1577 2689
 3368 4395 4372 3490 3013 1238 59 0
 0 1 286 6970 24885 34484 43332 51580
 50581 43266 31783 8524 157 0 0 0
 0 5 12 20 36 32 27 19
 5 1 0 0 0 0 1 4
 10 13 15 18 17 10 6 3
 1 0 0 0 0 0 2 0
 3 3 0 5 1 0 0 0
 0 1 20 55 102 124 163 127
 129 83 23 0 0 0 0 0
 1 2 2 3 1 5 3 0
 1 0 0 0 0 5 17 54
 77 111 103 90 73 22 5 0
```

C02-264

[illegible]
18c 146 117 22 1 0 0 0
1 27 72 121 130 132 179 146
98 17 1 0 0 0 1 21
43 61 88 120 101 63 35 0
0 0 0 0 17 [illegible] 173 222
254 291 282 186 93 7 0 0
0 0 1 0 1 0 2 0
1 0 1 0 0 1 0 0
6 52 88 93 91 109 112 74
24 1 0 0 0 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 8 167 596 866 1091 1255
1111 943 396 57 1 0 0 0
0 0 1 0 0 2 3 1
1 0 0 0 0 8 1277 8276
16705 32866 28592 29061 24629 15281 4077 163
0 0 1 0 0 1 1 1
1 2 0 0 1 0 0 1
0 0 0 0 2 1 1 1
0 0 1 0 0 0 1 0
0 0 4 0 1 2 1 0
2204q422
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199218:41:55

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00236757
-0.20534102
215.635348

81.00 118.1
3
512
28016
17866 26042

C02-265

```
22250 24682
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0

    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
    0     0
   16 160.000000  1000
```

Pulse counting values

```
112 92 57 16 1 0 0 0
0 0 0 5 2 0 1 0
2 1 0 0 0 0 0 0
1 0 0 1 0 0 0 1
0 0 4 3 64 122 203 279
302 284 224 213 42 1 0 0
0 2 40 106 158 158 176 179
140 112 16 0 0 0 0 256
1637 3297 4248 5194 6016 5252 4306 2402
318 0 0 0 0 338 1600 2682
3395 4097 4401 3824 3154 1244 92 0
1 2 227 6867 24945 35087 43043 52144
50620 43075 32133 8556 165 1 0 0
0 4 3 21 23 18 23 22
12 2 0 0 0 0 0 1
10 9 22 8 22 13 9 2
0 1 0 0 1 0 1 1
1 8 4 1 0 0 0 0
1 0 18 56 20 131 141 124
141 79 36 1 0 0 0 0
1 1 0 5 3 0 1 1
2 0 1 0 0 4 27 69
71 79 120 87 65 33 6 1
0 0 0 12 63 100 139 161
170 136 120 41 1 0 0 0
```

C02-266

0 10 32 100 101 200 187 142
82 26 1 0 0 0 1 23
35 75 75 100 37 84 42 0
0 1 0 1 12 36 161 193
226 267 283 210 93 6 0 0
0 0 0 0 1 0 0 0
0 0 0 0 0 0 0 0
11 55 99 111 128 131 58 64
17 1 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 1 0 0 0 0
0 0 6 175 609 898 1061 1325
1148 954 425 52 0 0 0 0
0 0 1 0 0 0 1 1
1 1 0 0 0 9 1248 8304
16926 23200 29486 29823 24854 15754 4240 181
2 0 0 0 1 0 1 2
1 1 2 1 0 0 1 0
0 0 0 0 0 1 2 0
1 0 1 0 0 0 0 0
1 1 2 0 2 5 1 0
2204q431
Acquired in Scan mode
Detector Mode Pulse
1
4 February 199218:45:38

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.625348

81.00 113.1
3
512
28016
17866 26042

22250 24682

C02-267

```
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0

0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
16 160.000000  1000
```

Pulse counting values

```
109 85 49 15 0 1 0 0
0 0 0 0 0 4 3 4
0 0 0 0 1 0 0 0
2 1 1 0 0 1 0 0
0 0 1 2 36 125 220 247
316 258 234 202 57 1 0 1
0 787 214 314 355 391 382
343 216 43 0 0 0 1 251
1637 3173 4297 5306 5808 5018 4317 2188
307 1 0 0 5 331 1588 2692
3382 4071 4493 3812 3000 1220 84 0
1 0 259 6837 23820 33801 41863 50980
49477 42266 31072 8251 174 0 0 0
0 2 1 1 5 6 3 1
4 1 0 0 0 0 1 2
3 2 5 7 6 7 2 1
0 0 0 0 0 0 3 3
0 3 2 0 1 0 0 0
1 1 16 47 77 95 90 92
92 50 18 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 5 31 47
50 57 78 59 59 20 2 1
0 0 0 18 50 80 82 123
121 104 84 27 0 0 0 0
0 16 68 86 102 137 123 109
70 19 1 0 0 1 0 11
```

C02-268

[illegible]
0 0 0 0 14 39 132 182
189 194 186 141 83 2 0 0
0 0 0 0 0 1 0 1
1 1 0 0 0 0 0 0
9 38 61 [illegible] 97 98 67 51
16 0 0 0 1 [illegible] 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 1 0 0 1
0 0 9 175 600 282 1076 1345
1152 957 400 67 1 0 0 0
0 0 0 1 1 0 1 1
0 1 0 0 0 3 1210 8320
17131 22847 29177 29547 24860 16744 4183 187
1 0 1 0 0 0 0 2
0 1 2 0 1 0 0 0
0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0
1 0 1 2 2 1 0 0
22044432
Acquired in Scan mode
Detector Mode Pulse
2
4 February 1992 13:47:27

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

λ cal
234.375000
0.00000000
0.00386757
-0.20534102
215.638348

81.00 118.1
3
512
28016
17866 26042

22250 24682
0 0
0 0

C02-269

```
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0

0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
16 160.000000  1000

Pulse counting values
 94 97 68 0 0 1 0 0
 0 0 1 0 2 4 2 2
 1 0 0 0 0 0 0 0
 0 0 0 0 0 0 1 0
 0 0 1 4 50 166 209 250
 308 293 242 176 47 4 0 0
 0 11 91 253 334 324 413 371
 373 242 26 3 1 0 3 304
 1682 3390 4365 5385 5950 6227 6203 2244
 228 0 0 0 5 332 1623 2817
 3676 4213 4118 3859 3177 1197 79 0
 0 0 250 7334 25570 35749 44184 52567
 50811 42865 31387 3326 155 1 0 0
 0 0 2 2 4 3 4 2
 0 0 1 1 1 0 1 1
 5 5 7 6 7 5 2 0
 0 0 0 1 1 0 2 0
 2 4 2 3 1 0 1 0
 0 1 10 43 65 79 106 104
 56 60 17 0 0 0 0 0
 0 0 2 0 0 2 0 0
 1 0 0 0 0 3 29 40
 58 71 102 86 50 22 1 0
 0 0 0 7 42 79 78 125
 115 92 84 29 1 0 0 0
 1 35 50 92 102 162 131 129
 76 15 0 1 0 0 3 16
 49 70 77 96 66 76 26 2
 1 0 0 0 8 47 117 159
```

C02-270

[illegible]
0 0 0 0 0 0 1 0
0 1 2 0 0 0 0 0
9 43 52 65 [illegible] 33 [illegible] 44
16 1 0 0 1 0 1 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 1 0 1
1 1 5 186 590 936 1147 1363
1128 950 439 50 1 0 0 0
0 0 0 2 1 0 0 0
1 1 0 1 0 4 1296 8579
17239 23636 29527 29921 24437 18651 4150 157
3 0 0 0 0 0 0 3
0 2 1 1 0 0 0 0
1 1 0 2 1 1 0 1
0 0 0 0 0 0 1 0
1 0 2 0 1 0 0 0
2204q441
Acquired in Scan mode
Detector Mode Pulse
1
4 February 1992 18:51:06

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.375000
0.00000000
0.00386757
-0.20534102
215.635349

81.00 118.1
3
512
28015
17865 26042

22250 24682
0 0
0 0
0 0
0 0

```
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
0 0
16 160.000000 1000

Pulse counting values
137 139 71 15 0 0 0 1
0 2 0 0 1 2 1 1
0 1 0 0 0 0 0 0
1 0 0 0 0 0 0 0
1 0 0 4 122 287 482 522
627 624 586 447 126 4 0 0
0 6 82 174 234 269 347 291
244 181 36 1 0 1 1 632
3748 7231 9543 11352 12820 11179 9839 5052
679 1 0 0 12 769 3703 6042
7408 9073 9615 8124 6434 2583 189 0
0 2 683 16550 56116 77698 94235 113026
107905 91932 67087 17327 304 0 0 1
0 2 4 14 16 12 10 11
7 3 0 0 0 0 0 2
3 0 14 8 8 5 5 0
0 0 0 0 0 2 1 3
2 0 3 0 0 0 0 0
1 1 21 79 88 93 130 136
121 101 26 0 0 0 2 0
0 0 0 0 0 0 1 2
0 0 0 0 0 7 35 69
82 92 93 82 33 33 4 0
1 0 0 13 61 97 134 181
159 152 105 26 1 0 0 0
1 28 96 123 153 195 190 145
102 26 2 0 0 1 3 31
51 70 97 108 102 79 50 6
0 0 0 0 19 82 168 211
264 291 240 216 81 6 0 0
1 0 0 2 3 0 1 2
```

C02-272

4 1 0 0 0 0 0 0
19 67 72 125 113 133 125 70
12 2 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 2 0 0 0 0 0
1 1 7 157 363 803 989 1096
1010 803 394 33 0 0 0 1
0 1 0 1 2 1 1 2
0 1 0 0 0 7 1209 7782
15310 20820 23267 21740 21541 24311 3480 145
1 0 0 0 1 1 0 0
0 1 0 3 1 0 0 0
0 1 1 0 1 0 0 1
1 0 0 0 0 0 0 0
1 0 0 1 0 0 1 0
2204q442
Acquired in Scan mode
Detector Mode Pulse
2
4 February 199218:52:58

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0049471272
-0.2581724325

A Cal
234.375000
0.00000000
0.00386757
-0.20534102
315.635348

81.00 118.1
3
512
29016
17858 26042

22250 24682
0 0
0 0
0 0
0 0
0 0
0 0

C02-273

```
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0

0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
0    0
  16 120.000000  1000

Pulse counting values
 191 193 107 24 1 0 0 0
 0 0 1 3 0 0 4 3
 0 0 0 4 0 0 0 0
 0 0 0 0 0 0 0 0
 0 0 0 8 120 355 520 687
 770 781 602 337 112 7 0 0
 0 5 82 202 268 327 415 380
 301 222 56 0 0 0 2 782
 4478 8736 11514 12990 13548 12879 11174 6734
 760 4 0 1 21 1017 4283 7187
 8530 10999 11389 9308 7554 2931 180 1
 0 2 708 19365 66786 92860 112627 135891
 123642 108121 75191 20821 375 0 0 0
 1 1 5 11 9 13 13 5
 7 1 0 0 0 0 0 0
 6 3 7 17 7 10 2 2
 0 0 1 0 0 0 3 3
 2 2 1 1 1 0 0 0
 0 1 19 71 120 127 154 164
 153 83 30 1 0 0 0 0
 0 0 1 1 0 2 2 0
 1 0 1 0 0 5 30 66
 92 96 117 102 73 23 1 1
 0 0 1 23 74 144 146 202
 203 120 126 54 3 0 0 0
 1 20 67 161 187 223 205 192
 114 20 1 0 0 0 0 26
 78 101 93 123 99 93 55 16
 1 0 0 0 18 79 187 254
 276 357 280 218 96 5 0 0
 0 0 2 3 3 3 4 3
 4 2 0 0 1 0 0 1
 12 53 57 100 106 123 119 78
```

C02-274

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 1 1 0 0 0
0 0 7 185 643 883 1117 1276
1124 953 434 50 1 0 0 0
0 0 0 2 1 1 1 0
0 0 0 1 0 4 1291 8739
17274 23822 27370 28992 23873 18717 3701 137
0 0 0 0 0 0 0 1
1 1 1 0 1 1 0 0
1 2 0 0 1 0 0 0
0 0 1 0 0 0 0 0
0 1 1 1 1 0 0 1
2x04q451
Acquired in scan mode
Detector Mode Pulse
   1
 4 February 1991 10:56:39

Mode Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2561725325

X cal
254.325000
0.00000001
0.00366757
-0.20534102
215.635348

81.00 118.1
 3
 512
28016
 17866 28042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

C02-275

```
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0

0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
0  0
 16 160.000000  1000
```

```
Pulse counting values
 97 32 41 10 0 0 0 0
 1 1 1 0 2 1 0 0
 1 0 0 1 0 0 1 1
 0 2 0 0 1 1 0 1
 0 0 1 0 1 2 4 5
 6 3 6 3 0 0 0 1
 1 1 0 17 14 26 19 24
 22 21 2 0 0 0 0 0
 0 6 5 1 4 4 3 1
 0 0 0 0 0 2 4 6
 7 18 14 10 8 1 1 0
 1 0 0 3 4 16 20 19
 12 20 13 2 1 0 1 1
 0 0 0 3 0 0 2 2
 2 1 4 0 0 0 0 1
 0 6 3 5 4 1 0 0
 0 0 0 0 0 0 0 3
 1 1 1 1 0 0 0 0
 2 0 1 0 1 1 0 9
 2 0 0 0 0 0 0 0
 0 0 0 0 1 0 1 0
 0 0 0 0 0 0 0 1
 2 1 4 2 2 0 2 0
 0 0 0 0 2 1 1 0
 2 0 1 0 0 0 0 1
 0 0 0 1 2 1 0 2
 0 0 1 0 1 0 0 0
 1 0 3 0 1 0 1 1
 0 0 0 0 0 0 2 1
 2 3 3 2 1 1 1 0
 1 0 17 96 193 240 289 264
 252 215 62 4 0 0 0 0
 1 0 2 1 1 1 0 0
 0 0 1 0 0 0 0 1
 1 0 0 0 0 0 0 0
```

C02-276

```
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 2 0 0 0 1
0 1 9 248 959 1364 1638 1916
1725 1461 649 32 2 0 0 1
1 2 1 1 0 1 1 1
0 0 0 0 1 3 1618 12126
26082 36249 42974 43679 36980 25144 6310 370
0 0 0 0 0 2 4 1
1 0 0 0 1 0 0 0
0 0 0 1 0 0 0 1
0 0 0 0 1 1 0 0
0 0 0 0 0 1 0 0
2204q452
Acquired in Scan mode
Detector Mode Pulse
   2
 4 February 199218:58:28

Mass Cal
0.0000000000
0.0000000000
0.0000000001
0.0045471273
-0.2581729325

X cal
234.376000
0.00000000
0.00586757
-0.20534102
215.633348

81.00 118.1
 3
 512
28016
 17866 26042

 22250 24682
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
     0     0
```

C02-277

```
0     0
0     0
0     0
0     0
0     0
0     0
0     0

0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
0     0
16 150.000000  1000
```

Pulse counting values

```
56 49 36 4 0 0 0 0
0 0 0 1 0 1 1 0
0 0 0 0 0 0 1 0
1 1 1 1 0 1 0 0
0 0 1 0 2 2 2 2
3 0 0 1 0 1 1 0
0 0 1 11 20 16 15 22
25 22 3 0 0 0 0 0
1 2 1 3 1 2 2 2
0 0 0 0 0 1 4 4
0 12 13 15 2 4 0 0
0 1 0 0 3 14 13 14
12 10 6 1 0 0 0 0
0 0 0 0 0 0 1 0
0 0 0 0 0 0 0 0
3 5 5 4 3 0 5 1
0 0 6 0 0 2 0 2
0 0 1 0 0 0 0 0
0 0 1 0 3 2 4 1
3 0 0 0 0 0 1 0
1 0 0 0 0 0 0 0
0 0 0 0 0 0 2 2
2 2 3 1 3 3 0 0
0 1 1 1 0 0 5 2
2 4 1 1 0 1 1 1
0 0 0 1 3 3 4 0
1 0 0 0 0 0 0 0
0 1 1 1 2 0 1 1
0 1 0 1 0 0 0 1
3 1 0 2 0 0 0 0
0 0 12 100 163 224 288 285
231 186 61 3 0 0 0 0
0 0 1 1 3 2 2 2
1 1 0 0 1 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
```

C02-278

1 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0
0 0 1 0 1 0 1 0
0 0 14 214 372 1270 1528 1770
1538 1326 601 73 1 0 0 0
0 0 1 0 0 0 1 0
0 0 0 0 0 3 1469 11139
24239 32761 40127 40675 34852 23402 6097 383
1 1 0 0 1 0 0 0
1 0 0 0 0 0 1 1
0 0 0 0 0 0 0 0
0 0 0 0 0 1 0 0
0 2 3 2 1 2 0 0