GEL Laboratories LLC

a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

August 25, 2009

Mr. Frank Hagar
Northgate Environmental Management, Inc.
1100 Quail St., Suite 102
Newport Beach, California 92660

Re: Tronox Henderson
Work Order: 233580

Dear Mr. Hagar:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 16, 2009, July 17, 2009, July 18, 2009, July 22, 2009, July 23, 2009, July 24, 2009, July 25, 2009 and July 28, 2009. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4453.

Sincerely,

Edith M. Kent

Edith Kent
Project Manager

Chain of Custody: 2027.001.00253, 2027.001.00267, 2027.001.00295, 2027.001.00302, 2027.001.00306, 2027.001.00320, 2027.001.00326, 2027.001.00329, 2027.001.00332 and 2027.001.00341
Enclosures

Tronox LLC
Tronox Henderson
SDG:233580

Table of Contents

Case Narrative

CASE NARRATIVE
for
Tronox LLC
Tronox Henderson
SDG:233580

August 25, 2009

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt
The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on July 16, 2009, July 17, 2009, July 18, 2009, July 22, 2009, July 23, 2009, July 24, 2009, July 25, 2009 and July 28, 2009 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Items of Note
All samples under this SDG were logged as an open SDG until a sufficient amount of samples were received by the lab. The client was notified that the SDG was closed on July 28, 2009 and the turnaround time would start from then. Please refer to the attached e-mail for further details.

QC Issues
The following samples did not meet the Tronox QA program sample result uncertainty limit of <30% for Ra-226 with the results between 2 and 5 times the MDA and were counted for the maximum time: and 233580009. The following samples did not meet the Tronox QA program sample result uncertainty limit of <30% for Alpha Spec Uranium with the results between 2 and 5 times the MDA and were counted for the maximum time: 233580001, 233580010 and 233580013. The following samples did not meet the Tronox QA program sample result uncertainty limit of <30% for Alpha Spec Thorium with the results between 2 and 5 times the MDA and were counted for the maximum time: 233580003 and 233580008. The following samples did not meet the Tronox QA program sample tracer yield requirements of 70-120% for Alpha Spec Uranium due to matrix issues: 233580004, 233580005, 233580009, 233580010 and 233580013. The following samples did not meet the Tronox QA program sample tracer yield requirements of 70-120% for Alpha Spec Thorium due to matrix issues: and 233580004. The following samples did not meet the Tronox QA program required detection limits for Alpha Spec Thorium due to limited sample volume and were counted for the maximum time: 233580001, 233580004, 233580006, 233580007, 233580010, 233580011, 233580012 and 233580013. The following samples did not meet the Tronox QA program required detection limits for Alpha Spec Uranium due to limited sample volume and were counted for the maximum time: and 233580004. The lab duplicate did not meet the Tronox QA program sample result uncertainty limit of <30% for Alpha Spec Uranium with the results greater than 5 times the MDA and were counted for the maximum time. Please refer to the attached e-mail for further details on QC issues.

Sample Identification
The laboratory received the following samples:

Laboratory ID	Client ID
233580001	M-92BDISS
233580002	M-97B

233580003	TR-6B
233580004	EB-071709-GW
233580005	M-33B
233580006	CLD-4RB
233580007	MW-6RB
233580008	M-52B
233580009	M-35B
233580010	M-11B
233580011	M-11BDISS
233580012	M-11009B
233580013	M-11009BDISS

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Radiochemistry.

This data package, to the best of my knowledge, is in compliance with technical and administrative requirements.

Edith Kent

Project Manager

Chain of Custody
and
Supporting
Documentation

2335807

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.00267
Page: 1 of 1
Cooler # 1 of 2

Required Ship to Lab:

Lab Name:	GEL Laboratories, LLC
Address:	2040 Savage Road
	Charleston, SC 29407
Lab PM:	Edith M. Kent
Phone/Fax:	(843)556-8171
Lab PM email	emk@gel.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes
MATRIX: DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; SLUDGE SL; WIPE SW; AMBIENT AIR AA; SVE AIR AE; SOIL GAS GS; SURFACE WATER WS; WATER QC WQ; RINSEATE WR; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 903.1/904.0	EML HASL 300	Comments/Lab Sample I.D.
1	M-92B	WG	G	7/15/2009	8:45 AM	1	N			X						X		2 L Poly Clear
2	M-92B	WG	G	7/15/2009	8:45 AM	1	N			X							X	2 L Poly Clear
3	M-92BDISS	WG	G	7/15/2009	8:45 AM	1	Y			X						X		2 L Poly Clear
4	M-92BDISS	WG	G	7/15/2009	8:45 AM	1	Y			X							X	2 L Poly Clear
5	M-92BMS	WG	G	7/15/2009	8:45 AM	1	N			X						X		2 L Poly Clear
6	M-92BMS	WG	G	7/15/2009	8:45 AM	1	N			X							X	2 L Poly Clear
7	M-92BMSDISS	WG	G	7/15/2009	8:45 AM	1	Y			X						X		2 L Poly Clear
8	M-92BMSDISS	WG	G	7/15/2009	8:45 AM	1	Y			X							X	2 L Poly Clear
9	M-92BMSD	WG	G	7/15/2009	8:45 AM	1	N			X						X		2 L Poly Clear
10	M-92BMSD	WG	G	7/15/2009	8:45 AM	1	N			X							X	2 L Poly Clear
11	M-92BMSDDISS	WG	G	7/15/2009	8:45 AM	1	Y			X						X		2 L Poly Clear
12	M-92BMSDDISS	WG	G	7/15/2009	8:45 AM	1	Y			X							X	2 L Poly Clear

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300 **- DOE EMSL HASL 300 modified (alpha spectroscopy)**
Thorium (Isotopic) and Uranium (Isotopic)

All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dana R. Brown, NGEM	15-Jul	13:35	GES	7/15	1335
GES	7/15	1600	GEL	7-16-09	0840

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana R. Brown
SIGNATURE of SAMPLER:
DATE Signed 7/15/2009 Time: 13:35

Sample Receipt Conditions

	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
		Y/N	Y/N	Y/N
	27°	Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

GEL | Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: Kerr/Northgate	**SDG/ARCOC/Work Order:** 233580 1.
Received By: MK	**Date Received:** 7-16-09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: Cpm 20
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		✓		Preservation Method: ice bags blue ice dry ice (none) other (describe) 27 c 29 c
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

FX 7977 6675 2090 29c
7967 7963 3305 27c

PM (or PMA) review: Initials CM Date 7/16/09

2335807

200907521 11

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.00295
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	GEL Laboratories, LLC	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day	X Rush ( ) Mark One
Address:	2040 Savage Road	Project #	2027.001	Address:	PO Box 55	If Rush, Date due	
Charleston, SC 29407		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #: (949)260-9293	QC level Required: Standard ( ) Special EPA Stage 4 Mark one
Lab PM:	Edith M. Kent	City	Henderson State NV	Reimbursement project?	X Non-reimbursement project? ( ) Mark one	NJ Reduced Deliverable Package?	
Phone/Fax:	(843)556-8171	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com	MA MCP Cert? ( )	CT RCP Cert? ( ) Mark One
Lab PM email	emk@gel.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only	Lab Project ID (lab use)	
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below		

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER LF; FREE PRODUCT OL; SOIL SW; OIL AA; WIPE AE; AMBIENT AIR; SVE AIR; SOIL GAS; WATER WW; SURFACE WATER SG; WATER CC; SLUDGE OL; RINSEATE AA; OTHER GS; ANIMAL TISSUE

ITEM #	SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 903.1 Rn-222	EM_HASL_300*	Comments/Lab Sample I.D.
1	M-97B	WG	G	7/16/2009	8:45 AM	1	N			X						X		2 L Poly Clear
2	M-97B	WG	G	7/16/2009	8:45 AM	1	N			X							X	2 L Poly Clear
3																		
4																		
5																		
6	DRB																	
7	7-16-09																	
8																		
9																		
10																		
11																		
12																		

7

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300 **- DOE EMSL HASL 300 modified (alpha spectroscopy)**
Thorium (Isotopic) and Uranium (Isotopic)

All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dana Brown, NGEM	16-Jul	13:35	GEL	7/16	1335
GEL	7/16	16:30	GEL	7-17-09	0850

SHIPPING METHOD: (mark as appropriate) UPS COURIER (FEDEX) US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana R. Brown
SIGNATURE of SAMPLER:
DATE Signed: 7/16/2009 Time: 13:35

Sample Receipt Conditions	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
		Y/N	Y/N	Y/N
	24°	Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

GEL | Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client:	Kerr-McGee	**SDG/ARCOC/Work Order:**	233580'1.
Received By:	MF	**Date Received:**	7-17-09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: Cpm 20
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		✓		Preservation Method: ice bags blue ice dry ice (none) other (describe) 2°C
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

FX 7977 7058 0134

PM (or PMA) review: Initials GM Date 7/17/09

2335807

20090752 111

northgate
environmental management, inc.

1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.00302
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:

Lab Name:	GEL Laboratories, LLC
Address:	2040 Savage Road
	Charleston, SC 29407
Lab PM:	Edith M. Kent
Phone/Fax:	(843)556-8171
Lab PM email	emk@gel.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley, Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes: DRINKING WATER (WP), GROUND WATER (WG), WASTE WATER (LF), FREE PRODUCT (OIL), SOIL (SW), OIL (AA), WIPE (AE), AMBIENT AIR (SVE AIR), SOIL GAS (SOIL GAS), WATER (W), SURFACE WATER (WS), SO WATER QC (WQ), SLUDGE (SL), RINSEATE (WH), OTHER (OT), GS ANIMAL TISSUE (TA)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 903.1/904.0	EML HASL 300*	Comments/Lab Sample I.D.
1	TR-6B	WG	G	7/17/2009	7:50 AM	1	N			X						X		2 L Poly Clear
2	TR-6B	WG	G	7/17/2009	7:50 AM	1	N			X							X	2 L Poly Clear
3																		
4																		
5																		
6	DLB 7-17-09																	
7																		
8																		
9																		
10																		
11																		
12																		

6

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300 **- DOE EMSL HASL 300 modified (alpha spectroscopy)**
Thorium (isotopic) and Uranium (isotopic)

All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DANA BROWN, NAEM	17-Jul	12:30	GES	7/17	1230
	7/17	1600		7/18/09	0915

Sample Receipt Conditions

	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
25C	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

Temp in C | Samples on Ice? | Sample intact? | Trip Blank?

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dana R. Brown

SIGNATURE of SAMPLER:

DATE Signed: 7/17/2009 Time: 12:30

northgate
environmental management, inc.

1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.00306
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:

Lab Name:	GEL Laboratories, LLC
Address:	2040 Savage Road
	Charleston, SC 29407
Lab PM:	Edith M. Kent
Phone/Fax:	(843)556-8171
Lab PM email	emk@gel.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 903.1/904.0	EML HASL 300	Comments/Lab Sample I.D.
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2	EB-071709-GW	W	G	7/17/2009	9:45 AM	1	N			X							X	2 L Poly Clear
3																		
4																		
5																		
6	DRB 7-17-09																	
7																		
8																		
9																		
10																		
11																		
12																		

Valid Matrix Codes
MATRIX: DRINKING WATER WP; GROUND WATER WG; WASTE WATER LF; FREE PRODUCT OL; SOIL SW; OIL AA; WIPE AE; AMBIENT AIR; SVE AIR; SOIL GAS
MATRIX: WATER W; WW SURFACE WATER WS; SO WATER QC WQ; SLUDGE SL; RINSEATE WH; OTHER OT; OS ANIMAL TISSUE TA

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300 **- DOE EMSL HASL 300 modified (alpha spectroscopy)**
Thorium (isotopic) and Uranium (isotopic)

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Notifications provided to:
cindy.amold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DANA BROWN, NAEM	17-Jul	12:30	GBS	7/17	1230
GBS	7/17	1600	GEL	7/18/09	0915

SHIPPING METHOD: (mark as appropriate) UPS COURIER (FEDEX) US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana R. Brown
SIGNATURE of SAMPLER:
DATE Signed: 7/17/2009 Time: 12:30

Sample Receipt Conditions

	Y/N	Y/N	Y/N
25°C	Y (N)	(Y) N	Y (N)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: Kerr/Northgate	**SDG/ARCOC/Work Order:** 233580
Received By: MF	**Date Received:** 7-18-09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: cpm 20
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		✓		Preservation Method: ice bags blue ice dry ice (none) other (describe) 25@
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

FX 7967 8724 5464

PM (or PMA) review: Initials EM Date 7/20/09 rec'd 7/18/09

233580'1.

20090752111

northgate
environmental management, inc.

1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.00320
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	GEL Laboratories, LLC	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day	X Rush ( ) Mark One
Address:	2040 Savage Road	Project #	2027.001	Address:	PO Box 55	If Rush, Date due	
Charleston, SC 29407		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293
Lab PM:	Edith M. Kent	City	Henderson	State	NV	QC level Required: Standard	( ) Special EPA Stage 4 Mark one
Phone/Fax:	(843)556-8171	Site PM Name	Derrick Willis	Reimbursement project?	X Non-reimbursement project? ( ) Mark one	NJ Reduced Deliverable Package?	
Lab PM email	emk@gel.com	Phone/Fax:	949-375-7004	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com	MA MCP Cert? ( )	CT RCP Cert? ( ) Mark One
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	PDF Electronic Version Only	Lab Project ID (lab use)	
				CC Hardcopy report to	see additional comments below		

Valid Matrix Codes: DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; WIPE WI; AMBIENT AIR AE; SVE AIR SG; SOIL GAS; WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; OIL RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 903.1/904.0	EML HASL 300*	Comments/Lab Sample I.D.
1	M-33B	WG	G	7/21/2009	11:15 AM	1	N			X						X		2 L Poly Clear
2	M-33B	WG	G	7/21/2009	11:15 AM	1	N			X							X	2 L Poly Clear
3																		
4																		
5	DRB																	
6	7-21-09																	
7																		
8																		
9																		
10																		
11																		
12																		

12

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300 **- DOE EMSL HASL 300 modified (alpha spectroscopy) Thorium (isotopic) and Uranium (isotopic)**

All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DANA BROWN, NGEM	7/21	14:00	GES	7/21	1400
GES	7/21	1600	Mike Taylor GEL	7-22-09	0900

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana Brown
SIGNATURE of SAMPLER:
DATE Signed 7/21/09 Time: 14:00

Sample Receipt Conditions			
	Y/N	Y/N	Y/N
25°C	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: Kerr/Northgate	SDG/ARCOC/Work Order: 233580
Received By: MK	Date Received: 7-22-09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: Cpm 20
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		✓		Preservation Method: ice bags blue ice dry ice none (circled) other (describe) 25 c
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

FX 7967 9342 3508

PM (or PMA) review: Initials HD Date 7·22·09

2335808

20090752111

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environmental management, inc.
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(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.00253
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	GEL Laboratories, LLC	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day X	Rush / Mark One
Address:	2040 Savage Road	Project #	2027.001	Address:	PO Box 55	If Rush, Date due	
	Charleston, SC 29407	Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009 Phone #: (949)260-9293	QC level Required: Standard	Special / EPA Stage 4 / Mark one
Lab PM:	Edith M. Kent	City	Henderson State NV	Reimbursement project?	X Non-reimbursement project? Mark one	NJ Reduced Deliverable Package?	
Phone/Fax:	(843)556-8171	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com	MA MCP Cert?	CT RCP Cert? / Mark One
Lab PM email	emk@gel.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only	Lab Project ID (lab use)	
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below		

SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL SW; WIPE AA; AMBIENT AIR AE; SVE AIR GS; SOIL GAS — MATRIX — WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; OIL RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	EPA 903.1/904.0	EML HASL 300*	Comments/Lab Sample I.D.
1	CLD-4RB	WG	G	7/22/2009	9:50 AM	1	N			X						X		2 L Poly Clear
2	CLD-4RB	WG	G	7/22/2009	9:50 AM	1	N			X							X	2 L Poly Clear
3																		
4																		
5																		
6	DRB			DRB														
7	7-22-09			7-22-09														
8																		
9																		
10																		
11																		
12																		

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300* **- DOE EMSL HASL 300 modified (alpha spectroscopy) Thorium (Isotopic) and Uranium (Isotopic)**

All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
DANA BROWN, NGEM	7/22	14:30	GES	7/22	1430		Y/N	Y/N	Y/N
GES	7/22	1600	GEL	7-23-09	0840	24C	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N

Sample Receipt Conditions

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana Brown
SIGNATURE of SAMPLER: [signature]
DATE Signed 7/22/09 Time: 14:30

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: Kerr McGee	**SDG/ARCOC/Work Order:** 233580 1.
Received By: MK	**Date Received:** 7/23-09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: opm 20
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		✓		Preservation Method: ice bags blue ice dry ice (none) other (describe) 24c
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

FX 7977 8573 6320

PM (or PMA) review: Initials ERR Date 7/23/09

223580

20090752111

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environmental management, inc.

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(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.00332
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:

Lab Name:	GEL Laboratories, LLC
Address:	2040 Savage Road
	Chartleston, SC 29407
Lab PM:	Edith M. Kent
Phone/Fax:	(843)556-8171
Lab PM email	emk@gel.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes: DRINKING WATER (WP), GROUND WATER (WG), WASTE WATER (WW), FREE PRODUCT (LF), SOIL (SO), OIL (OL), WIPE (AA), AMBIENT AIR (AE), SVE AIR (GS), SOIL GAS; WATER (W), SURFACE WATER (WS), WATER QC (WQ), SLUDGE (SL), RINSEATE (WH), OTHER (OT), ANIMAL TISSUE (TA)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 903.1/904.0	EML HASL 300*	Comments/Lab Sample I.D.
1	MW-6RB	WG	G	7/23/2009	9:17 AM	1	N			X						X		2 L Poly Clear
2	MW-6RB	WG	G	7/23/2009	9:17 AM	1	N			X							X	2 L Poly Clear
3																		
4																		
5																		
6																		
7	DRB 7-23-09																	
8																		
9																		
10																		
11																		
12																		

16

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300* **- DOE EMSL HASL 300 modified (alpha spectroscopy) Thorium (isotopic) and Uranium (isotopic)**

All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dana Brown, NGEM	23-Jul	14:30	GES	7/23	1430
GES	7/23	1600	GEL	7/24/09	0845

SHIPPING METHOD: (mark as appropriate) UPS COURIER (FEDEX) US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana R. Brown
SIGNATURE of SAMPLER:
DATE Signed 7/23/2009 Time: 14:30

Sample Receipt Conditions			
	Y/N	Y/N	Y/N
27°	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client:	Kerr / Northgate	SDG/ARCOC/Work Order:	233580
Received By:	MK	Date Received:	7-24-09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: Opm 20
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken / damaged container / leaking container / other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		✓		Preservation Method: ice bags / blue ice / dry ice / (none) / other (describe) 27 C
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken / damaged container / leaking container / other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

FX 7977 8945 5275

PM (or PMA) review: Initials MK Date 7/24/09

2335801.

200907352111

northgate environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.00329
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:

Lab Name:	GEL Laboratories, LLC
Address:	2040 Savage Road
	Charleston, SC 29407
Lab PM:	Edith M. Kent
Phone/Fax:	(843)556-8171
Lab PM email	emk@gel.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson; State NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley, Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009; Phone #: (949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush	Mark One
If Rush, Date due			
QC level Required: Standard		Special	EPA Stage 4 — Mark one
NJ Reduced Deliverable Package?			
MA MCP Cert?		CT RCP Cert?	Mark One
Lab Project ID (lab use)			

SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes: DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL SW; WIPE AA; AMBIENT AIR AE; SVE AIR GS; SOIL GAS; WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; OIL RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	EPA 903.1/904.0	EML HASL 300*	Comments/Lab Sample I.D.
1	M-52B	WG	G	7/24/2009	8:10 AM	1	N			X						X		2 L Poly Clear
2	M-52B	WG	G	7/24/2009	8:10 AM	1	N			X							X	2 L Poly Clear
3																		
4	DRB																	
5	7-24-09																	
6																		
7																		
8																		
9																		
10																		
11																		
12																		

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300* **- DOE EMSL HASL 300 modified (alpha spectroscopy) Thorium (isotopic) and Uranium (isotopic)**

All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Sample Receipt Conditions			
[signature] DANA BROWN, NGEM	7/24	14:30	[signature] GES	7/24	1430		Y/N	Y/N	Y/N
[signature] GES	7/24	1622	[signature] GEL	7-25-09	0920	21°C	Y/N (N circled)	Y/N (Y circled)	Y/N (N circled)
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
						Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX (circled) US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana Brown
SIGNATURE of SAMPLER: [signature]
DATE Signed 7/24/09 Time: 14:30

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environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.00326
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:

Lab Name:	GEL Laboratories, LLC
Address:	2040 Savage Road
	Charleston, SC 29407
Lab PM:	Edith M. Kent
Phone/Fax:	(843)556-8171
Lab PM email	emk@gel.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL SW; WIPE AA; AMBIENT AIR AE; SVE AIR GS; SOIL GAS. MATRIX — WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; OIL RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 903.1/904.0	EML HASL 300*	Comments/Lab Sample I.D.
1	M-35B	WG	G	7/24/2009	11:10 AM	1	N			X						X		2 L Poly Clear
2	M-35B	WG	G	7/24/2009	11:10 AM	1	N			X							X	2 L Poly Clear
3																		
4																		
5																		
6	DRB																	
7	7-24-09																	
8																		
9																		
10																		
11																		
12																		

19

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300* - DOE EMSL HASL 300 modified (alpha spectroscopy) Thorium (isotopic) and Uranium (isotopic)

All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dana Brown, NGEM	7/24	14:30	GES	7/24	1430
GES	7/24	1600	GEL	7-25-09	0930

SHIPPING METHOD: (mark as appropriate) UPS COURIER (FEDEX) US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana Brown
SIGNATURE of SAMPLER:
DATE Signed 7/24/09 Time: 14:30

Sample Receipt Conditions

	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
		Y/N	Y/N	Y/N
	21°	Y/(N)	(Y)/N	Y/(N)
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client:	Kerr/Northgate	SDG/ARCOC/Work Order:	233580
Received By:	MH	Date Received:	7-25-09

Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: cpm 20
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		✓		Preservation Method: ice bags blue ice dry ice (none) other (describe) 21°
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

FX 7968 0489 0860

PM (or PMA) review: Initials MS Date 7-27-09

233580 1.

northgate
environmental management, inc.

1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.00341
Page: 1 of 1
Cooler # 1 of

Required Ship to Lab:

Lab Name:	GEL Laboratories, LLC
Address:	2040 Savage Road
	Charleston, SC 29407
Lab PM:	Edith M. Kent
Phone/Fax:	(843)556-8171
Lab PM email	emk@gel.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley, Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	
Lab Project ID (lab use)					

Valid Matrix Codes: DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL SW; WIPE AA; AMBIENT AIR AE; SVE AIR GS; SOIL GAS; WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; OIL RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 903.1/9004.0	EML HASL 300*	Comments/Lab Sample I.D.
1	M-11B	WG	G	7/27/2009	9:15 AM	1	N			X						X		2 L Poly Clear
2	M-11B	WG	G	7/27/2009	9:15 AM	1	N			X							X	2 L Poly Clear
3	M-11BDISS	WG	G	7/27/2009	9:15 AM	1	Y			X						X		2 L Poly Clear
4	M-11BDISS	WG	G	7/27/2009	9:15 AM	1	Y			X							X	2 L Poly Clear
5	M-11009B	WG	G	7/27/2009	9:15 AM	1	N			X						X		2 L Poly Clear
6	M-11009B	WG	G	7/27/2009	9:15 AM	1	N			X							X	2 L Poly Clear
7	M-11009BDISS	WG	G	7/27/2009	9:15 AM	1	Y			X						X		2 L Poly Clear
8	M-11009BDISS	WG	G	7/27/2009	9:15 AM	1	Y			X							X	2 L Poly Clear
9																		
10	DOD3																	
11	7-27-09																	
12																		

21

Additional Comments/Special Instructions:

FULL DIGESTION SPECIFICATION
EMSL HASL 300 **- DOE EMSL HASL 300 modified (alpha spectroscopy) Thorium (Isotopic) and Uranium (Isotopic)**

All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
DANA BROWN, NGEM	7/27	14:00	GES	7/27	1400
GES	7/27	1500	GEL	7/28/09	0845

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dana Brown
SIGNATURE of SAMPLER:
DATE Signed 7/27/09 Time: 14:00

Sample Receipt Conditions

	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
		Y/N	Y/N	Y/N
	27°	Y/(N)	(Y)/N	Y/(N)
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client:	Kerr McGee	**SDG/ARCOC/Work Order:**	233580
Received By:	MK	**Date Received:**	7-28-09

Suspected Hazard Information	**Yes**	**No**	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?		✓	Maximum Counts Observed*: CPM 20
Classified Radioactive II or III by RSO?		✓	
COC/Samples marked containing PCBs?		✓	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	**Yes**	**NA**	**No**	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		✓		Preservation Method: ice bags blue ice dry ice (none) other (describe) 27c
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		✓		Sample ID's and containers affected:
7	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			

Comments:

FX 7977 9671 3270

PM (or PMA) review: Initials ____ Date 7-28-09

Subject: GEL Closed SDG 233580
From: Heather Shaffer <Heather.Shaffer@gel.com>
Date: Tue, 28 Jul 2009 11:35:52 -0400
To: Cindy Arnold <Cindy.Arnold@ngem.com>, Frank Hagar <Frank.Hagar@ngem.com>, Edie Kent <emk@gel.com>, Derrick Willis <Derrick.Willis@ngem.com>
CC: Heather Shaffer <hea01394@gel.com>

With today's receipts, we closed water SDG 233580. Attached is a list of the samples in the SDG. As soon as we have completed the login review, you will receive the full receipt package for this SDG.

--
Heather Shaffer
Project Manager Assistant
GEL Laboratories, LLC
2040 Savage Road
Charleston, SC (USA) 29407
Main: 843.556.8171 x 4505
Fax: 843.766.1178
E-mail: heather.shaffer@gel.com
Web: www.gel.com

233580.xls	**Content-Type:**	application/msexcel
	Content-Encoding:	base64

Subject: SDG 233580 QC Issues - Alpha Spec Th, Alpha Spec U, Ra-226
From: Edie Kent <emk@gel.com>
Date: Tue, 25 Aug 2009 15:10:05 -0400
To: Cindy Arnold <Cindy.Arnold@ngem.com>, Frank Hagar <Frank.Hagar@ngem.com>, Derrick Willis <Derrick.Willis@ngem.com>, Team Kent <Team.Kent@gel.com>
CC: Martha Harrison <Martha.Harrison@gel.com>

The following are the QC issues regarding this SDG for Alpha Spec Th, Alpha Spec U and Ra 226:

Ra 226 Issues:
Sample M-35B (233580009) did not meet the Tronox QA program sample result uncertainty limit of <30% with activity between 2 and 5 times the MDA and was counted for the maximum possible count time.

Thorium Issues:
The following samples do not meet the Tronox QA program sample result uncertainty limit of <30% with activity between 2 and 5 times the MDA for Th-228 and Th-230 and were counted for the maximum possible count time: TR-6B (233580003), M-52B (233580008).

Sample EB-071709-GW (233580004) does not meet the Tronox QA program tracer yield requirements of 70-120% due to matrix. The sample met GEL's standard tracer requirements of 15 to 125%. The sample was counted the maximum count time to achieve the best possible uncertainty and lowest possible MDA.

The following samples did not meet the Tronox QA program required detection limits for Th228: M-92BDISS (233580001), EB-071709-GW (233580004), CLD-4RB (233580006), MW-6RB (233580007), M-11B (233580010), M-11009B (233580012), M-11009BDISS (233580013), the blank, and the lab DUP.

The following samples did not meet the Tronox QA program required detection limits for Th230: M-92BDISS (233580001), EB-071709-GW (233580004), CLD-4RB (233580006), MW-6RB (233580007), M-11BDISS (233580011), M-11009BDISS (233580013), and the blank.

The following samples did not meet the Tronox QA program required detection limits for Th232: M-92BDISS (233580001), EB-071709-GW (233580004), CLD-4RB (233580006).

For the samples that did not meet the program MDAs, the aliquots were reduced on reanalysis in order to improve the tracer yield recoveries. The samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties and lowest possible MDA's.

*Uranium Issues: *
The following samples do not meet the Tronox QA program sample result uncertainty limit of <30% with activity between 2 and 5 times the MDA for U235/236 and were counted for the maximum possible count time: M92BDISS (233580001), M-11B (233580010), M-11009BDISS (233580013).

The lab duplicate does not meet the Tronox QA program sample result uncertainty limit of <30% with activity greater than 5 times the MDA for U235/236 and was counted for the maximum possible count time.

Sample EB-071709-GW (233580004) did not meet the Tronox QA program required detection limits U238. The sample was counted the maximum possible count time to achieve the lowest possible MDA.

The following samples do not meet the Tronox QA program tracer yield requirements of 70-120% due to sample matrix: EB-071709-GW (233580004), M-33B (233580005), M-35B (233580009), M-11B (233580010), M-11009BDISS (233580013). The samples met GEL's standard tracer requirement of 15-125%. The samples were counted for the maximum possible count time.

This will be noted in the case narrative.

Edie

--
Edith M. Kent
Project Manager
GEL Laboratories, LLC
2040 Savage Road
Charleston, SC (USA) 29407
Direct: 843.769.7385 x4453
Main: 843.556.8171
Fax: 843.766.1178
E-mail: emk@gel.com
Web: www.gel.com

Laboratory Certifications

List of current GEL Certifications as of 25 August 2009

State	Certification
Arizona	AZ0668
Arkansas	88–0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH–0169
Dept. of Navy	NFESC 413
EPA Region 5	WG–15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C–SC–01
Kansas – NELAP	E–10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M–SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68–00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235–07B–TX
U.S. Dept. of Agriculture	S–52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

RADIOLOGICAL ANALYSIS

Radiochemistry Case Narrative
Tronox LLC (KERR)
SDG 233580

Method/Analysis Information

Product:	**Alphaspec Th, Liquid**
Analytical Method:	DOE EML HASL-300, Th-01-RC Modified
Analytical Batch Number:	895930

Sample ID	Client ID
233580001	M-92BDISS
233580002	M-97B
233580003	TR-6B
233580004	EB-071709-GW
233580005	M-33B
233580006	CLD-4RB
233580007	MW-6RB
233580008	M-52B
233580009	M-35B
233580010	M-11B
233580011	M-11BDISS
233580012	M-11009B
233580013	M-11009BDISS
1201907211	Method Blank (MB)
1201907212	233580001(M-92BDISS) Sample Duplicate (DUP)
1201907213	233580001(M-92BDISS) Matrix Spike (MS)
1201907214	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-038 REV# 12.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 233580001 (M-92BDISS).

QC Information
Refer to Non-Conformance Report.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
Sample 233580002 (M-97B) was recounted due to a peak shift. Sample 233580008 (M-52B) was recounted due to poor resolution. Batch was reprepped due to high blank activity and low tracer yield recoveries.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG:
NCR 725697 was generated due to RDL less than MDA, Failed Recovery for Surrogate or Tracer and Other. 1. Samples 233580003 and 233580008 have Thorium-228 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity. Samples 233580003 and 233580008 have Thorium-230 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity. 2. Samples 233580001, 233580004, 233580006, 233580007, 233580010, 233580012, 233580013, 1201907211, and 1201907212 do not meet the detection limit for Th-228; Samples 233580001, 233580004, 233580006, 233580007, 233580011, 233580013, and 1201907211 do not meet the detection limit for Th-230; and Samples 233580001,233580004, and 233580006 do not meet the detection limit for Th-232. 3. Sample 233580004 does not meet the client's tracer yield requirements of 70 to 120 percent due to the matrix of the samples. 1. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties and lowest possible MDA's. Reporting results. 2. The aliquots were reduced on the reanalysis in order to improve the tracer yield recoveries. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties and lowest possible MDA's. Reporting results. 3. The GEL Standard tracer yield requirements of 15 to 125 percent were met. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties and lowest possible MDA's. Reporting results.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments
The aliquot for the Matrix Spike was reduced due to limited sample volume because the samples were reprepped.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**Alphaspec U, Liquid**
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Analytical Batch Number:	891145

Sample ID	Client ID
233580001	M-92BDISS
233580002	M-97B
233580003	TR-6B
233580004	EB-071709-GW
233580005	M-33B
233580006	CLD-4RB
233580007	MW-6RB
233580008	M-52B
233580009	M-35B
233580010	M-11B
233580011	M-11BDISS
233580012	M-11009B
233580013	M-11009BDISS
1201895414	Method Blank (MB)
1201895415	233580001(M-92BDISS) Sample Duplicate (DUP)
1201895416	233580001(M-92BDISS) Matrix Spike (MS)
1201895417	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 17.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volumes in this batch.

Designated QC
The following sample was used for QC: 233580001 (M-92BDISS).

QC Information
Refer to Non-Conformance Report.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
Sample 233580012 (M-11009B) was recounted due to detector error. Samples 1201895414 (MB), 1201895415 (M-92BDISS), 1201895416 (M-92BDISS), 1201895417 (LCS), 233580001 (M-92BDISS), 233580002 (M-97B), 233580003 (TR-6B), 233580004 (EB-071709-GW), 233580005 (M-33B), 233580006 (CLD-4RB) and 233580013 (M-11009BDISS) were recounted for a shorter length of time in order to reduce tailing. Reporting original 1000 minute counts for samples with manual integrations performed on certain samples as needed (see below) to reduce the tailing. This ensured the best possible uncertainties and MDA's. Samples 233580007 (MW-6RB), 233580008 (M-52B), 233580009 (M-35B), 233580010 (M-11B) and 233580011 (M-11BDISS) were recounted to verify the sample order.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG:
NCR 725374 was generated due to RDL less than MDA, Failed Recovery for Surrogate or Tracer and Other. 1. Sample 1201895415 has Uranium-235/236 activity greater than five times the MDA and uncertainty greater than 30% of that activity. Samples 233580001, 233580010, and 233580013 have Uranium-235/236 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity. 2. Samples 233580004, 233580005, 233580009, 233580010, and 233580013 do not meet the client's tracer yield requirements of 70 to 120 percent due to the matrix of the samples. 3. Sample 233580004 does not meet the 0.03 pCi/L detection limit for U-238. 1. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties. Reporting

results. 2. The GEL Standard tracer yield requirements of 15 to 125 percent were met. Samples were all counted the maximum count time of 1000 minutes. Reporting results. 3. Sample was counted the maximum count time of 1000 minutes to achieve the lowest possible MDA. Reporting results.

Manual Integration
Manual integrations of alpha spectroscopy spectra 233580002 (M-97B), 233580003 (TR-6B), 233580005 (M-33B), 233580007 (MW-6RB) and 233580009 (M-35B) were performed to fully separate counts in Regions of Interest which would have been biased.

Additional Comments
Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**GFPC, Ra228, Liquid**
Analytical Method:	EPA 904.0/SW846 9320 Modified
Analytical Batch Number:	888878

Sample ID	Client ID
233580001	M-92BDISS
233580002	M-97B
233580003	TR-6B
233580004	EB-071709-GW
233580005	M-33B
233580006	CLD-4RB
233580007	MW-6RB
233580008	M-52B
233580009	M-35B
233580010	M-11B
233580011	M-11BDISS
233580012	M-11009B
233580013	M-11009BDISS
1201890245	Method Blank (MB)
1201890246	233580001(M-92BDISS) Sample Duplicate (DUP)
1201890247	233580001(M-92BDISS) Matrix Spike (MS)
1201890248	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-009 REV# 15.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 233580001 (M-92BDISS).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
Samples were re-eluted due to high MDA.

Chemical Recoveries
All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments
Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	**Lucas Cell, Ra226, liquid**
Analytical Method:	EPA 903.1 Modified
Analytical Batch Number:	892562

Sample ID	Client ID
233580001	M-92BDISS
233580002	M-97B
233580003	TR-6B
233580004	EB-071709-GW
233580005	M-33B
233580006	CLD-4RB
233580007	MW-6RB
233580008	M-52B
233580009	M-35B
233580010	M-11B
233580011	M-11BDISS
233580012	M-11009B
233580013	M-11009BDISS
1201898768	Method Blank (MB)
1201898769	233580001(M-92BDISS) Sample Duplicate (DUP)
1201898770	233580001(M-92BDISS) Matrix Spike (MS)
1201898771	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-008 REV# 12.

Calibration Information:

Calibration Information
All initial and continuing calibration requirements have been met.

Standards Information
Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry
All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information
The blank volume is representative of the sample volume in this batch.

Designated QC
The following sample was used for QC: 233580001 (M-92BDISS).

QC Information
All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time
All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis
None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation
Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG:
NCR 724472 was generated due to Other. 1. Sample 233580009 has activity between 2 and 5 times the MDA. Uncertainty is greater than 30 percent and the sample counted the maximum count time. 1. Reporting results.

Additional Comments
Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer/Date: Pamela Willis 8/25/09

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
20-AUG-09	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
LUCAS CELL DETECTOR	EPA 903.1 Modified	%Null%	KERR
Batch ID:	**Sample Numbers:**		
892562	See below		

Potentially affected work order(s)(SDG): 233580

Application Issues:

Other

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. Sample 233580009 has activity between 2 and 5 times the MDA. Uncertainty is greater than 30 percent and the sample counted the maximum count time.	1. Reporting results.

Originator's Name:

Lyndsey Pace 20-AUG-09

Data Validator/Group Leader:

Layota Yom 20-AUG-09

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	Division:	Quality Criteria:	Type:
24-AUG-09	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ALPHA SPECTROMETER	DOE EML HASL-300, U-02-RC Modified	Liquid	KERR
Batch ID:	**Sample Numbers:**		
891145	See Below		

Potentially affected work order(s)(SDG): 233580

Application Issues:

RDL less than MDA

Failed Recovery for Surrogate or Tracer

Other

Specification and Requirements Nonconformance Description:	NRG Disposition:
1. Sample 1201895415 has Uranium-235/236 activity greater than five times the MDA and uncertainty greater than 30% of that activity. Samples 233580001, 233580010, and 233580013 have Uranium-235/236 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity.	1. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties. Reporting results.
2. Samples 233580004, 233580005, 233580009, 233580010, and 233580013 do not meet the client's tracer yield requirements of 70 to 120 percent due to the matrix of the samples.	2. The GEL Standard tracer yield requirements of 15 to 125 percent were met. Samples were all counted the maximum count time of 1000 minutes. Reporting results.
3. Sample 233580004 does not meet the 0.03 pCi/L detection limit for U-238.	3. Sample was counted the maximum count time of 1000 minutes to achieve the lowest possible MDA. Reporting results.

Originator's Name:

Jessica Downey 25-AUG-09

Data Validator/Group Leader:

Jessica Downey

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr.	**Division:**	**Quality Criteria:**	**Type:**
25-AUG-09	Radiochemistry	Specifications	Process
Instrument Type:	**Test / Method:**	**Matrix Type:**	**Client Code:**
ALPHA SPECTROMETER	DOE EML HASL-300, Th-01-RC Modified	Liquid	KERR
Batch ID:	**Sample Numbers:**		
895930	See Below		

Potentially affected work order(s)(SDG): 233580

Application Issues:

RDL less than MDA

Failed Recovery for Surrogate or Tracer

Other

Specification and Requirements Nonconformance Description:	**NRG Disposition:**
1. Samples 233580003 and 233580008 have Thorium-228 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity. Samples 233580003 and 233580008 have Thorium-230 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity.	1. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties and lowest possible MDA's. Reporting results.
2. Samples 233580001, 233580004, 233580006, 233580007, 233580010, 233580012, 233580013, 1201907211, and 1201907212 do not meet the detection limit for Th-228; Samples 233580001, 233580004, 233580006, 233580007, 233580011, 233580013, and 1201907211 do not meet the detection limit for Th-230; and Samples 233580001,233580004, and 233580006 do not meet the detection limit for Th-232.	2. The aliquots were reduced on the reanalysis in order to improve the tracer yield recoveries. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties and lowest possible MDA's. Reporting results.
3. Sample 233580004 does not meet the client's tracer yield requirements of 70 to 120 percent due to the matrix of the samples.	3. The GEL Standard tracer yield requirements of 15 to 125 percent were met. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties and lowest possible MDA's. Reporting results.

Originator's Name:

Jessica Downey 25-AUG-09

Data Validator/Group Leader:

Joseph Moulden 25-AUG-09

SAMPLE DATA SUMMARY

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

KERR003 Tronox LLC

Client SDG: 233580 GEL Work Order: 233580

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Edith Kent.

Reviewed by

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	M-92BDISS	Project:	KERRHenderson
Sample ID:	233580001	Client ID:	KERR003
Matrix:	WG		
Collect Date:	15-JUL-09 08:45		
Receive Date:	16-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228	U	-0.00878	+/-0.0448	0.0858	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230	U	0.0234	+/-0.0214	0.0323	0.030	pCi/L					
Thorium-232	U	-0.00876	+/-0.0172	0.0421	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		3.01	+/-0.146	0.0202	0.030	pCi/L		JXD2 08/08/09	1619	891145	2
Uranium-235/236		0.0904	+/-0.0307	0.0278	0.030	pCi/L					
Uranium-238		1.98	+/-0.118	0.0225	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	1.04	+/-1.03	1.67	3.00	pCi/L		MXS2 08/04/09	1920	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.659	+/-0.418	0.591	1.00	pCi/L		KSD1 08/20/09	1525	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			77.1	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			90.3	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.0	(15%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID: M-97B
Sample ID: 233580002
Matrix: WG
Collect Date: 16-JUL-09 08:45
Receive Date: 17-JUL-09
Collector: Client

Project: KERRHenderson
Client ID: KERR003

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
Alphaspec Th, Liquid "As Received"												
Thorium-228		0.036	+/-0.0231	0.025	0.030	pCi/L		JXD2	08/24/09	1458	895930	1
Thorium-230	U	0.00652	+/-0.00903	0.00978	0.030	pCi/L						
Thorium-232		0.00978	+/-0.0111	0.00978	0.030	pCi/L						
Alphaspec U, Liquid "As Received"												
Uranium-233/234		18.1	+/-0.353	0.0172	0.030	pCi/L		JXD2	08/08/09	1619	891145	2
Uranium-235/236		0.742	+/-0.080	0.0213	0.030	pCi/L						
Uranium-238		11.7	+/-0.284	0.00539	0.030	pCi/L						
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	1.04	+/-1.15	1.91	3.00	pCi/L		MXS2	08/04/09	1920	888878	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.605	+/-0.418	0.573	1.00	pCi/L		KSD1	08/20/09	1525	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			89.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			100	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			75.9	(15%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	TR-6B	Project:	KERRHenderson
Sample ID:	233580003	Client ID:	KERR003
Matrix:	WG		
Collect Date:	17-JUL-09 07:50		
Receive Date:	18-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228		0.0695	+/-0.0319	0.0334	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230		0.0211	+/-0.0156	0.00904	0.030	pCi/L					
Thorium-232	U	0.00	+/-0.0118	0.0289	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		24.9	+/-0.478	0.0385	0.030	pCi/L		JXD2 08/08/09	1619	891145	2
Uranium-235/236		1.06	+/-0.109	0.00884	0.030	pCi/L					
Uranium-238		15.9	+/-0.382	0.0182	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	1.43	+/-1.51	2.50	3.00	pCi/L		MXS2 08/04/09	1920	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.973	+/-0.413	0.492	1.00	pCi/L		KSD1 08/20/09	1525	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			78.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			72.7	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			74.6	(15%-125%)

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Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	EB-071709-GW	Project:	KERRHenderson
Sample ID:	233580004	Client ID:	KERR003
Matrix:	W		
Collect Date:	17-JUL-09 09:45		
Receive Date:	18-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228	U	-0.00406	+/-0.0398	0.0803	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230	U	-0.0365	+/-0.0286	0.0747	0.030	pCi/L					
Thorium-232	U	-0.0122	+/-0.0178	0.0499	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234	U	0.0128	+/-0.0128	0.0185	0.030	pCi/L		JXD2 08/08/09	1619	891145	2
Uranium-235/236	U	0.00598	+/-0.00829	0.00897	0.030	pCi/L					
Uranium-238	U	-0.0121	+/-0.0157	0.0391	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	0.711	+/-1.34	2.38	3.00	pCi/L		MXS2 08/04/09	1920	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	0.565	+/-0.452	0.678	1.00	pCi/L		KSD1 08/20/09	1555	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			60.4	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			69.0	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			71.0	(15%-125%)

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Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	M-33B	Project:	KERRHenderson
Sample ID:	233580005	Client ID:	KERR003
Matrix:	WG		
Collect Date:	21-JUL-09 11:15		
Receive Date:	22-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228		0.093	+/-0.0391	0.0497	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230		0.0326	+/-0.019	0.0192	0.030	pCi/L					
Thorium-232	U	0.00251	+/-0.00851	0.0192	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		65.1	+/-0.949	0.0518	0.030	pCi/L		JXD2 08/08/09	1619	891145	2
Uranium-235/236		3.15	+/-0.232	0.034	0.030	pCi/L					
Uranium-238		42.2	+/-0.764	0.0275	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	0.498	+/-0.861	1.54	3.00	pCi/L		MXS2 08/04/09	1920	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.478	+/-0.284	0.327	1.00	pCi/L		KSD1 08/20/09	1555	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			92.4	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			53.6	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			87.3	(15%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	CLD-4RB	Project:	KERRHenderson
Sample ID:	233580006	Client ID:	KERR003
Matrix:	WG		
Collect Date:	22-JUL-09 09:50		
Receive Date:	23-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228	U	0.0344	+/-0.0354	0.0585	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230	U	0.00981	+/-0.0192	0.0353	0.030	pCi/L					
Thorium-232	U	0.00736	+/-0.0186	0.0353	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		3.79	+/-0.175	0.0201	0.030	pCi/L		JXD2 08/08/09	1619	891145	2
Uranium-235/236		0.179	+/-0.0434	0.0248	0.030	pCi/L					
Uranium-238		2.80	+/-0.150	0.0232	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	0.289	+/-1.02	1.92	3.00	pCi/L		MXS2 08/04/09	1920	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	0.418	+/-0.357	0.547	1.00	pCi/L		KSD1 08/20/09	1555	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			85.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			84.7	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			82.1	(15%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	MW-6RB	Project:	KERRHenderson
Sample ID:	233580007	Client ID:	KERR003
Matrix:	WG		
Collect Date:	23-JUL-09 09:17		
Receive Date:	24-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
Alphaspec Th, Liquid "As Received"												
Thorium-228	U	0.0321	+/-0.0317	0.0519	0.030	pCi/L		JXD2	08/22/09	1813	895930	1
Thorium-230	U	-0.00493	+/-0.0137	0.033	0.030	pCi/L						
Thorium-232	U	0.00246	+/-0.00836	0.0188	0.030	pCi/L						
Alphaspec U, Liquid "As Received"												
Uranium-233/234		24.1	+/-0.481	0.0382	0.030	pCi/L		JXD2	08/24/09	1632	891145	2
Uranium-235/236		0.875	+/-0.102	0.00925	0.030	pCi/L						
Uranium-238		16.3	+/-0.395	0.00748	0.030	pCi/L						
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	-0.328	+/-1.24	2.51	3.00	pCi/L		MXS2	08/04/09	1920	888878	3
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.275	+/-0.369	0.635	1.00	pCi/L		KSD1	08/20/09	1555	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			89.6	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			90.1	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			71.6	(15%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	M-52B	Project:	KERRHenderson
Sample ID:	233580008	Client ID:	KERR003
Matrix:	WG		
Collect Date:	24-JUL-09 08:10		
Receive Date:	25-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228		0.0933	+/-0.038	0.0286	0.030	pCi/L		JXD2 08/24/09	1458	895930	1
Thorium-230		0.0335	+/-0.0219	0.0112	0.030	pCi/L					
Thorium-232		0.0112	+/-0.0126	0.0112	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		10.6	+/-0.346	0.0224	0.030	pCi/L		JXD2 08/24/09	1632	891145	2
Uranium-235/236		0.326	+/-0.0673	0.0109	0.030	pCi/L					
Uranium-238		6.58	+/-0.273	0.0324	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	1.61	+/-1.70	2.83	3.00	pCi/L		MXS2 08/04/09	1920	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.780	+/-0.517	0.742	1.00	pCi/L		KSD1 08/20/09	1555	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			79.5	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			74.9	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			75.3	(15%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	M-35B	Project:	KERRHenderson
Sample ID:	233580009	Client ID:	KERR003
Matrix:	WG		
Collect Date:	24-JUL-09 11:10		
Receive Date:	25-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228		0.0364	+/-0.0228	0.0287	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230	U	0.00259	+/-0.00881	0.0199	0.030	pCi/L					
Thorium-232	U	0.00519	+/-0.0102	0.0199	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		13.4	+/-0.465	0.0463	0.030	pCi/L		JXD2 08/24/09	1632	891145	2
Uranium-235/236		0.404	+/-0.0896	0.0155	0.030	pCi/L					
Uranium-238		8.83	+/-0.377	0.0321	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	0.806	+/-1.21	2.11	3.00	pCi/L		MXS2 08/04/09	1920	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.29	+/-0.479	0.503	1.00	pCi/L		KSD1 08/20/09	1635	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			90.5	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			50.7	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80.0	(15%-125%)

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Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	M-11B	Project:	KERRHenderson
Sample ID:	233580010	Client ID:	KERR003
Matrix:	WG		
Collect Date:	27-JUL-09 09:15		
Receive Date:	28-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228	U	0.0179	+/-0.027	0.0471	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230		0.0128	+/-0.0112	0.00766	0.030	pCi/L					
Thorium-232	U	0.0051	+/-0.0123	0.0244	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		8.13	+/-0.584	0.120	0.030	pCi/L		JXD2 08/24/09	1632	891145	2
Uranium-235/236		0.241	+/-0.118	0.103	0.030	pCi/L					
Uranium-238		4.37	+/-0.427	0.0326	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	1.33	+/-1.32	2.15	3.00	pCi/L		MXS2 08/04/09	1921	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	0.695	+/-0.533	0.803	1.00	pCi/L		KSD1 08/20/09	1635	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			88.6	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			19.8	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			72.7	(15%-125%)

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Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	M-11BDISS	Project:	KERRHenderson
Sample ID:	233580011	Client ID:	KERR003
Matrix:	WG		
Collect Date:	27-JUL-09 09:15		
Receive Date:	28-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228		0.0439	+/-0.0294	0.042	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230	U	0.00274	+/-0.0193	0.0394	0.030	pCi/L					
Thorium-232	U	0.0109	+/-0.0131	0.0209	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		7.68	+/-0.265	0.0264	0.030	pCi/L		JXD2 08/24/09	1633	891145	2
Uranium-235/236		0.200	+/-0.0483	0.0226	0.030	pCi/L					
Uranium-238		4.65	+/-0.207	0.0264	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		2.46	+/-1.40	1.98	3.00	pCi/L		MXS2 08/04/09	1921	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	0.259	+/-0.238	0.358	1.00	pCi/L		KSD1 08/20/09	1720	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			81.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			93.5	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			79.5	(15%-125%)

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Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	M-11009B	Project:	KERRHenderson
Sample ID:	233580012	Client ID:	KERR003
Matrix:	WG		
Collect Date:	27-JUL-09 09:15		
Receive Date:	28-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228	U	0.0273	+/-0.0243	0.038	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230	U	0.00	+/-0.00486	0.00744	0.030	pCi/L					
Thorium-232	U	0.00248	+/-0.00841	0.019	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		7.69	+/-0.301	0.0234	0.030	pCi/L		JXD2 08/23/09	1450	891145	2
Uranium-235/236		0.261	+/-0.0624	0.0289	0.030	pCi/L					
Uranium-238		4.98	+/-0.242	0.0338	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	0.0354	+/-0.920	1.86	3.00	pCi/L		MXS2 08/04/09	1921	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	0.421	+/-0.327	0.470	1.00	pCi/L		KSD1 08/20/09	1635	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			89.2	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			74.7	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			73.2	(15%-125%)

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Certificate of Analysis

Company : Northgate Environmental Management, Inc.
Address : 1100 Quail St., Suite 102
Newport Beach, California 92660

Report Date: August 25, 2009

Contact: Mr. Frank Hagar
Project: **Tronox Henderson**

Client Sample ID:	M-11009BDISS	Project:	KERRHenderson
Sample ID:	233580013	Client ID:	KERR003
Matrix:	WG		
Collect Date:	27-JUL-09 09:15		
Receive Date:	28-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
Alphaspec Th, Liquid "As Received"											
Thorium-228	U	0.0295	+/-0.0255	0.0397	0.030	pCi/L		JXD2 08/22/09	1813	895930	1
Thorium-230	U	0.00245	+/-0.0173	0.0353	0.030	pCi/L					
Thorium-232	U	0.00	+/-0.00481	0.00736	0.030	pCi/L					
Alphaspec U, Liquid "As Received"											
Uranium-233/234		7.31	+/-0.438	0.0651	0.030	pCi/L		JXD2 08/10/09	1720	891145	2
Uranium-235/236		0.244	+/-0.0917	0.0643	0.030	pCi/L					
Uranium-238		4.38	+/-0.339	0.052	0.030	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	0.283	+/-0.948	1.78	3.00	pCi/L		MXS2 08/04/09	1921	888878	3
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	0.459	+/-0.396	0.618	1.00	pCi/L		KSD1 08/20/09	1635	892562	4

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	DOE EML HASL-300, U-02-RC Modified	
3	EPA 904.0/SW846 9320 Modified	
4	EPA 903.1 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Actinium-227 Tracer	Alphaspec Th, Liquid "As Received"			88.1	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			31.2	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			83.1	(15%-125%)

QUALITY CONTROL DATA

QC Summary

Report Date: August 25, 2009

Northgate Environmental Management, Inc.
1100 Quail St., Suite 102
Newport Beach, California

Contact: **Mr. Frank Hagar**

Workorder: **233580**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 891145										
QC1201895415 233580001 DUP										
Uranium-233/234		3.01 +/-0.146		3.18 +/-0.176	pCi/L	5.35		(0% - 20%)	JXD2	08/10/09 17:20
Uranium-235/236		0.0904 +/-0.0307		0.106 +/-0.0355	pCi/L	15.5		(0% - 100%)		
Uranium-238		1.98 +/-0.118		2.02 +/-0.140	pCi/L	2.01		(0% - 20%)		
QC1201895417 LCS										
Uranium-233/234				2.83 +/-0.162	pCi/L					08/10/09 17:20
Uranium-235/236				0.178 +/-0.0466	pCi/L					
Uranium-238	3.15			3.11 +/-0.170	pCi/L		98.4	(75%-125%)		
QC1201895414 MB										
Uranium-233/234			U	-0.0113 +/-0.00782	pCi/L					08/10/09 17:20
Uranium-235/236			U	0.00285 +/-0.00967	pCi/L					
Uranium-238			U	0.00461 +/-0.00903	pCi/L					
QC1201895416 233580001 MS										
Uranium-233/234		3.01 +/-0.146		6.00 +/-0.253	pCi/L					08/10/09 17:20
Uranium-235/236		0.0904 +/-0.0307		0.299 +/-0.0635	pCi/L					
Uranium-238	3.15	1.98 +/-0.118		5.25 +/-0.237	pCi/L		104	(75%-125%)		
Batch 895930										
QC1201907212 233580001 DUP										
Thorium-228		U -0.00878 +/-0.0448	U	0.0127 +/-0.0193	pCi/L	1100		N/A	JXD2	08/22/09 18:13
Thorium-230		U 0.0234 +/-0.0214	U	0.0127 +/-0.0165	pCi/L	59.5		N/A		
Thorium-232		U -0.00876 +/-0.0172	U	3.02E-10 +/-0.00992	pCi/L	200		N/A		
QC1201907214 LCS										
Thorium-228			U	0.0624 +/-0.0416	pCi/L					08/22/09 18:13
Thorium-230	3.57			3.80 +/-0.204	pCi/L		106	(75%-125%)		
Thorium-232			U	0.00849	pCi/L			(75%-125%)		

QC Summary

Workorder: **233580**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 895930										
				+/-0.0124						
QC1201907211 MB										
Thorium-228			U	0.020	pCi/L				JXD2	08/22/09 18:13
				+/-0.0256						
Thorium-230			U	-0.0171	pCi/L					
				+/-0.0158						
Thorium-232			U	0.00285	pCi/L					
				+/-0.00967						
QC1201907213 233580001 MS										
Thorium-228		U -0.00878	U	0.0352	pCi/L					08/22/09 18:13
		+/-0.0448		+/-0.0549						
Thorium-230	7.13	U 0.0234		7.90	pCi/L		111	(75%-125%)		
		+/-0.0214		+/-0.391						
Thorium-232		U -0.00876	U	0.00502	pCi/L			(75%-125%)		
		+/-0.0172		+/-0.022						
Rad Gas Flow										
Batch 888878										
QC1201890246 233580001 DUP										
Radium-228		U 1.04	U	1.01	pCi/L	0.00			N/A MXS2	08/04/09 19:20
		+/-1.03		+/-1.36						
QC1201890248 LCS										
Radium-228	40.7			42.9	pCi/L		105	(75%-125%)		08/04/09 19:20
				+/-4.21						
QC1201890245 MB										
Radium-228			U	1.12	pCi/L					08/04/09 19:20
				+/-1.58						
QC1201890247 233580001 MS										
Radium-228	40.9	U 1.04		38.4	pCi/L		93.8	(75%-125%)		08/04/09 19:20
		+/-1.03		+/-3.93						
Rad Ra-226										
Batch 892562										
QC1201898769 233580001 DUP										
Radium-226		0.659		0.880	pCi/L	28.7		(0% - 100%)	KSD1	08/20/09 16:35
		+/-0.418		+/-0.430						
QC1201898771 LCS										
Radium-226	24.2			26.5	pCi/L		110	(75%-125%)		08/20/09 18:05
				+/-1.97						
QC1201898768 MB										
Radium-226			U	0.490	pCi/L					08/20/09 16:35
				+/-0.398						
QC1201898770 233580001 MS										
Radium-226	121	0.659		144	pCi/L		119	(75%-125%)		08/20/09 17:20
		+/-0.418		+/-11.3						

Notes:
The Qualifiers in this report are defined as follows:

QC Summary

Workorder: **233580**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
F	Estimated Value
H	Analytical holding time was exceeded
J	Value is estimated
M	M if above MDC and less than LLD
M	Matrix Related Failure
N/A	RPD or %Recovery limits do not apply.
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI	Gamma Spectroscopy--Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

RAW DATA

THORIUM

Radiochemistry Batch Checklist, Rev 9

Batch# 895930 Product: TN Date: 8/25/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.		✓	NCM# 725694
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.		✓	NCM# 725694
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.	✓		NCM# 725694
Batch non-conformances second reviewed and disposition verified to be completed.	✓		NCM# 725694
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: 8/25/09

Secondary Review Performed By: 8/25/09

8/19-8/25

KEL

Thorium (Ac-227 Tracer) Que Sheet

21-AUG-09

Batch #: 895930 **Analyst:** JXD2 **First Client Due Date:**25-AUG-09 **Internal Due Date**19-AUG-09

Tracer Isotope: Ac-227 **Tracer Code:** 0387-B-62 **Expiration Date:** 7/23/10 **Vol:** 0.1ml **Ac-227 Separation Date/Time:** 08/21/09 1535
LCS Isotope: Th-230 **LCS Code:** A2796-J **Expiration Date:** 4/13/10 **Vol:** 0.1ml
Spike Isotope: Th-230 **Spike Code:** A2796-J **Expiration Date:** 4/13/10 **Vol:** 0.1ml
Prep Date: 8/21/09 **Initials:** [illegible] **Pipet ID:** 2947058 **Balance ID:** 1670207 **Witness:** [signature] 8/21/09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g (l) f) Wet/Dry	Th Det #
233580001-2	M-92BDISS	SAMPLE		.03 pCi/L	WATER	KERR003	15-JUL-09	1	1	0.600	31
233580002-2	M-97B	SAMPLE		.03 pCi/L	WATER	KERR003	16-JUL-09	2	2	0.600	197 ~~32~~ 8/25/09
233580003-2	TR-6B	SAMPLE		.03 pCi/L	WATER	KERR003	17-JUL-09	3	3	0.600	33
233580004-2	EB-071709-GW	SAMPLE		.03 pCi/L	WATER	KERR003	17-JUL-09	4	4	0.600	35
233580005-2	M-33B	SAMPLE		.03 pCi/L	WATER	KERR003	21-JUL-09	5	5	0.600	36
233580006-2	CLD-4RB	SAMPLE		.03 pCi/L	WATER	KERR003	22-JUL-09	6	6	0.600	37
233580007-2	MW-6RB	SAMPLE		.03 pCi/L	WATER	KERR003	23-JUL-09	7	7	0.600	38 8/25/09
233580008-2	M-52B	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUL-09	8	8	0.600	~~39~~ 198
233580009-2	M-35B	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUL-09	9	9	0.600	40
233580010-2	M-11B	SAMPLE		.03 pCi/L	WATER	KERR003	27-JUL-09	10	10	0.600	41
233580011-2	M-11BDISS	SAMPLE		.03 pCi/L	WATER	KERR003	27-JUL-09	11	11	0.600	42
233580012-2	M-11009B	SAMPLE		.03 pCi/L	WATER	KERR003	27-JUL-09	12	12	0.600	43
233580013-2	M-11009BDISS	SAMPLE		.03 pCi/L	WATER	KERR003	27-JUL-09	13	13	0.600	44
1201907211-1	MB for batch 895930	MB		UCF pCi/L to	WATER	QC ACCOUNT		14	14	0.600	45
1201907212-2	M-92BDISS(233580001DUP)	DUP		.03 pCi/L	WATER	QC ACCOUNT	15-JUL-09	15	15	0.600	46
1201907213-2	M-92BDISS(233580001MS)	MS		.03 pCi/L	WATER	QC ACCOUNT	15-JUL-09	16	16	0.300	47
1201907214-1	LCS for batch 895930	LCS		UCF pCi/L to	WATER	QC ACCOUNT		17	17	0.600	48

62

MAOD 8/24/09

Choose SOP Used: GL-RAD-A-038 (circled)
GL-RAD-A-045 ___
GL-RAD-A-043 ___
GL-RAD-A-032 ___

Solid Sample Dissolution by: **LEACH or ~~DIGESTION~~** (Circle One)

Data Reviewed By: [signature] 8/25/09

GEL Laboratories LLC, Radiochemistry Division

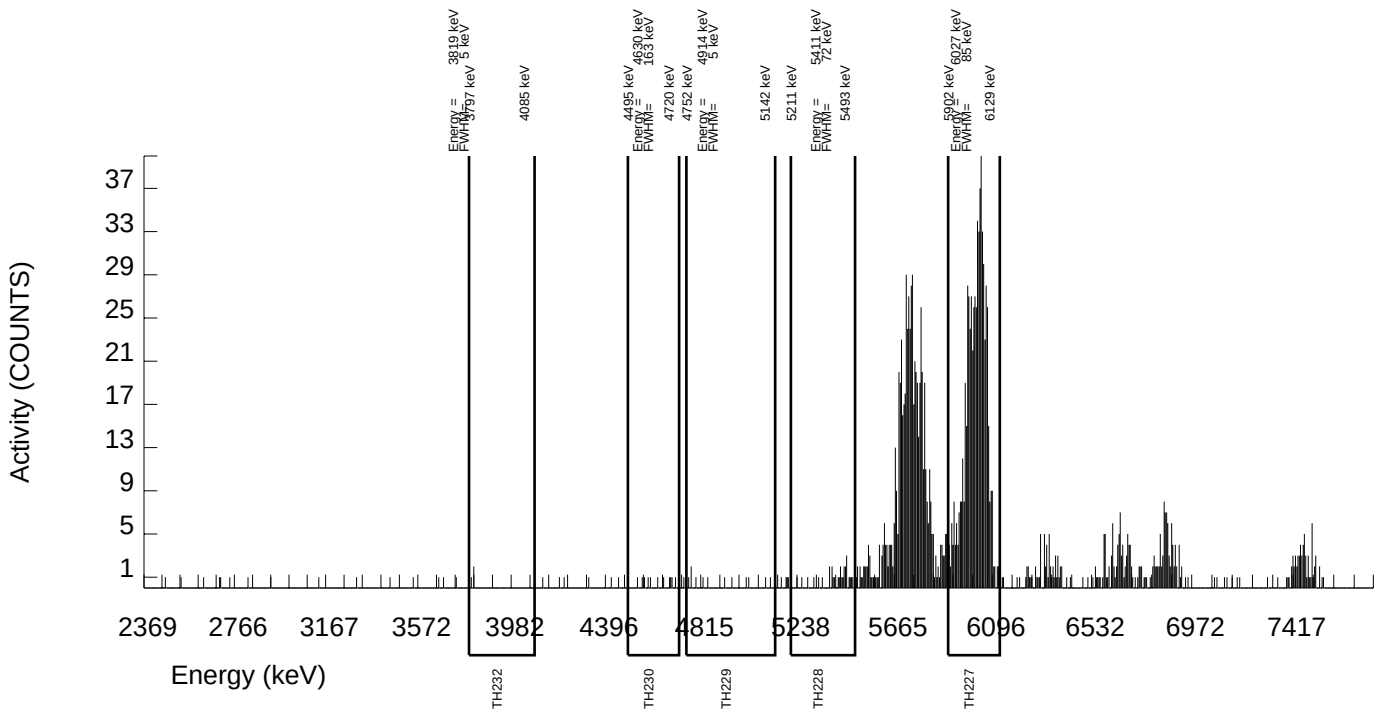
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580001_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :67042 AVERAGE %EFFICIENCY :33.3397 % YIELD : 77.074	COUNT DATE:22-AUG-2009 18:13:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.01691 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B031.CNF;1052 BKG DATE : 16-AUG-2009 EFF FILE : W031.CNF;327 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	663.000	649.000	14.000	3.7417	68.10000	2.94E+00	2.80E-01	9.24E-02	3.94E-02	2.31E-01
TH-228	5363.000	29.000	-3.000	32.000	5.6569	99.94000	-8.78E-03	4.48E-02	8.58E-02	3.85E-02	4.48E-02
TH229	4900.000	12.000	-3.000	15.000	3.8730	99.52000	-8.81E-03	2.99E-02	6.17E-02	2.65E-02	2.99E-02
TH-230	4625.000	11.000	8.000	3.000	1.7321	100.0000	2.34E-02	2.15E-02	3.23E-02	1.18E-02	2.14E-02
TH-232	3972.000	3.000	-3.000	6.000	2.4495	100.0000	-8.76E-03	1.72E-02	4.21E-02	1.66E-02	1.72E-02



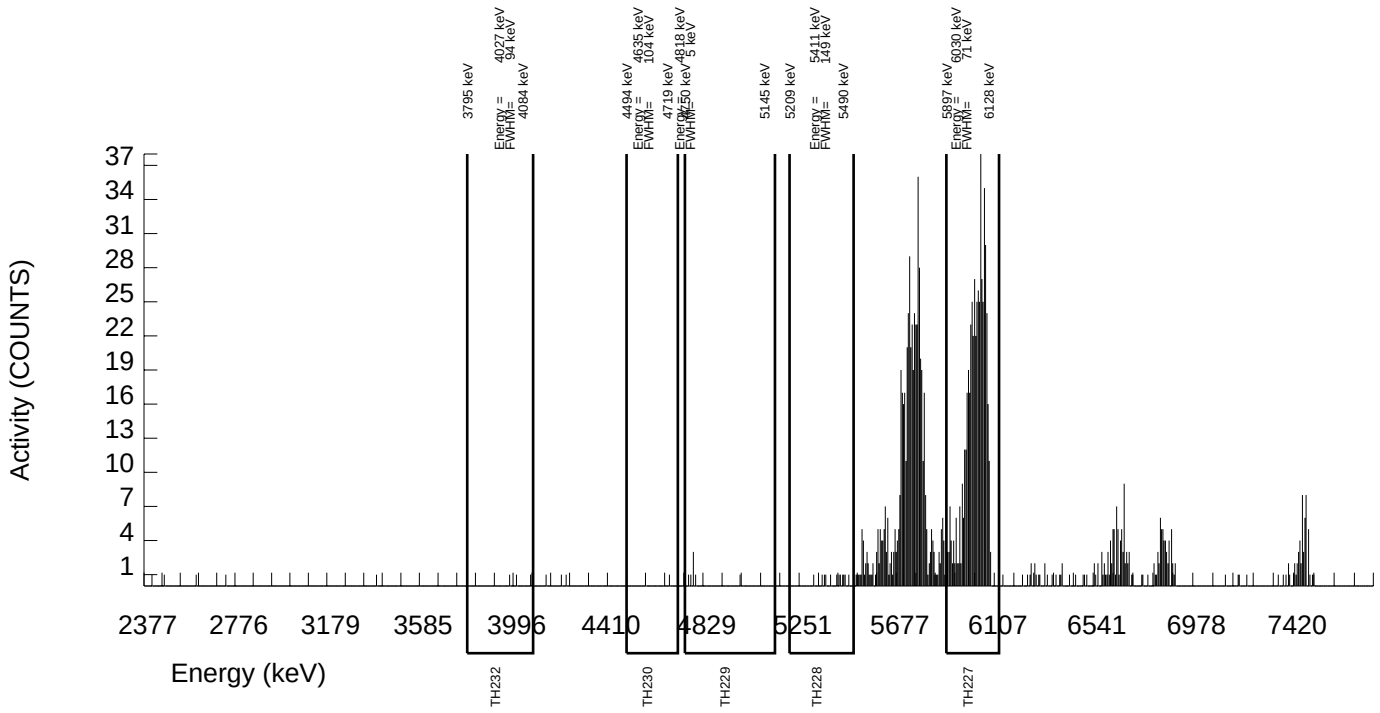
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580002_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :78894 AVERAGE %EFFICIENCY :25.6555 % YIELD : 89.788	COUNT DATE:24-AUG-2009 14:58:06 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91431 dpm RESULTS : 3.51458 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B197.CNF;48 BKG DATE : 23-AUG-2009 EFF FILE : W197.CNF;37 CAL DATE : 24-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	543.000	543.000	0.000	0.0000	68.10000	2.94E+00	2.94E-01	1.62E-02	0.00E+00	2.47E-01
TH-228	5363.000	12.000	11.000	1.000	1.0000	99.94000	3.60E-02	2.32E-02	2.50E-02	7.61E-03	2.31E-02
TH229	4900.000	7.000	6.000	1.000	1.0000	99.52000	1.96E-02	1.82E-02	2.51E-02	7.62E-03	1.82E-02
TH-230	4625.000	2.000	2.000	0.000	0.0000	100.0000	6.52E-03	9.04E-03	9.78E-03	0.00E+00	9.03E-03
TH-232	3972.000	3.000	3.000	0.000	0.0000	100.0000	9.78E-03	1.11E-02	9.78E-03	0.00E+00	1.11E-02



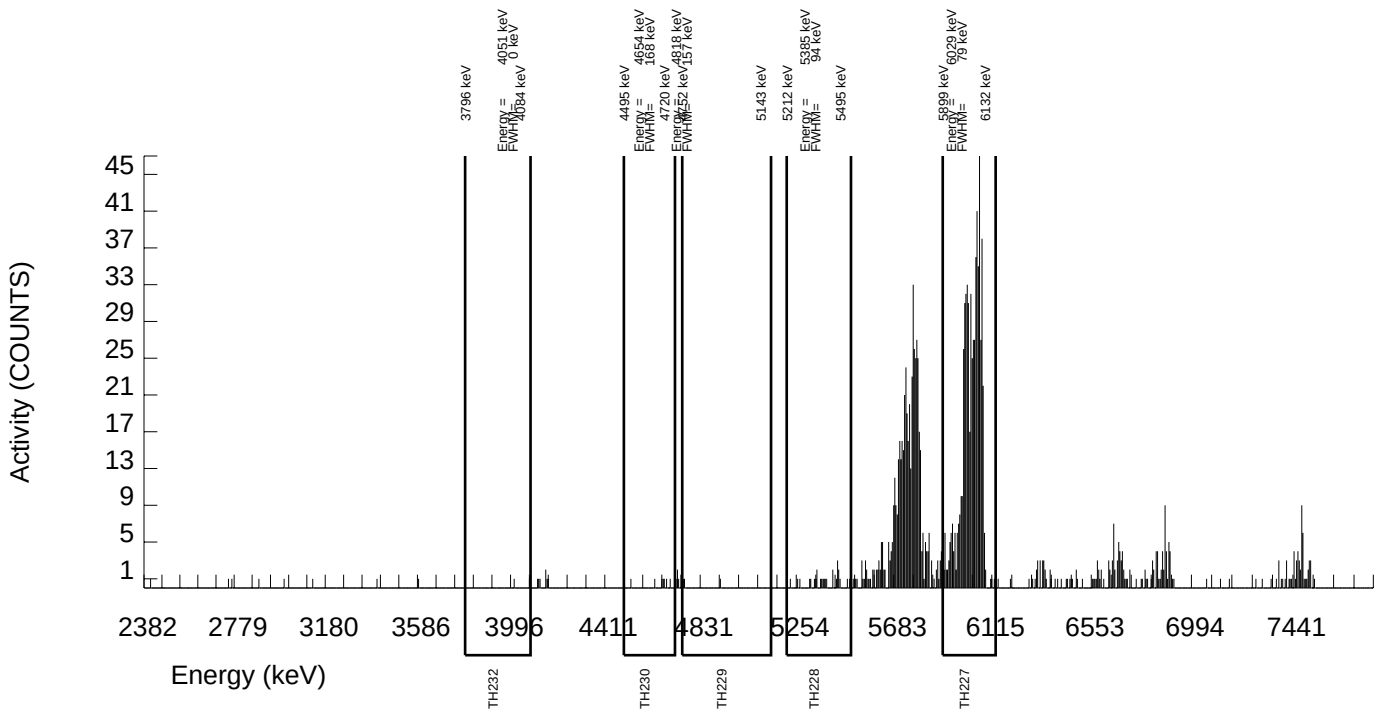
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580003_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :78785 AVERAGE %EFFICIENCY :31.5979 % YIELD : 78.816	COUNT DATE:22-AUG-2009 18:13:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.08512 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B033.CNF;1051 BKG DATE : 16-AUG-2009 EFF FILE : W033.CNF;317 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	630.000	629.000	1.000	1.0000	68.10000	2.94E+00	2.80E-01	3.58E-02	1.09E-02	2.30E-01
TH-228	5363.000	26.000	23.000	3.000	1.7321	99.94000	6.95E-02	3.21E-02	3.34E-02	1.22E-02	3.19E-02
TH229	4900.000	3.000	-2.000	5.000	2.2361	99.52000	-6.06E-03	1.68E-02	4.06E-02	1.58E-02	1.68E-02
TH-230	4625.000	7.000	7.000	0.000	0.0000	100.0000	2.11E-02	1.57E-02	9.04E-03	0.00E+00	1.56E-02
TH-232	3972.000	2.000	0.000	2.000	1.4142	100.0000	0.00E+00	1.18E-02	2.89E-02	9.92E-03	1.18E-02



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

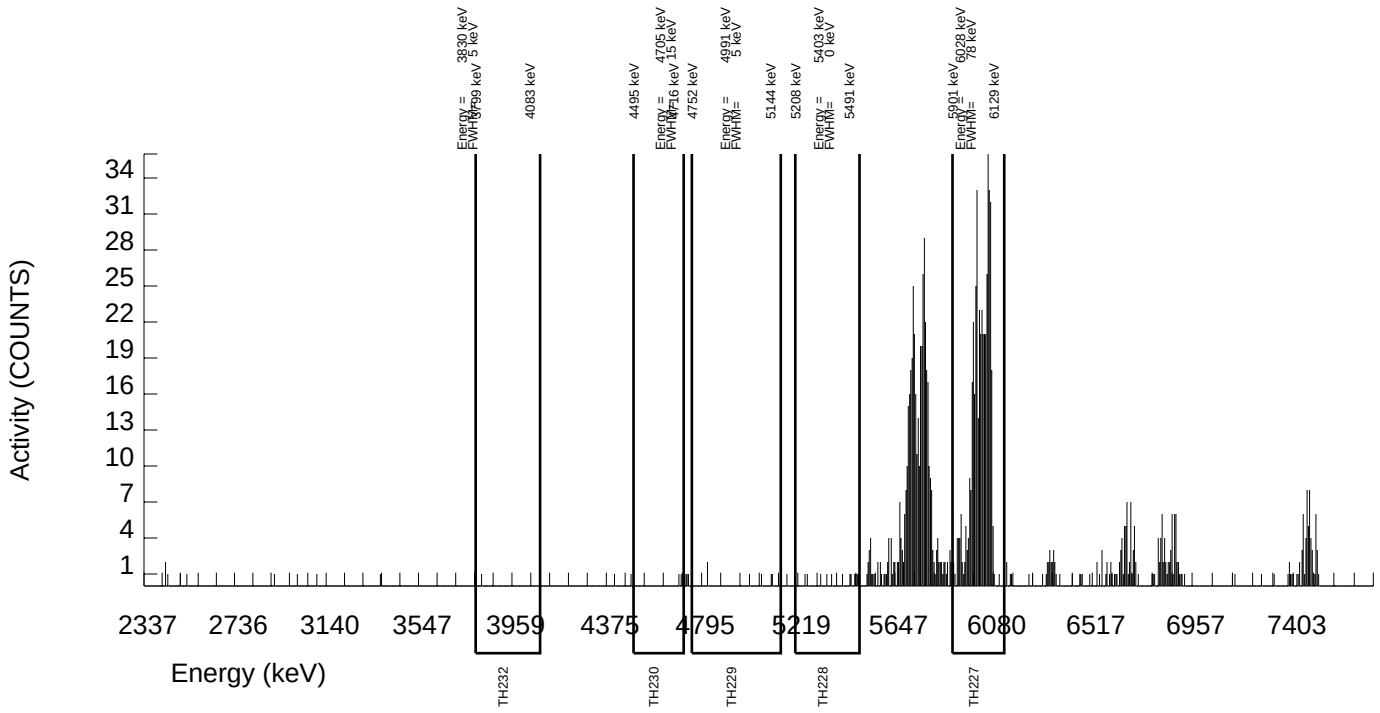
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580004_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :78202 AVERAGE %EFFICIENCY :30.6675 % YIELD : 60.421	COUNT DATE:22-AUG-2009 18:13:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 2.36508 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B035.CNF;1049 BKG DATE : 16-AUG-2009 EFF FILE : W035.CNF;306 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	472.000	468.000	4.000	2.0000	68.10000	2.94E+00	3.12E-01	7.73E-02	2.92E-02	2.69E-01
TH-228	5363.000	12.000	-1.000	13.000	3.6056	99.94000	-4.06E-03	3.98E-02	8.03E-02	3.41E-02	3.98E-02
TH229	4900.000	6.000	-7.000	13.000	3.6056	99.52000	-2.85E-02	3.48E-02	8.05E-02	3.41E-02	3.48E-02
TH-230	4625.000	2.000	-9.000	11.000	3.3166	100.0000	-3.65E-02	2.86E-02	7.47E-02	3.13E-02	2.86E-02
TH-232	3972.000	1.000	-3.000	4.000	2.0000	100.0000	-1.22E-02	1.78E-02	4.99E-02	1.89E-02	1.78E-02



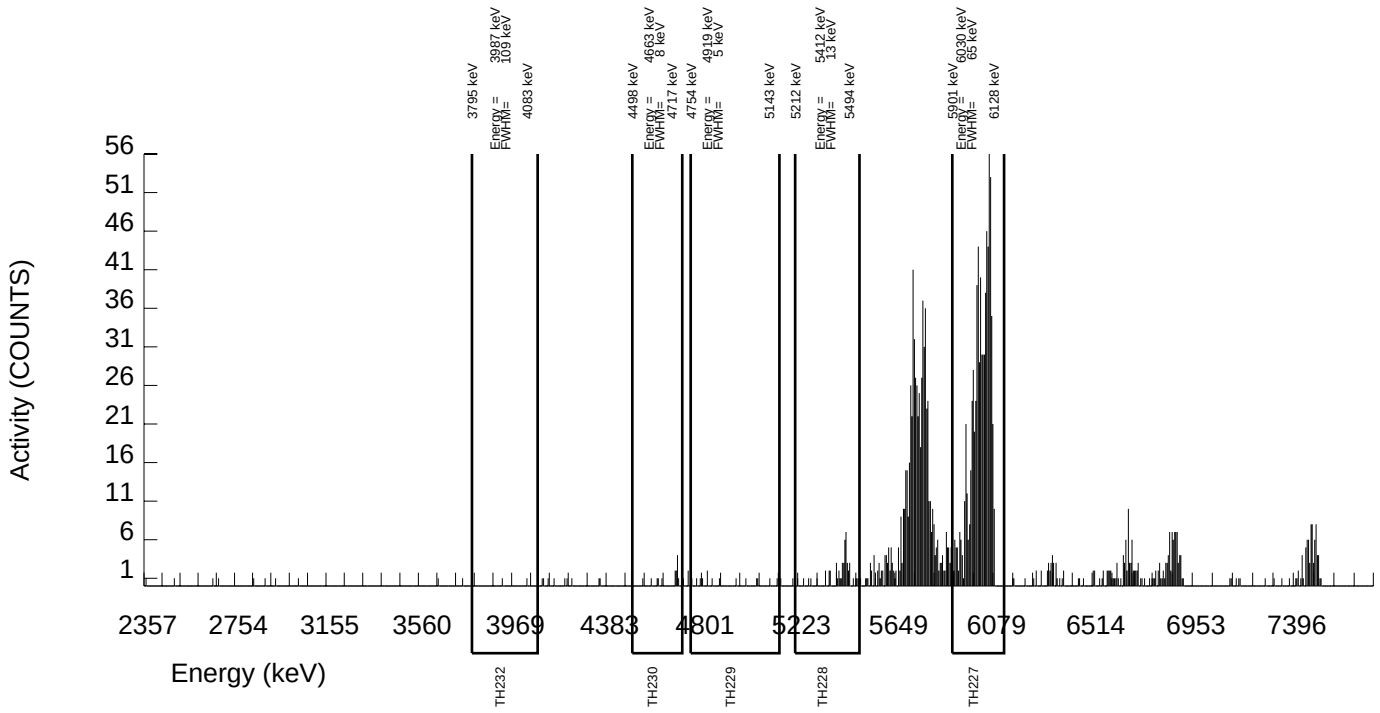
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580005_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :78203 AVERAGE %EFFICIENCY :32.3872 % YIELD : 92.421	COUNT DATE:22-AUG-2009 18:13:56 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.61767 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B036.CNF;1047 BKG DATE : 16-AUG-2009 EFF FILE : W036.CNF;318 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	759.000	756.000	3.000	1.7321	68.10000	2.94E+00	2.64E-01	4.30E-02	1.57E-02	2.10E-01
TH-228	5363.000	50.000	37.000	13.000	3.6056	99.94000	9.30E-02	3.94E-02	4.97E-02	2.11E-02	3.91E-02
TH229	4900.000	14.000	11.000	3.000	1.7321	99.52000	2.77E-02	2.04E-02	2.79E-02	1.02E-02	2.04E-02
TH-230	4625.000	14.000	13.000	1.000	1.0000	100.0000	3.26E-02	1.91E-02	1.92E-02	5.83E-03	1.90E-02
TH-232	3972.000	2.000	1.000	1.000	1.0000	100.0000	2.51E-03	8.52E-03	1.92E-02	5.83E-03	8.51E-03



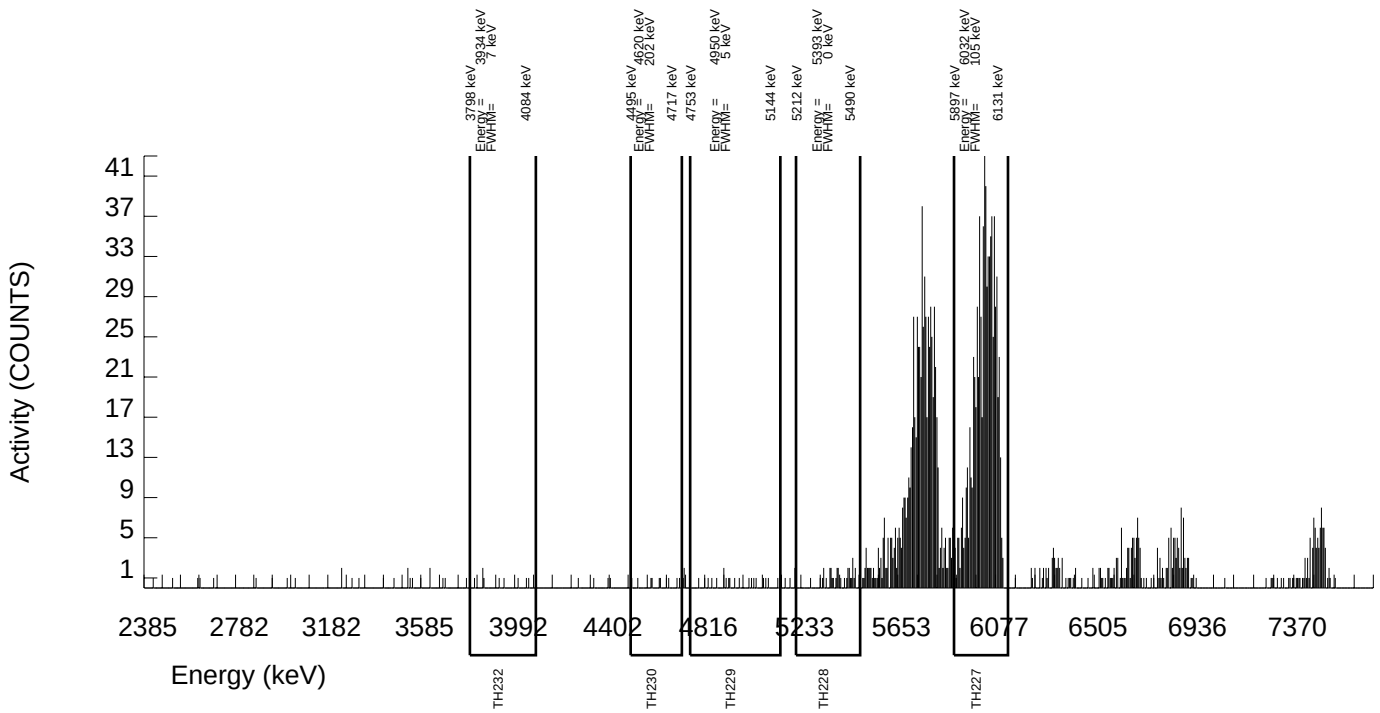
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580006_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :45-149BB5 AVERAGE %EFFICIENCY :35.8845 % YIELD : 85.290	COUNT DATE:22-AUG-2009 18:13:57 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.33851 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B037.CNF;1058 BKG DATE : 16-AUG-2009 EFF FILE : W037.CNF;294 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	779.000	773.000	6.000	2.4495	68.10000	2.94E+00	2.62E-01	5.47E-02	2.17E-02	2.09E-01
TH-228	5363.000	34.000	14.000	20.000	4.4721	99.94000	3.44E-02	3.55E-02	5.85E-02	2.56E-02	3.54E-02
TH229	4900.000	21.000	3.000	18.000	4.2426	99.52000	7.39E-03	3.02E-02	5.60E-02	2.43E-02	3.02E-02
TH-230	4625.000	10.000	4.000	6.000	2.4495	100.0000	9.81E-03	1.92E-02	3.53E-02	1.40E-02	1.92E-02
TH-232	3972.000	9.000	3.000	6.000	2.4495	100.0000	7.36E-03	1.86E-02	3.53E-02	1.40E-02	1.86E-02



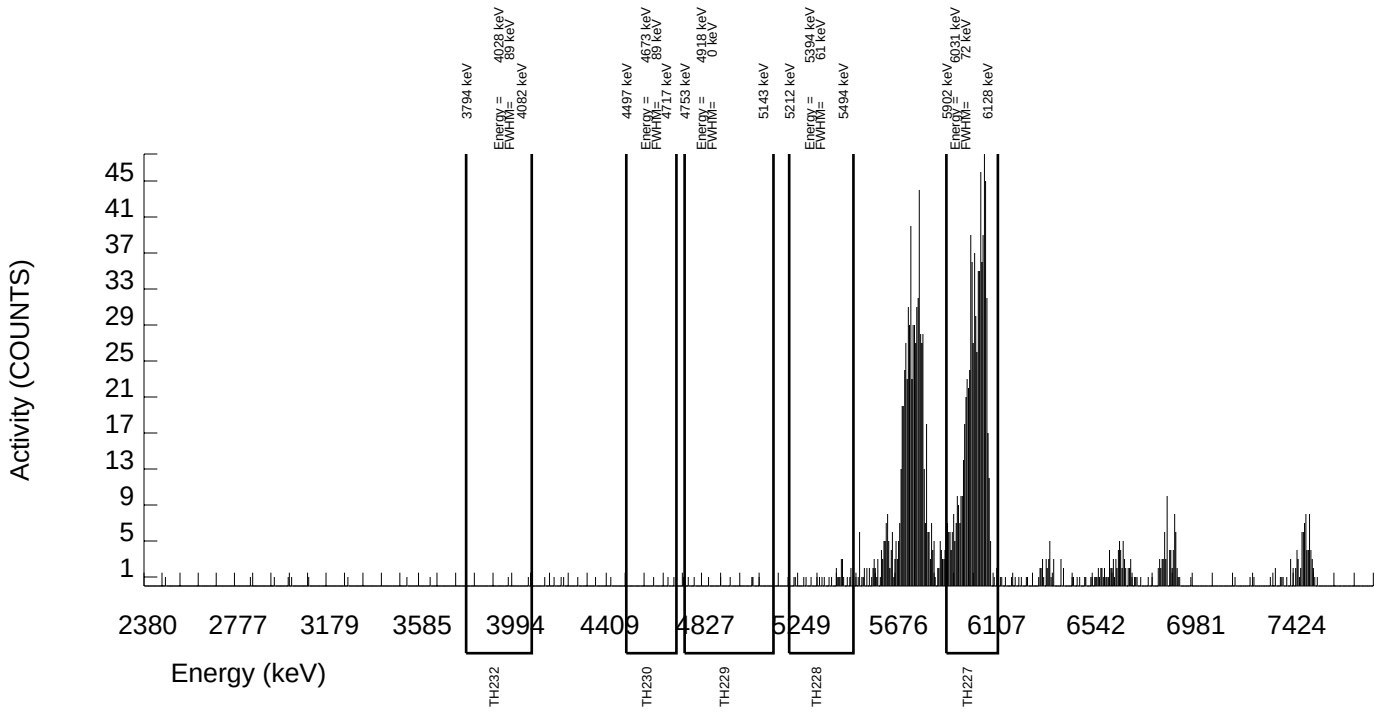
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580007_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :72532 AVERAGE %EFFICIENCY :34.0187 % YIELD : 89.618	COUNT DATE:22-AUG-2009 18:13:57 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.50794 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B038.CNF;1055 BKG DATE : 16-AUG-2009 EFF FILE : W038.CNF;308 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	773.000	770.000	3.000	1.7321	68.10000	2.94E+00	2.62E-01	4.22E-02	1.54E-02	2.08E-01
TH-228	5363.000	28.000	13.000	15.000	3.8730	99.94000	3.21E-02	3.18E-02	5.19E-02	2.22E-02	3.17E-02
TH229	4900.000	9.000	-6.000	15.000	3.8730	99.52000	-1.48E-02	2.38E-02	5.20E-02	2.23E-02	2.38E-02
TH-230	4625.000	3.000	-2.000	5.000	2.2361	100.0000	-4.93E-03	1.37E-02	3.30E-02	1.28E-02	1.37E-02
TH-232	3972.000	2.000	1.000	1.000	1.0000	100.0000	2.46E-03	8.36E-03	1.88E-02	5.73E-03	8.36E-03



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

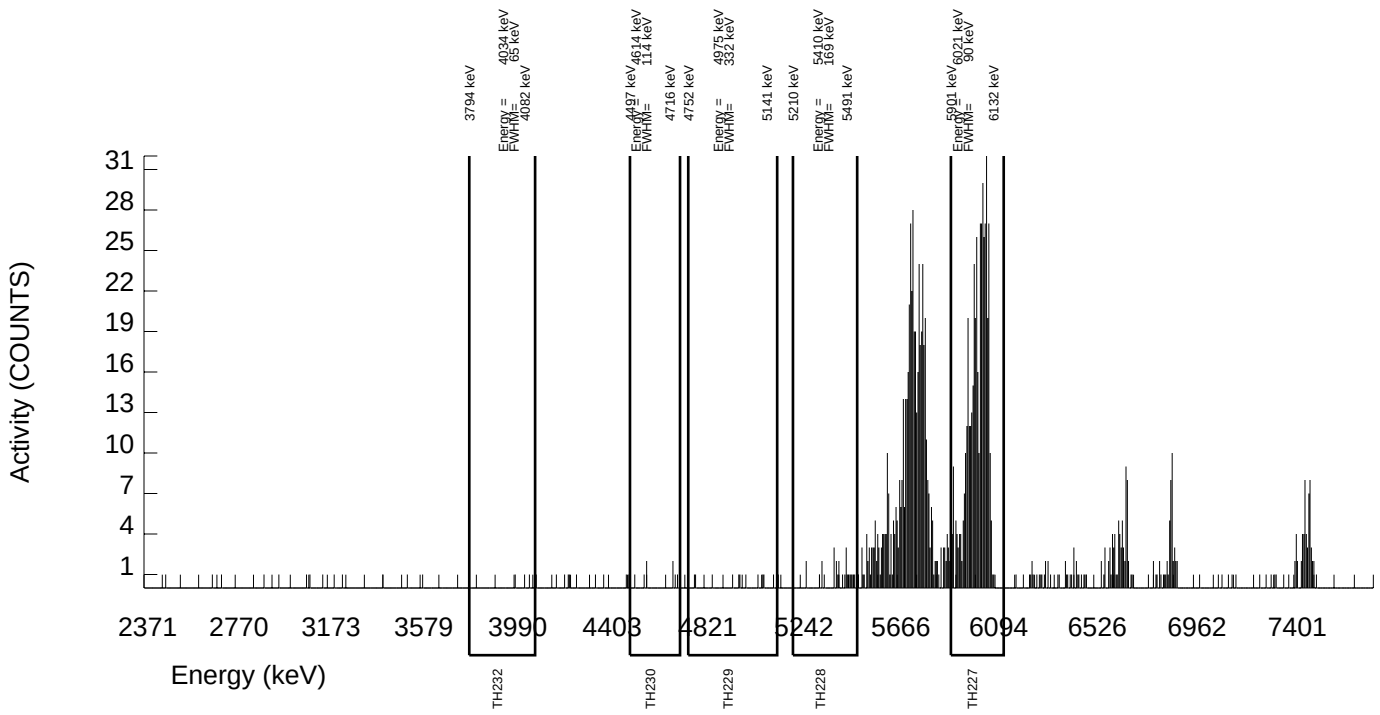
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580008_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :78895 AVERAGE %EFFICIENCY :25.4102 % YIELD : 79.469	COUNT DATE:24-AUG-2009 14:58:08 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91431 dpm RESULTS : 3.11067 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B198.CNF;48 BKG DATE : 23-AUG-2009 EFF FILE : W198.CNF;35 CAL DATE : 24-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	476.000	476.000	0.000	0.0000	68.10000	2.94E+00	3.08E-01	1.85E-02	0.00E+00	2.64E-01
TH-228	5363.000	26.000	25.000	1.000	1.0000	99.94000	9.33E-02	3.83E-02	2.86E-02	8.68E-03	3.80E-02
TH229	4900.000	11.000	11.000	0.000	0.0000	99.52000	4.11E-02	2.44E-02	1.12E-02	0.00E+00	2.43E-02
TH-230	4625.000	9.000	9.000	0.000	0.0000	100.0000	3.35E-02	2.19E-02	1.12E-02	0.00E+00	2.19E-02
TH-232	3972.000	3.000	3.000	0.000	0.0000	100.0000	1.12E-02	1.26E-02	1.12E-02	0.00E+00	1.26E-02



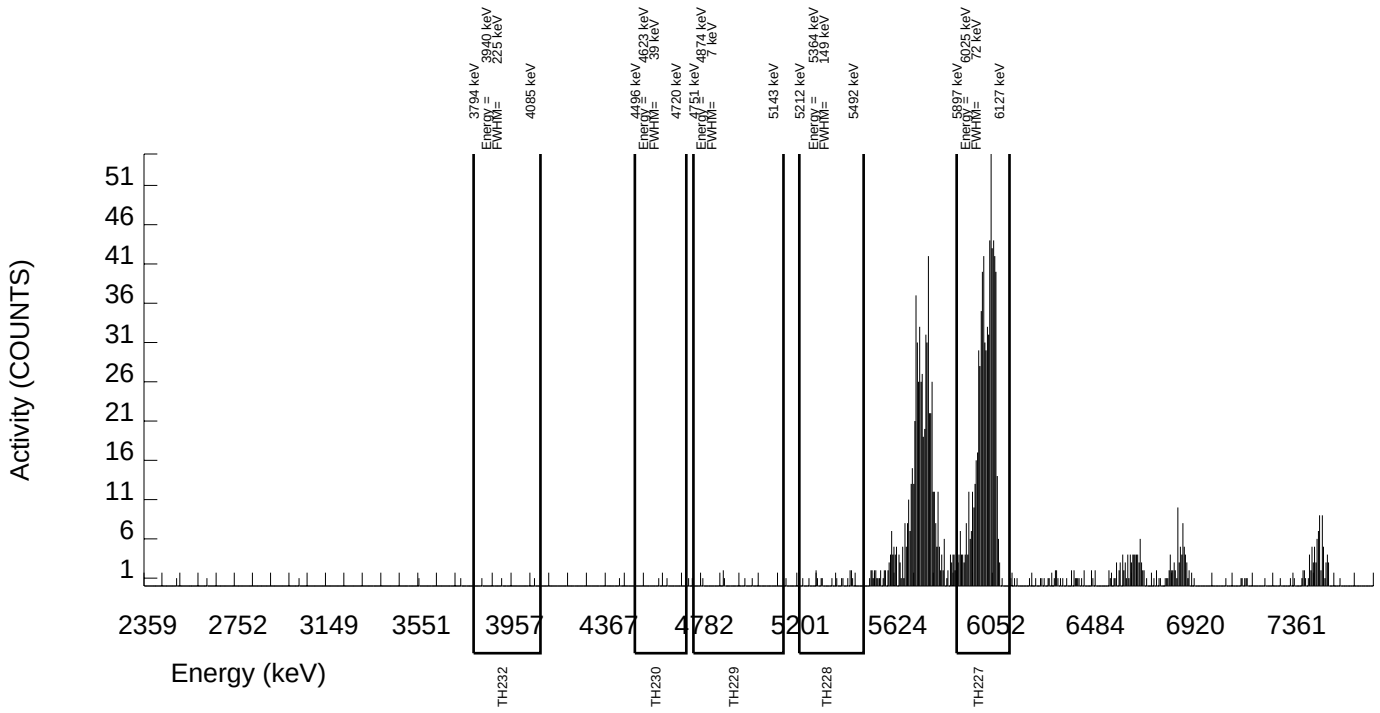
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580009_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :78773 AVERAGE %EFFICIENCY :31.9762 % YIELD : 90.514	COUNT DATE:22-AUG-2009 18:13:57 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.54300 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B040.CNF;1058 BKG DATE : 16-AUG-2009 EFF FILE : W040.CNF;304 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	733.000	731.000	2.000	1.4142	68.10000	2.94E+00	2.66E-01	3.85E-02	1.32E-02	2.14E-01
TH-228	5363.000	17.000	14.000	3.000	1.7321	99.94000	3.64E-02	2.29E-02	2.87E-02	1.05E-02	2.28E-02
TH229	4900.000	8.000	3.000	5.000	2.2361	99.52000	7.82E-03	1.84E-02	3.49E-02	1.36E-02	1.84E-02
TH-230	4625.000	2.000	1.000	1.000	1.0000	100.0000	2.59E-03	8.81E-03	1.99E-02	6.03E-03	8.81E-03
TH-232	3972.000	3.000	2.000	1.000	1.0000	100.0000	5.19E-03	1.02E-02	1.99E-02	6.03E-03	1.02E-02



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

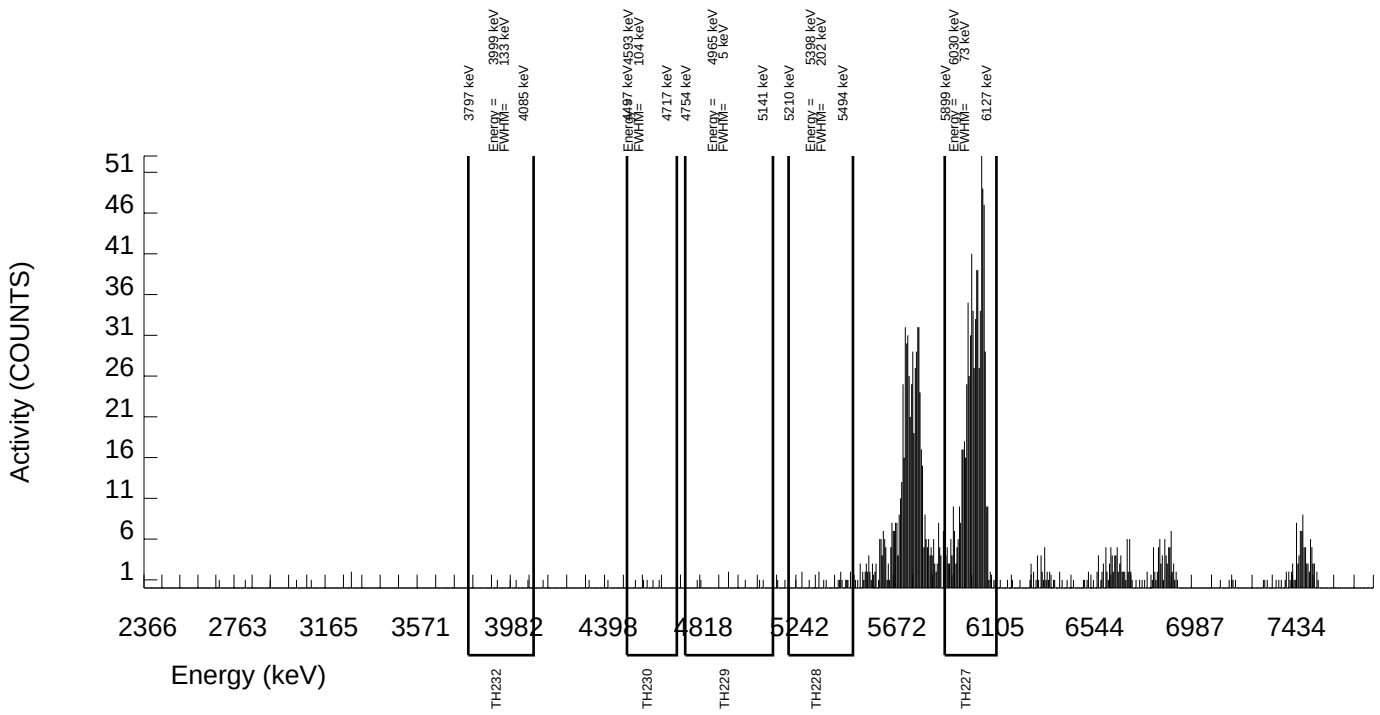
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580010_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :78205 AVERAGE %EFFICIENCY :33.2073 % YIELD : 88.589	COUNT DATE:22-AUG-2009 18:13:57 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.46765 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B041.CNF;1051 BKG DATE : 16-AUG-2009 EFF FILE : W041.CNF;308 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	748.000	743.000	5.000	2.2361	68.10000	2.94E+00	2.65E-01	5.30E-02	2.06E-02	2.13E-01
TH-228	5363.000	18.000	7.000	11.000	3.3166	99.94000	1.79E-02	2.70E-02	4.71E-02	1.97E-02	2.70E-02
TH229	4900.000	7.000	-2.000	9.000	3.0000	99.52000	-5.13E-03	2.01E-02	4.35E-02	1.79E-02	2.01E-02
TH-230	4625.000	5.000	5.000	0.000	0.0000	100.0000	1.28E-02	1.12E-02	7.66E-03	0.00E+00	1.12E-02
TH-232	3972.000	4.000	2.000	2.000	1.4142	100.0000	5.10E-03	1.23E-02	2.44E-02	8.40E-03	1.23E-02



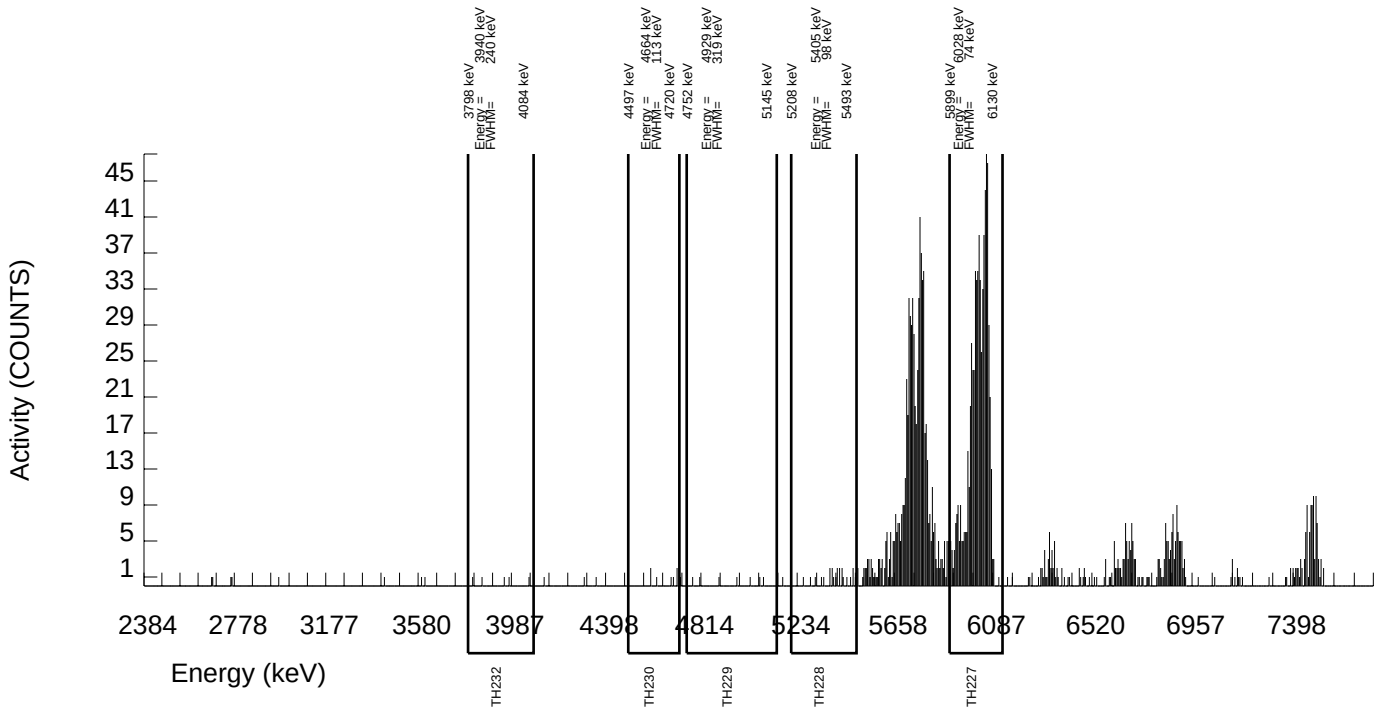
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580011_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :78793 AVERAGE %EFFICIENCY :33.5513 % YIELD : 81.780	COUNT DATE:22-AUG-2009 18:13:57 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.20114 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B042.CNF;1050 BKG DATE : 16-AUG-2009 EFF FILE : W042.CNF;281 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	695.000	693.000	2.000	1.4142	68.10000	2.94E+00	2.71E-01	4.06E-02	1.40E-02	2.19E-01
TH-228	5363.000	23.000	16.000	7.000	2.6458	99.94000	4.39E-02	2.95E-02	4.20E-02	1.69E-02	2.94E-02
TH229	4900.000	8.000	-1.000	9.000	3.0000	99.52000	-2.75E-03	2.22E-02	4.66E-02	1.92E-02	2.22E-02
TH-230	4625.000	7.000	1.000	6.000	2.4495	100.0000	2.74E-03	1.93E-02	3.94E-02	1.56E-02	1.93E-02
TH-232	3972.000	5.000	4.000	1.000	1.0000	100.0000	1.09E-02	1.31E-02	2.09E-02	6.37E-03	1.31E-02



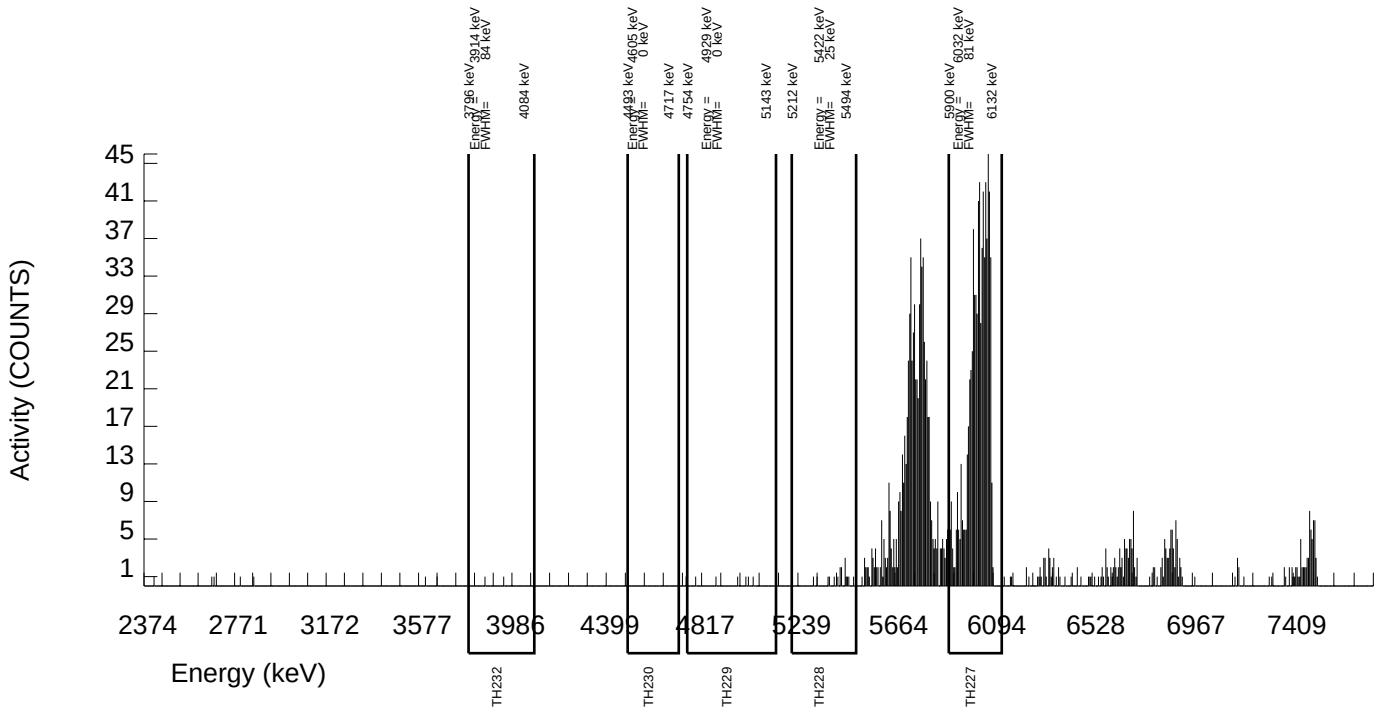
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580012_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :76543 AVERAGE %EFFICIENCY :33.9498 % YIELD : 89.217	COUNT DATE:22-AUG-2009 18:13:58 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.49224 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B043.CNF;1046 BKG DATE : 16-AUG-2009 EFF FILE : W043.CNF;273 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	770.000	765.000	5.000	2.2361	68.10000	2.94E+00	2.63E-01	5.15E-02	2.00E-02	2.10E-01
TH-228	5363.000	18.000	11.000	7.000	2.6458	99.94000	2.73E-02	2.44E-02	3.80E-02	1.53E-02	2.43E-02
TH229	4900.000	7.000	1.000	6.000	2.4495	99.52000	2.49E-03	1.76E-02	3.59E-02	1.42E-02	1.76E-02
TH-230	4625.000	0.000	0.000	0.000	0.0000	100.0000	0.00E+00	4.86E-03	7.44E-03	0.00E+00	4.86E-03
TH-232	3972.000	2.000	1.000	1.000	1.0000	100.0000	2.48E-03	8.42E-03	1.90E-02	5.77E-03	8.41E-03



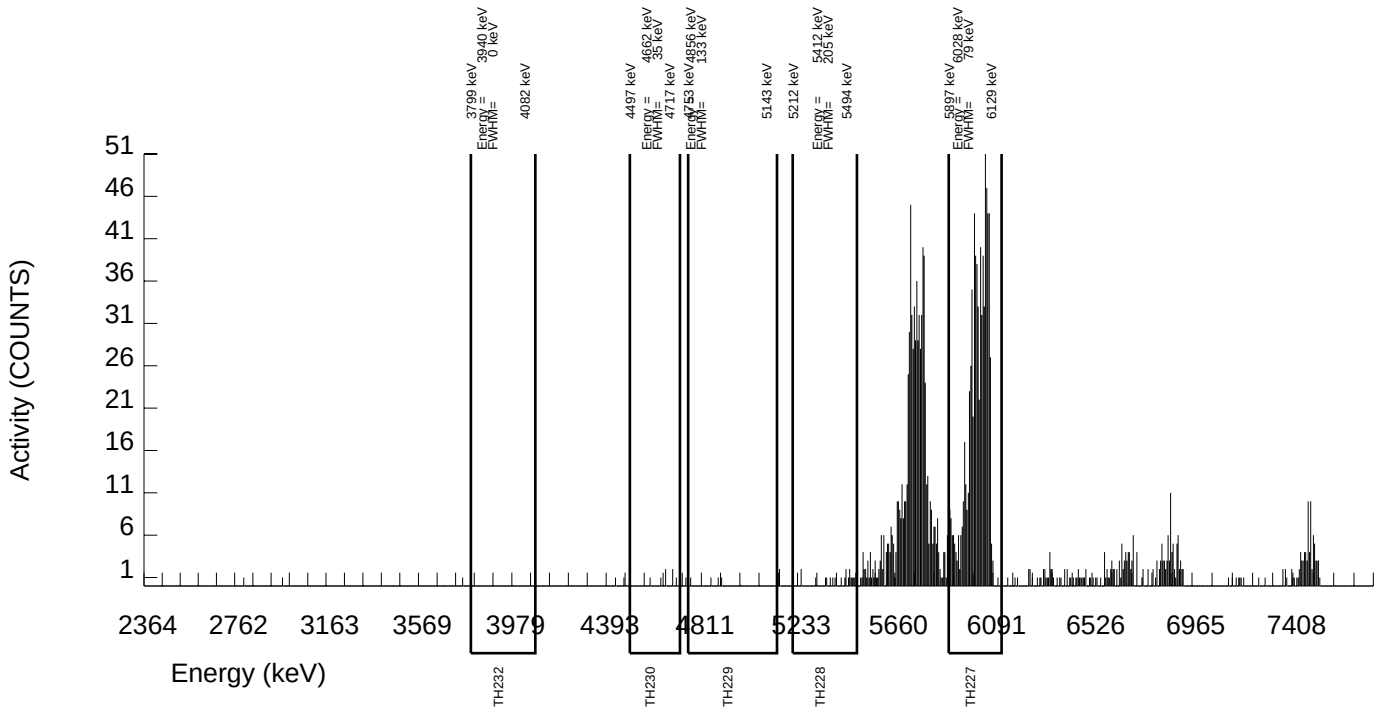
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S0233580013_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :79459 AVERAGE %EFFICIENCY :34.7262 % YIELD : 88.134	COUNT DATE:22-AUG-2009 18:13:58 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.44986 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B044.CNF;1056 BKG DATE : 16-AUG-2009 EFF FILE : W044.CNF;294 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	775.000	773.000	2.000	1.4142	68.10000	2.94E+00	2.61E-01	3.64E-02	1.25E-02	2.08E-01
TH-228	5363.000	20.000	12.000	8.000	2.8284	99.94000	2.95E-02	2.55E-02	3.97E-02	1.62E-02	2.55E-02
TH229	4900.000	4.000	-2.000	6.000	2.4495	99.52000	-4.93E-03	1.53E-02	3.55E-02	1.40E-02	1.53E-02
TH-230	4625.000	7.000	1.000	6.000	2.4495	100.0000	2.45E-03	1.73E-02	3.53E-02	1.40E-02	1.73E-02
TH-232	3972.000	0.000	0.000	0.000	0.0000	100.0000	0.00E+00	4.81E-03	7.36E-03	0.00E+00	4.81E-03



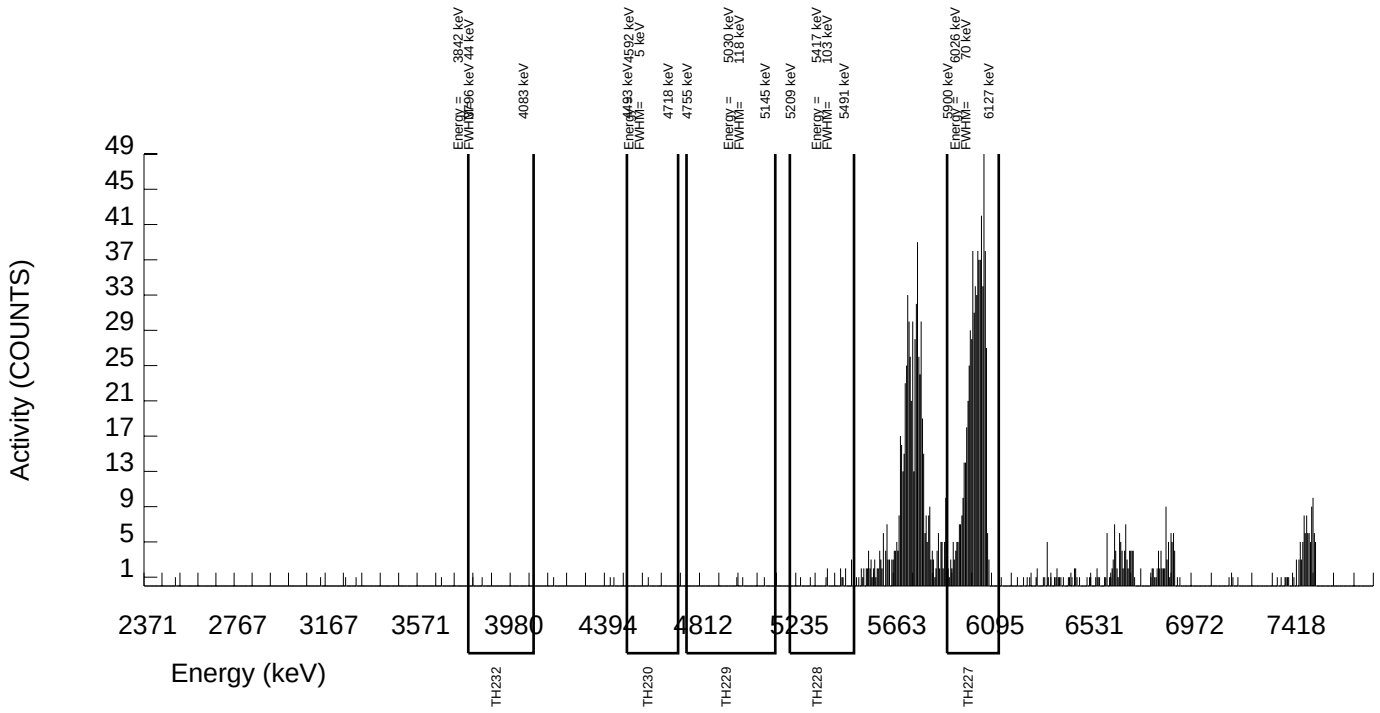
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S1201907211_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :78783 AVERAGE %EFFICIENCY :34.7396 % YIELD : 75.905	COUNT DATE:22-AUG-2009 18:13:58 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 2.97118 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B045.CNF;1045 BKG DATE : 16-AUG-2009 EFF FILE : W045.CNF;285 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	673.000	666.000	7.000	2.6458	68.10000	2.94E+00	2.76E-01	6.76E-02	2.72E-02	2.26E-01
TH-228	5363.000	14.000	7.000	7.000	2.6458	99.94000	2.00E-02	2.56E-02	4.37E-02	1.76E-02	2.56E-02
TH229	4900.000	3.000	-9.000	12.000	3.4641	99.52000	-2.57E-02	2.17E-02	5.47E-02	2.31E-02	2.17E-02
TH-230	4625.000	1.000	-6.000	7.000	2.6458	100.0000	-1.71E-02	1.58E-02	4.36E-02	1.75E-02	1.58E-02
TH-232	3972.000	2.000	1.000	1.000	1.0000	100.0000	2.85E-03	9.67E-03	2.18E-02	6.62E-03	9.67E-03



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

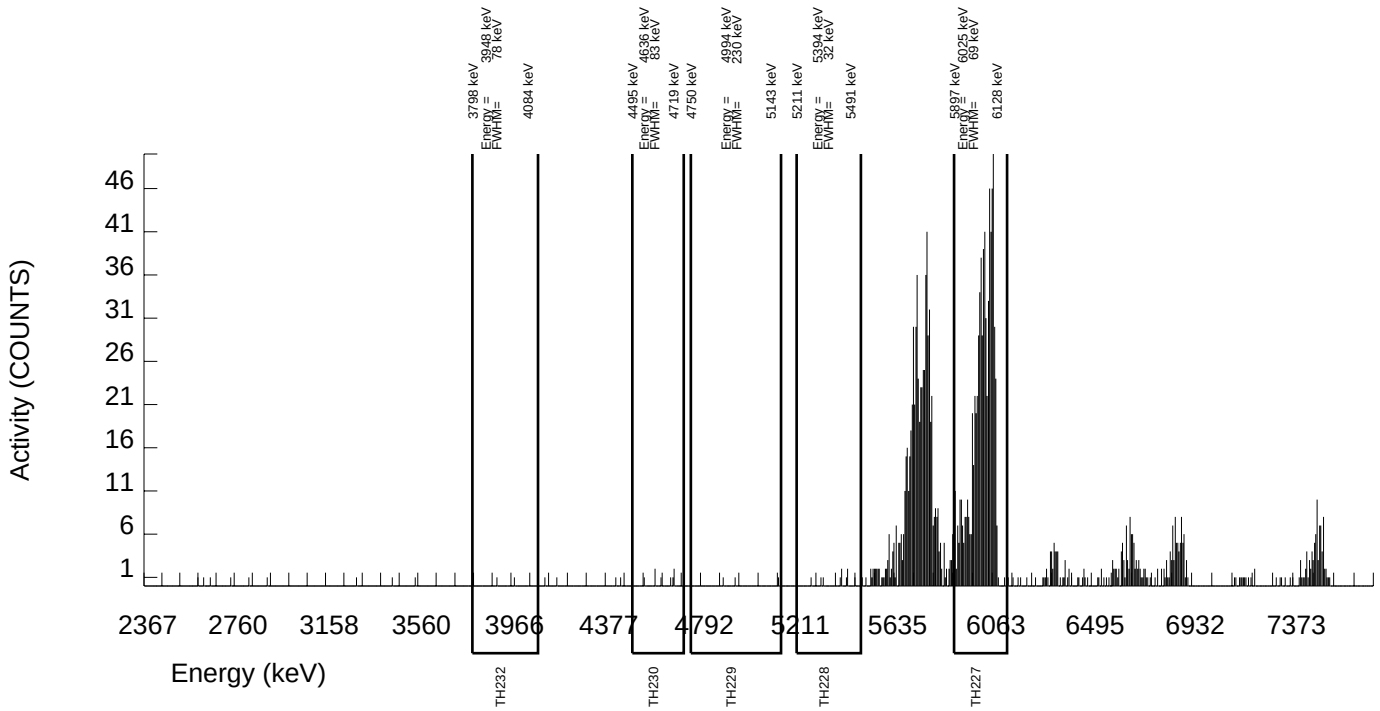
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S1201907212_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :76544 AVERAGE %EFFICIENCY :33.9666 % YIELD : 87.308	COUNT DATE:22-AUG-2009 18:13:58 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.41751 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B046.CNF;1056 BKG DATE : 16-AUG-2009 EFF FILE : W046.CNF;276 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	750.000	749.000	1.000	1.0000	68.10000	2.94E+00	2.64E-01	3.00E-02	9.13E-03	2.11E-01
TH-228	5363.000	10.000	5.000	5.000	2.2361	99.94000	1.27E-02	1.93E-02	3.40E-02	1.32E-02	1.93E-02
TH229	4900.000	3.000	-5.000	8.000	2.8284	99.52000	-1.27E-02	1.65E-02	4.11E-02	1.67E-02	1.65E-02
TH-230	4625.000	8.000	5.000	3.000	1.7321	100.0000	1.27E-02	1.65E-02	2.80E-02	1.02E-02	1.65E-02
TH-232	3972.000	2.000	0.000	2.000	1.4142	100.0000	3.02E-10	9.92E-03	2.43E-02	8.33E-03	9.92E-03



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

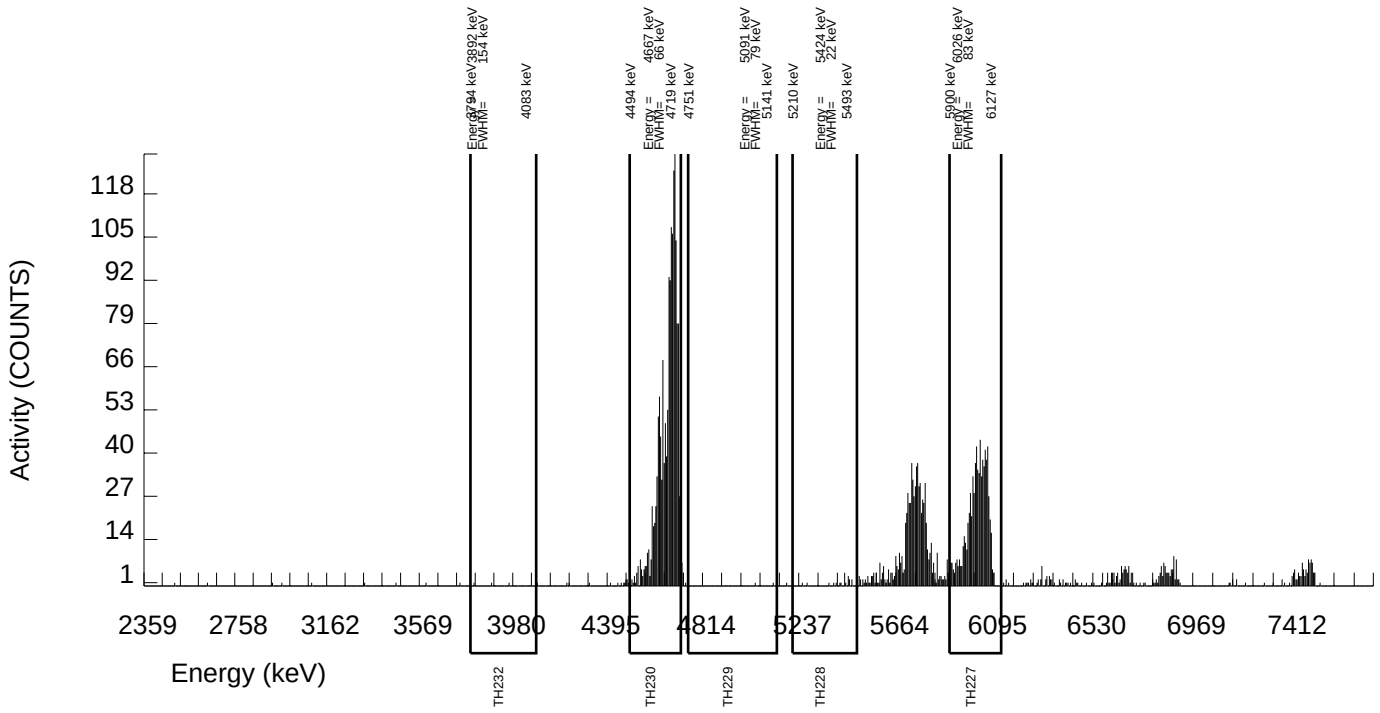
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S1201907213_TH SAMPLE QTY: 0.300 L
DETECTOR NUMBER :46-089B1 AVERAGE %EFFICIENCY :34.1609 % YIELD : 87.623	COUNT DATE:22-AUG-2009 18:13:58 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 7.134E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 7.134E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.42983 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B047.CNF;1051 BKG DATE : 16-AUG-2009 EFF FILE : W047.CNF;290 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	764.000	756.000	8.000	2.8284	68.10000	5.88E+00	5.29E-01	1.26E-01	5.12E-02	4.23E-01
TH-228	5363.000	19.000	7.000	12.000	3.4641	99.94000	3.52E-02	5.49E-02	9.61E-02	4.05E-02	5.49E-02
TH229	4900.000	2.000	-8.000	10.000	3.1623	99.52000	-4.03E-02	3.42E-02	8.93E-02	3.71E-02	3.42E-02
TH-230	4625.000	1576.000	1574.000	2.000	1.4142	100.0000	7.90E+00	5.78E-01	4.81E-02	1.65E-02	3.91E-01
TH-232	3972.000	3.000	1.000	2.000	1.4142	100.0000	5.02E-03	2.20E-02	4.81E-02	1.65E-02	2.20E-02



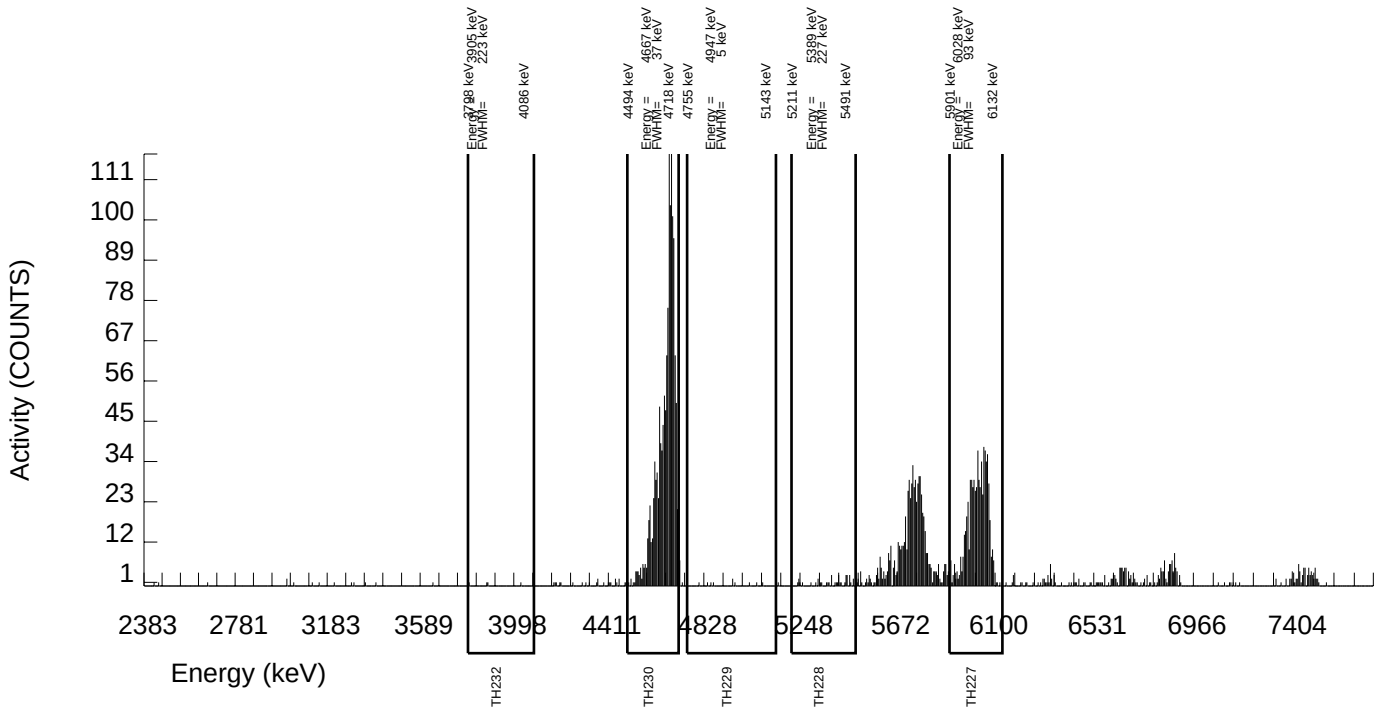
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 895930 SAMPLE DATE : 21-AUG-2009 15:35:00	SAMPLE ID : S1201907214_TH SAMPLE QTY: 0.600 L
DETECTOR NUMBER :42483 AVERAGE %EFFICIENCY :31.2363 % YIELD : 84.926	COUNT DATE:22-AUG-2009 18:13:58 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91432 dpm RESULTS : 3.32426 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B048.CNF;1052 BKG DATE : 16-AUG-2009 EFF FILE : W048.CNF;303 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	673.000	670.000	3.000	1.7321	68.10000	2.94E+00	2.74E-01	4.85E-02	1.77E-02	2.24E-01
TH-228	5363.000	39.000	22.000	17.000	4.1231	99.94000	6.24E-02	4.17E-02	6.29E-02	2.72E-02	4.16E-02
TH229	4900.000	10.000	-1.000	11.000	3.3166	99.52000	-2.84E-03	2.55E-02	5.24E-02	2.19E-02	2.55E-02
TH-230	4625.000	1348.000	1343.000	5.000	2.2361	100.0000	3.80E+00	2.90E-01	3.79E-02	1.47E-02	2.04E-01
TH-232	3972.000	4.000	3.000	1.000	1.0000	100.0000	8.49E-03	1.24E-02	2.17E-02	6.58E-03	1.24E-02



URANIUM

Radiochemistry Batch Checklist, Rev 9

Batch# 891148 Product: U Date: 8/24/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.		✓	NCM# 725374
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.		✓	NCM# 725374
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.	✓		NCM# 725374
Batch non-conformances second reviewed and disposition verified to be completed.			NCM# 725374
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: 8/24/09

Secondary Review Performed By: 8/25/09

8/24-8/25

KERR

Uranium Que Sheet

05-AUG-09

Batch #: 891145 Analyst: JXD2 First Client Due Date:25-AUG-09 Internal Due Date:14-AUG-09

Tracer Isotope: U-232/U-236 Tracer Code: 1283-E Expiration Date: 01/15/10 Vol: 0.1

LCS Isotope: U-238 LCS Code: 1163-G Expiration Date: 04/16/10 Vol: 0.1

Spike Isotope: U-238 Spike Code: 1163-G Expiration Date: 04/16/10 Vol: 0.1

Prep Date: 08/05/09 Initials: JXD Pipet ID: 2971058 Balance ID: 16750207 Witness: ME 8/5/09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/l/r)	U Det #
233580001-1	M-92BDISS	SAMPLE		.03 pCi/L	WATER	KERR003	15-JUL-09	1	1	0.800	13
233580002-1	M-97B	SAMPLE		.03 pCi/L	WATER	KERR003	16-JUL-09	2	2	0.800	14
233580003-1	TR-6B	SAMPLE		.03 pCi/L	WATER	KERR003	17-JUL-09	3	3	0.800	15
233580004-1	EB-071709-GW	SAMPLE		.03 pCi/L	WATER	KERR003	17-JUL-09	4	4	0.800	16
233580005-1	M-33B	SAMPLE		.03 pCi/L	WATER	KERR003	21-JUL-09	5	5	0.800	17
233580006-1	CLD-4RB	SAMPLE		.03 pCi/L	WATER	KERR003	22-JUL-09	6	6	0.800	18
233580007-1	MW-6RB	SAMPLE		.03 pCi/L	WATER	KERR003	23-JUL-09	7	7	0.800	113 19
233580008-1	M-52B	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUL-09	8	8	0.800	114 20
233580009-1	M-35B	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUL-09	9	9	0.800	115 21
233580010-1	M-11B	SAMPLE		.03 pCi/L	WATER	KERR003	27-JUL-09	10	10	0.800	116 22
233580011-1	M-11BDISS	SAMPLE		.03 pCi/L	WATER	KERR003	27-JUL-09	11	11	0.800	117 23
233580012-1	M-11009B	SAMPLE		.03 pCi/L	WATER	KERR003	27-JUL-09	12	12	0.800	149 24
233580013-1	M-11009BDISS	SAMPLE		.03 pCi/L	WATER	KERR003	27-JUL-09	13	13	0.800	115 25
1201895414-1	MB for batch 891145	MB		.03 pCi/L	WATER	QC ACCOUNT		14	14	0.800	116
1201895415-1	M-92BDISS(233580001DUP)	DUP		.03 pCi/L	WATER	QC ACCOUNT	15-JUL-09	15	15	0.800	117
1201895416-1	M-92BDISS(233580001MS)	MS		.03 pCi/L	WATER	QC ACCOUNT	15-JUL-09	16	16	0.800	118
1201895417-1	LCS for batch 891145	LCS		.03 pCi/L	WATER	QC ACCOUNT		17	17	0.800	121

Choose SOP used: GL-RAD-A-011
~~GL-RAD-A-038~~
GL-RAD-A-045
GL-RAD-A-043

Solid Sample Dissolution by: N/A LEACH or DIGESTION (Circle One) JXD 8/24/09

Data Reviewed By: 8/24/09 8/24/09

GEL Laboratories LLC, Radiochemistry Division

82

Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 891145 SAMPLE DATE : 16-JUL-2009 00:00:00	SAMPLE ID : S0233580002_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :67616 AVERAGE %EFFICIENCY :31.3062 % YIELD : 100.087	COUNT DATE: 8-AUG-2009 16:19:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26608 dpm RESULTS : 5.27066 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B014.CNF;1033 BKG DATE : 2-AUG-2009 EFF FILE : W014.CNF;312 CAL DATE : 3-AUG-2009

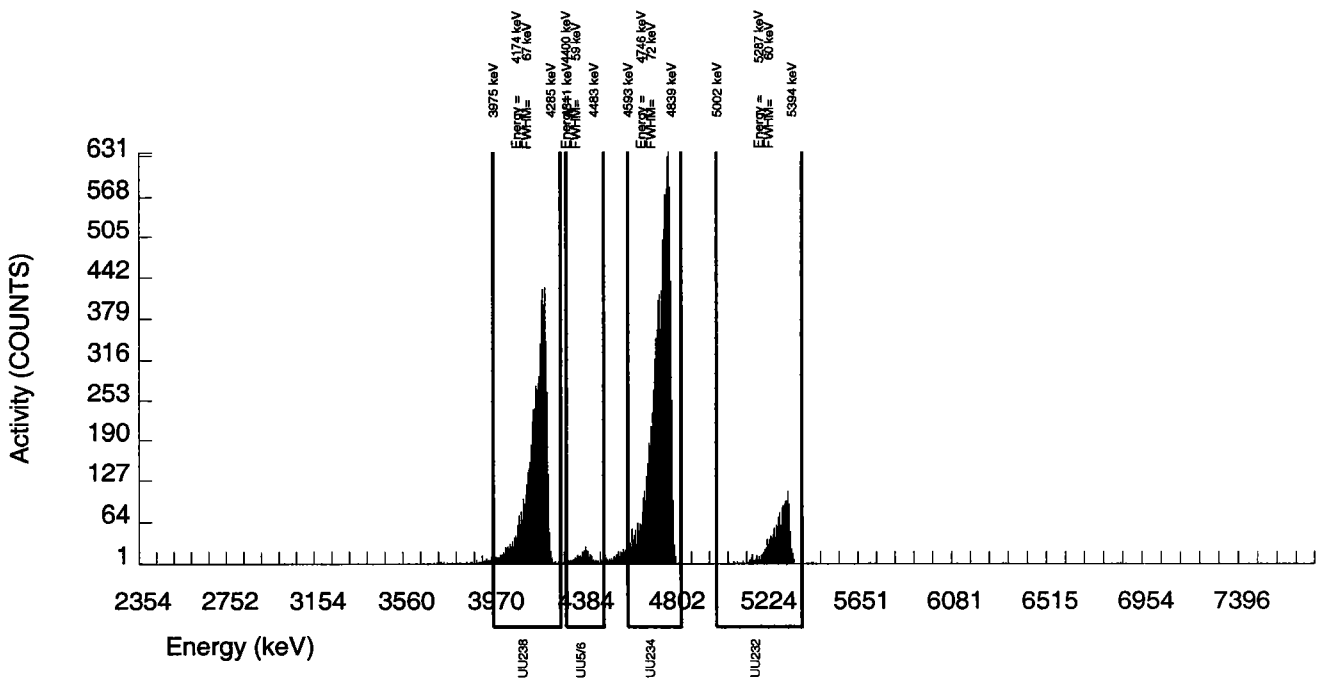
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	9823.000	9816.021	2.000	1.4142	100.0000	1.76E+01	2.38E+00	1.72E-02	5.91E-03	3.49E-01
U232	5302.100	1662.000	1649.000	13.000	3.6056	100.0000	2.97E+00	4.21E-01	3.56E-02	1.51E-02	1.44E-01
U-235	4391.000	336.000	334.000	2.000	1.4142	80.90000	7.42E-01	1.27E-01	2.13E-02	7.31E-03	8.00E-02
U-238	4184.730	6522.000	6522.000	0.000	0.0000	100.0000	1.17E+01	1.59E+00	5.39E-03	0.00E+00	2.84E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity

DO NOT REPORT

Integrated



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 891145 SAMPLE DATE : 17-JUL-2009 00:00:00	SAMPLE ID : S0233580003_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :61581 AVERAGE %EFFICIENCY :32.4959 % YIELD : 72.683	COUNT DATE: 8-AUG-2009 16:19:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26594 dpm RESULTS : 3.82742 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B015.CNF;1052 BKG DATE : 2-AUG-2009 EFF FILE : W015.CNF;316 CAL DATE : 3-AUG-2009

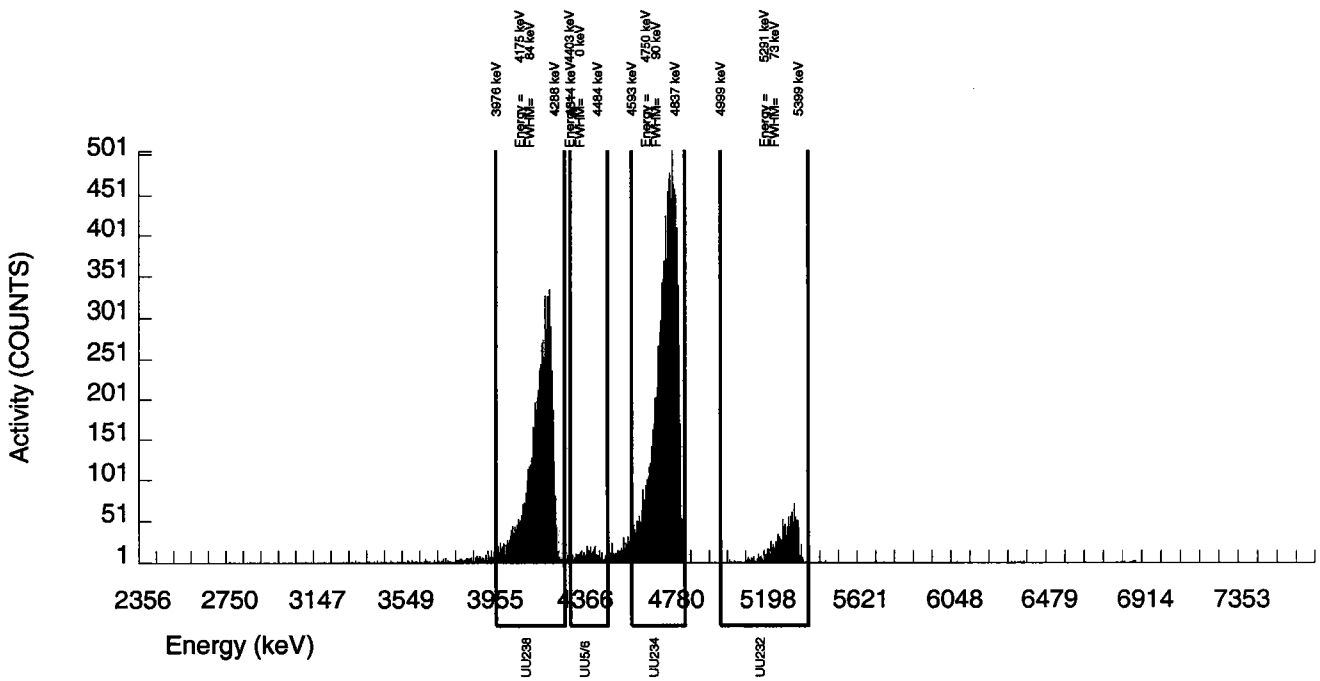
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	10110.000	10099.247	7.000	2.6458	100.0000	2.41E+01	3.32E+00	3.65E-02	1.47E-02	4.70E-01
U232	5302.100	1256.000	1243.000	13.000	3.6056	100.0000	2.97E+00	4.37E-01	4.72E-02	2.00E-02	1.67E-01
U-235	4391.000	359.000	359.000	0.000	0.0000	80.90000	1.06E+00	1.81E-01	8.84E-03	0.00E+00	1.09E-01
U-238	4184.730	6670.000	6669.000	1.000	1.0000	100.0000	1.59E+01	2.20E+00	1.82E-02	5.55E-03	3.82E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity

Integrated

DO NOT REPORT



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 891145 SAMPLE DATE : 21-JUL-2009 00:00:00	SAMPLE ID : S0233580005_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :78791 AVERAGE %EFFICIENCY :29.2091 % YIELD : 53.604	COUNT DATE: 8-AUG-2009 16:19:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26539 dpm RESULTS : 2.82246 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B017.CNF;1875 BKG DATE : 2-AUG-2009 EFF FILE : W017.CNF;1249 CAL DATE : 3-AUG-2009

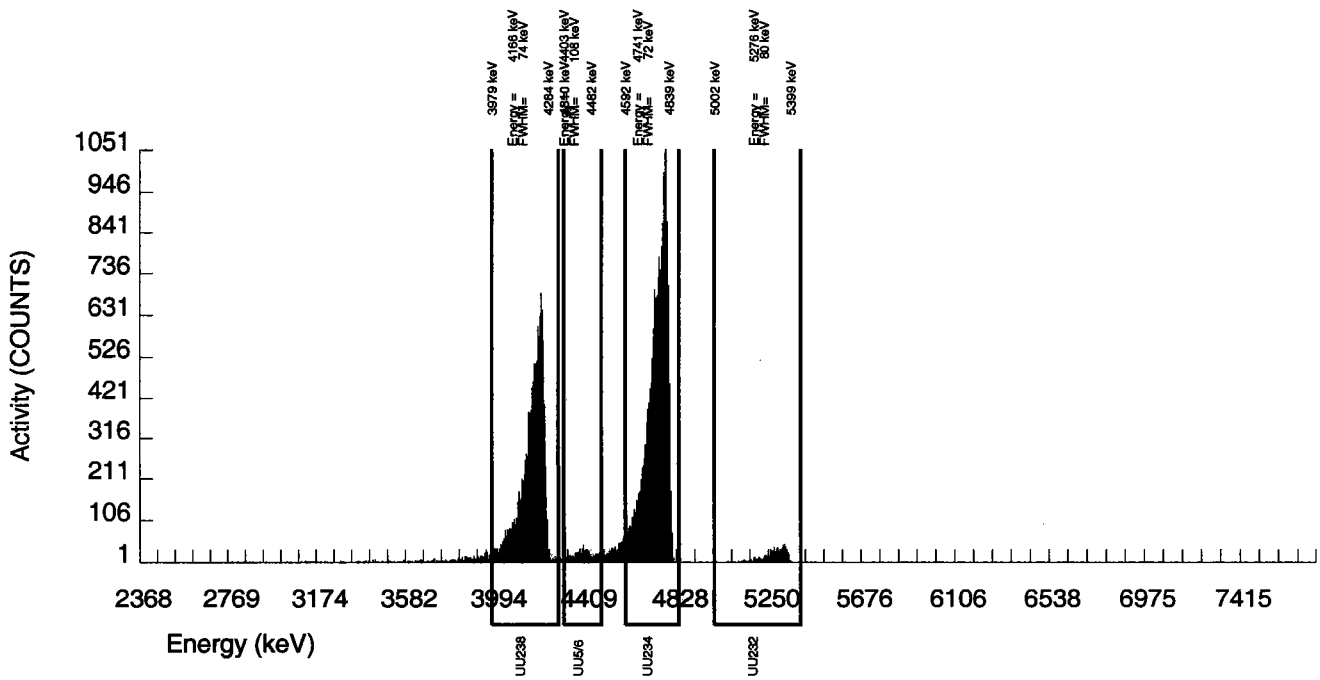
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	17465.000	17457.512	5.000	2.2361	100.0000	6.28E+01	8.96E+00	4.82E-02	1.87E-02	9.32E-01
U232	5302.100	826.000	824.000	2.000	1.4142	100.0000	2.96E+00	4.67E-01	3.45E-02	1.18E-02	2.03E-01
U-235	4391.000	709.000	708.000	1.000	1.0000	80.90000	3.15E+00	5.03E-01	3.40E-02	1.03E-02	2.32E-01
U-238	4184.730	11745.000	11744.000	1.000	1.0000	100.0000	4.22E+01	6.04E+00	2.75E-02	8.37E-03	7.64E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity

Integrated

DO NOT REPORT



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 891145 SAMPLE DATE : 23-JUL-2009 00:00:00	SAMPLE ID : S0233580007_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :45-111B4 AVERAGE %EFFICIENCY :25.0567 % YIELD : 90.129	COUNT DATE:24-AUG-2009 16:32:50 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26510 dpm RESULTS : 4.74536 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B113.CNF;388 BKG DATE : 23-AUG-2009 EFF FILE : W113.CNF;112 CAL DATE : 17-AUG-2009

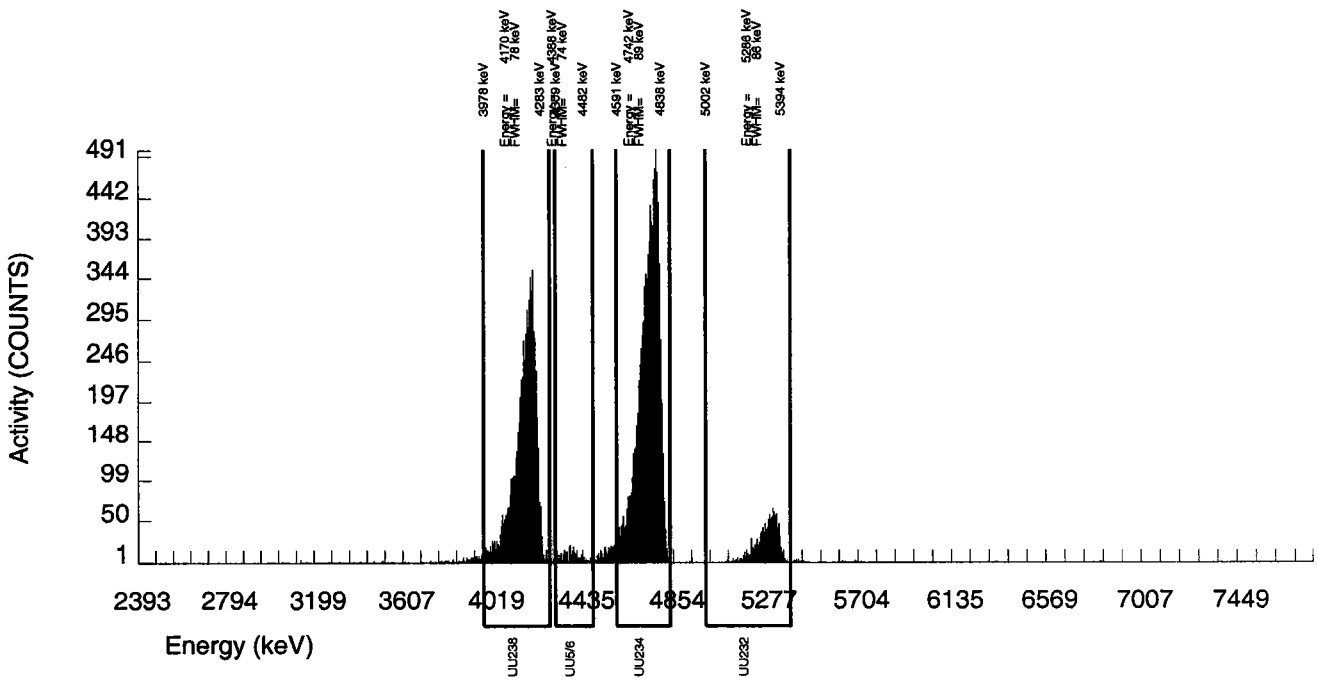
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	9413.000	9402.411	7.000	2.6458	100.0000	2.34E+01	3.24E+00	3.82E-02	1.53E-02	4.74E-01
U232	5302.100	1193.000	1188.000	5.000	2.2361	100.0000	2.96E+00	4.40E-01	3.34E-02	1.30E-02	1.69E-01
U-235	4391.000	284.000	284.000	0.000	0.0000	80.90000	8.75E-01	1.57E-01	9.25E-03	0.00E+00	1.02E-01
U-238	4184.730	6527.000	6527.000	0.000	0.0000	100.0000	1.63E+01	2.26E+00	7.48E-03	0.00E+00	3.95E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity

Integrated

DO NOT REPORT



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 891145 SAMPLE DATE : 24-JUL-2009 00:00:00	SAMPLE ID : S0233580009_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :45-132FF4 AVERAGE %EFFICIENCY :26.5327 % YIELD : 50.654	COUNT DATE:24-AUG-2009 16:32:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26496 dpm RESULTS : 2.66689 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B115.CNF;392 BKG DATE : 23-AUG-2009 EFF FILE : W115.CNF;128 CAL DATE : 17-AUG-2009

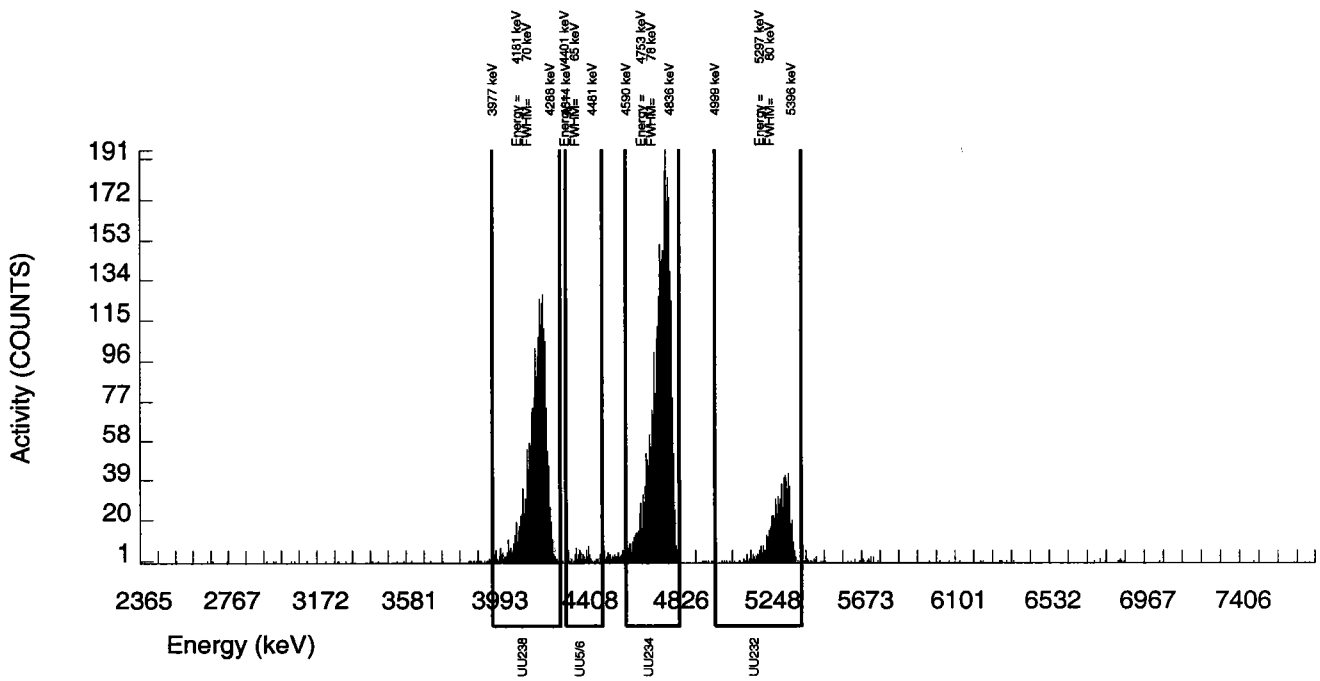
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	3145.000	3139.865	3.000	1.7321	100.0000	1.32E+01	1.96E+00	4.63E-02	1.69E-02	4.61E-01
U232	5302.100	716.000	707.000	9.000	3.0000	100.0000	2.96E+00	4.83E-01	7.11E-02	2.93E-02	2.21E-01
U-235	4391.000	78.000	78.000	0.000	0.0000	80.90000	4.04E-01	1.07E-01	1.55E-02	0.00E+00	8.96E-02
U-238	4184.730	2108.000	2107.000	1.000	1.0000	100.0000	8.83E+00	1.33E+00	3.21E-02	9.75E-03	3.77E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity

Integrated

DO NOT REPORT



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

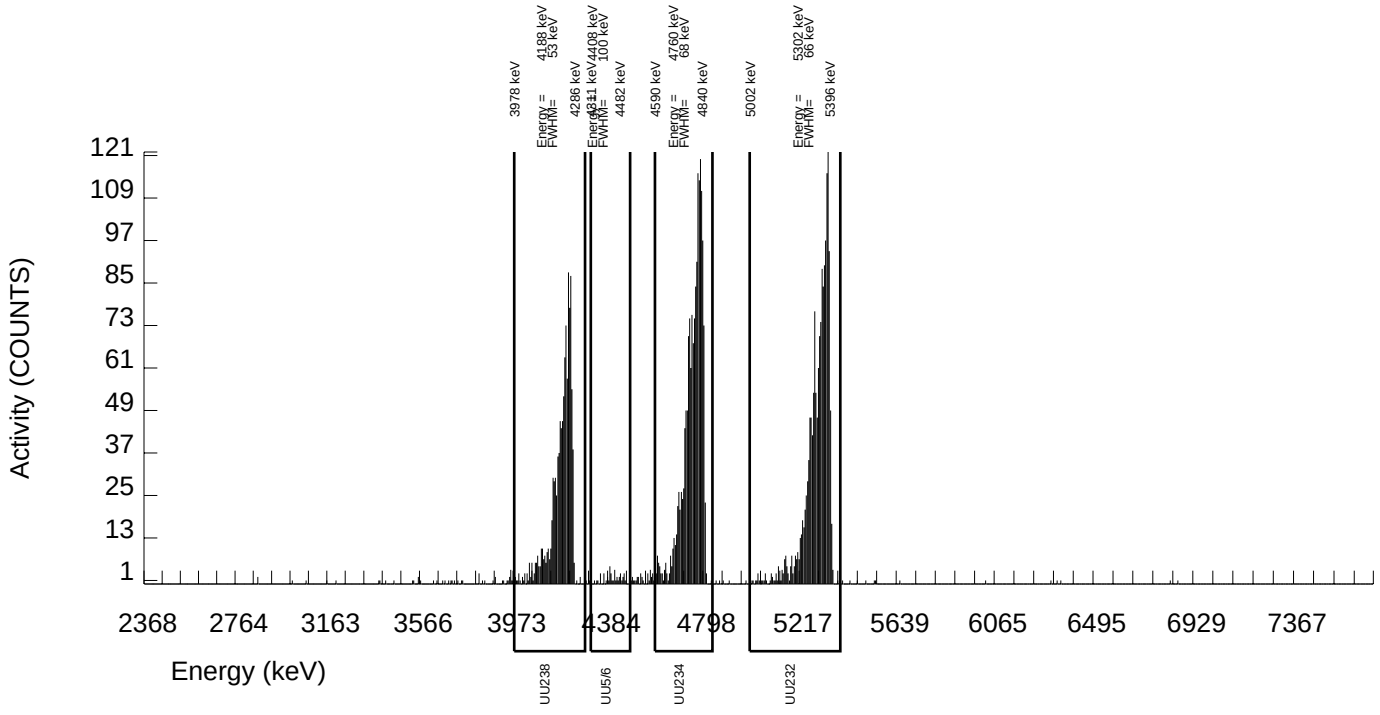
BATCH NUMBER: 891145 SAMPLE DATE : 15-JUL-2009 00:00:00	SAMPLE ID : S0233580001_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :78790 AVERAGE %EFFICIENCY :34.0969 % YIELD : 90.279	COUNT DATE: 8-AUG-2009 16:19:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26621 dpm RESULTS : 4.75430 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B013.CNF;1032 BKG DATE : 2-AUG-2009 EFF FILE : W013.CNF;313 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	1656.000	1648.109	3.000	1.7321	100.0000	3.01E+00	4.28E-01	2.02E-02	7.37E-03	1.46E-01
U232	5302.100	1624.000	1620.000	4.000	2.0000	100.0000	2.97E+00	4.21E-01	2.25E-02	8.52E-03	1.45E-01
U-235	4391.000	44.000	40.000	4.000	2.0000	80.90000	9.04E-02	3.30E-02	2.78E-02	1.05E-02	3.07E-02
U-238	4184.730	1088.000	1084.000	4.000	2.0000	100.0000	1.98E+00	2.90E-01	2.25E-02	8.51E-03	1.18E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

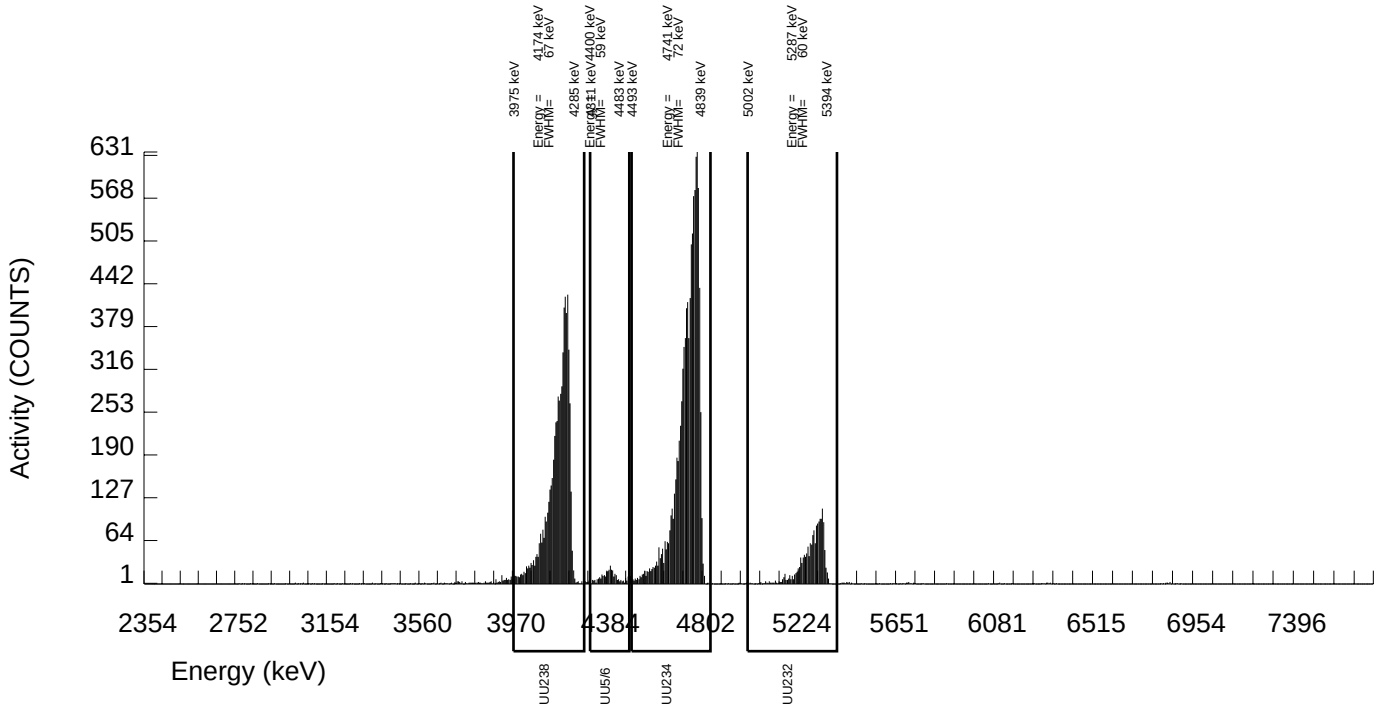
BATCH NUMBER: 891145 SAMPLE DATE : 16-JUL-2009 00:00:00	SAMPLE ID : S0233580002_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :67616 AVERAGE %EFFICIENCY :31.3062 % YIELD : 100.087	COUNT DATE: 8-AUG-2009 16:19:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26608 dpm RESULTS : 5.27066 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B014.CNF;1033 BKG DATE : 2-AUG-2009 EFF FILE : W014.CNF;312 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	10070.000	10063.021	2.000	1.4142	100.0000	1.81E+01	2.44E+00	1.72E-02	5.91E-03	3.53E-01
U232	5302.100	1662.000	1649.000	13.000	3.6056	100.0000	2.97E+00	4.21E-01	3.56E-02	1.51E-02	1.44E-01
U-235	4391.000	336.000	334.000	2.000	1.4142	80.90000	7.42E-01	1.27E-01	2.13E-02	7.31E-03	8.00E-02
U-238	4184.730	6522.000	6522.000	0.000	0.0000	100.0000	1.17E+01	1.59E+00	5.39E-03	0.00E+00	2.84E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

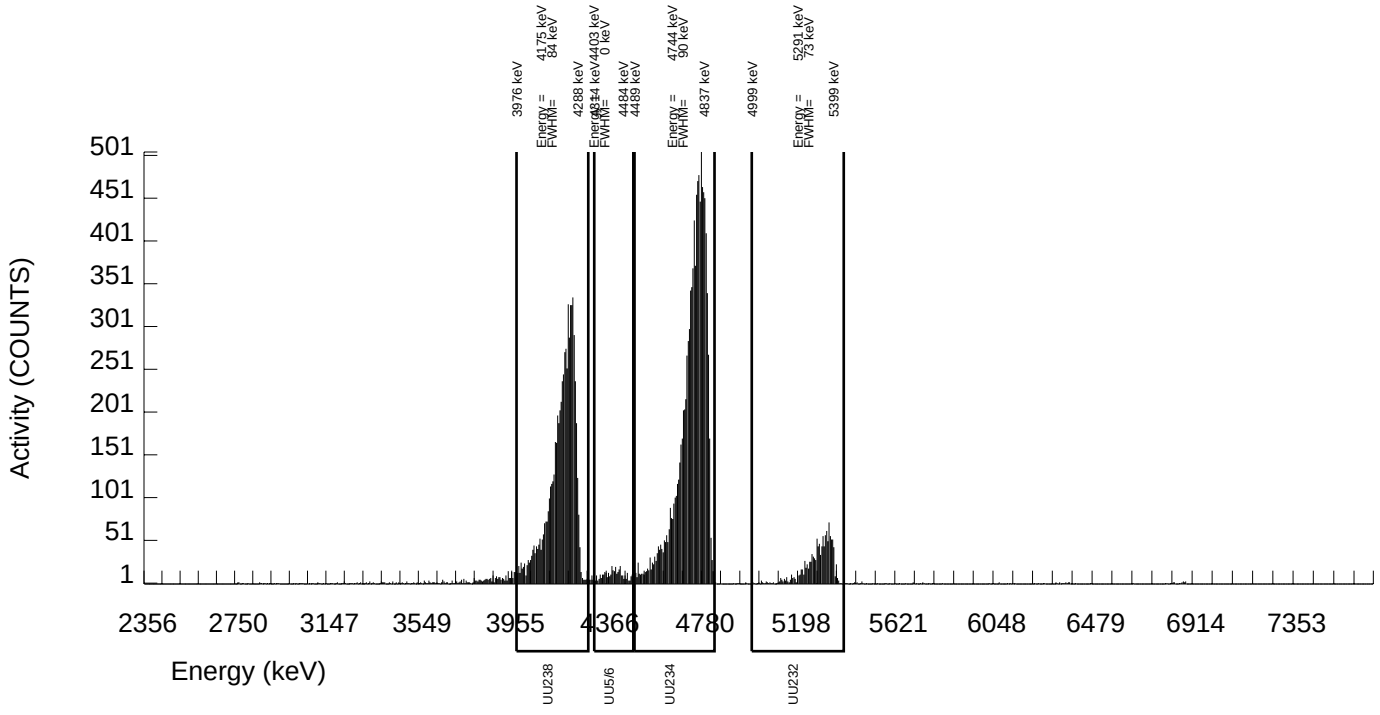
BATCH NUMBER: 891145 SAMPLE DATE : 17-JUL-2009 00:00:00	SAMPLE ID : S0233580003_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :61581 AVERAGE %EFFICIENCY :32.4959 % YIELD : 72.683	COUNT DATE: 8-AUG-2009 16:19:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26594 dpm RESULTS : 3.82742 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B015.CNF;1052 BKG DATE : 2-AUG-2009 EFF FILE : W015.CNF;316 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	10456.000	10444.247	8.000	2.8284	100.0000	2.49E+01	3.43E+00	3.85E-02	1.57E-02	4.78E-01
U232	5302.100	1256.000	1243.000	13.000	3.6056	100.0000	2.97E+00	4.37E-01	4.72E-02	2.00E-02	1.67E-01
U-235	4391.000	359.000	359.000	0.000	0.0000	80.90000	1.06E+00	1.81E-01	8.84E-03	0.00E+00	1.09E-01
U-238	4184.730	6670.000	6669.000	1.000	1.0000	100.0000	1.59E+01	2.20E+00	1.82E-02	5.55E-03	3.82E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

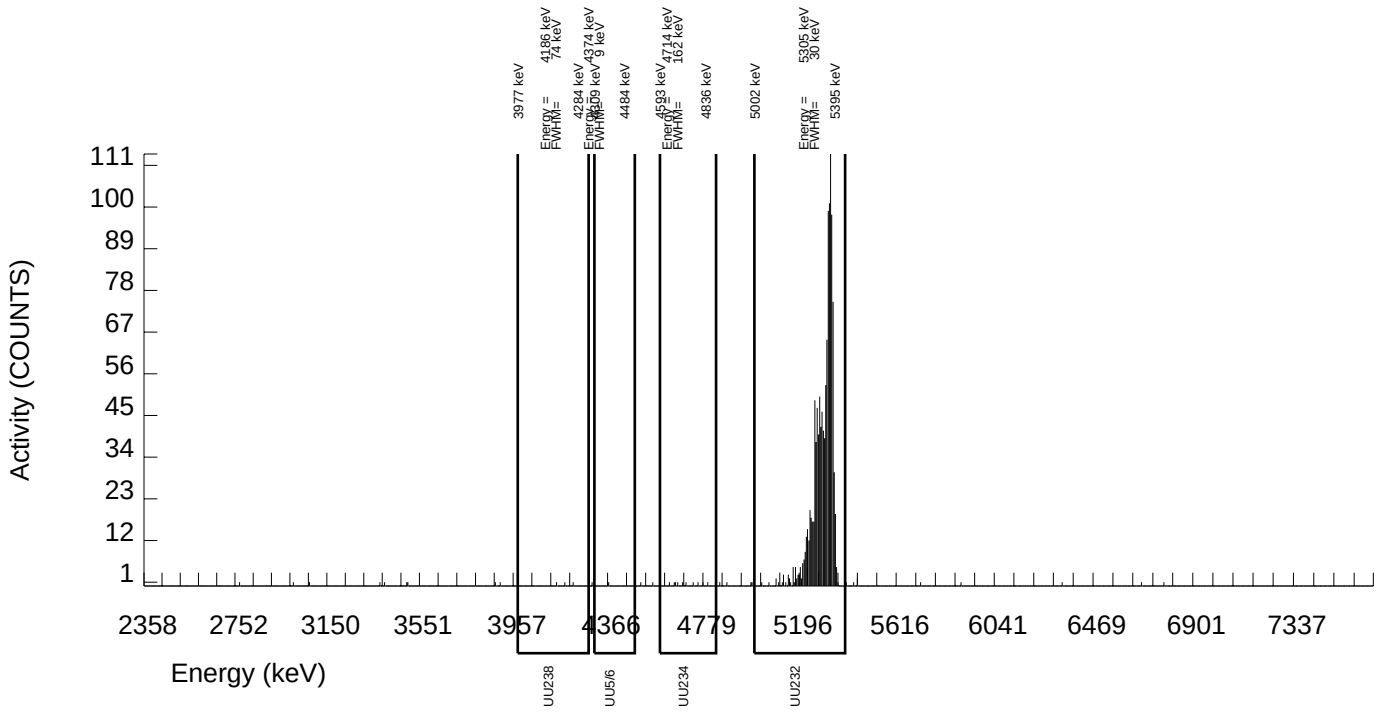
BATCH NUMBER: 891145 SAMPLE DATE : 17-JUL-2009 00:00:00	SAMPLE ID : S0233580004_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :78774 AVERAGE %EFFICIENCY :33.7280 % YIELD : 69.013	COUNT DATE: 8-AUG-2009 16:19:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26594 dpm RESULTS : 3.63421 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B016.CNF;1028 BKG DATE : 2-AUG-2009 EFF FILE : W016.CNF;298 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	10.000	5.301	1.000	1.0000	100.0000	1.28E-02	1.29E-02	1.85E-02	5.63E-03	1.28E-02
U232	5302.100	1229.000	1225.000	4.000	2.0000	100.0000	2.97E+00	4.37E-01	2.98E-02	1.13E-02	1.67E-01
U-235	4391.000	2.000	2.000	0.000	0.0000	80.90000	5.98E-03	8.33E-03	8.97E-03	0.00E+00	8.29E-03
U-238	4184.730	3.000	-5.000	8.000	2.8284	100.0000	-1.21E-02	1.57E-02	3.91E-02	1.59E-02	1.57E-02

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

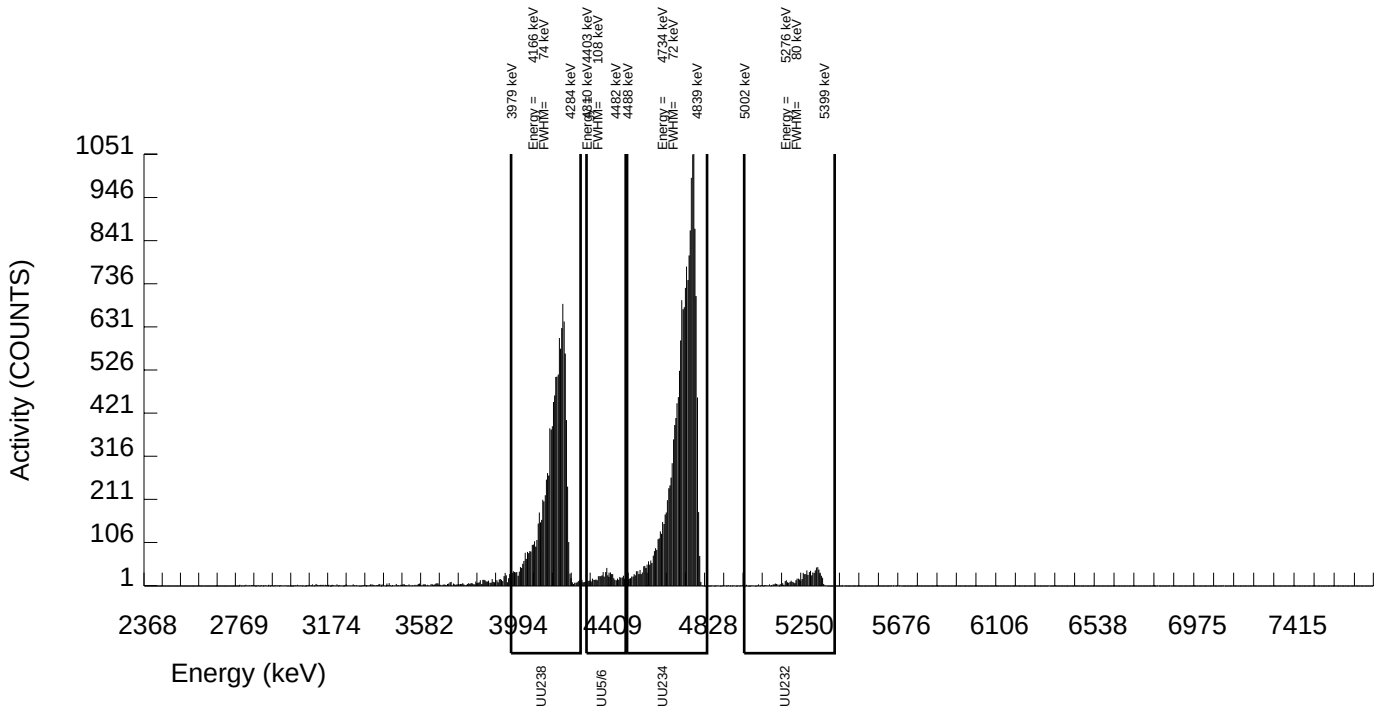
BATCH NUMBER: 891145 SAMPLE DATE : 21-JUL-2009 00:00:00	SAMPLE ID : S0233580005_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :78791 AVERAGE %EFFICIENCY :29.2091 % YIELD : 53.604	COUNT DATE: 8-AUG-2009 16:19:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26539 dpm RESULTS : 2.82246 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B017.CNF;1875 BKG DATE : 2-AUG-2009 EFF FILE : W017.CNF;1249 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	18110.000	18101.512	6.000	2.4495	100.0000	6.51E+01	9.28E+00	5.18E-02	2.05E-02	9.49E-01
U232	5302.100	826.000	824.000	2.000	1.4142	100.0000	2.96E+00	4.67E-01	3.45E-02	1.18E-02	2.03E-01
U-235	4391.000	709.000	708.000	1.000	1.0000	80.90000	3.15E+00	5.03E-01	3.40E-02	1.03E-02	2.32E-01
U-238	4184.730	11745.000	11744.000	1.000	1.0000	100.0000	4.22E+01	6.04E+00	2.75E-02	8.37E-03	7.64E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

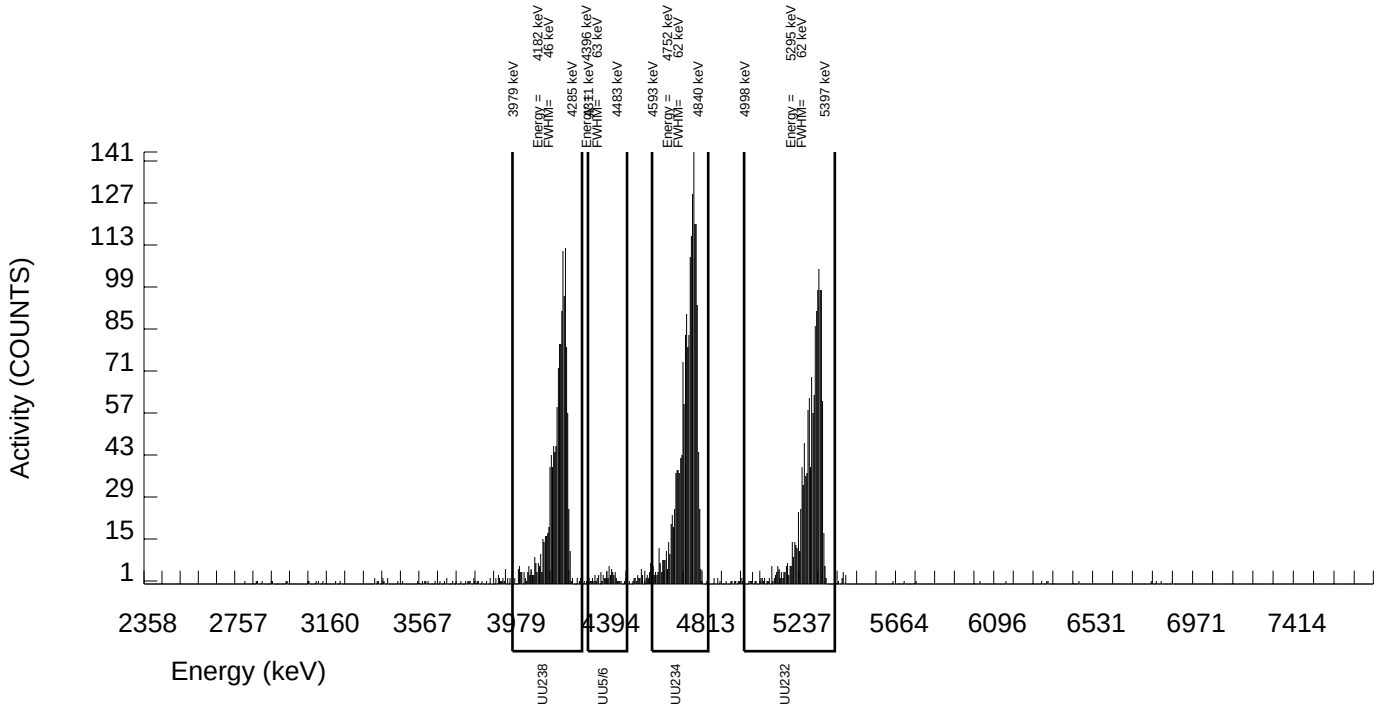
BATCH NUMBER: 891145 SAMPLE DATE : 22-JUL-2009 00:00:00	SAMPLE ID : S0233580006_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :78782 AVERAGE %EFFICIENCY :31.7210 % YIELD : 84.701	COUNT DATE: 8-AUG-2009 16:19:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26525 dpm RESULTS : 4.45974 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B018.CNF;1027 BKG DATE : 2-AUG-2009 EFF FILE : W018.CNF;293 CAL DATE : 3-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	1817.000	1810.731	2.000	1.4142	100.0000	3.79E+00	5.41E-01	2.01E-02	6.89E-03	1.75E-01
U232	5302.100	1417.000	1414.000	3.000	1.7321	100.0000	2.96E+00	4.29E-01	2.32E-02	8.45E-03	1.55E-01
U-235	4391.000	71.000	69.000	2.000	1.4142	80.90000	1.79E-01	4.96E-02	2.48E-02	8.52E-03	4.34E-02
U-238	4184.730	1338.000	1335.000	3.000	1.7321	100.0000	2.80E+00	4.06E-01	2.32E-02	8.44E-03	1.50E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

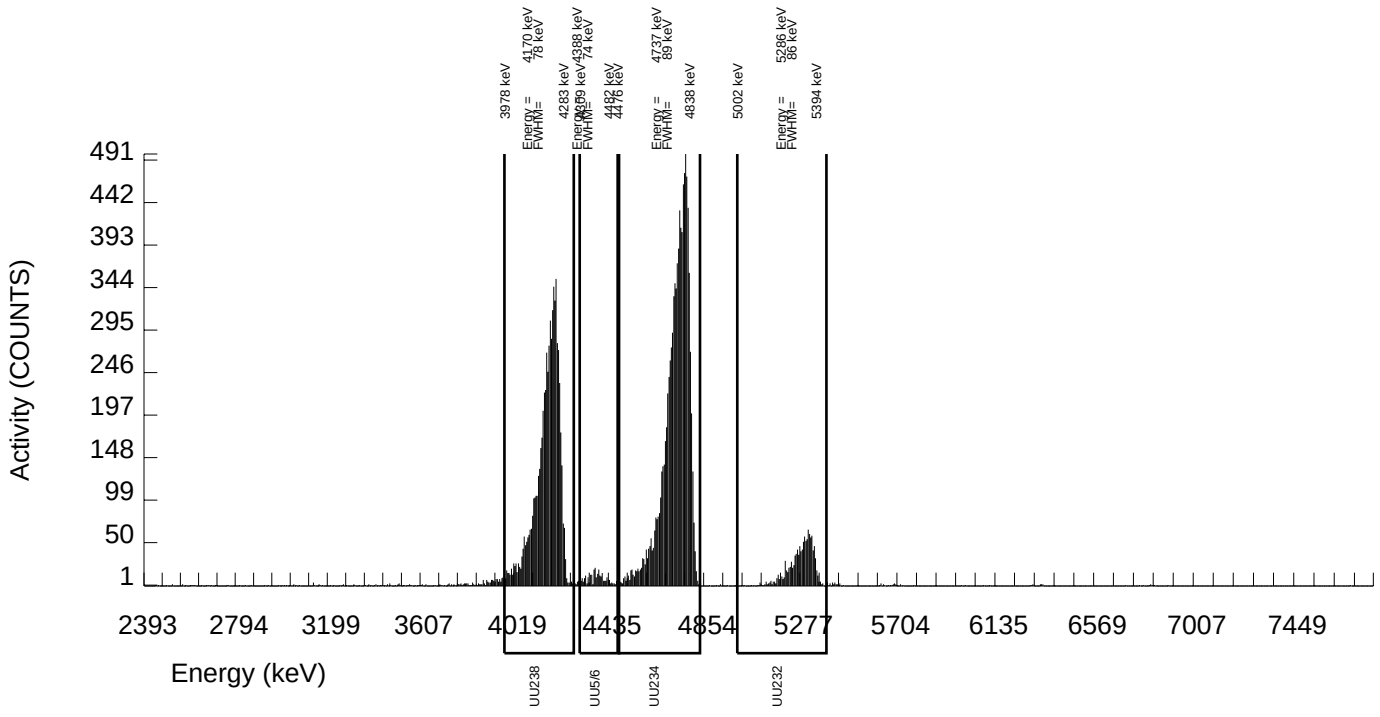
BATCH NUMBER: 891145 SAMPLE DATE : 23-JUL-2009 00:00:00	SAMPLE ID : S0233580007_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :45-111B4 AVERAGE %EFFICIENCY :25.0567 % YIELD : 90.129	COUNT DATE:24-AUG-2009 16:32:50 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26510 dpm RESULTS : 4.74536 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B113.CNF;388 BKG DATE : 23-AUG-2009 EFF FILE : W113.CNF;112 CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	9665.000	9654.411	7.000	2.6458	100.0000	2.41E+01	3.33E+00	3.82E-02	1.53E-02	4.81E-01
U232	5302.100	1193.000	1188.000	5.000	2.2361	100.0000	2.96E+00	4.40E-01	3.34E-02	1.30E-02	1.69E-01
U-235	4391.000	284.000	284.000	0.000	0.0000	80.90000	8.75E-01	1.57E-01	9.25E-03	0.00E+00	1.02E-01
U-238	4184.730	6527.000	6527.000	0.000	0.0000	100.0000	1.63E+01	2.26E+00	7.48E-03	0.00E+00	3.95E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

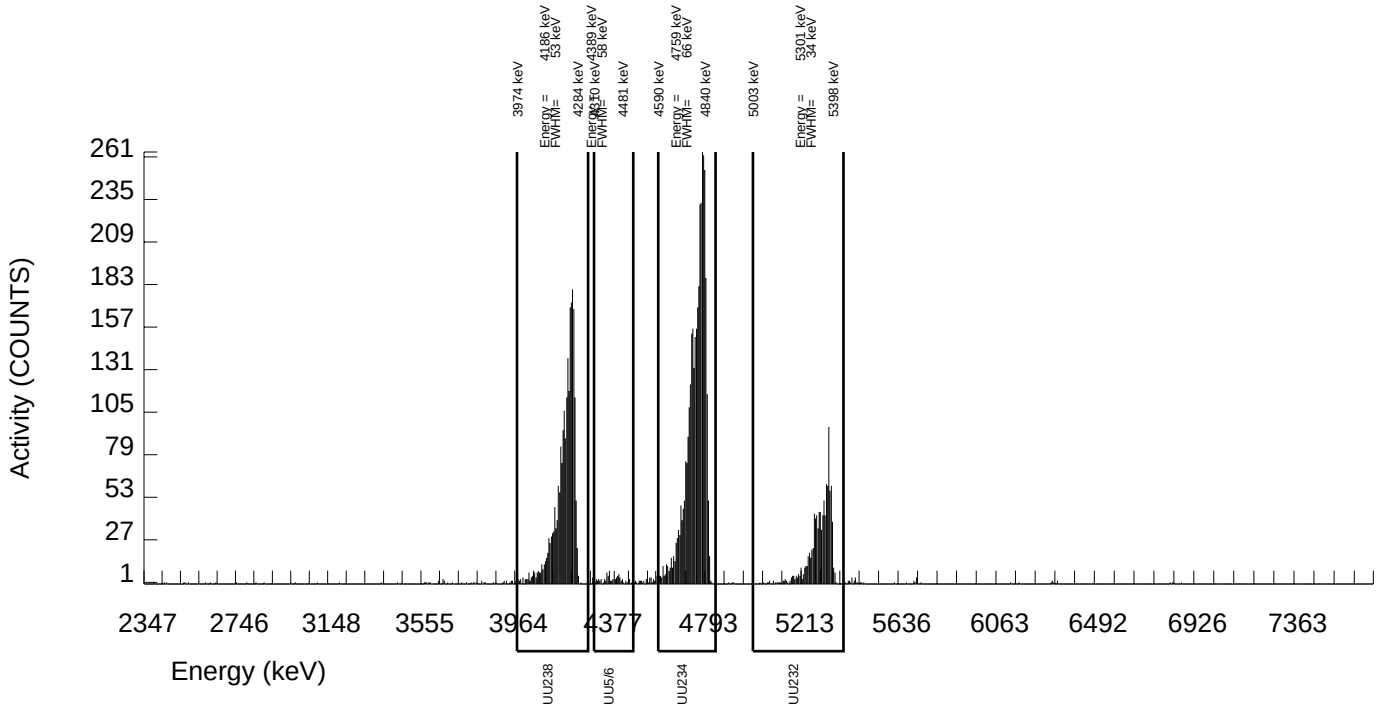
BATCH NUMBER: 891145 SAMPLE DATE : 24-JUL-2009 00:00:00	SAMPLE ID : S0233580008_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :78258 AVERAGE %EFFICIENCY :25.6694 % YIELD : 74.870	COUNT DATE:24-AUG-2009 16:32:52 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26496 dpm RESULTS : 3.94187 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B114.CNF;389 BKG DATE : 23-AUG-2009 EFF FILE : W114.CNF;108 CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	3630.000	3625.946	1.000	1.0000	100.0000	1.06E+01	1.51E+00	2.24E-02	6.82E-03	3.46E-01
U232	5302.100	1013.000	1011.000	2.000	1.4142	100.0000	2.96E+00	4.50E-01	2.81E-02	9.65E-03	1.83E-01
U-235	4391.000	90.000	90.000	0.000	0.0000	80.90000	3.26E-01	8.11E-02	1.09E-02	0.00E+00	6.73E-02
U-238	4184.730	2250.000	2247.000	3.000	1.7321	100.0000	6.58E+00	9.53E-01	3.24E-02	1.18E-02	2.73E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

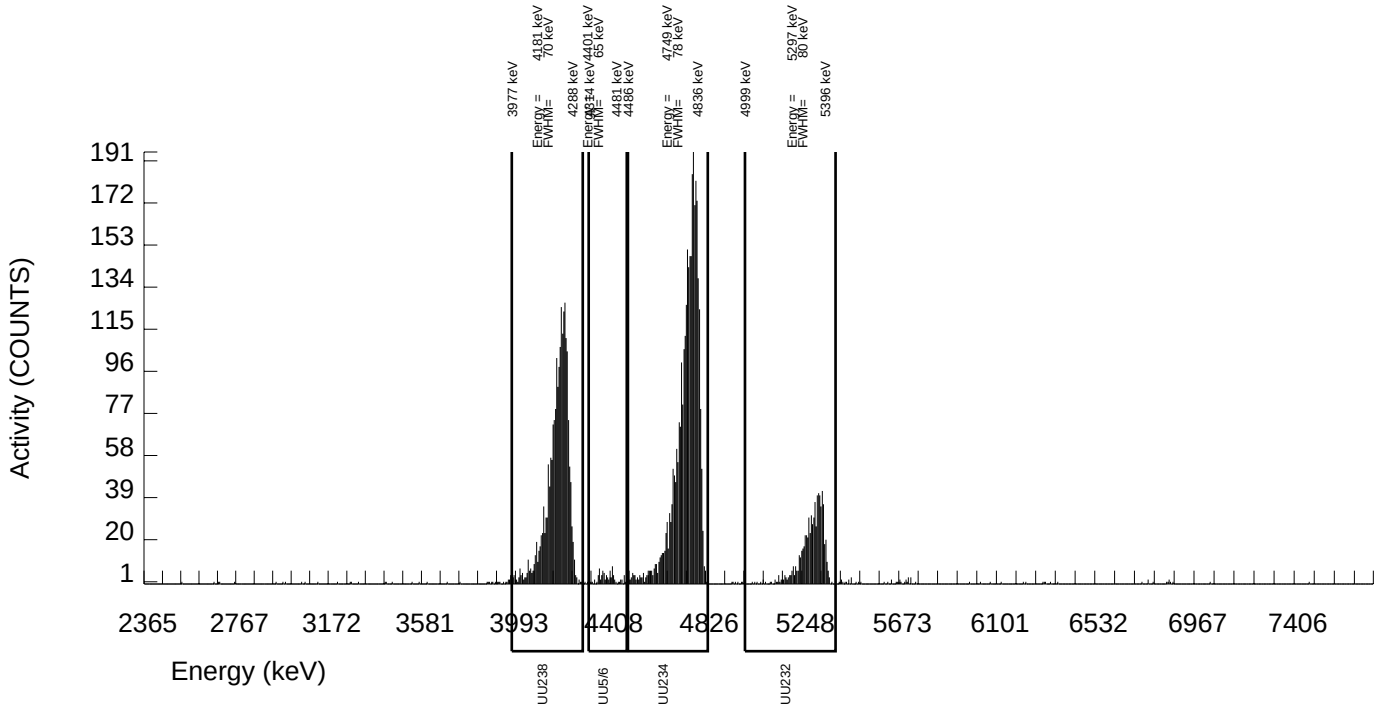
BATCH NUMBER: 891145 SAMPLE DATE : 24-JUL-2009 00:00:00	SAMPLE ID : S0233580009_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :45-132FF4 AVERAGE %EFFICIENCY :26.5327 % YIELD : 50.654	COUNT DATE:24-AUG-2009 16:32:55 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26496 dpm RESULTS : 2.66689 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B115.CNF;392 BKG DATE : 23-AUG-2009 EFF FILE : W115.CNF;128 CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	3207.000	3201.865	3.000	1.7321	100.0000	1.34E+01	2.00E+00	4.63E-02	1.69E-02	4.65E-01
U232	5302.100	716.000	707.000	9.000	3.0000	100.0000	2.96E+00	4.83E-01	7.11E-02	2.93E-02	2.21E-01
U-235	4391.000	78.000	78.000	0.000	0.0000	80.90000	4.04E-01	1.07E-01	1.55E-02	0.00E+00	8.96E-02
U-238	4184.730	2108.000	2107.000	1.000	1.0000	100.0000	8.83E+00	1.33E+00	3.21E-02	9.75E-03	3.77E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

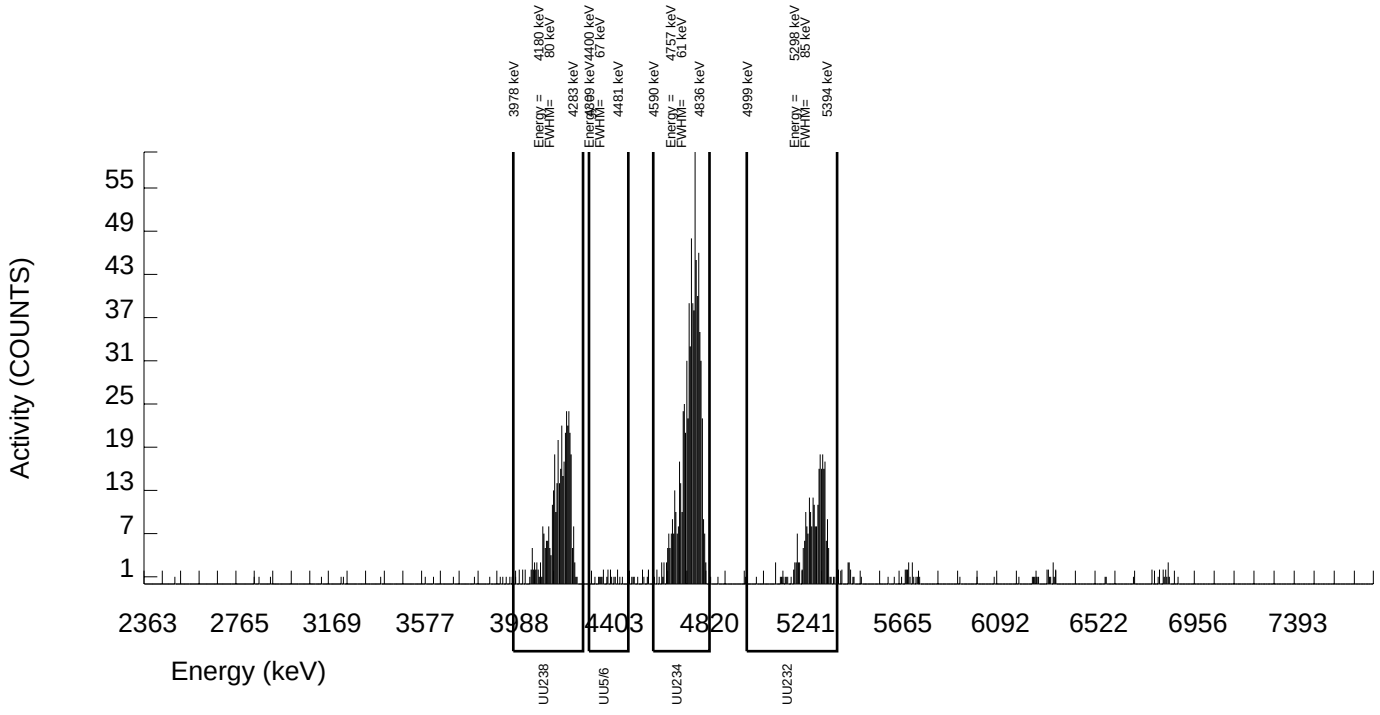
BATCH NUMBER: 891145 SAMPLE DATE : 27-JUL-2009 00:00:00	SAMPLE ID : S0233580010_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :45-132FF2 AVERAGE %EFFICIENCY :26.1701 % YIELD : 19.830	COUNT DATE:24-AUG-2009 16:32:57 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26455 dpm RESULTS : 1.04397 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B116.CNF;383 BKG DATE : 23-AUG-2009 EFF FILE : W116.CNF;96 CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	753.000	749.175	3.000	1.7321	100.0000	8.13E+00	1.52E+00	1.20E-01	4.37E-02	5.84E-01
U232	5302.100	276.000	273.000	3.000	1.7321	100.0000	2.96E+00	6.23E-01	1.20E-01	4.38E-02	3.55E-01
U-235	4391.000	19.000	18.000	1.000	1.0000	80.90000	2.41E-01	1.25E-01	1.03E-01	3.12E-02	1.18E-01
U-238	4184.730	403.000	403.000	0.000	0.0000	100.0000	4.37E+00	8.67E-01	3.25E-02	0.00E+00	4.27E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

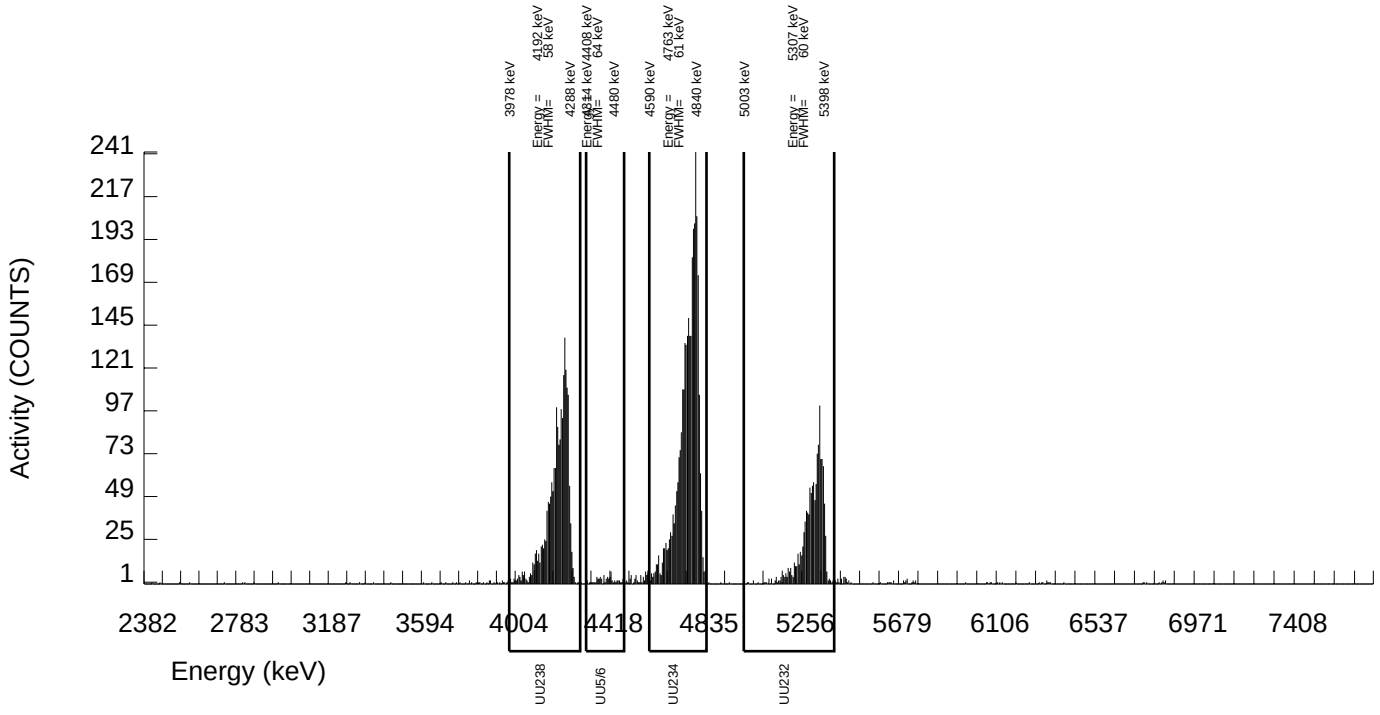
BATCH NUMBER: 891145 SAMPLE DATE : 27-JUL-2009 00:00:00	SAMPLE ID : S0233580011_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :33450 AVERAGE %EFFICIENCY :25.2558 % YIELD : 93.483	COUNT DATE:24-AUG-2009 16:33:00 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26455 dpm RESULTS : 4.92145 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B117.CNF;393 BKG DATE : 23-AUG-2009 EFF FILE : W117.CNF;108 CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	3226.000	3219.249	3.000	1.7321	100.0000	7.68E+00	1.08E+00	2.64E-02	9.61E-03	2.65E-01
U232	5302.100	1249.000	1242.000	7.000	2.6458	100.0000	2.96E+00	4.37E-01	3.65E-02	1.47E-02	1.66E-01
U-235	4391.000	69.000	68.000	1.000	1.0000	80.90000	2.00E-01	5.55E-02	2.26E-02	6.86E-03	4.83E-02
U-238	4184.730	1953.000	1950.000	3.000	1.7321	100.0000	4.65E+00	6.67E-01	2.64E-02	9.61E-03	2.07E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

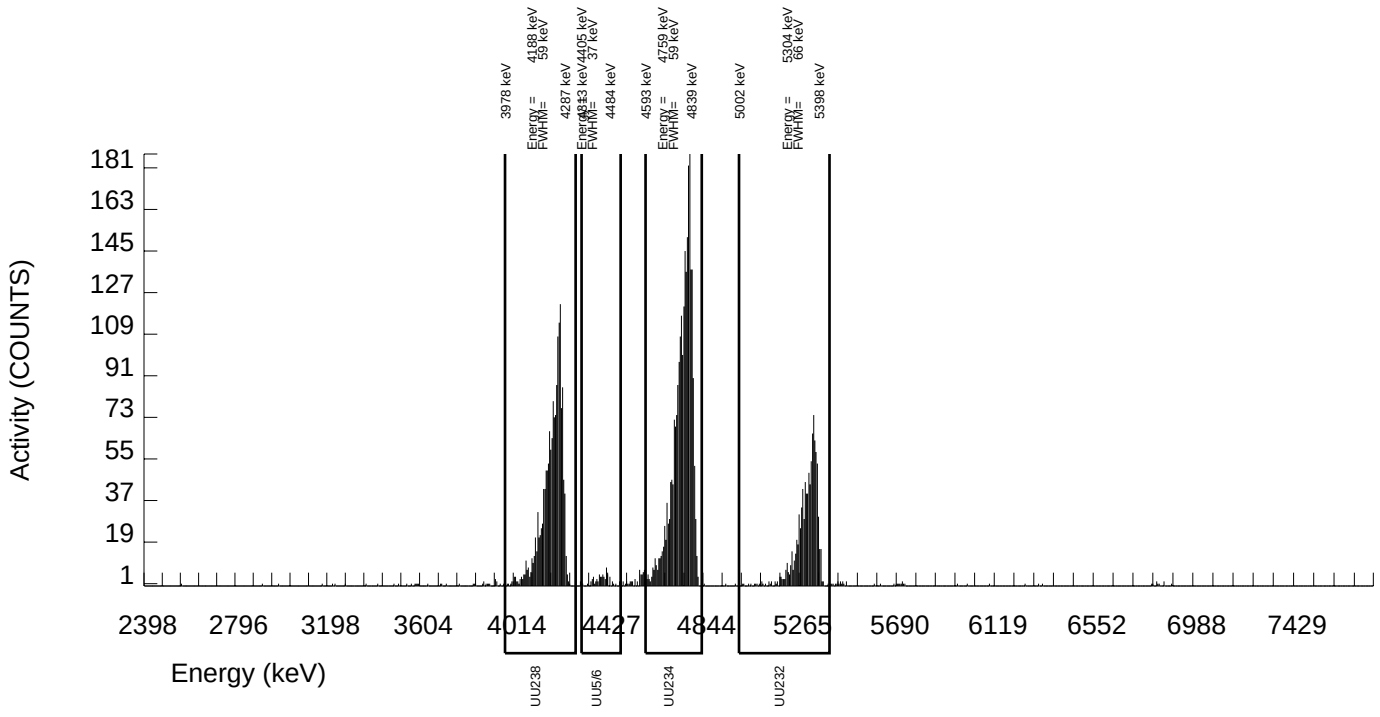
BATCH NUMBER: 891145 SAMPLE DATE : 27-JUL-2009 00:00:00	SAMPLE ID : S0233580012_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :33449 AVERAGE %EFFICIENCY :24.6514 % YIELD : 74.721	COUNT DATE:23-AUG-2009 14:50:41 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26455 dpm RESULTS : 3.93371 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B149.CNF;345 BKG DATE : 16-AUG-2009 EFF FILE : W149.CNF;102 CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	2521.000	2517.073	1.000	1.0000	100.0000	7.69E+00	1.12E+00	2.34E-02	7.11E-03	3.01E-01
U232	5302.100	975.000	969.000	6.000	2.4495	100.0000	2.96E+00	4.54E-01	4.40E-02	1.74E-02	1.88E-01
U-235	4391.000	70.000	69.000	1.000	1.0000	80.90000	2.61E-01	7.22E-02	2.89E-02	8.79E-03	6.24E-02
U-238	4184.730	1632.000	1629.000	3.000	1.7321	100.0000	4.98E+00	7.36E-01	3.38E-02	1.23E-02	2.42E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

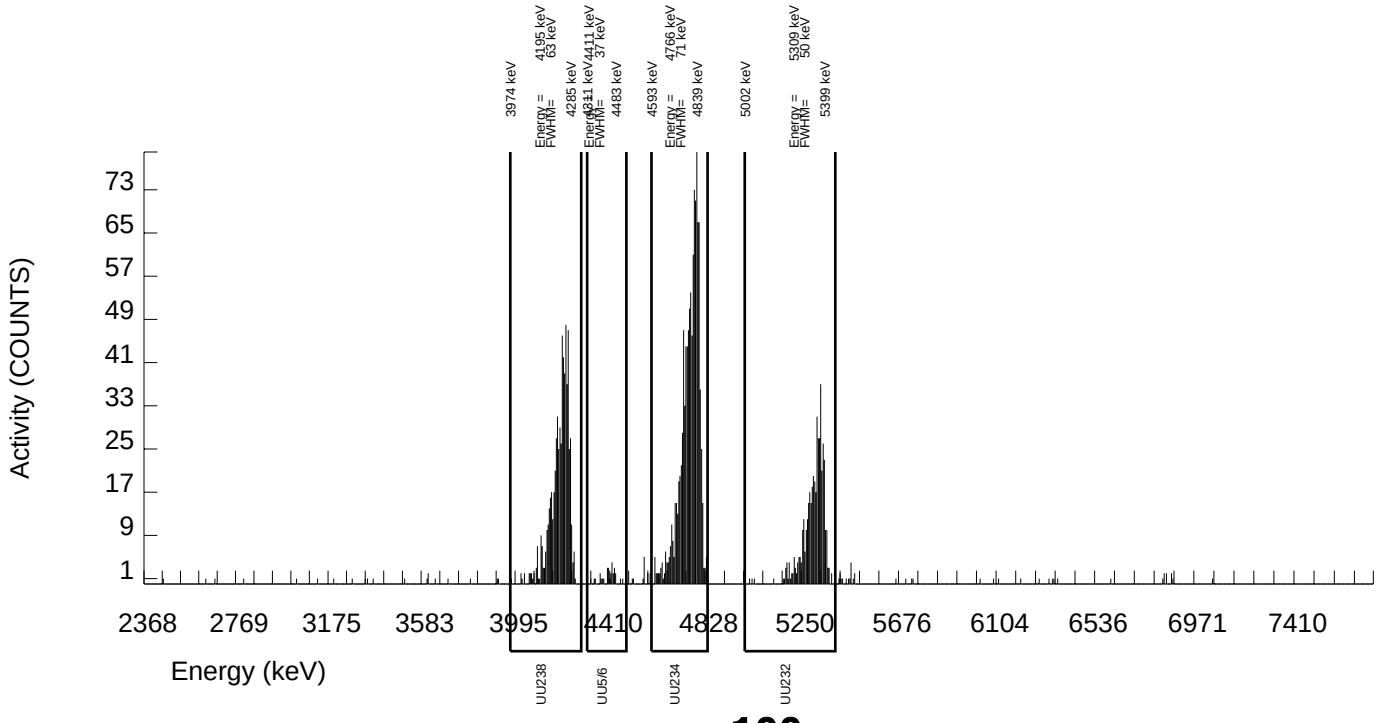
BATCH NUMBER: 891145 SAMPLE DATE : 27-JUL-2009 00:00:00	SAMPLE ID : S0233580013_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :45-132FF4 AVERAGE %EFFICIENCY :26.5489 % YIELD : 31.207	COUNT DATE:10-AUG-2009 17:20:35 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26455 dpm RESULTS : 1.64291 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B115.CNF;387 BKG DATE : 9-AUG-2009 EFF FILE : W115.CNF;126 CAL DATE : 15-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	1079.000	1075.683	2.000	1.4142	100.0000	7.31E+00	1.22E+00	6.51E-02	2.24E-02	4.38E-01
U232	5302.100	442.000	436.000	6.000	2.4495	100.0000	2.96E+00	5.43E-01	9.79E-02	3.87E-02	2.82E-01
U-235	4391.000	30.000	29.000	1.000	1.0000	80.90000	2.44E-01	9.93E-02	6.43E-02	1.95E-02	9.17E-02
U-238	4184.730	645.000	644.000	1.000	1.0000	100.0000	4.38E+00	7.64E-01	5.20E-02	1.58E-02	3.39E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

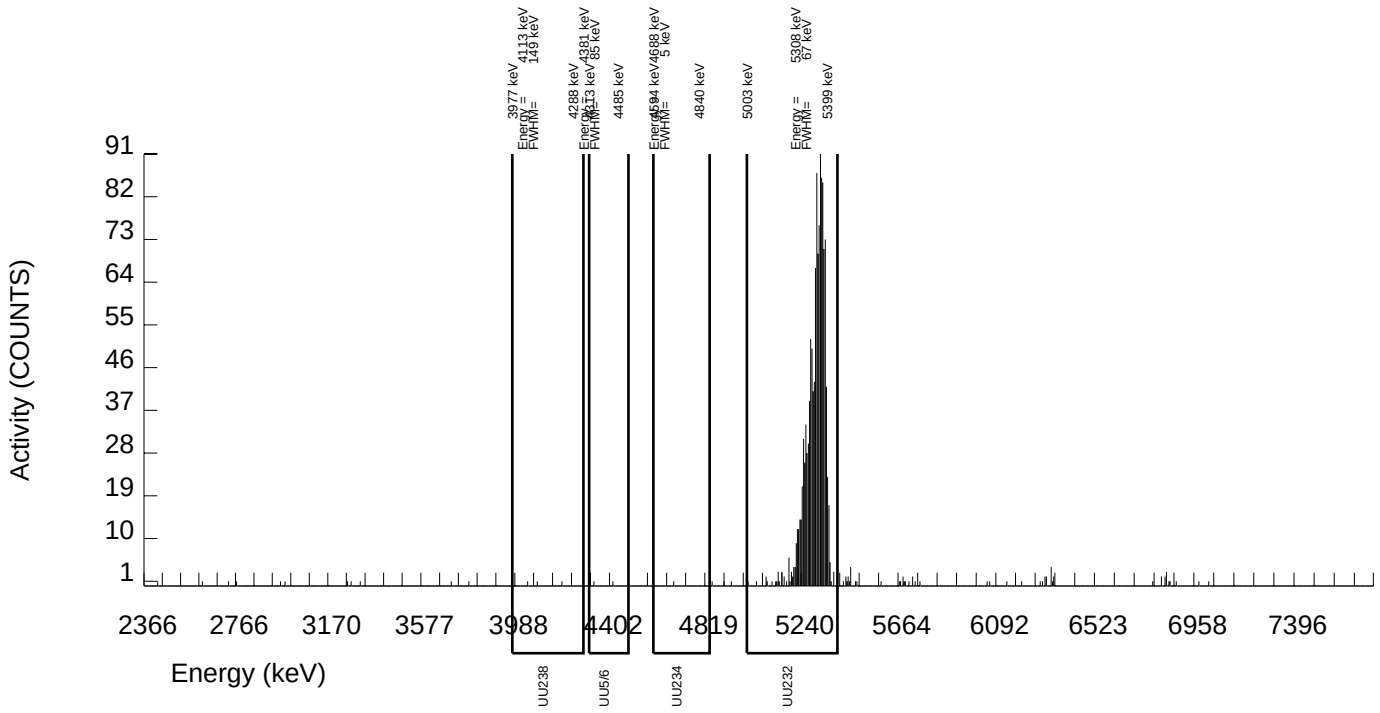
BATCH NUMBER: 891145 SAMPLE DATE : 5-AUG-2009 00:00:00.	SAMPLE ID : S1201895414_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :45-132FF2 AVERAGE %EFFICIENCY :26.2927 % YIELD : 92.943	COUNT DATE:10-AUG-2009 17:20:36 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26330 dpm RESULTS : 4.89188 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B116.CNF;378 BKG DATE : 9-AUG-2009 EFF FILE : W116.CNF;94 CAL DATE : 15-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	1.000	-4.883	2.000	1.4142	100.0000	-1.13E-02	7.83E-03	2.21E-02	7.58E-03	7.82E-03
U232	5302.100	1291.000	1286.000	5.000	2.2361	100.0000	2.96E+00	4.34E-01	3.09E-02	1.20E-02	1.63E-01
U-235	4391.000	2.000	1.000	1.000	1.0000	80.90000	2.85E-03	9.68E-03	2.18E-02	6.63E-03	9.67E-03
U-238	4184.730	3.000	2.000	1.000	1.0000	100.0000	4.61E-03	9.05E-03	1.76E-02	5.36E-03	9.03E-03

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

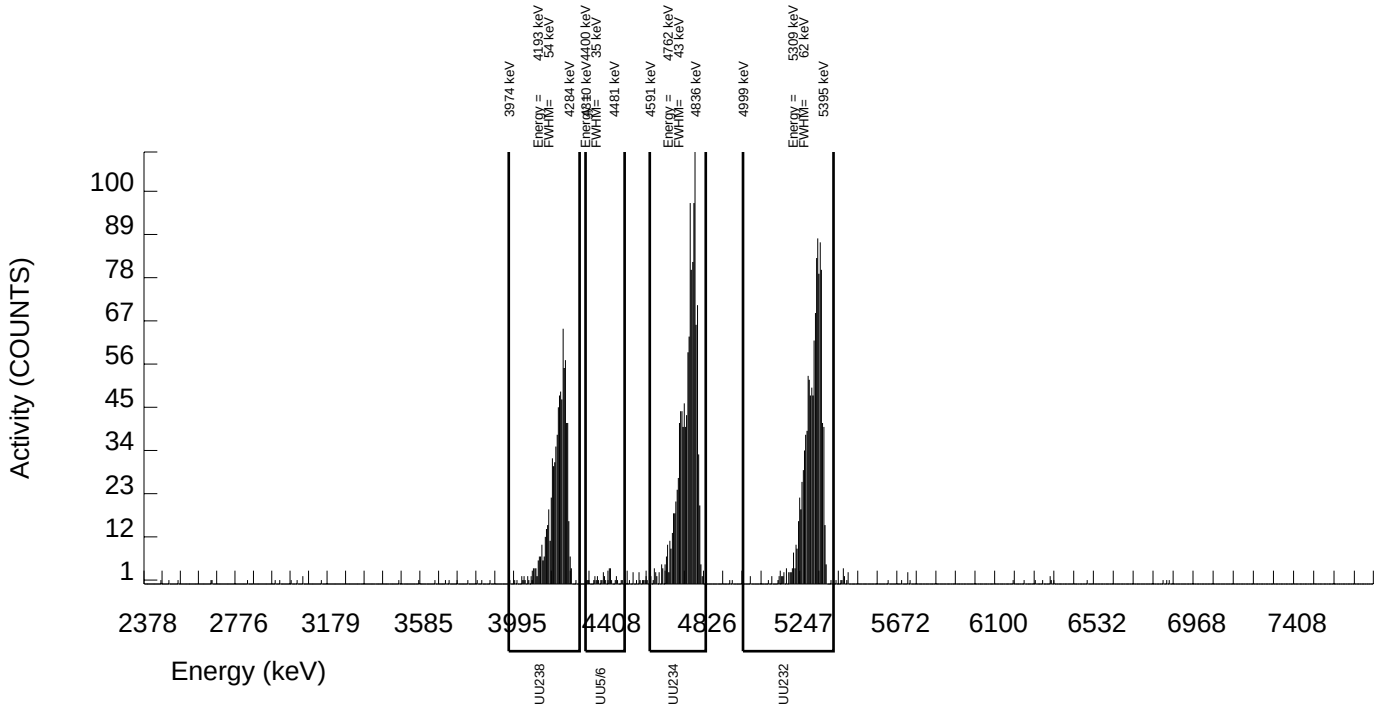
BATCH NUMBER: 891145 SAMPLE DATE : 15-JUL-2009 00:00:00	SAMPLE ID : S1201895415_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :33450 AVERAGE %EFFICIENCY :25.3585 % YIELD : 88.349	COUNT DATE:10-AUG-2009 17:20:40 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26621 dpm RESULTS : 4.65264 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B117.CNF;388 BKG DATE : 9-AUG-2009 EFF FILE : W117.CNF;106 CAL DATE : 15-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	1273.000	1265.440	4.000	2.0000	100.0000	3.18E+00	4.70E-01	3.09E-02	1.17E-02	1.76E-01
U232	5302.100	1187.000	1179.000	8.000	2.8284	100.0000	2.97E+00	4.40E-01	4.06E-02	1.65E-02	1.70E-01
U-235	4391.000	34.000	34.000	0.000	0.0000	80.90000	1.06E-01	3.83E-02	9.32E-03	0.00E+00	3.55E-02
U-238	4184.730	807.000	805.000	2.000	1.4142	100.0000	2.02E+00	3.10E-01	2.41E-02	8.27E-03	1.40E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

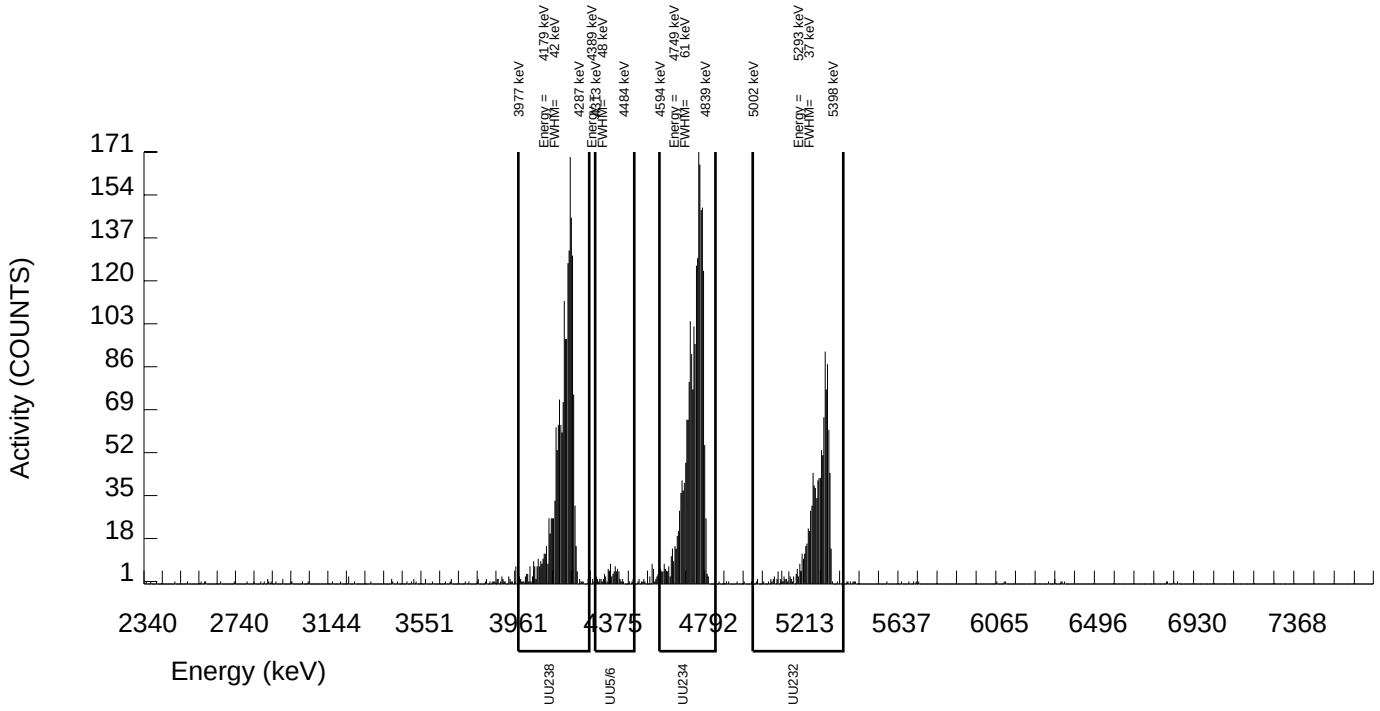
BATCH NUMBER: 891145 SAMPLE DATE : 15-JUL-2009 00:00:00	SAMPLE ID : S1201895416_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :75544 AVERAGE %EFFICIENCY :25.9868 % YIELD : 78.023	COUNT DATE:10-AUG-2009 17:20:42 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26621 dpm RESULTS : 4.10885 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B118.CNF;383 BKG DATE : 9-AUG-2009 EFF FILE : W118.CNF;103 CAL DATE : 15-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	2166.000	2161.778	1.000	1.0000	100.0000	6.00E+00	8.66E-01	2.13E-02	6.46E-03	2.53E-01
U232	5302.100	1069.000	1067.000	2.000	1.4142	100.0000	2.97E+00	4.46E-01	2.66E-02	9.14E-03	1.78E-01
U-235	4391.000	88.000	87.000	1.000	1.0000	80.90000	2.99E-01	7.57E-02	2.63E-02	7.99E-03	6.35E-02
U-238	4184.730	1894.000	1890.000	4.000	2.0000	100.0000	5.25E+00	7.62E-01	3.42E-02	1.29E-02	2.37E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



Alpha Spectroscopy Software Version 2.0
effective date: 09-Mar-1997

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

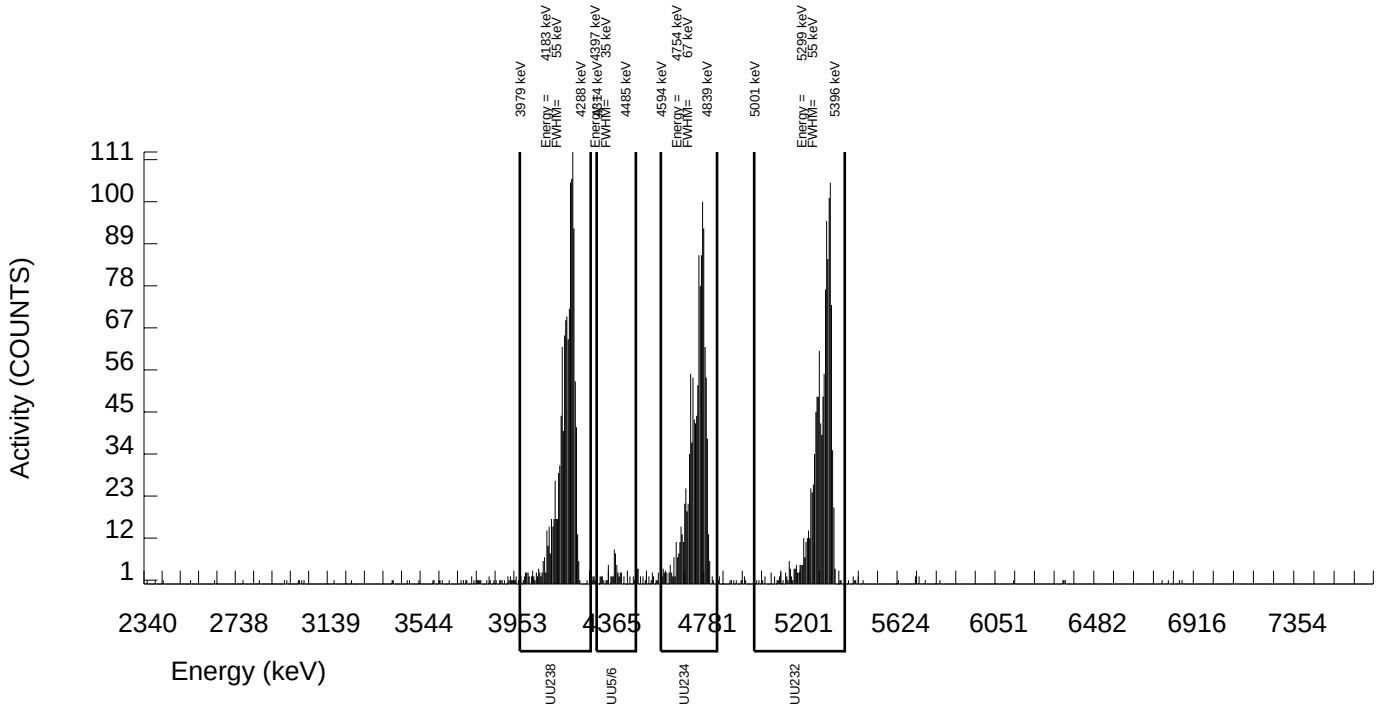
BATCH NUMBER: 891145 SAMPLE DATE : 5-AUG-2009 00:00:00.	SAMPLE ID : S1201895417_UU SAMPLE QTY: 0.800 L
DETECTOR NUMBER :75545 AVERAGE %EFFICIENCY :24.8150 % YIELD : 94.342	COUNT DATE:10-AUG-2009 17:20:44 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	
ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26330 dpm RESULTS : 4.96553 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B121.CNF;383 BKG DATE : 9-AUG-2009 EFF FILE : W121.CNF;104 CAL DATE : 15-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	1182.000	1175.280	3.000	1.7321	100.0000	2.83E+00	4.18E-01	2.66E-02	9.69E-03	1.62E-01
U232	5302.100	1235.000	1232.000	3.000	1.7321	100.0000	2.96E+00	4.37E-01	2.66E-02	9.69E-03	1.66E-01
U-235	4391.000	62.000	60.000	2.000	1.4142	80.90000	1.78E-01	5.26E-02	2.85E-02	9.78E-03	4.66E-02
U-238	4184.730	1293.000	1291.000	2.000	1.4142	100.0000	3.10E+00	4.56E-01	2.30E-02	7.91E-03	1.70E-01

NOTE: Corrections made to U-3/4 net area due to tracer impurity



RADIUM 228

Radiochemistry Batch Checklist, Rev 9

Batch# 888878 Product: Ra 228 Date: 8/6/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.	✓		
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.			NA
Batch non-conformances second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: Mary Mazzeo

Secondary Review Performed By:

KERR 8/25

Radium-228 Que Sheet

General Engineering Laboratories, Radiochemistry Division
07/28/2009

Batch #: 888878 Analyst:MXS2 First Client Due Date:08/25/2009 Internal Due Date:08/14/2009

Spike Isotope: Radium-228 Spike Code: 0503-B Expiration Date: 9-13-09 Vol: 0.1mL

LCS Isotope: Radium-228 LCS Code: 0503B Expiration Date: 9-13-09 Vol: 0.1mL

Tracer Isotope: Barium-133 Tracer Code: 0112-J Expiration Date: ~~2-14-09~~ 8-30-09 Vol: 0.1mL

Prep Date: 7-29-09 Initials: JVC Pipet ID: 27606953 Balance ID: 17955160

Ac-228 Ingrow: 7-30-09 / ~~1010~~ 1110 7-30-09

Ac-228 Separation Date/Time: 8-3-09 / 1100

Witness: MS 7-29-09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collect Date & Time
233580001-1	M-92BDISS	SAMPLE		3 pCi/L	WATER	KERR003	15-JUL-09 08:45 AM
233580002-1	M-97B	SAMPLE		3 pCi/L	WATER	KERR003	16-JUL-09 08:45 AM
233580003-1	TR-6B	SAMPLE		3 pCi/L	WATER	KERR003	17-JUL-09 07:50 AM
233580004-1	EB-071709-GW	SAMPLE		3 pCi/L	WATER	KERR003	17-JUL-09 09:45 AM
233580005-1	M-33B	SAMPLE		3 pCi/L	WATER	KERR003	21-JUL-09 11:15 AM
233580006-1	CLD-4RB	SAMPLE		3 pCi/L	WATER	KERR003	22-JUL-09 09:50 AM
233580007-1	MW-6RB	SAMPLE		3 pCi/L	WATER	KERR003	23-JUL-09 09:17 AM
233580008-1	M-52B	SAMPLE		3 pCi/L	WATER	KERR003	24-JUL-09 08:10 AM
233580009-1	M-35B	SAMPLE		3 pCi/L	WATER	KERR003	24-JUL-09 11:10 AM
233580010-1	M-11B	SAMPLE		3 pCi/L	WATER	KERR003	27-JUL-09 09:15 AM
233580011-1	M-11BDISS	SAMPLE		3 pCi/L	WATER	KERR003	27-JUL-09 09:15 AM
233580012-1	M-11009B	SAMPLE		3 pCi/L	WATER	KERR003	27-JUL-09 09:15 AM
233580013-1	M-11009BDISS	SAMPLE		3 pCi/L	WATER	KERR003	27-JUL-09 09:15 AM
1201890245-1	MB for batch 888878	MB		3 pCi/L	WATER	QC ACCOUNT	
1201890246-1	M-92BDISS(233580001DUP)	DUP		3 pCi/L	WATER	QC ACCOUNT	15-JUL-09 08:45 AM
1201890247-1	M-92BDISS(233580001MS)	MS		3 pCi/L	WATER	QC ACCOUNT	15-JUL-09 08:45 AM
1201890248-1	LCS for batch 888878	LCS		3 pCi/L	WATER	QC ACCOUNT	

Pos. #	Vol (mL)	Det #	Ba Yield (%)	Gamma Det. #
1	200	3D	80.13	1A 859
2	200	5D	84.74	1B 75.87
3	200	8B	101.81	1D 74.58
4	200	3D	74.53	2A 71.04
5	200	5D	93.28	2C 87.31
6	200	8B	76.43	2D 82.14
7	200	~~10A~~ 10B	77.54	5A 71.62 see 8308
8	200	5C	75.30	6B 75.29
9	200	1A	80.52	6D 79.97
10	200	1B	81.98	7A 72.68
11	200	1C	76.68	7B 79.49
12	200	6D	79.61	7C 73.17
13	200	7A	90.13	7D 83.11
14	200	7B	73.71	8A 70.17
15	200	8C	76.21	8C 76.59
16	200	6B	82.24	9A 77.99
17	200	5D	83.64	9C 77.56

mm 8/6/09

daily ✓

107

Comments:_____

Data Reviewed By: Mary Muzzell 8/6/09

Instrument Used: (Circle One) PIC S/N: 10751-4

1817

Radium 228 Re-Elute / Reprecipitate

Batch # 888878
Ra 228 Spike Code 0503-B
LCS Code 0503-B
Ba-133 Tracer Code 0112-J

Prep Date 7-29-09
Spike Vol (mls) 0.1mL
LCS Vol (mls) 0.1mL
Tracer Vol (mls) 0.1mL

Initials MS

Ingrow Start Time: 8-3-09 / 1100
Seperation Time: 1720 8/4/09

Sample ID	Bkr #	Vol. (mls)	Det #	% Yield	Gamma Det #
233580001	1	200	1A	85.96	
233580002	2	200	1B	75.87	
233580003	3	200	1D	~~83.73~~ 74.58 MS 8/4-09	
233580004	4	200	2A	71.04	
233580005	5	200	2C	87.31	
233580006	6	200	2D	82.14	
233580007	7	200	5A	71.62	
233580008	8	200	6B	75.29	
233580009	9	200	6D	79.97	
233580010	10	200	7A	72.68	
233580011	11	200	7B	79.49	
233580012	12	200	7C	73.17	
233580013	13	200	7D	83.11	
1201890245	14	200	8A	70.17	
1201890246	15	200	8C	76.59	
1201890247	16	200	9A	77.99	
1201890248	17	200	9C	77.56	

Radium-228 Liquid

Filename : RA228.XLS
File type : Excel
Version # : 1.2.3

Batch : 888878
Analyst : MXS2
Prep Date : 7/29/2009

Ra-228 Abundance : 1
Ra-228 Method Uncertainty : 0.1268

Calibration Date : 7/2/2009
Calibration Due Date : 7/31/2010

Spike S/N :	0503-B
Spike Exp Date :	9/13/2009
Spike Activity (dpm/ml):	180.74
Spike Volume Added:	0.10
LCS S/N :	0503-B
LCS Exp Date :	9/13/2009
LCS Activity (dpm/ml):	180.74
LCS Volume Added:	0.10
Tracer S/N :	0112-J
Tracer Exp Date :	2/17/2010
Tracer Volume Added:	0.10

Pipet, 0.1 ml Stdev : +/-	0.000701	ml
Pipet, 0.5 ml Stdev : +/-	0.002564	ml
Pipet, 1 ml Stdev : +/-	0.005480	ml
Procedure Code :	GFC28RAL	
Parmname :	Radium-228	
Required MDA :	3	pCi/L
Halflife of Ra-228 :	5.75	years
Halflife of Ac-228 :	6.13	hours
Batch counted on :	PIC	
BKG Count time :	0	min

Sample Characteristics					**Tracer Calculations**					
Pos.	Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Tracer Concentration (cpm) (Ba-133 Ref.)	Tracer Ref. Count Uncertainty (cpm)	Tracer Concentration (cpm) (Ba-133 Samp.)	Tracer Samp. Count Uncertainty (cpm)	Tracer Aliquot (mL)	Tracer Aliquot StDev. (mL)
1	233580001.1	0.2000	1.6007E-05	7/15/2009 8:45	207.2	4.38%	178.1	4.78%	0.1	0.000701
2	233580002.1	0.2000	1.6007E-05	7/16/2009 8:45	207.2	4.38%	157.2	5.15%	0.1	0.000701
3	233580003.1	0.2000	1.6007E-05	7/17/2009 7:50	206.1	4.39%	153.7	5.22%	0.1	0.000701
4	233580004.1	0.2000	1.6007E-05	7/17/2009 9:45	207.2	4.38%	147.2	5.36%	0.1	0.000701
5	233580005.1	0.2000	1.6007E-05	7/21/2009 11:15	207.2	4.38%	180.9	4.74%	0.1	0.000701
6	233580006.1	0.2000	1.6007E-05	7/22/2009 9:50	207.2	4.38%	170.2	4.91%	0.1	0.000701
7	233580007.1	0.2000	1.6007E-05	7/23/2009 9:17	207.2	4.38%	148.4	5.33%	0.1	0.000701
8	233580008.1	0.2000	1.6007E-05	7/24/2009 8:10	207.2	4.38%	156.0	5.18%	0.1	0.000701
9	233580009.1	0.2000	1.6007E-05	7/24/2009 11:10	207.2	4.38%	165.7	4.99%	0.1	0.000701
10	233580010.1	0.2000	1.6007E-05	7/27/2009 9:15	207.2	4.38%	150.6	5.29%	0.1	0.000701
11	233580011.1	0.2000	1.6007E-05	7/27/2009 9:15	207.2	4.38%	164.7	5.01%	0.1	0.000701
12	233580012.1	0.2000	1.6007E-05	7/27/2009 9:15	207.2	4.38%	151.6	5.26%	0.1	0.000701
13	233580013.1	0.2000	1.6007E-05	7/27/2009 9:15	207.2	4.38%	172.2	4.88%	0.1	0.000701
14	1201890245.1	0.2000	1.6007E-05	7/29/2009 0:00	207.2	4.38%	145.4	5.40%	0.1	0.000701
15	1201890246.1	0.2000	1.6007E-05	7/15/2009 8:45	207.2	4.38%	158.7	5.12%	0.1	0.000701
16	1201890247.1	0.2000	1.6007E-05	7/15/2009 8:45	207.2	4.38%	161.6	5.07%	0.1	0.000701
17	1201890248.1	0.2000	1.6007E-05	7/29/2009 0:00	207.2	4.38%	160.7	5.08%	0.1	0.000701

Count raw Data

Pos.	Detector ID	Counting Time (min.)	Gross Counts Alpha	Gross Counts Beta	Beta cpm	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Weekly Bkg cpm	Weekly Bkg Count Time (min.)	Separation Date/Time	Count Start Date/Time	Ra-228 Decay	Ac-228 Decay	Ac-228 Count Correction	Calculated Sample Recovery %	Sample Recovery Error %
1	1A	60	5	31	0.517	0.6303	0.00600	0.330	1000	8/4/2009 17:20	8/4/2009 19:20	0.993	0.797	1.058	85.96%	3.39%
2	1B	60	0	30	0.500	0.6282	0.00409	0.335	1000	8/4/2009 17:20	8/4/2009 19:20	0.994	0.797	1.058	75.87%	3.52%
3	1D	60	11	46	0.767	0.6043	0.00511	0.552	1000	8/4/2009 17:20	8/4/2009 19:20	0.994	0.797	1.058	74.58%	3.55%
4	2A	60	3	34	0.567	0.6172	0.00349	0.463	1000	8/4/2009 17:20	8/4/2009 19:20	0.994	0.796	1.058	71.04%	3.60%
5	2C	60	3	20	0.333	0.5969	0.00575	0.247	1000	8/4/2009 17:20	8/4/2009 19:20	0.995	0.796	1.058	87.31%	3.38%
6	2D	60	5	26	0.433	0.6119	0.00479	0.385	1000	8/4/2009 17:20	8/4/2009 19:20	0.996	0.796	1.058	82.14%	3.44%
7	5A	60	7	30	0.500	0.6258	0.00816	0.549	1000	8/4/2009 17:20	8/4/2009 19:20	0.996	0.796	1.058	71.62%	3.59%
8	6B	60	11	62	1.033	0.6163	0.00816	0.784	1000	8/4/2009 17:20	8/4/2009 19:20	0.996	0.796	1.058	75.29%	3.53%
9	6D	60	3	35	0.583	0.6120	0.00816	0.452	1000	8/4/2009 17:20	8/4/2009 19:20	0.996	0.796	1.058	79.97%	3.46%
10	7A	60	10	35	0.583	0.6180	0.00816	0.385	1000	8/4/2009 17:20	8/4/2009 19:21	0.997	0.796	1.058	72.68%	3.57%
11	7B	60	13	49	0.817	0.6280	0.00816	0.408	1000	8/4/2009 17:20	8/4/2009 19:21	0.997	0.796	1.058	79.49%	3.47%
12	7C	60	2	17	0.283	0.6178	0.00816	0.278	1000	8/4/2009 17:20	8/4/2009 19:21	0.997	0.796	1.058	73.17%	3.56%
13	7D	60	4	24	0.400	0.6257	0.00816	0.351	1000	8/4/2009 17:20	8/4/2009 19:21	0.997	0.796	1.058	83.11%	3.43%
14	8A	60	3	48	0.800	0.6247	0.00816	0.636	1000	8/4/2009 17:20	8/4/2009 19:20	0.998	0.797	1.058	70.17%	3.62%
15	8C	60	11	43	0.717	0.6339	0.00816	0.553	1000	8/4/2009 17:20	8/4/2009 19:20	0.993	0.797	1.058	76.59%	3.51%
16	9A	60	5	409	6.817	0.6496	0.00816	0.359	1000	8/4/2009 17:20	8/4/2009 19:20	0.993	0.797	1.058	77.99%	3.49%
17	9C	60	4	436	7.267	0.6273	0.00816	0.306	1000	8/4/2009 17:20	8/4/2009 19:20	0.998	0.797	1.058	77.56%	3.50%

Notes:
1 - Results are decay corrected to Sample Date/Time
2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3 - Spike Nominals are decay corrected to Sample Date/Time

* - RPD changed to 0% due to activity below MDA for 1201890246.1

Results

Pos.	Decision Level pCi/L	Critical Level pCi/L	Required MDA pCi/L	MDA pCi/L	Sample Act. Conc. pCi/L	Sample Act. Error pCi/L	Net Count Rate CPM	Net Count Rate Error CPM	**2 SIGMA** Counting Uncertainty pCi/L	**2 SIGMA** Total Prop. Uncertainty pCi/L	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
1	0.9886	0.6980	3	1.6738	**1.0373**	0.5077	0.1867	0.0946	1.0299	1.0639		SAMPLE				
2	1.1318	0.7990	3	1.9138	**1.0418**	0.5654	0.1650	0.0931	1.1522	1.1831		SAMPLE				
3	1.5359	1.0844	3	2.5026	**1.4330**	0.5390	0.2147	0.1155	1.5106	1.5553		SAMPLE				
4	1.4460	1.0209	3	2.3849	**0.7114**	0.9608	0.1037	0.0995	1.3387	1.3513		SAMPLE				
5	0.8875	0.6266	3	1.5414	**0.4978**	0.8830	0.0863	0.0762	0.8609	0.8704		SAMPLE				
6	1.1486	0.8109	3	1.9207	**0.2889**	1.8049	0.0483	0.0872	1.0218	1.0245		SAMPLE				
7	1.5379	1.0858	3	2.5066	**-0.3284**	1.9237	-0.0490	0.0942	1.2380	1.2383		SAMPLE				
8	1.7748	1.2530	3	2.8297	**1.6138**	0.5394	0.2493	0.1342	1.7023	1.7527		SAMPLE				
9	1.2775	0.9019	3	2.1106	**0.8058**	0.7688	0.1313	0.1009	1.2130	1.2307		SAMPLE				
10	1.2839	0.9064	3	2.1469	**1.3251**	0.5082	0.1983	0.1005	1.3165	1.3604		SAMPLE				
11	1.1893	0.8396	3	1.9799	**2.4569**	0.2919	0.4087	0.1184	1.3952	1.5326		SAMPLE				
12	1.0842	0.7654	3	1.8628	**0.0354**	13.2586	0.0053	0.0707	0.9202	0.9207		SAMPLE				
13	1.0590	0.7476	3	1.7839	**0.2828**	1.7100	0.0490	0.0838	0.9477	0.9505		SAMPLE				
14	1.6878	1.1916	3	2.7249	**1.1208**	0.7216	0.1640	0.1182	1.5831	1.6095		MB				
15	1.4275	1.0078	3	2.3256	**1.0145**	0.6840	0.1637	0.1118	1.3582	1.3832	233580001.1	DUP	0.0%			
16	1.1023	0.7782	3	1.8535	**38.3609**	0.0634	6.4577	0.3376	3.9307	10.6592	233580001.1	MS			40.8909	93.8%
17	1.0551	0.7449	3	1.7977	**42.8679**	0.0616	6.9607	0.3484	4.2061	11.8448		LCS			40.7073	105.3%

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine
233580001	1A	60	5	31	8/4/2009 19:20	8/4/2009 20:20	Protean
233580002	1B	60	0	30	8/4/2009 19:20	8/4/2009 20:20	Protean
233580003	1D	60	11	46	8/4/2009 19:20	8/4/2009 20:20	Protean
233580004	2A	60	3	34	8/4/2009 19:20	8/4/2009 20:20	Protean
233580005	2C	60	3	20	8/4/2009 19:20	8/4/2009 20:20	Protean
233580006	2D	60	5	26	8/4/2009 19:20	8/4/2009 20:20	Protean
233580007	5A	60	7	30	8/4/2009 19:20	8/4/2009 20:20	Protean
233580008	6B	60	11	62	8/4/2009 19:20	8/4/2009 20:20	Protean
233580009	6D	60	3	35	8/4/2009 19:20	8/4/2009 20:20	Protean
233580010	7A	60	10	35	8/4/2009 19:21	8/4/2009 20:21	Protean
233580011	7B	60	13	49	8/4/2009 19:21	8/4/2009 20:21	Protean
233580012	7C	60	2	17	8/4/2009 19:21	8/4/2009 20:21	Protean
233580013	7D	60	4	24	8/4/2009 19:21	8/4/2009 20:21	Protean
1201890245	8A	60	3	48	8/4/2009 19:20	8/4/2009 20:20	Protean
1201890246	8C	60	11	43	8/4/2009 19:20	8/4/2009 20:20	Protean
1201890247	9A	60	5	409	8/4/2009 19:20	8/4/2009 20:20	Protean
1201890248	9C	60	4	436	8/4/2009 19:20	8/4/2009 20:20	Protean

ASSAY 4-Aug-09 13:19:48

Protocol	id	9	228_REC2
Time	limit	180	
Count	limit	50000	
Isotope	Ba-133		
Protocol	date	9-Apr-07	10:02:22
Run	id.	38	

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	90	1	180	713	207.2	4.38		13:19:55
2	90	2	180	626	178.1	4.78	85.96	13:23:07
3	90	3	180	563	157.2	5.15	75.87	13:26:18
~~4~~	~~90~~	~~4~~	~~180~~	~~486~~	~~131.4~~	~~5.74~~	~~63.42~~	~~13:29:29~~
5	90	5	180	533	147.2	5.36	71.04	13:32:41
6	61	6	180	634	180.9	4.74	87.31	13:36:06
7	61	7	180	602	170.2	4.91	82.14	13:39:17
8	61	8	180	537	148.4	5.33	71.62	13:42:28
9	61	9	180	559	156	5.18	75.29	13:45:40
10	61	10	180	588	165.7	4.99	79.97	13:48:51
11	75	11	180	543	150.6	5.29	72.68	13:52:16
12	75	12	180	585	164.7	5.01	79.49	13:55:27
13	75	13	180	546	151.6	5.26	73.17	13:58:39
14	75	14	180	608	172.2	4.88	83.11	14:01:50
15	75	15	180	527	145.4	5.4	70.17	14:05:01
16	66	16	180	567	158.7	5.12	76.59	14:08:25
17	66	17	180	576	161.6	5.07	77.99	14:11:37
18	66	18	180	573	160.7	5.08	77.56	14:14:48

~~4 90 4 180 486 131.4 5.74 63.42 13:29:29~~ N 8/7/09

END OF ASSAY

ASSAY 4-Aug-09 15:58:21

Protocol	id	9	228_REC2
Time	limit	180	
Count	limit	50000	
Isotope	Ba-133		
Protocol	date	9-Apr-07	10:02:22
Run	id.	41	

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	90	1	180	709	206.1	4.39		15:58:28
2	90	2	180	552	153.7	5.22	74.58	16:01:39

END OF ASSAY

RADIUM 226

Radiochemistry Batch Checklist, Rev 9

Batch# 892562 Product: Ra-226 Date: 8/20/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits. Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%. Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%. Or meets the client's contract acceptance criteria.			NA
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			NA
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms. All line outs initialed and dated. No transcription errors are apparent.	✓		
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.	✓		NCR 724472
Batch non-conformances second reviewed and disposition verified to be completed.			
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: Lyndsey Pare KERR 8/25/09

Secondary Review Performed By: Laurie Yon

Radium-226 Que Sheet

08/10/2009 *General Engineering Laboratories, Radiochemistry Division*

Batch #: 892562 **Analyst:** KSD1 **First Client Due Date:** 08/25/2009 **Internal Due Date:** 08/14/2009

Spike Isotope: Radium-226 **Spike Code:** 010358-11 **Expiration Date:** 7/7/10 **Vol:** 0.1 **Nom Conc:** 120.8321

LCS Isotope: Radium-226 **LCS Code:** 010358-11 **Expiration Date:** 7/7/10 **Vol:** 0.1 **Nom Conc:** 24.1655

Prep Date: 8/7/09 **Pipet ID:** 1425303 **Initials:** LAO **Witness:** AL 8-17-09 **Sample Count Time:** 30 (Min) **Bkg Count Time:** 30 (Min)

Sample I	Client Description	Type	Hazard Code	Matrix	Min CRDL	Client	Vol (mL)	End Init Degas Date/Tin	End LN De-em Date/Time	Start Count Date/Time	Cell #	Det #	Bkg counts	Total Counts
233580001-1	M-92BDISS	SAMPLE		WATER	1 pCi/L	KERR0031	500	8/7/09 1415	8/20/09 1725	8/20/09 1525	409	4	8	26
233580002-1	M-97B	SAMPLE		WATER	1 pCi/L	KERR0032	500	8/7/09 1415	8/20/09 1725	8/20/09 1525	603	5	4	17
233580003-1	TR-6B	SAMPLE		WATER	1 pCi/L	KERR0033	500	8/7/09 1415	8/20/09 1725	8/20/09 1525	607	6	8	40
233580004-1	EB-071709-GW	SAMPLE		WATER	1 pCi/L	KERR0034	500	8/7/09 1415	8/20/09 1755	8/20/09 1555	111	1	6	18
233580005-1	M-33B	SAMPLE		WATER	1 pCi/L	KERR0035	500	8/7/09 1415	8/20/09 1755	8/20/09 1555	211	2	2	16
233580006-1	CLD-4RB	SAMPLE		WATER	1 pCi/L	KERR0036	500	8/7/09 1415	8/20/09 1755	8/20/09 1555	308	3	6	17
233580007-1	MW-6RB	SAMPLE		WATER	1 pCi/L	KERR0037	500	8/7/09 1415	8/20/09 1755	8/20/09 1555	410	4	8	15
233580008-1	M-52B	SAMPLE		WATER	1 pCi/L	KERR0038	500	8/7/09 1415	8/20/09 1755	8/20/09 1555	504	5	8	25
233580009-1	M-35B	SAMPLE		WATER	1 pCi/L	KERR0039	500	8/7/09 1415	8/20/09 1755	8/20/09 1635	604	6	6	~~22~~ 43
233580010-1	M-11B	SAMPLE		WATER	1 pCi/L	KERR00310	500	8/7/09 1415	8/20/09 1315	8/20/09 1635	106	1	8	22
233580011-1	M-11BDISS	SAMPLE		WATER	1 pCi/L	KERR00311	500	8/7/09 1415	8/20/09 1325	8/20/09 1720	209	2	3	11
233580012-1	M-11009B	SAMPLE		WATER	1 pCi/L	KERR00312	500	8/7/09 1415	8/20/09 1325	8/20/09 1635	307	3	4	15
233580013-1	M-11009BDISS	SAMPLE		WATER	1 pCi/L	KERR00313	500	8/7/09 1415	8/20/09 1325	8/20/09 1635	404	4	8	20
1201898768-1	MB for batch 892562	MB		WATER	1 pCi/L	QC ACCOUNT14	500	8/7/09 1415	8/20/09 1325	8/20/09 1635	511	5	8	21
1201898769-1	M-92BDISS(233580001DUP)	DUP		WATER	1 pCi/L	QC ACCOUNT15	500	8/7/09 1415	8/20/09 1325	8/20/09 1635	601	6	8	34
1201898770-1	M-92BDISS(233580001MS)	MS		WATER	1 pCi/L	QC ACCOUNT16	100	8/7/09 1415	8/20/09 1345	8/20/09 1720	112	1	8	651
1201898771-1	LCS for batch 892562	LCS		WATER	1 pCi/L	QC ACCOUNT17	500	8/7/09 1415	8/20/09 1345	8/20/09 1805	201	2	8	719

117

Comments:

Data Reviewed By: Lyndsey Pace 8/20/09

Instrument ID's:
LUCAS1:90988, LUCAS2:136917, LUCAS3:90989, LUCAS4:102753, LUC5:132286, LUC6:170055

Radium-226 Liquid

Filename : RA226.XLS
File type : Excel
Version # : 1.2.4

Batch : 892562
Analyst : KSD1
Prep Date : 8/17/2009
Ra-226 Abundance : 1
Ra-226 Method Uncertainty : 0.0918

Spike S/N : 0638-H
Spike Exp Date : 7/17/2010
Spike Activity (dpm/ml): 268.24
Spike Volume Added: 0.10

LCS S/N : 0638-H
LCS Exp Date : 7/17/2010
LCS Activity (dpm/ml): 268.24
LCS Volume Added: 0.10

Pipet, 0.1 ml Stdev : +/- 0.000701 ml
Pipet, 0.5 ml Stdev : +/- 0.002564 ml
Pipet, 1 ml Stdev : +/- 0.005480 ml

Procedure Code : LUC26RAL
Parmname : Radium-226
Required MDA : 1 pCi/L
Halflife of Ra-226 : 1600 years
Halflife of Rn-222: 3.823 days
Batch counted on : LUCAS CELL DETECTOR
BKG Count time : 30 min

Sample Characteristics					Count Raw Data				Weekly Background			
Pos.	Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Cell Number	Counting Time (min.)	Gross Counts	Gross CPM	Counts	CPM	Count Time (min.)	Detector Efficiency (cpm/dpm)
1	233580001.1	0.5000	2.0256E-05	7/15/2009 8:45	409	30	26	0.867	8	0.267	30	2.0360
2	233580002.1	0.5000	2.0256E-05	7/16/2009 8:45	503	30	17	0.567	4	0.133	30	1.6010
3	233580003.1	0.5000	2.0256E-05	7/17/2009 7:50	607	30	40	1.333	8	0.267	30	2.4500
4	233580004.1	0.5000	2.0256E-05	7/17/2009 9:45	111	30	18	0.600	6	0.200	30	1.5750
5	233580005.1	0.5000	2.0256E-05	7/21/2009 11:15	211	30	16	0.533	2	0.067	30	2.1710
6	233580006.1	0.5000	2.0256E-05	7/22/2009 9:50	308	30	17	0.567	6	0.200	30	1.9500
7	233580007.1	0.5000	2.0256E-05	7/23/2009 9:17	410	30	15	0.500	8	0.267	30	1.8860
8	233580008.1	0.5000	2.0256E-05	7/24/2009 8:10	504	30	25	0.833	8	0.267	30	1.6150
9	233580009.1	0.5000	2.0256E-05	7/24/2009 11:10	604	30	43	1.433	6	0.200	30	2.1330
10	233580010.1	0.5000	2.0256E-05	7/27/2009 9:15	106	30	22	0.733	8	0.267	30	1.4860
11	233580011.1	0.5000	2.0256E-05	7/27/2009 9:15	209	30	11	0.367	3	0.100	30	2.2910
12	233580012.1	0.5000	2.0256E-05	7/27/2009 9:15	307	30	15	0.500	4	0.133	30	1.9310
13	233580013.1	0.5000	2.0256E-05	7/27/2009 9:15	404	30	20	0.667	8	0.267	30	1.9310
14	1201898768.1	0.5000	2.0256E-05	8/17/2009 0:00	511	30	21	0.700	8	0.267	30	1.9590
15	1201898769.1	0.5000	2.0256E-05	7/15/2009 8:45	601	30	34	1.133	8	0.267	30	2.1810
16	1201898770.1	0.1000	1.1370E-05	7/15/2009 8:45	112	30	651	21.700	8	0.267	30	1.6480
17	1201898771.1	0.5000	2.0256E-05	8/17/2009 0:00	201	30	719	23.967	8	0.267	30	1.9930

Detector Efficiency Error (cpm/dpm)	Cell Calibration Date	Cell Calibration Due Date	De-Gas Date/Time	Rn-222 Ingrow End Date/Time	Count Start Date/Time	Rn-222 Corrections			Ra-226 Decay
						De-Gas to Ingrowth	Ingrowth to Count	During Count	
0.12371	3/2/2009	3/2/2010	8/17/2009 14:15	8/20/2009 12:25	8/20/2009 15:25	0.411	0.978	1.002	1.000
0.14377	3/25/2009	3/25/2010	8/17/2009 14:15	8/20/2009 12:25	8/20/2009 15:25	0.411	0.978	1.002	1.000
0.06605	8/4/2009	8/4/2010	8/17/2009 14:15	8/20/2009 12:25	8/20/2009 15:25	0.411	0.978	1.002	1.000
0.09580	8/29/2008	8/29/2009	8/17/2009 14:15	8/20/2009 12:55	8/20/2009 15:55	0.414	0.978	1.002	1.000
0.07722	12/19/2008	12/19/2009	8/17/2009 14:15	8/20/2009 12:55	8/20/2009 15:55	0.414	0.978	1.002	1.000
0.06082	2/4/2009	2/4/2010	8/17/2009 14:15	8/20/2009 12:55	8/20/2009 15:55	0.414	0.978	1.002	1.000
0.12371	3/2/2009	3/2/2010	8/17/2009 14:15	8/20/2009 12:55	8/20/2009 15:55	0.414	0.978	1.002	1.000
0.14377	3/25/2009	3/25/2010	8/17/2009 14:15	8/20/2009 12:55	8/20/2009 15:55	0.414	0.978	1.002	1.000
0.06605	8/4/2009	8/4/2010	8/17/2009 14:15	8/20/2009 12:55	8/20/2009 16:35	0.414	0.973	1.002	1.000
0.09580	8/29/2008	8/29/2009	8/17/2009 14:15	8/20/2009 13:25	8/20/2009 16:35	0.416	0.976	1.002	1.000
0.07722	12/19/2008	12/19/2009	8/17/2009 14:15	8/20/2009 13:25	8/20/2009 17:20	0.416	0.971	1.002	1.000
0.06082	2/4/2009	2/4/2010	8/17/2009 14:15	8/20/2009 13:25	8/20/2009 16:35	0.416	0.976	1.002	1.000
0.12371	3/2/2009	3/2/2010	8/17/2009 14:15	8/20/2009 13:25	8/20/2009 16:35	0.416	0.976	1.002	1.000
0.14377	3/25/2009	3/25/2010	8/17/2009 14:15	8/20/2009 13:25	8/20/2009 16:35	0.416	0.976	1.002	1.000
0.06605	8/4/2009	8/4/2010	8/17/2009 14:15	8/20/2009 13:25	8/20/2009 16:35	0.416	0.976	1.002	1.000
0.09580	8/29/2008	8/29/2009	8/17/2009 14:15	8/20/2009 13:45	8/20/2009 17:20	0.417	0.973	1.002	1.000
0.07722	12/19/2008	12/19/2009	8/17/2009 14:15	8/20/2009 13:45	8/20/2009 18:05	0.417	0.968	1.002	1.000

Notes:
1 - Results are decay corrected to Sample Date/Time
2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3 - Spike Nominals are decay corrected to Sample Date/Time

Results

Pos.	Decision Level pCi/L	Critical Level pCi/L	Required MDA pCi/L	MDA pCi/L	Sample Act. Conc. pCi/L	Sample Act. Error pCi/L	Net Count Rate CPM	Net Count Rate Error CPM	**2 SIGMA** Counting Uncertainty pCi/L	**2 SIGMA** Total Prop. Uncertainty pCi/L	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
1	0.3411	0.2408	1	0.5915	**0.6588**	0.3468	0.6000	0.1944	0.4183	0.4632		SAMPLE				
2	0.3068	0.2166	1	0.5728	**0.6051**	0.3807	0.4333	0.1528	0.4181	0.4645		SAMPLE				
3	0.2835	0.2001	1	0.4915	**0.9734**	0.2264	1.0667	0.2309	0.4130	0.4660		SAMPLE				
4	0.3799	0.2682	1	0.6775	**0.5647**	0.4193	0.4000	0.1633	0.4519	0.4752		SAMPLE				
5	0.1591	0.1123	1	0.3271	**0.4780**	0.3127	0.4667	0.1414	0.2839	0.3053		SAMPLE				
6	0.3068	0.2166	1	0.5472	**0.4181**	0.4402	0.3667	0.1599	0.3573	0.3685		SAMPLE				
7	0.3663	0.2586	1	0.6351	**0.2751**	0.6962	0.2333	0.1599	0.3694	0.3786		SAMPLE				
8	0.4278	0.3020	1	0.7417	**0.7802**	0.3672	0.5667	0.1915	0.5168	0.5789		SAMPLE				
9	0.2819	0.1990	1	0.5028	**1.2922**	0.2004	1.2333	0.2333	0.4792	0.5583		SAMPLE				
10	0.4630	0.3269	1	0.8028	**0.6955**	0.4028	0.4667	0.1826	0.5333	0.5631		SAMPLE				
11	0.1849	0.1306	1	0.3584	**0.2592**	0.4740	0.2667	0.1247	0.2376	0.2453		SAMPLE				
12	0.2519	0.1779	1	0.4704	**0.4205**	0.4009	0.3667	0.1453	0.3266	0.3390		SAMPLE				
13	0.3563	0.2515	1	0.6178	**0.4588**	0.4580	0.4000	0.1764	0.3965	0.4200		SAMPLE				
14	0.3512	0.2479	1	0.6089	**0.4899**	0.4385	0.4333	0.1795	0.3977	0.4301		MB				
15	0.3155	0.2227	1	0.5470	**0.8800**	0.2579	0.8667	0.2160	0.4299	0.4721	233580001.1	DUP	28.7%			
16	2.0866	1.4732	1	3.6180	**143.9604**	0.1038	21.4333	0.8557	11.2650	39.0958	233580001.1	MS			120.8321	118.6%
17	0.3470	0.2450	1	0.6017	**26.4744**	0.0860	23.7000	0.8988	1.9678	6.5284		LCS			24.1655	109.6%

METHOD CALIBRATION DATA

ALPHA SPECTROSCOPY

Alpha Spectroscopy Calibration Sources

The following is a summary of the procedure performed for preparing mixed alpha calibration standards:

A calibration stock solution was prepared by combining the following in a volumetric flask and diluting to 50 ml (51.4561 grams). These individual standards were first verified by direct precipitation of small aliquots of each standard (as described in Attachment I).

Isotope	Serial #	amount used (g)	dpm (note 1)
Gd-148	64445-278	0.2471	212.159287
Np-237	4341	1.8075	204.438594
Cm-244	4320A	7.2704	240.144737

Note 1: Dpm values are decay corrected to 2/7/2003.

Forty one weighted aliquots were then directly precipitated using Neodymium Flouride /HF system. The sources were then mounted on 0.1Poly-proplyene filters and taped securely to 1 inch stainless steel planchettes for counting in an Alpha Spectroscopy system. The liquid fraction that passes through the filter is collected, traced with Am-241 and prepared for counting using the identical procedure. These samples are counted to ensure there is no more than 1% loss in the filtering processes. All sources pass this requirement. The DPM information for each source is listed in attachment II.

Certificate files were then created on the Alpha system used for acquisition and processing of data. Each source is assigned a name (AESS-001 through AESS-041). The information for the source activities is entered into the certificate files appropriate for the detector being used.
For example: If source AESS-001 is used for calibrating detector 25, the source data is entered into the certificate file name [env_alpha.cer]U025.cer.
The computer software uses these certificate files to calculate an energy calibration and determine the efficiency of the detector after counting the source.

4/1/03

2002 Alpha Eff Source Stock Verification

Curium-244

Isotope	Value pCi/g
SSTOCK2002A2_AM	106.000
SSTOCK2002B2_AM	106.000
SSTOCK2002C2_AM	106.000

Mean Value (Counting) =	106.000	98.04%	
Stdev =	0		
Target =	108.1230	pCi/g	
Lower Limit =	106		
Upper Limit =	106		
Rule 1 Pass/Fail	Pass	Pass	① Pass ~~Fail~~ (as given)
Two sigma =	0		
10 % of Mean =	10.6		
Rule 2 (Pass/Fail)	Pass		

Neptunium-237

Isotope	Value pCi/g
SSTOCK2002A2_AM	90.100
SSTOCK2002B2_AM	87.200
SSTOCK2002C2_AM	93.500

Mean Value (Counting) =	90.267	98.02%		
Stdev =	3.153305144			
Target =	92.0900	pCi/g		
Lower Limit =	83.96005638			
Upper Limit =	96.57327696			
Rule 1 Pass/Fail	Pass	Pass	Pass	
Two sigma =	6.306610289			
10 % of Mean =	9.026666667			
Rule 2 (Pass/Fail)	Pass			

Gadolinium-148

Isotope	Value pCi/g
SSTOCK2002A2_AM	96.080
SSTOCK2002B2_AM	93.750
SSTOCK2002C2_AM	96.560

Mean Value (Counting) =	95.463	99.81%		
Stdev =	1.503074627			
Target =	95.6460	pCi/g		
Lower Limit =	92.45718408			
Upper Limit =	98.46948259			
Rule 1 Pass/Fail	Pass	Pass	Pass	
Two sigma =	3.006149253			
10 % of Mean =	9.546333333			
Rule 2 (Pass/Fail)	Pass			

The analyst prepared three standard verification sources for the mixed alpha stock standard using 0.1030 g for source #1, 0.1035 g for source #2 and 0.1028 g for source #3. Each standard was combined with 1.0 mL of Am-243 standard 0454-A and 0.1 mL of Nd carrier in a disposable centrifuge tube. Four mL of 2 M HCl was added to each standard and then diluted with 4 mL of DI water. 5 mL of ascorbic acid was added to each sample then one mL of 48% HF was added to precipitate Nd(and Curium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. pCi/L values for the Mixed Alpha Stock were calculated and compared to Am-243 certified values.

① The rule failed because the 3 results from 3 sources were the same. Therefore, the std dev was zero. The intent of this rule is to ensure an appropriate amount of counts are achieved for proper determinations. ~~For~~ For each standard the # of counts achieved was just under 10000 which has a counting error of nearly 1%. Because the standard's bias is < 2% from the known value the standard is acceptable.

Robert Jin 02/28

Attachment II

Mixed alpha	Reference date =	2/7/2003					
Isotope	Source	Stock Dpm/g	Reference date	Half-life (years)	amount used for mixed	Dpm/g mixed	Decay corr dpm/g
Gd-148	64445-278 (0502)	44354.59289	9/5/2002	74.60	0.2471	212.9974853	212.159287
Np-237	Srm 4341 (0493)	5820	3/1/1992	2.14E+06	1.8075	204.4393182	204.438594
Cm-244	SRM 4320a (0490)	2223.6	2/1/1996	18.1	7.2704	314.1796879	240.144737

Source	Amount of standard used	dpm Gd-148	dpm Np-237	dpm Cm-244	dps Gd-148	dps Np-237	dps Cm-244
AESS-001	1.0362	219.839	211.839	248.838	3.664	3.531	4.147
AESS-002	1.0344	219.458	211.471	248.406	3.658	3.525	4.140
AESS-003	1.034	219.373	211.390	248.310	3.656	3.523	4.138
AESS-004	1.0331	219.182	211.206	248.094	3.653	3.520	4.135
AESS-005	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-006	1.0331	219.182	211.206	248.094	3.653	3.520	4.135
AESS-007	1.0348	219.542	211.553	248.502	3.659	3.526	4.142
AESS-008	1.0363	219.861	211.860	248.862	3.664	3.531	4.148
AESS-009	1.0352	219.627	211.635	248.598	3.660	3.527	4.143
AESS-010	1.0346	219.500	211.512	248.454	3.658	3.525	4.141
AESS-011	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-012	1.0367	219.946	211.941	248.958	3.666	3.532	4.149
AESS-013	1.0396	220.561	212.534	249.654	3.676	3.542	4.161
AESS-014	1.0368	219.967	211.962	248.982	3.666	3.533	4.150
AESS-015	1.0363	219.861	211.860	248.862	3.664	3.531	4.148
AESS-016	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-017	1.0356	219.712	211.717	248.694	3.662	3.529	4.145
AESS-018	1.0359	219.776	211.778	248.766	3.663	3.530	4.146
AESS-019	1.0349	219.564	211.574	248.526	3.659	3.526	4.142
AESS-020	1.0361	219.818	211.819	248.814	3.664	3.530	4.147
AESS-021	1.0348	219.542	211.553	248.502	3.659	3.526	4.142
AESS-022	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-023	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-024	1.0343	219.436	211.451	248.382	3.657	3.524	4.140
AESS-025	1.0364	219.882	211.880	248.886	3.665	3.531	4.148
AESS-026	1.0336	219.288	211.308	248.214	3.655	3.522	4.137
AESS-027	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-028	1.0366	219.924	211.921	248.934	3.665	3.532	4.149

AESS-029	1.0355	219.691	211.696	248.670	3.662	3.528	4.144
AESS-030	1.0349	219.564	211.574	248.526	3.659	3.526	4.142
AESS-031	1.0343	219.436	211.451	248.382	3.657	3.524	4.140
AESS-032	1.0326	219.076	211.103	247.973	3.651	3.518	4.133
AESS-033	1.0308	218.694	210.735	247.541	3.645	3.512	4.126
AESS-034	1.0314	218.821	210.858	247.685	3.647	3.514	4.128
AESS-035	1.0303	218.588	210.633	247.421	3.643	3.511	4.124
AESS-036	1.0343	219.436	211.451	248.382	3.657	3.524	4.140
AESS-037	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-038	1.0373	220.073	212.064	249.102	3.668	3.534	4.152
AESS-039	1.0334	219.245	211.267	248.166	3.654	3.521	4.136
AESS-040	1.0346	219.500	211.512	248.454	3.658	3.525	4.141
AESS-041	1.0352	219.627	211.635	248.598	3.660	3.527	4.143

0490
0491

National Institute of Standards & Technology

Certificate

Standard Reference Material 4320A
Curium-244 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive curium-244 nitrate and nitric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of alpha-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard

The SRM ampoule contains curium-244 with a total activity of approximately 200 Bq. Curium-244 decays by alpha-particle emission to plutonium-240, which also decays by alpha-particle emission. None of the alpha particles escape from the SRM ampoule. During the decay process X-rays and gamma rays with energies from 40 keV to 1100 keV are also emitted. Most of these photons escape from the SRM ampoule but their intensities are so small that they do not represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard

The SRM ampoule contains nitric acid (HNO_3) with a concentration of 1 mole per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling

The SRM should be stored and used at a temperature between 5 and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least February 2006.

The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation

This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, J.M.R. Hutchinson, Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group.

The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program by N.M. Trahey.

Gaithersburg, Maryland 20899
February 1996 (Text only revised November 1997)

Thomas E. Gills, Chief
Standard Reference Materials Program

*Notes and references are on pages 5 and 6

Recommended Procedure for Opening the SRM Ampoule

1) If the SRM solution is to be diluted, it is recommended that the diluting solution have a composition comparable to that of the SRM solution.

2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.

3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.

4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.

5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.

6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.

7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.

8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. NEVER PIPETTE BY MOUTH.

9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

*Notes and references are on pages 5 and 6.

RC-S-035-005

PROPERTIES OF SRM 4320A
(Certified values are shown in bold type)

Source identification number	NIST SRM 4320A		
Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall Thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution density	**(1.030 ± 0.002) $g \cdot mL^{-1}$ at 22.8 °C** [b]*		
Solution mass	Approximately 5.15 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration ($mol \cdot L^{-1}$)	Mass Fraction ($g \cdot g^{-1}$)
	H_2O HNO_3 HCl $^{244}Cm^{+3}$	54 1.0 <0.001 5×10^{-11}	0.94 0.06 $<4 \times 10^{-5}$ 1×10^{-11}
Radiological Properties:			
Radionuclide	**Curium-244**		
Reference time	**1200 EST, 1 February 1996** [c]		
Massic activity of the solution [d]	**37.06 $Bq \cdot g^{-1}$** 74.12 Bq·g⁻¹		
Relative expanded uncertainty (k=2)	**0.68%** [e] [f]		
Alpha-particle-emitting daughters Alpha-particle-emitting impurities	Plutonium-240: (0.22 ± 0.11) $Bq \cdot g^{-1}$ [b] [c] Curium-243: (0.005 ± 0.004) $Bq \cdot g^{-1}$ [b] [g]		
Photon-emitting impurities	None detected [h]		
Half lives used in the decay corrections	Curium-244: (18.10 ± 0.02) a [i] Plutonium-240: (6563 ± 7) a [i]		
Calibration method	Two 4πα liquid-scintillation counting systems		

37.06 x 2

2004

6

*Notes and references are on pages 5 and 6.

RC-S-035-005c

[i] The stated uncertainty is the standard uncertainty. See reference [5].

[j] Relative standard uncertainty of the input quantity x_i.

[k] The relative change in the output quantity y divided by the relative change in the input quantity x_i. If $|\partial y/\partial x_i| \cdot (x_i/y) = 1.0$, then a 1% change in x_i results in a 1% change in y. If $|\partial y/\partial x_i| \cdot (x_i/y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y.

[m] Relative component of combined standard uncertainty of output quantity y, rounded to two significant figures or less. The relative component of combined standard uncertainty of y is given by $u_i(y)/y \equiv |\partial y/\partial x_i| \cdot u(x_i)/y = |\partial y/\partial x_i| \cdot (x_i/y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y/\partial x_i| \cdot (x_i/y)$, and $u_i(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

[n] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.

[p] $|\partial y/\partial x_i| \cdot (x_i/y) = |\lambda \cdot t|$

[q] The live time is determined by counting the pulses from a gated oscillator.

[r] The standard uncertainty given is for the detected Cm-243 impurity. $|\partial y/\partial x_i| \cdot (x_i/y)$ = {(response per Bq of impurity)/(response per Bq of Cm-244)}·{(Bq of impurity)/(Bq of Cm-244)}.

[s] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i)/x_i$ = 100%. $|\partial y/\partial x_i| \cdot (x_i/y)$ = {(response per Bq of impurity)/(response per Bq of Cm-244)}·{(Bq of impurity)/(Bq of Cm-244)}. Thus $u_i(y)/y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.

REFERENCES

[1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, U.S.A. 1-212-642-4900.

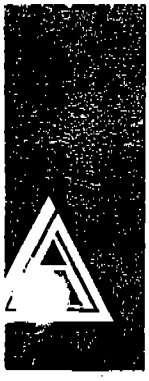
[2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993. Available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, U.S.A. 1-212-642-4900. (Listed under ISO miscellaneous publications as "ISO Guide to the Expression 1993".)

[3] B. N. Taylor and C. E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.

[4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.

[5] Evaluated Nuclear Structure Data File (ENSDF), February 1996.

RC-5-035-005



ANALYTICS

0502

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 · U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

64445-278

Gd-148 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master liquid radionuclide solution source. The master source was calibrated by liquid scintillation counting.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ISOTOPE:	Gd-148
ACTIVITY (dps):	3.759 E3
HALF-LIFE:	74.6 years
CALIBRATION DATE:	September 5, 2002 12:00 EST
TOTAL UNCERTAINTY*:	2.7%
SYSTEMATIC:	1.9%
RANDOM:	0.8%

99% confidence level.

5.08493 grams 0.1M HCl solution.

P O NUMBER 3207RD, Item 1

SOURCE PREPARED BY: M.D. Currie

M.D. Currie, Radiochemist

Q A APPROVED: 9-6-02

0493

National Institute of Standards & Technology

Certificate

Standard Reference Material 4341
Radioactivity Standard

Radionuclide	Neptunium-237
Source identification	SRM 4341
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule (1)*
Solution mass	Approximately 5 grams
Solution composition	Neptunium-237 in 2 $mol \cdot L^{-1}$ nitric acid
Reference time	March 1992
Radioactivity concentration	97.0 $Bq \cdot g^{-1}$
Overall uncertainty	1.28 percent (2)
Photon-emitting impurities	None detected (3)
Alpha-particle-emitting impurities	None detected (4)
Half life	$(2.14 \pm 0.11) \times 10^6$ years (5)
Measuring instrument	NIST "$0.8\pi\alpha$ defined-solid-angle counter with scintillation detector

This standard reference material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, J.M. Robin Hutchinson, Acting Group Leader.

Gaithersburg, MD
January 1993

William P. Reed, Chief
Standard Reference Materials Program

*Notes on back

NOTES

(1) Approximately five milliliters of solution. Ampoule specifications:

body diameter	16.5 ± 0.5 mm
wall thickness	0.60 ± 0.04 mm
barium content	less than 2.5 percent
lead oxide content	less than 0.02 percent
other heavy elements	trace quantities

(2) The overall uncertainty was formed by taking three times the quadratic combination of the standard deviations of the mean, or approximations thereof, for the following:

a) alpha-particle-emission-rate measurements	0.34 percent
b) background	0.01 percent
c) livetime	0.10 percent
d) detection efficiency	0.16 percent
e) count-rate-vs-energy extrapolation to zero energy	0.10 percent
f) half life	0.00 percent
g) gravimetric measurements	0.10 percent
h) alpha-emitting impurities	0.10 percent

(3) The protactinium-233 daughter of neptunium-237 is approximately in equilibrium. The limit of detection for photon-emitting impurities is

0.19 $\gamma \cdot s^{-1} \cdot g^{-1}$ for energies between 30 and 307 keV and
0.01 $\gamma \cdot s^{-1} \cdot g^{-1}$ for energies between 317 and 1750 keV,

provided that the impurity photons are separated in energy by 5 keV or more from photons emitted in the decay of neptunium-237 and progeny.

(4) The limit of detection for alpha-particle-emitting impurities is

0.10 $\alpha \cdot s^{-1} \cdot g^{-1}$ for energies between 1.0 and 4.3 MeV and
0.05 $\alpha \cdot s^{-1} \cdot g^{-1}$ for energies between 4.9 and 10 MeV.

(5) Evaluated Nuclear Structure Data File (ENSDF), February 1990.

For further information please contact Dr. J.M. Robin Hutchinson at NIST.
Telephone: (301) 975-5532
FAX: (301) 926-7416

Subsection 1: Energy Calibration

The Energy Calibration energy=Cal_Zero+(e1*C)+(e2*C^2)

where : Cal_Zero = Energy Calibration Zero
e1 = Energy Calibration Slope
e2 = Energy Calibration Quadratic
C = Channel

Instrument : CHAMBER 001
Detector : 78788
Calibration Date/Time : 6-JUL-2009 14:30:47
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.307
NP-237	4341	2/28/10	4768.800	4769.611
CM-244	4320A	2/28/10	5795.020	5795.576

Energy/Channel Equation : see above
Energy Calibration Zero : 2636.547
Energy Calibration Slope : 5.562682
Energy Calibration Quadratic : 4.2404264E-04
Energy Calibration Range : 8777.000

Instrument : CHAMBER 002
Detector : 78266
Calibration Date/Time : 6-JUL-2009 14:31:01
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.381
NP-237	4341	2/28/10	4768.800	4769.059
CM-244	4320A	2/28/10	5795.020	5795.281

Energy/Channel Equation : see above
Energy Calibration Zero : 2457.268
Energy Calibration Slope : 5.068144
Energy Calibration Quadratic : 3.1073095E-04
Energy Calibration Range : 7973.000

Instrument : CHAMBER 003
Detector : 67617
Calibration Date/Time : 1-JUL-2009 14:34:18
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3256.624
NP-237	4341	2/28/10	4768.800	4498.057
CM-244	4320A	2/28/10	5795.020	5643.440

Energy/Channel Equation : see above
Energy Calibration Zero : 2303.136
Energy Calibration Slope : 5.574179
Energy Calibration Quadratic : -3.1479710E-04
Energy Calibration Range : 7681.000

Instrument : CHAMBER 004
Detector : 64279
Calibration Date/Time : 6-JUL-2009 14:31:14
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.700
NP-237	4341	2/28/10	4768.800	4768.502
CM-244	4320A	2/28/10	5795.020	5794.708

Energy/Channel Equation : see above
Energy Calibration Zero : 2548.030
Energy Calibration Slope : 5.181645
Energy Calibration Quadratic : 3.6983294E-04
Energy Calibration Range : 8242.000

Instrument : CHAMBER 005
Detector : 67612
Calibration Date/Time : 6-JUL-2009 14:31:33
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3239.511
NP-237	4341	2/28/10	4768.800	4822.857
CM-244	4320A	2/28/10	5795.020	5760.225

Energy/Channel Equation : see above
Energy Calibration Zero : 2540.769
Energy Calibration Slope : 4.586285
Energy Calibration Quadratic : 1.2606301E-03
Energy Calibration Range : 8559.000

Instrument : CHAMBER 006
Detector : 67613
Calibration Date/Time : 6-JUL-2009 14:31:42
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.980
NP-237	4341	2/28/10	4768.800	4771.889
CM-244	4320A	2/28/10	5795.020	5798.332

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.189
Energy Calibration Slope : 4.968290
Energy Calibration Quadratic : 2.9507218E-04
Energy Calibration Range : 7759.000

Instrument : CHAMBER 007
Detector : 67607
Calibration Date/Time : 6-JUL-2009 14:31:52
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.695
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2433.790
Energy Calibration Slope : 5.142394
Energy Calibration Quadratic : 3.0138035E-04
Energy Calibration Range : 8016.000

Instrument : CHAMBER 008
Detector : 78788
Calibration Date/Time : 6-JUL-2009 14:32:01
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.588
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2373.661
Energy Calibration Slope : 4.981515
Energy Calibration Quadratic : 2.9968601E-04
Energy Calibration Range : 7789.000

Instrument : CHAMBER 009
Detector : 72528
Calibration Date/Time : 6-JUL-2009 14:32:10
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.963
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.116
Energy Calibration Slope : 4.955449
Energy Calibration Quadratic : 3.2997411E-04
Energy Calibration Range : 7796.000

Instrument : CHAMBER 010
Detector : 72529
Calibration Date/Time : 6-JUL-2009 14:32:19
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.261
NP-237	4341	2/28/10	4768.800	4769.006
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2373.375
Energy Calibration Slope : 4.948005
Energy Calibration Quadratic : 2.8748735E-04
Energy Calibration Range : 7742.000

Instrument : CHAMBER 011
Detector : 72531
Calibration Date/Time : 6-JUL-2009 14:32:29
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.184
NP-237	4341	2/28/10	4768.800	4768.906
CM-244	4320A	2/28/10	5795.020	5795.321

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.106
Energy Calibration Slope : 4.984596
Energy Calibration Quadratic : 3.1995389E-04
Energy Calibration Range : 7793.000

Instrument : CHAMBER 012
Detector : 67594
Calibration Date/Time : 6-JUL-2009 14:32:37
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.008
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2380.096
Energy Calibration Slope : 4.961268
Energy Calibration Quadratic : 2.7943935E-04
Energy Calibration Range : 7753.000

Instrument : CHAMBER 013
Detector : 78790
Calibration Date/Time : 6-JUL-2009 14:32:45
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.992
NP-237	4341	2/28/10	4768.800	4768.663
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2357.626
Energy Calibration Slope : 4.921106
Energy Calibration Quadratic : 2.8607668E-04
Energy Calibration Range : 7697.000

Instrument : CHAMBER 014
Detector : 67616
Calibration Date/Time : 6-JUL-2009 14:32:56
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.876

Energy/Channel Equation : see above
Energy Calibration Zero : 2354.365
Energy Calibration Slope : 4.948353
Energy Calibration Quadratic : 3.2476214E-04
Energy Calibration Range : 7762.000

Instrument : CHAMBER 015
Detector : 61581
Calibration Date/Time : 6-JUL-2009 14:33:12
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.620
NP-237	4341	2/28/10	4768.800	4768.609
CM-244	4320A	2/28/10	5795.020	5794.858

Energy/Channel Equation : see above
Energy Calibration Zero : 2344.469
Energy Calibration Slope : 4.895294
Energy Calibration Quadratic : 3.0532407E-04
Energy Calibration Range : 7677.000

Instrument : CHAMBER 016
Detector : 78774
Calibration Date/Time : 6-JUL-2009 14:33:38
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.282
NP-237	4341	2/28/10	4768.800	4769.068
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2356.850
Energy Calibration Slope : 4.876907
Energy Calibration Quadratic : 3.2479633E-04
Energy Calibration Range : 7691.000

Instrument : CHAMBER 017
Detector : 78791
Calibration Date/Time : 6-JUL-2009 14:33:47
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.882
CM-244	4320A	2/28/10	5795.020	5795.156

Energy/Channel Equation : see above
Energy Calibration Zero : 2369.181
Energy Calibration Slope : 4.952589
Energy Calibration Quadratic : 3.2460166E-04
Energy Calibration Range : 7781.000

Instrument : CHAMBER 018
Detector : 21063
Calibration Date/Time : 15-JUL-2009 07:50:05
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.276
NP-237	4341	2/28/10	4768.800	4768.965
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2350.011
Energy Calibration Slope : 4.971119
Energy Calibration Quadratic : 3.1396872E-04
Energy Calibration Range : 7770.000

Instrument : CHAMBER 019
Detector : 78786
Calibration Date/Time : 6-JUL-2009 14:34:03
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.635
NP-237	4341	2/28/10	4768.800	4769.628
CM-244	4320A	2/28/10	5795.020	5795.798

Energy/Channel Equation : see above
Energy Calibration Zero : 2346.014
Energy Calibration Slope : 5.054453
Energy Calibration Quadratic : 2.2688090E-04
Energy Calibration Range : 7760.000

Instrument : CHAMBER 020
Detector : 78787
Calibration Date/Time : 6-JUL-2009 14:34:12
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2339.467
Energy Calibration Slope : 4.972310
Energy Calibration Quadratic : 3.0532698E-04
Energy Calibration Range : 7751.000

Instrument : CHAMBER 021
Detector : 67047
Calibration Date/Time : 6-JUL-2009 14:34:21
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2271.765
Energy Calibration Slope : 4.961651
Energy Calibration Quadratic : 2.7429842E-04
Energy Calibration Range : 7640.000

Instrument : CHAMBER 022
Detector : 72530
Calibration Date/Time : 6-JUL-2009 14:34:44
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.024
NP-237	4341	2/28/10	4768.800	4769.027
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2380.245
Energy Calibration Slope : 4.952941
Energy Calibration Quadratic : 3.0796995E-04
Energy Calibration Range : 7775.000

Instrument : CHAMBER 023
Detector : 78264
Calibration Date/Time : 6-JUL-2009 14:34:52
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.366
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2380.600
Energy Calibration Slope : 5.002743
Energy Calibration Quadratic : 2.8062947E-04
Energy Calibration Range : 7798.000

Instrument : CHAMBER 024
Detector : 76542
Calibration Date/Time : 6-JUL-2009 14:35:01
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2346.716
Energy Calibration Slope : 4.980215
Energy Calibration Quadratic : 2.5087653E-04
Energy Calibration Range : 7710.000

Instrument : CHAMBER 025
Detector : 45-149AA5
Calibration Date/Time : 6-JUL-2009 14:35:10
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.237
NP-237	4341	2/28/10	4768.800	4769.932
CM-244	4320A	2/28/10	5795.020	5795.518

Energy/Channel Equation : see above
Energy Calibration Zero : 2322.042
Energy Calibration Slope : 4.860308
Energy Calibration Quadratic : 3.0488655E-04
Energy Calibration Range : 7619.000

Instrument : CHAMBER 026
Detector : 78204
Calibration Date/Time : 6-JUL-2009 14:35:19
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.984
NP-237	4341	2/28/10	4768.800	4768.684
CM-244	4320A	2/28/10	5795.020	5794.748

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.724
Energy Calibration Slope : 4.928299
Energy Calibration Quadratic : 3.4985787E-04
Energy Calibration Range : 7774.000

Instrument : CHAMBER 027
Detector : 42484
Calibration Date/Time : 6-JUL-2009 14:35:28
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.621
NP-237	4341	2/28/10	4768.800	4767.888
CM-244	4320A	2/28/10	5795.020	5793.806

Energy/Channel Equation : see above
Energy Calibration Zero : 2398.616
Energy Calibration Slope : 5.038840
Energy Calibration Quadratic : 3.1374834E-04
Energy Calibration Range : 7887.000

Instrument : CHAMBER 028
Detector : 78792
Calibration Date/Time : 6-JUL-2009 14:35:37
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2321.462
Energy Calibration Slope : 4.941727
Energy Calibration Quadratic : 3.3650306E-04
Energy Calibration Range : 7735.000

Instrument : CHAMBER 029
Detector : 33454
Calibration Date/Time : 6-JUL-2009 14:35:45
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.895
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2356.431
Energy Calibration Slope : 4.907866
Energy Calibration Quadratic : 3.0104505E-04
Energy Calibration Range : 7698.000

Instrument : CHAMBER 030
Detector : 33447
Calibration Date/Time : 6-JUL-2009 14:35:54
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.338
CM-244	4320A	2/28/10	5795.020	5794.792

Energy/Channel Equation : see above
Energy Calibration Zero : 2374.233
Energy Calibration Slope : 4.948391
Energy Calibration Quadratic : 3.0175908E-04
Energy Calibration Range : 7758.000

Instrument : CHAMBER 031
Detector : 67042
Calibration Date/Time : 15-JUL-2009 07:50:24
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.352
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2369.164
Energy Calibration Slope : 4.941464
Energy Calibration Quadratic : 3.3644502E-04
Energy Calibration Range : 7782.000

Instrument : CHAMBER 032
Detector : 67041
Calibration Date/Time : 15-JUL-2009 07:50:35
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.693
NP-237	4341	2/28/10	4768.800	4768.915
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2370.431
Energy Calibration Slope : 4.915299
Energy Calibration Quadratic : 3.7063286E-04
Energy Calibration Range : 7792.000

Instrument : CHAMBER 033
Detector : 78785
Calibration Date/Time : 6-JUL-2009 14:36:20
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.822
CM-244	4320A	2/28/10	5795.020	5795.221

Energy/Channel Equation : see above
Energy Calibration Zero : 2378.215
Energy Calibration Slope : 4.936105
Energy Calibration Quadratic : 3.4599172E-04
Energy Calibration Range : 7796.000

Instrument : CHAMBER 034
Detector : 61586
Calibration Date/Time : 15-JUL-2009 07:50:46
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.661
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2338.228
Energy Calibration Slope : 4.969683
Energy Calibration Quadratic : 3.5388564E-04
Energy Calibration Range : 7798.000

Instrument : CHAMBER 035
Detector : 78202
Calibration Date/Time : 6-JUL-2009 14:36:36
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.571
CM-244	4320A	2/28/10	5795.020	5794.874

Energy/Channel Equation : see above
Energy Calibration Zero : 2334.698
Energy Calibration Slope : 4.957491
Energy Calibration Quadratic : 3.3283085E-04
Energy Calibration Range : 7760.000

Instrument : CHAMBER 036
Detector : 78203
Calibration Date/Time : 6-JUL-2009 14:36:45
Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.768
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2354.938
Energy Calibration Slope : 4.922945
Energy Calibration Quadratic : 3.4444858E-04
Energy Calibration Range : 7757.000

Instrument : CHAMBER 037
Detector : 45-149BB5
Calibration Date/Time : 6-JUL-2009 14:36:53
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.484
NP-237	4341	2/28/10	4768.800	4769.580
CM-244	4320A	2/28/10	5795.020	5795.541

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.709
Energy Calibration Slope : 4.946308
Energy Calibration Quadratic : 2.5989802E-04
Energy Calibration Range : 7722.000

Instrument : CHAMBER 038
Detector : 72532
Calibration Date/Time : 8-JUL-2009 07:31:06
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.361
NP-237	4341	2/28/10	4768.800	4769.277
CM-244	4320A	2/28/10	5795.020	5795.217

Energy/Channel Equation : see above
Energy Calibration Zero : 2373.087
Energy Calibration Slope : 4.930811
Energy Calibration Quadratic : 3.3542284E-04
Energy Calibration Range : 7774.000

Instrument : CHAMBER 039
Detector : 45-149BB2
Calibration Date/Time : 6-JUL-2009 14:37:12
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.536
NP-237	4341	2/28/10	4768.800	4768.350
CM-244	4320A	2/28/10	5795.020	5794.833

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.948
Energy Calibration Slope : 4.914604
Energy Calibration Quadratic : 3.1003577E-04
Energy Calibration Range : 7742.000

Instrument : CHAMBER 040
Detector : 78773
Calibration Date/Time : 6-JUL-2009 14:37:21
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.545
Energy Calibration Slope : 4.888068
Energy Calibration Quadratic : 3.4239746E-04
Energy Calibration Range : 7718.000

Instrument : CHAMBER 041
Detector : 78205
Calibration Date/Time : 6-JUL-2009 14:37:34
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.714
NP-237	4341	2/28/10	4768.800	4768.652
CM-244	4320A	2/28/10	5795.020	5794.887

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.504
Energy Calibration Slope : 4.933050
Energy Calibration Quadratic : 3.6094084E-04
Energy Calibration Range : 7791.000

Instrument : CHAMBER 042
Detector : 78793
Calibration Date/Time : 6-JUL-2009 14:37:44
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.865
Energy Calibration Slope : 4.914897
Energy Calibration Quadratic : 3.2152777E-04
Energy Calibration Range : 7747.000

Instrument : CHAMBER 043
Detector : 76543
Calibration Date/Time : 6-JUL-2009 14:37:56
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2368.689
Energy Calibration Slope : 4.938226
Energy Calibration Quadratic : 3.2137471E-04
Energy Calibration Range : 7762.000

Instrument : CHAMBER 044
Detector : 79459
Calibration Date/Time : 7-JUL-2009 13:33:56
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.945
CM-244	4320A	2/28/10	5795.020	5795.104

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.983
Energy Calibration Slope : 4.923144
Energy Calibration Quadratic : 3.4992688E-04
Energy Calibration Range : 7771.000

Instrument : CHAMBER 045
Detector : 67601
Calibration Date/Time : 15-JUL-2009 07:50:59
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.907
Energy Calibration Slope : 4.934806
Energy Calibration Quadratic : 3.2861135E-04
Energy Calibration Range : 7759.000

Instrument : CHAMBER 046
Detector : 76544
Calibration Date/Time : 6-JUL-2009 14:38:21
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.832
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.131
Energy Calibration Slope : 4.885582
Energy Calibration Quadratic : 3.3954665E-04
Energy Calibration Range : 7722.000

Instrument : CHAMBER 047
Detector : 46-089B1
Calibration Date/Time : 6-JUL-2009 14:38:30
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.917
CM-244	4320A	2/28/10	5795.020	5795.028

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.735
Energy Calibration Slope : 4.953376
Energy Calibration Quadratic : 3.2229861E-04
Energy Calibration Range : 7769.000

Instrument : CHAMBER 048
Detector : 42483
Calibration Date/Time : 6-JUL-2009 14:38:39
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.757
NP-237	4341	2/28/10	4768.800	4768.527
CM-244	4320A	2/28/10	5795.020	5794.876

Energy/Channel Equation : see above
Energy Calibration Zero : 2379.156
Energy Calibration Slope : 4.959531
Energy Calibration Quadratic : 2.8168198E-04
Energy Calibration Range : 7753.000

Instrument : CHAMBER 065
Detector : 68551
Calibration Date/Time : 9-JUL-2009 13:06:51
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.934
NP-237	4341	2/28/10	4768.800	4768.222
CM-244	4320A	2/28/10	5795.020	5794.627

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.031
Energy Calibration Slope : 4.912300
Energy Calibration Quadratic : 3.2574762E-04
Energy Calibration Range : 7755.000

Instrument : CHAMBER 066
Detector : 46-089C1
Calibration Date/Time : 9-JUL-2009 13:07:05
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.612
NP-237	4341	2/28/10	4768.800	4768.619
CM-244	4320A	2/28/10	5795.020	5794.832

Energy/Channel Equation : see above
Energy Calibration Zero : 2375.985
Energy Calibration Slope : 4.975531
Energy Calibration Quadratic : 2.7539468E-04
Energy Calibration Range : 7760.000

Instrument : CHAMBER 067
Detector : 46-089B4
Calibration Date/Time : 9-JUL-2009 13:07:16
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.025
NP-237	4341	2/28/10	4768.800	4768.287
CM-244	4320A	2/28/10	5795.020	5794.643

Energy/Channel Equation : see above
Energy Calibration Zero : 2392.470
Energy Calibration Slope : 4.972788
Energy Calibration Quadratic : 2.7622253E-04
Energy Calibration Range : 7774.000

Instrument : CHAMBER 068
Detector : 78794
Calibration Date/Time : 9-JUL-2009 13:07:28
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.711
NP-237	4341	2/28/10	4768.800	4768.483
CM-244	4320A	2/28/10	5795.020	5794.734

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.543
Energy Calibration Slope : 4.977541
Energy Calibration Quadratic : 3.1141064E-04
Energy Calibration Range : 7787.000

Instrument : CHAMBER 069
Detector : 78795
Calibration Date/Time : 9-JUL-2009 13:07:42
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.689
NP-237	4341	2/28/10	4768.800	4768.583
CM-244	4320A	2/28/10	5795.020	5794.896

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.120
Energy Calibration Slope : 4.922992
Energy Calibration Quadratic : 3.4665639E-04
Energy Calibration Range : 7781.000

Instrument : CHAMBER 070
Detector : 46-089B2
Calibration Date/Time : 9-JUL-2009 13:07:53
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.107
NP-237	4341	2/28/10	4768.800	4768.384
CM-244	4320A	2/28/10	5795.020	5794.512

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.604
Energy Calibration Slope : 4.939598
Energy Calibration Quadratic : 2.9686227E-04
Energy Calibration Range : 7756.000

Instrument : CHAMBER 071
Detector : 64259
Calibration Date/Time : 9-JUL-2009 13:08:07
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.519
NP-237	4341	2/28/10	4768.800	4768.421
CM-244	4320A	2/28/10	5795.020	5794.714

Energy/Channel Equation : see above
Energy Calibration Zero : 2381.008
Energy Calibration Slope : 4.974834
Energy Calibration Quadratic : 3.0491504E-04
Energy Calibration Range : 7795.000

Instrument : CHAMBER 072
Detector : 45-149AA3
Calibration Date/Time : 9-JUL-2009 13:08:19
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.621
NP-237	4341	2/28/10	4768.800	4768.489
CM-244	4320A	2/28/10	5795.020	5794.766

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.531
Energy Calibration Slope : 4.947875
Energy Calibration Quadratic : 2.9255319E-04
Energy Calibration Range : 7739.000

Instrument : CHAMBER 073
Detector : 78775
Calibration Date/Time : 9-JUL-2009 13:08:30
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.442
NP-237	4341	2/28/10	4768.800	4768.180
CM-244	4320A	2/28/10	5795.020	5794.629

Energy/Channel Equation : see above
Energy Calibration Zero : 2339.856
Energy Calibration Slope : 4.937759
Energy Calibration Quadratic : 3.0114278E-04
Energy Calibration Range : 7712.000

Instrument : CHAMBER 074
Detector : 78266
Calibration Date/Time : 9-JUL-2009 13:08:42
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.764
NP-237	4341	2/28/10	4768.800	4768.637
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.120
Energy Calibration Slope : 4.981784
Energy Calibration Quadratic : 2.9874133E-04
Energy Calibration Range : 7768.000

Instrument : CHAMBER 075
Detector : 68550
Calibration Date/Time : 9-JUL-2009 13:08:53
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.163
NP-237	4341	2/28/10	4768.800	4768.299
CM-244	4320A	2/28/10	5795.020	5794.726

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.223
Energy Calibration Slope : 4.955623
Energy Calibration Quadratic : 3.1275101E-04
Energy Calibration Range : 7767.000

Instrument : CHAMBER 076
Detector : 78779
Calibration Date/Time : 9-JUL-2009 13:09:04
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.983
NP-237	4341	2/28/10	4768.800	4768.736
CM-244	4320A	2/28/10	5795.020	5794.908

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.316
Energy Calibration Slope : 4.951778
Energy Calibration Quadratic : 3.2127454E-04
Energy Calibration Range : 7761.000

Instrument : CHAMBER 077
Detector : 67576
Calibration Date/Time : 9-JUL-2009 13:09:15
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.613
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.225
Energy Calibration Slope : 4.943738
Energy Calibration Quadratic : 2.9529908E-04
Energy Calibration Range : 7733.000

Instrument : CHAMBER 078
Detector : 67577
Calibration Date/Time : 9-JUL-2009 13:09:25
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.605
NP-237	4341	2/28/10	4768.800	4768.392
CM-244	4320A	2/28/10	5795.020	5794.652

Energy/Channel Equation : see above
Energy Calibration Zero : 2395.349
Energy Calibration Slope : 4.935272
Energy Calibration Quadratic : 3.3427982E-04
Energy Calibration Range : 7800.000

Instrument : CHAMBER 079
Detector : 67598
Calibration Date/Time : 9-JUL-2009 13:09:33
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.660
NP-237	4341	2/28/10	4768.800	4768.547
CM-244	4320A	2/28/10	5795.020	5794.894

Energy/Channel Equation : see above
Energy Calibration Zero : 2369.373
Energy Calibration Slope : 4.904424
Energy Calibration Quadratic : 3.2698381E-04
Energy Calibration Range : 7734.000

Instrument : CHAMBER 080
Detector : 78197
Calibration Date/Time : 9-JUL-2009 13:09:43
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3184.302
NP-237	4341	2/28/10	4768.800	4771.069
CM-244	4320A	2/28/10	5795.020	5795.787

Energy/Channel Equation : see above
Energy Calibration Zero : 2345.798
Energy Calibration Slope : 5.019492
Energy Calibration Quadratic : 2.4690092E-04
Energy Calibration Range : 7745.000

Instrument : CHAMBER 081
Detector : 72533
Calibration Date/Time : 9-JUL-2009 13:09:58
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3128.274
NP-237	4341	2/28/10	4768.800	4679.048
CM-244	4320A	2/28/10	5795.020	5545.961

Energy/Channel Equation : see above
Energy Calibration Zero : 2299.761
Energy Calibration Slope : 8.847325
Energy Calibration Quadratic : -4.6356809E-03
Energy Calibration Range : 6499.000

Instrument : CHAMBER 082
Detector : 64263
Calibration Date/Time : 9-JUL-2009 13:10:11
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.523
NP-237	4341	2/28/10	4768.800	4768.330
CM-244	4320A	2/28/10	5795.020	5794.746

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.756
Energy Calibration Slope : 4.946808
Energy Calibration Quadratic : 3.5040258E-04
Energy Calibration Range : 7825.000

Instrument : CHAMBER 083
Detector : 64278
Calibration Date/Time : 9-JUL-2009 13:10:22
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.394
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2373.863
Energy Calibration Slope : 5.042446
Energy Calibration Quadratic : 2.3603256E-04
Energy Calibration Range : 7785.000

Instrument : CHAMBER 084
Detector : 78265
Calibration Date/Time : 9-JUL-2009 13:10:32
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.274

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.172
Energy Calibration Slope : 5.013323
Energy Calibration Quadratic : 2.8020472E-04
Energy Calibration Range : 7790.000

Instrument : CHAMBER 085
Detector : 78776
Calibration Date/Time : 9-JUL-2009 13:10:43
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2367.102
Energy Calibration Slope : 4.983326
Energy Calibration Quadratic : 2.9771921E-04
Energy Calibration Range : 7782.000

Instrument : CHAMBER 086
Detector : 78198
Calibration Date/Time : 9-JUL-2009 13:10:52
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.643
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2354.748
Energy Calibration Slope : 5.010773
Energy Calibration Quadratic : 2.3814633E-04
Energy Calibration Range : 7735.000

Instrument : CHAMBER 087
Detector : 78199
Calibration Date/Time : 9-JUL-2009 13:11:02
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2338.424
Energy Calibration Slope : 4.984921
Energy Calibration Quadratic : 2.3201770E-04
Energy Calibration Range : 7686.000

Instrument : CHAMBER 088
Detector : 33452
Calibration Date/Time : 9-JUL-2009 13:11:13
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.468
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2351.689
Energy Calibration Slope : 4.964746
Energy Calibration Quadratic : 2.3151403E-04
Energy Calibration Range : 7678.000

Instrument : CHAMBER 089
Detector : 78262
Calibration Date/Time : 9-JUL-2009 13:11:23
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.808
NP-237	4341	2/28/10	4768.800	4768.497
CM-244	4320A	2/28/10	5795.020	5794.868

Energy/Channel Equation : see above
Energy Calibration Zero : 2357.358
Energy Calibration Slope : 4.998539
Energy Calibration Quadratic : 3.0872814E-04
Energy Calibration Range : 7800.000

Instrument : CHAMBER 090
Detector : 78263
Calibration Date/Time : 9-JUL-2009 13:11:39
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.574
NP-237	4341	2/28/10	4768.800	4768.547
CM-244	4320A	2/28/10	5795.020	5794.930

Energy/Channel Equation : see above
Energy Calibration Zero : 2367.561
Energy Calibration Slope : 4.900284
Energy Calibration Quadratic : 3.4428819E-04
Energy Calibration Range : 7746.000

Instrument : CHAMBER 091
Detector : 78259
Calibration Date/Time : 9-JUL-2009 13:11:52
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.675
NP-237	4341	2/28/10	4768.800	4768.729
CM-244	4320A	2/28/10	5795.020	5794.997

Energy/Channel Equation : see above
Energy Calibration Zero : 2370.658
Energy Calibration Slope : 4.954311
Energy Calibration Quadratic : 3.4313111E-04
Energy Calibration Range : 7804.000

Instrument : CHAMBER 092
Detector : 79457
Calibration Date/Time : 10-JUL-2009 08:15:23
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2351.067
Energy Calibration Slope : 4.974295
Energy Calibration Quadratic : 2.6989207E-04
Energy Calibration Range : 7728.000

Instrument : CHAMBER 093
Detector : 33206
Calibration Date/Time : 9-JUL-2009 13:12:10
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.697
NP-237	4341	2/28/10	4768.800	4768.674
CM-244	4320A	2/28/10	5795.020	5794.907

Energy/Channel Equation : see above
Energy Calibration Zero : 2369.563
Energy Calibration Slope : 4.914497
Energy Calibration Quadratic : 3.2562285E-04
Energy Calibration Range : 7743.000

Instrument : CHAMBER 094
Detector : 78267
Calibration Date/Time : 9-JUL-2009 13:12:19
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.761
NP-237	4341	2/28/10	4768.800	4768.682
CM-244	4320A	2/28/10	5795.020	5794.852

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.085
Energy Calibration Slope : 4.944716
Energy Calibration Quadratic : 3.0186711E-04
Energy Calibration Range : 7743.000

Instrument : CHAMBER 095
Detector : 64279
Calibration Date/Time : 9-JUL-2009 13:12:27
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.666
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2355.533
Energy Calibration Slope : 4.950543
Energy Calibration Quadratic : 2.9788527E-04
Energy Calibration Range : 7737.000

Instrument : CHAMBER 096
Detector : 67605
Calibration Date/Time : 9-JUL-2009 13:12:36
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.747
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2347.386
Energy Calibration Slope : 4.941090
Energy Calibration Quadratic : 3.3197468E-04
Energy Calibration Range : 7755.000

Instrument : CHAMBER 097
Detector : 67599
Calibration Date/Time : 9-JUL-2009 13:12:44
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.290
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.267
Energy Calibration Slope : 4.928224
Energy Calibration Quadratic : 3.4786455E-04
Energy Calibration Range : 7775.000

Instrument : CHAMBER 098
Detector : 68644
Calibration Date/Time : 9-JUL-2009 13:12:53
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.282
NP-237	4341	2/28/10	4768.800	4768.479
CM-244	4320A	2/28/10	5795.020	5794.637

Energy/Channel Equation : see above
Energy Calibration Zero : 2385.389
Energy Calibration Slope : 4.950438
Energy Calibration Quadratic : 3.5501088E-04
Energy Calibration Range : 7827.000

Instrument : CHAMBER 099
Detector : 70317
Calibration Date/Time : 9-JUL-2009 13:13:03
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.752
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2368.685
Energy Calibration Slope : 4.893388
Energy Calibration Quadratic : 3.5426160E-04
Energy Calibration Range : 7751.000

Instrument : CHAMBER 100
Detector : 79456
Calibration Date/Time : 9-JUL-2009 13:13:12
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.705
CM-244	4320A	2/28/10	5795.020	5794.913

Energy/Channel Equation : see above
Energy Calibration Zero : 2354.623
Energy Calibration Slope : 4.898829
Energy Calibration Quadratic : 3.4345602E-04
Energy Calibration Range : 7731.000

Instrument : CHAMBER 101
Detector : 64253
Calibration Date/Time : 9-JUL-2009 13:13:22
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.469
NP-237	4341	2/28/10	4768.800	4767.637
CM-244	4320A	2/28/10	5795.020	5794.300

Energy/Channel Equation : see above
Energy Calibration Zero : 2410.698
Energy Calibration Slope : 4.933665
Energy Calibration Quadratic : 3.2843428E-04
Energy Calibration Range : 7807.000

Instrument : CHAMBER 102
Detector : 72525
Calibration Date/Time : 9-JUL-2009 13:13:31
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.443
CM-244	4320A	2/28/10	5795.020	5794.909

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.658
Energy Calibration Slope : 4.864605
Energy Calibration Quadratic : 3.5245687E-04
Energy Calibration Range : 7715.000

Instrument : CHAMBER 103
Detector : 79461
Calibration Date/Time : 9-JUL-2009 13:13:40
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.789
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.068
Energy Calibration Slope : 4.916300
Energy Calibration Quadratic : 3.4528042E-04
Energy Calibration Range : 7785.000

Instrument : CHAMBER 104
Detector : 72524
Calibration Date/Time : 9-JUL-2009 13:13:48
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.853

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.445
Energy Calibration Slope : 4.898041
Energy Calibration Quadratic : 3.2613348E-04
Energy Calibration Range : 7711.000

Instrument : CHAMBER 105
Detector : 78777
Calibration Date/Time : 9-JUL-2009 13:13:56
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.693
NP-237	4341	2/28/10	4768.800	4768.750
CM-244	4320A	2/28/10	5795.020	5794.773

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.710
Energy Calibration Slope : 4.874049
Energy Calibration Quadratic : 3.5893198E-04
Energy Calibration Range : 7744.000

Instrument : CHAMBER 106
Detector : 64274
Calibration Date/Time : 9-JUL-2009 13:14:04
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.689
Energy Calibration Slope : 4.927028
Energy Calibration Quadratic : 3.4706845E-04
Energy Calibration Range : 7798.000

Instrument : CHAMBER 107
Detector : 67578
Calibration Date/Time : 9-JUL-2009 13:14:15
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.693
NP-237	4341	2/28/10	4768.800	4768.881
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.860
Energy Calibration Slope : 4.955241
Energy Calibration Quadratic : 3.3647806E-04
Energy Calibration Range : 7790.000

Instrument : CHAMBER 108
Detector : 78778
Calibration Date/Time : 10-JUL-2009 08:15:33
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.573
Energy Calibration Slope : 4.897293
Energy Calibration Quadratic : 3.3521929E-04
Energy Calibration Range : 7727.000

Instrument : CHAMBER 109
Detector : 79463
Calibration Date/Time : 9-JUL-2009 13:14:36
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.218
Energy Calibration Slope : 4.898855
Energy Calibration Quadratic : 3.6102085E-04
Energy Calibration Range : 7756.000

Instrument : CHAMBER 110
Detector : 67602
Calibration Date/Time : 9-JUL-2009 13:15:06
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3151.318
NP-237	4341	2/28/10	4768.800	4743.843
CM-244	4320A	2/28/10	5795.020	5748.494

Energy/Channel Equation : see above
Energy Calibration Zero : 2393.627
Energy Calibration Slope : 5.263870
Energy Calibration Quadratic : 7.2507857E-05
Energy Calibration Range : 7860.000

Instrument : CHAMBER 111
Detector : 79462
Calibration Date/Time : 9-JUL-2009 13:15:22
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2359.279
Energy Calibration Slope : 4.970932
Energy Calibration Quadratic : 3.2777866E-04
Energy Calibration Range : 7793.000

Instrument : CHAMBER 112
Detector : 78261
Calibration Date/Time : 9-JUL-2009 13:15:42
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.029
CM-244	4320A	2/28/10	5795.020	5795.070

Energy/Channel Equation : see above
Energy Calibration Zero : 2372.776
Energy Calibration Slope : 4.930915
Energy Calibration Quadratic : 3.0952421E-04
Energy Calibration Range : 7747.000

Instrument : CHAMBER 113
Detector : 45-111B4
Calibration Date/Time : 15-JUL-2009 13:43:32
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.143
NP-237	4341	2/28/10	4768.800	4769.352
CM-244	4320A	2/28/10	5795.020	5795.169

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.808
Energy Calibration Slope : 5.000635
Energy Calibration Quadratic : 2.7049560E-04
Energy Calibration Range : 7789.000

Instrument : CHAMBER 114
Detector : 78258
Calibration Date/Time : 15-JUL-2009 13:43:44
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.317
NP-237	4341	2/28/10	4768.800	4768.936
CM-244	4320A	2/28/10	5795.020	5795.187

Energy/Channel Equation : see above
Energy Calibration Zero : 2334.310
Energy Calibration Slope : 4.976188
Energy Calibration Quadratic : 2.4765823E-04
Energy Calibration Range : 7690.000

Instrument : CHAMBER 115
Detector : 45-132FF4
Calibration Date/Time : 15-JUL-2009 13:43:54
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.299
NP-237	4341	2/28/10	4768.800	4768.906
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.743
Energy Calibration Slope : 4.999947
Energy Calibration Quadratic : 2.6256693E-04
Energy Calibration Range : 7758.000

Instrument : CHAMBER 116
Detector : 45-132FF2
Calibration Date/Time : 15-JUL-2009 13:44:05
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.201
Energy Calibration Slope : 4.980864
Energy Calibration Quadratic : 2.6853522E-04
Energy Calibration Range : 7743.000

Instrument : CHAMBER 117
Detector : 33450
Calibration Date/Time : 15-JUL-2009 13:44:15
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.341
NP-237	4341	2/28/10	4768.800	4769.249
CM-244	4320A	2/28/10	5795.020	5795.149

Energy/Channel Equation : see above
Energy Calibration Zero : 2372.642
Energy Calibration Slope : 4.960156
Energy Calibration Quadratic : 2.9082331E-04
Energy Calibration Range : 7757.000

Instrument : CHAMBER 118
Detector : 75544
Calibration Date/Time : 15-JUL-2009 13:44:26
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.240
NP-237	4341	2/28/10	4768.800	4768.906
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2335.434
Energy Calibration Slope : 4.978148
Energy Calibration Quadratic : 2.6964993E-04
Energy Calibration Range : 7716.000

Instrument : CHAMBER 119
Detector : 74429
Calibration Date/Time : 2-FEB-2009 15:15:38
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3069.001
NP-237	4341	2/28/10	4768.800	4669.281
CM-244	4320A	2/28/10	5795.020	5706.875

Energy/Channel Equation : see above
Energy Calibration Zero : 2437.949
Energy Calibration Slope : 5.036866
Energy Calibration Quadratic :
Energy Calibration Range : 7596.000

Instrument : CHAMBER 120
Detector : 74430
Calibration Date/Time : 16-JUL-2009 09:29:36
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.243
NP-237	4341	2/28/10	4768.800	4768.978
CM-244	4320A	2/28/10	5795.020	5795.142

Energy/Channel Equation : see above
Energy Calibration Zero : 2311.106
Energy Calibration Slope : 4.960131
Energy Calibration Quadratic : 2.6160042E-04
Energy Calibration Range : 7665.000

Instrument : CHAMBER 121
Detector : 75545
Calibration Date/Time : 15-JUL-2009 13:44:36
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.188

Energy/Channel Equation : see above
Energy Calibration Zero : 2334.679
Energy Calibration Slope : 4.950221
Energy Calibration Quadratic : 2.8347687E-04
Energy Calibration Range : 7701.000

Instrument : CHAMBER 122
Detector : 75546
Calibration Date/Time : 15-JUL-2009 13:44:46
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.172
NP-237	4341	2/28/10	4768.800	4769.003
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2330.980
Energy Calibration Slope : 4.960747
Energy Calibration Quadratic : 2.7343398E-04
Energy Calibration Range : 7698.000

Instrument : CHAMBER 123
Detector : 45-142V3
Calibration Date/Time : 15-JUL-2009 13:44:55
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.316
NP-237	4341	2/28/10	4768.800	4769.249
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2374.720
Energy Calibration Slope : 4.978360
Energy Calibration Quadratic : 2.5058995E-04
Energy Calibration Range : 7735.000

Instrument : CHAMBER 124
Detector : 45-142V2
Calibration Date/Time : 15-JUL-2009 13:45:05
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.701
NP-237	4341	2/28/10	4768.800	4768.518
CM-244	4320A	2/28/10	5795.020	5794.902

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.371
Energy Calibration Slope : 5.018754
Energy Calibration Quadratic : 2.4640319E-04
Energy Calibration Range : 7780.000

Instrument : CHAMBER 125
Detector : 75547
Calibration Date/Time : 17-JUL-2009 14:23:54
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.386
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.165

Energy/Channel Equation : see above
Energy Calibration Zero : 2338.781
Energy Calibration Slope : 4.955306
Energy Calibration Quadratic : 2.6291917E-04
Energy Calibration Range : 7689.000

Instrument : CHAMBER 126
Detector : 75548
Calibration Date/Time : 17-JUL-2009 14:24:06
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2345.216
Energy Calibration Slope : 5.042264
Energy Calibration Quadratic : 1.8960494E-04
Energy Calibration Range : 7707.000

Instrument : CHAMBER 127
Detector : 78770
Calibration Date/Time : 17-JUL-2009 14:24:19
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.168
NP-237	4341	2/28/10	4768.800	4769.036
CM-244	4320A	2/28/10	5795.020	5795.095

Energy/Channel Equation : see above
Energy Calibration Zero : 2333.395
Energy Calibration Slope : 4.961254
Energy Calibration Quadratic : 2.6867207E-04
Energy Calibration Range : 7695.000

Instrument : CHAMBER 128
Detector : 75549
Calibration Date/Time : 17-JUL-2009 14:24:31
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.449
NP-237	4341	2/28/10	4768.800	4769.095
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2323.424
Energy Calibration Slope : 5.017115
Energy Calibration Quadratic : 2.1570176E-04
Energy Calibration Range : 7687.000

Instrument : CHAMBER 129
Detector : 76227
Calibration Date/Time : 17-JUL-2009 14:24:41
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.112
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2343.567
Energy Calibration Slope : 4.949915
Energy Calibration Quadratic : 2.7041257E-04
Energy Calibration Range : 7696.000

Instrument : CHAMBER 130
Detector : 76228
Calibration Date/Time : 17-JUL-2009 14:24:51
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.758
NP-237	4341	2/28/10	4768.800	4768.607
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2336.361
Energy Calibration Slope : 4.980415
Energy Calibration Quadratic : 2.3134552E-04
Energy Calibration Range : 7679.000

Instrument : CHAMBER 131
Detector : 33448
Calibration Date/Time : 17-JUL-2009 14:25:01
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.605
NP-237	4341	2/28/10	4768.800	4768.573
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.756
Energy Calibration Slope : 4.931267
Energy Calibration Quadratic : 3.1428930E-04
Energy Calibration Range : 7768.000

Instrument : CHAMBER 132
Detector : 67579
Calibration Date/Time : 17-JUL-2009 14:25:11
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.074
NP-237	4341	2/28/10	4768.800	4765.688
CM-244	4320A	2/28/10	5795.020	5788.063

Energy/Channel Equation : see above
Energy Calibration Zero : 2375.917
Energy Calibration Slope : 5.056964
Energy Calibration Quadratic : 2.6723032E-04
Energy Calibration Range : 7834.000

Instrument : CHAMBER 133
Detector : 76229
Calibration Date/Time : 17-JUL-2009 14:25:22
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.235
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2304.280
Energy Calibration Slope : 4.909981
Energy Calibration Quadratic : 2.5969208E-04
Energy Calibration Range : 7604.000

Instrument : CHAMBER 134
Detector : 76230
Calibration Date/Time : 17-JUL-2009 14:25:32
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.428
NP-237	4341	2/28/10	4768.800	4769.138
CM-244	4320A	2/28/10	5795.020	5795.114

Energy/Channel Equation : see above
Energy Calibration Zero : 2323.771
Energy Calibration Slope : 4.983015
Energy Calibration Quadratic : 2.2696581E-04
Energy Calibration Range : 7664.000

Instrument : CHAMBER 135
Detector : 64270
Calibration Date/Time : 17-JUL-2009 14:25:42
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.580
NP-237	4341	2/28/10	4768.800	4768.589
CM-244	4320A	2/28/10	5795.020	5794.911

Energy/Channel Equation : see above
Energy Calibration Zero : 2342.408
Energy Calibration Slope : 4.931945
Energy Calibration Quadratic : 2.7902660E-04
Energy Calibration Range : 7685.000

Instrument : CHAMBER 136
Detector : 68549
Calibration Date/Time : 17-JUL-2009 14:25:52
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.940
NP-237	4341	2/28/10	4768.800	4766.491
CM-244	4320A	2/28/10	5795.020	5789.976

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.642
Energy Calibration Slope : 5.024161
Energy Calibration Quadratic : 2.3099547E-04
Energy Calibration Range : 7741.000

Instrument : CHAMBER 137
Detector : 64288
Calibration Date/Time : 17-JUL-2009 14:26:02
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.015
CM-244	4320A	2/28/10	5795.020	5795.229

Energy/Channel Equation : see above
Energy Calibration Zero : 2378.044
Energy Calibration Slope : 5.009023
Energy Calibration Quadratic : 3.1443321E-04
Energy Calibration Range : 7837.000

Instrument : CHAMBER 138
Detector : 65877
Calibration Date/Time : 17-JUL-2009 14:26:11
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2377.362
Energy Calibration Slope : 4.981610
Energy Calibration Quadratic : 2.9931843E-04
Energy Calibration Range : 7792.000

Instrument : CHAMBER 139
Detector : 76231
Calibration Date/Time : 17-JUL-2009 14:26:21
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.896
CM-244	4320A	2/28/10	5795.020	5795.211

Energy/Channel Equation : see above
Energy Calibration Zero : 2343.572
Energy Calibration Slope : 4.954267
Energy Calibration Quadratic : 2.9043874E-04
Energy Calibration Range : 7721.000

Instrument : CHAMBER 140
Detector : 78771
Calibration Date/Time : 17-JUL-2009 14:26:31
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.831
CM-244	4320A	2/28/10	5795.020	5795.069

Energy/Channel Equation : see above
Energy Calibration Zero : 2342.367
Energy Calibration Slope : 4.948852
Energy Calibration Quadratic : 3.0391497E-04
Energy Calibration Range : 7729.000

Instrument : CHAMBER 141
Detector : 76232
Calibration Date/Time : 17-JUL-2009 14:26:40
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.179
NP-237	4341	2/28/10	4768.800	4768.885
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2351.966
Energy Calibration Slope : 4.956621
Energy Calibration Quadratic : 2.8871323E-04
Energy Calibration Range : 7730.000

Instrument : CHAMBER 142
Detector : 64261
Calibration Date/Time : 17-JUL-2009 14:26:50
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.815
NP-237	4341	2/28/10	4768.800	4768.706
CM-244	4320A	2/28/10	5795.020	5794.924

Energy/Channel Equation : see above
Energy Calibration Zero : 2381.651
Energy Calibration Slope : 4.957265
Energy Calibration Quadratic : 2.9752569E-04
Energy Calibration Range : 7770.000

Instrument : CHAMBER 143
Detector : 65882
Calibration Date/Time : 17-JUL-2009 14:27:11
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3198.011
NP-237	4341	2/28/10	4768.800	4793.655
CM-244	4320A	2/28/10	5795.020	5843.728

Energy/Channel Equation : see above
Energy Calibration Zero : 2400.594
Energy Calibration Slope : 4.866200
Energy Calibration Quadratic : 5.6703738E-04
Energy Calibration Range : 7978.000

Instrument : CHAMBER 144
Detector : 75551
Calibration Date/Time : 17-JUL-2009 14:27:26
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.828
NP-237	4341	2/28/10	4768.800	4768.697
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2348.318
Energy Calibration Slope : 4.957791
Energy Calibration Quadratic : 2.7922410E-04
Energy Calibration Range : 7718.000

Instrument : CHAMBER 145
Detector : 72526
Calibration Date/Time : 17-JUL-2009 14:27:37
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.094
NP-237	4341	2/28/10	4768.800	4768.886
CM-244	4320A	2/28/10	5795.020	5795.045

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.360
Energy Calibration Slope : 4.971958
Energy Calibration Quadratic : 2.8320373E-04
Energy Calibration Range : 7742.000

Instrument : CHAMBER 146
Detector : 72527
Calibration Date/Time : 17-JUL-2009 14:27:48
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.175
NP-237	4341	2/28/10	4768.800	4768.922
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2350.571
Energy Calibration Slope : 4.930733
Energy Calibration Quadratic : 2.9194859E-04
Energy Calibration Range : 7706.000

Instrument : CHAMBER 147
Detector : 75550
Calibration Date/Time : 17-JUL-2009 14:27:59
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.209
NP-237	4341	2/28/10	4768.800	4769.018
CM-244	4320A	2/28/10	5795.020	5795.333

Energy/Channel Equation : see above
Energy Calibration Zero : 2343.476
Energy Calibration Slope : 4.959011
Energy Calibration Quadratic : 2.7492910E-04
Energy Calibration Range : 7710.000

Instrument : CHAMBER 148
Detector : 74429
Calibration Date/Time : 17-JUL-2009 14:28:08
Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.165
NP-237	4341	2/28/10	4768.800	4768.865
CM-244	4320A	2/28/10	5795.020	5795.167

Energy/Channel Equation : see above
Energy Calibration Zero : 2342.407
Energy Calibration Slope : 4.941724
Energy Calibration Quadratic : 3.0098064E-04
Energy Calibration Range : 7718.000

Instrument : CHAMBER 149
Detector : 33449
Calibration Date/Time : 17-JUL-2009 14:28:21
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.292
Energy Calibration Slope : 4.935481
Energy Calibration Quadratic : 3.1694383E-04
Energy Calibration Range : 7775.000

Instrument : CHAMBER 150
Detector : 75552
Calibration Date/Time : 17-JUL-2009 14:28:35
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.748
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2354.055
Energy Calibration Slope : 4.971218
Energy Calibration Quadratic : 2.7575236E-04
Energy Calibration Range : 7734.000

Instrument : CHAMBER 151
Detector : 75556
Calibration Date/Time : 17-JUL-2009 14:28:46
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.936
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2341.373
Energy Calibration Slope : 4.941175
Energy Calibration Quadratic : 2.6452926E-04
Energy Calibration Range : 7679.000

Instrument : CHAMBER 152
Detector : 76222
Calibration Date/Time : 17-JUL-2009 14:28:57
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.140
NP-237	4341	2/28/10	4768.800	4768.855
CM-244	4320A	2/28/10	5795.020	5795.046

Energy/Channel Equation : see above
Energy Calibration Zero : 2338.705
Energy Calibration Slope : 4.955201
Energy Calibration Quadratic : 2.6211896E-04
Energy Calibration Range : 7688.000

Instrument : CHAMBER 153
Detector : 76223
Calibration Date/Time : 17-JUL-2009 14:29:06
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.045

Energy/Channel Equation : see above
Energy Calibration Zero : 2333.099
Energy Calibration Slope : 4.935291
Energy Calibration Quadratic : 2.9876101E-04
Energy Calibration Range : 7700.000

Instrument : CHAMBER 154
Detector : 76224
Calibration Date/Time : 17-JUL-2009 14:29:15
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.651
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2341.465
Energy Calibration Slope : 4.948726
Energy Calibration Quadratic : 2.8072123E-04
Energy Calibration Range : 7703.000

Instrument : CHAMBER 155
Detector : 75553
Calibration Date/Time : 17-JUL-2009 14:29:25
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.160
NP-237	4341	2/28/10	4768.800	4768.857
CM-244	4320A	2/28/10	5795.020	5795.116

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.986
Energy Calibration Slope : 4.960846
Energy Calibration Quadratic : 3.0533157E-04
Energy Calibration Range : 7766.000

Instrument : CHAMBER 156
Detector : 75554
Calibration Date/Time : 17-JUL-2009 14:29:35
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.180
NP-237	4341	2/28/10	4768.800	4768.829
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.748
Energy Calibration Slope : 4.995668
Energy Calibration Quadratic : 2.7021556E-04
Energy Calibration Range : 7758.000

Instrument : CHAMBER 157
Detector : 75555
Calibration Date/Time : 17-JUL-2009 14:29:49
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.132
NP-237	4341	2/28/10	4768.800	4768.802
CM-244	4320A	2/28/10	5795.020	5795.161

Energy/Channel Equation : see above
Energy Calibration Zero : 2355.714
Energy Calibration Slope : 4.974587
Energy Calibration Quadratic : 2.8556405E-04
Energy Calibration Range : 7749.000

Instrument : CHAMBER 158
Detector : 33451
Calibration Date/Time : 17-JUL-2009 14:30:01
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.110
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2380.269
Energy Calibration Slope : 4.995139
Energy Calibration Quadratic : 3.1028705E-04
Energy Calibration Range : 7821.000

Instrument : CHAMBER 159
Detector : 76225
Calibration Date/Time : 17-JUL-2009 14:30:14
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.190
NP-237	4341	2/28/10	4768.800	4768.913
CM-244	4320A	2/28/10	5795.020	5795.044

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.142
Energy Calibration Slope : 4.981561
Energy Calibration Quadratic : 2.9250194E-04
Energy Calibration Range : 7761.000

Instrument : CHAMBER 160
Detector : 76226
Calibration Date/Time : 17-JUL-2009 14:30:32
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.999
NP-237	4341	2/28/10	4768.800	4768.958
CM-244	4320A	2/28/10	5795.020	5795.070

Energy/Channel Equation : see above
Energy Calibration Zero : 2355.931
Energy Calibration Slope : 4.980661
Energy Calibration Quadratic : 2.9644801E-04
Energy Calibration Range : 7767.000

Instrument : CHAMBER 161
Detector : 70321
Calibration Date/Time : 22-JUN-2009 14:58:45
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.262
Energy Calibration Slope : 4.896393
Energy Calibration Quadratic : 3.3797286E-04
Energy Calibration Range : 7745.000

Instrument : CHAMBER 162
Detector : 70323
Calibration Date/Time : 22-JUN-2009 14:59:02
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.662
NP-237	4341	2/28/10	4768.800	4769.615
CM-244	4320A	2/28/10	5795.020	5795.417

Energy/Channel Equation : see above
Energy Calibration Zero : 2370.305
Energy Calibration Slope : 4.919915
Energy Calibration Quadratic : 3.0847988E-04
Energy Calibration Range : 7732.000

Instrument : CHAMBER 163
Detector : 70324
Calibration Date/Time : 22-JUN-2009 14:59:20
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2381.293
Energy Calibration Slope : 4.927099
Energy Calibration Quadratic : 3.2329891E-04
Energy Calibration Range : 7766.000

Instrument : CHAMBER 164
Detector : 70325
Calibration Date/Time : 22-JUN-2009 14:59:35
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.405
NP-237	4341	2/28/10	4768.800	4768.212
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.304
Energy Calibration Slope : 4.931757
Energy Calibration Quadratic : 3.2424228E-04
Energy Calibration Range : 7772.000

Instrument : CHAMBER 165
Detector : 72544
Calibration Date/Time : 22-JUN-2009 15:00:00
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5794.717

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.365
Energy Calibration Slope : 4.964369
Energy Calibration Quadratic : 2.8651269E-04
Energy Calibration Range : 7770.000

Instrument : CHAMBER 166
Detector : 74545
Calibration Date/Time : 22-JUN-2009 15:00:15
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.357
NP-237	4341	2/28/10	4768.800	4768.476
CM-244	4320A	2/28/10	5795.020	5794.620

Energy/Channel Equation : see above
Energy Calibration Zero : 2377.530
Energy Calibration Slope : 4.930614
Energy Calibration Quadratic : 3.2020407E-04
Energy Calibration Range : 7762.000

Instrument : CHAMBER 167
Detector : 72546
Calibration Date/Time : 22-JUN-2009 15:00:26
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2378.454
Energy Calibration Slope : 4.916844
Energy Calibration Quadratic : 3.3378412E-04
Energy Calibration Range : 7763.000

Instrument : CHAMBER 168
Detector : 72547
Calibration Date/Time : 22-JUN-2009 15:00:38
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.481
NP-237	4341	2/28/10	4768.800	4769.733
CM-244	4320A	2/28/10	5795.020	5795.360

Energy/Channel Equation : see above
Energy Calibration Zero : 2378.216
Energy Calibration Slope : 4.943952
Energy Calibration Quadratic : 3.0569665E-04
Energy Calibration Range : 7761.000

Instrument : CHAMBER 169
Detector : 72548
Calibration Date/Time : 22-JUN-2009 15:00:51
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.437
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2381.692
Energy Calibration Slope : 4.923065
Energy Calibration Quadratic : 3.2510224E-04
Energy Calibration Range : 7764.000

Instrument : CHAMBER 170
Detector : 72549
Calibration Date/Time : 22-JUN-2009 15:01:02
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.574
NP-237	4341	2/28/10	4768.800	4769.165
CM-244	4320A	2/28/10	5795.020	5795.548

Energy/Channel Equation : see above
Energy Calibration Zero : 2379.378
Energy Calibration Slope : 4.940187
Energy Calibration Quadratic : 3.2377098E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 171
Detector : 78260
Calibration Date/Time : 22-JUN-2009 15:01:15
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.011
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.025

Energy/Channel Equation : see above
Energy Calibration Zero : 2367.143
Energy Calibration Slope : 4.905009
Energy Calibration Quadratic : 3.4086173E-04
Energy Calibration Range : 7747.000

Instrument : CHAMBER 172
Detector : 78772
Calibration Date/Time : 22-JUN-2009 15:01:28
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.889
Energy Calibration Slope : 4.905996
Energy Calibration Quadratic : 3.5168754E-04
Energy Calibration Range : 7757.000

Instrument : CHAMBER 173
Detector : 74431
Calibration Date/Time : 22-JUN-2009 15:01:41
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.716
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.857
Energy Calibration Slope : 4.989556
Energy Calibration Quadratic : 2.6047556E-04
Energy Calibration Range : 7745.000

Instrument : CHAMBER 174
Detector : 74432
Calibration Date/Time : 22-JUN-2009 15:01:51
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.008
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.090
Energy Calibration Slope : 5.020361
Energy Calibration Quadratic : 2.1951902E-04
Energy Calibration Range : 7732.000

Instrument : CHAMBER 175
Detector : 74433
Calibration Date/Time : 22-JUN-2009 15:02:01
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2356.841
Energy Calibration Slope : 4.985576
Energy Calibration Quadratic : 2.6544777E-04
Energy Calibration Range : 7740.000

Instrument : CHAMBER 176
Detector : 74434
Calibration Date/Time : 22-JUN-2009 15:02:12
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.343
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2354.481
Energy Calibration Slope : 5.029559
Energy Calibration Quadratic : 2.1999818E-04
Energy Calibration Range : 7735.000

Instrument : CHAMBER 177
Detector : 74435
Calibration Date/Time : 22-JUN-2009 15:02:24
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.728
Energy Calibration Slope : 4.966811
Energy Calibration Quadratic : 2.8411727E-04
Energy Calibration Range : 7745.000

Instrument : CHAMBER 178
Detector : 74436
Calibration Date/Time : 22-JUN-2009 15:02:37
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.016
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2350.840
Energy Calibration Slope : 5.018156
Energy Calibration Quadratic : 2.2526548E-04
Energy Calibration Range : 7726.000

Instrument : CHAMBER 179
Detector : 74437
Calibration Date/Time : 22-JUN-2009 15:02:54
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.008
NP-237	4341	2/28/10	4768.800	4768.694
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.137
Energy Calibration Slope : 4.971311
Energy Calibration Quadratic : 2.7695790E-04
Energy Calibration Range : 7739.000

Instrument : CHAMBER 180
Detector : 74438
Calibration Date/Time : 22-JUN-2009 15:03:14
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.026

Energy/Channel Equation : see above
Energy Calibration Zero : 2352.778
Energy Calibration Slope : 5.029830
Energy Calibration Quadratic : 2.1214969E-04
Energy Calibration Range : 7726.000

Instrument : CHAMBER 181
Detector : 74439
Calibration Date/Time : 22-JUN-2009 15:03:27
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.903
CM-244	4320A	2/28/10	5795.020	5795.074

Energy/Channel Equation : see above
Energy Calibration Zero : 2356.310
Energy Calibration Slope : 4.974973
Energy Calibration Quadratic : 2.7404417E-04
Energy Calibration Range : 7738.000

Instrument : CHAMBER 182
Detector : 74440
Calibration Date/Time : 22-JUN-2009 15:03:39
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.403
NP-237	4341	2/28/10	4768.800	4768.970
CM-244	4320A	2/28/10	5795.020	5795.165

Energy/Channel Equation : see above
Energy Calibration Zero : 2349.923
Energy Calibration Slope : 4.986344
Energy Calibration Quadratic : 2.5572060E-04
Energy Calibration Range : 7724.000

Instrument : CHAMBER 183
Detector : 74441
Calibration Date/Time : 22-JUN-2009 15:03:53
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2359.238
Energy Calibration Slope : 4.971895
Energy Calibration Quadratic : 2.8019695E-04
Energy Calibration Range : 7744.000

Instrument : CHAMBER 184
Detector : 74442
Calibration Date/Time : 22-JUN-2009 15:04:06
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.759
Energy Calibration Slope : 5.027183
Energy Calibration Quadratic : 2.1329588E-04
Energy Calibration Range : 7725.000

Instrument : CHAMBER 185
Detector : 68615
Calibration Date/Time : 22-JUN-2009 15:04:16
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2356.756
Energy Calibration Slope : 4.942091
Energy Calibration Quadratic : 2.7517328E-04
Energy Calibration Range : 7706.000

Instrument : CHAMBER 186
Detector : 68616
Calibration Date/Time : 22-JUN-2009 15:04:28
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.797
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.497
Energy Calibration Slope : 4.943951
Energy Calibration Quadratic : 2.8680658E-04
Energy Calibration Range : 7724.000

Instrument : CHAMBER 187
Detector : 68620
Calibration Date/Time : 22-JUN-2009 15:04:38
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.853
CM-244	4320A	2/28/10	5795.020	5795.115

Energy/Channel Equation : see above
Energy Calibration Zero : 2371.605
Energy Calibration Slope : 4.963061
Energy Calibration Quadratic : 3.0924208E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 188
Detector : 68621
Calibration Date/Time : 22-JUN-2009 15:04:49
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.832
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2367.401
Energy Calibration Slope : 4.951802
Energy Calibration Quadratic : 3.1090144E-04
Energy Calibration Range : 7764.000

Instrument : CHAMBER 189
Detector : 68622
Calibration Date/Time : 22-JUN-2009 15:05:00
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.746
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2356.776
Energy Calibration Slope : 4.949914
Energy Calibration Quadratic : 2.7563065E-04
Energy Calibration Range : 7715.000

Instrument : CHAMBER 190
Detector : 68623
Calibration Date/Time : 22-JUN-2009 15:05:13
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.750
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2355.469
Energy Calibration Slope : 4.940720
Energy Calibration Quadratic : 2.9352074E-04
Energy Calibration Range : 7723.000

Instrument : CHAMBER 191
Detector : 68624
Calibration Date/Time : 22-JUN-2009 15:05:24
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.750
CM-244	4320A	2/28/10	5795.020	5794.952

Energy/Channel Equation : see above
Energy Calibration Zero : 2370.162
Energy Calibration Slope : 4.969944
Energy Calibration Quadratic : 3.0237788E-04
Energy Calibration Range : 7776.000

Instrument : CHAMBER 192
Detector : 74430
Calibration Date/Time : 22-JUN-2009 15:05:39
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.866
Energy Calibration Slope : 4.974655
Energy Calibration Quadratic : 2.9466255E-04
Energy Calibration Range : 7768.000

Instrument : CHAMBER 193
Detector : 68627
Calibration Date/Time : 22-JUN-2009 15:05:50
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.252
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.004
Energy Calibration Slope : 4.933344
Energy Calibration Quadratic : 3.0485235E-04
Energy Calibration Range : 7732.000

Instrument : CHAMBER 194
Detector : 68635
Calibration Date/Time : 22-JUN-2009 15:06:02
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.956
CM-244	4320A	2/28/10	5795.020	5795.088

Energy/Channel Equation : see above
Energy Calibration Zero : 2356.275
Energy Calibration Slope : 4.943244
Energy Calibration Quadratic : 2.9090239E-04
Energy Calibration Range : 7723.000

Instrument : CHAMBER 195
Detector : 68636
Calibration Date/Time : 22-JUN-2009 15:06:11
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.227
NP-237	4341	2/28/10	4768.800	4769.136
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.543
Energy Calibration Slope : 4.955566
Energy Calibration Quadratic : 2.8235061E-04
Energy Calibration Range : 7732.000

Instrument : CHAMBER 196
Detector : 68637
Calibration Date/Time : 22-JUN-2009 15:06:21
Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.134

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.497
Energy Calibration Slope : 4.932623
Energy Calibration Quadratic : 2.9964585E-04
Energy Calibration Range : 7727.000

Instrument : CHAMBER 197
Detector : 78894
Calibration Date/Time : 23-JUN-2009 13:40:27
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.236
NP-237	4341	2/28/10	4768.800	4768.958
CM-244	4320A	2/28/10	5795.020	5795.067

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.861
Energy Calibration Slope : 4.977748
Energy Calibration Quadratic : 2.8034966E-04
Energy Calibration Range : 7757.000

Instrument : CHAMBER 198
Detector : 78895
Calibration Date/Time : 22-JUN-2009 15:06:54
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.894
Energy Calibration Slope : 4.963814
Energy Calibration Quadratic : 2.8298626E-04
Energy Calibration Range : 7746.000

Instrument : CHAMBER 199
Detector : 78896
Calibration Date/Time : 22-JUN-2009 15:07:05
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.091
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.930
Energy Calibration Slope : 4.986914
Energy Calibration Quadratic : 2.6706583E-04
Energy Calibration Range : 7752.000

Instrument : CHAMBER 200
Detector : 78900
Calibration Date/Time : 22-JUN-2009 15:07:19
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2368.921
Energy Calibration Slope : 4.942559
Energy Calibration Quadratic : 3.1796028E-04
Energy Calibration Range : 7764.000

Instrument : CHAMBER 201
Detector : 78902
Calibration Date/Time : 22-JUN-2009 15:07:30
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.093

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.354
Energy Calibration Slope : 4.963643
Energy Calibration Quadratic : 3.0018482E-04
Energy Calibration Range : 7761.000

Instrument : CHAMBER 202
Detector : 78903
Calibration Date/Time : 22-JUN-2009 15:07:41
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.121
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2352.562
Energy Calibration Slope : 4.948048
Energy Calibration Quadratic : 3.0442388E-04
Energy Calibration Range : 7739.000

Instrument : CHAMBER 203
Detector : 78905
Calibration Date/Time : 22-JUN-2009 15:07:50
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.175
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2359.840
Energy Calibration Slope : 4.964388
Energy Calibration Quadratic : 2.9003547E-04
Energy Calibration Range : 7747.000

Instrument : CHAMBER 204
Detector : 78907
Calibration Date/Time : 22-JUN-2009 15:08:00
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.082
NP-237	4341	2/28/10	4768.800	4768.826
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.510
Energy Calibration Slope : 4.952772
Energy Calibration Quadratic : 3.0013063E-04
Energy Calibration Range : 7748.000

Instrument : CHAMBER 205
Detector : 78908
Calibration Date/Time : 22-JUN-2009 15:08:10
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.169
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.027

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.907
Energy Calibration Slope : 4.968532
Energy Calibration Quadratic : 2.9018772E-04
Energy Calibration Range : 7755.000

Instrument : CHAMBER 206
Detector : 78909
Calibration Date/Time : 22-JUN-2009 15:08:23
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.146
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.042

Energy/Channel Equation : see above
Energy Calibration Zero : 2357.156
Energy Calibration Slope : 4.978078
Energy Calibration Quadratic : 2.6590825E-04
Energy Calibration Range : 7734.000

Instrument : CHAMBER 207
Detector : 78910
Calibration Date/Time : 22-JUN-2009 15:08:36
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2367.255
Energy Calibration Slope : 4.968539
Energy Calibration Quadratic : 2.9294274E-04
Energy Calibration Range : 7762.000

Instrument : CHAMBER 208
Detector : 78911
Calibration Date/Time : 22-JUN-2009 15:08:47
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.810
Energy Calibration Slope : 4.972878
Energy Calibration Quadratic : 2.8153346E-04
Energy Calibration Range : 7752.000

Instrument : CHAMBER 209
Detector : 79188
Calibration Date/Time : 30-JUN-2009 13:25:14
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.726
Energy Calibration Slope : 4.931397
Energy Calibration Quadratic : 3.2478853E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 210
Detector : 79189
Calibration Date/Time : 30-JUN-2009 13:25:32
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.637
Energy Calibration Slope : 4.939270
Energy Calibration Quadratic : 3.1113683E-04
Energy Calibration Range : 7768.000

Instrument : CHAMBER 211
Detector : 79190
Calibration Date/Time : 30-JUN-2009 13:25:46
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.518
Energy Calibration Slope : 4.955431
Energy Calibration Quadratic : 3.0932875E-04
Energy Calibration Range : 7788.000

Instrument : CHAMBER 212
Detector : 79191
Calibration Date/Time : 30-JUN-2009 13:25:56
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.357
Energy Calibration Slope : 4.935492
Energy Calibration Quadratic : 3.2339373E-04
Energy Calibration Range : 7780.000

Instrument : CHAMBER 213
Detector : 79192
Calibration Date/Time : 30-JUN-2009 13:26:06
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2392.713
Energy Calibration Slope : 4.948073
Energy Calibration Quadratic : 3.1151611E-04
Energy Calibration Range : 7786.000

Instrument : CHAMBER 214
Detector : 79193
Calibration Date/Time : 30-JUN-2009 13:26:15
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2381.982
Energy Calibration Slope : 4.949060
Energy Calibration Quadratic : 3.1146532E-04
Energy Calibration Range : 7776.000

Instrument : CHAMBER 215
Detector : 79194
Calibration Date/Time : 30-JUN-2009 13:26:24
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2392.654
Energy Calibration Slope : 4.938601
Energy Calibration Quadratic : 3.3165864E-04
Energy Calibration Range : 7798.000

Instrument : CHAMBER 216
Detector : 79195
Calibration Date/Time : 30-JUN-2009 13:26:33
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.258
Energy Calibration Slope : 4.954875
Energy Calibration Quadratic : 3.0062834E-04
Energy Calibration Range : 7772.000

Instrument : CHAMBER 217
Detector : 79410
Calibration Date/Time : 30-JUN-2009 13:26:43
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.657
Energy Calibration Slope : 4.940731
Energy Calibration Quadratic : 3.2290843E-04
Energy Calibration Range : 7788.000

Instrument : CHAMBER 218
Detector : 79411
Calibration Date/Time : 30-JUN-2009 13:26:51
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.484
Energy Calibration Slope : 4.945539
Energy Calibration Quadratic : 3.2147722E-04
Energy Calibration Range : 7789.000

Instrument : CHAMBER 219
Detector : 79412
Calibration Date/Time : 30-JUN-2009 13:27:01
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2385.324
Energy Calibration Slope : 4.953215
Energy Calibration Quadratic : 3.0849627E-04
Energy Calibration Range : 7781.000

Instrument : CHAMBER 220
Detector : 79413
Calibration Date/Time : 30-JUN-2009 13:27:10
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.523
Energy Calibration Slope : 4.935628
Energy Calibration Quadratic : 3.2036271E-04
Energy Calibration Range : 7774.000

Instrument : CHAMBER 221
Detector : 79414
Calibration Date/Time : 30-JUN-2009 13:27:19
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.554
Energy Calibration Slope : 4.965968
Energy Calibration Quadratic : 3.1077291E-04
Energy Calibration Range : 7798.000

Instrument : CHAMBER 222
Detector : 79415
Calibration Date/Time : 30-JUN-2009 13:27:29
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5794.573

Energy/Channel Equation : see above
Energy Calibration Zero : 2380.427
Energy Calibration Slope : 5.024710
Energy Calibration Quadratic : 2.4253939E-04
Energy Calibration Range : 7780.000

Instrument : CHAMBER 223
Detector : 79416
Calibration Date/Time : 30-JUN-2009 13:27:39
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.487
Energy Calibration Slope : 4.944519
Energy Calibration Quadratic : 3.4526619E-04
Energy Calibration Range : 7817.000

Instrument : CHAMBER 224
Detector : 79417
Calibration Date/Time : 30-JUN-2009 13:27:48
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.036
Energy Calibration Slope : 4.998024
Energy Calibration Quadratic : 2.7591022E-04
Energy Calibration Range : 7796.000

Instrument : CHAMBER 225
Detector : 79418
Calibration Date/Time : 30-JUN-2009 13:28:00
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.820
Energy Calibration Slope : 4.947299
Energy Calibration Quadratic : 3.2222894E-04
Energy Calibration Range : 7796.000

Instrument : CHAMBER 226
Detector : 79419
Calibration Date/Time : 30-JUN-2009 13:28:10
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.017
Energy Calibration Slope : 4.975819
Energy Calibration Quadratic : 2.9400751E-04
Energy Calibration Range : 7788.000

Instrument : CHAMBER 227
Detector : 79420
Calibration Date/Time : 30-JUN-2009 13:28:21
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2390.902
Energy Calibration Slope : 4.944205
Energy Calibration Quadratic : 3.2253028E-04
Energy Calibration Range : 7792.000

Instrument : CHAMBER 228
Detector : 79421
Calibration Date/Time : 30-JUN-2009 13:28:30
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.530
Energy Calibration Slope : 4.981592
Energy Calibration Quadratic : 2.8075394E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 229
Detector : 79422
Calibration Date/Time : 30-JUN-2009 13:28:39
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.282
Energy Calibration Slope : 4.954379
Energy Calibration Quadratic : 3.1871718E-04
Energy Calibration Range : 7796.000

Instrument : CHAMBER 230
Detector : 79423
Calibration Date/Time : 30-JUN-2009 13:28:51
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.651
Energy Calibration Slope : 4.970551
Energy Calibration Quadratic : 2.9692691E-04
Energy Calibration Range : 7786.000

Instrument : CHAMBER 231
Detector : 79424
Calibration Date/Time : 30-JUN-2009 13:29:03
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.183
Energy Calibration Slope : 4.959881
Energy Calibration Quadratic : 3.0125881E-04
Energy Calibration Range : 7782.000

Instrument : CHAMBER 232
Detector : 79425
Calibration Date/Time : 30-JUN-2009 13:29:13
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.233
Energy Calibration Slope : 5.017519
Energy Calibration Quadratic : 2.4404455E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 233
Detector : 79426
Calibration Date/Time : 30-JUN-2009 13:29:22
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.418
Energy Calibration Slope : 4.917979
Energy Calibration Quadratic : 3.4538476E-04
Energy Calibration Range : 7782.000

Instrument : CHAMBER 234
Detector : 79427
Calibration Date/Time : 30-JUN-2009 13:29:34
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.356
Energy Calibration Slope : 4.914772
Energy Calibration Quadratic : 3.4141311E-04
Energy Calibration Range : 7773.000

Instrument : CHAMBER 235
Detector : 79428
Calibration Date/Time : 30-JUN-2009 13:29:43
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.058
Energy Calibration Slope : 4.936741
Energy Calibration Quadratic : 3.3184959E-04
Energy Calibration Range : 7790.000

Instrument : CHAMBER 236
Detector : 79429
Calibration Date/Time : 30-JUN-2009 13:29:51
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.647
Energy Calibration Slope : 4.918993
Energy Calibration Quadratic : 3.4496849E-04
Energy Calibration Range : 7786.000

Instrument : CHAMBER 237
Detector : 79430
Calibration Date/Time : 30-JUN-2009 13:30:00
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.033
Energy Calibration Slope : 4.937141
Energy Calibration Quadratic : 3.3584173E-04
Energy Calibration Range : 7797.000

Instrument : CHAMBER 238
Detector : 79431
Calibration Date/Time : 30-JUN-2009 13:30:09
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.856
Energy Calibration Slope : 4.918208
Energy Calibration Quadratic : 3.4156963E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 239
Detector : 79432
Calibration Date/Time : 30-JUN-2009 13:30:18
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.888
Energy Calibration Slope : 4.920895
Energy Calibration Quadratic : 3.5708703E-04
Energy Calibration Range : 7803.000

Instrument : CHAMBER 240
Detector : 79433
Calibration Date/Time : 30-JUN-2009 13:30:27
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.559
Energy Calibration Slope : 4.907694
Energy Calibration Quadratic : 3.6268227E-04
Energy Calibration Range : 7792.000

Instrument : CHAMBER 241
Detector : 79434
Calibration Date/Time : 30-JUN-2009 13:30:36
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.510
Energy Calibration Slope : 4.923378
Energy Calibration Quadratic : 3.4127611E-04
Energy Calibration Range : 7784.000

Instrument : CHAMBER 242
Detector : 79435
Calibration Date/Time : 30-JUN-2009 13:30:45
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2390.047
Energy Calibration Slope : 4.916013
Energy Calibration Quadratic : 3.5139045E-04
Energy Calibration Range : 7793.000

Instrument : CHAMBER 243
Detector : 79436
Calibration Date/Time : 30-JUN-2009 13:30:54
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.583
Energy Calibration Slope : 4.932609
Energy Calibration Quadratic : 3.3716374E-04
Energy Calibration Range : 7793.000

Instrument : CHAMBER 244
Detector : 79437
Calibration Date/Time : 30-JUN-2009 13:31:04
Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.087
Energy Calibration Slope : 4.916673
Energy Calibration Quadratic : 3.5015366E-04
Energy Calibration Range : 7791.000

Instrument : CHAMBER 245
Detector : 79438
Calibration Date/Time : 30-JUN-2009 13:31:18
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.036
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2390.120
Energy Calibration Slope : 4.932529
Energy Calibration Quadratic : 3.4877865E-04
Energy Calibration Range : 7807.000

Instrument : CHAMBER 246
Detector : 78912
Calibration Date/Time : 30-JUN-2009 13:31:31
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.115
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.179
Energy Calibration Slope : 4.943339
Energy Calibration Quadratic : 3.2214838E-04
Energy Calibration Range : 7791.000

Instrument : CHAMBER 247
Detector : 79440
Calibration Date/Time : 30-JUN-2009 13:31:41
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.692
Energy Calibration Slope : 4.933953
Energy Calibration Quadratic : 3.4777186E-04
Energy Calibration Range : 7809.000

Instrument : CHAMBER 248
Detector : 79441
Calibration Date/Time : 30-JUN-2009 13:31:51
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.938
Energy Calibration Slope : 4.919151
Energy Calibration Quadratic : 3.5771105E-04
Energy Calibration Range : 7800.000

Instrument : CHAMBER 249
Detector : 79442
Calibration Date/Time : 30-JUN-2009 13:32:04
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.381
Energy Calibration Slope : 4.922509
Energy Calibration Quadratic : 3.6959481E-04
Energy Calibration Range : 7816.000

Instrument : CHAMBER 250
Detector : 79443
Calibration Date/Time : 30-JUN-2009 13:32:16
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2381.157
Energy Calibration Slope : 4.929844
Energy Calibration Quadratic : 3.4039136E-04
Energy Calibration Range : 7786.000

Instrument : CHAMBER 251
Detector : 79444
Calibration Date/Time : 30-JUN-2009 13:32:48
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.225
Energy Calibration Slope : 4.925405
Energy Calibration Quadratic : 3.6185942E-04
Energy Calibration Range : 7810.000

Instrument : CHAMBER 252
Detector : 79445
Calibration Date/Time : 30-JUN-2009 13:33:09
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.012
Energy Calibration Slope : 4.929501
Energy Calibration Quadratic : 3.4806953E-04
Energy Calibration Range : 7795.000

Instrument : CHAMBER 253
Detector : 79446
Calibration Date/Time : 30-JUN-2009 13:33:20
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2394.239
Energy Calibration Slope : 4.943881
Energy Calibration Quadratic : 3.5968810E-04
Energy Calibration Range : 7834.000

Instrument : CHAMBER 254
Detector : 79447
Calibration Date/Time : 30-JUN-2009 13:33:32
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2390.188
Energy Calibration Slope : 4.926832
Energy Calibration Quadratic : 3.5614919E-04
Energy Calibration Range : 7809.000

Instrument : CHAMBER 255
Detector : 79448
Calibration Date/Time : 30-JUN-2009 13:33:42
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2390.725
Energy Calibration Slope : 4.926145
Energy Calibration Quadratic : 3.6522237E-04
Energy Calibration Range : 7818.000

Instrument : CHAMBER 256
Detector : 79449
Calibration Date/Time : 30-JUN-2009 13:33:53
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.915
Energy Calibration Slope : 4.925013
Energy Calibration Quadratic : 3.5367915E-04
Energy Calibration Range : 7802.000

Subsection 2: Background Calibration

Instrument : CHAMBER 001
Detector : 78788
Background Analysis Date/Time : 5-JUL-2009 15:11:54
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.679	3298.848	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.698	4905.866	9.000000	2.159999	33.33334	95.00000
CM-244	5535.874	5884.629	8.000000	1.919999	35.35534	95.00000

Instrument : CHAMBER 002
Detector : 78266
Background Analysis Date/Time : 5-JUL-2009 15:11:54
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.715	3301.971	9.000000	2.159999	33.33334	95.00000
NP-237	4433.336	4902.576	8.000000	1.919999	35.35534	95.00000
CM-244	5533.904	5882.845	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 003
Detector : 67617
Background Analysis Date/Time : 5-JUL-2009 15:11:54
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.494	3301.750	234063.0	56175.08	0.2066967	95.00000
NP-237	4434.514	4906.213	77237.00	18536.87	0.3598217	95.00000
CM-244	5534.317	5886.218	1459.000	350.1598	2.618016	95.00000

Instrument : CHAMBER 004
Detector : 64279
Background Analysis Date/Time : 5-JUL-2009 15:11:54
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.142	3301.855	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.122	4905.061	9.000000	2.159999	33.33334	95.00000
CM-244	5532.169	5885.896	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 005
Detector : 67612
Background Analysis Date/Time : 5-JUL-2009 15:11:54
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.844	3301.859	6.000000	1.439999	40.82483	95.00000
NP-237	4432.372	4905.723	7.000000	1.679999	37.79645	95.00000
CM-244	5534.445	5887.312	11.00000	2.639998	30.15113	95.00000

Instrument : CHAMBER 006
Detector : 67613
Background Analysis Date/Time : 5-JUL-2009 15:11:54
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.836	3301.578	1.000000	0.2399998	100.0000	95.00000
NP-237	4433.162	4904.315	5.000000	1.199999	44.72136	95.00000
CM-244	5534.623	5882.438	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 007
Detector : 67607
Background Analysis Date/Time : 5-JUL-2009 15:11:55
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.476	3300.975	5.000000	1.199999	44.72136	95.00000
NP-237	4436.790	4906.439	13.00000	3.119998	27.73501	95.00000
CM-244	5534.241	5887.079	16.00000	3.839998	25.00000	95.00000

Instrument : CHAMBER 008
Detector : 78788
Background Analysis Date/Time : 5-JUL-2009 15:11:55
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.921	3300.406	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.107	4902.387	10.00000	2.399998	31.62278	95.00000
CM-244	5534.594	5883.502	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 009
Detector : 72528
Background Analysis Date/Time : 5-JUL-2009 15:11:55
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.628	3299.090	3.000000	0.7199996	57.73503	95.00000
NP-237	4437.197	4904.633	13.00000	3.119998	27.73501	95.00000
CM-244	5532.440	5887.594	10.00000	2.399998	31.62278	95.00000

Instrument : CHAMBER 010
Detector : 72529
Background Analysis Date/Time : 5-JUL-2009 15:11:55
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.348	3298.595	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.835	4903.545	8.000000	1.919999	35.35534	95.00000
CM-244	5530.435	5886.972	9.000000	2.159999	33.33334	95.00000

Instrument : CHAMBER 011
Detector : 72531
Background Analysis Date/Time : 5-JUL-2009 15:11:55
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.311	3301.519	2.000000	0.4799997	70.71068	95.00000
NP-237	4434.837	4904.180	7.000000	1.679999	37.79645	95.00000
CM-244	5534.270	5885.159	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 012
Detector : 67594
Background Analysis Date/Time : 5-JUL-2009 15:11:55
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.530	3302.430	7.000000	1.679999	37.79645	95.00000
NP-237	4435.245	4904.394	9.000000	2.159999	33.33334	95.00000
CM-244	5531.663	5882.971	9.000000	2.159999	33.33334	95.00000

Instrument : CHAMBER 013
Detector : 78790
Background Analysis Date/Time : 5-JUL-2009 15:11:56
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.215	3297.934	1.000000	0.2400001	100.0000	95.00000
NP-237	4433.681	4905.322	9.000000	2.160001	33.33334	95.00000
CM-244	5534.510	5884.075	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 014
Detector : 67616
Background Analysis Date/Time : 5-JUL-2009 15:11:56
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.044	3301.205	4.000000	0.9600002	50.00000	95.00000
NP-237	4432.568	4904.459	8.000000	1.920000	35.35534	95.00000
CM-244	5531.132	5885.588	19.00000	4.560001	22.94157	95.00000

Instrument : CHAMBER 015
Detector : 61581
Background Analysis Date/Time : 5-JUL-2009 15:11:56
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.992	3300.634	1.000000	0.2400001	100.0000	95.00000
NP-237	4433.750	4904.866	3.000000	0.7200001	57.73503	95.00000
CM-244	5533.850	5883.539	18.00000	4.320001	23.57022	95.00000

Instrument : CHAMBER 016
Detector : 78774
Background Analysis Date/Time : 5-JUL-2009 15:11:56
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.376	3300.188	2.000000	0.4800001	70.71068	95.00000
NP-237	4436.705	4902.519	8.000000	1.920000	35.35534	95.00000
CM-244	5531.791	5887.203	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 017
Detector : 78791
Background Analysis Date/Time : 5-JUL-2009 15:11:56
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.293	3301.593	4.000000	0.9600002	50.00000	95.00000
NP-237	4433.438	4905.522	3.000000	0.7200001	57.73503	95.00000
CM-244	5532.444	5887.037	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 018
Detector : 21063
Background Analysis Date/Time : 13-JUL-2009 21:54:51
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.459	3300.768	2.000000	0.4800001	70.71068	95.00000
NP-237	4435.720	4903.495	7.000000	1.680000	37.79645	95.00000
CM-244	5531.358	5886.349	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 019
Detector : 78786
Background Analysis Date/Time : 5-JUL-2009 15:11:57
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.589	3299.131	2.000000	0.4800001	70.71068	95.00000
NP-237	4435.520	4903.560	5.000000	1.200000	44.72136	95.00000
CM-244	5534.981	5882.589	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 020
Detector : 78787
Background Analysis Date/Time : 5-JUL-2009 15:11:57
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.028	3300.317	3.000000	0.7200001	57.73503	95.00000
NP-237	4434.663	4901.954	7.000000	1.680000	37.79645	95.00000
CM-244	5534.316	5883.376	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 021
Detector : 67047
Background Analysis Date/Time : 5-JUL-2009 15:11:57
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.930	3300.431	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.207	4905.011	8.000000	1.920000	35.35534	95.00000
CM-244	5533.018	5884.673	17.00000	4.080001	24.25356	95.00000

Instrument : CHAMBER 022
Detector : 72530
Background Analysis Date/Time : 5-JUL-2009 15:11:57
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.087	3302.012	33.00000	7.920002	17.40777	95.00000
NP-237	4436.701	4902.154	23.00000	5.520001	20.85144	95.00000
CM-244	5532.124	5885.279	12.00000	2.880001	28.86751	95.00000

Instrument : CHAMBER 023
Detector : 78264
Background Analysis Date/Time : 5-JUL-2009 15:11:57
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.041	3300.395	2.000000	0.4800001	70.71068	95.00000
NP-237	4437.054	4904.602	10.00000	2.400001	31.62278	95.00000
CM-244	5531.351	5885.314	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 024
Detector : 76542
Background Analysis Date/Time : 5-JUL-2009 15:11:57
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.294	3302.013	10.00000	2.400001	31.62278	95.00000
NP-237	4435.963	4904.774	26.00000	6.240001	19.61161	95.00000
CM-244	5530.886	5886.529	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 025
Detector : 45-149AA5
Background Analysis Date/Time : 5-JUL-2009 15:11:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.683	3301.317	3.000000	0.7200001	57.73503	95.00000
NP-237	4432.505	4905.964	7.000000	1.680000	37.79645	95.00000
CM-244	5531.275	5884.228	21.00000	5.040001	21.82179	95.00000

Instrument : CHAMBER 026
Detector : 78204
Background Analysis Date/Time : 5-JUL-2009 15:11:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.261	3299.610	2.000000	0.4800001	70.71068	95.00000
NP-237	4434.923	4901.784	5.000000	1.200000	44.72136	95.00000
CM-244	5534.672	5884.552	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 027
Detector : 42484
Background Analysis Date/Time : 5-JUL-2009 15:11:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.456	3300.321	2.000000	0.4800001	70.71068	95.00000
NP-237	4432.625	4905.570	12.00000	2.880001	28.86751	95.00000
CM-244	5534.870	5882.737	23.00000	5.520001	20.85144	95.00000

Instrument : CHAMBER 028
Detector : 78792
Background Analysis Date/Time : 5-JUL-2009 15:11:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.695	3297.894	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.454	4902.851	4.000000	0.9600002	50.00000	95.00000
CM-244	5530.764	5886.057	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 029
Detector : 33454
Background Analysis Date/Time : 5-JUL-2009 15:11:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.570	3299.793	4.000000	0.9600002	50.00000	95.00000
NP-237	4434.729	4906.466	6.000000	1.440000	40.82483	95.00000
CM-244	5530.876	5886.187	7.000000	1.680000	37.79645	95.00000

Instrument : CHAMBER 030
Detector : 33447
Background Analysis Date/Time : 5-JUL-2009 15:11:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.473	3300.013	5.000000	1.200000	44.72136	95.00000
NP-237	4433.021	4902.873	11.00000	2.640000	30.15113	95.00000
CM-244	5531.626	5884.032	17.00000	4.080001	24.25356	95.00000

Instrument : CHAMBER 031
Detector : 67042
Background Analysis Date/Time : 13-JUL-2009 21:54:52
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.104	3299.916	5.000000	1.200000	44.72136	95.00000
NP-237	4436.072	4902.901	16.00000	3.840001	25.00000	95.00000
CM-244	5535.417	5884.932	11.00000	2.640001	30.15113	95.00000

Instrument : CHAMBER 032
Detector : 67041
Background Analysis Date/Time : 13-JUL-2009 21:54:52
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.634	3297.499	1.000000	0.2400001	100.0000	95.00000
NP-237	4437.570	4904.884	14.00000	3.360001	26.72612	95.00000
CM-244	5533.522	5884.215	16.00000	3.840001	25.00000	95.00000

Instrument : CHAMBER 033
Detector : 78785
Background Analysis Date/Time : 5-JUL-2009 15:11:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.591	3298.173	1.000000	0.2400000	100.0000	95.00000
NP-237	4434.089	4906.364	9.000000	2.160000	33.33334	95.00000
CM-244	5534.061	5883.941	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 034
Detector : 61586
Background Analysis Date/Time : 13-JUL-2009 21:54:52
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.268	3300.348	1.000000	0.2400001	100.0000	95.00000
NP-237	4435.287	4906.218	9.000000	2.160001	33.33334	95.00000
CM-244	5533.837	5886.701	12.00000	2.880001	28.86751	95.00000

Instrument : CHAMBER 035
Detector : 78202
Background Analysis Date/Time : 5-JUL-2009 15:11:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.841	3298.805	1.000000	0.2400000	100.0000	95.00000
NP-237	4433.680	4901.942	20.00000	4.800001	22.36068	95.00000
CM-244	5530.913	5886.751	8.000000	1.920000	35.35534	95.00000

Instrument : CHAMBER 036
Detector : 78203
Background Analysis Date/Time : 5-JUL-2009 15:11:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.719	3297.679	1.000000	0.2400000	100.0000	95.00000
NP-237	4436.454	4902.523	2.000000	0.4800001	70.71068	95.00000
CM-244	5534.221	5883.385	6.000000	1.440000	40.82483	95.00000

Instrument : CHAMBER 037
Detector : 45-149BB5
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.027	3298.587	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.750	4902.017	14.00000	3.360001	26.72612	95.00000
CM-244	5535.521	5884.277	18.00000	4.320001	23.57022	95.00000

Instrument : CHAMBER 038
Detector : 72532
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.665	3301.822	6.000000	1.440000	40.82483	95.00000
NP-237	4435.489	4906.553	18.00000	4.320001	23.57022	95.00000
CM-244	5532.401	5886.525	16.00000	3.840001	25.00000	95.00000

Instrument : CHAMBER 039
Detector : 45-149BB2
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.145	3298.732	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.549	4903.088	5.000000	1.200000	44.72136	95.00000
CM-244	5534.287	5885.251	15.00000	3.600001	25.81989	95.00000

Instrument : CHAMBER 040
Detector : 78773
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.803	3299.657	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.891	4904.106	7.000000	1.680000	37.79645	95.00000
CM-244	5531.706	5883.967	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 041
Detector : 78205
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.799	3301.675	4.000000	0.9600002	50.00000	95.00000
NP-237	4434.272	4902.386	12.00000	2.880001	28.86751	95.00000
CM-244	5531.847	5882.877	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 042
Detector : 78793
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.257	3302.160	1.000000	0.2400001	100.0000	95.00000
NP-237	4435.667	4904.225	11.00000	2.640001	30.15113	95.00000
CM-244	5531.759	5883.730	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 043
Detector : 76543
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.989	3298.318	1.000000	0.2399998	100.0000	95.00000
NP-237	4436.983	4902.370	4.000000	0.9599994	50.00000	95.00000
CM-244	5532.584	5886.039	3.000000	0.7199996	57.73503	95.00000

Instrument : CHAMBER 044
Detector : 79459
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.854	3300.902	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.084	4901.492	10.00000	2.400001	31.62278	95.00000
CM-244	5533.776	5883.326	6.000000	1.440000	40.82483	95.00000

Instrument : CHAMBER 045
Detector : 67601
Background Analysis Date/Time : 13-JUL-2009 21:54:53
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.909	3300.265	1.000000	0.2400000	100.0000	95.00000
NP-237	4434.212	4905.200	7.000000	1.680000	37.79645	95.00000
CM-244	5530.781	5884.673	1.000000	0.2400000	100.0000	95.00000

Instrument : CHAMBER 046
Detector : 76544
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.077	3298.635	2.000000	0.4799997	70.71068	95.00000
NP-237	4433.627	4906.487	10.00000	2.399998	31.62278	95.00000
CM-244	5533.329	5885.134	8.000000	1.919999	35.35534	95.00000

Instrument : CHAMBER 047
Detector : 46-089B1
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.977	3301.361	2.000000	0.4799997	70.71068	95.00000
NP-237	4433.363	4905.447	8.000000	1.919999	35.35534	95.00000
CM-244	5532.313	5886.846	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 048
Detector : 42483
Background Analysis Date/Time : 5-JUL-2009 15:12:00
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.411	3301.246	4.000000	0.9599994	50.00000	95.00000
NP-237	4433.969	4903.143	12.00000	2.879998	28.86751	95.00000
CM-244	5530.501	5887.230	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 065
Detector : 68551
Background Analysis Date/Time : 5-JUL-2009 15:12:01
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.172	3297.923	12.00000	2.879998	28.86751	95.00000
NP-237	4436.297	4904.907	10.00000	2.399998	31.62278	95.00000
CM-244	5532.615	5884.733	17.00000	4.079998	24.25356	95.00000

Instrument : CHAMBER 066
Detector : 46-089C1
Background Analysis Date/Time : 5-JUL-2009 15:12:01
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.142	3300.807	4.000000	0.9599994	50.00000	95.00000
NP-237	4436.247	4906.352	9.000000	2.159999	33.33334	95.00000
CM-244	5534.784	5886.688	18.00000	4.319997	23.57022	95.00000

Instrument : CHAMBER 067
Detector : 46-089B4
Background Analysis Date/Time : 5-JUL-2009 15:12:01
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.144	3301.594	1.000000	0.2399998	100.0000	95.00000
NP-237	4436.169	4905.946	11.00000	2.639998	30.15113	95.00000
CM-244	5533.963	5885.648	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 068
Detector : 78794
Background Analysis Date/Time : 5-JUL-2009 15:12:01
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.601	3300.139	1.000000	0.2399998	100.0000	95.00000
NP-237	4435.756	4903.729	4.000000	0.9599994	50.00000	95.00000
CM-244	5531.794	5886.867	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 069
Detector : 78795
Background Analysis Date/Time : 5-JUL-2009 15:12:01
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.901	3298.738	5.000000	1.199999	44.72136	95.00000
NP-237	4437.201	4903.207	6.000000	1.439999	40.82483	95.00000
CM-244	5534.874	5884.048	9.000000	2.159999	33.33334	95.00000

Instrument : CHAMBER 070
Detector : 46-089B2
Background Analysis Date/Time : 5-JUL-2009 15:12:01
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.641	3300.492	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.833	4904.443	11.00000	2.639998	30.15113	95.00000
CM-244	5531.433	5882.799	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 071
Detector : 64259
Background Analysis Date/Time : 5-JUL-2009 15:12:02
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.476	3301.614	1.000000	0.2399998	100.0000	95.00000
NP-237	4435.387	4902.436	6.000000	1.439999	40.82483	95.00000
CM-244	5534.462	5883.334	12.00000	2.879998	28.86751	95.00000

Instrument : CHAMBER 072
Detector : 45-149AA3
Background Analysis Date/Time : 5-JUL-2009 15:12:02
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.586	3301.014	2.000000	0.4799997	70.71068	95.00000
NP-237	4432.963	4902.126	5.000000	1.199999	44.72136	95.00000
CM-244	5535.050	5886.750	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 073
Detector : 78775
Background Analysis Date/Time : 5-JUL-2009 15:12:02
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.870	3299.007	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.703	4904.982	6.000000	1.439999	40.82483	95.00000
CM-244	5532.962	5884.931	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 074
Detector : 78266
Background Analysis Date/Time : 5-JUL-2009 15:12:02
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.625	3300.254	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.417	4902.858	9.000000	2.159999	33.33334	95.00000
CM-244	5535.258	5884.259	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 075
Detector : 68550
Background Analysis Date/Time : 5-JUL-2009 15:12:02
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.563	3301.861	2.000000	0.4799997	70.71068	95.00000
NP-237	4432.969	4904.420	19.00000	4.559997	22.94157	95.00000
CM-244	5535.562	5884.044	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 076
Detector : 78779
Background Analysis Date/Time : 5-JUL-2009 15:12:02
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.408	3300.679	2.000000	0.4799997	70.71068	95.00000
NP-237	4437.552	4904.251	7.000000	1.679999	37.79645	95.00000
CM-244	5530.870	5885.252	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 077
Detector : 67576
Background Analysis Date/Time : 5-JUL-2009 15:12:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.825	3301.085	2.000000	0.4800001	70.71068	95.00000
NP-237	4432.612	4901.681	5.000000	1.200000	44.72136	95.00000
CM-244	5534.546	5886.248	8.000000	1.920000	35.35534	95.00000

Instrument : CHAMBER 078
Detector : 67577
Background Analysis Date/Time : 5-JUL-2009 15:12:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.395	3299.584	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.349	4904.419	5.000000	1.200000	44.72136	95.00000
CM-244	5535.593	5884.350	7.000000	1.680000	37.79645	95.00000

Instrument : CHAMBER 079
Detector : 67598
Background Analysis Date/Time : 5-JUL-2009 15:12:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.535	3297.935	1.000000	0.2400000	100.0000	95.00000
NP-237	4435.153	4903.332	3.000000	0.7200001	57.73503	95.00000
CM-244	5530.500	5882.333	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 080
Detector : 78197
Background Analysis Date/Time : 5-JUL-2009 15:12:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.338	3298.189	3.000000	0.7200001	57.73503	95.00000
NP-237	4434.851	4901.472	10.00000	2.400000	31.62278	95.00000
CM-244	5531.493	5883.930	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 081
Detector : 72533
Background Analysis Date/Time : 5-JUL-2009 15:12:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2985.980	3302.417	1.000000	0.2400000	100.0000	95.00000
NP-237	4432.287	4905.979	5.000000	1.200000	44.72136	95.00000
CM-244	5534.795	5885.572	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 082
Detector : 64263
Background Analysis Date/Time : 5-JUL-2009 15:12:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.419	3298.608	1.000000	0.2400000	100.0000	95.00000
NP-237	4437.000	4905.115	7.000000	1.680000	37.79645	95.00000
CM-244	5534.320	5885.085	9.000000	2.160000	33.33334	95.00000

Instrument : CHAMBER 083
Detector : 64278
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.455	3299.407	2.000000	0.4800001	70.71068	95.00000
NP-237	4433.838	4906.607	13.00000	3.120001	27.73501	95.00000
CM-244	5532.253	5885.057	13.00000	3.120001	27.73501	95.00000

Instrument : CHAMBER 084
Detector : 78265
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.133	3299.227	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.289	4901.844	8.000000	1.920000	35.35534	95.00000
CM-244	5535.275	5884.618	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 085
Detector : 78776
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.612	3299.207	2.000000	0.4800001	70.71068	95.00000
NP-237	4434.183	4901.520	9.000000	2.160001	33.33334	95.00000
CM-244	5533.754	5882.654	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 086
Detector : 78198
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.886	3300.091	3.000000	0.7200001	57.73503	95.00000
NP-237	4433.582	4903.927	6.000000	1.440000	40.82483	95.00000
CM-244	5531.751	5882.863	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 087
Detector : 78199
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.385	3299.009	4.000000	0.9600002	50.00000	95.00000
NP-237	4436.772	4904.542	10.00000	2.400001	31.62278	95.00000
CM-244	5534.083	5883.178	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 088
Detector : 33452
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.970	3298.296	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.463	4902.334	8.000000	1.920000	35.35534	95.00000
CM-244	5534.583	5887.587	9.000000	2.160001	33.33334	95.00000

Instrument : CHAMBER 089
Detector : 78262
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.075	3297.767	4.000000	0.9599994	50.00000	95.00000
NP-237	4432.406	4901.978	7.000000	1.679999	37.79645	95.00000
CM-244	5532.097	5882.869	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 090
Detector : 78263
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.462	3300.982	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.552	4903.775	8.000000	1.919999	35.35534	95.00000
CM-244	5532.754	5885.804	3.000000	0.7199996	57.73503	95.00000

Instrument : CHAMBER 091
Detector : 78259
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.268	3298.949	1.000000	0.2399998	100.0000	95.00000
NP-237	4433.436	4901.824	7.000000	1.679999	37.79645	95.00000
CM-244	5531.214	5887.413	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 092
Detector : 79457
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.198	3300.849	49.00000	11.75999	14.28572	95.00000
NP-237	4435.896	4905.687	19.00000	4.559997	22.94157	95.00000
CM-244	5533.567	5885.099	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 093
Detector : 33206
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.963	3299.960	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.063	4902.978	9.000000	2.159999	33.33334	95.00000
CM-244	5531.085	5883.424	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 094
Detector : 78267
Background Analysis Date/Time : 5-JUL-2009 15:12:04
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.912	3298.303	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.971	4905.664	4.000000	0.9599994	50.00000	95.00000
CM-244	5534.211	5886.502	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 095
Detector : 64279
Background Analysis Date/Time : 5-JUL-2009 15:12:05
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.056	3301.826	3.000000	0.7199996	57.73503	95.00000
NP-237	4435.330	4905.275	10.00000	2.399998	31.62278	95.00000
CM-244	5534.057	5886.430	24.00000	5.759996	20.41241	95.00000

Instrument : CHAMBER 096
Detector : 67605
Background Analysis Date/Time : 8-JUL-2009 15:03:56
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.311	3298.177	2.000000	0.4799997	70.71068	95.00000
NP-237	4434.251	4906.198	29.00000	6.959996	18.56953	95.00000
CM-244	5533.120	5882.408	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 097
Detector : 67599
Background Analysis Date/Time : 5-JUL-2009 15:12:05
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.746	3302.068	2.000000	0.4799997	70.71068	95.00000
NP-237	4437.101	4903.794	1.000000	0.2399998	100.0000	95.00000
CM-244	5531.052	5886.116	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 098
Detector : 68644
Background Analysis Date/Time : 5-JUL-2009 15:12:05
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.589	3298.128	1.000000	0.2399998	100.0000	95.00000
NP-237	4432.836	4901.640	12.00000	2.879998	28.86751	95.00000
CM-244	5531.873	5883.257	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 099
Detector : 70317
Background Analysis Date/Time : 5-JUL-2009 15:12:05
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.876	3301.163	3.000000	0.7199996	57.73503	95.00000
NP-237	4434.526	4903.945	4.000000	0.9599994	50.00000	95.00000
CM-244	5533.432	5886.885	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 100
Detector : 79456
Background Analysis Date/Time : 5-JUL-2009 15:12:05
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.287	3297.799	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.422	4905.631	13.00000	3.119998	27.73501	95.00000
CM-244	5534.572	5887.590	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 101
Detector : 64253
Background Analysis Date/Time : 5-JUL-2009 15:12:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.433	3299.297	2.000000	0.4800001	70.71068	95.00000
NP-237	4436.714	4901.796	4.000000	0.9600002	50.00000	95.00000
CM-244	5531.777	5885.188	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 102
Detector : 72525
Background Analysis Date/Time : 5-JUL-2009 15:12:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.102	3300.657	3.000000	0.7200001	57.73503	95.00000
NP-237	4432.858	4904.949	7.000000	1.680000	37.79645	95.00000
CM-244	5531.106	5882.690	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 103
Detector : 79461
Background Analysis Date/Time : 5-JUL-2009 15:12:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.996	3300.314	1.000000	0.2400000	100.0000	95.00000
NP-237	4436.805	4901.981	2.000000	0.4800001	70.71068	95.00000
CM-244	5532.506	5886.425	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 104
Detector : 72524
Background Analysis Date/Time : 5-JUL-2009 15:12:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.719	3300.868	1.000000	0.2400000	100.0000	95.00000
NP-237	4437.132	4904.901	12.00000	2.880001	28.86751	95.00000
CM-244	5531.506	5883.017	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 105
Detector : 78777
Background Analysis Date/Time : 5-JUL-2009 15:12:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.574	3300.708	1.000000	0.2400000	100.0000	95.00000
NP-237	4435.406	4903.467	4.000000	0.9600002	50.00000	95.00000
CM-244	5531.275	5883.854	1.000000	0.2400000	100.0000	95.00000

Instrument : CHAMBER 106
Detector : 64274
Background Analysis Date/Time : 5-JUL-2009 15:12:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.941	3301.958	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.855	4902.069	6.000000	1.440000	40.82483	95.00000
CM-244	5534.023	5883.359	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 107
Detector : 67578
Background Analysis Date/Time : 5-JUL-2009 15:12:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.523	3301.257	5.000000	1.199999	44.72136	95.00000
NP-237	4435.381	4903.438	5.000000	1.199999	44.72136	95.00000
CM-244	5532.229	5882.600	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 108
Detector : 78778
Background Analysis Date/Time : 5-JUL-2009 15:12:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.937	3298.136	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.160	4903.491	6.000000	1.439999	40.82483	95.00000
CM-244	5531.067	5883.227	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 109
Detector : 79463
Background Analysis Date/Time : 5-JUL-2009 15:12:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.195	3299.997	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.631	4906.161	7.000000	1.679999	37.79645	95.00000
CM-244	5531.938	5886.333	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 110
Detector : 67602
Background Analysis Date/Time : 5-JUL-2009 15:12:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.370	3301.157	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.284	4904.992	4.000000	0.9599993	50.00000	95.00000
CM-244	5535.250	5883.287	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 111
Detector : 79462
Background Analysis Date/Time : 5-JUL-2009 15:12:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.820	3300.305	5.000000	1.199999	44.72136	95.00000
NP-237	4436.744	4905.500	6.000000	1.439999	40.82483	95.00000
CM-244	5535.002	5885.661	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 112
Detector : 78261
Background Analysis Date/Time : 5-JUL-2009 15:12:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.969	3300.635	3.000000	0.7199995	57.73503	95.00000
NP-237	4436.114	4905.135	7.000000	1.679999	37.79645	95.00000
CM-244	5532.983	5884.981	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 113
Detector : 45-111B4
Background Analysis Date/Time : 12-JUL-2009 18:14:41
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.779	3298.785	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.559	4905.331	6.000000	1.800000	40.82483	95.00000
CM-244	5530.517	5883.481	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 114
Detector : 78258
Background Analysis Date/Time : 12-JUL-2009 18:14:46
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.441	3298.868	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.900	4905.218	5.000000	1.500000	44.72136	95.00000
CM-244	5530.599	5885.790	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 115
Detector : 45-132FF4
Background Analysis Date/Time : 12-JUL-2009 18:14:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.839	3301.816	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.001	4902.052	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.697	5884.118	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 116
Detector : 45-132FF2
Background Analysis Date/Time : 12-JUL-2009 18:14:55
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.005	3302.013	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.895	4903.021	6.000000	1.800000	40.82483	95.00000
CM-244	5531.311	5883.052	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 117
Detector : 33450
Background Analysis Date/Time : 12-JUL-2009 18:15:00
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.173	3300.224	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.403	4904.427	5.000000	1.500000	44.72136	95.00000
CM-244	5533.135	5885.381	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 118
Detector : 75544
Background Analysis Date/Time : 12-JUL-2009 18:15:04
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.199	3301.179	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.404	4902.417	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.853	5882.689	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 119
Detector : 74429
Background Analysis Date/Time : 12-JUL-2009 18:15:09
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.004	3299.253	3.000000	0.9000000	57.73503	95.00000
NP-237	4432.548	4906.013	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.584	5883.165	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 120
Detector : 74430
Background Analysis Date/Time : 12-JUL-2009 18:15:13
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.522	3298.404	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.328	4903.588	4.000000	1.200000	50.00000	95.00000
CM-244	5534.528	5884.756	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 121
Detector : 75545
Background Analysis Date/Time : 12-JUL-2009 18:15:18
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.023	3300.631	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.658	4901.599	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.997	5885.295	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 122
Detector : 75546
Background Analysis Date/Time : 12-JUL-2009 18:15:22
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.563	3298.589	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.782	4905.890	5.000000	1.500000	44.72136	95.00000
CM-244	5532.955	5884.078	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 123
Detector : 45-142V3
Background Analysis Date/Time : 12-JUL-2009 18:15:27
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.850	3299.223	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.241	4905.636	4.000000	1.200000	50.00000	95.00000
CM-244	5531.191	5886.517	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 124
Detector : 45-142V2
Background Analysis Date/Time : 12-JUL-2009 18:15:31
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.169	3298.838	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.514	4905.983	2.000000	0.6000000	70.71068	95.00000
CM-244	5535.498	5887.649	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 125
Detector : 75547
Background Analysis Date/Time : 12-JUL-2009 18:15:35
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.438	3299.892	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.342	4903.042	3.000000	0.9000000	57.73503	95.00000
CM-244	5533.267	5883.118	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 126
Detector : 75548
Background Analysis Date/Time : 12-JUL-2009 18:15:39
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.642	3299.863	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.022	4903.287	10.00000	3.000000	31.62278	95.00000
CM-244	5533.750	5882.833	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 127
Detector : 78770
Background Analysis Date/Time : 12-JUL-2009 18:15:43
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.930	3300.925	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.404	4902.114	4.000000	1.200000	50.00000	95.00000
CM-244	5533.832	5884.575	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 128
Detector : 75549
Background Analysis Date/Time : 12-JUL-2009 18:15:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.441	3299.762	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.479	4901.607	5.000000	1.500000	44.72136	95.00000
CM-244	5532.807	5882.614	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 129
Detector : 76227
Background Analysis Date/Time : 12-JUL-2009 18:15:53
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.626	3298.866	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.006	4901.792	4.000000	1.200000	50.00000	95.00000
CM-244	5532.320	5882.430	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 130
Detector : 76228
Background Analysis Date/Time : 12-JUL-2009 18:15:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.724	3301.129	4.000000	1.200000	50.00000	95.00000
NP-237	4432.733	4905.256	8.000000	2.400000	35.35534	95.00000
CM-244	5534.221	5882.991	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 131
Detector : 33448
Background Analysis Date/Time : 12-JUL-2009 18:16:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.041	3301.703	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.470	4901.500	6.000000	1.800000	40.82483	95.00000
CM-244	5535.040	5887.344	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 132
Detector : 67579
Background Analysis Date/Time : 12-JUL-2009 18:16:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.722	3299.982	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.189	4902.037	8.000000	2.400000	35.35534	95.00000
CM-244	5533.193	5884.042	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 133
Detector : 76229
Background Analysis Date/Time : 12-JUL-2009 18:16:11
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.784	3301.677	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.798	4901.797	5.000000	1.500000	44.72136	95.00000
CM-244	5532.072	5884.338	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 134
Detector : 76230
Background Analysis Date/Time : 12-JUL-2009 18:16:16
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.526	3299.017	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.982	4903.287	19.00000	5.700000	22.94157	95.00000
CM-244	5532.080	5886.000	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 135
Detector : 64270
Background Analysis Date/Time : 12-JUL-2009 18:16:20
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.277	3299.628	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.221	4904.200	5.000000	1.500000	44.72136	95.00000
CM-244	5533.869	5883.613	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 136
Detector : 68549
Background Analysis Date/Time : 12-JUL-2009 18:16:24
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.353	3301.238	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.739	4902.455	15.00000	4.500000	25.81989	95.00000
CM-244	5530.869	5887.561	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 137
Detector : 64288
Background Analysis Date/Time : 12-JUL-2009 18:16:27
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.740	3300.102	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.224	4902.644	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.374	5886.101	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 138
Detector : 65877
Background Analysis Date/Time : 12-JUL-2009 18:16:31
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.573	3299.020	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.563	4906.044	32.00000	9.600000	17.67767	95.00000
CM-244	5532.867	5887.098	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 139
Detector : 76231
Background Analysis Date/Time : 12-JUL-2009 18:16:35
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.505	3300.432	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.030	4903.806	6.000000	1.800000	40.82483	95.00000
CM-244	5532.176	5884.231	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 140
Detector : 78771
Background Analysis Date/Time : 12-JUL-2009 18:16:39
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.854	3298.685	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.882	4903.279	10.00000	3.000000	31.62278	95.00000
CM-244	5532.806	5885.667	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 141
Detector : 76232
Background Analysis Date/Time : 12-JUL-2009 18:16:43
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.144	3299.081	4.000000	1.200000	50.00000	95.00000
NP-237	4432.714	4902.455	11.00000	3.300000	30.15113	95.00000
CM-244	5530.738	5882.724	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 142
Detector : 64261
Background Analysis Date/Time : 12-JUL-2009 18:16:47
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.865	3298.794	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.947	4903.147	17.00000	5.100000	24.25356	95.00000
CM-244	5532.255	5884.805	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 143
Detector : 65882
Background Analysis Date/Time : 12-JUL-2009 18:16:51
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.701	3299.952	4.000000	1.200000	50.00000	95.00000
NP-237	4432.480	4904.917	14.00000	4.200000	26.72612	95.00000
CM-244	5535.542	5887.375	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 144
Detector : 75551
Background Analysis Date/Time : 12-JUL-2009 18:16:55
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.490	3300.379	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.137	4902.257	6.000000	1.800000	40.82483	95.00000
CM-244	5534.787	5886.106	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 145
Detector : 72526
Background Analysis Date/Time : 12-JUL-2009 18:16:59
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.366	3298.098	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.265	4904.885	7.000000	2.100000	37.79645	95.00000
CM-244	5534.192	5886.678	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 146
Detector : 72527
Background Analysis Date/Time : 12-JUL-2009 18:17:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.494	3297.950	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.761	4904.596	6.000000	1.800000	40.82483	95.00000
CM-244	5530.438	5886.440	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 147
Detector : 75550
Background Analysis Date/Time : 12-JUL-2009 18:17:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.763	3300.677	8.000000	2.400000	35.35534	95.00000
NP-237	4433.256	4902.183	15.00000	4.500000	25.81989	95.00000
CM-244	5534.346	5885.412	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 148
Detector : 74429
Background Analysis Date/Time : 12-JUL-2009 18:17:10
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.918	3302.313	6.000000	1.800000	40.82483	95.00000
NP-237	4434.677	4904.245	11.00000	3.300000	30.15113	95.00000
CM-244	5532.604	5884.780	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 149
Detector : 33449
Background Analysis Date/Time : 12-JUL-2009 18:17:14
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.126	3302.099	3.000000	0.9000000	57.73503	95.00000
NP-237	4433.957	4903.766	6.000000	1.800000	40.82483	95.00000
CM-244	5532.840	5885.608	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 150
Detector : 75552
Background Analysis Date/Time : 12-JUL-2009 18:17:18
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.847	3298.390	5.000000	1.500000	44.72136	95.00000
NP-237	4433.411	4903.355	5.000000	1.500000	44.72136	95.00000
CM-244	5531.584	5883.380	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 151
Detector : 75556
Background Analysis Date/Time : 12-JUL-2009 18:17:22
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.196	3299.830	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.520	4904.128	2.000000	0.6000000	70.71068	95.00000
CM-244	5532.939	5887.339	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 152
Detector : 76222
Background Analysis Date/Time : 12-JUL-2009 18:17:26
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.335	3299.767	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.085	4902.709	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.813	5882.589	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 153
Detector : 76223
Background Analysis Date/Time : 12-JUL-2009 18:17:30
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.763	3301.789	7.000000	2.100000	37.79645	95.00000
NP-237	4432.699	4901.612	7.000000	2.100000	37.79645	95.00000
CM-244	5534.359	5886.038	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 154
Detector : 76224
Background Analysis Date/Time : 12-JUL-2009 18:17:34
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.543	3301.969	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.171	4901.699	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.478	5884.401	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 155
Detector : 75553
Background Analysis Date/Time : 12-JUL-2009 18:17:38
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.863	3299.267	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.628	4901.683	4.000000	1.200000	50.00000	95.00000
CM-244	5532.390	5885.923	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 156
Detector : 75554
Background Analysis Date/Time : 12-JUL-2009 18:17:42
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.492	3302.387	4.000000	1.200000	50.00000	95.00000
NP-237	4436.746	4903.077	15.00000	4.500000	25.81989	95.00000
CM-244	5533.286	5886.114	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 157
Detector : 75555
Background Analysis Date/Time : 12-JUL-2009 18:17:46
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.092	3301.029	5.000000	1.500000	44.72136	95.00000
NP-237	4432.881	4903.879	12.00000	3.600000	28.86751	95.00000
CM-244	5533.745	5886.569	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 158
Detector : 33451
Background Analysis Date/Time : 12-JUL-2009 18:17:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.224	3299.662	4.000000	1.200000	50.00000	95.00000
NP-237	4433.214	4902.387	14.00000	4.200000	26.72612	95.00000
CM-244	5532.016	5882.536	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 159
Detector : 76225
Background Analysis Date/Time : 12-JUL-2009 18:17:54
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.518	3300.013	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.310	4906.501	6.000000	1.800000	40.82483	95.00000
CM-244	5532.775	5886.617	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 160
Detector : 76226
Background Analysis Date/Time : 12-JUL-2009 18:17:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.201	3297.681	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.389	4904.545	8.000000	2.400000	35.35534	95.00000
CM-244	5531.162	5885.243	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 161
Detector : 70321
Background Analysis Date/Time : 21-JUN-2009 15:55:13
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.612	3298.684	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.424	4903.719	10.00000	3.000000	31.62278	95.00000
CM-244	5531.313	5883.518	18.00000	5.400000	23.57022	95.00000

Instrument : CHAMBER 162
Detector : 70323
Background Analysis Date/Time : 21-JUN-2009 15:55:18
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.114	3301.116	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.153	4902.154	3.000000	0.9000000	57.73503	95.00000
CM-244	5533.930	5885.193	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 163
Detector : 70324
Background Analysis Date/Time : 21-JUN-2009 15:55:23
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.217	3298.824	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.987	4904.671	13.00000	3.900000	27.73501	95.00000
CM-244	5533.739	5886.581	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 164
Detector : 70325
Background Analysis Date/Time : 21-JUN-2009 15:55:27
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.804	3300.725	3.000000	0.9000000	57.73503	95.00000
NP-237	4432.850	4902.971	5.000000	1.500000	44.72136	95.00000
CM-244	5532.641	5885.829	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 165
Detector : 72544
Background Analysis Date/Time : 21-JUN-2009 15:55:31
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.249	3299.371	4.000000	1.200000	50.00000	95.00000
NP-237	4433.539	4903.436	6.000000	1.800000	40.82483	95.00000
CM-244	5531.871	5883.913	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 166
Detector : 74545
Background Analysis Date/Time : 21-JUN-2009 15:55:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.840	3300.652	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.331	4901.890	3.000000	0.9000000	57.73503	95.00000
CM-244	5530.967	5883.776	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 167
Detector : 72546
Background Analysis Date/Time : 21-JUN-2009 15:55:40
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.275	3299.494	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.900	4904.573	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.886	5886.993	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 168
Detector : 72547
Background Analysis Date/Time : 21-JUN-2009 15:55:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.947	3298.253	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.851	4905.623	7.000000	2.100000	37.79645	95.00000
CM-244	5534.369	5886.817	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 169
Detector : 72548
Background Analysis Date/Time : 21-JUN-2009 15:55:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.147	3298.542	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.044	4903.513	27.00000	8.100000	19.24501	95.00000
CM-244	5532.339	5885.069	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 170
Detector : 72549
Background Analysis Date/Time : 21-JUN-2009 15:55:53
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.920	3299.334	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.260	4904.103	11.00000	3.300000	30.15113	95.00000
CM-244	5534.714	5883.037	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 171
Detector : 78260
Background Analysis Date/Time : 21-JUN-2009 15:55:59
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.586	3301.332	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.496	4904.863	5.000000	1.500000	44.72136	95.00000
CM-244	5533.949	5887.016	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 172
Detector : 78772
Background Analysis Date/Time : 21-JUN-2009 15:56:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.628	3299.646	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.466	4905.809	6.000000	1.800000	40.82483	95.00000
CM-244	5531.112	5885.129	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 173
Detector : 74431
Background Analysis Date/Time : 21-JUN-2009 15:56:08
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.621	3299.926	3.000000	0.9000000	57.73503	95.00000
NP-237	4436.753	4901.757	3.000000	0.9000000	57.73503	95.00000
CM-244	5535.262	5886.887	17.00000	5.100000	24.25356	95.00000

Instrument : CHAMBER 174
Detector : 74432
Background Analysis Date/Time : 21-JUN-2009 15:56:12
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.065	3302.471	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.541	4905.194	4.000000	1.200000	50.00000	95.00000
CM-244	5531.639	5887.080	14.00000	4.200000	26.72612	95.00000

Instrument : CHAMBER 175
Detector : 74433
Background Analysis Date/Time : 21-JUN-2009 15:56:17
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.238	3298.426	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.144	4905.490	4.000000	1.200000	50.00000	95.00000
CM-244	5533.995	5885.818	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 176
Detector : 74434
Background Analysis Date/Time : 21-JUN-2009 15:56:21
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.698	3297.590	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.745	4903.265	5.000000	1.500000	44.72136	95.00000
CM-244	5530.868	5886.966	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 177
Detector : 74435
Background Analysis Date/Time : 21-JUN-2009 15:56:26
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.057	3299.457	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.482	4904.663	3.000000	0.9000000	57.73503	95.00000
CM-244	5533.411	5885.598	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 178
Detector : 74436
Background Analysis Date/Time : 21-JUN-2009 15:56:30
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.779	3302.215	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.746	4905.748	7.000000	2.100000	37.79645	95.00000
CM-244	5532.798	5883.324	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 179
Detector : 74437
Background Analysis Date/Time : 21-JUN-2009 15:56:35
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.919	3302.532	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.536	4902.537	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.871	5882.740	14.00000	4.200000	26.72612	95.00000

Instrument : CHAMBER 180
Detector : 74438
Background Analysis Date/Time : 21-JUN-2009 15:56:39
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.905	3300.775	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.062	4905.007	6.000000	1.800000	40.82483	95.00000
CM-244	5531.655	5887.118	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 181
Detector : 74439
Background Analysis Date/Time : 21-JUN-2009 15:56:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.507	3301.291	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.916	4901.810	8.000000	2.400000	35.35534	95.00000
CM-244	5535.507	5887.405	26.00000	7.800000	19.61161	95.00000

Instrument : CHAMBER 182
Detector : 74440
Background Analysis Date/Time : 21-JUN-2009 15:56:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.364	3301.476	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.311	4901.783	4.000000	1.200000	50.00000	95.00000
CM-244	5534.452	5885.559	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 183
Detector : 74441
Background Analysis Date/Time : 21-JUN-2009 15:56:53
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.145	3298.781	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.414	4904.732	8.000000	2.400000	35.35534	95.00000
CM-244	5533.565	5885.751	14.00000	4.200000	26.72612	95.00000

Instrument : CHAMBER 184
Detector : 74442
Background Analysis Date/Time : 21-JUN-2009 15:56:57
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.570	3301.301	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.154	4904.955	5.000000	1.500000	44.72136	95.00000
CM-244	5531.440	5886.825	18.00000	5.400000	23.57022	95.00000

Instrument : CHAMBER 185
Detector : 68615
Background Analysis Date/Time : 21-JUN-2009 15:57:01
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.840	3300.640	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.438	4901.812	3.000000	0.9000000	57.73503	95.00000
CM-244	5531.912	5887.166	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 186
Detector : 68616
Background Analysis Date/Time : 21-JUN-2009 15:57:05
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.988	3300.097	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.729	4904.174	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.696	5887.018	17.00000	5.100000	24.25356	95.00000

Instrument : CHAMBER 187
Detector : 68620
Background Analysis Date/Time : 21-JUN-2009 15:57:10
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.780	3300.355	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.583	4904.093	7.000000	2.100000	37.79645	95.00000
CM-244	5535.508	5884.097	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 188
Detector : 68621
Background Analysis Date/Time : 21-JUN-2009 15:57:14
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.235	3299.192	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.285	4905.242	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.351	5883.763	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 189
Detector : 68622
Background Analysis Date/Time : 21-JUN-2009 15:57:17
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.861	3302.155	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.574	4905.866	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.675	5887.456	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 190
Detector : 68623
Background Analysis Date/Time : 21-JUN-2009 15:57:21
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.675	3299.750	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.687	4904.443	33.00000	9.900001	17.40777	95.00000
CM-244	5531.545	5882.933	33.00000	9.900001	17.40777	95.00000

Instrument : CHAMBER 191
Detector : 68624
Background Analysis Date/Time : 21-JUN-2009 15:57:25
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.084	3299.950	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.587	4904.375	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.362	5884.163	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 192
Detector : 74430
Background Analysis Date/Time : 21-JUN-2009 15:57:29
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.302	3300.346	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.147	4904.787	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.391	5883.883	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 193
Detector : 68627
Background Analysis Date/Time : 21-JUN-2009 15:57:33
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.456	3299.248	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.921	4903.889	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.552	5883.390	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 194
Detector : 68635
Background Analysis Date/Time : 21-JUN-2009 15:57:37
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.759	3300.939	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.087	4905.856	9.000000	2.700000	33.33334	95.00000
CM-244	5532.909	5884.238	18.00000	5.400000	23.57022	95.00000

Instrument : CHAMBER 195
Detector : 68636
Background Analysis Date/Time : 21-JUN-2009 15:57:41
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.427	3298.108	5.000000	1.500000	44.72136	95.00000
NP-237	4435.602	4904.677	9.000000	2.700000	33.33334	95.00000
CM-244	5531.920	5883.250	12.00000	3.600000	28.86751	95.00000

Instrument : CHAMBER 196
Detector : 68637
Background Analysis Date/Time : 21-JUN-2009 15:57:46
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.764	3299.421	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.243	4902.720	4.000000	1.200000	50.00000	95.00000
CM-244	5534.908	5886.289	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 197
Detector : 78894
Background Analysis Date/Time : 21-JUN-2009 15:57:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.459	3301.421	4.000000	1.200000	50.00000	95.00000
NP-237	4433.039	4903.794	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5533.211	5885.723	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 198
Detector : 78895
Background Analysis Date/Time : 21-JUN-2009 15:57:54
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.792	3298.953	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.042	4902.810	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.984	5882.838	25.00000	7.500000	20.00000	95.00000

Instrument : CHAMBER 199
Detector : 78896
Background Analysis Date/Time : 21-JUN-2009 15:57:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.467	3301.736	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.639	4904.142	6.000000	1.800000	40.82483	95.00000
CM-244	5532.893	5884.873	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 200
Detector : 78900
Background Analysis Date/Time : 21-JUN-2009 15:58:02
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.709	3299.237	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.212	4903.912	12.00000	3.600000	28.86751	95.00000
CM-244	5534.189	5887.638	19.00000	5.700000	22.94157	95.00000

Instrument : CHAMBER 201
Detector : 78902
Background Analysis Date/Time : 21-JUN-2009 15:58:05
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.500	3302.053	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.282	4904.434	4.000000	1.200000	50.00000	95.00000
CM-244	5534.865	5882.809	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 202
Detector : 78903
Background Analysis Date/Time : 21-JUN-2009 15:58:09
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.900	3298.618	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.436	4902.692	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.047	5884.818	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 203
Detector : 78905
Background Analysis Date/Time : 21-JUN-2009 15:58:13
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.958	3298.323	6.000000	1.800000	40.82483	95.00000
NP-237	4433.591	4904.036	9.000000	2.700000	33.33334	95.00000
CM-244	5533.281	5885.816	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 204
Detector : 78907
Background Analysis Date/Time : 21-JUN-2009 15:58:17
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.324	3298.173	16.00000	4.800000	25.00000	95.00000
NP-237	4437.399	4902.424	14.00000	4.200000	26.72612	95.00000
CM-244	5531.626	5884.261	27.00000	8.100000	19.24501	95.00000

Instrument : CHAMBER 205
Detector : 78908
Background Analysis Date/Time : 21-JUN-2009 15:58:22
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.508	3302.170	4.000000	1.200000	50.00000	95.00000
NP-237	4433.168	4903.946	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.636	5886.419	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 206
Detector : 78909
Background Analysis Date/Time : 21-JUN-2009 15:58:26
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.616	3302.433	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.477	4902.186	2.000000	0.6000000	70.71068	95.00000
CM-244	5535.166	5886.569	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 207
Detector : 78910
Background Analysis Date/Time : 21-JUN-2009 15:58:30
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.858	3301.538	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.769	4903.719	4.000000	1.200000	50.00000	95.00000
CM-244	5533.705	5886.686	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 208
Detector : 78911
Background Analysis Date/Time : 21-JUN-2009 15:58:34
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.819	3299.505	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.407	4905.872	8.000000	2.400000	35.35534	95.00000
CM-244	5534.932	5887.260	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 209
Detector : 79188
Background Analysis Date/Time : 28-JUN-2009 17:00:00
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.181	3301.049	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.021	4903.097	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.718	5885.886	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 210
Detector : 79189
Background Analysis Date/Time : 28-JUN-2009 17:00:05
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.859	3297.943	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.076	4904.812	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5533.646	5886.210	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 211
Detector : 79190
Background Analysis Date/Time : 28-JUN-2009 17:00:09
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.624	3301.653	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.794	4902.468	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.766	5886.120	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 212
Detector : 79191
Background Analysis Date/Time : 28-JUN-2009 17:00:13
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.287	3301.382	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.079	4904.410	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.335	5887.654	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 213
Detector : 79192
Background Analysis Date/Time : 28-JUN-2009 17:00:17
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.968	3298.520	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.380	4902.572	2.000000	0.6000000	70.71068	95.00000
CM-244	5532.282	5885.336	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 214
Detector : 79193
Background Analysis Date/Time : 28-JUN-2009 17:00:21
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.403	3298.091	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.439	4902.827	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.795	5885.993	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 215
Detector : 79194
Background Analysis Date/Time : 28-JUN-2009 17:00:25
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.062	3302.465	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.774	4902.728	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.954	5882.708	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 216
Detector : 79195
Background Analysis Date/Time : 28-JUN-2009 17:00:29
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.227	3300.068	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.095	4904.331	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5533.563	5886.220	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 217
Detector : 79410
Background Analysis Date/Time : 28-JUN-2009 17:00:33
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.213	3299.566	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.215	4903.920	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.328	5882.531	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 218
Detector : 79411
Background Analysis Date/Time : 28-JUN-2009 17:00:38
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.601	3298.221	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.747	4903.769	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.561	5882.956	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 219
Detector : 79412
Background Analysis Date/Time : 28-JUN-2009 17:00:42
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.180	3302.094	4.000000	1.200000	50.00000	95.00000
NP-237	4436.774	4902.239	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.237	5885.415	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 220
Detector : 79413
Background Analysis Date/Time : 28-JUN-2009 17:00:46
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.438	3302.525	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.000	4905.156	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.774	5882.515	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 221
Detector : 79414
Background Analysis Date/Time : 28-JUN-2009 17:00:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.987	3300.655	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.096	4905.038	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.434	5885.564	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 222
Detector : 79415
Background Analysis Date/Time : 28-JUN-2009 17:00:54
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.968	3297.845	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.336	4906.032	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.429	5882.613	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 223
Detector : 79416
Background Analysis Date/Time : 28-JUN-2009 17:00:59
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.801	3297.756	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.980	4902.483	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.752	5886.350	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 224
Detector : 79417
Background Analysis Date/Time : 28-JUN-2009 17:01:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.708	3297.620	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.391	4904.314	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5535.163	5883.043	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 225
Detector : 79418
Background Analysis Date/Time : 28-JUN-2009 17:01:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.136	3297.838	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.708	4903.892	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.915	5883.445	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 226
Detector : 79419
Background Analysis Date/Time : 28-JUN-2009 17:01:11
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.396	3299.355	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.021	4903.289	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.002	5887.398	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 227
Detector : 79420
Background Analysis Date/Time : 28-JUN-2009 17:01:15
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.851	3301.430	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.798	4901.523	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.218	5885.954	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 228
Detector : 79421
Background Analysis Date/Time : 28-JUN-2009 17:01:19
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.413	3298.479	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.708	4901.434	2.000000	0.6000000	70.71068	95.00000
CM-244	5531.094	5883.745	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 229
Detector : 79422
Background Analysis Date/Time : 28-JUN-2009 17:01:24
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.428	3300.536	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.659	4902.986	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.392	5883.088	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 230
Detector : 79423
Background Analysis Date/Time : 28-JUN-2009 17:01:28
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.435	3299.126	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.006	4902.037	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.506	5885.804	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 231
Detector : 79424
Background Analysis Date/Time : 28-JUN-2009 17:01:32
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.739	3299.860	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.942	4905.625	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5535.464	5883.098	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 232
Detector : 79425
Background Analysis Date/Time : 28-JUN-2009 17:01:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.849	3300.399	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.500	4901.412	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.414	5887.598	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 233
Detector : 79426
Background Analysis Date/Time : 28-JUN-2009 17:01:40
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.552	3300.019	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.049	4902.445	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5533.265	5887.350	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 234
Detector : 79427
Background Analysis Date/Time : 28-JUN-2009 17:01:43
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.038	3298.233	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.030	4904.076	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.071	5887.649	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 235
Detector : 79428
Background Analysis Date/Time : 28-JUN-2009 17:01:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.263	3301.595	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.665	4901.527	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.636	5886.715	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 236
Detector : 79429
Background Analysis Date/Time : 28-JUN-2009 17:01:52
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.896	3299.376	3.000000	0.9000000	57.73503	95.00000
NP-237	4436.423	4901.814	3.000000	0.9000000	57.73503	95.00000
CM-244	5532.618	5886.688	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 237
Detector : 79430
Background Analysis Date/Time : 28-JUN-2009 17:01:56
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.344	3298.717	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.245	4904.669	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5531.003	5885.403	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 238
Detector : 79431
Background Analysis Date/Time : 28-JUN-2009 17:02:00
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.961	3300.370	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.951	4902.062	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.406	5886.179	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 239
Detector : 79432
Background Analysis Date/Time : 28-JUN-2009 17:02:04
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.544	3302.370	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.212	4902.679	6.000000	1.800000	40.82483	95.00000
CM-244	5535.220	5884.998	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 240
Detector : 79433
Background Analysis Date/Time : 28-JUN-2009 17:02:08
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.696	3301.853	3.000000	0.9000000	57.73503	95.00000
NP-237	4433.664	4904.733	3.000000	0.9000000	57.73503	95.00000
CM-244	5531.260	5886.094	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 241
Detector : 79434
Background Analysis Date/Time : 28-JUN-2009 17:02:12
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.242	3301.966	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.457	4905.204	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.782	5884.826	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 242
Detector : 79435
Background Analysis Date/Time : 28-JUN-2009 17:02:17
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.030	3301.446	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.469	4904.310	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5535.605	5884.633	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 243
Detector : 79436
Background Analysis Date/Time : 28-JUN-2009 17:02:21
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.365	3297.486	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.388	4902.306	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.622	5882.491	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 244
Detector : 79437
Background Analysis Date/Time : 28-JUN-2009 17:02:26
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.131	3300.564	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.574	4903.374	3.000000	0.9000000	57.73503	95.00000
CM-244	5534.584	5883.551	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 245
Detector : 79438
Background Analysis Date/Time : 28-JUN-2009 17:02:30
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.063	3299.394	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.575	4906.628	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.102	5883.894	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 246
Detector : 78912
Background Analysis Date/Time : 28-JUN-2009 17:02:34
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.019	3301.538	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.665	4906.544	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.825	5885.470	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 247
Detector : 79440
Background Analysis Date/Time : 28-JUN-2009 17:02:38
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.774	3301.191	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.556	4903.380	3.000000	0.9000000	57.73503	95.00000
CM-244	5530.809	5885.967	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 248
Detector : 79441
Background Analysis Date/Time : 28-JUN-2009 17:02:43
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.392	3300.122	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.659	4905.293	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.437	5887.556	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 249
Detector : 79442
Background Analysis Date/Time : 28-JUN-2009 17:02:46
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.416	3300.577	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.398	4904.007	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.011	5883.893	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 250
Detector : 79443
Background Analysis Date/Time : 28-JUN-2009 17:02:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.664	3299.772	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.576	4904.834	2.000000	0.6000000	70.71068	95.00000
CM-244	5531.060	5885.456	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 251
Detector : 79444
Background Analysis Date/Time : 28-JUN-2009 17:02:54
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.497	3300.693	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.150	4903.399	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5531.737	5887.575	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 252
Detector : 79445
Background Analysis Date/Time : 28-JUN-2009 17:02:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.592	3300.825	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.553	4902.127	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.590	5884.216	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 253
Detector : 79446
Background Analysis Date/Time : 28-JUN-2009 17:03:02
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.654	3300.865	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.573	4903.102	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.082	5884.383	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 254
Detector : 79447
Background Analysis Date/Time : 28-JUN-2009 17:03:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.549	3298.669	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.543	4905.678	6.000000	1.800000	40.82483	95.00000
CM-244	5533.440	5883.478	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 255
Detector : 79448
Background Analysis Date/Time : 28-JUN-2009 17:03:11
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.136	3299.381	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.277	4902.796	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.573	5887.697	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 256
Detector : 79449
Background Analysis Date/Time : 28-JUN-2009 17:03:15
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.020	3301.037	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.346	4901.908	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.491	5884.250	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Subsection 3: Efficiency Calibration

Instrument	:	CHAMBER 001
Detector	:	78788
Standard ID	:	AESS-001
Standard Reference Date	:	20-FEB-2008 09:54:53
Calibration Analysis Date/Time	:	6-JUL-2009 09:46:09
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	6-JUL-2009 14:30:47
Average Efficiency	:	0.2968604
Average Efficiency Error	:	8.1920959E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2988.679	3298.848	14368.00	0.2905553	1.2499626E-02	54.37264
NP-237	171.0024	28-FEB-2010	4436.698	4905.866	12378.00	0.3015518	1.5319364E-02	65.40276
CM-244	158.1060	28-FEB-2010	5535.874	5884.629	10862.00	0.3016641	1.5358537E-02	54.23344

Instrument	:	CHAMBER 002
Detector	:	78266
Standard ID	:	AESS-002
Standard Reference Date	:	19-FEB-2008 11:05:22
Calibration Analysis Date/Time	:	6-JUL-2009 09:46:09
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	6-JUL-2009 14:31:01
Average Efficiency	:	0.3091908
Average Efficiency Error	:	8.5140709E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2987.715	3301.971	14528.00	0.3063232	1.3175298E-02	49.84956
NP-237	200.4990	28-FEB-2010	4433.336	4902.576	15147.00	0.3147377	1.5943376E-02	61.42959
CM-244	196.5558	28-FEB-2010	5533.904	5882.845	13779.00	0.3078977	1.5616762E-02	53.40513

Instrument	:	CHAMBER 003
Detector	:	67617
Standard ID	:	AESS-003
Standard Reference Date	:	15-FEB-2008 13:12:27
Calibration Analysis Date/Time	:	6-JUL-2009 09:46:09
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	1-JUL-2009 14:34:18
Average Efficiency	:	0.3600250
Average Efficiency Error	:	1.0207428E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2989.494	3301.750	51088.00	0.5304641	2.2688475E-02	17.25958
NP-237	203.2080	28-FEB-2010	4434.514	4906.213	23507.00	0.2944960	1.5031389E-02	23.33439
CM-244	197.2236	28-FEB-2010	5534.317	5886.218	303.0000	0.3473051	1.7597629E-02	23.27553

Instrument : CHAMBER 004
Detector : 64279
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:31:14
Average Efficiency : 0.3320934
Average Efficiency Error : 9.1318591E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2991.142	3301.855	16052.00	0.3286779	1.4111746E-02	51.04387
NP-237	204.2586	28-FEB-2010	4434.122	4905.061	16497.00	0.3364784	1.7026719E-02	57.46174
CM-244	198.8100	28-FEB-2010	5532.169	5885.896	15051.00	0.3326688	1.6853061E-02	54.96896

Instrument : CHAMBER 005
Detector : 67612
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:31:33
Average Efficiency : 6.5707625E-03
Average Efficiency Error : 3.8320033E-04
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2987.844	3301.859	3508.000	7.0225731E-03	1.1921923207E-03	0.0000000E+00
NP-237	209.5938	28-FEB-2010	4432.372	4905.723	2125.000	4.2211074E-03	1.1923009577E-03	0.0000000E+00
CM-244	202.7478	28-FEB-2010	5534.445	5887.312	214.0000	4.5812004E-03	1.1839153980E-04	0.0000000E+00

Instrument : CHAMBER 006
Detector : 67613
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:31:42
Average Efficiency : 0.3023717
Average Efficiency Error : 8.3279395E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2987.836	3301.578	14382.00	0.2979915	1.2819309E-02	52.92189
NP-237	204.7038	28-FEB-2010	4433.162	4904.315	14912.00	0.3035040	1.5377419E-02	64.79807
CM-244	195.0060	28-FEB-2010	5534.623	5882.438	13655.00	0.3076988	1.5608697E-02	55.89266

Instrument : CHAMBER 007
Detector : 67607
Standard ID : AESS-007
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:31:52
Average Efficiency : 0.2957362
Average Efficiency Error : 8.1475200E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2987.476	3300.975	14142.00	0.2886904	1.2423181E-02	50.35310
NP-237	205.0260	28-FEB-2010	4436.790	4906.439	14907.00	0.3028864	1.5346253E-02	60.44886
CM-244	199.6806	28-FEB-2010	5534.241	5887.079	13602.00	0.2992603	1.5181582E-02	51.78771

Instrument : CHAMBER 008
Detector : 78788
Standard ID : AESS-008
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:32:01
Average Efficiency : 0.3188090
Average Efficiency Error : 8.7708440E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2990.921	3300.406	15479.00	0.3170527	1.3621154E-02	48.62412
NP-237	209.2716	28-FEB-2010	4435.107	4902.387	15876.00	0.3160491	1.6000355E-02	65.04717
CM-244	199.6488	28-FEB-2010	5534.594	5883.502	14733.00	0.3242763	1.6432470E-02	50.70723

Instrument : CHAMBER 009
Detector : 72528
Standard ID : AESS-009
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:32:10
Average Efficiency : 0.3375995
Average Efficiency Error : 9.2831012E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2990.628	3299.090	15971.00	0.3313866	1.4229259E-02	50.85649
NP-237	204.0192	28-FEB-2010	4437.197	4904.633	16709.00	0.3411832	1.7262230E-02	60.63605
CM-244	197.2128	28-FEB-2010	5532.440	5887.594	15414.00	0.3432376	1.7383220E-02	53.31252

Instrument : CHAMBER 010
Detector : 72529
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:32:19
Average Efficiency : 0.3172926
Average Efficiency Error : 8.7324297E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2991.348	3298.595	15125.00	0.3160139	1.3582063E-02	48.55328
NP-237	202.9926	28-FEB-2010	4434.835	4903.545	15667.00	0.3215450	1.6281251E-02	62.71636
CM-244	196.2330	28-FEB-2010	5530.435	5886.972	14067.00	0.3149689	1.5970867E-02	52.28595

Instrument : CHAMBER 011
Detector : 72531
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:32:29
Average Efficiency : 0.2985433
Average Efficiency Error : 8.2169101E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2991.311	3301.519	14980.00	0.2970565	1.2769507E-02	51.39855
NP-237	214.4868	28-FEB-2010	4434.837	4904.180	15445.00	0.3000057	1.5193330E-02	59.19451
CM-244	208.4184	28-FEB-2010	5534.270	5885.159	14191.00	0.2991836	1.5168598E-02	51.74621

Instrument : CHAMBER 012
Detector : 67594
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:32:37
Average Efficiency : 0.2994599
Average Efficiency Error : 8.2469108E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2989.530	3302.430	14453.00	0.2957655	1.2722428E-02	49.93941
NP-237	205.8930	28-FEB-2010	4435.245	4904.394	15165.00	0.3068516	1.5543667E-02	68.21289
CM-244	203.1954	28-FEB-2010	5531.663	5882.971	13767.00	0.2976886	1.5099200E-02	52.18476

Instrument : CHAMBER 013
Detector : 78790
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:32:45
Average Efficiency : 0.3386290
Average Efficiency Error : 9.3077216E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2992.215	3297.934	16446.00	0.3408228	1.4627260E-02	48.82562
NP-237	210.2526	28-FEB-2010	4433.681	4905.322	17035.00	0.3375474	1.7074423E-02	66.72312
CM-244	201.9108	28-FEB-2010	5534.510	5884.075	15472.00	0.3367262	1.7052578E-02	51.74340

Instrument : CHAMBER 014
Detector : 67616
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:32:56
Average Efficiency : 0.3118280
Average Efficiency Error : 8.5774874E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2988.044	3301.205	15708.00	0.3087174	1.3259654E-02	54.69494
NP-237	211.7160	28-FEB-2010	4432.568	4904.459	16091.00	0.3166406	1.6027654E-02	64.49153
CM-244	207.3882	28-FEB-2010	5531.132	5885.588	14716.00	0.3115681	1.5788864E-02	58.20748

Instrument : CHAMBER 015
Detector : 61581
Standard ID : AESS-015
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:33:12
Average Efficiency : 0.3223390
Average Efficiency Error : 8.8713039E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2990.992	3300.634	15182.00	0.3140531	1.3496879E-02	59.83858
NP-237	200.6460	28-FEB-2010	4433.750	4904.866	15926.00	0.3307087	1.6741820E-02	75.43053
CM-244	195.9270	28-FEB-2010	5533.850	5883.539	14567.00	0.3266208	1.6553897E-02	63.39113

Instrument : CHAMBER 016
Detector : 78774
Standard ID : AESS-016
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:33:38
Average Efficiency : 0.3364573
Average Efficiency Error : 9.2521459E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2991.376	3300.188	16062.00	0.3322090	1.4263208E-02	47.94983
NP-237	199.3962	28-FEB-2010	4436.705	4902.519	16457.00	0.3438525	1.7400362E-02	59.25246
CM-244	198.6402	28-FEB-2010	5531.791	5887.203	15163.00	0.3354346	1.6991531E-02	53.20901

Instrument : CHAMBER 017
Detector : 78791
Standard ID : AESS-017
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:33:47
Average Efficiency : 0.2933579
Average Efficiency Error : 8.0790650E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2988.293	3301.593	14424.00	0.2897618	1.2464617E-02	48.04712
NP-237	208.5846	28-FEB-2010	4433.438	4905.522	14920.00	0.2980264	1.5099768E-02	63.18722
CM-244	205.5828	28-FEB-2010	5532.444	5887.037	13752.00	0.2939516	1.4909811E-02	52.23705

Instrument : CHAMBER 018
Detector : 21063
Standard ID : AESS-018
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 14-JUL-2009 15:04:40
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 15-JUL-2009 07:50:05
Average Efficiency : 0.3223269
Average Efficiency Error : 8.8674370E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2991.459	3300.768	15427.00	0.3220896	1.3838380E-02	41.77474
NP-237	208.8990	28-FEB-2010	4435.720	4903.495	16011.00	0.3193196	1.6164232E-02	59.35002
CM-244	198.1458	28-FEB-2010	5531.358	5886.349	14679.00	0.3258023	1.6510617E-02	49.83286

Instrument : CHAMBER 019
Detector : 78786
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:34:03
Average Efficiency : 0.2886755
Average Efficiency Error : 7.9575144E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2991.589	3299.131	13636.00	0.2811793	1.2108484E-02	45.78609
NP-237	202.9140	28-FEB-2010	4435.520	4903.560	14455.00	0.2967967	1.5043795E-02	63.86615
CM-244	199.3140	28-FEB-2010	5534.981	5882.589	13252.00	0.2920234	1.4819912E-02	48.96563

Instrument : CHAMBER 020
Detector : 78787
Standard ID : AESS-020
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:34:12
Average Efficiency : 0.3430721
Average Efficiency Error : 9.4324267E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2991.028	3300.317	16260.00	0.3337892	1.4328116E-02	49.41795
NP-237	203.4984	28-FEB-2010	4434.663	4901.954	17092.00	0.3499276	1.7699974E-02	68.09825
CM-244	197.1096	28-FEB-2010	5534.316	5883.376	15719.00	0.3504178	1.7742448E-02	47.75075

Instrument : CHAMBER 021
Detector : 67047
Standard ID : AESS-021
Standard Reference Date : 19-FEB-2008 15:31:52
Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:34:21
Average Efficiency : 0.3007418
Average Efficiency Error : 8.2816491E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2991.930	3300.431	14520.00	0.2940652	1.2648145E-02	54.30077
NP-237	210.1548	28-FEB-2010	4435.207	4905.011	15253.00	0.3023781	1.5315918E-02	63.06406
CM-244	200.7390	28-FEB-2010	5533.018	5884.673	14140.00	0.3092899	1.5681855E-02	54.78833

Instrument : CHAMBER 022
Detector : 72530
Standard ID : AESS-022
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:34:44
Average Efficiency : 0.3177471
Average Efficiency Error : 8.7433932E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.087	3302.012	15372.00	0.3092707	1.3288673E-02	50.08852
NP-237	206.8830	28-FEB-2010	4436.701	4902.154	16304.00	0.3282550	1.6613014E-02	63.36660
CM-244	203.0208	28-FEB-2010	5532.124	5885.279	14804.00	0.3203634	1.6233236E-02	52.02282

Instrument : CHAMBER 023
Detector : 78264
Standard ID : AESS-023
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:34:52
Average Efficiency : 0.3327100
Average Efficiency Error : 9.1472948E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.041	3300.395	16228.00	0.3301035	1.4170360E-02	46.67713
NP-237	207.4998	28-FEB-2010	4437.054	4904.602	16550.00	0.3322816	1.6813723E-02	63.18299
CM-244	199.8804	28-FEB-2010	5531.351	5885.314	15327.00	0.3369316	1.7065044E-02	50.76911

Instrument : CHAMBER 024
Detector : 76542
Standard ID : AESS-024
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:35:01
Average Efficiency : 0.3278600
Average Efficiency Error : 9.0207923E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2988.294	3302.013	15351.00	0.3182911	1.3676404E-02	53.01509
NP-237	205.6662	28-FEB-2010	4435.963	4904.774	16397.00	0.3320666	1.6804798E-02	66.65491
CM-244	198.3060	28-FEB-2010	5530.886	5886.529	15278.00	0.3385208	1.7146233E-02	56.84327

Instrument : CHAMBER 025
Detector : 45-149AA5
Standard ID : AESS-025
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:35:10
Average Efficiency : 0.3244141
Average Efficiency Error : 8.9428928E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.683	3301.317	15182.00	0.3276230	1.4080081E-02	58.08860
NP-237	167.9916	28-FEB-2010	4432.505	4905.964	12934.00	0.3207583	1.6284095E-02	71.50992
CM-244	157.2432	28-FEB-2010	5531.275	5884.228	11591.00	0.3237635	1.6465405E-02	65.55542

Instrument : CHAMBER 026
Detector : 78204
Standard ID : AESS-026
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:35:19
Average Efficiency : 0.3149063
Average Efficiency Error : 9.2313625E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2992.261	3299.610	15024.00	0.3178152	1.6101750E-02	48.28163
NP-237	168.0294	28-FEB-2010	4434.923	4901.784	12780.00	0.3168793	1.6090054E-02	60.42010
CM-244	160.5822	28-FEB-2010	5534.672	5884.552	11338.00	0.3102135	1.5781984E-02	48.50001

Instrument : CHAMBER 027
Detector : 42484
Standard ID : AESS-027
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:35:28
Average Efficiency : 0.3410775
Average Efficiency Error : 9.9962037E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2992.456	3300.321	15132.00	0.3301674	1.6726010E-02	62.71494
NP-237	161.6154	28-FEB-2010	4432.625	4905.570	13412.00	0.3457057	1.7541273E-02	89.17722
CM-244	148.1754	28-FEB-2010	5534.870	5882.737	11761.00	0.3486037	1.7724430E-02	78.01683

Instrument : CHAMBER 028
Detector : 78792
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:35:37
Average Efficiency : 0.3059801
Average Efficiency Error : 8.9743091E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2989.695	3297.894	14335.00	0.3030114	1.5361304E-02	46.74673
NP-237	168.1992	28-FEB-2010	4435.454	4902.851	12365.00	0.3062848	1.5560016E-02	61.29473
CM-244	156.7614	28-FEB-2010	5530.764	5886.057	11017.00	0.3087767	1.5716689E-02	48.99289

Instrument : CHAMBER 029
Detector : 33454
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:35:45
Average Efficiency : 0.3133109
Average Efficiency Error : 9.1862464E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2989.570	3299.793	14696.00	0.3076786	1.5592718E-02	62.98538
NP-237	169.7700	28-FEB-2010	4434.729	4906.466	12891.00	0.3163488	1.6061027E-02	66.74791
CM-244	154.8234	28-FEB-2010	5530.876	5886.187	11145.00	0.3162610	1.6094424E-02	59.70258

Instrument : CHAMBER 030
Detector : 33447
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:35:54
Average Efficiency : 0.3190225
Average Efficiency Error : 9.3542365E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2992.473	3300.013	14522.00	0.3079955	1.5611262E-02	56.22778
NP-237	166.3758	28-FEB-2010	4433.021	4902.873	13108.00	0.3282070	1.6658967E-02	66.10047
CM-244	157.1856	28-FEB-2010	5531.626	5884.032	11533.00	0.3222875	1.6391672E-02	59.45288

Instrument : CHAMBER 031
Detector : 67042
Standard ID : AESS-031
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 14-JUL-2009 15:04:42
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 15-JUL-2009 07:50:24
Average Efficiency : 0.3338314
Average Efficiency Error : 9.2027988E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2992.104	3299.916	15053.00	0.3280614	1.4101115E-02	64.46095
NP-237	162.9186	28-FEB-2010	4436.072	4902.901	13435.00	0.3435040	1.7429167E-02	93.20530
CM-244	153.1968	28-FEB-2010	5535.417	5884.932	11607.00	0.3330215	1.6935715E-02	63.05283

Instrument : CHAMBER 032
Detector : 67041
Standard ID : AESS-032
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 14-JUL-2009 15:04:42
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 15-JUL-2009 07:50:35
Average Efficiency : 0.3120490
Average Efficiency Error : 8.6091449E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.634	3297.499	14436.00	0.3121021	1.3425405E-02	53.99254
NP-237	165.9822	28-FEB-2010	4437.570	4904.884	12360.00	0.3101901	1.5758617E-02	64.26519
CM-244	153.7938	28-FEB-2010	5533.522	5884.215	10984.00	0.3138851	1.5977694E-02	52.03965

Instrument : CHAMBER 033
Detector : 78785
Standard ID : AESS-033
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 6-JUL-2009 09:46:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:36:20
Average Efficiency : 0.3132727
Average Efficiency Error : 8.6470284E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2990.591	3298.173	14059.00	0.3083428	1.3270319E-02	45.02124
NP-237	161.7816	28-FEB-2010	4434.089	4906.364	12264.00	0.3158025	1.6045660E-02	60.74144
CM-244	147.2670	28-FEB-2010	5534.061	5883.941	10663.00	0.3180395	1.6197534E-02	44.95700

Instrument : CHAMBER 034
Detector : 61586
Standard ID : AESS-034
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 14-JUL-2009 15:04:42
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 15-JUL-2009 07:50:46
Average Efficiency : 0.3171561
Average Efficiency Error : 8.7465709E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2990.268	3300.348	14798.00	0.3114539	1.3391386E-02	50.21013
NP-237	167.2962	28-FEB-2010	4435.287	4906.218	12784.00	0.3183437	1.6164379E-02	67.44197
CM-244	154.4388	28-FEB-2010	5533.837	5886.701	11405.00	0.3245862	1.6511625E-02	55.32959

Instrument : CHAMBER 035
Detector : 78202
Standard ID : AESS-035
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 6-JUL-2009 09:46:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:36:36
Average Efficiency : 0.3039385
Average Efficiency Error : 8.3862301E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2989.841	3298.805	14385.00	0.3055661	1.3145097E-02	44.60017
NP-237	168.2934	28-FEB-2010	4433.680	4901.942	12309.00	0.3046319	1.5477315E-02	57.84991
CM-244	158.8128	28-FEB-2010	5530.913	5886.751	10886.00	0.3010460	1.5326467E-02	49.59610

Instrument : CHAMBER 036
Detector : 78203
Standard ID : AESS-036
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 6-JUL-2009 09:46:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:36:45
Average Efficiency : 0.3217056
Average Efficiency Error : 8.8684531E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2990.719	3297.679	15140.00	0.3173648	1.3639865E-02	54.98193
NP-237	167.4312	28-FEB-2010	4436.454	4902.523	13140.00	0.3269882	1.6596414E-02	66.33447
CM-244	156.4188	28-FEB-2010	5534.221	5883.385	11497.00	0.3228255	1.6419753E-02	57.03784

Instrument : CHAMBER 037
Detector : 45-149BB5
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:36:53
Average Efficiency : 0.3609357
Average Efficiency Error : 9.9339429E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.027	3298.587	16638.00	0.3550694	1.5235793E-02	70.66451
NP-237	167.1294	28-FEB-2010	4435.750	4902.017	14747.00	0.3675707	1.8626243E-02	87.35378
CM-244	154.7664	28-FEB-2010	5535.521	5884.277	12795.00	0.3630245	1.8432988E-02	72.91970

Instrument : CHAMBER 038
Detector : 72532
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 7-JUL-2009 20:14:26
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 8-JUL-2009 07:31:06
Average Efficiency : 0.3440174
Average Efficiency Error : 9.4721830E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2989.665	3301.822	16315.00	0.3439969	1.4765469E-02	56.35861
NP-237	170.0886	28-FEB-2010	4435.489	4906.553	14189.00	0.3474887	1.7617788E-02	67.43947
CM-244	157.7460	28-FEB-2010	5532.401	5886.525	12237.00	0.3406941	1.7311083E-02	58.94252

Instrument : CHAMBER 039
Detector : 45-149BB2
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:37:12
Average Efficiency : 0.3633558
Average Efficiency Error : 1.0003410E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.145	3298.732	16409.00	0.3601976	1.5459352E-02	56.41948
NP-237	159.1506	28-FEB-2010	4435.549	4903.088	13988.00	0.3661838	1.8569179E-02	74.12836
CM-244	151.7142	28-FEB-2010	5534.287	5885.251	12613.00	0.3650793	1.8541345E-02	65.99350

Instrument : CHAMBER 040
Detector : 78773
Standard ID : AESS-040
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:37:21
Average Efficiency : 0.3236358
Average Efficiency Error : 8.9229112E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2989.803	3299.657	15035.00	0.3262324	1.4022750E-02	46.94137
NP-237	166.8174	28-FEB-2010	4435.891	4904.106	12881.00	0.3216923	1.6332518E-02	63.17031
CM-244	155.0100	28-FEB-2010	5531.706	5883.967	11365.00	0.3220472	1.6383301E-02	50.43327

Instrument : CHAMBER 041
Detector : 78205
Standard ID : AESS-041
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:37:34
Average Efficiency : 0.3271760
Average Efficiency Error : 9.0137199E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2988.799	3301.675	15672.00	0.3243389	1.3931162E-02	49.27284
NP-237	171.2268	28-FEB-2010	4434.272	4902.386	13569.00	0.3301208	1.6747680E-02	61.97926
CM-244	159.5796	28-FEB-2010	5531.847	5882.877	11929.00	0.3283235	1.6689207E-02	48.64401

Instrument : CHAMBER 042
Detector : 78793
Standard ID : AESS-042
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 6-JUL-2009 14:37:44
Average Efficiency : 0.3312008
Average Efficiency Error : 9.1335429E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2991.257	3302.160	14934.00	0.3339659	1.4356897E-02	46.01327
NP-237	159.6558	28-FEB-2010	4435.667	4904.225	12775.00	0.3333308	1.6925573E-02	66.93758
CM-244	150.5208	28-FEB-2010	5531.759	5883.730	11154.00	0.3254806	1.6563315E-02	47.72076

Instrument : CHAMBER 043
Detector : 76543
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:37:56
Average Efficiency : 0.3406220
Average Efficiency Error : 9.3815317E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2990.989	3298.318	15838.00	0.3379508	1.4513168E-02	53.32027
NP-237	168.7422	28-FEB-2010	4436.983	4902.370	13848.00	0.3419185	1.7341113E-02	70.53008
CM-244	156.3252	28-FEB-2010	5532.584	5886.039	12214.00	0.3431670	1.7437097E-02	50.59512

Instrument : CHAMBER 044
Detector : 79459
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 7-JUL-2009 08:06:38
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 7-JUL-2009 13:33:56
Average Efficiency : 0.3539364
Average Efficiency Error : 9.7440388E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2988.854	3300.902	16237.00	0.3523722	1.5126155E-02	49.91737
NP-237	166.6248	28-FEB-2010	4435.084	4901.492	14193.00	0.3548543	1.7991094E-02	62.49409
CM-244	155.8290	28-FEB-2010	5533.776	5883.326	12603.00	0.3552387	1.8041683E-02	52.59266

Instrument : CHAMBER 045
Detector : 67601
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 14-JUL-2009 15:04:44
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 15-JUL-2009 07:50:59
Average Efficiency : 0.3430506
Average Efficiency Error : 9.4568562E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2987.909	3300.265	15299.00	0.3453356	1.4839282E-02	39.68650
NP-237	160.8066	28-FEB-2010	4434.212	4905.200	12955.00	0.3356342	1.7038893E-02	56.79002
CM-244	145.8384	28-FEB-2010	5530.781	5884.673	11538.00	0.3477968	1.7688734E-02	40.32752

Instrument : CHAMBER 046
Detector : 76544
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:38:21
Average Efficiency : 0.3406382
Average Efficiency Error : 9.3857087E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2989.077	3298.635	15535.00	0.3366195	1.4460829E-02	49.62128
NP-237	164.6658	28-FEB-2010	4433.627	4906.487	13519.00	0.3420215	1.7352322E-02	69.09070
CM-244	151.3824	28-FEB-2010	5533.329	5885.134	11898.00	0.3451394	1.7544771E-02	55.17302

Instrument : CHAMBER 047
Detector : 46-089B1
Standard ID : AESS-047
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:38:30
Average Efficiency : 0.3442340
Average Efficiency Error : 9.4810873E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2987.977	3301.361	15865.00	0.3390196	1.4558652E-02	55.57606
NP-237	168.3948	28-FEB-2010	4433.363	4905.447	13899.00	0.3438680	1.7439116E-02	74.62081
CM-244	154.6032	28-FEB-2010	5532.313	5886.846	12409.00	0.3525089	1.7907353E-02	58.04284

Instrument : CHAMBER 048
Detector : 42483
Standard ID : AESS-048
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 6-JUL-2009 14:38:39
Average Efficiency : 0.3178092
Average Efficiency Error : 8.7683024E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.411	3301.246	14378.00	0.3162740	1.3605888E-02	55.68159
NP-237	161.5530	28-FEB-2010	4433.969	4903.143	12372.00	0.3190103	1.6206456E-02	67.40500
CM-244	151.1856	28-FEB-2010	5530.501	5887.230	10976.00	0.3187887	1.6227484E-02	60.96161

Instrument : CHAMBER 065
Detector : 68551
Standard ID : AESS-001
Standard Reference Date : 20-FEB-2008 09:54:53
Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:06:51
Average Efficiency : 0.3167298
Average Efficiency Error : 8.7357797E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2992.172	3297.923	15001.00	0.3033305	1.3038947E-02	62.70693
NP-237	171.0024	28-FEB-2010	4436.297	4904.907	13337.00	0.3249072	1.6487280E-02	73.64597
CM-244	158.1060	28-FEB-2010	5532.615	5884.733	11898.00	0.3304830	1.6799837E-02	62.05407

Instrument : CHAMBER 066
Detector : 46-089C1
Standard ID : AESS-002
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:07:05
Average Efficiency : 0.3104099
Average Efficiency Error : 8.5468190E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2992.142	3300.807	14611.00	0.3081217	1.3251217E-02	57.90394
NP-237	200.4990	28-FEB-2010	4436.247	4906.352	15119.00	0.3141508	1.5914036E-02	71.36474
CM-244	196.5558	28-FEB-2010	5534.784	5886.688	13872.00	0.3099799	1.5721031E-02	60.13244

Instrument : CHAMBER 067
Detector : 46-089B4
Standard ID : AESS-003
Standard Reference Date : 15-FEB-2008 13:12:27
Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:07:16
Average Efficiency : 0.3225107
Average Efficiency Error : 8.8746333E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2988.144	3301.594	15198.00	0.3160322	1.3581690E-02	73.87538
NP-237	203.2080	28-FEB-2010	4436.169	4905.946	16027.00	0.3285710	1.6632373E-02	84.27850
CM-244	197.2236	28-FEB-2010	5533.963	5885.648	14635.00	0.3261202	1.6527411E-02	74.53841

Instrument : CHAMBER 068
Detector : 78794
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:07:28
Average Efficiency : 0.3018608
Average Efficiency Error : 8.3120642E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2990.601	3300.139	14643.00	0.2998493	1.2894920E-02	46.91775
NP-237	204.2586	28-FEB-2010	4435.756	4903.729	14909.00	0.3041092	1.5408116E-02	62.03638
CM-244	198.8100	28-FEB-2010	5531.794	5886.867	13681.00	0.3024790	1.5343496E-02	51.78417

Instrument : CHAMBER 069
Detector : 78795
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:07:42
Average Efficiency : 0.3159011
Average Efficiency Error : 8.6903321E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2991.901	3298.738	15562.00	0.3116586	1.3388185E-02	51.55959
NP-237	209.5938	28-FEB-2010	4437.201	4903.207	15965.00	0.3173516	1.6065169E-02	63.95503
CM-244	202.7478	28-FEB-2010	5534.874	5884.048	14792.00	0.3206663	1.6248737E-02	52.59375

Instrument : CHAMBER 070
Detector : 46-089B2
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:07:53
Average Efficiency : 0.3520789
Average Efficiency Error : 9.6757710E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2988.641	3300.492	16713.00	0.3463008	1.4858479E-02	61.95700
NP-237	204.7038	28-FEB-2010	4435.833	4904.443	17344.00	0.3529772	1.7851282E-02	74.78303
CM-244	195.0060	28-FEB-2010	5531.433	5882.799	15964.00	0.3598273	1.8215435E-02	68.73500

Instrument : CHAMBER 071
Detector : 64259
Standard ID : AESS-007
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:08:07
Average Efficiency : 0.3163752
Average Efficiency Error : 8.7076994E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2992.476	3301.614	15079.00	0.3078622	1.3232440E-02	56.06450
NP-237	205.0260	28-FEB-2010	4435.387	4902.436	15763.00	0.3203167	1.6217813E-02	68.61439
CM-244	199.6806	28-FEB-2010	5534.462	5883.334	14790.00	0.3255263	1.6495051E-02	58.90277

Instrument : CHAMBER 072
Detector : 45-149AA3
Standard ID : AESS-008
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:08:19
Average Efficiency : 0.3234064
Average Efficiency Error : 8.8950237E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2988.586	3301.014	15743.00	0.3224942	1.3850860E-02	54.24233
NP-237	209.2716	28-FEB-2010	4432.963	4902.126	16207.00	0.3226633	1.6331071E-02	69.06731
CM-244	199.6488	28-FEB-2010	5535.050	5886.750	14785.00	0.3254575	1.6491652E-02	56.72540

Instrument : CHAMBER 073
Detector : 78775
Standard ID : AESS-009
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:08:30
Average Efficiency : 0.3320738
Average Efficiency Error : 9.1329338E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2991.870	3299.007	15813.00	0.3281374	1.4092137E-02	50.25317
NP-237	204.0192	28-FEB-2010	4435.703	4904.982	16193.00	0.3306793	1.6736971E-02	68.87427
CM-244	197.2128	28-FEB-2010	5532.962	5884.931	15235.00	0.3394034	1.7191524E-02	49.27633

Instrument : CHAMBER 074
Detector : 78266
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:08:42
Average Efficiency : 0.3124804
Average Efficiency Error : 8.6027775E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.625	3300.254	14705.00	0.3072563	1.3212435E-02	51.15489
NP-237	202.9926	28-FEB-2010	4435.417	4902.858	15345.00	0.3149306	1.5950510E-02	57.41002
CM-244	196.2330	28-FEB-2010	5535.258	5884.259	14186.00	0.3177475	1.6109865E-02	49.01177

Instrument : CHAMBER 075
Detector : 68550
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:08:53
Average Efficiency : 0.2973897
Average Efficiency Error : 8.1859389E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2988.563	3301.861	14863.00	0.2947582	1.2672522E-02	56.94482
NP-237	214.4868	28-FEB-2010	4432.969	4904.420	15483.00	0.3006926	1.5227719E-02	69.06491
CM-244	208.4184	28-FEB-2010	5535.562	5884.044	14125.00	0.2978785	1.5103404E-02	58.86678

Instrument : CHAMBER 076
Detector : 78779
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:09:04
Average Efficiency : 0.3059446
Average Efficiency Error : 8.4217470E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2992.408	3300.679	14839.00	0.3037126	1.3057882E-02	46.65081
NP-237	205.8930	28-FEB-2010	4437.552	4904.251	15221.00	0.3079897	1.5600574E-02	59.39308
CM-244	203.1954	28-FEB-2010	5530.870	5885.252	14195.00	0.3070807	1.5568880E-02	50.95067

Instrument : CHAMBER 077
Detector : 67576
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:09:15
Average Efficiency : 0.3220192
Average Efficiency Error : 8.8578872E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2988.825	3301.085	15444.00	0.3200761	1.3751586E-02	52.27526
NP-237	210.2526	28-FEB-2010	4432.612	4901.681	16184.00	0.3207017	1.6232070E-02	64.77522
CM-244	201.9108	28-FEB-2010	5534.546	5886.248	14985.00	0.3261909	1.6525861E-02	54.87537

Instrument : CHAMBER 078
Detector : 67577
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:09:25
Average Efficiency : 0.3269402
Average Efficiency Error : 8.9888843E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2992.395	3299.584	16294.00	0.3202777	1.3747618E-02	52.02948
NP-237	211.7160	28-FEB-2010	4433.349	4904.419	17152.00	0.3375357	1.7072473E-02	63.87207
CM-244	207.3882	28-FEB-2010	5535.593	5884.350	15420.00	0.3266392	1.6542494E-02	56.64688

Instrument : CHAMBER 079
Detector : 67598
Standard ID : AESS-015
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:09:33
Average Efficiency : 0.3269641
Average Efficiency Error : 8.9949844E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2987.535	3297.935	15565.00	0.3219998	1.3832338E-02	51.91238
NP-237	200.6460	28-FEB-2010	4435.153	4903.332	15964.00	0.3314978	1.6781278E-02	65.57870
CM-244	195.9270	28-FEB-2010	5530.500	5882.333	14697.00	0.3297131	1.6708534E-02	52.00982

Instrument : CHAMBER 080
Detector : 78197
Standard ID : AESS-016
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:09:43
Average Efficiency : 0.3342651
Average Efficiency Error : 9.1930544E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2992.338	3298.189	15890.00	0.3286708	1.4113899E-02	49.39791
NP-237	199.3962	28-FEB-2010	4434.851	4901.472	16357.00	0.3417528	1.7295377E-02	67.37957
CM-244	198.6402	28-FEB-2010	5531.493	5883.930	15145.00	0.3351447	1.6977096E-02	53.36457

Instrument : CHAMBER 081
Detector : 72533
Standard ID : AESS-017
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:09:58
Average Efficiency : 1.0059110E-03
Average Efficiency Error : 1.4002950E-04
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2985.980	3302.417	45.00000	8.9930405E-04	1.4010404E-04	0.0000000E+00
NP-237	208.5846	28-FEB-2010	4432.287	4905.979	16296.00	0.3255036	1.6473748E-02	140.8390
CM-244	205.5828	28-FEB-2010	5534.795	5885.572	3965.000	8.4768414E-04	1.4471347E-03	0.0000000E+00

Instrument : CHAMBER 082
Detector : 64263
Standard ID : AESS-018
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:10:11
Average Efficiency : 0.3262649
Average Efficiency Error : 8.9742821E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2990.419	3298.608	15507.00	0.3237216	1.3907208E-02	58.84102
NP-237	208.8990	28-FEB-2010	4437.000	4905.115	16371.00	0.3264953	1.6523048E-02	77.98001
CM-244	198.1458	28-FEB-2010	5534.320	5885.085	14864.00	0.3296992	1.6705383E-02	70.67408

Instrument : CHAMBER 083
Detector : 64278
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:10:22
Average Efficiency : 0.3331127
Average Efficiency Error : 9.1688316E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2987.455	3299.407	15432.00	0.3182384	1.3672802E-02	55.81121
NP-237	202.9140	28-FEB-2010	4433.838	4906.607	17206.00	0.3532467	1.7866544E-02	69.77620
CM-244	199.3140	28-FEB-2010	5532.253	5885.057	15334.00	0.3379439	1.7116275E-02	60.81681

Instrument : CHAMBER 084
Detector : 78265
Standard ID : AESS-020
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:10:32
Average Efficiency : 0.3434564
Average Efficiency Error : 9.4431741E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2988.133	3299.227	16254.00	0.3337056	1.4324601E-02	49.70576
NP-237	203.4984	28-FEB-2010	4433.289	4901.844	17176.00	0.3516426	1.7785732E-02	63.55498
CM-244	197.1096	28-FEB-2010	5535.275	5884.618	15707.00	0.3502632	1.7734783E-02	51.80883

Instrument : CHAMBER 085
Detector : 78776
Standard ID : AESS-021
Standard Reference Date : 19-FEB-2008 15:31:52
Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:10:43
Average Efficiency : 0.3254945
Average Efficiency Error : 8.9515289E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2989.612	3299.207	15817.00	0.3203625	1.3758179E-02	45.89981
NP-237	210.1548	28-FEB-2010	4434.183	4901.520	16560.00	0.3282868	1.6611453E-02	60.08111
CM-244	200.7390	28-FEB-2010	5533.754	5882.654	15090.00	0.3302506	1.6729988E-02	50.06017

Instrument : CHAMBER 086
Detector : 78198
Standard ID : AESS-022
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:10:52
Average Efficiency : 0.2987570
Average Efficiency Error : 8.2268827E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.886	3300.091	14561.00	0.2931078	1.2606329E-02	46.08396
NP-237	206.8830	28-FEB-2010	4433.582	4903.927	15096.00	0.3040077	1.5400495E-02	61.33533
CM-244	203.0208	28-FEB-2010	5531.751	5882.863	13945.00	0.3018999	1.5310007E-02	49.24375

Instrument : CHAMBER 087
Detector : 78199
Standard ID : AESS-023
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:11:02
Average Efficiency : 0.3162691
Average Efficiency Error : 8.7025622E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.385	3299.009	15285.00	0.3109341	1.3361266E-02	44.58315
NP-237	207.4998	28-FEB-2010	4436.772	4904.542	15818.00	0.3175828	1.6078727E-02	57.63754
CM-244	199.8804	28-FEB-2010	5534.083	5883.178	14684.00	0.3229105	1.6363984E-02	49.88237

Instrument : CHAMBER 088
Detector : 33452
Standard ID : AESS-024
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:11:13
Average Efficiency : 0.2998269
Average Efficiency Error : 8.2606915E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2990.970	3298.296	14025.00	0.2908646	1.2518696E-02	52.96125
NP-237	205.6662	28-FEB-2010	4436.463	4902.334	15055.00	0.3049660	1.5449598E-02	63.94186
CM-244	198.3060	28-FEB-2010	5534.583	5887.587	13923.00	0.3085581	1.5648056E-02	61.30964

Instrument : CHAMBER 089
Detector : 78262
Standard ID : AESS-025
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:11:23
Average Efficiency : 0.2963288
Average Efficiency Error : 8.1822695E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2992.075	3297.767	13916.00	0.3003191	1.2927603E-02	50.98783
NP-237	167.9916	28-FEB-2010	4432.406	4901.978	12013.00	0.2979151	1.5141796E-02	61.57396
CM-244	157.2432	28-FEB-2010	5532.097	5882.869	10361.00	0.2896218	1.4757983E-02	57.67693

Instrument : CHAMBER 090
Detector : 78263
Standard ID : AESS-026
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:11:39
Average Efficiency : 0.3241549
Average Efficiency Error : 9.4982684E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2990.462	3300.982	15417.00	0.3261584	1.6518990E-02	52.53284
NP-237	168.0294	28-FEB-2010	4434.552	4903.775	13172.00	0.3265822	1.6575273E-02	66.40552
CM-244	160.5822	28-FEB-2010	5532.754	5885.804	11687.00	0.3198750	1.6265199E-02	57.74523

Instrument : CHAMBER 091
Detector : 78259
Standard ID : AESS-027
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:11:52
Average Efficiency : 0.3403451
Average Efficiency Error : 9.9735688E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2990.268	3298.949	15270.00	0.3332087	1.6878121E-02	49.79137
NP-237	161.6154	28-FEB-2010	4433.436	4901.824	13289.00	0.3425658	1.7384235E-02	66.53712
CM-244	148.1754	28-FEB-2010	5531.214	5887.413	11658.00	0.3458194	1.7585119E-02	55.76472

Instrument : CHAMBER 092
Detector : 79457
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 10-JUL-2009 08:15:23
Average Efficiency : 0.3244753
Average Efficiency Error : 9.5090605E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2992.198	3300.849	15511.00	0.3276620	1.6594216E-02	50.13194
NP-237	168.1992	28-FEB-2010	4435.896	4905.687	13201.00	0.3269055	1.6591255E-02	61.53701
CM-244	156.7614	28-FEB-2010	5533.567	5885.099	11382.00	0.3190994	1.6232992E-02	50.67320

Instrument : CHAMBER 093
Detector : 33206
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:12:10
Average Efficiency : 0.3253579
Average Efficiency Error : 9.5347259E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2988.963	3299.960	15194.00	0.3181445	1.6116098E-02	50.56812
NP-237	169.7700	28-FEB-2010	4434.063	4902.978	13286.00	0.3260259	1.6544953E-02	75.56580
CM-244	154.8234	28-FEB-2010	5531.085	5883.424	11716.00	0.3326032	1.6911702E-02	57.95201

Instrument : CHAMBER 094
Detector : 78267
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:12:19
Average Efficiency : 0.3085452
Average Efficiency Error : 9.0499781E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2990.912	3298.303	14487.00	0.3072813	1.5575566E-02	44.68866
NP-237	166.3758	28-FEB-2010	4435.971	4905.664	12598.00	0.3154770	1.6022354E-02	64.16422
CM-244	157.1856	28-FEB-2010	5534.211	5886.502	10849.00	0.3033472	1.5444501E-02	48.21400

Instrument : CHAMBER 095
Detector : 64279
Standard ID : AESS-031
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:12:27
Average Efficiency : 0.3068112
Average Efficiency Error : 8.4704254E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2989.056	3301.826	13965.00	0.3043179	1.3098821E-02	55.82520
NP-237	162.9186	28-FEB-2010	4435.330	4905.275	12386.00	0.3167128	1.6089419E-02	68.30973
CM-244	153.1968	28-FEB-2010	5534.057	5886.430	10508.00	0.3012262	1.5345651E-02	56.59253

Instrument : CHAMBER 096
Detector : 67605
Standard ID : AESS-032
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:12:36
Average Efficiency : 0.3103104
Average Efficiency Error : 8.5620275E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.311	3298.177	14291.00	0.3089209	1.3291076E-02	50.28194
NP-237	165.9822	28-FEB-2010	4434.251	4906.198	12426.00	0.3117568	1.5837051E-02	61.11779
CM-244	153.7938	28-FEB-2010	5533.120	5882.408	10880.00	0.3108360	1.5824955E-02	51.23636

Instrument : CHAMBER 097
Detector : 67599
Standard ID : AESS-033
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:12:44
Average Efficiency : 0.3440487
Average Efficiency Error : 9.4836140E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2989.746	3302.068	15243.00	0.3343306	1.4367314E-02	49.90135
NP-237	161.7816	28-FEB-2010	4437.101	4903.794	13519.00	0.3481746	1.7664408E-02	69.66666
CM-244	147.2670	28-FEB-2010	5531.052	5886.116	11904.00	0.3550793	1.8049983E-02	57.03643

Instrument : CHAMBER 098
Detector : 68644
Standard ID : AESS-034
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:12:53
Average Efficiency : 0.3341772
Average Efficiency Error : 9.2099942E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2989.589	3298.128	15405.00	0.3241865	1.3928778E-02	51.17890
NP-237	167.2962	28-FEB-2010	4432.836	4901.640	13623.00	0.3392162	1.7208137E-02	68.23425
CM-244	154.4388	28-FEB-2010	5531.873	5883.257	12118.00	0.3447607	1.7520264E-02	52.08022

Instrument : CHAMBER 099
Detector : 70317
Standard ID : AESS-035
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:13:03
Average Efficiency : 0.3431231
Average Efficiency Error : 9.4483467E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2990.876	3301.163	16106.00	0.3421397	1.4688905E-02	50.68632
NP-237	168.2934	28-FEB-2010	4434.526	4903.945	13954.00	0.3454547	1.7518591E-02	61.64373
CM-244	158.8128	28-FEB-2010	5533.432	5886.885	12370.00	0.3422045	1.7384758E-02	52.31840

Instrument : CHAMBER 100
Detector : 79456
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:13:12
Average Efficiency : 0.3427027
Average Efficiency Error : 9.4427206E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2992.287	3297.799	15520.00	0.3363194	1.4448194E-02	50.00877
NP-237	164.6658	28-FEB-2010	4436.422	4905.631	13582.00	0.3435974	1.7431144E-02	61.98585
CM-244	151.3824	28-FEB-2010	5534.572	5887.590	12114.00	0.3515212	1.7863980E-02	52.94975

Instrument : CHAMBER 101
Detector : 64253
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:13:22
Average Efficiency : 0.3390052
Average Efficiency Error : 9.3409885E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.433	3299.297	15460.00	0.3299631	1.4176095E-02	61.39046
NP-237	167.1294	28-FEB-2010	4436.714	4901.796	13907.00	0.3466887	1.7581994E-02	74.45712
CM-244	154.7664	28-FEB-2010	5531.777	5885.188	12159.00	0.3452022	1.7541731E-02	61.78313

Instrument : CHAMBER 102
Detector : 72525
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:13:31
Average Efficiency : 0.3328035
Average Efficiency Error : 9.1680549E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2992.102	3300.657	15781.00	0.3327644	1.4291358E-02	57.28693
NP-237	170.0886	28-FEB-2010	4432.858	4904.949	13683.00	0.3351520	1.7000843E-02	70.05949
CM-244	157.7460	28-FEB-2010	5531.106	5882.690	11868.00	0.3305628	1.6804401E-02	60.52639

Instrument : CHAMBER 103
Detector : 79461
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 9-JUL-2009 13:13:40
Average Efficiency : 0.3354990
Average Efficiency Error : 9.2500327E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.996	3300.314	15148.00	0.3325511	1.4292428E-02	46.53494
NP-237	159.1506	28-FEB-2010	4436.805	4901.981	13231.00	0.3463839	1.7579062E-02	65.39693
CM-244	151.7142	28-FEB-2010	5532.506	5886.425	11383.00	0.3296518	1.6769741E-02	53.08098

Instrument	:	CHAMBER 104
Detector	:	72524
Standard ID	:	AESS-040
Standard Reference Date	:	18-FEB-2008 15:31:47
Calibration Analysis Date/Time	:	9-JUL-2009 08:08:15
Calibration Count Time	:	240.0000
Efficiency Calibration Date/Time	:	9-JUL-2009 13:13:48
Average Efficiency	:	0.3172685
Average Efficiency Error	:	8.7505886E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2990.719	3300.868	14808.00	0.3213409	1.3816299E-02	52.43279
NP-237	166.8174	28-FEB-2010	4437.132	4904.901	12602.00	0.3146936	1.5982572E-02	60.08082
CM-244	155.0100	28-FEB-2010	5531.506	5883.017	11092.00	0.3143873	1.6000355E-02	48.93826

Instrument	:	CHAMBER 105
Detector	:	78777
Standard ID	:	AESS-041
Standard Reference Date	:	18-FEB-2008 15:31:47
Calibration Analysis Date/Time	:	9-JUL-2009 08:08:15
Calibration Count Time	:	240.0000
Efficiency Calibration Date/Time	:	9-JUL-2009 13:13:56
Average Efficiency	:	0.3238136
Average Efficiency Error	:	8.9225518E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2991.574	3300.708	15632.00	0.3235499	1.3897874E-02	47.98710
NP-237	171.2268	28-FEB-2010	4435.406	4903.467	13447.00	0.3271988	1.6601518E-02	65.57580
CM-244	159.5796	28-FEB-2010	5531.275	5883.854	11655.00	0.3209064	1.6318357E-02	49.59695

Instrument	:	CHAMBER 106
Detector	:	64274
Standard ID	:	AESS-042
Standard Reference Date	:	18-FEB-2008 15:31:47
Calibration Analysis Date/Time	:	9-JUL-2009 08:08:15
Calibration Count Time	:	240.0000
Efficiency Calibration Date/Time	:	9-JUL-2009 13:14:04
Average Efficiency	:	0.3300298
Average Efficiency Error	:	9.1015678E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2989.941	3301.958	14641.00	0.3274217	1.4080711E-02	51.04536
NP-237	159.6558	28-FEB-2010	4435.855	4902.069	12766.00	0.3331273	1.6915364E-02	68.33770
CM-244	150.5208	28-FEB-2010	5534.023	5883.359	11329.00	0.3306891	1.6823869E-02	57.44720

Instrument : CHAMBER 107
Detector : 67578
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:14:15
Average Efficiency : 0.3045647
Average Efficiency Error : 8.4048761E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2987.523	3301.257	14050.00	0.2997997	1.2902850E-02	50.05696
NP-237	168.7422	28-FEB-2010	4435.381	4903.438	12388.00	0.3058615	1.5538067E-02	64.39712
CM-244	156.3252	28-FEB-2010	5532.229	5882.600	11043.00	0.3103665	1.5796915E-02	54.52126

Instrument : CHAMBER 108
Detector : 78778
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 10-JUL-2009 08:15:33
Average Efficiency : 0.3360237
Average Efficiency Error : 9.2592761E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2987.937	3298.136	15260.00	0.3312062	1.4232747E-02	47.91920
NP-237	166.6248	28-FEB-2010	4435.160	4903.491	13641.00	0.3410752	1.7302046E-02	70.19518
CM-244	155.8290	28-FEB-2010	5531.067	5883.227	11990.00	0.3380632	1.7182823E-02	49.11132

Instrument : CHAMBER 109
Detector : 79463
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:14:36
Average Efficiency : 0.3557599
Average Efficiency Error : 9.8008178E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2989.195	3299.997	15695.00	0.3542219	1.5214318E-02	44.90919
NP-237	160.8066	28-FEB-2010	4435.631	4906.161	13634.00	0.3532281	1.7918682E-02	60.71558
CM-244	145.8384	28-FEB-2010	5531.938	5886.333	11971.00	0.3606424	1.8330947E-02	47.40115

Instrument : CHAMBER 110
Detector : 67602
Standard ID : AESS-046
Standard Reference Date : 8-JAN-2007 09:29:00
Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:15:06
Average Efficiency : 0.3174780
Average Efficiency Error : 8.7590944E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.6531	28-FEB-2010	2989.370	3301.157	14395.00	0.3105389	1.3360999E-02	53.22070
NP-237	164.3834	28-FEB-2010	4436.284	4904.992	12802.00	0.3244717	1.6475134E-02	64.57879
CM-244	159.4253	28-FEB-2010	5535.250	5883.287	11162.00	0.3209743	1.6333863E-02	56.77616

Instrument : CHAMBER 111
Detector : 79462
Standard ID : AESS-047
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:15:22
Average Efficiency : 0.3410317
Average Efficiency Error : 9.3937013E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2990.820	3300.305	15891.00	0.3395850	1.4582562E-02	46.16263
NP-237	168.3948	28-FEB-2010	4436.744	4905.500	13621.00	0.3369952	1.7095437E-02	61.95173
CM-244	154.6032	28-FEB-2010	5535.002	5885.661	12226.00	0.3474574	1.7654790E-02	55.37262

Instrument : CHAMBER 112
Detector : 78261
Standard ID : AESS-048
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 9-JUL-2009 13:15:42
Average Efficiency : 0.3101838
Average Efficiency Error : 8.5619837E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.969	3300.635	14006.00	0.3081187	1.3261668E-02	44.59222
NP-237	161.5530	28-FEB-2010	4436.114	4905.135	12212.00	0.3149208	1.6001921E-02	60.98758
CM-244	151.1856	28-FEB-2010	5532.983	5884.981	10616.00	0.3085150	1.5713703E-02	48.71024

Instrument	:	CHAMBER 113
Detector	:	45-111B4
Standard ID	:	AESS-001
Standard Reference Date	:	20-FEB-2008 09:54:53
Calibration Analysis Date/Time	:	15-JUL-2009 08:37:50
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	15-JUL-2009 13:43:32
Average Efficiency	:	0.2519916
Average Efficiency Error	:	6.9467155E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2988.779	3298.785	15298.00	0.2475491	1.0637350E-02	69.86681
NP-237	171.0024	28-FEB-2010	4433.559	4905.331	12963.00	0.2526515	1.2826058E-02	72.30716
CM-244	158.1060	28-FEB-2010	5530.517	5883.481	11603.00	0.2580627	1.3123710E-02	68.28992

Instrument	:	CHAMBER 114
Detector	:	78258
Standard ID	:	AESS-007
Standard Reference Date	:	14-FEB-2008 13:39:25
Calibration Analysis Date/Time	:	15-JUL-2009 08:37:55
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	15-JUL-2009 13:43:44
Average Efficiency	:	0.2556549
Average Efficiency Error	:	7.0340075E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2990.441	3298.868	15389.00	0.2513953	1.0801502E-02	44.39313
NP-237	205.0260	28-FEB-2010	4436.900	4905.218	15927.00	0.2589234	1.3107756E-02	58.50210
CM-244	199.6806	28-FEB-2010	5530.599	5885.790	14679.00	0.2586593	1.3108032E-02	49.91982

Instrument	:	CHAMBER 115
Detector	:	45-132FF4
Standard ID	:	AESS-002
Standard Reference Date	:	19-FEB-2008 11:05:22
Calibration Analysis Date/Time	:	15-JUL-2009 08:37:59
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	15-JUL-2009 13:43:54
Average Efficiency	:	0.2654886
Average Efficiency Error	:	7.3024337E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2991.839	3301.816	15791.00	0.2664527	1.1443332E-02	55.36104
NP-237	200.4990	28-FEB-2010	4436.001	4902.052	15786.00	0.2624403	1.3287230E-02	64.95200
CM-244	196.5558	28-FEB-2010	5531.697	5884.118	14942.00	0.2673051	1.3543067E-02	65.53946

Instrument : CHAMBER 116
Detector : 45-132FF2
Standard ID : AESS-008
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 15-JUL-2009 08:38:03
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 15-JUL-2009 13:44:05
Average Efficiency : 0.2629267
Average Efficiency Error : 7.2302124E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2988.005	3302.013	16058.00	0.2632007	1.1300448E-02	59.26229
NP-237	209.2716	28-FEB-2010	4432.895	4903.021	16270.00	0.2591243	1.3114552E-02	68.78876
CM-244	199.6488	28-FEB-2010	5531.311	5883.052	15125.00	0.2665666	1.3503457E-02	63.98270

Instrument : CHAMBER 117
Detector : 33450
Standard ID : AESS-003
Standard Reference Date : 15-FEB-2008 13:12:27
Calibration Analysis Date/Time : 15-JUL-2009 08:38:07
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 15-JUL-2009 13:44:15
Average Efficiency : 0.2535850
Average Efficiency Error : 6.9797374E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2992.173	3300.224	14948.00	0.2486987	1.0691201E-02	65.60831
NP-237	203.2080	28-FEB-2010	4434.403	4904.427	15595.00	0.2557888	1.2952457E-02	67.83129
CM-244	197.2236	28-FEB-2010	5533.135	5885.381	14502.00	0.2586756	1.3111014E-02	62.53085

Instrument : CHAMBER 118
Detector : 75544
Standard ID : AESS-009
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 15-JUL-2009 08:38:11
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 15-JUL-2009 13:44:26
Average Efficiency : 0.2598683
Average Efficiency Error : 7.1489667E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2992.199	3301.179	15535.00	0.2579420	1.1080938E-02	44.86411
NP-237	204.0192	28-FEB-2010	4437.404	4902.417	15842.00	0.2588220	1.3103474E-02	58.11101
CM-244	197.2128	28-FEB-2010	5530.853	5882.689	14791.00	0.2637591	1.3365132E-02	41.32130

Instrument : CHAMBER 119
Detector : 74429
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 15-JUL-2009 08:38:16
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 2-FEB-2009 15:15:38
Average Efficiency : 0.2936279
Average Efficiency Error : 1.2630888E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2992.004	3299.253	9998.000	0.2936279	1.2630888E-02	0.0000000E+00
NP-237	204.2586	28-FEB-2010	4432.548	4906.013	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00
CM-244	198.8100	28-FEB-2010	5530.584	5883.165	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00

Instrument : CHAMBER 120
Detector : 74430
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 15-JUL-2009 08:38:20
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 16-JUL-2009 09:29:36
Average Efficiency : 0.2329810
Average Efficiency Error : 6.4206291E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.522	3298.404	13848.00	0.2315074	9.9664843E-03	47.05631
NP-237	202.9926	28-FEB-2010	4435.328	4903.588	14182.00	0.2328624	1.1806204E-02	59.86080
CM-244	196.2330	28-FEB-2010	5534.528	5884.756	13118.00	0.2352170	1.1938849E-02	50.37906

Instrument : CHAMBER 121
Detector : 75545
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 15-JUL-2009 08:38:24
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 15-JUL-2009 13:44:36
Average Efficiency : 0.2481502
Average Efficiency Error : 6.8278033E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2988.023	3300.631	15450.00	0.2475892	1.0637230E-02	49.92188
NP-237	209.5938	28-FEB-2010	4432.658	4901.599	15670.00	0.2492075	1.2618415E-02	57.40462
CM-244	202.7478	28-FEB-2010	5533.997	5885.295	14284.00	0.2478847	1.2566634E-02	53.21548

Instrument : CHAMBER 122
Detector : 75546
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 15-JUL-2009 08:38:29
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 15-JUL-2009 13:44:46
Average Efficiency : 0.2535488
Average Efficiency Error : 6.9723255E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2990.563	3298.589	16028.00	0.2543318	1.0920011E-02	51.38880
NP-237	214.4868	28-FEB-2010	4436.782	4905.890	16182.00	0.2514608	1.2727518E-02	56.55112
CM-244	208.4184	28-FEB-2010	5532.955	5884.078	15083.00	0.2546007	1.2897825E-02	50.53276

Instrument : CHAMBER 123
Detector : 45-142V3
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 15-JUL-2009 08:38:33
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 15-JUL-2009 13:44:55
Average Efficiency : 0.2599957
Average Efficiency Error : 7.1522635E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2990.850	3299.223	15663.00	0.2596899	1.1154454E-02	71.05709
NP-237	204.7038	28-FEB-2010	4437.241	4905.636	15899.00	0.2588749	1.3105587E-02	67.04378
CM-244	195.0060	28-FEB-2010	5531.191	5886.517	14497.00	0.2615748	1.3257999E-02	62.26140

Instrument : CHAMBER 124
Detector : 45-142V2
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 15-JUL-2009 08:38:38
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 15-JUL-2009 13:45:05
Average Efficiency : 0.2587920
Average Efficiency Error : 7.1179173E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2988.169	3298.838	15692.00	0.2569794	1.1037684E-02	70.68444
NP-237	205.8930	28-FEB-2010	4434.514	4905.983	16135.00	0.2612102	1.3221423E-02	71.87656
CM-244	203.1954	28-FEB-2010	5535.498	5887.649	14956.00	0.2589717	1.3120654E-02	72.67943

Instrument : CHAMBER 125
Detector : 75547
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-JUL-2009 09:11:36
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:23:54
Average Efficiency : 0.2576947
Average Efficiency Error : 7.0884591E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2992.438	3299.892	15734.00	0.2609255	1.1206666E-02	46.30545
NP-237	210.2526	28-FEB-2010	4435.342	4903.042	16013.00	0.2538552	1.2850333E-02	59.85715
CM-244	201.9108	28-FEB-2010	5533.267	5883.118	14760.00	0.2572743	1.3036882E-02	47.93466

Instrument : CHAMBER 126
Detector : 75548
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 17-JUL-2009 09:11:44
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:24:06
Average Efficiency : 0.2541045
Average Efficiency Error : 6.9944067E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2988.642	3299.863	14987.00	0.2472976	1.0630463E-02	48.38591
NP-237	202.9140	28-FEB-2010	4434.022	4903.287	15977.00	0.2624101	1.3283804E-02	54.76476
CM-244	199.3140	28-FEB-2010	5533.750	5882.833	14524.00	0.2563267	1.2991657E-02	55.65510

Instrument : CHAMBER 127
Detector : 78770
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 17-JUL-2009 09:11:52
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:24:19
Average Efficiency : 0.2465067
Average Efficiency Error : 6.7814202E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2987.930	3300.925	15708.00	0.2470578	1.0611333E-02	45.78584
NP-237	211.7160	28-FEB-2010	4433.404	4902.114	15685.00	0.2469317	1.2503051E-02	55.80547
CM-244	207.3882	28-FEB-2010	5533.832	5884.575	14464.00	0.2453295	1.2434963E-02	52.15766

Instrument : CHAMBER 128
Detector : 75549
Standard ID : AESS-020
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 17-JUL-2009 09:11:58
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:24:31
Average Efficiency : 0.2568552
Average Efficiency Error : 7.0680329E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2989.441	3299.762	15295.00	0.2512498	1.0796450E-02	45.99468
NP-237	203.4984	28-FEB-2010	4437.479	4901.607	16011.00	0.2622381	1.3274715E-02	55.45222
CM-244	197.1096	28-FEB-2010	5532.807	5882.614	14556.00	0.2598990	1.3172311E-02	50.77409

Instrument : CHAMBER 129
Detector : 76227
Standard ID : AESS-015
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-JUL-2009 09:12:03
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:24:41
Average Efficiency : 0.2644528
Average Efficiency Error : 7.2740684E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2991.626	3298.866	15762.00	0.2609125	1.1205764E-02	46.80607
NP-237	200.6460	28-FEB-2010	4434.006	4901.792	16185.00	0.2688618	1.3608224E-02	54.56116
CM-244	195.9270	28-FEB-2010	5532.320	5882.430	14766.00	0.2652449	1.3440695E-02	49.47559

Instrument : CHAMBER 130
Detector : 76228
Standard ID : AESS-021
Standard Reference Date : 19-FEB-2008 15:31:52
Calibration Analysis Date/Time : 17-JUL-2009 09:12:07
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:24:51
Average Efficiency : 0.2468057
Average Efficiency Error : 6.7924876E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2987.724	3301.129	15063.00	0.2441104	1.0492519E-02	52.03590
NP-237	210.1548	28-FEB-2010	4432.733	4905.256	15645.00	0.2481126	1.2563273E-02	57.61189
CM-244	200.7390	28-FEB-2010	5534.221	5882.991	14232.00	0.2493957	1.2643824E-02	52.52812

Instrument : CHAMBER 131
Detector : 33448
Standard ID : AESS-016
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-JUL-2009 09:12:11
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:25:01
Average Efficiency : 0.2570197
Average Efficiency Error : 7.0734182E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2990.041	3301.703	15183.00	0.2512954	1.0799803E-02	73.19037
NP-237	199.3962	28-FEB-2010	4437.470	4901.500	15793.00	0.2639839	1.3365344E-02	77.05526
CM-244	198.6402	28-FEB-2010	5535.040	5887.344	14606.00	0.2587552	1.3113786E-02	69.05248

Instrument : CHAMBER 132
Detector : 67579
Standard ID : AESS-022
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 17-JUL-2009 09:12:16
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:25:11
Average Efficiency : 0.2430298
Average Efficiency Error : 6.6918936E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2991.722	3299.982	14858.00	0.2393249	1.0289361E-02	82.35345
NP-237	206.8830	28-FEB-2010	4436.189	4902.037	15718.00	0.2532126	1.2820771E-02	110.8838
CM-244	203.0208	28-FEB-2010	5533.193	5884.042	13792.00	0.2390666	1.2125478E-02	95.32550

Instrument : CHAMBER 133
Detector : 76229
Standard ID : AESS-017
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-JUL-2009 09:12:20
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:25:22
Average Efficiency : 0.2443746
Average Efficiency Error : 6.7256871E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2991.784	3301.677	15064.00	0.2421688	1.0409047E-02	50.61230
NP-237	208.5846	28-FEB-2010	4432.798	4901.797	15477.00	0.2473098	1.2524300E-02	59.86257
CM-244	205.5828	28-FEB-2010	5532.072	5884.338	14290.00	0.2446276	1.2401419E-02	51.55180

Instrument : CHAMBER 134
Detector : 76230
Standard ID : AESS-023
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 17-JUL-2009 09:12:25
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:25:32
Average Efficiency : 0.2446093
Average Efficiency Error : 6.7343172E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.526	3299.017	14780.00	0.2405785	1.0344269E-02	47.58438
NP-237	207.4998	28-FEB-2010	4435.982	4903.287	15238.00	0.2446961	1.2394482E-02	57.76377
CM-244	199.8804	28-FEB-2010	5532.080	5886.000	14233.00	0.2505983	1.2704798E-02	45.62634

Instrument : CHAMBER 135
Detector : 64270
Standard ID : AESS-018
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-JUL-2009 09:12:30
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:25:42
Average Efficiency : 0.2559817
Average Efficiency Error : 7.0438967E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2988.277	3299.628	15593.00	0.2604657	1.1188660E-02	51.52015
NP-237	208.8990	28-FEB-2010	4437.221	4904.200	15580.00	0.2485812	1.2587634E-02	59.07031
CM-244	198.1458	28-FEB-2010	5533.869	5883.613	14517.00	0.2578413	1.3068504E-02	58.17161

Instrument : CHAMBER 136
Detector : 68549
Standard ID : AESS-024
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 17-JUL-2009 09:12:34
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:25:52
Average Efficiency : 0.2467655
Average Efficiency Error : 6.7935060E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2990.353	3301.238	14853.00	0.2464695	1.0596607E-02	65.72455
NP-237	205.6662	28-FEB-2010	4436.739	4902.455	15465.00	0.2505761	1.2689904E-02	90.78280
CM-244	198.3060	28-FEB-2010	5530.869	5887.561	13725.00	0.2435561	1.2354044E-02	84.13201

Instrument : CHAMBER 137
Detector : 64288
Standard ID : AESS-025
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-JUL-2009 09:12:39
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:26:02
Average Efficiency : 0.2552701
Average Efficiency Error : 7.0390012E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.740	3300.102	14923.00	0.2576955	1.1078311E-02	64.99760
NP-237	167.9916	28-FEB-2010	4437.224	4902.644	12892.00	0.2557947	1.2986653E-02	75.28851
CM-244	157.2432	28-FEB-2010	5534.374	5886.101	11242.00	0.2515239	1.2798158E-02	68.25955

Instrument : CHAMBER 138
Detector : 65877
Standard ID : AESS-031
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-JUL-2009 09:12:44
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:26:11
Average Efficiency : 0.2546351
Average Efficiency Error : 7.0242025E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2989.573	3299.020	14588.00	0.2543695	1.0939864E-02	53.70593
NP-237	162.9186	28-FEB-2010	4433.563	4906.044	12608.00	0.2577648	1.3091444E-02	63.94941
CM-244	153.1968	28-FEB-2010	5532.867	5887.098	10976.00	0.2519955	1.2827461E-02	58.23169

Instrument : CHAMBER 139
Detector : 76231
Standard ID : AESS-026
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-JUL-2009 09:12:48
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:26:21
Average Efficiency : 0.2504273
Average Efficiency Error : 7.3419176E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2987.505	3300.432	14828.00	0.2510030	1.2718994E-02	48.79321
NP-237	168.0294	28-FEB-2010	4434.030	4903.806	12788.00	0.2536503	1.2879401E-02	56.03834
CM-244	160.5822	28-FEB-2010	5532.176	5884.231	11264.00	0.2468024	1.2557442E-02	47.42265

Instrument : CHAMBER 140
Detector : 78771
Standard ID : AESS-032
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-JUL-2009 09:12:53
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:26:31
Average Efficiency : 0.2551487
Average Efficiency Error : 7.0366412E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.854	3298.685	14731.00	0.2547957	1.0956220E-02	48.77175
NP-237	165.9822	28-FEB-2010	4432.882	4903.279	12676.00	0.2545053	1.2924591E-02	56.74310
CM-244	153.7938	28-FEB-2010	5532.806	5885.667	11205.00	0.2563040	1.3041983E-02	50.50342

Instrument : CHAMBER 141
Detector : 76232
Standard ID : AESS-027
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-JUL-2009 09:12:58
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:26:40
Average Efficiency : 0.2558747
Average Efficiency Error : 7.5053386E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2991.144	3299.081	14344.00	0.2504358	1.2695894E-02	52.97828
NP-237	161.6154	28-FEB-2010	4432.714	4902.455	12501.00	0.2577664	1.3093018E-02	59.69727
CM-244	148.1754	28-FEB-2010	5530.738	5882.724	10942.00	0.2598479	1.3227826E-02	52.14254

Instrument : CHAMBER 142
Detector : 64261
Standard ID : AESS-033
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-JUL-2009 09:13:03
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:26:50
Average Efficiency : 0.2578609
Average Efficiency Error : 7.1141319E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2990.865	3298.794	14538.00	0.2551434	1.0973847E-02	59.26533
NP-237	161.7816	28-FEB-2010	4432.947	4903.147	12416.00	0.2557132	1.2990172E-02	60.24754
CM-244	147.2670	28-FEB-2010	5532.255	5884.805	11064.00	0.2642446	1.3449099E-02	59.08084

Instrument : CHAMBER 143
Detector : 65882
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-JUL-2009 09:13:09
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:27:11
Average Efficiency : 0.2247539
Average Efficiency Error : 6.6391113E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2987.701	3299.952	14717.00	0.2489303	1.2615234E-02	59.75106
NP-237	168.1992	28-FEB-2010	4432.480	4904.917	12257.00	0.2428234	1.2337844E-02	78.49762
CM-244	156.7614	28-FEB-2010	5535.542	5887.375	8790.000	0.1972357	1.0083942E-02	0.0000000E+00

Instrument : CHAMBER 144
Detector : 75551
Standard ID : AESS-034
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-JUL-2009 09:13:14
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:27:26
Average Efficiency : 0.2489190
Average Efficiency Error : 6.8659927E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2987.490	3300.379	14854.00	0.2501176	1.0753425E-02	46.53134
NP-237	167.2962	28-FEB-2010	4433.137	4902.257	12414.00	0.2473100	1.2563203E-02	59.28743
CM-244	154.4388	28-FEB-2010	5534.787	5886.106	10929.00	0.2488915	1.2670427E-02	55.09279

Instrument : CHAMBER 145
Detector : 72526
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-JUL-2009 09:13:19
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:27:37
Average Efficiency : 0.2495571
Average Efficiency Error : 7.3171528E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2989.366	3298.098	14915.00	0.2498968	1.2661957E-02	51.73314
NP-237	169.7700	28-FEB-2010	4434.265	4904.885	12751.00	0.2503173	1.2710736E-02	57.53227
CM-244	154.8234	28-FEB-2010	5534.192	5886.678	10933.00	0.2484652	1.2648602E-02	48.31667

Instrument : CHAMBER 146
Detector : 72527
Standard ID : AESS-035
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-JUL-2009 09:13:24
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:27:48
Average Efficiency : 0.2495693
Average Efficiency Error : 6.8829530E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2991.494	3297.950	14697.00	0.2498184	1.0742654E-02	54.01461
NP-237	168.2934	28-FEB-2010	4436.761	4904.596	12650.00	0.2505190	1.2722510E-02	56.99129
CM-244	158.8128	28-FEB-2010	5530.438	5886.440	11210.00	0.2482881	1.2634057E-02	52.12059

Instrument : CHAMBER 147
Detector : 75550
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-JUL-2009 09:13:29
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:27:59
Average Efficiency : 0.2449156
Average Efficiency Error : 7.1838433E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2987.763	3300.677	14416.00	0.2446455	1.2401544E-02	44.93960
NP-237	166.3758	28-FEB-2010	4433.256	4902.183	12106.00	0.2424534	1.2321484E-02	55.16415
CM-244	157.1856	28-FEB-2010	5534.346	5885.412	11068.00	0.2477740	1.2610656E-02	48.98204

Instrument : CHAMBER 148
Detector : 74429
Standard ID : AESS-036
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-JUL-2009 09:13:34
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:28:08
Average Efficiency : 0.2454490
Average Efficiency Error : 6.7716590E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2989.918	3302.313	14456.00	0.2424625	1.0429571E-02	47.34021
NP-237	167.4312	28-FEB-2010	4434.677	4904.245	12395.00	0.2467024	1.2532696E-02	55.78803
CM-244	156.4188	28-FEB-2010	5532.604	5884.780	11054.00	0.2485659	1.2651297E-02	54.50585

Instrument : CHAMBER 149
Detector : 33449
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-JUL-2009 09:13:39
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:28:21
Average Efficiency : 0.2457679
Average Efficiency Error : 6.7815189E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2990.126	3302.099	14274.00	0.2437622	1.0487950E-02	64.38747
NP-237	167.1294	28-FEB-2010	4433.957	4903.766	12301.00	0.2453031	1.2463043E-02	67.00629
CM-244	154.7664	28-FEB-2010	5532.840	5885.608	10964.00	0.2491831	1.2684503E-02	59.86861

Instrument : CHAMBER 150
Detector : 75552
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-JUL-2009 09:13:44
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:28:35
Average Efficiency : 0.2487296
Average Efficiency Error : 6.8612574E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2989.847	3298.390	14400.00	0.2458598	1.0576462E-02	51.08628
NP-237	168.7422	28-FEB-2010	4433.411	4903.355	12733.00	0.2514980	1.2770942E-02	58.74739
CM-244	156.3252	28-FEB-2010	5531.584	5883.380	11116.00	0.2501363	1.2729902E-02	54.38089

Instrument : CHAMBER 151
Detector : 75556
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-JUL-2009 09:13:48
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:28:46
Average Efficiency : 0.2462034
Average Efficiency Error : 6.7912084E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2988.196	3299.830	14661.00	0.2473749	1.0638047E-02	50.47650
NP-237	170.0886	28-FEB-2010	4437.520	4904.128	12488.00	0.2447234	1.2430614E-02	54.82476
CM-244	157.7460	28-FEB-2010	5532.939	5887.339	11036.00	0.2460822	1.2525211E-02	55.11473

Instrument : CHAMBER 152
Detector : 76222
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-JUL-2009 09:13:54
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:28:57
Average Efficiency : 0.2424625
Average Efficiency Error : 6.6924468E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2992.335	3299.767	14031.00	0.2436645	1.0487170E-02	49.42483
NP-237	166.6248	28-FEB-2010	4435.085	4902.709	12138.00	0.2428150	1.2339183E-02	57.89848
CM-244	155.8290	28-FEB-2010	5532.813	5882.589	10654.00	0.2404757	1.2247530E-02	56.10107

Instrument : CHAMBER 153
Detector : 76223
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-JUL-2009 09:13:59
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:29:06
Average Efficiency : 0.2537628
Average Efficiency Error : 7.0021353E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2989.763	3301.789	14281.00	0.2508323	1.0792080E-02	43.74009
NP-237	159.1506	28-FEB-2010	4432.699	4901.612	12218.00	0.2558562	1.3000614E-02	52.94971
CM-244	151.7142	28-FEB-2010	5534.359	5886.038	11040.00	0.2559308	1.3026465E-02	50.96056

Instrument : CHAMBER 154
Detector : 76224
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-JUL-2009 09:14:04
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:29:15
Average Efficiency : 0.2562141
Average Efficiency Error : 7.0709228E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2989.543	3301.969	14237.00	0.2571022	1.1062440E-02	44.63987
NP-237	160.8066	28-FEB-2010	4433.171	4901.699	12222.00	0.2533354	1.2872400E-02	53.13824
CM-244	145.8384	28-FEB-2010	5533.478	5884.401	10695.00	0.2579601	1.3137060E-02	43.14489

Instrument : CHAMBER 155
Detector : 75553
Standard ID : AESS-040
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-JUL-2009 09:14:09
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:29:25
Average Efficiency : 0.2566149
Average Efficiency Error : 7.0761675E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2990.863	3299.267	14869.00	0.2581782	1.1099775E-02	49.42255
NP-237	166.8174	28-FEB-2010	4435.628	4901.683	12765.00	0.2550453	1.2950568E-02	57.37749
CM-244	155.0100	28-FEB-2010	5532.390	5885.923	11282.00	0.2560498	1.3027489E-02	54.62441

Instrument : CHAMBER 156
Detector : 75554
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 17-JUL-2009 09:14:14
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:29:35
Average Efficiency : 0.2473153
Average Efficiency Error : 6.8258164E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2992.492	3302.387	14104.00	0.2445442	1.0524000E-02	51.31209
NP-237	164.6658	28-FEB-2010	4436.746	4903.077	12183.00	0.2465298	1.2527379E-02	60.35096
CM-244	151.3824	28-FEB-2010	5533.286	5886.114	10859.00	0.2522683	1.2843768E-02	55.38654

Instrument : CHAMBER 157
Detector : 75555
Standard ID : AESS-041
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-JUL-2009 09:14:19
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:29:49
Average Efficiency : 0.2476787
Average Efficiency Error : 6.8296832E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2992.092	3301.029	14898.00	0.2467154	1.0606610E-02	50.26978
NP-237	171.2268	28-FEB-2010	4432.881	4903.879	12754.00	0.2482167	1.2604078E-02	60.14729
CM-244	159.5796	28-FEB-2010	5533.745	5886.569	11276.00	0.2485061	1.2643948E-02	50.54896

Instrument : CHAMBER 158
Detector : 33451
Standard ID : AESS-047
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-JUL-2009 09:14:24
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:30:01
Average Efficiency : 0.2485719
Average Efficiency Error : 6.8571796E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2989.224	3299.662	14546.00	0.2487231	1.0697613E-02	60.48595
NP-237	168.3948	28-FEB-2010	4433.214	4902.387	12467.00	0.2466980	1.2531369E-02	67.30831
CM-244	154.6032	28-FEB-2010	5532.016	5882.536	11002.00	0.2502942	1.2740301E-02	63.12125

Instrument : CHAMBER 159
Detector : 76225
Standard ID : AESS-042
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-JUL-2009 09:14:28
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:30:14
Average Efficiency : 0.2532322
Average Efficiency Error : 6.9885729E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2990.518	3300.013	14150.00	0.2532160	1.0896488E-02	50.25048
NP-237	159.6558	28-FEB-2010	4434.310	4906.501	12068.00	0.2519211	1.2803175E-02	54.85251
CM-244	150.5208	28-FEB-2010	5532.775	5886.617	10895.00	0.2545989	1.2961634E-02	49.59791

Instrument : CHAMBER 160
Detector : 76226
Standard ID : AESS-048
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-JUL-2009 09:14:34
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-JUL-2009 14:30:32
Average Efficiency : 0.2469152
Average Efficiency Error : 6.8162913E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.201	3297.681	13856.00	0.2439119	1.0500359E-02	46.45536
NP-237	161.5530	28-FEB-2010	4437.389	4904.545	12040.00	0.2483725	1.2623324E-02	55.48813
CM-244	151.1856	28-FEB-2010	5531.162	5885.243	10738.00	0.2498441	1.2722801E-02	48.70280

Instrument : CHAMBER 161
Detector : 70321
Standard ID : AESS-001
Standard Reference Date : 20-FEB-2008 09:54:53
Calibration Analysis Date/Time : 22-JUN-2009 09:48:54
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 14:58:45
Average Efficiency : 0.3680447
Average Efficiency Error : 1.0097147E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2988.612	3298.684	21898.00	0.3541356	1.5135950E-02	64.95872
NP-237	171.0024	28-FEB-2010	4435.424	4903.719	19609.00	0.3821778	1.9302875E-02	80.01273
CM-244	158.1060	28-FEB-2010	5531.313	5883.518	16964.00	0.3762999	1.9035701E-02	66.25313

Instrument : CHAMBER 162
Detector : 70323
Standard ID : AESS-007
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 22-JUN-2009 09:49:01
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 14:59:02
Average Efficiency : 0.3669952
Average Efficiency Error : 1.0053982E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2990.114	3301.116	21863.00	0.3569376	1.5256034E-02	61.57318
NP-237	205.0260	28-FEB-2010	4434.153	4902.154	23087.00	0.3753361	1.8928697E-02	74.80619
CM-244	199.6806	28-FEB-2010	5533.930	5885.193	21283.00	0.3741003	1.8880047E-02	63.50636

Instrument : CHAMBER 163
Detector : 70324
Standard ID : AESS-002
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 22-JUN-2009 09:49:05
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 14:59:20
Average Efficiency : 0.3822009
Average Efficiency Error : 1.0467267E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2992.217	3298.824	22246.00	0.3751688	1.6031768E-02	61.52280
NP-237	200.4990	28-FEB-2010	4434.987	4904.671	23472.00	0.3901615	1.9673660E-02	79.06695
CM-244	196.5558	28-FEB-2010	5533.739	5886.581	21558.00	0.3847618	1.9415820E-02	63.58135

Instrument : CHAMBER 164
Detector : 70325
Standard ID : AESS-008
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 22-JUN-2009 09:49:10
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 14:59:35
Average Efficiency : 0.3786111
Average Efficiency Error : 1.0367543E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2988.804	3300.725	22607.00	0.3703200	1.5821498E-02	54.52739
NP-237	209.2716	28-FEB-2010	4432.850	4902.971	23978.00	0.3819043	1.9253852E-02	71.96546
CM-244	199.6488	28-FEB-2010	5532.641	5885.829	22062.00	0.3878940	1.9569764E-02	60.11813

Instrument : CHAMBER 165
Detector : 72544
Standard ID : AESS-003
Standard Reference Date : 15-FEB-2008 13:12:27
Calibration Analysis Date/Time : 22-JUN-2009 09:49:16
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:00:00
Average Efficiency : 0.3793618
Average Efficiency Error : 1.0392112E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2991.249	3299.371	22074.00	0.3670397	1.5685942E-02	75.43552
NP-237	203.2080	28-FEB-2010	4433.539	4903.436	23735.00	0.3893091	1.9628821E-02	89.50409
CM-244	197.2236	28-FEB-2010	5531.871	5883.913	21843.00	0.3886937	1.9611897E-02	67.83678

Instrument : CHAMBER 166
Detector : 74545
Standard ID : AESS-009
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 22-JUN-2009 09:49:22
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:00:15
Average Efficiency : 0.3891973
Average Efficiency Error : 1.0658387E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2988.840	3300.652	22711.00	0.3768678	1.6100317E-02	54.68238
NP-237	204.0192	28-FEB-2010	4437.331	4901.890	24296.00	0.3969417	2.0009808E-02	77.78448
CM-244	197.2128	28-FEB-2010	5530.967	5883.776	22526.00	0.4007283	2.0213576E-02	56.93469

Instrument : CHAMBER 167
Detector : 72546
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 22-JUN-2009 09:49:28
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:00:26
Average Efficiency : 0.3907633
Average Efficiency Error : 1.0697938E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2988.275	3299.494	23296.00	0.3814596	1.6291581E-02	55.56178
NP-237	204.2586	28-FEB-2010	4434.900	4904.573	24286.00	0.3963182	1.9978439E-02	75.18340
CM-244	198.8100	28-FEB-2010	5533.886	5886.993	22618.00	0.3993391	2.0142792E-02	60.08310

Instrument : CHAMBER 168
Detector : 72547
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 22-JUN-2009 09:49:33
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:00:38
Average Efficiency : 0.3861204
Average Efficiency Error : 1.0573328E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.947	3298.253	22591.00	0.3774759	1.6127346E-02	61.24447
NP-237	202.9926	28-FEB-2010	4435.851	4905.623	23946.00	0.3931818	1.9822638E-02	73.08669
CM-244	196.2330	28-FEB-2010	5534.369	5886.817	21920.00	0.3920950	1.9782864E-02	60.02387

Instrument : CHAMBER 169
Detector : 72548
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 22-JUN-2009 09:49:39
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:00:51
Average Efficiency : 0.3767878
Average Efficiency Error : 1.0317106E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2992.147	3298.542	22931.00	0.3672459	1.5687475E-02	58.28659
NP-237	209.5938	28-FEB-2010	4434.044	4903.513	24256.00	0.3856335	1.9440131E-02	72.53197
CM-244	202.7478	28-FEB-2010	5532.339	5885.069	22094.00	0.3825103	1.9297916E-02	57.36194

Instrument : CHAMBER 170
Detector : 72549
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 22-JUN-2009 09:49:44
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:01:02
Average Efficiency : 0.3672283
Average Efficiency Error : 1.0055818E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2991.920	3299.334	22602.00	0.3584369	1.5313840E-02	55.24641
NP-237	214.4868	28-FEB-2010	4433.260	4904.103	24108.00	0.3746104	1.8885318E-02	73.41397
CM-244	208.4184	28-FEB-2010	5534.714	5883.037	22158.00	0.3731794	1.8826678E-02	58.17384

Instrument : CHAMBER 171
Detector : 78260
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 22-JUN-2009 09:49:50
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:01:15
Average Efficiency : 0.3843338
Average Efficiency Error : 1.0524615E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2990.586	3301.332	22712.00	0.3763276	1.6077265E-02	51.07104
NP-237	204.7038	28-FEB-2010	4435.496	4904.863	23664.00	0.3853128	1.9427808E-02	72.98476
CM-244	195.0060	28-FEB-2010	5533.949	5887.016	21979.00	0.3956421	1.9961338E-02	55.64689

Instrument : CHAMBER 172
Detector : 78772
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 22-JUN-2009 09:49:55
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:01:28
Average Efficiency : 0.3826092
Average Efficiency Error : 1.0474577E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2988.628	3299.646	23148.00	0.3788596	1.6181752E-02	48.41407
NP-237	205.8930	28-FEB-2010	4435.466	4905.809	24139.00	0.3907726	1.9699879E-02	75.41741
CM-244	203.1954	28-FEB-2010	5531.112	5885.129	22005.00	0.3801389	1.9178953E-02	52.17172

Instrument : CHAMBER 173
Detector : 74431
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 22-JUN-2009 09:50:01
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:01:41
Average Efficiency : 0.2593230
Average Efficiency Error : 7.1322038E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2990.621	3299.926	15676.00	0.2597894	1.1158522E-02	50.69847
NP-237	210.2526	28-FEB-2010	4436.753	4901.757	16312.00	0.2585954	1.3087362E-02	58.81396
CM-244	201.9108	28-FEB-2010	5535.262	5886.887	14926.00	0.2594097	1.3143276E-02	55.15737

Instrument : CHAMBER 174
Detector : 74432
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 22-JUN-2009 09:50:07
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:01:51
Average Efficiency : 0.2561836
Average Efficiency Error : 7.0509571E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2992.065	3302.471	15121.00	0.2493561	1.0717154E-02	52.25386
NP-237	202.9140	28-FEB-2010	4435.541	4905.194	16194.00	0.2660043	1.3463500E-02	57.47507
CM-244	199.3140	28-FEB-2010	5531.639	5887.080	14608.00	0.2570774	1.3028788E-02	54.29767

Instrument : CHAMBER 175
Detector : 74433
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 22-JUN-2009 09:50:12
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:02:01
Average Efficiency : 0.2515986
Average Efficiency Error : 6.9203642E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2989.238	3298.426	15722.00	0.2471218	1.0613844E-02	45.29536
NP-237	211.7160	28-FEB-2010	4435.144	4905.490	16108.00	0.2535914	1.2836066E-02	57.72879
CM-244	207.3882	28-FEB-2010	5533.995	5885.818	15149.00	0.2562569	1.2980960E-02	47.84649

Instrument	:	CHAMBER 176
Detector	:	74434
Standard ID	:	AESS-020
Standard Reference Date	:	14-FEB-2008 21:55:55
Calibration Analysis Date/Time	:	22-JUN-2009 09:50:17
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	22-JUN-2009 15:02:12
Average Efficiency	:	0.2579391
Average Efficiency Error	:	7.0963693E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2991.698	3297.590	15497.00	0.2544173	1.0929942E-02	49.36812
NP-237	203.4984	28-FEB-2010	4432.745	4903.265	15910.00	0.2605837	1.3191990E-02	55.23719
CM-244	197.1096	28-FEB-2010	5530.868	5886.966	14625.00	0.2604272	1.3198279E-02	48.45524

Instrument	:	CHAMBER 177
Detector	:	74435
Standard ID	:	AESS-015
Standard Reference Date	:	14-FEB-2008 17:45:04
Calibration Analysis Date/Time	:	22-JUN-2009 09:50:23
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	22-JUN-2009 15:02:24
Average Efficiency	:	0.2681777
Average Efficiency Error	:	7.3747509E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2991.057	3299.457	16007.00	0.2647958	1.1369478E-02	47.28368
NP-237	200.6460	28-FEB-2010	4434.482	4904.663	16304.00	0.2708437	1.3707319E-02	53.90463
CM-244	195.9270	28-FEB-2010	5533.411	5885.598	15098.00	0.2704247	1.3699308E-02	53.91009

Instrument	:	CHAMBER 178
Detector	:	74436
Standard ID	:	AESS-021
Standard Reference Date	:	19-FEB-2008 15:31:52
Calibration Analysis Date/Time	:	22-JUN-2009 09:50:28
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	22-JUN-2009 15:02:37
Average Efficiency	:	0.2556835
Average Efficiency Error	:	7.0334878E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2991.779	3302.215	15571.00	0.2521989	1.0833724E-02	47.95219
NP-237	210.1548	28-FEB-2010	4435.746	4905.748	16086.00	0.2551121	1.2913272E-02	51.54728
CM-244	200.7390	28-FEB-2010	5532.798	5883.324	14964.00	0.2614959	1.3248475E-02	50.56778

Instrument : CHAMBER 179
Detector : 74437
Standard ID : AESS-016
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 22-JUN-2009 09:50:33
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:02:54
Average Efficiency : 0.2622361
Average Efficiency Error : 7.2137858E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2988.919	3302.532	15791.00	0.2611886	1.1217199E-02	49.05256
NP-237	199.3962	28-FEB-2010	4432.536	4902.537	16046.00	0.2682333	1.3577815E-02	59.11048
CM-244	198.6402	28-FEB-2010	5530.871	5882.740	14609.00	0.2580948	1.3080338E-02	50.98325

Instrument : CHAMBER 180
Detector : 74438
Standard ID : AESS-022
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 22-JUN-2009 09:50:39
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:03:14
Average Efficiency : 0.2506651
Average Efficiency Error : 6.8974807E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.905	3300.775	15284.00	0.2460265	1.0572049E-02	47.55061
NP-237	206.8830	28-FEB-2010	4435.062	4905.007	15694.00	0.2528355	1.2801906E-02	57.86346
CM-244	203.0208	28-FEB-2010	5531.655	5887.118	14776.00	0.2553983	1.2941745E-02	52.08472

Instrument : CHAMBER 181
Detector : 74439
Standard ID : AESS-017
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 22-JUN-2009 09:50:44
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:03:27
Average Efficiency : 0.2556638
Average Efficiency Error : 7.0319269E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2987.507	3301.291	15701.00	0.2522502	1.0834388E-02	45.61578
NP-237	208.5846	28-FEB-2010	4436.916	4901.810	16267.00	0.2599201	1.3154872E-02	58.60517
CM-244	205.5828	28-FEB-2010	5535.507	5887.405	15025.00	0.2564206	1.2990783E-02	53.43116

Instrument	:	CHAMBER 182
Detector	:	74440
Standard ID	:	AESS-023
Standard Reference Date	:	14-FEB-2008 21:55:55
Calibration Analysis Date/Time	:	22-JUN-2009 09:50:49
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	22-JUN-2009 15:03:39
Average Efficiency	:	0.2558407
Average Efficiency Error	:	7.0378492E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2992.364	3301.476	15578.00	0.2534181	1.0886028E-02	44.54460
NP-237	207.4998	28-FEB-2010	4437.311	4901.783	16019.00	0.2573143	1.3025383E-02	55.86248
CM-244	199.8804	28-FEB-2010	5534.452	5885.559	14687.00	0.2578480	1.3066921E-02	50.87081

Instrument	:	CHAMBER 183
Detector	:	74441
Standard ID	:	AESS-018
Standard Reference Date	:	14-FEB-2008 17:45:04
Calibration Analysis Date/Time	:	22-JUN-2009 09:50:53
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	22-JUN-2009 15:03:53
Average Efficiency	:	0.2616060
Average Efficiency Error	:	7.1956841E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2990.145	3298.781	15838.00	0.2643961	1.1354355E-02	49.09375
NP-237	208.8990	28-FEB-2010	4434.414	4904.732	16046.00	0.2560026	1.2958746E-02	55.38850
CM-244	198.1458	28-FEB-2010	5533.565	5885.751	14889.00	0.2636993	1.3361022E-02	51.92845

Instrument	:	CHAMBER 184
Detector	:	74442
Standard ID	:	AESS-024
Standard Reference Date	:	14-FEB-2008 21:55:55
Calibration Analysis Date/Time	:	22-JUN-2009 09:50:58
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	22-JUN-2009 15:04:06
Average Efficiency	:	0.2583629
Average Efficiency Error	:	7.1082856E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2990.570	3301.301	15320.00	0.2540686	1.0917156E-02	45.64460
NP-237	205.6662	28-FEB-2010	4435.154	4904.955	16035.00	0.2598630	1.3154246E-02	56.52773
CM-244	198.3060	28-FEB-2010	5531.440	5886.825	14876.00	0.2632301	1.3337432E-02	51.73911

Instrument : CHAMBER 185
Detector : 68615
Standard ID : AESS-025
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 22-JUN-2009 09:51:04
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:04:16
Average Efficiency : 0.2577632
Average Efficiency Error : 7.1065617E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.840	3300.640	15138.00	0.2612484	1.1228072E-02	58.07288
NP-237	167.9916	28-FEB-2010	4434.438	4901.812	12961.00	0.2571577	1.3054820E-02	59.76388
CM-244	157.2432	28-FEB-2010	5531.912	5887.166	11372.00	0.2537484	1.2908846E-02	57.77697

Instrument : CHAMBER 186
Detector : 68616
Standard ID : AESS-031
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 22-JUN-2009 09:51:09
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:04:28
Average Efficiency : 0.2545925
Average Efficiency Error : 7.0233443E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2987.988	3300.097	14397.00	0.2508908	1.0792810E-02	50.66381
NP-237	162.9186	28-FEB-2010	4435.729	4904.174	12681.00	0.2594548	1.3175752E-02	61.08182
CM-244	153.1968	28-FEB-2010	5530.696	5887.018	11148.00	0.2552285	1.2988597E-02	55.37442

Instrument : CHAMBER 187
Detector : 68620
Standard ID : AESS-026
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 22-JUN-2009 09:51:15
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:04:38
Average Efficiency : 0.2487007
Average Efficiency Error : 7.2918888E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2991.780	3300.355	14881.00	0.2517360	1.2755483E-02	50.86592
NP-237	168.0294	28-FEB-2010	4437.583	4904.093	12548.00	0.2488833	1.2641029E-02	60.88034
CM-244	160.5822	28-FEB-2010	5535.508	5884.097	11241.00	0.2456087	1.2497237E-02	52.60560

Instrument : CHAMBER 188
Detector : 68621
Standard ID : AESS-032
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 22-JUN-2009 09:51:20
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:04:49
Average Efficiency : 0.2586242
Average Efficiency Error : 7.1308562E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2991.235	3299.192	14866.00	0.2569736	1.1047941E-02	51.13421
NP-237	165.9822	28-FEB-2010	4434.285	4905.242	12979.00	0.2606384	1.3231235E-02	56.78614
CM-244	153.7938	28-FEB-2010	5530.351	5883.763	11355.00	0.2589744	1.3175028E-02	50.04874

Instrument : CHAMBER 189
Detector : 68622
Standard ID : AESS-027
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 22-JUN-2009 09:51:25
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:05:00
Average Efficiency : 0.2605101
Average Efficiency Error : 7.6384274E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2989.861	3302.155	14783.00	0.2579485	1.3071399E-02	55.19755
NP-237	161.6154	28-FEB-2010	4432.574	4905.866	12646.00	0.2608190	1.3245604E-02	56.80165
CM-244	148.1754	28-FEB-2010	5531.675	5887.456	11101.00	0.2628785	1.3378831E-02	53.23755

Instrument : CHAMBER 190
Detector : 68623
Standard ID : AESS-033
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 22-JUN-2009 09:51:31
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:05:13
Average Efficiency : 0.2627474
Average Efficiency Error : 7.2460058E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2987.675	3299.750	14852.00	0.2604897	1.1199310E-02	47.17914
NP-237	161.7816	28-FEB-2010	4435.687	4904.443	12741.00	0.2623105	1.3320174E-02	60.95700
CM-244	147.2670	28-FEB-2010	5531.545	5882.933	11195.00	0.2665110	1.3562006E-02	48.64064

Instrument : CHAMBER 191
Detector : 68624
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 22-JUN-2009 09:51:36
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:05:24
Average Efficiency : 0.2624353
Average Efficiency Error : 7.6893568E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2991.084	3299.950	15363.00	0.2597040	1.3153810E-02	50.65557
NP-237	168.1992	28-FEB-2010	4432.587	4904.375	13466.00	0.2668662	1.3540036E-02	59.46810
CM-244	156.7614	28-FEB-2010	5530.362	5884.163	11655.00	0.2609591	1.3270005E-02	54.62358

Instrument : CHAMBER 192
Detector : 74430
Standard ID : AESS-034
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 22-JUN-2009 09:51:41
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:05:39
Average Efficiency : 0.2528592
Average Efficiency Error : 6.9742138E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2991.302	3300.346	14675.00	0.2469523	1.0619615E-02	46.13663
NP-237	167.2962	28-FEB-2010	4433.147	4904.787	12994.00	0.2588962	1.3142551E-02	54.53447
CM-244	154.4388	28-FEB-2010	5530.391	5883.883	11261.00	0.2558116	1.3015866E-02	47.75322

Instrument : CHAMBER 193
Detector : 68627
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 22-JUN-2009 09:51:47
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:05:50
Average Efficiency : 0.2616625
Average Efficiency Error : 7.6664970E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2992.456	3299.248	15599.00	0.2611919	1.3226620E-02	70.75836
NP-237	169.7700	28-FEB-2010	4434.921	4903.889	13250.00	0.2601501	1.3202393E-02	85.04011
CM-244	154.8234	28-FEB-2010	5531.552	5883.390	11633.00	0.2637065	1.3410171E-02	75.12811

Instrument : CHAMBER 194
Detector : 68635
Standard ID : AESS-035
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 22-JUN-2009 09:51:52
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:06:02
Average Efficiency : 0.2568864
Average Efficiency Error : 7.0813606E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2988.759	3300.939	14987.00	0.2545973	1.0944160E-02	50.81337
NP-237	168.2934	28-FEB-2010	4437.087	4905.856	13065.00	0.2587210	1.3132677E-02	56.26561
CM-244	158.8128	28-FEB-2010	5532.909	5884.238	11698.00	0.2583487	1.3136664E-02	49.04685

Instrument : CHAMBER 195
Detector : 68636
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 22-JUN-2009 09:51:58
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:06:11
Average Efficiency : 0.2565587
Average Efficiency Error : 7.5203422E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2990.427	3298.108	14898.00	0.2526821	1.2803250E-02	52.36766
NP-237	166.3758	28-FEB-2010	4435.602	4904.677	13066.00	0.2617230	1.3285043E-02	56.16147
CM-244	157.1856	28-FEB-2010	5531.920	5883.250	11450.00	0.2556100	1.3001991E-02	53.60020

Instrument : CHAMBER 196
Detector : 68637
Standard ID : AESS-036
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 22-JUN-2009 09:52:03
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:06:21
Average Efficiency : 0.2579557
Average Efficiency Error : 7.1107536E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2987.764	3299.421	15154.00	0.2540307	1.0917650E-02	54.18713
NP-237	167.4312	28-FEB-2010	4434.243	4902.720	13085.00	0.2604812	1.3221670E-02	59.74107
CM-244	156.4188	28-FEB-2010	5534.908	5886.289	11649.00	0.2612170	1.3283413E-02	54.65987

Instrument : CHAMBER 197
Detector : 78894
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 23-JUN-2009 08:30:18
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 23-JUN-2009 13:40:27
Average Efficiency : 0.2567551
Average Efficiency Error : 7.0790784E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.459	3301.421	14935.00	0.2548909	1.0957510E-02	53.54255
NP-237	167.1294	28-FEB-2010	4433.039	4903.794	12934.00	0.2579639	1.3096124E-02	56.62766
CM-244	154.7664	28-FEB-2010	5533.211	5885.723	11391.00	0.2582181	1.3135778E-02	57.79705

Instrument : CHAMBER 198
Detector : 78895
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 22-JUN-2009 09:52:14
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:06:54
Average Efficiency : 0.2558283
Average Efficiency Error : 7.0531382E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2990.792	3298.953	15029.00	0.2564534	1.1023409E-02	56.63857
NP-237	168.7422	28-FEB-2010	4433.042	4902.810	12945.00	0.2557096	1.2981524E-02	58.76215
CM-244	156.3252	28-FEB-2010	5530.984	5882.838	11372.00	0.2550805	1.2976733E-02	53.96784

Instrument : CHAMBER 199
Detector : 78896
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 22-JUN-2009 09:52:19
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:07:05
Average Efficiency : 0.2503328
Average Efficiency Error : 6.9033257E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2992.467	3301.736	15050.00	0.2537782	1.0908134E-02	52.31808
NP-237	170.0886	28-FEB-2010	4433.639	4904.142	12664.00	0.2481491	1.2601945E-02	58.89103
CM-244	157.7460	28-FEB-2010	5532.893	5884.873	11149.00	0.2479126	1.2616216E-02	52.99783

Instrument : CHAMBER 200
Detector : 78900
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 22-JUN-2009 09:52:25
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:07:19
Average Efficiency : 0.2686577
Average Efficiency Error : 7.4024275E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2991.709	3299.237	15525.00	0.2694455	1.1575188E-02	52.63724
NP-237	166.6248	28-FEB-2010	4433.212	4903.912	13505.00	0.2700959	1.3703452E-02	61.10624
CM-244	155.8290	28-FEB-2010	5534.189	5887.638	11827.00	0.2661784	1.3532363E-02	53.69180

Instrument : CHAMBER 201
Detector : 78902
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 22-JUN-2009 09:52:31
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:07:30
Average Efficiency : 0.2608171
Average Efficiency Error : 7.1935584E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.500	3302.053	14805.00	0.2599045	1.1174787E-02	49.08611
NP-237	159.1506	28-FEB-2010	4433.282	4904.434	12713.00	0.2662428	1.3519990E-02	52.63206
CM-244	151.7142	28-FEB-2010	5534.865	5882.809	11118.00	0.2569896	1.3078903E-02	48.72089

Instrument : CHAMBER 202
Detector : 78903
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 22-JUN-2009 09:52:37
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:07:41
Average Efficiency : 0.2643825
Average Efficiency Error : 7.2935103E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2990.900	3298.618	14652.00	0.2644352	1.1371753E-02	43.60920
NP-237	160.8066	28-FEB-2010	4432.436	4902.692	12420.00	0.2574461	1.3077959E-02	54.52970
CM-244	145.8384	28-FEB-2010	5532.047	5884.818	11313.00	0.2720752	1.3842396E-02	44.04590

Instrument : CHAMBER 203
Detector : 78905
Standard ID : AESS-040
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 22-JUN-2009 09:52:43
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:07:50
Average Efficiency : 0.2542375
Average Efficiency Error : 7.0116646E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2989.958	3298.323	14729.00	0.2555648	1.0989280E-02	48.90236
NP-237	166.8174	28-FEB-2010	4433.591	4904.036	12594.00	0.2515985	1.2778236E-02	52.39742
CM-244	155.0100	28-FEB-2010	5533.281	5885.816	11276.00	0.2551089	1.2980009E-02	47.65225

Instrument : CHAMBER 204
Detector : 78907
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 22-JUN-2009 09:52:49
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:08:00
Average Efficiency : 0.2538103
Average Efficiency Error : 7.0014698E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2990.324	3298.173	14541.00	0.2519002	1.0834365E-02	51.17892
NP-237	164.6658	28-FEB-2010	4437.399	4902.424	12509.00	0.2531350	1.2857672E-02	56.33944
CM-244	151.3824	28-FEB-2010	5531.626	5884.261	11110.00	0.2573011	1.3094992E-02	51.37049

Instrument : CHAMBER 205
Detector : 78908
Standard ID : AESS-041
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 22-JUN-2009 09:52:54
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 22-JUN-2009 15:08:10
Average Efficiency : 0.2561495
Average Efficiency Error : 7.0592412E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2988.508	3302.170	15373.00	0.2544265	1.0931892E-02	47.59354
NP-237	171.2268	28-FEB-2010	4433.168	4903.946	13244.00	0.2578140	1.3083938E-02	59.69577
CM-244	159.5796	28-FEB-2010	5533.636	5886.419	11689.00	0.2569510	1.3065674E-02	49.40511

Instrument	:	CHAMBER 206
Detector	:	78909
Standard ID	:	AESS-047
Standard Reference Date	:	19-FEB-2008 00:32:27
Calibration Analysis Date/Time	:	22-JUN-2009 09:53:00
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	22-JUN-2009 15:08:23
Average Efficiency	:	0.2574005
Average Efficiency Error	:	7.0962599E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2988.616	3302.433	15062.00	0.2573945	1.1063425E-02	48.19839
NP-237	168.3948	28-FEB-2010	4432.477	4902.186	13001.00	0.2573397	1.3063446E-02	52.88721
CM-244	154.6032	28-FEB-2010	5535.166	5886.569	11347.00	0.2574700	1.3098557E-02	52.05136

Instrument	:	CHAMBER 207
Detector	:	78910
Standard ID	:	AESS-042
Standard Reference Date	:	18-FEB-2008 15:31:47
Calibration Analysis Date/Time	:	22-JUN-2009 09:53:05
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	22-JUN-2009 15:08:36
Average Efficiency	:	0.2561320
Average Efficiency Error	:	7.0672869E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2987.858	3301.538	14376.00	0.2570925	1.1059917E-02	51.83183
NP-237	159.6558	28-FEB-2010	4432.769	4903.719	12374.00	0.2583224	1.3123268E-02	56.06316
CM-244	150.5208	28-FEB-2010	5533.705	5886.686	10845.00	0.2527259	1.2867418E-02	54.23968

Instrument	:	CHAMBER 208
Detector	:	78911
Standard ID	:	AESS-048
Standard Reference Date	:	19-FEB-2008 00:32:27
Calibration Analysis Date/Time	:	22-JUN-2009 09:53:10
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	22-JUN-2009 15:08:47
Average Efficiency	:	0.2524280
Average Efficiency Error	:	6.9653862E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2990.819	3299.505	14260.00	0.2508653	1.0793664E-02	50.33332
NP-237	161.5530	28-FEB-2010	4435.407	4905.872	12192.00	0.2515088	1.2780157E-02	58.56274
CM-244	151.1856	28-FEB-2010	5534.932	5887.260	11020.00	0.2556523	1.3012759E-02	49.93821

Instrument : CHAMBER 209
Detector : 79188
Standard ID : AESS-001
Standard Reference Date : 20-FEB-2008 09:54:53
Calibration Analysis Date/Time : 29-JUN-2009 11:06:21
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:25:14
Average Efficiency : 0.3677108
Average Efficiency Error : 1.0086662E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2989.181	3301.049	21968.00	0.3553457	1.5187075E-02	65.89574
NP-237	171.0024	28-FEB-2010	4433.021	4903.097	19297.00	0.3761547	1.9001663E-02	90.73633
CM-244	158.1060	28-FEB-2010	5532.718	5885.886	17059.00	0.3788077	1.9161167E-02	62.71068

Instrument : CHAMBER 210
Detector : 79189
Standard ID : AESS-002
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 29-JUN-2009 11:06:26
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:25:32
Average Efficiency : 0.3938951
Average Efficiency Error : 1.0783576E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2990.859	3297.943	23047.00	0.3887416	1.6604694E-02	57.83068
NP-237	200.4990	28-FEB-2010	4435.076	4904.812	24104.00	0.4007338	2.0202259E-02	76.70370
CM-244	196.5558	28-FEB-2010	5533.646	5886.210	22093.00	0.3946623	1.9910963E-02	61.67818

Instrument : CHAMBER 211
Detector : 79190
Standard ID : AESS-003
Standard Reference Date : 15-FEB-2008 13:12:27
Calibration Analysis Date/Time : 29-JUN-2009 11:06:32
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:25:46
Average Efficiency : 0.3797782
Average Efficiency Error : 1.0400439E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2988.624	3301.653	22395.00	0.3724639	1.5914930E-02	64.54439
NP-237	203.2080	28-FEB-2010	4436.794	4902.468	23454.00	0.3847243	1.9399559E-02	74.42917
CM-244	197.2236	28-FEB-2010	5532.766	5886.120	21658.00	0.3857397	1.9464286E-02	63.38742

Instrument : CHAMBER 212
Detector : 79191
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 29-JUN-2009 11:06:38
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:25:56
Average Efficiency : 0.3834927
Average Efficiency Error : 1.0500317E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2989.287	3301.382	22921.00	0.3754007	1.6035914E-02	59.43782
NP-237	204.2586	28-FEB-2010	4434.079	4904.410	23916.00	0.3902802	1.9676529E-02	70.71378
CM-244	198.8100	28-FEB-2010	5534.335	5887.654	22006.00	0.3888572	1.9618779E-02	58.13512

Instrument : CHAMBER 213
Detector : 79192
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 29-JUN-2009 11:06:43
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:26:06
Average Efficiency : 0.3631246
Average Efficiency Error : 9.9473838E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2990.968	3298.520	22030.00	0.3528930	1.5081747E-02	65.96364
NP-237	209.5938	28-FEB-2010	4437.380	4902.572	23193.00	0.3688471	1.8600717E-02	79.66854
CM-244	202.7478	28-FEB-2010	5532.282	5885.336	21539.00	0.3732129	1.8833132E-02	63.84235

Instrument : CHAMBER 214
Detector : 79193
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 29-JUN-2009 11:06:48
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:26:15
Average Efficiency : 0.3842220
Average Efficiency Error : 1.0522687E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2990.403	3298.091	22543.00	0.3736039	1.5962366E-02	54.14455
NP-237	204.7038	28-FEB-2010	4437.439	4902.827	23935.00	0.3897505	1.9649688E-02	76.09060
CM-244	195.0060	28-FEB-2010	5532.795	5885.993	21931.00	0.3950915	1.9933926E-02	57.07459

Instrument : CHAMBER 215
Detector : 79194
Standard ID : AESS-007
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 29-JUN-2009 11:06:53
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:26:24
Average Efficiency : 0.3850240
Average Efficiency Error : 1.0540539E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2990.062	3302.465	23238.00	0.3794642	1.6206851E-02	59.62454
NP-237	205.0260	28-FEB-2010	4436.774	4902.728	24080.00	0.3914905	1.9736437E-02	77.73202
CM-244	199.6806	28-FEB-2010	5533.954	5882.708	21984.00	0.3867625	1.9513281E-02	61.70960

Instrument : CHAMBER 216
Detector : 79195
Standard ID : AESS-008
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 29-JUN-2009 11:06:59
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:26:33
Average Efficiency : 0.3755702
Average Efficiency Error : 1.0284359E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2992.227	3300.068	22506.00	0.3687362	1.5754715E-02	57.73516
NP-237	209.2716	28-FEB-2010	4434.095	4904.331	23839.00	0.3797142	1.9144330E-02	77.62376
CM-244	199.6488	28-FEB-2010	5533.563	5886.220	21686.00	0.3815858	1.9254461E-02	58.78411

Instrument : CHAMBER 217
Detector : 79410
Standard ID : AESS-009
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 29-JUN-2009 11:07:05
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:26:43
Average Efficiency : 0.3781467
Average Efficiency Error : 1.0355381E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2992.213	3299.566	22448.00	0.3725700	1.5918989E-02	57.23290
NP-237	204.0192	28-FEB-2010	4433.215	4903.920	23291.00	0.3805314	1.9189263E-02	75.68012
CM-244	197.2128	28-FEB-2010	5534.328	5882.531	21567.00	0.3839772	1.9376099E-02	61.18950

Instrument : CHAMBER 218
Detector : 79411
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 29-JUN-2009 11:07:11
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:26:51
Average Efficiency : 0.3930978
Average Efficiency Error : 1.0763295E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.601	3298.221	22913.00	0.3829195	1.6357172E-02	60.17708
NP-237	202.9926	28-FEB-2010	4432.747	4903.769	24319.00	0.3993416	2.0130621E-02	79.18008
CM-244	196.2330	28-FEB-2010	5534.561	5882.956	22479.00	0.4024245	2.0299474E-02	60.89557

Instrument : CHAMBER 219
Detector : 79412
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 29-JUN-2009 11:07:16
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:27:01
Average Efficiency : 0.3689672
Average Efficiency Error : 1.0101880E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2989.180	3302.094	22853.00	0.3624727	1.5484245E-02	56.52708
NP-237	214.4868	28-FEB-2010	4436.774	4902.239	24088.00	0.3743512	1.8872330E-02	86.37078
CM-244	208.4184	28-FEB-2010	5532.237	5885.415	22142.00	0.3732110	1.8828364E-02	61.88073

Instrument : CHAMBER 220
Detector : 79413
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 29-JUN-2009 11:07:21
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:27:10
Average Efficiency : 0.3750438
Average Efficiency Error : 1.0269084E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2990.438	3302.525	22663.00	0.3709926	1.5849777E-02	57.01278
NP-237	205.8930	28-FEB-2010	4435.000	4905.156	23426.00	0.3792588	1.9124148E-02	81.06312
CM-244	203.1954	28-FEB-2010	5534.774	5882.515	21789.00	0.3767064	1.9007433E-02	61.18806

Instrument : CHAMBER 221
Detector : 79414
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 29-JUN-2009 11:07:27
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:27:19
Average Efficiency : 0.3793155
Average Efficiency Error : 1.0384974E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2991.987	3300.655	22692.00	0.3761454	1.6069671E-02	54.91935
NP-237	210.2526	28-FEB-2010	4433.096	4905.038	23943.00	0.3795863	1.9137202E-02	74.16172
CM-244	201.9108	28-FEB-2010	5531.434	5885.564	22050.00	0.3836373	1.9355079E-02	57.98247

Instrument : CHAMBER 222
Detector : 79415
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 29-JUN-2009 11:07:32
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:27:29
Average Efficiency : 0.3503861
Average Efficiency Error : 9.6052606E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2991.968	3297.845	21293.00	0.3347430	1.4312199E-02	57.14749
NP-237	211.7160	28-FEB-2010	4434.336	4906.032	23208.00	0.3653858	1.8426064E-02	76.21756
CM-244	207.3882	28-FEB-2010	5530.429	5882.613	21327.00	0.3610742	1.8222243E-02	61.58858

Instrument : CHAMBER 223
Detector : 79416
Standard ID : AESS-015
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 29-JUN-2009 11:07:37
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:27:39
Average Efficiency : 0.3893896
Average Efficiency Error : 1.0661449E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2989.801	3297.756	23051.00	0.3813936	1.6290823E-02	56.25597
NP-237	200.6460	28-FEB-2010	4434.980	4902.483	23824.00	0.3957835	1.9954618E-02	75.62739
CM-244	195.9270	28-FEB-2010	5530.752	5886.350	22029.00	0.3949774	1.9927377E-02	58.25835

Instrument : CHAMBER 224
Detector : 79417
Standard ID : AESS-016
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 29-JUN-2009 11:07:43
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:27:48
Average Efficiency : 0.3855355
Average Efficiency Error : 1.0559128E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2987.708	3297.620	22614.00	0.3741145	1.5983578E-02	56.47799
NP-237	199.3962	28-FEB-2010	4432.391	4904.314	23852.00	0.3987372	2.0103335E-02	75.47507
CM-244	198.6402	28-FEB-2010	5535.163	5883.043	22064.00	0.3902014	1.9686140E-02	61.20261

Instrument : CHAMBER 225
Detector : 79418
Standard ID : AESS-017
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 29-JUN-2009 11:07:48
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:28:00
Average Efficiency : 0.3784462
Average Efficiency Error : 1.0361466E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2990.136	3297.838	23025.00	0.3699967	1.5804220E-02	54.96978
NP-237	208.5846	28-FEB-2010	4432.708	4903.892	24244.00	0.3874272	1.9530520E-02	72.92027
CM-244	205.5828	28-FEB-2010	5534.915	5883.445	22371.00	0.3822702	1.9283641E-02	60.31302

Instrument : CHAMBER 226
Detector : 79419
Standard ID : AESS-018
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 29-JUN-2009 11:07:53
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:28:10
Average Efficiency : 0.3837910
Average Efficiency Error : 1.0508147E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2990.396	3299.355	22716.00	0.3792837	1.6203530E-02	50.45033
NP-237	208.8990	28-FEB-2010	4437.021	4903.289	23922.00	0.3817108	1.9244449E-02	73.07991
CM-244	198.1458	28-FEB-2010	5534.002	5887.398	22152.00	0.3927352	1.9813271E-02	59.33780

Instrument : CHAMBER 227
Detector : 79420
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 29-JUN-2009 11:07:59
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:28:21
Average Efficiency : 0.3834471
Average Efficiency Error : 1.0500080E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2988.851	3301.430	22706.00	0.3745125	1.5999762E-02	61.38483
NP-237	202.9140	28-FEB-2010	4435.798	4901.523	23913.00	0.3928266	1.9804921E-02	69.44127
CM-244	199.3140	28-FEB-2010	5532.218	5885.954	22005.00	0.3876506	1.9557914E-02	59.98711

Instrument : CHAMBER 228
Detector : 79421
Standard ID : AESS-020
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 29-JUN-2009 11:08:06
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:28:30
Average Efficiency : 0.3812083
Average Efficiency Error : 1.0441090E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2989.413	3298.479	22499.00	0.3694338	1.5784577E-02	57.02933
NP-237	203.4984	28-FEB-2010	4435.708	4901.434	23757.00	0.3891334	1.9619791E-02	78.34894
CM-244	197.1096	28-FEB-2010	5531.094	5883.745	21974.00	0.3916203	1.9758444E-02	59.88309

Instrument : CHAMBER 229
Detector : 79422
Standard ID : AESS-021
Standard Reference Date : 19-FEB-2008 15:31:52
Calibration Analysis Date/Time : 29-JUN-2009 11:08:14
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:28:39
Average Efficiency : 0.3777187
Average Efficiency Error : 1.0341295E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2992.428	3300.536	22973.00	0.3721605	1.5897052E-02	58.77625
NP-237	210.1548	28-FEB-2010	4436.659	4902.986	23961.00	0.3800487	1.9160392E-02	70.52748
CM-244	200.7390	28-FEB-2010	5534.392	5883.088	21930.00	0.3835794	1.9353105E-02	57.32039

Instrument : CHAMBER 230
Detector : 79423
Standard ID : AESS-022
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 29-JUN-2009 11:08:21
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:28:51
Average Efficiency : 0.3723746
Average Efficiency Error : 1.0199217E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2990.435	3299.126	22423.00	0.3610166	1.5425573E-02	51.30120
NP-237	206.8830	28-FEB-2010	4436.006	4902.037	23676.00	0.3814719	1.9234043E-02	72.62286
CM-244	203.0208	28-FEB-2010	5532.506	5885.804	22015.00	0.3809220	1.9218368E-02	59.56349

Instrument : CHAMBER 231
Detector : 79424
Standard ID : AESS-023
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 29-JUN-2009 11:08:27
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:29:03
Average Efficiency : 0.3858555
Average Efficiency Error : 1.0562916E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2991.739	3299.860	23293.00	0.3789935	1.6186299E-02	57.20384
NP-237	207.4998	28-FEB-2010	4434.942	4905.625	24373.00	0.3915348	1.9736728E-02	74.61633
CM-244	199.8804	28-FEB-2010	5535.464	5883.098	22212.00	0.3903586	1.9692916E-02	65.42931

Instrument : CHAMBER 232
Detector : 79425
Standard ID : AESS-024
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 29-JUN-2009 11:08:33
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:29:13
Average Efficiency : 0.3708555
Average Efficiency Error : 1.0160839E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2989.849	3300.399	21668.00	0.3594086	1.5363393E-02	54.49700
NP-237	205.6662	28-FEB-2010	4435.500	4901.412	23160.00	0.3753609	1.8929429E-02	74.14132
CM-244	198.3060	28-FEB-2010	5530.414	5887.598	21698.00	0.3843684	1.9394770E-02	61.92214

Instrument	:	CHAMBER 233
Detector	:	79426
Standard ID	:	AESS-025
Standard Reference Date	:	15-FEB-2008 09:06:52
Calibration Analysis Date/Time	:	29-JUN-2009 11:08:39
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	30-JUN-2009 13:29:22
Average Efficiency	:	0.3807971
Average Efficiency Error	:	1.0442032E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.552	3300.019	21743.00	0.3753024	1.6042113E-02	57.53493
NP-237	167.9916	28-FEB-2010	4437.049	4902.445	19555.00	0.3880157	1.9598201E-02	65.87717
CM-244	157.2432	28-FEB-2010	5533.265	5887.350	17089.00	0.3817507	1.9309653E-02	57.89972

Instrument	:	CHAMBER 234
Detector	:	79427
Standard ID	:	AESS-026
Standard Reference Date	:	15-FEB-2008 09:06:52
Calibration Analysis Date/Time	:	29-JUN-2009 11:08:46
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	30-JUN-2009 13:29:34
Average Efficiency	:	0.3715710
Average Efficiency Error	:	1.0840051E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2992.038	3298.233	21630.00	0.3659885	1.8468786E-02	59.50484
NP-237	168.0294	28-FEB-2010	4434.030	4904.076	19159.00	0.3800664	1.9200675E-02	73.78577
CM-244	160.5822	28-FEB-2010	5534.071	5887.649	16880.00	0.3692411	1.8679539E-02	60.73690

Instrument	:	CHAMBER 235
Detector	:	79428
Standard ID	:	AESS-027
Standard Reference Date	:	15-FEB-2008 09:06:52
Calibration Analysis Date/Time	:	29-JUN-2009 11:08:52
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	30-JUN-2009 13:29:43
Average Efficiency	:	0.3940442
Average Efficiency Error	:	1.1499584E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2989.263	3301.595	21602.00	0.3770158	1.9025473E-02	58.14516
NP-237	161.6154	28-FEB-2010	4435.665	4901.527	19364.00	0.3993784	2.0174121E-02	80.43070
CM-244	148.1754	28-FEB-2010	5532.636	5886.715	17233.00	0.4085333	2.0662384E-02	62.76055

Instrument : CHAMBER 236
Detector : 79429
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 29-JUN-2009 11:08:58
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:29:51
Average Efficiency : 0.3835090
Average Efficiency Error : 1.1186651E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2987.896	3299.376	22084.00	0.3733852	1.8838538E-02	56.68213
NP-237	168.1992	28-FEB-2010	4436.423	4901.814	19840.00	0.3931670	1.9855550E-02	67.99222
CM-244	156.7614	28-FEB-2010	5532.618	5886.688	17183.00	0.3850371	1.9474657E-02	58.26772

Instrument : CHAMBER 237
Detector : 79430
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 29-JUN-2009 11:09:04
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:30:00
Average Efficiency : 0.3829979
Average Efficiency Error : 1.1177646E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2991.344	3298.717	21746.00	0.3641782	1.8376544E-02	56.31577
NP-237	169.7700	28-FEB-2010	4433.245	4904.669	19754.00	0.3878583	1.9588275E-02	82.97163
CM-244	154.8234	28-FEB-2010	5531.003	5885.403	17660.00	0.4006723	2.0259250E-02	60.27898

Instrument : CHAMBER 238
Detector : 79431
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 29-JUN-2009 11:09:12
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:30:09
Average Efficiency : 0.3807547
Average Efficiency Error : 1.1108285E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2988.961	3300.370	21726.00	0.3685883	1.8599236E-02	56.98843
NP-237	166.3758	28-FEB-2010	4436.951	4902.062	19490.00	0.3904817	1.9723417E-02	79.47810
CM-244	157.1856	28-FEB-2010	5532.406	5886.179	17210.00	0.3846013	1.9452270E-02	57.54609

Instrument	:	CHAMBER 239
Detector	:	79432
Standard ID	:	AESS-031
Standard Reference Date	:	18-FEB-2008 11:28:15
Calibration Analysis Date/Time	:	29-JUN-2009 11:09:18
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	30-JUN-2009 13:30:18
Average Efficiency	:	0.3896177
Average Efficiency Error	:	1.0683284E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2990.544	3302.370	22065.00	0.3845867	1.6435910E-02	56.06851
NP-237	162.9186	28-FEB-2010	4436.212	4902.679	19357.00	0.3960098	2.0004071E-02	74.77979
CM-244	153.1968	28-FEB-2010	5535.220	5884.998	17043.00	0.3906523	1.9760521E-02	60.01815

Instrument	:	CHAMBER 240
Detector	:	79433
Standard ID	:	AESS-032
Standard Reference Date	:	18-FEB-2008 11:28:15
Calibration Analysis Date/Time	:	29-JUN-2009 11:09:25
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	30-JUN-2009 13:30:27
Average Efficiency	:	0.3777754
Average Efficiency Error	:	1.0360904E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.696	3301.853	21594.00	0.3733324	1.5959276E-02	54.88348
NP-237	165.9822	28-FEB-2010	4433.664	4904.733	18875.00	0.3790388	1.9151727E-02	72.74045
CM-244	153.7938	28-FEB-2010	5531.260	5886.094	16776.00	0.3830326	1.9378640E-02	59.08883

Instrument	:	CHAMBER 241
Detector	:	79434
Standard ID	:	AESS-033
Standard Reference Date	:	18-FEB-2008 11:28:15
Calibration Analysis Date/Time	:	29-JUN-2009 11:09:31
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	30-JUN-2009 13:30:36
Average Efficiency	:	0.3931700
Average Efficiency Error	:	1.0783223E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2990.242	3301.966	21884.00	0.3839029	1.6408380E-02	53.49284
NP-237	161.7816	28-FEB-2010	4434.457	4905.204	19269.00	0.3970166	2.0055814E-02	84.30279
CM-244	147.2670	28-FEB-2010	5530.782	5884.826	16923.00	0.4035279	2.0413468E-02	60.66447

Instrument	:	CHAMBER 242
Detector	:	79435
Standard ID	:	AESS-034
Standard Reference Date	:	18-FEB-2008 11:28:15
Calibration Analysis Date/Time	:	29-JUN-2009 11:09:38
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	30-JUN-2009 13:30:45
Average Efficiency	:	0.3846521
Average Efficiency Error	:	1.0549294E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2990.030	3301.446	22109.00	0.3721264	1.5903009E-02	60.76245
NP-237	167.2962	28-FEB-2010	4433.469	4904.310	19754.00	0.3935935	1.9877926E-02	76.54881
CM-244	154.4388	28-FEB-2010	5535.605	5884.633	17390.00	0.3954074	1.9996468E-02	61.98755

Instrument	:	CHAMBER 243
Detector	:	79436
Standard ID	:	AESS-035
Standard Reference Date	:	18-FEB-2008 11:28:15
Calibration Analysis Date/Time	:	29-JUN-2009 11:09:44
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	30-JUN-2009 13:30:54
Average Efficiency	:	0.3685505
Average Efficiency Error	:	1.0109218E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2990.365	3297.486	21347.00	0.3626947	1.5506803E-02	57.87182
NP-237	168.2934	28-FEB-2010	4436.388	4902.306	19057.00	0.3774501	1.9069549E-02	79.79286
CM-244	158.8128	28-FEB-2010	5533.622	5882.491	16666.00	0.3685086	1.8645244E-02	59.82504

Instrument	:	CHAMBER 244
Detector	:	79437
Standard ID	:	AESS-036
Standard Reference Date	:	18-FEB-2008 11:28:15
Calibration Analysis Date/Time	:	29-JUN-2009 11:09:51
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	30-JUN-2009 13:31:04
Average Efficiency	:	0.3725442
Average Efficiency Error	:	1.0218798E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2989.131	3300.564	21635.00	0.3627526	1.5506621E-02	61.82745
NP-237	167.4312	28-FEB-2010	4432.574	4903.374	19014.00	0.3785259	1.9124355E-02	78.29796
CM-244	156.4188	28-FEB-2010	5534.584	5883.551	16999.00	0.3816244	1.9304425E-02	60.38109

Instrument : CHAMBER 245
Detector : 79438
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 29-JUN-2009 11:09:58
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:31:18
Average Efficiency : 0.3871339
Average Efficiency Error : 1.0614644E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.063	3299.394	22212.00	0.3791691	1.6203059E-02	61.13074
NP-237	167.1294	28-FEB-2010	4434.575	4906.628	19802.00	0.3949435	1.9945625E-02	77.95452
CM-244	154.7664	28-FEB-2010	5534.102	5883.894	17248.00	0.3913280	1.9792015E-02	61.02800

Instrument : CHAMBER 246
Detector : 78912
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 29-JUN-2009 11:10:04
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:31:31
Average Efficiency : 0.3734691
Average Efficiency Error : 1.0242580E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2989.019	3301.538	21682.00	0.3656716	1.5630983E-02	62.50508
NP-237	170.0886	28-FEB-2010	4435.665	4906.544	19170.00	0.3756807	1.8979004E-02	73.78893
CM-244	157.7460	28-FEB-2010	5531.825	5885.470	17212.00	0.3831484	1.9378757E-02	60.45332

Instrument : CHAMBER 247
Detector : 79440
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 29-JUN-2009 11:10:09
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:31:41
Average Efficiency : 0.3946936
Average Efficiency Error : 1.0825262E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.774	3301.191	21982.00	0.3859695	1.6495787E-02	57.12532
NP-237	159.1506	28-FEB-2010	4436.556	4903.380	19616.00	0.4108289	2.0749848E-02	76.11504
CM-244	151.7142	28-FEB-2010	5530.809	5885.967	16961.00	0.3925581	1.9858034E-02	61.99513

Instrument : CHAMBER 248
Detector : 79441
Standard ID : AESS-040
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 29-JUN-2009 11:10:15
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:31:51
Average Efficiency : 0.3902423
Average Efficiency Error : 1.0700536E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2988.392	3300.122	21933.00	0.3806768	1.6270030E-02	55.85408
NP-237	166.8174	28-FEB-2010	4433.659	4905.293	19807.00	0.3957821	1.9987926E-02	82.39788
CM-244	155.0100	28-FEB-2010	5532.437	5887.556	17631.00	0.3993214	2.0191407E-02	58.45845

Instrument : CHAMBER 249
Detector : 79442
Standard ID : AESS-041
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 29-JUN-2009 11:10:21
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:32:04
Average Efficiency : 0.3691239
Average Efficiency Error : 1.0123477E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2988.416	3300.577	21774.00	0.3604519	1.5407033E-02	52.81279
NP-237	171.2268	28-FEB-2010	4436.398	4904.007	19367.00	0.3770129	1.9044334E-02	66.80524
CM-244	159.5796	28-FEB-2010	5533.011	5883.893	17016.00	0.3744264	1.8940104E-02	54.54869

Instrument : CHAMBER 250
Detector : 79443
Standard ID : AESS-042
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 29-JUN-2009 11:10:26
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:32:16
Average Efficiency : 0.4029809
Average Efficiency Error : 1.1048914E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2987.664	3299.772	22102.00	0.3953417	1.6895199E-02	54.69497
NP-237	159.6558	28-FEB-2010	4433.576	4904.834	19622.00	0.4096608	2.0690778E-02	72.59711
CM-244	150.5208	28-FEB-2010	5531.060	5885.456	17478.00	0.4077245	2.0618226E-02	53.57324

Instrument : CHAMBER 251
Detector : 79444
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 29-JUN-2009 11:10:32
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:32:48
Average Efficiency : 0.3859750
Average Efficiency Error : 1.0582183E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2988.497	3300.693	22197.00	0.3788451	1.6189344E-02	55.12341
NP-237	168.7422	28-FEB-2010	4436.150	4903.399	19871.00	0.3925318	1.9823143E-02	75.41560
CM-244	156.3252	28-FEB-2010	5531.737	5887.575	17366.00	0.3900679	1.9726753E-02	56.80479

Instrument : CHAMBER 252
Detector : 79445
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 29-JUN-2009 11:10:38
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:33:09
Average Efficiency : 0.3764580
Average Efficiency Error : 1.0325164E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2988.592	3300.825	21491.00	0.3730471	1.5948050E-02	52.77084
NP-237	166.6248	28-FEB-2010	4435.553	4902.127	19212.00	0.3843369	1.9415863E-02	79.06938
CM-244	155.8290	28-FEB-2010	5534.590	5884.216	16588.00	0.3737789	1.8912956E-02	58.86968

Instrument : CHAMBER 253
Detector : 79446
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 29-JUN-2009 11:10:44
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:33:20
Average Efficiency : 0.4178050
Average Efficiency Error : 1.1451593E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2987.654	3300.865	23009.00	0.4153371	1.7741047E-02	58.55786
NP-237	160.8066	28-FEB-2010	4434.573	4903.102	19908.00	0.4126572	2.0839127E-02	76.00024
CM-244	145.8384	28-FEB-2010	5533.082	5884.383	17734.00	0.4269842	2.1588651E-02	59.04111

Instrument : CHAMBER 254
Detector : 79447
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 29-JUN-2009 11:10:49
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:33:32
Average Efficiency : 0.3998787
Average Efficiency Error : 1.0964696E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2991.549	3298.669	22357.00	0.3874868	1.6557176E-02	61.70351
NP-237	164.6658	28-FEB-2010	4433.543	4905.678	20062.00	0.4060794	2.0505425E-02	75.89950
CM-244	151.3824	28-FEB-2010	5533.440	5883.478	17814.00	0.4131682	2.0889070E-02	60.11974

Instrument : CHAMBER 255
Detector : 79448
Standard ID : AESS-047
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 29-JUN-2009 11:10:56
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:33:42
Average Efficiency : 0.3661844
Average Efficiency Error : 1.0047055E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2992.136	3299.381	20925.00	0.3576654	1.5295714E-02	54.59342
NP-237	168.3948	28-FEB-2010	4435.277	4902.796	18729.00	0.3707303	1.8733418E-02	71.29922
CM-244	154.6032	28-FEB-2010	5531.573	5887.697	16494.00	0.3746144	1.8956492E-02	56.20598

Instrument : CHAMBER 256
Detector : 79449
Standard ID : AESS-048
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 29-JUN-2009 11:11:01
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 30-JUN-2009 13:33:53
Average Efficiency : 0.3793263
Average Efficiency Error : 1.0406218E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2989.020	3301.037	21283.00	0.3744797	1.6011277E-02	53.36488
NP-237	161.5530	28-FEB-2010	4435.346	4901.908	18858.00	0.3890801	1.9659264E-02	69.14060
CM-244	151.1856	28-FEB-2010	5534.491	5884.250	16233.00	0.3770208	1.9081894E-02	56.15398

Subsection 1: Energy Calibration

The Energy Calibration energy=Cal_Zero+(e1*C)+(e2*C^2)

where : Cal_Zero = Energy Calibration Zero
e1 = Energy Calibration Slope
e2 = Energy Calibration Quadratic
C = Channel

Instrument : CHAMBER 001
Detector : 78788
Calibration Date/Time : 5-AUG-2009 14:45:15
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.768
NP-237	4341	2/28/10	4768.800	4768.589
CM-244	4320A	2/28/10	5795.020	5794.928

Energy/Channel Equation : see above
Energy Calibration Zero : 2541.111
Energy Calibration Slope : 5.103021
Energy Calibration Quadratic : 3.7696620E-04
Energy Calibration Range : 8162.000

Instrument : CHAMBER 002
Detector : 78266
Calibration Date/Time : 5-AUG-2009 14:45:26
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3174.754
NP-237	4341	2/28/10	4768.800	4760.313
CM-244	4320A	2/28/10	5795.020	5783.900

Energy/Channel Equation : see above
Energy Calibration Zero : 2454.309
Energy Calibration Slope : 5.127246
Energy Calibration Quadratic : 2.9634204E-04
Energy Calibration Range : 8015.000

Instrument : CHAMBER 003
Detector : 67617
Calibration Date/Time : 5-AUG-2009 14:45:38
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.710
NP-237	4341	2/28/10	4768.800	4767.829
CM-244	4320A	2/28/10	5795.020	5794.321

Energy/Channel Equation : see above
Energy Calibration Zero : 2595.909
Energy Calibration Slope : 5.495871
Energy Calibration Quadratic : 3.8085488E-04
Energy Calibration Range : 8623.000

Instrument : CHAMBER 004
Detector : 64279
Calibration Date/Time : 5-AUG-2009 14:45:54
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.926
NP-237	4341	2/28/10	4768.800	4769.257
CM-244	4320A	2/28/10	5795.020	5795.158

Energy/Channel Equation : see above
Energy Calibration Zero : 2531.198
Energy Calibration Slope : 5.085382
Energy Calibration Quadratic : 3.7076508E-04
Energy Calibration Range : 8127.000

Instrument : CHAMBER 005
Detector : 67612
Calibration Date/Time : 5-AUG-2009 14:46:05
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.615
NP-237	4341	2/28/10	4768.800	4768.917
CM-244	4320A	2/28/10	5795.020	5795.262

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.824
Energy Calibration Slope : 5.018230
Energy Calibration Quadratic : 2.9044802E-04
Energy Calibration Range : 7827.000

Instrument : CHAMBER 006
Detector : 67613
Calibration Date/Time : 5-AUG-2009 14:46:15
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.663
NP-237	4341	2/28/10	4768.800	4768.540
CM-244	4320A	2/28/10	5795.020	5794.813

Energy/Channel Equation : see above
Energy Calibration Zero : 2372.455
Energy Calibration Slope : 4.968300
Energy Calibration Quadratic : 3.0602218E-04
Energy Calibration Range : 7781.000

Instrument : CHAMBER 007
Detector : 67607
Calibration Date/Time : 3-AUG-2009 15:08:14
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.242
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2434.070
Energy Calibration Slope : 5.126286
Energy Calibration Quadratic : 3.2231462E-04
Energy Calibration Range : 8021.000

Instrument : CHAMBER 008
Detector : 78788
Calibration Date/Time : 3-AUG-2009 15:08:25
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.886
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2371.872
Energy Calibration Slope : 4.982497
Energy Calibration Quadratic : 2.9716187E-04
Energy Calibration Range : 7786.000

Instrument : CHAMBER 009
Detector : 72528
Calibration Date/Time : 3-AUG-2009 15:08:37
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.048
Energy Calibration Slope : 4.954385
Energy Calibration Quadratic : 3.3214918E-04
Energy Calibration Range : 7798.000

Instrument : CHAMBER 010
Detector : 72529
Calibration Date/Time : 3-AUG-2009 15:08:47
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2369.197
Energy Calibration Slope : 4.976785
Energy Calibration Quadratic : 2.5434556E-04
Energy Calibration Range : 7732.000

Instrument : CHAMBER 011
Detector : 72531
Calibration Date/Time : 3-AUG-2009 15:10:05
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5794.773

Energy/Channel Equation : see above
Energy Calibration Zero : 2352.745
Energy Calibration Slope : 4.989676
Energy Calibration Quadratic : 3.1640983E-04
Energy Calibration Range : 7794.000

Instrument : CHAMBER 012
Detector : 67594
Calibration Date/Time : 3-AUG-2009 15:10:47
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.999
NP-237	4341	2/28/10	4768.800	4768.892
CM-244	4320A	2/28/10	5795.020	5795.162

Energy/Channel Equation : see above
Energy Calibration Zero : 2380.763
Energy Calibration Slope : 4.944053
Energy Calibration Quadratic : 2.9969949E-04
Energy Calibration Range : 7758.000

Instrument : CHAMBER 013
Detector : 78790
Calibration Date/Time : 3-AUG-2009 15:10:57
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.313
NP-237	4341	2/28/10	4768.800	4768.407
CM-244	4320A	2/28/10	5795.020	5794.604

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.188
Energy Calibration Slope : 4.918418
Energy Calibration Quadratic : 2.9963398E-04
Energy Calibration Range : 7714.000

Instrument : CHAMBER 014
Detector : 67616
Calibration Date/Time : 3-AUG-2009 15:11:09
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.775
NP-237	4341	2/28/10	4768.800	4769.221
CM-244	4320A	2/28/10	5795.020	5795.274

Energy/Channel Equation : see above
Energy Calibration Zero : 2348.951
Energy Calibration Slope : 4.947984
Energy Calibration Quadratic : 3.1622496E-04
Energy Calibration Range : 7747.000

Instrument : CHAMBER 015
Detector : 61581
Calibration Date/Time : 3-AUG-2009 15:11:19
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.428
NP-237	4341	2/28/10	4768.800	4768.094
CM-244	4320A	2/28/10	5795.020	5794.472

Energy/Channel Equation : see above
Energy Calibration Zero : 2351.056
Energy Calibration Slope : 4.893757
Energy Calibration Quadratic : 3.2378119E-04
Energy Calibration Range : 7702.000

Instrument : CHAMBER 016
Detector : 78774
Calibration Date/Time : 3-AUG-2009 15:11:28
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.555
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2352.841
Energy Calibration Slope : 4.901042
Energy Calibration Quadratic : 2.9683873E-04
Energy Calibration Range : 7683.000

Instrument : CHAMBER 017
Detector : 78791
Calibration Date/Time : 3-AUG-2009 15:12:45
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.274
NP-237	4341	2/28/10	4768.800	4768.745
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.135
Energy Calibration Slope : 4.992663
Energy Calibration Quadratic : 2.7446265E-04
Energy Calibration Range : 7763.000

Instrument : CHAMBER 018
Detector : 78782
Calibration Date/Time : 3-AUG-2009 15:12:56
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.695
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.113

Energy/Channel Equation : see above
Energy Calibration Zero : 2352.853
Energy Calibration Slope : 4.963830
Energy Calibration Quadratic : 3.1513936E-04
Energy Calibration Range : 7766.000

Instrument : CHAMBER 019
Detector : 78786
Calibration Date/Time : 3-AUG-2009 15:13:21
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5794.625

Energy/Channel Equation : see above
Energy Calibration Zero : 2342.911
Energy Calibration Slope : 5.075375
Energy Calibration Quadratic : 2.0290195E-04
Energy Calibration Range : 7753.000

Instrument : CHAMBER 020
Detector : 78787
Calibration Date/Time : 3-AUG-2009 15:13:30
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.407
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5794.754

Energy/Channel Equation : see above
Energy Calibration Zero : 2341.178
Energy Calibration Slope : 4.974929
Energy Calibration Quadratic : 3.0557165E-04
Energy Calibration Range : 7756.000

Instrument : CHAMBER 021
Detector : 67047
Calibration Date/Time : 3-AUG-2009 15:13:40
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.625
NP-237	4341	2/28/10	4768.800	4768.133
CM-244	4320A	2/28/10	5795.020	5794.606

Energy/Channel Equation : see above
Energy Calibration Zero : 2275.519
Energy Calibration Slope : 4.971471
Energy Calibration Quadratic : 2.7405904E-04
Energy Calibration Range : 7654.000

Instrument : CHAMBER 022
Detector : 72530
Calibration Date/Time : 3-AUG-2009 15:13:53
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.547
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.547
Energy Calibration Slope : 4.977059
Energy Calibration Quadratic : 2.7739155E-04
Energy Calibration Range : 7764.000

Instrument : CHAMBER 023
Detector : 78264
Calibration Date/Time : 3-AUG-2009 15:14:51
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.979
NP-237	4341	2/28/10	4768.800	4768.454
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.134
Energy Calibration Slope : 4.999145
Energy Calibration Quadratic : 2.8956190E-04
Energy Calibration Range : 7806.000

Instrument : CHAMBER 024
Detector : 76542
Calibration Date/Time : 3-AUG-2009 15:15:01
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2348.727
Energy Calibration Slope : 4.965035
Energy Calibration Quadratic : 2.7366623E-04
Energy Calibration Range : 7720.000

Instrument : CHAMBER 025
Detector : 45-149AA5
Calibration Date/Time : 3-AUG-2009 15:15:13
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.326
NP-237	4341	2/28/10	4768.800	4769.288
CM-244	4320A	2/28/10	5795.020	5795.321

Energy/Channel Equation : see above
Energy Calibration Zero : 2318.480
Energy Calibration Slope : 4.856905
Energy Calibration Quadratic : 3.0368069E-04
Energy Calibration Range : 7610.000

Instrument : CHAMBER 026
Detector : 78204
Calibration Date/Time : 3-AUG-2009 15:15:23
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.821
CM-244	4320A	2/28/10	5795.020	5795.028

Energy/Channel Equation : see above
Energy Calibration Zero : 2356.528
Energy Calibration Slope : 4.940171
Energy Calibration Quadratic : 3.3160963E-04
Energy Calibration Range : 7763.000

Instrument : CHAMBER 027
Detector : 42484
Calibration Date/Time : 3-AUG-2009 15:15:36
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.779
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.956
Energy Calibration Slope : 4.971167
Energy Calibration Quadratic : 3.1741365E-04
Energy Calibration Range : 7786.000

Instrument : CHAMBER 028
Detector : 78792
Calibration Date/Time : 3-AUG-2009 15:15:45
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.319
NP-237	4341	2/28/10	4768.800	4768.977
CM-244	4320A	2/28/10	5795.020	5795.122

Energy/Channel Equation : see above
Energy Calibration Zero : 2311.473
Energy Calibration Slope : 4.929708
Energy Calibration Quadratic : 3.5385601E-04
Energy Calibration Range : 7731.000

Instrument : CHAMBER 029
Detector : 33454
Calibration Date/Time : 3-AUG-2009 15:15:55
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3184.453
NP-237	4341	2/28/10	4768.800	4773.209
CM-244	4320A	2/28/10	5795.020	5802.449

Energy/Channel Equation : see above
Energy Calibration Zero : 2339.797
Energy Calibration Slope : 4.857889
Energy Calibration Quadratic : 3.2029144E-04
Energy Calibration Range : 7650.000

Instrument : CHAMBER 030
Detector : 33447
Calibration Date/Time : 3-AUG-2009 15:16:05
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.504
NP-237	4341	2/28/10	4768.800	4768.116
CM-244	4320A	2/28/10	5795.020	5794.519

Energy/Channel Equation : see above
Energy Calibration Zero : 2378.547
Energy Calibration Slope : 4.952705
Energy Calibration Quadratic : 3.1284252E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 031
Detector : 67042
Calibration Date/Time : 3-AUG-2009 15:16:16
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.466
NP-237	4341	2/28/10	4768.800	4769.878
CM-244	4320A	2/28/10	5795.020	5796.077

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.033
Energy Calibration Slope : 4.931703
Energy Calibration Quadratic : 3.3940026E-04
Energy Calibration Range : 7770.000

Instrument : CHAMBER 032
Detector : 67041
Calibration Date/Time : 3-AUG-2009 15:16:28
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2370.812
Energy Calibration Slope : 4.912539
Energy Calibration Quadratic : 3.7134811E-04
Energy Calibration Range : 7791.000

Instrument : CHAMBER 033
Detector : 78785
Calibration Date/Time : 3-AUG-2009 15:16:44
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.937
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.592
Energy Calibration Slope : 4.933960
Energy Calibration Quadratic : 3.4911980E-04
Energy Calibration Range : 7795.000

Instrument : CHAMBER 034
Detector : 61586
Calibration Date/Time : 3-AUG-2009 15:16:57
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.237
NP-237	4341	2/28/10	4768.800	4768.352
CM-244	4320A	2/28/10	5795.020	5794.135

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.364
Energy Calibration Slope : 5.064843
Energy Calibration Quadratic : 3.7605409E-04
Energy Calibration Range : 7963.000

Instrument : CHAMBER 035
Detector : 78202
Calibration Date/Time : 3-AUG-2009 15:17:07
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.976
CM-244	4320A	2/28/10	5795.020	5795.068

Energy/Channel Equation : see above
Energy Calibration Zero : 2332.455
Energy Calibration Slope : 4.961503
Energy Calibration Quadratic : 3.2716690E-04
Energy Calibration Range : 7756.000

Instrument : CHAMBER 036
Detector : 78203
Calibration Date/Time : 3-AUG-2009 15:17:19
Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.831
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2351.688
Energy Calibration Slope : 4.934670
Energy Calibration Quadratic : 3.2679725E-04
Energy Calibration Range : 7747.000

Instrument : CHAMBER 037
Detector : 45-149BB5
Calibration Date/Time : 3-AUG-2009 15:17:30
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.360
NP-237	4341	2/28/10	4768.800	4770.173
CM-244	4320A	2/28/10	5795.020	5795.449

Energy/Channel Equation : see above
Energy Calibration Zero : 2380.215
Energy Calibration Slope : 4.934037
Energy Calibration Quadratic : 2.6879812E-04
Energy Calibration Range : 7715.000

Instrument : CHAMBER 038
Detector : 72532
Calibration Date/Time : 3-AUG-2009 15:17:42
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.992
NP-237	4341	2/28/10	4768.800	4768.694
CM-244	4320A	2/28/10	5795.020	5794.956

Energy/Channel Equation : see above
Energy Calibration Zero : 2374.738
Energy Calibration Slope : 4.941356
Energy Calibration Quadratic : 3.2555324E-04
Energy Calibration Range : 7776.000

Instrument : CHAMBER 039
Detector : 45-149BB2
Calibration Date/Time : 3-AUG-2009 15:17:50
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.047
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.341
Energy Calibration Slope : 4.892657
Energy Calibration Quadratic : 3.3502636E-04
Energy Calibration Range : 7748.000

Instrument : CHAMBER 040
Detector : 78773
Calibration Date/Time : 3-AUG-2009 15:18:00
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.091

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.680
Energy Calibration Slope : 4.886324
Energy Calibration Quadratic : 3.3744561E-04
Energy Calibration Range : 7711.000

Instrument : CHAMBER 041
Detector : 78205
Calibration Date/Time : 3-AUG-2009 15:18:09
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.991
Energy Calibration Slope : 4.934965
Energy Calibration Quadratic : 3.5826201E-04
Energy Calibration Range : 7790.000

Instrument : CHAMBER 042
Detector : 78793
Calibration Date/Time : 3-AUG-2009 15:18:18
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2378.631
Energy Calibration Slope : 4.903480
Energy Calibration Quadratic : 3.3252311E-04
Energy Calibration Range : 7748.000

Instrument : CHAMBER 043
Detector : 76543
Calibration Date/Time : 3-AUG-2009 15:18:26
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.829
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2368.789
Energy Calibration Slope : 4.934124
Energy Calibration Quadratic : 3.2330386E-04
Energy Calibration Range : 7760.000

Instrument : CHAMBER 044
Detector : 79459
Calibration Date/Time : 3-AUG-2009 15:18:36
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.302
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2359.457
Energy Calibration Slope : 4.939529
Energy Calibration Quadratic : 3.2710869E-04
Energy Calibration Range : 7761.000

Instrument : CHAMBER 045
Detector : 78783
Calibration Date/Time : 3-AUG-2009 15:18:46
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.992
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2366.479
Energy Calibration Slope : 4.912705
Energy Calibration Quadratic : 3.5802016E-04
Energy Calibration Range : 7773.000

Instrument : CHAMBER 046
Detector : 76544
Calibration Date/Time : 3-AUG-2009 15:18:55
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.703
Energy Calibration Slope : 4.888400
Energy Calibration Quadratic : 3.3994557E-04
Energy Calibration Range : 7724.000

Instrument : CHAMBER 047
Detector : 46-089B1
Calibration Date/Time : 3-AUG-2009 15:19:03
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.340
NP-237	4341	2/28/10	4768.800	4768.922
CM-244	4320A	2/28/10	5795.020	5795.151

Energy/Channel Equation : see above
Energy Calibration Zero : 2354.429
Energy Calibration Slope : 4.963282
Energy Calibration Quadratic : 3.1133511E-04
Energy Calibration Range : 7763.000

Instrument : CHAMBER 048
Detector : 42483
Calibration Date/Time : 3-AUG-2009 15:19:12
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.266
NP-237	4341	2/28/10	4768.800	4768.972
CM-244	4320A	2/28/10	5795.020	5795.095

Energy/Channel Equation : see above
Energy Calibration Zero : 2377.788
Energy Calibration Slope : 4.957360
Energy Calibration Quadratic : 2.8386535E-04
Energy Calibration Range : 7752.000

Instrument : CHAMBER 065
Detector : 68551
Calibration Date/Time : 11-AUG-2009 11:32:36
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.849
NP-237	4341	2/28/10	4768.800	4769.466
CM-244	4320A	2/28/10	5795.020	5795.163

Energy/Channel Equation : see above
Energy Calibration Zero : 2372.264
Energy Calibration Slope : 4.908353
Energy Calibration Quadratic : 3.3354512E-04
Energy Calibration Range : 7748.000

Instrument : CHAMBER 066
Detector : 46-089C1
Calibration Date/Time : 11-AUG-2009 11:33:22
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.390
NP-237	4341	2/28/10	4768.800	4769.085
CM-244	4320A	2/28/10	5795.020	5795.154

Energy/Channel Equation : see above
Energy Calibration Zero : 2366.405
Energy Calibration Slope : 4.987269
Energy Calibration Quadratic : 2.6785664E-04
Energy Calibration Range : 7754.000

Instrument : CHAMBER 067
Detector : 46-089B4
Calibration Date/Time : 11-AUG-2009 11:33:34
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.295
CM-244	4320A	2/28/10	5795.020	5794.813

Energy/Channel Equation : see above
Energy Calibration Zero : 2395.106
Energy Calibration Slope : 4.966452
Energy Calibration Quadratic : 2.8820083E-04
Energy Calibration Range : 7783.000

Instrument : CHAMBER 068
Detector : 78794
Calibration Date/Time : 11-AUG-2009 11:38:02
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.980
CM-244	4320A	2/28/10	5795.020	5795.141

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.999
Energy Calibration Slope : 4.959627
Energy Calibration Quadratic : 3.2675461E-04
Energy Calibration Range : 7785.000

Instrument : CHAMBER 069
Detector : 78795
Calibration Date/Time : 11-AUG-2009 11:38:36
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.715
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2374.161
Energy Calibration Slope : 4.934980
Energy Calibration Quadratic : 3.3370449E-04
Energy Calibration Range : 7777.000

Instrument : CHAMBER 070
Detector : 46-089B2
Calibration Date/Time : 11-AUG-2009 11:38:49
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.376
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.967
Energy Calibration Slope : 4.940035
Energy Calibration Quadratic : 3.0117441E-04
Energy Calibration Range : 7759.000

Instrument : CHAMBER 071
Detector : 64259
Calibration Date/Time : 11-AUG-2009 11:39:05
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2380.222
Energy Calibration Slope : 4.972534
Energy Calibration Quadratic : 3.0923611E-04
Energy Calibration Range : 7796.000

Instrument : CHAMBER 072
Detector : 45-149AA3
Calibration Date/Time : 11-AUG-2009 11:41:05
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5794.779

Energy/Channel Equation : see above
Energy Calibration Zero : 2367.289
Energy Calibration Slope : 4.936321
Energy Calibration Quadratic : 3.1663457E-04
Energy Calibration Range : 7754.000

Instrument : CHAMBER 073
Detector : 78775
Calibration Date/Time : 11-AUG-2009 11:41:19
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2340.294
Energy Calibration Slope : 4.933617
Energy Calibration Quadratic : 3.0803526E-04
Energy Calibration Range : 7715.000

Instrument : CHAMBER 074
Detector : 78266
Calibration Date/Time : 11-AUG-2009 11:41:50
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2357.238
Energy Calibration Slope : 4.957754
Energy Calibration Quadratic : 3.2763465E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 075
Detector : 68550
Calibration Date/Time : 11-AUG-2009 11:42:08
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.795
NP-237	4341	2/28/10	4768.800	4769.246
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2357.909
Energy Calibration Slope : 4.956091
Energy Calibration Quadratic : 3.1667759E-04
Energy Calibration Range : 7765.000

Instrument : CHAMBER 076
Detector : 78779
Calibration Date/Time : 11-AUG-2009 11:42:40
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.193

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.146
Energy Calibration Slope : 4.949463
Energy Calibration Quadratic : 3.2361425E-04
Energy Calibration Range : 7761.000

Instrument : CHAMBER 077
Detector : 67576
Calibration Date/Time : 11-AUG-2009 11:42:53
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.739

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.830
Energy Calibration Slope : 4.939044
Energy Calibration Quadratic : 3.0275399E-04
Energy Calibration Range : 7738.000

Instrument : CHAMBER 078
Detector : 67577
Calibration Date/Time : 11-AUG-2009 11:43:47
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.433
NP-237	4341	2/28/10	4768.800	4767.846
CM-244	4320A	2/28/10	5795.020	5793.522

Energy/Channel Equation : see above
Energy Calibration Zero : 2407.798
Energy Calibration Slope : 4.964797
Energy Calibration Quadratic : 3.3742035E-04
Energy Calibration Range : 7846.000

Instrument : CHAMBER 079
Detector : 67598
Calibration Date/Time : 11-AUG-2009 11:44:09
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.694
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2369.132
Energy Calibration Slope : 4.920986
Energy Calibration Quadratic : 3.1385853E-04
Energy Calibration Range : 7737.000

Instrument : CHAMBER 080
Detector : 78197
Calibration Date/Time : 12-AUG-2009 06:47:19
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.250
NP-237	4341	2/28/10	4768.800	4769.057
CM-244	4320A	2/28/10	5795.020	5795.270

Energy/Channel Equation : see above
Energy Calibration Zero : 2352.236
Energy Calibration Slope : 4.998828
Energy Calibration Quadratic : 2.8291933E-04
Energy Calibration Range : 7768.000

Instrument : CHAMBER 081
Detector : 72533
Calibration Date/Time : 11-AUG-2009 11:46:32
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3204.930
NP-237	4341	2/28/10	4768.800	4703.826
CM-244	4320A	2/28/10	5795.020	5726.761

Energy/Channel Equation : see above
Energy Calibration Zero : 2219.847
Energy Calibration Slope : 9.458302
Energy Calibration Quadratic : -5.2725184E-03
Energy Calibration Range : 6377.000

Instrument : CHAMBER 082
Detector : 64263
Calibration Date/Time : 11-AUG-2009 11:47:05
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.619
NP-237	4341	2/28/10	4768.800	4767.967
CM-244	4320A	2/28/10	5795.020	5794.591

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.567
Energy Calibration Slope : 4.987039
Energy Calibration Quadratic : 3.1898782E-04
Energy Calibration Range : 7831.000

Instrument : CHAMBER 083
Detector : 64278
Calibration Date/Time : 11-AUG-2009 11:47:29
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.777
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2373.204
Energy Calibration Slope : 5.041853
Energy Calibration Quadratic : 2.3808437E-04
Energy Calibration Range : 7786.000

Instrument : CHAMBER 084
Detector : 78265
Calibration Date/Time : 11-AUG-2009 11:47:52
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5794.867

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.363
Energy Calibration Slope : 5.016379
Energy Calibration Quadratic : 2.7867779E-04
Energy Calibration Range : 7791.000

Instrument : CHAMBER 085
Detector : 78776
Calibration Date/Time : 11-AUG-2009 11:48:19
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.802
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2368.057
Energy Calibration Slope : 4.984862
Energy Calibration Quadratic : 2.9382212E-04
Energy Calibration Range : 7781.000

Instrument : CHAMBER 086
Detector : 78198
Calibration Date/Time : 11-AUG-2009 11:48:41
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.458
NP-237	4341	2/28/10	4768.800	4768.482
CM-244	4320A	2/28/10	5795.020	5794.558

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.351
Energy Calibration Slope : 5.023737
Energy Calibration Quadratic : 2.3622859E-04
Energy Calibration Range : 7750.000

Instrument : CHAMBER 087
Detector : 78199
Calibration Date/Time : 11-AUG-2009 11:49:08
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.717
NP-237	4341	2/28/10	4768.800	4768.539
CM-244	4320A	2/28/10	5795.020	5794.745

Energy/Channel Equation : see above
Energy Calibration Zero : 2342.553
Energy Calibration Slope : 4.976685
Energy Calibration Quadratic : 2.4361881E-04
Energy Calibration Range : 7694.000

Instrument : CHAMBER 088
Detector : 33452
Calibration Date/Time : 11-AUG-2009 11:50:14
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2348.450
Energy Calibration Slope : 4.985291
Energy Calibration Quadratic : 2.0228673E-04
Energy Calibration Range : 7666.000

Instrument : CHAMBER 089
Detector : 78262
Calibration Date/Time : 11-AUG-2009 11:50:54
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.822
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.236
Energy Calibration Slope : 4.993787
Energy Calibration Quadratic : 3.1235311E-04
Energy Calibration Range : 7801.000

Instrument : CHAMBER 090
Detector : 78263
Calibration Date/Time : 11-AUG-2009 11:51:07
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.689
CM-244	4320A	2/28/10	5795.020	5794.864

Energy/Channel Equation : see above
Energy Calibration Zero : 2367.944
Energy Calibration Slope : 4.912088
Energy Calibration Quadratic : 3.3423179E-04
Energy Calibration Range : 7748.000

Instrument : CHAMBER 091
Detector : 78259
Calibration Date/Time : 11-AUG-2009 11:51:19
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.501
NP-237	4341	2/28/10	4768.800	4768.562
CM-244	4320A	2/28/10	5795.020	5794.908

Energy/Channel Equation : see above
Energy Calibration Zero : 2373.294
Energy Calibration Slope : 4.962712
Energy Calibration Quadratic : 3.3628431E-04
Energy Calibration Range : 7808.000

Instrument : CHAMBER 092
Detector : 79457
Calibration Date/Time : 11-AUG-2009 11:52:08
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.999
NP-237	4341	2/28/10	4768.800	4769.086
CM-244	4320A	2/28/10	5795.020	5795.236

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.207
Energy Calibration Slope : 4.920592
Energy Calibration Quadratic : 3.2561756E-04
Energy Calibration Range : 7733.000

Instrument : CHAMBER 093
Detector : 33206
Calibration Date/Time : 11-AUG-2009 11:52:22
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.729
NP-237	4341	2/28/10	4768.800	4768.662
CM-244	4320A	2/28/10	5795.020	5794.973

Energy/Channel Equation : see above
Energy Calibration Zero : 2374.507
Energy Calibration Slope : 4.905449
Energy Calibration Quadratic : 3.4070064E-04
Energy Calibration Range : 7755.000

Instrument : CHAMBER 094
Detector : 78267
Calibration Date/Time : 11-AUG-2009 11:52:36
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.615
NP-237	4341	2/28/10	4768.800	4768.657
CM-244	4320A	2/28/10	5795.020	5794.828

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.661
Energy Calibration Slope : 4.944430
Energy Calibration Quadratic : 3.0602465E-04
Energy Calibration Range : 7749.000

Instrument : CHAMBER 095
Detector : 64279
Calibration Date/Time : 11-AUG-2009 11:53:20
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.924

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.997
Energy Calibration Slope : 4.923662
Energy Calibration Quadratic : 3.3134571E-04
Energy Calibration Range : 7750.000

Instrument : CHAMBER 096
Detector : 67605
Calibration Date/Time : 11-AUG-2009 11:53:35
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.861
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5794.970

Energy/Channel Equation : see above
Energy Calibration Zero : 2352.669
Energy Calibration Slope : 4.930194
Energy Calibration Quadratic : 3.4499675E-04
Energy Calibration Range : 7763.000

Instrument : CHAMBER 097
Detector : 67599
Calibration Date/Time : 11-AUG-2009 11:54:04
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.385
NP-237	4341	2/28/10	4768.800	4768.497
CM-244	4320A	2/28/10	5795.020	5794.575

Energy/Channel Equation : see above
Energy Calibration Zero : 2366.630
Energy Calibration Slope : 4.955770
Energy Calibration Quadratic : 3.2342706E-04
Energy Calibration Range : 7780.000

Instrument : CHAMBER 098
Detector : 68644
Calibration Date/Time : 11-AUG-2009 11:54:57
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.677
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.988
Energy Calibration Slope : 4.980790
Energy Calibration Quadratic : 3.1301824E-04
Energy Calibration Range : 7814.000

Instrument : CHAMBER 099
Detector : 70317
Calibration Date/Time : 11-AUG-2009 11:55:11
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.657
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5794.872

Energy/Channel Equation : see above
Energy Calibration Zero : 2370.271
Energy Calibration Slope : 4.896307
Energy Calibration Quadratic : 3.5264078E-04
Energy Calibration Range : 7754.000

Instrument : CHAMBER 100
Detector : 79456
Calibration Date/Time : 11-AUG-2009 11:55:23
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.007
NP-237	4341	2/28/10	4768.800	4768.931
CM-244	4320A	2/28/10	5795.020	5795.248

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.091
Energy Calibration Slope : 4.889555
Energy Calibration Quadratic : 3.4731548E-04
Energy Calibration Range : 7724.000

Instrument : CHAMBER 101
Detector : 64253
Calibration Date/Time : 11-AUG-2009 11:55:41
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.482
NP-237	4341	2/28/10	4768.800	4768.628
CM-244	4320A	2/28/10	5795.020	5795.004

Energy/Channel Equation : see above
Energy Calibration Zero : 2413.378
Energy Calibration Slope : 4.941072
Energy Calibration Quadratic : 3.1744229E-04
Energy Calibration Range : 7806.000

Instrument : CHAMBER 102
Detector : 72525
Calibration Date/Time : 11-AUG-2009 11:55:55
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.620
NP-237	4341	2/28/10	4768.800	4768.759
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.023
Energy Calibration Slope : 4.877947
Energy Calibration Quadratic : 3.3410732E-04
Energy Calibration Range : 7710.000

Instrument : CHAMBER 103
Detector : 79461
Calibration Date/Time : 11-AUG-2009 11:56:06
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.724
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.602
Energy Calibration Slope : 4.925415
Energy Calibration Quadratic : 3.3399722E-04
Energy Calibration Range : 7782.000

Instrument : CHAMBER 104
Detector : 72524
Calibration Date/Time : 11-AUG-2009 11:56:56
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.731
NP-237	4341	2/28/10	4768.800	4768.746
CM-244	4320A	2/28/10	5795.020	5794.950

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.164
Energy Calibration Slope : 4.875978
Energy Calibration Quadratic : 3.5914616E-04
Energy Calibration Range : 7731.000

Instrument : CHAMBER 105
Detector : 78777
Calibration Date/Time : 11-AUG-2009 11:57:20
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2374.957
Energy Calibration Slope : 4.877512
Energy Calibration Quadratic : 3.5687728E-04
Energy Calibration Range : 7744.000

Instrument : CHAMBER 106
Detector : 64274
Calibration Date/Time : 11-AUG-2009 11:57:33
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.397
Energy Calibration Slope : 4.925849
Energy Calibration Quadratic : 3.5619634E-04
Energy Calibration Range : 7804.000

Instrument : CHAMBER 107
Detector : 67578
Calibration Date/Time : 11-AUG-2009 11:58:23
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.757
NP-237	4341	2/28/10	4768.800	4768.431
CM-244	4320A	2/28/10	5795.020	5794.760

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.165
Energy Calibration Slope : 4.989622
Energy Calibration Quadratic : 3.0367926E-04
Energy Calibration Range : 7793.000

Instrument : CHAMBER 108
Detector : 78778
Calibration Date/Time : 11-AUG-2009 12:00:02
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.085

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.750
Energy Calibration Slope : 4.889173
Energy Calibration Quadratic : 3.3859405E-04
Energy Calibration Range : 7723.000

Instrument : CHAMBER 109
Detector : 79463
Calibration Date/Time : 11-AUG-2009 12:00:23
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.011

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.956
Energy Calibration Slope : 4.902098
Energy Calibration Quadratic : 3.6021773E-04
Energy Calibration Range : 7759.000

Instrument : CHAMBER 110
Detector : 67602
Calibration Date/Time : 11-AUG-2009 12:01:03
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3180.240
NP-237	4341	2/28/10	4768.800	4767.627
CM-244	4320A	2/28/10	5795.020	5792.351

Energy/Channel Equation : see above
Energy Calibration Zero : 2450.737
Energy Calibration Slope : 5.078455
Energy Calibration Quadratic : 3.6329794E-04
Energy Calibration Range : 8032.000

Instrument : CHAMBER 111
Detector : 79462
Calibration Date/Time : 11-AUG-2009 12:01:21
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.689
NP-237	4341	2/28/10	4768.800	4768.620
CM-244	4320A	2/28/10	5795.020	5794.913

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.863
Energy Calibration Slope : 4.982990
Energy Calibration Quadratic : 3.1839884E-04
Energy Calibration Range : 7797.000

Instrument : CHAMBER 112
Detector : 78261
Calibration Date/Time : 11-AUG-2009 12:02:06
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2372.713
Energy Calibration Slope : 4.922604
Energy Calibration Quadratic : 3.2149741E-04
Energy Calibration Range : 7751.000

Instrument : CHAMBER 113
Detector : 45-111B4
Calibration Date/Time : 17-AUG-2009 14:57:05
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.693
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.351
Energy Calibration Slope : 4.986037
Energy Calibration Quadratic : 2.9112995E-04
Energy Calibration Range : 7799.000

Instrument : CHAMBER 114
Detector : 78258
Calibration Date/Time : 17-AUG-2009 14:57:42
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.738
NP-237	4341	2/28/10	4768.800	4768.375
CM-244	4320A	2/28/10	5795.020	5794.878

Energy/Channel Equation : see above
Energy Calibration Zero : 2341.717
Energy Calibration Slope : 4.967946
Energy Calibration Quadratic : 2.6719994E-04
Energy Calibration Range : 7709.000

Instrument : CHAMBER 115
Detector : 45-132FF4
Calibration Date/Time : 17-AUG-2009 14:57:55
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.996
CM-244	4320A	2/28/10	5795.020	5795.124

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.484
Energy Calibration Slope : 5.001271
Energy Calibration Quadratic : 2.5857674E-04
Energy Calibration Range : 7753.000

Instrument : CHAMBER 116
Detector : 45-132FF2
Calibration Date/Time : 17-AUG-2009 14:58:06
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.296
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.140
Energy Calibration Slope : 4.998592
Energy Calibration Quadratic : 2.4986797E-04
Energy Calibration Range : 7739.000

Instrument : CHAMBER 117
Detector : 33450
Calibration Date/Time : 17-AUG-2009 14:58:17
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.212
NP-237	4341	2/28/10	4768.800	4768.136
CM-244	4320A	2/28/10	5795.020	5794.829

Energy/Channel Equation : see above
Energy Calibration Zero : 2377.331
Energy Calibration Slope : 4.984442
Energy Calibration Quadratic : 2.6023277E-04
Energy Calibration Range : 7754.000

Instrument : CHAMBER 118
Detector : 75544
Calibration Date/Time : 17-AUG-2009 14:58:27
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.453
NP-237	4341	2/28/10	4768.800	4768.624
CM-244	4320A	2/28/10	5795.020	5794.893

Energy/Channel Equation : see above
Energy Calibration Zero : 2343.030
Energy Calibration Slope : 4.970738
Energy Calibration Quadratic : 2.7650801E-04
Energy Calibration Range : 7723.000

Instrument : CHAMBER 119
Detector : 74429
Calibration Date/Time : 2-FEB-2009 15:15:38
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3001.688
NP-237	4341	2/28/10	4768.800	4669.281
CM-244	4320A	2/28/10	5795.020	5706.875

Energy/Channel Equation : see above
Energy Calibration Zero : 2437.949
Energy Calibration Slope : 5.036866
Energy Calibration Quadratic :
Energy Calibration Range : 7596.000

Instrument : CHAMBER 120
Detector : 74430
Calibration Date/Time : 18-AUG-2009 13:38:55
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.734
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5794.984

Energy/Channel Equation : see above
Energy Calibration Zero : 2316.127
Energy Calibration Slope : 4.939470
Energy Calibration Quadratic : 2.8824760E-04
Energy Calibration Range : 7676.000

Instrument : CHAMBER 121
Detector : 75545
Calibration Date/Time : 17-AUG-2009 14:58:37
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.992
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.910

Energy/Channel Equation : see above
Energy Calibration Zero : 2338.077
Energy Calibration Slope : 4.950966
Energy Calibration Quadratic : 2.8139201E-04
Energy Calibration Range : 7703.000

Instrument : CHAMBER 122
Detector : 75546
Calibration Date/Time : 17-AUG-2009 14:58:49
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.767
NP-237	4341	2/28/10	4768.800	4768.557
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2334.596
Energy Calibration Slope : 4.961221
Energy Calibration Quadratic : 2.6947071E-04
Energy Calibration Range : 7697.000

Instrument : CHAMBER 123
Detector : 45-142V3
Calibration Date/Time : 17-AUG-2009 14:58:58
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.626
NP-237	4341	2/28/10	4768.800	4768.419
CM-244	4320A	2/28/10	5795.020	5794.913

Energy/Channel Equation : see above
Energy Calibration Zero : 2377.630
Energy Calibration Slope : 4.988592
Energy Calibration Quadratic : 2.4062325E-04
Energy Calibration Range : 7738.000

Instrument : CHAMBER 124
Detector : 45-142V2
Calibration Date/Time : 17-AUG-2009 14:59:08
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.737
NP-237	4341	2/28/10	4768.800	4768.348
CM-244	4320A	2/28/10	5795.020	5794.822

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.445
Energy Calibration Slope : 5.014465
Energy Calibration Quadratic : 2.5700411E-04
Energy Calibration Range : 7794.000

Instrument : CHAMBER 125
Detector : 75547
Calibration Date/Time : 17-AUG-2009 14:59:18
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.519
NP-237	4341	2/28/10	4768.800	4768.590
CM-244	4320A	2/28/10	5795.020	5794.968

Energy/Channel Equation : see above
Energy Calibration Zero : 2346.234
Energy Calibration Slope : 4.935012
Energy Calibration Quadratic : 2.8653492E-04
Energy Calibration Range : 7700.000

Instrument : CHAMBER 126
Detector : 75548
Calibration Date/Time : 17-AUG-2009 14:59:32
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.586
NP-237	4341	2/28/10	4768.800	4768.494
CM-244	4320A	2/28/10	5795.020	5794.836

Energy/Channel Equation : see above
Energy Calibration Zero : 2351.831
Energy Calibration Slope : 5.025319
Energy Calibration Quadratic : 2.1107355E-04
Energy Calibration Range : 7719.000

Instrument : CHAMBER 127
Detector : 78770
Calibration Date/Time : 17-AUG-2009 14:59:46
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.831
NP-237	4341	2/28/10	4768.800	4768.741
CM-244	4320A	2/28/10	5795.020	5794.894

Energy/Channel Equation : see above
Energy Calibration Zero : 2339.154
Energy Calibration Slope : 4.970251
Energy Calibration Quadratic : 2.5652250E-04
Energy Calibration Range : 7698.000

Instrument : CHAMBER 128
Detector : 75549
Calibration Date/Time : 17-AUG-2009 15:00:39
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.531
NP-237	4341	2/28/10	4768.800	4768.610
CM-244	4320A	2/28/10	5795.020	5794.838

Energy/Channel Equation : see above
Energy Calibration Zero : 2330.388
Energy Calibration Slope : 5.000057
Energy Calibration Quadratic : 2.3812153E-04
Energy Calibration Range : 7700.000

Instrument : CHAMBER 129
Detector : 76227
Calibration Date/Time : 17-AUG-2009 15:00:50
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.843
NP-237	4341	2/28/10	4768.800	4768.717
CM-244	4320A	2/28/10	5795.020	5794.874

Energy/Channel Equation : see above
Energy Calibration Zero : 2351.215
Energy Calibration Slope : 4.930460
Energy Calibration Quadratic : 2.9455224E-04
Energy Calibration Range : 7709.000

Instrument : CHAMBER 130
Detector : 76228
Calibration Date/Time : 17-AUG-2009 15:01:00
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.985
NP-237	4341	2/28/10	4768.800	4768.658
CM-244	4320A	2/28/10	5795.020	5794.729

Energy/Channel Equation : see above
Energy Calibration Zero : 2337.606
Energy Calibration Slope : 4.982665
Energy Calibration Quadratic : 2.2944069E-04
Energy Calibration Range : 7680.000

Instrument : CHAMBER 131
Detector : 33448
Calibration Date/Time : 17-AUG-2009 15:01:10
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3178.948
NP-237	4341	2/28/10	4768.800	4766.564
CM-244	4320A	2/28/10	5795.020	5793.610

Energy/Channel Equation : see above
Energy Calibration Zero : 2408.823
Energy Calibration Slope : 4.963500
Energy Calibration Quadratic : 2.8727154E-04
Energy Calibration Range : 7793.000

Instrument : CHAMBER 132
Detector : 67579
Calibration Date/Time : 17-AUG-2009 15:01:19
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.495
CM-244	4320A	2/28/10	5795.020	5794.895

Energy/Channel Equation : see above
Energy Calibration Zero : 2326.639
Energy Calibration Slope : 5.034670
Energy Calibration Quadratic : 2.1709618E-04
Energy Calibration Range : 7710.000

Instrument : CHAMBER 133
Detector : 76229
Calibration Date/Time : 17-AUG-2009 15:01:29
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.802
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5794.855

Energy/Channel Equation : see above
Energy Calibration Zero : 2310.723
Energy Calibration Slope : 4.901457
Energy Calibration Quadratic : 2.6648620E-04
Energy Calibration Range : 7609.000

Instrument : CHAMBER 134
Detector : 76230
Calibration Date/Time : 17-AUG-2009 15:01:38
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.670
NP-237	4341	2/28/10	4768.800	4768.734
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2328.671
Energy Calibration Slope : 4.971330
Energy Calibration Quadratic : 2.3919715E-04
Energy Calibration Range : 7670.000

Instrument : CHAMBER 135
Detector : 64270
Calibration Date/Time : 17-AUG-2009 15:01:50
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.220
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2334.713
Energy Calibration Slope : 4.950563
Energy Calibration Quadratic : 2.6665861E-04
Energy Calibration Range : 7684.000

Instrument : CHAMBER 136
Detector : 68549
Calibration Date/Time : 17-AUG-2009 15:02:00
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.547
NP-237	4341	2/28/10	4768.800	4769.648
CM-244	4320A	2/28/10	5795.020	5795.176

Energy/Channel Equation : see above
Energy Calibration Zero : 2352.961
Energy Calibration Slope : 4.996480
Energy Calibration Quadratic : 2.6544984E-04
Energy Calibration Range : 7748.000

Instrument : CHAMBER 137
Detector : 64288
Calibration Date/Time : 18-AUG-2009 09:58:00
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.426
CM-244	4320A	2/28/10	5795.020	5794.897

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.854
Energy Calibration Slope : 5.032813
Energy Calibration Quadratic : 2.8756596E-04
Energy Calibration Range : 7832.000

Instrument : CHAMBER 138
Detector : 65877
Calibration Date/Time : 17-AUG-2009 15:10:23
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.778
CM-244	4320A	2/28/10	5795.020	5794.902

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.472
Energy Calibration Slope : 4.997972
Energy Calibration Quadratic : 2.8433124E-04
Energy Calibration Range : 7793.000

Instrument : CHAMBER 139
Detector : 76231
Calibration Date/Time : 17-AUG-2009 15:10:36
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.807
NP-237	4341	2/28/10	4768.800	4768.778
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.050
Energy Calibration Slope : 4.923675
Energy Calibration Quadratic : 3.2614564E-04
Energy Calibration Range : 7737.000

Instrument : CHAMBER 140
Detector : 78771
Calibration Date/Time : 17-AUG-2009 15:10:53
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.950

Energy/Channel Equation : see above
Energy Calibration Zero : 2343.606
Energy Calibration Slope : 4.949296
Energy Calibration Quadratic : 3.0935110E-04
Energy Calibration Range : 7736.000

Instrument : CHAMBER 141
Detector : 76232
Calibration Date/Time : 17-AUG-2009 15:11:05
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.704
NP-237	4341	2/28/10	4768.800	4768.701
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2354.080
Energy Calibration Slope : 4.967496
Energy Calibration Quadratic : 2.7667297E-04
Energy Calibration Range : 7731.000

Instrument : CHAMBER 142
Detector : 64261
Calibration Date/Time : 17-AUG-2009 15:11:22
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.996

Energy/Channel Equation : see above
Energy Calibration Zero : 2377.858
Energy Calibration Slope : 4.966272
Energy Calibration Quadratic : 3.0408424E-04
Energy Calibration Range : 7782.000

Instrument : CHAMBER 143
Detector : 65882
Calibration Date/Time : 17-AUG-2009 15:11:35
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.838
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.476
Energy Calibration Slope : 4.958334
Energy Calibration Quadratic : 2.9036327E-04
Energy Calibration Range : 7735.000

Instrument : CHAMBER 144
Detector : 75551
Calibration Date/Time : 17-AUG-2009 15:11:48
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.149
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2348.280
Energy Calibration Slope : 4.953019
Energy Calibration Quadratic : 2.9027942E-04
Energy Calibration Range : 7725.000

Instrument : CHAMBER 145
Detector : 72526
Calibration Date/Time : 17-AUG-2009 15:12:06
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5794.950

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.188
Energy Calibration Slope : 4.950538
Energy Calibration Quadratic : 3.1101296E-04
Energy Calibration Range : 7754.000

Instrument : CHAMBER 146
Detector : 72527
Calibration Date/Time : 17-AUG-2009 15:12:19
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.841
NP-237	4341	2/28/10	4768.800	4768.589
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2352.896
Energy Calibration Slope : 4.936564
Energy Calibration Quadratic : 2.8588294E-04
Energy Calibration Range : 7708.000

Instrument : CHAMBER 147
Detector : 75550
Calibration Date/Time : 17-AUG-2009 15:12:37
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.991
NP-237	4341	2/28/10	4768.800	4768.681
CM-244	4320A	2/28/10	5795.020	5794.852

Energy/Channel Equation : see above
Energy Calibration Zero : 2344.357
Energy Calibration Slope : 4.979820
Energy Calibration Quadratic : 2.4974984E-04
Energy Calibration Range : 7706.000

Instrument : CHAMBER 148
Detector : 74429
Calibration Date/Time : 17-AUG-2009 15:12:57
Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.790
NP-237	4341	2/28/10	4768.800	4768.746
CM-244	4320A	2/28/10	5795.020	5794.901

Energy/Channel Equation : see above
Energy Calibration Zero : 2347.048
Energy Calibration Slope : 4.952481
Energy Calibration Quadratic : 2.8881739E-04
Energy Calibration Range : 7721.000

Instrument : CHAMBER 149
Detector : 33449
Calibration Date/Time : 17-AUG-2009 15:02:09
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.635
NP-237	4341	2/28/10	4768.800	4768.444
CM-244	4320A	2/28/10	5795.020	5794.948

Energy/Channel Equation : see above
Energy Calibration Zero : 2393.262
Energy Calibration Slope : 4.951241
Energy Calibration Quadratic : 3.0021602E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 150
Detector : 75552
Calibration Date/Time : 17-AUG-2009 15:02:19
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2357.177
Energy Calibration Slope : 4.964990
Energy Calibration Quadratic : 2.8429780E-04
Energy Calibration Range : 7739.000

Instrument : CHAMBER 151
Detector : 75556
Calibration Date/Time : 17-AUG-2009 15:02:29
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.755
CM-244	4320A	2/28/10	5795.020	5794.925

Energy/Channel Equation : see above
Energy Calibration Zero : 2344.746
Energy Calibration Slope : 4.932197
Energy Calibration Quadratic : 2.7974858E-04
Energy Calibration Range : 7689.000

Instrument : CHAMBER 152
Detector : 76222
Calibration Date/Time : 17-AUG-2009 15:02:41
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.811
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5794.877

Energy/Channel Equation : see above
Energy Calibration Zero : 2344.480
Energy Calibration Slope : 4.936235
Energy Calibration Quadratic : 2.8715734E-04
Energy Calibration Range : 7700.000

Instrument : CHAMBER 153
Detector : 76223
Calibration Date/Time : 17-AUG-2009 15:02:59
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.810
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.996

Energy/Channel Equation : see above
Energy Calibration Zero : 2337.684
Energy Calibration Slope : 4.933674
Energy Calibration Quadratic : 3.0187287E-04
Energy Calibration Range : 7706.000

Instrument : CHAMBER 154
Detector : 76224
Calibration Date/Time : 17-AUG-2009 15:03:12
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2342.948
Energy Calibration Slope : 4.948957
Energy Calibration Quadratic : 2.8683257E-04
Energy Calibration Range : 7711.000

Instrument : CHAMBER 155
Detector : 75553
Calibration Date/Time : 17-AUG-2009 15:03:49
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.770
NP-237	4341	2/28/10	4768.800	4768.662
CM-244	4320A	2/28/10	5795.020	5794.902

Energy/Channel Equation : see above
Energy Calibration Zero : 2367.728
Energy Calibration Slope : 4.983710
Energy Calibration Quadratic : 2.8808211E-04
Energy Calibration Range : 7773.000

Instrument : CHAMBER 156
Detector : 75554
Calibration Date/Time : 17-AUG-2009 15:03:58
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.851
NP-237	4341	2/28/10	4768.800	4768.705
CM-244	4320A	2/28/10	5795.020	5794.899

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.355
Energy Calibration Slope : 4.999010
Energy Calibration Quadratic : 2.6741659E-04
Energy Calibration Range : 7762.000

Instrument : CHAMBER 157
Detector : 75555
Calibration Date/Time : 17-AUG-2009 15:04:07
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.868
NP-237	4341	2/28/10	4768.800	4768.768
CM-244	4320A	2/28/10	5795.020	5794.925

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.092
Energy Calibration Slope : 4.979420
Energy Calibration Quadratic : 2.8018607E-04
Energy Calibration Range : 7751.000

Instrument : CHAMBER 158
Detector : 33451
Calibration Date/Time : 17-AUG-2009 15:04:18
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.449
NP-237	4341	2/28/10	4768.800	4768.432
CM-244	4320A	2/28/10	5795.020	5794.938

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.976
Energy Calibration Slope : 5.006801
Energy Calibration Quadratic : 3.0287215E-04
Energy Calibration Range : 7835.000

Instrument : CHAMBER 159
Detector : 76225
Calibration Date/Time : 17-AUG-2009 15:04:28
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2354.720
Energy Calibration Slope : 4.980748
Energy Calibration Quadratic : 2.9428111E-04
Energy Calibration Range : 7764.000

Instrument : CHAMBER 160
Detector : 76226
Calibration Date/Time : 17-AUG-2009 15:04:40
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2355.649
Energy Calibration Slope : 4.990073
Energy Calibration Quadratic : 2.8874222E-04
Energy Calibration Range : 7768.000

Instrument : CHAMBER 161
Detector : 70321
Calibration Date/Time : 24-AUG-2009 14:06:47
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2374.961
Energy Calibration Slope : 4.910189
Energy Calibration Quadratic : 3.2356248E-04
Energy Calibration Range : 7742.000

Instrument : CHAMBER 162
Detector : 70323
Calibration Date/Time : 24-AUG-2009 14:06:56
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2369.767
Energy Calibration Slope : 4.933752
Energy Calibration Quadratic : 2.9582490E-04
Energy Calibration Range : 7732.000

Instrument : CHAMBER 163
Detector : 70324
Calibration Date/Time : 24-AUG-2009 14:07:06
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2380.833
Energy Calibration Slope : 4.951450
Energy Calibration Quadratic : 2.9602056E-04
Energy Calibration Range : 7762.000

Instrument : CHAMBER 164
Detector : 70325
Calibration Date/Time : 24-AUG-2009 14:07:20
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.319
Energy Calibration Slope : 4.937610
Energy Calibration Quadratic : 3.1754762E-04
Energy Calibration Range : 7771.000

Instrument : CHAMBER 165
Detector : 72544
Calibration Date/Time : 24-AUG-2009 14:07:34
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.801
Energy Calibration Slope : 4.978922
Energy Calibration Quadratic : 2.7212233E-04
Energy Calibration Range : 7768.000

Instrument : CHAMBER 166
Detector : 74545
Calibration Date/Time : 24-AUG-2009 14:07:42
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.102
Energy Calibration Slope : 4.917744
Energy Calibration Quadratic : 3.4292034E-04
Energy Calibration Range : 7771.000

Instrument : CHAMBER 167
Detector : 72546
Calibration Date/Time : 24-AUG-2009 14:07:51
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2378.657
Energy Calibration Slope : 4.932514
Energy Calibration Quadratic : 3.1670861E-04
Energy Calibration Range : 7762.000

Instrument : CHAMBER 168
Detector : 72547
Calibration Date/Time : 24-AUG-2009 14:07:59
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.249
Energy Calibration Slope : 4.927288
Energy Calibration Quadratic : 3.2642024E-04
Energy Calibration Range : 7771.000

Instrument : CHAMBER 169
Detector : 72548
Calibration Date/Time : 24-AUG-2009 14:08:11
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2381.642
Energy Calibration Slope : 4.923596
Energy Calibration Quadratic : 3.2521432E-04
Energy Calibration Range : 7764.000

Instrument : CHAMBER 170
Detector : 72549
Calibration Date/Time : 24-AUG-2009 14:08:20
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.492
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.004
Energy Calibration Slope : 4.926051
Energy Calibration Quadratic : 3.3877406E-04
Energy Calibration Range : 7782.000

Instrument : CHAMBER 171
Detector : 78260
Calibration Date/Time : 24-AUG-2009 14:08:29
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.426
CM-244	4320A	2/28/10	5795.020	5795.289

Energy/Channel Equation : see above
Energy Calibration Zero : 2366.691
Energy Calibration Slope : 4.935659
Energy Calibration Quadratic : 3.0618926E-04
Energy Calibration Range : 7742.000

Instrument : CHAMBER 172
Detector : 78772
Calibration Date/Time : 24-AUG-2009 14:08:40
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2367.995
Energy Calibration Slope : 4.907234
Energy Calibration Quadratic : 3.5045875E-04
Energy Calibration Range : 7760.000

Instrument : CHAMBER 173
Detector : 74431
Calibration Date/Time : 24-AUG-2009 14:08:49
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.808
Energy Calibration Slope : 4.998088
Energy Calibration Quadratic : 2.5220143E-04
Energy Calibration Range : 7747.000

Instrument : CHAMBER 174
Detector : 74432
Calibration Date/Time : 24-AUG-2009 14:08:58
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2359.695
Energy Calibration Slope : 5.048626
Energy Calibration Quadratic : 1.8959134E-04
Energy Calibration Range : 7728.000

Instrument : CHAMBER 175
Detector : 74433
Calibration Date/Time : 24-AUG-2009 14:09:06
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.396
Energy Calibration Slope : 4.978646
Energy Calibration Quadratic : 2.7462494E-04
Energy Calibration Range : 7751.000

Instrument : CHAMBER 176
Detector : 74434
Calibration Date/Time : 24-AUG-2009 14:09:15
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.332
Energy Calibration Slope : 5.014320
Energy Calibration Quadratic : 2.4356594E-04
Energy Calibration Range : 7752.000

Instrument : CHAMBER 177
Detector : 74435
Calibration Date/Time : 24-AUG-2009 14:09:24
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.740
Energy Calibration Slope : 4.964604
Energy Calibration Quadratic : 2.9061688E-04
Energy Calibration Range : 7753.000

Instrument : CHAMBER 178
Detector : 74436
Calibration Date/Time : 24-AUG-2009 14:09:35
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.420
Energy Calibration Slope : 4.990875
Energy Calibration Quadratic : 2.6006214E-04
Energy Calibration Range : 7742.000

Instrument : CHAMBER 179
Detector : 74437
Calibration Date/Time : 24-AUG-2009 14:09:44
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2360.365
Energy Calibration Slope : 4.967896
Energy Calibration Quadratic : 2.8685154E-04
Energy Calibration Range : 7748.000

Instrument : CHAMBER 180
Detector : 74438
Calibration Date/Time : 24-AUG-2009 14:09:54
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.338
Energy Calibration Slope : 5.025792
Energy Calibration Quadratic : 2.1654682E-04
Energy Calibration Range : 7732.000

Instrument : CHAMBER 181
Detector : 74439
Calibration Date/Time : 24-AUG-2009 14:10:03
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.697
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.787
Energy Calibration Slope : 4.972206
Energy Calibration Quadratic : 2.7814286E-04
Energy Calibration Range : 7746.000

Instrument : CHAMBER 182
Detector : 74440
Calibration Date/Time : 24-AUG-2009 14:10:14
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2353.051
Energy Calibration Slope : 4.986979
Energy Calibration Quadratic : 2.5764259E-04
Energy Calibration Range : 7730.000

Instrument : CHAMBER 183
Detector : 74441
Calibration Date/Time : 24-AUG-2009 14:10:29
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.208
Energy Calibration Slope : 4.980685
Energy Calibration Quadratic : 2.7016739E-04
Energy Calibration Range : 7746.000

Instrument : CHAMBER 184
Detector : 74442
Calibration Date/Time : 24-AUG-2009 14:10:41
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2359.055
Energy Calibration Slope : 5.010284
Energy Calibration Quadratic : 2.3703104E-04
Energy Calibration Range : 7738.000

Instrument : CHAMBER 185
Detector : 68615
Calibration Date/Time : 24-AUG-2009 14:10:54
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.699
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.733
Energy Calibration Slope : 4.933492
Energy Calibration Quadratic : 2.8617174E-04
Energy Calibration Range : 7714.000

Instrument : CHAMBER 186
Detector : 68616
Calibration Date/Time : 24-AUG-2009 14:11:06
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.753
Energy Calibration Slope : 4.935731
Energy Calibration Quadratic : 2.9755512E-04
Energy Calibration Range : 7732.000

Instrument : CHAMBER 187
Detector : 68620
Calibration Date/Time : 24-AUG-2009 14:11:16
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2376.047
Energy Calibration Slope : 4.966012
Energy Calibration Quadratic : 3.0612116E-04
Energy Calibration Range : 7782.000

Instrument : CHAMBER 188
Detector : 68621
Calibration Date/Time : 24-AUG-2009 14:11:25
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2368.519
Energy Calibration Slope : 4.967674
Energy Calibration Quadratic : 2.9094989E-04
Energy Calibration Range : 7761.000

Instrument : CHAMBER 189
Detector : 68622
Calibration Date/Time : 24-AUG-2009 14:11:34
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2363.805
Energy Calibration Slope : 4.932057
Energy Calibration Quadratic : 3.0281782E-04
Energy Calibration Range : 7732.000

Instrument : CHAMBER 190
Detector : 68623
Calibration Date/Time : 24-AUG-2009 14:11:43
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2358.846
Energy Calibration Slope : 4.945598
Energy Calibration Quadratic : 2.9230170E-04
Energy Calibration Range : 7730.000

Instrument : CHAMBER 191
Detector : 68624
Calibration Date/Time : 24-AUG-2009 14:11:54
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2370.757
Energy Calibration Slope : 4.964250
Energy Calibration Quadratic : 3.1056980E-04
Energy Calibration Range : 7780.000

Instrument : CHAMBER 192
Detector : 74430
Calibration Date/Time : 24-AUG-2009 14:12:04
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.552
Energy Calibration Slope : 4.984001
Energy Calibration Quadratic : 2.9122332E-04
Energy Calibration Range : 7775.000

Instrument : CHAMBER 193
Detector : 68627
Calibration Date/Time : 24-AUG-2009 14:12:15
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.432
Energy Calibration Slope : 4.926356
Energy Calibration Quadratic : 3.1079396E-04
Energy Calibration Range : 7735.000

Instrument : CHAMBER 194
Detector : 68635
Calibration Date/Time : 24-AUG-2009 14:12:24
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.972
Energy Calibration Slope : 4.949121
Energy Calibration Quadratic : 2.8917161E-04
Energy Calibration Range : 7733.000

Instrument : CHAMBER 195
Detector : 68636
Calibration Date/Time : 24-AUG-2009 14:12:38
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.802
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.575
Energy Calibration Slope : 4.972611
Energy Calibration Quadratic : 2.6226370E-04
Energy Calibration Range : 7729.000

Instrument : CHAMBER 196
Detector : 68637
Calibration Date/Time : 24-AUG-2009 14:12:49
Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.691
Energy Calibration Slope : 4.926461
Energy Calibration Quadratic : 3.1398068E-04
Energy Calibration Range : 7739.000

Instrument : CHAMBER 197
Detector : 78894
Calibration Date/Time : 24-AUG-2009 14:12:58
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2371.940
Energy Calibration Slope : 4.962372
Energy Calibration Quadratic : 3.0214558E-04
Energy Calibration Range : 7770.000

Instrument : CHAMBER 198
Detector : 78895
Calibration Date/Time : 24-AUG-2009 14:13:11
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2366.058
Energy Calibration Slope : 4.966545
Energy Calibration Quadratic : 2.8346200E-04
Energy Calibration Range : 7749.000

Instrument : CHAMBER 199
Detector : 78896
Calibration Date/Time : 24-AUG-2009 14:13:20
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2368.399
Energy Calibration Slope : 4.967513
Energy Calibration Quadratic : 2.9532972E-04
Energy Calibration Range : 7765.000

Instrument : CHAMBER 200
Detector : 78900
Calibration Date/Time : 24-AUG-2009 14:13:29
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2366.221
Energy Calibration Slope : 4.968300
Energy Calibration Quadratic : 2.9352392E-04
Energy Calibration Range : 7762.000

Instrument : CHAMBER 201
Detector : 78902
Calibration Date/Time : 24-AUG-2009 14:13:38
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.156
Energy Calibration Slope : 4.974658
Energy Calibration Quadratic : 2.9066936E-04
Energy Calibration Range : 7761.000

Instrument : CHAMBER 202
Detector : 78903
Calibration Date/Time : 24-AUG-2009 14:13:47
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2356.033
Energy Calibration Slope : 4.956886
Energy Calibration Quadratic : 2.9409473E-04
Energy Calibration Range : 7740.000

Instrument : CHAMBER 203
Detector : 78905
Calibration Date/Time : 24-AUG-2009 14:16:33
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.159
Energy Calibration Slope : 4.957525
Energy Calibration Quadratic : 3.0185276E-04
Energy Calibration Range : 7757.000

Instrument : CHAMBER 204
Detector : 78907
Calibration Date/Time : 24-AUG-2009 14:14:37
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2361.336
Energy Calibration Slope : 4.953297
Energy Calibration Quadratic : 3.0559121E-04
Energy Calibration Range : 7754.000

Instrument : CHAMBER 205
Detector : 78908
Calibration Date/Time : 24-AUG-2009 14:14:46
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2366.916
Energy Calibration Slope : 4.956555
Energy Calibration Quadratic : 3.0603251E-04
Energy Calibration Range : 7763.000

Instrument : CHAMBER 206
Detector : 78909
Calibration Date/Time : 24-AUG-2009 14:14:55
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2362.312
Energy Calibration Slope : 4.958225
Energy Calibration Quadratic : 2.9557038E-04
Energy Calibration Range : 7749.000

Instrument : CHAMBER 207
Detector : 78910
Calibration Date/Time : 24-AUG-2009 14:15:04
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2365.581
Energy Calibration Slope : 4.980759
Energy Calibration Quadratic : 2.8388310E-04
Energy Calibration Range : 7764.000

Instrument : CHAMBER 208
Detector : 78911
Calibration Date/Time : 24-AUG-2009 14:15:14
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2364.472
Energy Calibration Slope : 4.972521
Energy Calibration Quadratic : 2.9282621E-04
Energy Calibration Range : 7763.000

Instrument : CHAMBER 209
Detector : 79188
Calibration Date/Time : 28-JUL-2009 13:59:46
Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2390.309
Energy Calibration Slope : 4.907889
Energy Calibration Quadratic : 3.5155186E-04
Energy Calibration Range : 7785.000

Instrument : CHAMBER 210
Detector : 79189
Calibration Date/Time : 28-JUL-2009 13:59:55
Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.719
Energy Calibration Slope : 4.945560
Energy Calibration Quadratic : 3.0519743E-04
Energy Calibration Range : 7767.000

Instrument : CHAMBER 211
Detector : 79190
Calibration Date/Time : 28-JUL-2009 14:00:03
Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.786
Energy Calibration Slope : 4.957439
Energy Calibration Quadratic : 3.0850343E-04
Energy Calibration Range : 7789.000

Instrument : CHAMBER 212
Detector : 79191
Calibration Date/Time : 28-JUL-2009 14:00:11
Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.612
Energy Calibration Slope : 4.941330
Energy Calibration Quadratic : 3.1567214E-04
Energy Calibration Range : 7778.000

Instrument : CHAMBER 213
Detector : 79192
Calibration Date/Time : 28-JUL-2009 14:00:20
Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2392.102
Energy Calibration Slope : 4.949504
Energy Calibration Quadratic : 3.0747624E-04
Energy Calibration Range : 7783.000

Instrument : CHAMBER 214
Detector : 79193
Calibration Date/Time : 28-JUL-2009 14:00:29
Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.299
Energy Calibration Slope : 4.938057
Energy Calibration Quadratic : 3.2320846E-04
Energy Calibration Range : 7779.000

Instrument : CHAMBER 215
Detector : 79194
Calibration Date/Time : 28-JUL-2009 14:00:38
Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.097
Energy Calibration Slope : 4.946728
Energy Calibration Quadratic : 3.2361320E-04
Energy Calibration Range : 7796.000

Instrument : CHAMBER 216
Detector : 79195
Calibration Date/Time : 28-JUL-2009 14:00:46
Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.871
Energy Calibration Slope : 4.924810
Energy Calibration Quadratic : 3.3861332E-04
Energy Calibration Range : 7788.000

Instrument : CHAMBER 217
Detector : 79410
Calibration Date/Time : 28-JUL-2009 14:00:55
Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.358
Energy Calibration Slope : 4.934552
Energy Calibration Quadratic : 3.3054961E-04
Energy Calibration Range : 7791.000

Instrument : CHAMBER 218
Detector : 79411
Calibration Date/Time : 28-JUL-2009 14:01:03
Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.335
Energy Calibration Slope : 4.946022
Energy Calibration Quadratic : 3.1945287E-04
Energy Calibration Range : 7788.000

Instrument : CHAMBER 219
Detector : 79412
Calibration Date/Time : 28-JUL-2009 14:01:48
Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2390.188
Energy Calibration Slope : 4.929147
Energy Calibration Quadratic : 3.3767600E-04
Energy Calibration Range : 7792.000

Instrument : CHAMBER 220
Detector : 79413
Calibration Date/Time : 28-JUL-2009 14:02:00
Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.449
Energy Calibration Slope : 4.943600
Energy Calibration Quadratic : 3.1373679E-04
Energy Calibration Range : 7774.000

Instrument : CHAMBER 221
Detector : 79414
Calibration Date/Time : 28-JUL-2009 14:02:09
Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.174
Energy Calibration Slope : 4.970656
Energy Calibration Quadratic : 3.0409341E-04
Energy Calibration Range : 7796.000

Instrument : CHAMBER 222
Detector : 79415
Calibration Date/Time : 28-JUL-2009 14:02:19
Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2382.306
Energy Calibration Slope : 5.025091
Energy Calibration Quadratic : 2.4377843E-04
Energy Calibration Range : 7784.000

Instrument : CHAMBER 223
Detector : 79416
Calibration Date/Time : 28-JUL-2009 14:02:29
Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.067
Energy Calibration Slope : 4.958123
Energy Calibration Quadratic : 3.2477293E-04
Energy Calibration Range : 7807.000

Instrument : CHAMBER 224
Detector : 79417
Calibration Date/Time : 28-JUL-2009 14:02:37
Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.027
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.695
Energy Calibration Slope : 5.011842
Energy Calibration Quadratic : 2.6290418E-04
Energy Calibration Range : 7794.000

Instrument : CHAMBER 225
Detector : 79418
Calibration Date/Time : 28-JUL-2009 14:02:46
Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2392.776
Energy Calibration Slope : 4.933724
Energy Calibration Quadratic : 3.3852886E-04
Energy Calibration Range : 7800.000

Instrument : CHAMBER 226
Detector : 79419
Calibration Date/Time : 28-JUL-2009 14:02:55
Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.150
Energy Calibration Slope : 4.973210
Energy Calibration Quadratic : 2.9508519E-04
Energy Calibration Range : 7786.000

Instrument : CHAMBER 227
Detector : 79420
Calibration Date/Time : 28-JUL-2009 14:03:04
Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.061
Energy Calibration Slope : 4.938961
Energy Calibration Quadratic : 3.3045741E-04
Energy Calibration Range : 7795.000

Instrument : CHAMBER 228
Detector : 79421
Calibration Date/Time : 28-JUL-2009 14:03:13
Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.005
Energy Calibration Slope : 4.959556
Energy Calibration Quadratic : 3.0744984E-04
Energy Calibration Range : 7787.000

Instrument : CHAMBER 229
Detector : 79422
Calibration Date/Time : 28-JUL-2009 14:03:22
Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.995
Energy Calibration Slope : 4.940877
Energy Calibration Quadratic : 3.3899915E-04
Energy Calibration Range : 7803.000

Instrument : CHAMBER 230
Detector : 79423
Calibration Date/Time : 28-JUL-2009 14:03:31
Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.573
Energy Calibration Slope : 4.960246
Energy Calibration Quadratic : 3.1046796E-04
Energy Calibration Range : 7789.000

Instrument : CHAMBER 231
Detector : 79424
Calibration Date/Time : 28-JUL-2009 14:03:40
Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.425
Energy Calibration Slope : 4.946337
Energy Calibration Quadratic : 3.1792521E-04
Energy Calibration Range : 7786.000

Instrument : CHAMBER 232
Detector : 79425
Calibration Date/Time : 28-JUL-2009 14:03:48
Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.962
Energy Calibration Slope : 5.004478
Energy Calibration Quadratic : 2.5898189E-04
Energy Calibration Range : 7781.000

Instrument : CHAMBER 233
Detector : 79426
Calibration Date/Time : 28-JUL-2009 14:03:57
Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2384.858
Energy Calibration Slope : 4.908395
Energy Calibration Quadratic : 3.6085595E-04
Energy Calibration Range : 7789.000

Instrument : CHAMBER 234
Detector : 79427
Calibration Date/Time : 28-JUL-2009 14:04:08
Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2378.557
Energy Calibration Slope : 4.936086
Energy Calibration Quadratic : 3.1737317E-04
Energy Calibration Range : 7766.000

Instrument : CHAMBER 235
Detector : 79428
Calibration Date/Time : 28-JUL-2009 14:04:17
Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.048
Energy Calibration Slope : 4.937345
Energy Calibration Quadratic : 3.3249237E-04
Energy Calibration Range : 7791.000

Instrument : CHAMBER 236
Detector : 79429
Calibration Date/Time : 28-JUL-2009 14:04:27
Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2388.810
Energy Calibration Slope : 4.906125
Energy Calibration Quadratic : 3.6270331E-04
Energy Calibration Range : 7793.000

Instrument : CHAMBER 237
Detector : 79430
Calibration Date/Time : 28-JUL-2009 14:04:36
Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.128
Energy Calibration Slope : 4.944391
Energy Calibration Quadratic : 3.2767057E-04
Energy Calibration Range : 7794.000

Instrument : CHAMBER 238
Detector : 79431
Calibration Date/Time : 28-JUL-2009 14:04:46
Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2381.338
Energy Calibration Slope : 4.929770
Energy Calibration Quadratic : 3.3144769E-04
Energy Calibration Range : 7777.000

Instrument : CHAMBER 239
Detector : 79432
Calibration Date/Time : 28-JUL-2009 14:04:55
Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2390.132
Energy Calibration Slope : 4.920120
Energy Calibration Quadratic : 3.5708508E-04
Energy Calibration Range : 7803.000

Instrument : CHAMBER 240
Detector : 79433
Calibration Date/Time : 28-JUL-2009 14:05:04
Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2385.205
Energy Calibration Slope : 4.918474
Energy Calibration Quadratic : 3.4866974E-04
Energy Calibration Range : 7787.000

Instrument : CHAMBER 241
Detector : 79434
Calibration Date/Time : 28-JUL-2009 14:05:13
Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2385.825
Energy Calibration Slope : 4.908836
Energy Calibration Quadratic : 3.6050563E-04
Energy Calibration Range : 7790.000

Instrument : CHAMBER 242
Detector : 79435
Calibration Date/Time : 28-JUL-2009 14:05:21
Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2385.009
Energy Calibration Slope : 4.945025
Energy Calibration Quadratic : 3.1615721E-04
Energy Calibration Range : 7780.000

Instrument : CHAMBER 243
Detector : 79436
Calibration Date/Time : 28-JUL-2009 14:05:30
Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.770
Energy Calibration Slope : 4.934989
Energy Calibration Quadratic : 3.3655608E-04
Energy Calibration Range : 7793.000

Instrument : CHAMBER 244
Detector : 79437
Calibration Date/Time : 28-JUL-2009 14:05:39
Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.069
Energy Calibration Slope : 4.911016
Energy Calibration Quadratic : 3.5919523E-04
Energy Calibration Range : 7797.000

Instrument : CHAMBER 245
Detector : 79438
Calibration Date/Time : 28-JUL-2009 14:05:48
Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2392.602
Energy Calibration Slope : 4.941990
Energy Calibration Quadratic : 3.3874813E-04
Energy Calibration Range : 7808.000

Instrument : CHAMBER 246
Detector : 78912
Calibration Date/Time : 28-JUL-2009 14:05:57
Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2392.768
Energy Calibration Slope : 4.935872
Energy Calibration Quadratic : 3.3401168E-04
Energy Calibration Range : 7797.000

Instrument : CHAMBER 247
Detector : 79440
Calibration Date/Time : 28-JUL-2009 14:06:06
Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2393.687
Energy Calibration Slope : 4.919972
Energy Calibration Quadratic : 3.6322643E-04
Energy Calibration Range : 7813.000

Instrument : CHAMBER 248
Detector : 79441
Calibration Date/Time : 28-JUL-2009 14:06:15
Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2386.829
Energy Calibration Slope : 4.935865
Energy Calibration Quadratic : 3.3986062E-04
Energy Calibration Range : 7798.000

Instrument : CHAMBER 249
Detector : 79442
Calibration Date/Time : 28-JUL-2009 14:10:21
Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.737
Energy Calibration Slope : 4.913334
Energy Calibration Quadratic : 3.7958668E-04
Energy Calibration Range : 7821.000

Instrument : CHAMBER 250
Detector : 79443
Calibration Date/Time : 28-JUL-2009 14:07:02
Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2383.582
Energy Calibration Slope : 4.915850
Energy Calibration Quadratic : 3.5610356E-04
Energy Calibration Range : 7791.000

Instrument : CHAMBER 251
Detector : 79444
Calibration Date/Time : 28-JUL-2009 14:07:11
Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2390.072
Energy Calibration Slope : 4.920268
Energy Calibration Quadratic : 3.7023224E-04
Energy Calibration Range : 7817.000

Instrument : CHAMBER 252
Detector : 79445
Calibration Date/Time : 28-JUL-2009 14:07:24
Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.797
Energy Calibration Slope : 4.906192
Energy Calibration Quadratic : 3.7361679E-04
Energy Calibration Range : 7808.000

Instrument : CHAMBER 253
Detector : 79446
Calibration Date/Time : 28-JUL-2009 14:07:35
Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
Energy Calibration Zero : 2393.983
Energy Calibration Slope : 4.947714
Energy Calibration Quadratic : 3.5550338E-04
Energy Calibration Range : 7833.000

Instrument : CHAMBER 254
Detector : 79447
Calibration Date/Time : 28-JUL-2009 14:07:52
Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2389.038
Energy Calibration Slope : 4.937405
Energy Calibration Quadratic : 3.4224574E-04
Energy Calibration Range : 7804.000

Instrument : CHAMBER 255
Detector : 79448
Calibration Date/Time : 28-JUL-2009 14:08:10
Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2391.216
Energy Calibration Slope : 4.920984
Energy Calibration Quadratic : 3.7234218E-04
Energy Calibration Range : 7821.000

Instrument : CHAMBER 256
Detector : 79449
Calibration Date/Time : 28-JUL-2009 14:08:26
Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
Energy Calibration Zero : 2387.279
Energy Calibration Slope : 4.932406
Energy Calibration Quadratic : 3.4164111E-04
Energy Calibration Range : 7796.000

Subsection 2: Background Calibration

Instrument : CHAMBER 001
Detector : 78788
Background Analysis Date/Time : 2-AUG-2009 17:38:31
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.927	3299.401	3.000000	0.7200001	57.73503	95.00000
NP-237	4432.428	4902.923	11.00000	2.640001	30.15113	95.00000
CM-244	5533.599	5883.327	10.00000	2.400001	31.62278	95.00000

Instrument : CHAMBER 002
Detector : 78266
Background Analysis Date/Time : 2-AUG-2009 17:38:31
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.748	3297.924	4.000000	0.9600002	50.00000	95.00000
NP-237	4434.751	4902.555	3.000000	0.7200001	57.73503	95.00000
CM-244	5533.273	5884.668	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 003
Detector : 67617
Background Analysis Date/Time : 2-AUG-2009 17:38:31
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.035	3300.027	6.000000	1.440000	40.82483	95.00000
NP-237	4433.783	4901.623	9.000000	2.160001	33.33334	95.00000
CM-244	5533.183	5887.889	9.000000	2.160001	33.33334	95.00000

Instrument : CHAMBER 004
Detector : 64279
Background Analysis Date/Time : 2-AUG-2009 17:38:31
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.885	3302.347	4.000000	0.9600002	50.00000	95.00000
NP-237	4436.757	4905.540	7.000000	1.680000	37.79645	95.00000
CM-244	5533.807	5887.698	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 005
Detector : 67612
Background Analysis Date/Time : 2-AUG-2009 17:38:31
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.194	3301.639	3.000000	0.7200001	57.73503	95.00000
NP-237	4437.588	4901.889	8.000000	1.920000	35.35534	95.00000
CM-244	5531.535	5887.236	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 006
Detector : 67613
Background Analysis Date/Time : 2-AUG-2009 17:38:31
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.186	3302.064	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.812	4901.476	9.000000	2.160001	33.33334	95.00000
CM-244	5533.017	5887.020	8.000000	1.920000	35.35534	95.00000

Instrument : CHAMBER 007
Detector : 67607
Background Analysis Date/Time : 2-AUG-2009 17:38:32
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.468	3299.148	8.000000	1.920000	35.35534	95.00000
NP-237	4433.972	4903.766	11.00000	2.640000	30.15113	95.00000
CM-244	5532.246	5885.701	17.00000	4.080001	24.25356	95.00000

Instrument : CHAMBER 008
Detector : 78788
Background Analysis Date/Time : 2-AUG-2009 17:38:32
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.215	3298.713	3.000000	0.7200001	57.73503	95.00000
NP-237	4433.303	4905.744	4.000000	0.9600002	50.00000	95.00000
CM-244	5532.461	5886.606	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 009
Detector : 72528
Background Analysis Date/Time : 2-AUG-2009 17:38:32
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.462	3298.900	5.000000	1.200000	44.72136	95.00000
NP-237	4437.055	4904.570	10.00000	2.400000	31.62278	95.00000
CM-244	5532.536	5882.399	13.00000	3.120001	27.73501	95.00000

Instrument : CHAMBER 010
Detector : 72529
Background Analysis Date/Time : 2-AUG-2009 17:38:32
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.229	3298.607	8.000000	1.920000	35.35534	95.00000
NP-237	4436.880	4905.484	9.000000	2.160000	33.33334	95.00000
CM-244	5531.409	5886.990	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 011
Detector : 72531
Background Analysis Date/Time : 2-AUG-2009 17:38:32
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.538	3301.988	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.957	4905.467	9.000000	2.160000	33.33334	95.00000
CM-244	5530.314	5886.614	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 012
Detector : 67594
Background Analysis Date/Time : 2-AUG-2009 17:38:32
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.398	3300.615	3.000000	0.7200001	57.73503	95.00000
NP-237	4437.450	4901.503	9.000000	2.160000	33.33334	95.00000
CM-244	5534.709	5886.652	16.00000	3.840001	25.00000	95.00000

Instrument : CHAMBER 013
Detector : 78790
Background Analysis Date/Time : 2-AUG-2009 17:38:33
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.666	3298.441	1.000000	0.2400001	100.0000	95.00000
NP-237	4435.272	4902.524	6.000000	1.440000	40.82483	95.00000
CM-244	5533.077	5883.559	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 014
Detector : 67616
Background Analysis Date/Time : 2-AUG-2009 17:38:33
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.504	3300.484	2.000000	0.4800001	70.71068	95.00000
NP-237	4435.990	4902.000	4.000000	0.9600002	50.00000	95.00000
CM-244	5532.918	5886.701	23.00000	5.520001	20.85144	95.00000

Instrument : CHAMBER 015
Detector : 61581
Background Analysis Date/Time : 2-AUG-2009 17:38:33
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.739	3297.575	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.566	4904.976	10.00000	2.400001	31.62278	95.00000
CM-244	5530.833	5887.242	22.00000	5.280001	21.32007	95.00000

Instrument : CHAMBER 016
Detector : 78774
Background Analysis Date/Time : 2-AUG-2009 17:38:33
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.015	3299.769	3.000000	0.7200001	57.73503	95.00000
NP-237	4432.750	4903.568	3.000000	0.7200001	57.73503	95.00000
CM-244	5531.945	5886.508	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 017
Detector : 78791
Background Analysis Date/Time : 2-AUG-2009 17:38:33
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.506	3301.266	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.397	4901.753	6.000000	1.440000	40.82483	95.00000
CM-244	5532.102	5885.058	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 018
Detector : 78782
Background Analysis Date/Time : 2-AUG-2009 17:38:33
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.342	3302.274	1.000000	0.2400001	100.0000	95.00000
NP-237	4435.776	4902.996	4.000000	0.9600002	50.00000	95.00000
CM-244	5535.506	5884.764	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 019
Detector : 78786
Background Analysis Date/Time : 2-AUG-2009 17:38:34
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.757	3299.102	1.000000	0.2399998	100.0000	95.00000
NP-237	4436.959	4904.938	5.000000	1.199999	44.72136	95.00000
CM-244	5530.360	5882.637	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 020
Detector : 78787
Background Analysis Date/Time : 2-AUG-2009 17:38:34
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.029	3302.537	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.491	4905.035	10.00000	2.399998	31.62278	95.00000
CM-244	5532.389	5886.993	5.000000	1.199999	44.72136	95.00000

Instrument : CHAMBER 021
Detector : 67047
Background Analysis Date/Time : 2-AUG-2009 17:38:34
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.044	3301.105	4.000000	0.9599994	50.00000	95.00000
NP-237	4432.692	4903.261	8.000000	1.919999	35.35534	95.00000
CM-244	5532.273	5884.483	16.00000	3.839998	25.00000	95.00000

Instrument : CHAMBER 022
Detector : 72530
Background Analysis Date/Time : 2-AUG-2009 17:38:34
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.876	3301.717	5.000000	1.199999	44.72136	95.00000
NP-237	4432.553	4902.907	4.000000	0.9599994	50.00000	95.00000
CM-244	5531.719	5883.858	21.00000	5.039997	21.82179	95.00000

Instrument : CHAMBER 023
Detector : 78264
Background Analysis Date/Time : 2-AUG-2009 17:38:34
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.270	3297.465	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.353	4902.238	12.00000	2.879998	28.86751	95.00000
CM-244	5535.006	5884.098	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 024
Detector : 76542
Background Analysis Date/Time : 2-AUG-2009 17:38:34
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.735	3301.963	3.000000	0.7199996	57.73503	95.00000
NP-237	4435.585	4904.900	14.00000	3.359998	26.72612	95.00000
CM-244	5532.247	5883.527	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 025
Detector : 45-149AA5
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.576	3302.009	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.518	4905.500	4.000000	0.9600002	50.00000	95.00000
CM-244	5535.553	5882.966	61.00000	14.64000	12.80369	95.00000

Instrument : CHAMBER 026
Detector : 78204
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.278	3302.066	1.000000	0.2400001	100.0000	95.00000
NP-237	4432.530	4904.245	8.000000	1.920000	35.35534	95.00000
CM-244	5530.854	5885.357	35.00000	8.400002	16.90309	95.00000

Instrument : CHAMBER 027
Detector : 42484
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.311	3298.574	1.000000	0.2400001	100.0000	95.00000
NP-237	4433.571	4901.458	4.000000	0.9600002	50.00000	95.00000
CM-244	5534.916	5884.719	37.00000	8.880002	16.43990	95.00000

Instrument : CHAMBER 028
Detector : 78792
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.458	3301.428	1.000000	0.2400001	100.0000	95.00000
NP-237	4433.918	4901.793	10.00000	2.400001	31.62278	95.00000
CM-244	5530.766	5886.861	36.00000	8.640002	16.66667	95.00000

Instrument : CHAMBER 029
Detector : 33454
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.561	3299.264	4.000000	0.9600002	50.00000	95.00000
NP-237	4436.609	4905.813	5.000000	1.200000	44.72136	95.00000
CM-244	5532.652	5886.650	41.00000	9.840002	15.61738	95.00000

Instrument : CHAMBER 030
Detector : 33447
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.462	3300.436	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.706	4901.528	10.00000	2.400001	31.62278	95.00000
CM-244	5532.111	5885.667	49.00000	11.76000	14.28572	95.00000

Instrument : CHAMBER 031
Detector : 67042
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.816	3298.130	4.000000	0.9599994	50.00000	95.00000
NP-237	4432.666	4904.194	11.00000	2.639998	30.15113	95.00000
CM-244	5530.750	5885.317	50.00000	11.99999	14.14214	95.00000

Instrument : CHAMBER 032
Detector : 67041
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.681	3302.442	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.943	4904.070	8.000000	1.919999	35.35534	95.00000
CM-244	5532.476	5883.050	63.00000	15.11999	12.59882	95.00000

Instrument : CHAMBER 033
Detector : 78785
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.750	3301.323	2.000000	0.4799997	70.71068	95.00000
NP-237	4437.327	4904.445	7.000000	1.679999	37.79645	95.00000
CM-244	5532.298	5882.301	47.00000	11.27999	14.58650	95.00000

Instrument : CHAMBER 034
Detector : 61586
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.405	3301.020	3.000000	0.7199996	57.73503	95.00000
NP-237	4436.289	4905.558	6.000000	1.439999	40.82483	95.00000
CM-244	5534.591	5883.408	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 035
Detector : 78202
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.026	3302.211	3.000000	0.7199996	57.73503	95.00000
NP-237	4437.360	4905.577	20.00000	4.799997	22.36068	95.00000
CM-244	5534.350	5884.600	61.00000	14.63999	12.80369	95.00000

Instrument : CHAMBER 036
Detector : 78203
Background Analysis Date/Time : 2-AUG-2009 17:38:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.680	3301.073	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.041	4905.984	9.000000	2.159999	33.33334	95.00000
CM-244	5531.465	5885.278	47.00000	11.27999	14.58650	95.00000

Instrument : CHAMBER 037
Detector : 45-149BB5
Background Analysis Date/Time : 2-AUG-2009 17:38:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.168	3302.212	3.000000	0.7199995	57.73503	95.00000
NP-237	4432.895	4904.029	13.00000	3.119998	27.73501	95.00000
CM-244	5532.110	5886.157	66.00000	15.83999	12.30915	95.00000

Instrument : CHAMBER 038
Detector : 72532
Background Analysis Date/Time : 2-AUG-2009 17:38:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.472	3300.031	4.000000	0.9599993	50.00000	95.00000
NP-237	4434.591	4905.742	16.00000	3.839997	25.00000	95.00000
CM-244	5531.463	5885.396	50.00000	11.99999	14.14214	95.00000

Instrument : CHAMBER 039
Detector : 45-149BB2
Background Analysis Date/Time : 2-AUG-2009 17:38:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.231	3297.932	6.000000	1.439999	40.82483	95.00000
NP-237	4433.148	4905.972	6.000000	1.439999	40.82483	95.00000
CM-244	5532.651	5884.312	76.00000	18.23999	11.47079	95.00000

Instrument : CHAMBER 040
Detector : 78773
Background Analysis Date/Time : 2-AUG-2009 17:38:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.631	3299.278	2.000000	0.4799997	70.71068	95.00000
NP-237	4434.455	4902.104	2.000000	0.4799997	70.71068	95.00000
CM-244	5534.140	5885.901	43.00000	10.31999	15.24986	95.00000

Instrument : CHAMBER 041
Detector : 78205
Background Analysis Date/Time : 2-AUG-2009 17:38:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.485	3301.427	8.000000	1.919999	35.35534	95.00000
NP-237	4434.095	4902.163	8.000000	1.919999	35.35534	95.00000
CM-244	5531.498	5882.427	43.00000	10.31999	15.24986	95.00000

Instrument : CHAMBER 042
Detector : 78793
Background Analysis Date/Time : 2-AUG-2009 17:38:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.775	3302.182	3.000000	0.7199995	57.73503	95.00000
NP-237	4434.604	4903.031	12.00000	2.879998	28.86751	95.00000
CM-244	5530.666	5882.826	45.00000	10.79999	14.90712	95.00000

Instrument : CHAMBER 043
Detector : 76543
Background Analysis Date/Time : 2-AUG-2009 17:38:37
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.605	3297.721	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.729	4906.163	7.000000	1.679999	37.79645	95.00000
CM-244	5530.889	5884.237	59.00000	14.15999	13.01889	95.00000

Instrument : CHAMBER 044
Detector : 79459
Background Analysis Date/Time : 2-AUG-2009 17:38:37
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.053	3299.650	4.000000	0.9599994	50.00000	95.00000
NP-237	4434.444	4905.733	8.000000	1.919999	35.35534	95.00000
CM-244	5531.674	5885.749	67.00000	16.07999	12.21694	95.00000

Instrument : CHAMBER 045
Detector : 78783
Background Analysis Date/Time : 2-AUG-2009 17:38:37
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.163	3297.674	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.665	4901.796	4.000000	0.9599994	50.00000	95.00000
CM-244	5533.912	5883.468	60.00000	14.39999	12.90994	95.00000

Instrument : CHAMBER 046
Detector : 76544
Background Analysis Date/Time : 2-AUG-2009 17:38:37
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.013	3297.754	6.000000	1.439999	40.82483	95.00000
NP-237	4433.428	4906.578	9.000000	2.159999	33.33334	95.00000
CM-244	5533.808	5885.833	47.00000	11.27999	14.58650	95.00000

Instrument : CHAMBER 047
Detector : 46-089B1
Background Analysis Date/Time : 2-AUG-2009 17:38:37
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.788	3298.531	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.493	4903.356	9.000000	2.159999	33.33334	95.00000
CM-244	5535.296	5884.198	73.00000	17.51999	11.70411	95.00000

Instrument : CHAMBER 048
Detector : 42483
Background Analysis Date/Time : 2-AUG-2009 17:38:37
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.838	3299.553	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.268	4906.475	10.00000	2.399998	31.62278	95.00000
CM-244	5533.930	5885.396	49.00000	11.75999	14.28572	95.00000

Instrument : CHAMBER 065
Detector : 68551
Background Analysis Date/Time : 9-AUG-2009 15:42:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.020	3301.790	4.000000	0.9599993	50.00000	95.00000
NP-237	4435.576	4904.585	11.00000	2.639998	30.15113	95.00000
CM-244	5533.015	5885.628	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 066
Detector : 46-089C1
Background Analysis Date/Time : 9-AUG-2009 15:42:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.945	3298.217	3.000000	0.7199995	57.73503	95.00000
NP-237	4435.388	4905.987	4.000000	0.9599993	50.00000	95.00000
CM-244	5534.885	5886.957	15.00000	3.599998	25.81989	95.00000

Instrument : CHAMBER 067
Detector : 46-089B4
Background Analysis Date/Time : 9-AUG-2009 15:42:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.195	3298.405	1.000000	0.2399998	100.0000	95.00000
NP-237	4432.996	4903.114	5.000000	1.199999	44.72136	95.00000
CM-244	5531.881	5884.128	12.00000	2.879998	28.86751	95.00000

Instrument : CHAMBER 068
Detector : 78794
Background Analysis Date/Time : 9-AUG-2009 15:42:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.058	3297.794	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.694	4904.361	3.000000	0.7199995	57.73503	95.00000
CM-244	5532.395	5887.637	15.00000	3.599998	25.81989	95.00000

Instrument : CHAMBER 069
Detector : 78795
Background Analysis Date/Time : 9-AUG-2009 15:42:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.230	3298.554	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.770	4904.008	12.00000	2.879998	28.86751	95.00000
CM-244	5535.390	5884.253	11.00000	2.639998	30.15113	95.00000

Instrument : CHAMBER 070
Detector : 46-089B2
Background Analysis Date/Time : 9-AUG-2009 15:42:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.134	3299.079	4.000000	0.9599993	50.00000	95.00000
NP-237	4435.081	4904.079	12.00000	2.879998	28.86751	95.00000
CM-244	5531.689	5883.454	10.00000	2.399998	31.62278	95.00000

Instrument : CHAMBER 071
Detector : 64259
Background Analysis Date/Time : 9-AUG-2009 15:42:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.474	3300.552	4.000000	0.9599993	50.00000	95.00000
NP-237	4434.375	4901.563	12.00000	2.879998	28.86751	95.00000
CM-244	5533.885	5882.968	9.000000	2.159998	33.33334	95.00000

Instrument : CHAMBER 072
Detector : 45-149AA3
Background Analysis Date/Time : 9-AUG-2009 15:42:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.276	3301.453	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.016	4904.104	11.00000	2.639998	30.15113	95.00000
CM-244	5533.538	5886.502	15.00000	3.599998	25.81989	95.00000

Instrument : CHAMBER 073
Detector : 78775
Background Analysis Date/Time : 9-AUG-2009 15:42:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.884	3298.904	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.607	4905.083	10.00000	2.399998	31.62278	95.00000
CM-244	5533.495	5885.787	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 074
Detector : 78266
Background Analysis Date/Time : 9-AUG-2009 15:42:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.157	3300.875	6.000000	1.439999	40.82483	95.00000
NP-237	4434.541	4902.170	10.00000	2.399998	31.62278	95.00000
CM-244	5535.537	5885.413	5.000000	1.199999	44.72136	95.00000

Instrument : CHAMBER 075
Detector : 68550
Background Analysis Date/Time : 9-AUG-2009 15:42:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.440	3300.846	3.000000	0.7199995	57.73503	95.00000
NP-237	4432.709	4904.580	14.00000	3.359998	26.72612	95.00000
CM-244	5531.026	5885.258	12.00000	2.879998	28.86751	95.00000

Instrument : CHAMBER 076
Detector : 78779
Background Analysis Date/Time : 9-AUG-2009 15:42:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.979	3300.154	1.000000	0.2399998	100.0000	95.00000
NP-237	4436.825	4903.508	11.00000	2.639998	30.15113	95.00000
CM-244	5535.510	5884.591	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 077
Detector : 67576
Background Analysis Date/Time : 9-AUG-2009 15:42:46
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.957	3302.071	2.000000	0.4800001	70.71068	95.00000
NP-237	4433.544	4902.799	6.000000	1.440000	40.82483	95.00000
CM-244	5530.788	5882.782	17.00000	4.080001	24.25356	95.00000

Instrument : CHAMBER 078
Detector : 67577
Background Analysis Date/Time : 9-AUG-2009 15:42:46
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.255	3302.223	3.000000	0.7200001	57.73503	95.00000
NP-237	4437.236	4905.680	5.000000	1.200000	44.72136	95.00000
CM-244	5535.005	5885.680	6.000000	1.440000	40.82483	95.00000

Instrument : CHAMBER 079
Detector : 67598
Background Analysis Date/Time : 9-AUG-2009 15:42:46
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.159	3300.331	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.317	4902.854	5.000000	1.200000	44.72136	95.00000
CM-244	5535.480	5887.277	7.000000	1.680000	37.79645	95.00000

Instrument : CHAMBER 080
Detector : 78197
Background Analysis Date/Time : 9-AUG-2009 15:42:46
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.650	3302.015	2.000000	0.4799997	70.71068	95.00000
NP-237	4433.624	4906.537	7.000000	1.679999	37.79645	95.00000
CM-244	5533.522	5887.645	5.000000	1.199999	44.72136	95.00000

Instrument : CHAMBER 081
Detector : 72533
Background Analysis Date/Time : 9-AUG-2009 15:42:46
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2994.266	3303.451	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.242	4901.625	6.000000	1.440000	40.82483	95.00000
CM-244	5531.807	5884.164	15.00000	3.600001	25.81989	95.00000

Instrument : CHAMBER 082
Detector : 64263
Background Analysis Date/Time : 9-AUG-2009 15:42:46
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.542	3297.569	2.000000	0.4800001	70.71068	95.00000
NP-237	4435.421	4904.506	14.00000	3.360001	26.72612	95.00000
CM-244	5534.230	5884.907	8.000000	1.920000	35.35534	95.00000

Instrument : CHAMBER 083
Detector : 64278
Background Analysis Date/Time : 9-AUG-2009 15:42:47
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.854	3298.707	3.000000	0.7199995	57.73503	95.00000
NP-237	4433.271	4906.151	10.00000	2.399998	31.62278	95.00000
CM-244	5531.993	5884.932	8.000000	1.919999	35.35534	95.00000

Instrument : CHAMBER 084
Detector : 78265
Background Analysis Date/Time : 9-AUG-2009 15:42:47
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.678	3299.931	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.465	4903.170	11.00000	2.639998	30.15113	95.00000
CM-244	5531.407	5886.178	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 085
Detector : 78776
Background Analysis Date/Time : 9-AUG-2009 15:42:47
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.698	3300.313	4.000000	0.9599993	50.00000	95.00000
NP-237	4435.121	4902.282	7.000000	1.679999	37.79645	95.00000
CM-244	5534.187	5882.859	5.000000	1.199999	44.72136	95.00000

Instrument : CHAMBER 086
Detector : 78198
Background Analysis Date/Time : 9-AUG-2009 15:42:47
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.009	3300.939	1.000000	0.2399998	100.0000	95.00000
NP-237	4436.927	4902.983	9.000000	2.159998	33.33334	95.00000
CM-244	5531.983	5883.724	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 087
Detector : 78199
Background Analysis Date/Time : 9-AUG-2009 15:42:47
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.599	3301.987	2.000000	0.4799997	70.71068	95.00000
NP-237	4434.300	4902.242	9.000000	2.159998	33.33334	95.00000
CM-244	5532.304	5887.140	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 088
Detector : 33452
Background Analysis Date/Time : 9-AUG-2009 15:42:47
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.881	3297.896	3.000000	0.7199995	57.73503	95.00000
NP-237	4436.727	4902.043	10.00000	2.399998	31.62278	95.00000
CM-244	5532.799	5884.609	11.00000	2.639998	30.15113	95.00000

Instrument : CHAMBER 089
Detector : 78262
Background Analysis Date/Time : 9-AUG-2009 15:42:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.340	3299.886	3.000000	0.7200001	57.73503	95.00000
NP-237	4433.954	4903.393	6.000000	1.440000	40.82483	95.00000
CM-244	5533.423	5884.190	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 090
Detector : 78263
Background Analysis Date/Time : 9-AUG-2009 15:42:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.174	3298.193	2.000000	0.4800001	70.71068	95.00000
NP-237	4432.899	4902.301	9.000000	2.160000	33.33334	95.00000
CM-244	5531.267	5884.186	1.000000	0.2400000	100.0000	95.00000

Instrument : CHAMBER 091
Detector : 78259
Background Analysis Date/Time : 9-AUG-2009 15:42:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.796	3297.819	3.000000	0.7200001	57.73503	95.00000
NP-237	4433.118	4901.645	4.000000	0.9600002	50.00000	95.00000
CM-244	5531.054	5887.180	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 092
Detector : 79457
Background Analysis Date/Time : 9-AUG-2009 15:42:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.378	3299.875	108.0000	25.92000	9.622504	95.00000
NP-237	4435.762	4905.401	82.00000	19.68000	11.04315	95.00000
CM-244	5534.466	5887.335	8.000000	1.920000	35.35534	95.00000

Instrument : CHAMBER 093
Detector : 33206
Background Analysis Date/Time : 9-AUG-2009 15:42:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.021	3298.707	5.000000	1.200000	44.72136	95.00000
NP-237	4432.645	4901.916	6.000000	1.440000	40.82483	95.00000
CM-244	5530.870	5883.862	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 094
Detector : 78267
Background Analysis Date/Time : 9-AUG-2009 15:42:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.496	3299.970	8.000000	1.920000	35.35534	95.00000
NP-237	4432.930	4902.883	1.000000	0.2400000	100.0000	95.00000
CM-244	5531.875	5884.464	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 095
Detector : 64279
Background Analysis Date/Time : 9-AUG-2009 17:08:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.646	3298.356	3.000000	0.7199996	57.73503	95.00000
NP-237	4435.397	4905.664	11.00000	2.639998	30.15113	95.00000
CM-244	5530.369	5883.804	23.00000	5.519997	20.85144	95.00000

Instrument : CHAMBER 096
Detector : 67605
Background Analysis Date/Time : 9-AUG-2009 17:08:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.386	3301.860	1.000000	0.2399998	100.0000	95.00000
NP-237	4437.256	4904.015	24.00000	5.759996	20.41241	95.00000
CM-244	5531.292	5886.331	5.000000	1.199999	44.72136	95.00000

Instrument : CHAMBER 097
Detector : 67599
Background Analysis Date/Time : 9-AUG-2009 17:08:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.155	3299.592	5.000000	1.199999	44.72136	95.00000
NP-237	4437.204	4904.260	9.000000	2.159999	33.33334	95.00000
CM-244	5531.403	5886.106	16.00000	3.839998	25.00000	95.00000

Instrument : CHAMBER 098
Detector : 68644
Background Analysis Date/Time : 9-AUG-2009 17:08:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.247	3301.860	4.000000	0.9599994	50.00000	95.00000
NP-237	4432.619	4906.019	9.000000	2.159999	33.33334	95.00000
CM-244	5534.382	5884.237	3.000000	0.7199996	57.73503	95.00000

Instrument : CHAMBER 099
Detector : 70317
Background Analysis Date/Time : 9-AUG-2009 17:08:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.820	3298.212	1.000000	0.2399998	100.0000	95.00000
NP-237	4437.036	4906.585	8.000000	1.919999	35.35534	95.00000
CM-244	5530.871	5884.331	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 100
Detector : 79456
Background Analysis Date/Time : 9-AUG-2009 17:08:35
Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.623	3299.666	6.000000	1.439999	40.82483	95.00000
NP-237	4436.895	4905.650	17.00000	4.079998	24.25356	95.00000
CM-244	5534.086	5886.872	12.00000	2.879998	28.86751	95.00000

Instrument : CHAMBER 101
Detector : 64253
Background Analysis Date/Time : 9-AUG-2009 15:42:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.814	3297.893	8.000000	1.919999	35.35534	95.00000
NP-237	4435.403	4905.470	5.000000	1.199999	44.72136	95.00000
CM-244	5534.897	5882.499	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 102
Detector : 72525
Background Analysis Date/Time : 9-AUG-2009 15:42:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.911	3298.890	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.604	4903.163	6.000000	1.439999	40.82483	95.00000
CM-244	5533.661	5884.537	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 103
Detector : 79461
Background Analysis Date/Time : 9-AUG-2009 15:42:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.467	3301.138	2.000000	0.4799997	70.71068	95.00000
NP-237	4432.983	4903.264	8.000000	1.919999	35.35534	95.00000
CM-244	5533.387	5886.945	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 104
Detector : 72524
Background Analysis Date/Time : 9-AUG-2009 15:42:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.174	3300.565	4.000000	0.9599993	50.00000	95.00000
NP-237	4436.202	4904.648	8.000000	1.919999	35.35534	95.00000
CM-244	5532.970	5885.836	3.000000	0.7199995	57.73503	95.00000

Instrument : CHAMBER 105
Detector : 78777
Background Analysis Date/Time : 9-AUG-2009 15:42:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.222	3299.531	4.000000	0.9599993	50.00000	95.00000
NP-237	4434.728	4902.932	3.000000	0.7199995	57.73503	95.00000
CM-244	5530.878	5883.508	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 106
Detector : 64274
Background Analysis Date/Time : 9-AUG-2009 15:42:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.640	3299.757	6.000000	1.439999	40.82483	95.00000
NP-237	4434.577	4901.415	11.00000	2.639998	30.15113	95.00000
CM-244	5534.428	5884.452	4.000000	0.9599993	50.00000	95.00000

Instrument : CHAMBER 107
Detector : 67578
Background Analysis Date/Time : 9-AUG-2009 15:42:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.547	3298.638	3.000000	0.7199995	57.73503	95.00000
NP-237	4435.772	4904.146	5.000000	1.199999	44.72136	95.00000
CM-244	5532.554	5882.324	8.000000	1.919999	35.35534	95.00000

Instrument : CHAMBER 108
Detector : 78778
Background Analysis Date/Time : 9-AUG-2009 15:42:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.136	3297.898	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.563	4901.441	2.000000	0.4799997	70.71068	95.00000
CM-244	5533.812	5885.772	9.000000	2.159998	33.33334	95.00000

Instrument : CHAMBER 109
Detector : 79463
Background Analysis Date/Time : 9-AUG-2009 15:42:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.332	3301.320	1.000000	0.2399998	100.0000	95.00000
NP-237	4437.566	4903.059	2.000000	0.4799997	70.71068	95.00000
CM-244	5534.376	5883.521	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 110
Detector : 67602
Background Analysis Date/Time : 9-AUG-2009 15:42:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.980	3298.573	1.000000	0.2399998	100.0000	95.00000
NP-237	4433.010	4901.606	8.000000	1.919999	35.35534	95.00000
CM-244	5534.957	5883.028	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 111
Detector : 79462
Background Analysis Date/Time : 9-AUG-2009 15:42:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.711	3298.714	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.440	4905.458	8.000000	1.919999	35.35534	95.00000
CM-244	5535.080	5885.693	4.000000	0.9599993	50.00000	95.00000

Instrument : CHAMBER 112
Detector : 78261
Background Analysis Date/Time : 9-AUG-2009 15:42:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.059	3299.440	3.000000	0.7199995	57.73503	95.00000
NP-237	4434.653	4903.902	1.000000	0.2399998	100.0000	95.00000
CM-244	5532.350	5884.826	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 113
Detector : 45-111B4
Background Analysis Date/Time : 16-AUG-2009 16:34:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.867	3300.361	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.565	4901.409	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.822	5886.571	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 114
Detector : 78258
Background Analysis Date/Time : 16-AUG-2009 16:34:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.066	3300.343	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.866	4902.961	2.000000	0.6000000	70.71068	95.00000
CM-244	5535.155	5886.142	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 115
Detector : 45-132FF4
Background Analysis Date/Time : 16-AUG-2009 16:34:55
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.683	3299.666	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.623	4904.729	6.000000	1.800000	40.82483	95.00000
CM-244	5534.066	5886.268	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 116
Detector : 45-132FF2
Background Analysis Date/Time : 16-AUG-2009 16:34:59
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.930	3301.615	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.958	4904.160	3.000000	0.9000000	57.73503	95.00000
CM-244	5532.087	5883.400	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 117
Detector : 33450
Background Analysis Date/Time : 16-AUG-2009 16:35:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.306	3298.199	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.520	4903.152	3.000000	0.9000000	57.73503	95.00000
CM-244	5530.582	5887.083	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 118
Detector : 75544
Background Analysis Date/Time : 16-AUG-2009 16:35:08
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.856	3302.528	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.711	4902.773	2.000000	0.6000000	70.71068	95.00000
CM-244	5531.177	5883.080	18.00000	5.400000	23.57022	95.00000

Instrument : CHAMBER 119
Detector : 74429
Background Analysis Date/Time : 16-AUG-2009 16:35:12
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.004	3299.253	3.000000	0.9000000	57.73503	95.00000
NP-237	4432.548	4906.013	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.584	5883.165	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 120
Detector : 74430
Background Analysis Date/Time : 16-AUG-2009 16:35:17
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.209	3300.389	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.370	4904.997	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5531.794	5882.950	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 121
Detector : 75545
Background Analysis Date/Time : 16-AUG-2009 16:35:22
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.483	3299.036	4.000000	1.200000	50.00000	95.00000
NP-237	4436.007	4904.843	6.000000	1.800000	40.82483	95.00000
CM-244	5531.746	5882.876	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 122
Detector : 75546
Background Analysis Date/Time : 16-AUG-2009 16:35:26
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.140	3302.149	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.728	4903.501	14.00000	4.200000	26.72612	95.00000
CM-244	5535.323	5886.133	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 123
Detector : 45-142V3
Background Analysis Date/Time : 16-AUG-2009 16:35:30
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.820	3298.601	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.478	4905.941	6.000000	1.800000	40.82483	95.00000
CM-244	5531.339	5886.453	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 124
Detector : 45-142V2
Background Analysis Date/Time : 16-AUG-2009 16:35:35
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.806	3300.376	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.352	4902.974	9.000000	2.700000	33.33334	95.00000
CM-244	5533.246	5885.946	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 125
Detector : 75547
Background Analysis Date/Time : 16-AUG-2009 16:35:39
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.619	3299.275	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.269	4906.266	6.000000	1.800000	40.82483	95.00000
CM-244	5531.959	5882.482	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 126
Detector : 75548
Background Analysis Date/Time : 16-AUG-2009 16:35:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.372	3298.946	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.297	4901.551	15.00000	4.500000	25.81989	95.00000
CM-244	5532.806	5882.587	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 127
Detector : 78770
Background Analysis Date/Time : 16-AUG-2009 16:35:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.622	3297.830	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.622	4904.092	1.000000	0.3000000	100.0000	95.00000
CM-244	5535.184	5885.434	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 128
Detector : 75549
Background Analysis Date/Time : 16-AUG-2009 16:35:52
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.482	3299.177	135.0000	40.50000	8.606629	95.00000
NP-237	4436.028	4905.664	84.00000	25.20000	10.91089	95.00000
CM-244	5532.549	5883.141	32.00000	9.600000	17.67767	95.00000

Instrument : CHAMBER 129
Detector : 76227
Background Analysis Date/Time : 16-AUG-2009 16:35:57
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.146	3298.635	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.563	4905.761	8.000000	2.400000	35.35534	95.00000
CM-244	5531.918	5882.796	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 130
Detector : 76228
Background Analysis Date/Time : 16-AUG-2009 16:36:01
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.230	3297.665	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.582	4901.937	8.000000	2.400000	35.35534	95.00000
CM-244	5530.859	5884.881	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 131
Detector : 33448
Background Analysis Date/Time : 16-AUG-2009 16:36:05
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.455	3301.428	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.994	4904.668	4.000000	1.200000	50.00000	95.00000
CM-244	5532.826	5884.723	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 132
Detector : 67579
Background Analysis Date/Time : 16-AUG-2009 16:36:09
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.906	3301.298	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.560	4903.500	5.000000	1.500000	44.72136	95.00000
CM-244	5531.586	5882.587	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 133
Detector : 76229
Background Analysis Date/Time : 16-AUG-2009 16:36:14
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.199	3301.674	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.849	4905.652	3.000000	0.9000000	57.73503	95.00000
CM-244	5530.602	5882.872	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 134
Detector : 76230
Background Analysis Date/Time : 16-AUG-2009 16:36:19
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.055	3302.112	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.969	4905.408	21.00000	6.300000	21.82179	95.00000
CM-244	5534.460	5883.375	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 135
Detector : 64270
Background Analysis Date/Time : 16-AUG-2009 16:36:23
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.813	3300.105	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.123	4902.752	2.000000	0.6000000	70.71068	95.00000
CM-244	5532.979	5882.877	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 136
Detector : 68549
Background Analysis Date/Time : 16-AUG-2009 16:36:27
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.796	3301.682	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.713	4901.780	14.00000	4.200000	26.72612	95.00000
CM-244	5531.520	5884.028	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 137
Detector : 64288
Background Analysis Date/Time : 16-AUG-2009 16:36:31
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.035	3302.352	4.000000	1.200000	50.00000	95.00000
NP-237	4435.990	4901.349	6.000000	1.800000	40.82483	95.00000
CM-244	5532.344	5883.346	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 138
Detector : 65877
Background Analysis Date/Time : 16-AUG-2009 16:36:35
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.457	3300.623	3.000000	0.9000000	57.73503	95.00000
NP-237	4436.833	4904.301	13.00000	3.900000	27.73501	95.00000
CM-244	5531.035	5885.034	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 139
Detector : 76231
Background Analysis Date/Time : 16-AUG-2009 16:36:40
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.624	3300.322	4.000000	1.200000	50.00000	95.00000
NP-237	4436.965	4901.673	8.000000	2.400000	35.35534	95.00000
CM-244	5531.099	5884.173	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 140
Detector : 78771
Background Analysis Date/Time : 16-AUG-2009 16:36:43
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.243	3300.208	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.227	4906.111	12.00000	3.600000	28.86751	95.00000
CM-244	5531.085	5884.403	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 141
Detector : 76232
Background Analysis Date/Time : 16-AUG-2009 16:36:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.414	3297.748	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.262	4901.753	5.000000	1.500000	44.72136	95.00000
CM-244	5534.971	5886.637	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 142
Detector : 64261
Background Analysis Date/Time : 16-AUG-2009 16:36:52
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.269	3301.948	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.864	4905.404	11.00000	3.300000	30.15113	95.00000
CM-244	5531.110	5884.773	12.00000	3.600000	28.86751	95.00000

Instrument : CHAMBER 143
Detector : 65882
Background Analysis Date/Time : 16-AUG-2009 16:36:56
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.868	3300.973	10.00000	3.000000	31.62278	95.00000
NP-237	4435.203	4905.234	16.00000	4.800000	25.00000	95.00000
CM-244	5533.941	5886.181	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 144
Detector : 75551
Background Analysis Date/Time : 16-AUG-2009 16:37:00
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.050	3299.833	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.005	4902.603	12.00000	3.600000	28.86751	95.00000
CM-244	5530.735	5882.656	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 145
Detector : 72526
Background Analysis Date/Time : 16-AUG-2009 16:37:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.923	3299.882	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.984	4905.949	4.000000	1.200000	50.00000	95.00000
CM-244	5531.069	5884.490	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 146
Detector : 72527
Background Analysis Date/Time : 16-AUG-2009 16:37:08
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.460	3301.164	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.288	4903.095	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.042	5884.573	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 147
Detector : 75550
Background Analysis Date/Time : 16-AUG-2009 16:37:11
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.910	3299.539	10.00000	3.000000	31.62278	95.00000
NP-237	4433.251	4901.935	8.000000	2.400000	35.35534	95.00000
CM-244	5533.139	5883.368	12.00000	3.600000	28.86751	95.00000

Instrument : CHAMBER 148
Detector : 74429
Background Analysis Date/Time : 16-AUG-2009 16:37:16
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.725	3298.446	6.000000	1.800000	40.82483	95.00000
NP-237	4436.496	4905.977	7.000000	2.100000	37.79645	95.00000
CM-244	5533.919	5885.716	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 149
Detector : 33449
Background Analysis Date/Time : 16-AUG-2009 16:37:20
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.734	3299.272	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.371	4901.944	4.000000	1.200000	50.00000	95.00000
CM-244	5530.548	5882.851	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 150
Detector : 75552
Background Analysis Date/Time : 16-AUG-2009 16:37:24
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.316	3300.643	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.415	4905.497	7.000000	2.100000	37.79645	95.00000
CM-244	5534.121	5886.240	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 151
Detector : 75556
Background Analysis Date/Time : 16-AUG-2009 16:37:28
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.659	3302.040	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.623	4901.634	4.000000	1.200000	50.00000	95.00000
CM-244	5531.364	5886.469	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 152
Detector : 76222
Background Analysis Date/Time : 16-AUG-2009 16:37:32
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.044	3297.777	4.000000	1.200000	50.00000	95.00000
NP-237	4437.300	4905.285	5.000000	1.500000	44.72136	95.00000
CM-244	5531.209	5887.199	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 153
Detector : 76223
Background Analysis Date/Time : 16-AUG-2009 16:37:35
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.175	3301.127	4.000000	1.200000	50.00000	95.00000
NP-237	4437.148	4906.174	10.00000	3.000000	31.62278	95.00000
CM-244	5533.838	5885.640	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 154
Detector : 76224
Background Analysis Date/Time : 16-AUG-2009 16:37:40
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.160	3298.663	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.792	4904.845	6.000000	1.800000	40.82483	95.00000
CM-244	5532.170	5883.602	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 155
Detector : 75553
Background Analysis Date/Time : 16-AUG-2009 16:37:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.137	3299.574	8.000000	2.400000	35.35534	95.00000
NP-237	4433.383	4905.252	9.000000	2.700000	33.33334	95.00000
CM-244	5530.995	5884.485	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 156
Detector : 75554
Background Analysis Date/Time : 16-AUG-2009 16:37:48
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.410	3301.423	6.000000	1.800000	40.82483	95.00000
NP-237	4436.034	4902.390	17.00000	5.100000	24.25356	95.00000
CM-244	5532.563	5885.336	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 157
Detector : 75555
Background Analysis Date/Time : 16-AUG-2009 16:37:52
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.948	3299.042	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.337	4902.073	9.000000	2.700000	33.33334	95.00000
CM-244	5531.733	5884.378	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 158
Detector : 33451
Background Analysis Date/Time : 16-AUG-2009 16:37:56
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.074	3301.013	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.907	4905.421	10.00000	3.000000	31.62278	95.00000
CM-244	5535.323	5885.904	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 159
Detector : 76225
Background Analysis Date/Time : 16-AUG-2009 16:38:00
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.022	3301.502	4.000000	1.200000	50.00000	95.00000
NP-237	4435.853	4902.842	7.000000	2.100000	37.79645	95.00000
CM-244	5534.528	5883.086	12.00000	3.600000	28.86751	95.00000

Instrument : CHAMBER 160
Detector : 76226
Background Analysis Date/Time : 16-AUG-2009 16:38:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.982	3298.890	6.000000	1.800000	40.82483	95.00000
NP-237	4434.439	4901.761	20.00000	6.000000	22.36068	95.00000
CM-244	5533.753	5882.414	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 161
Detector : 70321
Background Analysis Date/Time : 23-AUG-2009 11:54:11
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.799	3299.450	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.354	4905.712	6.000000	1.800000	40.82483	95.00000
CM-244	5533.034	5884.911	14.00000	4.200000	26.72612	95.00000

Instrument : CHAMBER 162
Detector : 70323
Background Analysis Date/Time : 23-AUG-2009 11:54:16
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.108	3297.679	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.157	4905.370	5.000000	1.500000	44.72136	95.00000
CM-244	5531.808	5882.856	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 163
Detector : 70324
Background Analysis Date/Time : 23-AUG-2009 11:54:21
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.316	3301.922	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.725	4904.333	12.00000	3.600000	28.86751	95.00000
CM-244	5532.622	5884.699	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 164
Detector : 70325
Background Analysis Date/Time : 23-AUG-2009 11:54:26
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.433	3301.590	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.137	4904.243	9.000000	2.700000	33.33334	95.00000
CM-244	5533.726	5886.727	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 165
Detector : 72544
Background Analysis Date/Time : 23-AUG-2009 11:54:31
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.235	3298.979	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.502	4904.549	7.000000	2.100000	37.79645	95.00000
CM-244	5532.823	5884.601	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 166
Detector : 74545
Background Analysis Date/Time : 23-AUG-2009 11:54:35
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.175	3297.621	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.428	4904.926	5.000000	1.500000	44.72136	95.00000
CM-244	5535.556	5884.119	12.00000	3.600000	28.86751	95.00000

Instrument : CHAMBER 167
Detector : 72546
Background Analysis Date/Time : 23-AUG-2009 11:54:40
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.148	3302.011	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.463	4903.100	12.00000	3.600000	28.86751	95.00000
CM-244	5531.940	5884.576	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 168
Detector : 72547
Background Analysis Date/Time : 23-AUG-2009 11:54:44
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.237	3300.921	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.534	4902.237	16.00000	4.800000	25.00000	95.00000
CM-244	5531.663	5884.741	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 169
Detector : 72548
Background Analysis Date/Time : 23-AUG-2009 11:54:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.165	3298.594	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.229	4903.754	13.00000	3.900000	27.73501	95.00000
CM-244	5532.658	5885.433	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 170
Detector : 72549
Background Analysis Date/Time : 23-AUG-2009 11:54:54
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.025	3299.867	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.622	4903.408	16.00000	4.800000	25.00000	95.00000
CM-244	5534.316	5882.981	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 171
Detector : 78260
Background Analysis Date/Time : 23-AUG-2009 11:54:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.433	3300.366	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.595	4905.826	9.000000	2.700000	33.33334	95.00000
CM-244	5533.870	5885.935	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 172
Detector : 78772
Background Analysis Date/Time : 23-AUG-2009 11:55:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.870	3297.903	3.000000	0.9000000	57.73503	95.00000
NP-237	4433.678	4903.969	9.000000	2.700000	33.33334	95.00000
CM-244	5534.514	5883.121	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 173
Detector : 74431
Background Analysis Date/Time : 23-AUG-2009 11:55:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.449	3298.086	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.604	4905.905	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.021	5885.467	32.00000	9.600000	17.67767	95.00000

Instrument : CHAMBER 174
Detector : 74432
Background Analysis Date/Time : 23-AUG-2009 11:55:12
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.639	3300.179	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.486	4905.219	9.000000	2.700000	33.33334	95.00000
CM-244	5531.026	5885.734	20.00000	6.000000	22.36068	95.00000

Instrument : CHAMBER 175
Detector : 74433
Background Analysis Date/Time : 23-AUG-2009 11:55:16
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.018	3300.926	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.197	4902.367	8.000000	2.400000	35.35534	95.00000
CM-244	5531.134	5883.215	22.00000	6.600000	21.32007	95.00000

Instrument : CHAMBER 176
Detector : 74434
Background Analysis Date/Time : 23-AUG-2009 11:55:21
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.853	3298.318	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.083	4904.101	7.000000	2.100000	37.79645	95.00000
CM-244	5532.948	5884.695	23.00000	6.900000	20.85144	95.00000

Instrument : CHAMBER 177
Detector : 74435
Background Analysis Date/Time : 23-AUG-2009 11:55:26
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.857	3298.211	3.000000	0.9000000	57.73503	95.00000
NP-237	4433.475	4903.934	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.213	5885.773	29.00000	8.700001	18.56953	95.00000

Instrument : CHAMBER 178
Detector : 74436
Background Analysis Date/Time : 23-AUG-2009 11:55:31
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.399	3300.807	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.785	4903.123	10.00000	3.000000	31.62278	95.00000
CM-244	5531.481	5883.158	22.00000	6.600000	21.32007	95.00000

Instrument : CHAMBER 179
Detector : 74437
Background Analysis Date/Time : 23-AUG-2009 11:55:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.874	3299.393	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.018	4905.518	5.000000	1.500000	44.72136	95.00000
CM-244	5534.758	5887.251	32.00000	9.600000	17.67767	95.00000

Instrument : CHAMBER 180
Detector : 74438
Background Analysis Date/Time : 23-AUG-2009 11:55:40
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.946	3300.627	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.505	4904.405	9.000000	2.700000	33.33334	95.00000
CM-244	5531.104	5886.649	23.00000	6.900000	20.85144	95.00000

Instrument : CHAMBER 181
Detector : 74439
Background Analysis Date/Time : 23-AUG-2009 11:55:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.658	3302.315	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.549	4902.677	7.000000	2.100000	37.79645	95.00000
CM-244	5531.208	5883.203	33.00000	9.900001	17.40777	95.00000

Instrument : CHAMBER 182
Detector : 74440
Background Analysis Date/Time : 23-AUG-2009 11:55:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.553	3299.709	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.824	4905.707	3.000000	0.9000000	57.73503	95.00000
CM-244	5533.404	5884.684	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 183
Detector : 74441
Background Analysis Date/Time : 23-AUG-2009 11:55:54
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.015	3297.962	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.099	4904.342	4.000000	1.200000	50.00000	95.00000
CM-244	5532.826	5884.696	34.00000	10.20000	17.14986	95.00000

Instrument : CHAMBER 184
Detector : 74442
Background Analysis Date/Time : 23-AUG-2009 11:55:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.045	3299.169	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.505	4902.470	5.000000	1.500000	44.72136	95.00000
CM-244	5535.333	5886.318	24.00000	7.200000	20.41241	95.00000

Instrument : CHAMBER 185
Detector : 68615
Background Analysis Date/Time : 23-AUG-2009 11:56:04
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.897	3299.344	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.571	4905.243	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.503	5886.106	27.00000	8.100000	19.24501	95.00000

Instrument : CHAMBER 186
Detector : 68616
Background Analysis Date/Time : 23-AUG-2009 11:56:08
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.379	3299.140	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.242	4902.774	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.982	5886.349	23.00000	6.900000	20.85144	95.00000

Instrument : CHAMBER 187
Detector : 68620
Background Analysis Date/Time : 23-AUG-2009 11:56:12
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.498	3300.157	4.000000	1.200000	50.00000	95.00000
NP-237	4437.493	4903.961	8.000000	2.400000	35.35534	95.00000
CM-244	5535.243	5883.722	18.00000	5.400000	23.57022	95.00000

Instrument : CHAMBER 188
Detector : 68621
Background Analysis Date/Time : 23-AUG-2009 11:56:16
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.985	3297.497	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.354	4904.064	5.000000	1.500000	44.72136	95.00000
CM-244	5533.683	5886.437	31.00000	9.300000	17.96053	95.00000

Instrument : CHAMBER 189
Detector : 68622
Background Analysis Date/Time : 23-AUG-2009 11:56:21
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.052	3301.735	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.853	4905.539	4.000000	1.200000	50.00000	95.00000
CM-244	5532.776	5884.354	29.00000	8.700001	18.56953	95.00000

Instrument : CHAMBER 190
Detector : 68623
Background Analysis Date/Time : 23-AUG-2009 11:56:25
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.652	3298.950	4.000000	1.200000	50.00000	95.00000
NP-237	4435.677	4904.720	25.00000	7.500000	20.00000	95.00000
CM-244	5532.170	5883.736	36.00000	10.80000	16.66667	95.00000

Instrument : CHAMBER 191
Detector : 68624
Background Analysis Date/Time : 23-AUG-2009 11:56:29
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.100	3299.772	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.436	4904.158	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.545	5884.668	27.00000	8.100000	19.24501	95.00000

Instrument : CHAMBER 192
Detector : 74430
Background Analysis Date/Time : 23-AUG-2009 11:56:33
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.046	3297.560	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.061	4903.990	4.000000	1.200000	50.00000	95.00000
CM-244	5535.519	5883.955	25.00000	7.500000	20.00000	95.00000

Instrument : CHAMBER 193
Detector : 68627
Background Analysis Date/Time : 23-AUG-2009 11:56:37
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.087	3301.572	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.483	4905.309	7.000000	2.100000	37.79645	95.00000
CM-244	5532.931	5884.819	32.00000	9.600000	17.67767	95.00000

Instrument : CHAMBER 194
Detector : 68635
Background Analysis Date/Time : 23-AUG-2009 11:56:41
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.152	3297.570	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.536	4903.587	4.000000	1.200000	50.00000	95.00000
CM-244	5530.970	5882.461	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 195
Detector : 68636
Background Analysis Date/Time : 23-AUG-2009 11:56:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.288	3300.624	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.057	4902.978	3.000000	0.9000000	57.73503	95.00000
CM-244	5534.813	5885.542	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 196
Detector : 68637
Background Analysis Date/Time : 23-AUG-2009 11:56:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.410	3301.963	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.321	4906.417	5.000000	1.500000	44.72136	95.00000
CM-244	5534.476	5886.645	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 197
Detector : 78894
Background Analysis Date/Time : 23-AUG-2009 11:56:54
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.920	3300.320	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.468	4902.348	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.745	5886.065	12.00000	3.600000	28.86751	95.00000

Instrument : CHAMBER 198
Detector : 78895
Background Analysis Date/Time : 23-AUG-2009 11:56:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.305	3299.642	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.397	4904.448	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5533.011	5885.087	30.00000	9.000000	18.25742	95.00000

Instrument : CHAMBER 199
Detector : 78896
Background Analysis Date/Time : 23-AUG-2009 11:57:02
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.912	3297.497	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.891	4904.941	5.000000	1.500000	44.72136	95.00000
CM-244	5535.121	5882.869	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 200
Detector : 78900
Background Analysis Date/Time : 23-AUG-2009 11:57:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.845	3300.480	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.941	4902.709	10.00000	3.000000	31.62278	95.00000
CM-244	5532.744	5885.759	30.00000	9.000000	18.25742	95.00000

Instrument : CHAMBER 201
Detector : 78902
Background Analysis Date/Time : 23-AUG-2009 11:57:10
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.531	3297.499	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.991	4906.359	5.000000	1.500000	44.72136	95.00000
CM-244	5531.510	5884.700	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 202
Detector : 78903
Background Analysis Date/Time : 23-AUG-2009 11:57:14
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.301	3298.322	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.596	4902.750	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5531.710	5884.137	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 203
Detector : 78905
Background Analysis Date/Time : 23-AUG-2009 11:57:19
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.566	3301.771	4.000000	1.200000	50.00000	95.00000
NP-237	4437.077	4902.609	6.000000	1.800000	40.82483	95.00000
CM-244	5532.534	5885.590	12.00000	3.600000	28.86751	95.00000

Instrument : CHAMBER 204
Detector : 78907
Background Analysis Date/Time : 23-AUG-2009 11:57:23
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.303	3298.289	13.00000	3.900000	27.73501	95.00000
NP-237	4433.152	4903.866	12.00000	3.600000	28.86751	95.00000
CM-244	5533.856	5886.993	34.00000	10.20000	17.14986	95.00000

Instrument : CHAMBER 205
Detector : 78908
Background Analysis Date/Time : 23-AUG-2009 11:57:27
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.267	3299.423	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.928	4905.917	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.946	5884.256	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 206
Detector : 78909
Background Analysis Date/Time : 23-AUG-2009 11:57:31
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.740	3299.836	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.469	4904.811	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.058	5886.660	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 207
Detector : 78910
Background Analysis Date/Time : 23-AUG-2009 11:57:35
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.560	3301.824	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.563	4905.877	4.000000	1.200000	50.00000	95.00000
CM-244	5530.790	5883.765	14.00000	4.200000	26.72612	95.00000

Instrument : CHAMBER 208
Detector : 78911
Background Analysis Date/Time : 23-AUG-2009 11:57:40
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.613	3299.492	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.795	4902.883	7.000000	2.100000	37.79645	95.00000
CM-244	5533.327	5886.561	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 209
Detector : 79188
Background Analysis Date/Time : 26-JUL-2009 17:06:41
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.310	3300.226	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.667	4905.853	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.947	5884.845	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 210
Detector : 79189
Background Analysis Date/Time : 26-JUL-2009 17:06:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.620	3297.977	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.731	4905.552	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.352	5886.824	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 211
Detector : 79190
Background Analysis Date/Time : 26-JUL-2009 17:06:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.121	3301.259	3.000000	0.9000000	57.73503	95.00000
NP-237	4436.737	4902.524	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.952	5886.368	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 212
Detector : 79191
Background Analysis Date/Time : 26-JUL-2009 17:06:54
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.135	3301.447	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.433	4904.665	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.267	5887.313	12.00000	3.600000	28.86751	95.00000

Instrument : CHAMBER 213
Detector : 79192
Background Analysis Date/Time : 26-JUL-2009 17:06:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.470	3298.036	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.689	4901.687	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.037	5883.842	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 214
Detector : 79193
Background Analysis Date/Time : 26-JUL-2009 17:07:02
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.553	3297.788	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.227	4901.574	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.780	5885.252	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 215
Detector : 79194
Background Analysis Date/Time : 26-JUL-2009 17:07:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.364	3302.121	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.186	4903.222	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.359	5882.968	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 216
Detector : 79195
Background Analysis Date/Time : 26-JUL-2009 17:07:10
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.730	3302.451	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.761	4905.361	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.680	5884.547	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 217
Detector : 79410
Background Analysis Date/Time : 26-JUL-2009 17:07:14
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.264	3300.395	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.666	4904.432	1.000000	0.3000000	100.0000	95.00000
CM-244	5535.108	5883.550	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 218
Detector : 79411
Background Analysis Date/Time : 26-JUL-2009 17:07:19
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.480	3299.092	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.463	4904.366	6.000000	1.800000	40.82483	95.00000
CM-244	5534.949	5883.207	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 219
Detector : 79412
Background Analysis Date/Time : 26-JUL-2009 17:07:23
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.558	3298.478	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.677	4902.329	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.300	5887.374	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 220
Detector : 79413
Background Analysis Date/Time : 26-JUL-2009 17:07:26
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.238	3297.635	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.067	4906.404	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.768	5883.799	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 221
Detector : 79414
Background Analysis Date/Time : 26-JUL-2009 17:07:30
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.031	3301.906	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.520	4906.347	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.427	5886.301	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 222
Detector : 79415
Background Analysis Date/Time : 26-JUL-2009 17:07:34
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.828	3299.834	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.567	4903.132	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.999	5885.314	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 223
Detector : 79416
Background Analysis Date/Time : 26-JUL-2009 17:07:38
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.719	3302.203	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.717	4901.802	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.370	5883.775	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 224
Detector : 79417
Background Analysis Date/Time : 26-JUL-2009 17:07:43
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.902	3302.451	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.496	4905.621	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.081	5884.107	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 225
Detector : 79418
Background Analysis Date/Time : 26-JUL-2009 17:07:47
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.698	3301.928	3.000000	0.9000000	57.73503	95.00000
NP-237	4436.047	4902.115	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.662	5882.674	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 226
Detector : 79419
Background Analysis Date/Time : 26-JUL-2009 17:07:51
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.229	3299.048	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.278	4902.399	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.943	5886.259	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 227
Detector : 79420
Background Analysis Date/Time : 26-JUL-2009 17:07:55
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.495	3300.898	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.132	4906.286	3.000000	0.9000000	57.73503	95.00000
CM-244	5532.133	5886.196	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 228
Detector : 79421
Background Analysis Date/Time : 26-JUL-2009 17:07:59
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.613	3298.829	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.639	4905.792	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5531.072	5884.538	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 229
Detector : 79422
Background Analysis Date/Time : 26-JUL-2009 17:08:03
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.805	3298.464	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.226	4906.242	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5533.427	5882.943	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 230
Detector : 79423
Background Analysis Date/Time : 26-JUL-2009 17:08:07
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.308	3297.622	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.975	4905.433	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5531.188	5884.956	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 231
Detector : 79424
Background Analysis Date/Time : 26-JUL-2009 17:08:12
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.586	3298.189	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.432	4903.240	4.000000	1.200000	50.00000	95.00000
CM-244	5533.660	5887.186	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 232
Detector : 79425
Background Analysis Date/Time : 26-JUL-2009 17:08:16
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.229	3299.258	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.403	4904.597	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.062	5886.338	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 233
Detector : 79426
Background Analysis Date/Time : 26-JUL-2009 17:08:20
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.053	3300.219	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.148	4902.933	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.654	5884.028	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 234
Detector : 79427
Background Analysis Date/Time : 26-JUL-2009 17:08:25
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.497	3297.542	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.922	4904.935	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.289	5887.217	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 235
Detector : 79428
Background Analysis Date/Time : 26-JUL-2009 17:08:29
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.334	3300.717	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.003	4906.236	2.000000	0.6000000	70.71068	95.00000
CM-244	5532.236	5886.409	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 236
Detector : 79429
Background Analysis Date/Time : 26-JUL-2009 17:08:33
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.761	3298.777	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.283	4906.214	9.000000	2.700000	33.33334	95.00000
CM-244	5532.557	5887.291	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 237
Detector : 79430
Background Analysis Date/Time : 26-JUL-2009 17:08:37
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.197	3297.861	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.935	4904.354	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.478	5884.662	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 238
Detector : 79431
Background Analysis Date/Time : 26-JUL-2009 17:08:41
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.703	3299.637	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.459	4902.787	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5533.171	5886.843	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 239
Detector : 79432
Background Analysis Date/Time : 26-JUL-2009 17:08:46
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.694	3302.472	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.142	4902.540	8.000000	2.400000	35.35534	95.00000
CM-244	5534.989	5884.715	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 240
Detector : 79433
Background Analysis Date/Time : 26-JUL-2009 17:08:50
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.448	3302.009	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.377	4905.282	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.249	5885.600	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 241
Detector : 79434
Background Analysis Date/Time : 26-JUL-2009 17:08:54
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.069	3301.257	3.000000	0.9000000	57.73503	95.00000
NP-237	4433.036	4904.033	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.409	5885.133	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 242
Detector : 79435
Background Analysis Date/Time : 26-JUL-2009 17:08:58
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.986	3300.537	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.402	4905.006	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5535.112	5883.069	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 243
Detector : 79436
Background Analysis Date/Time : 26-JUL-2009 17:09:02
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.831	3301.144	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.437	4901.520	3.000000	0.9000000	57.73503	95.00000
CM-244	5533.039	5887.402	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 244
Detector : 79437
Background Analysis Date/Time : 26-JUL-2009 17:09:06
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.561	3301.814	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.746	4904.768	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.146	5885.854	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 245
Detector : 79438
Background Analysis Date/Time : 26-JUL-2009 17:09:11
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.519	3298.200	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.025	4906.060	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.264	5882.788	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 246
Detector : 78912
Background Analysis Date/Time : 26-JUL-2009 17:09:15
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.883	3302.161	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.171	4902.069	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.279	5887.441	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 247
Detector : 79440
Background Analysis Date/Time : 26-JUL-2009 17:09:20
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.314	3301.154	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.427	4902.237	2.000000	0.6000000	70.71068	95.00000
CM-244	5535.390	5885.574	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 248
Detector : 79441
Background Analysis Date/Time : 26-JUL-2009 17:09:23
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.045	3301.474	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.389	4902.813	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.872	5884.178	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 249
Detector : 79442
Background Analysis Date/Time : 26-JUL-2009 17:09:28
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.808	3298.538	3.000000	0.9000000	57.73503	95.00000
NP-237	4433.459	4906.270	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5535.492	5886.613	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 250
Detector : 79443
Background Analysis Date/Time : 26-JUL-2009 17:09:32
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.616	3300.155	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.911	4904.182	6.000000	1.800000	40.82483	95.00000
CM-244	5530.811	5885.622	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 251
Detector : 79444
Background Analysis Date/Time : 26-JUL-2009 17:09:36
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.845	3297.824	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.069	4905.749	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.571	5885.360	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 252
Detector : 79445
Background Analysis Date/Time : 26-JUL-2009 17:09:40
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.916	3302.142	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.879	4906.631	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.322	5884.528	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 253
Detector : 79446
Background Analysis Date/Time : 26-JUL-2009 17:09:45
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.796	3301.166	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.182	4903.720	9.000000	2.700000	33.33334	95.00000
CM-244	5533.610	5884.813	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 254
Detector : 79447
Background Analysis Date/Time : 26-JUL-2009 17:09:49
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.474	3298.982	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.396	4906.361	4.000000	1.200000	50.00000	95.00000
CM-244	5533.560	5883.122	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 255
Detector : 79448
Background Analysis Date/Time : 26-JUL-2009 17:09:53
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.107	3299.169	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.844	4902.471	4.000000	1.200000	50.00000	95.00000
CM-244	5531.565	5882.529	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 256
Detector : 79449
Background Analysis Date/Time : 26-JUL-2009 17:09:57
Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.102	3301.350	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.732	4901.991	8.000000	2.400000	35.35534	95.00000
CM-244	5533.871	5883.102	3.000000	0.9000000	57.73503	95.00000

Subsection 3: Efficiency Calibration

Instrument	:	CHAMBER 001
Detector	:	78788
Standard ID	:	AESS-001
Standard Reference Date	:	20-FEB-2008 09:54:53
Calibration Analysis Date/Time	:	5-AUG-2009 09:23:09
Calibration Count Time	:	240.0000
Efficiency Calibration Date/Time	:	5-AUG-2009 14:45:15
Average Efficiency	:	0.3129051
Average Efficiency Error	:	8.6269947E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2987.927	3299.401	15169.00	0.3069817	1.3193288E-02	58.42078
NP-237	171.0024	28-FEB-2010	4432.428	4902.923	12984.00	0.3163057	1.6057158E-02	73.48861
CM-244	158.1060	28-FEB-2010	5533.599	5883.327	11428.00	0.3183713	1.6194897E-02	56.66428

Instrument	:	CHAMBER 002
Detector	:	78266
Standard ID	:	AESS-002
Standard Reference Date	:	19-FEB-2008 11:05:22
Calibration Analysis Date/Time	:	5-AUG-2009 09:23:09
Calibration Count Time	:	240.0000
Efficiency Calibration Date/Time	:	5-AUG-2009 14:45:26
Average Efficiency	:	0.3058862
Average Efficiency Error	:	8.4242094E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2990.748	3297.924	14398.00	0.3038373	1.3070637E-02	49.74084
NP-237	200.4990	28-FEB-2010	4434.751	4902.555	14828.00	0.3081331	1.5613098E-02	65.75996
CM-244	196.5558	28-FEB-2010	5533.273	5884.668	13676.00	0.3065576	1.5550442E-02	56.66758

Instrument	:	CHAMBER 003
Detector	:	67617
Standard ID	:	AESS-003
Standard Reference Date	:	15-FEB-2008 13:12:27
Calibration Analysis Date/Time	:	5-AUG-2009 09:23:09
Calibration Count Time	:	240.0000
Efficiency Calibration Date/Time	:	5-AUG-2009 14:45:38
Average Efficiency	:	0.3501697
Average Efficiency Error	:	9.6245455E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2988.035	3300.027	16505.00	0.3434206	1.4738046E-02	69.44512
NP-237	203.2080	28-FEB-2010	4433.783	4901.623	17421.00	0.3571638	1.8062104E-02	78.56305
CM-244	197.2236	28-FEB-2010	5533.183	5887.889	15808.00	0.3532508	1.7884690E-02	60.67228

Instrument : CHAMBER 004
Detector : 64279
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 5-AUG-2009 09:23:09
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 5-AUG-2009 14:45:54
Average Efficiency : 0.3004026
Average Efficiency Error : 8.2737673E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2991.885	3302.347	14848.00	0.3042404	1.3080551E-02	53.10138
NP-237	204.2586	28-FEB-2010	4436.757	4905.540	14917.00	0.3042575	1.5415543E-02	64.73015
CM-244	198.8100	28-FEB-2010	5533.807	5887.698	13166.00	0.2919180	1.4816008E-02	57.85523

Instrument : CHAMBER 005
Detector : 67612
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 5-AUG-2009 09:23:09
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 5-AUG-2009 14:46:05
Average Efficiency : 0.2843162
Average Efficiency Error : 7.8336252E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2990.194	3301.639	14157.00	0.2837222	1.2209224E-02	51.06648
NP-237	209.5938	28-FEB-2010	4437.588	4901.889	14375.00	0.2857330	1.4484116E-02	69.27464
CM-244	202.7478	28-FEB-2010	5531.535	5887.236	13050.00	0.2837417	1.4402892E-02	60.22887

Instrument : CHAMBER 006
Detector : 67613
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 5-AUG-2009 09:23:09
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 5-AUG-2009 14:46:15
Average Efficiency : 0.3150931
Average Efficiency Error : 8.6723948E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2988.186	3302.064	15061.00	0.3123020	1.3423658E-02	54.65259
NP-237	204.7038	28-FEB-2010	4434.812	4901.476	15598.00	0.3174475	1.6074667E-02	62.21717
CM-244	195.0060	28-FEB-2010	5533.017	5887.020	14013.00	0.3167382	1.6061435E-02	59.32273

Instrument : CHAMBER 007
Detector : 67607
Standard ID : AESS-007
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 3-AUG-2009 10:53:33
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:08:14
Average Efficiency : 0.3026176
Average Efficiency Error : 8.3323661E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2991.468	3299.148	14693.00	0.3001373	1.2906651E-02	48.67664
NP-237	205.0260	28-FEB-2010	4433.972	4903.766	14977.00	0.3043185	1.5417857E-02	59.64954
CM-244	199.6806	28-FEB-2010	5532.246	5885.701	13798.00	0.3044618	1.5442326E-02	51.23282

Instrument : CHAMBER 008
Detector : 78788
Standard ID : AESS-008
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 3-AUG-2009 10:53:33
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:08:25
Average Efficiency : 0.3224154
Average Efficiency Error : 8.8692745E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2989.215	3298.713	15734.00	0.3225096	1.3851766E-02	44.71056
NP-237	209.2716	28-FEB-2010	4433.303	4905.744	15863.00	0.3158187	1.5988812E-02	63.33889
CM-244	199.6488	28-FEB-2010	5532.461	5886.606	14925.00	0.3294691	1.6692771E-02	51.66238

Instrument : CHAMBER 009
Detector : 72528
Standard ID : AESS-009
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 3-AUG-2009 10:53:33
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:08:37
Average Efficiency : 0.3431641
Average Efficiency Error : 9.4328979E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2990.462	3298.900	16457.00	0.3417034	1.4665021E-02	47.76541
NP-237	204.0192	28-FEB-2010	4437.055	4904.570	16959.00	0.3463034	1.7518245E-02	66.91080
CM-244	197.2128	28-FEB-2010	5532.536	5882.399	15320.00	0.3421319	1.7328590E-02	53.20248

Instrument : CHAMBER 010
Detector : 72529
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 3-AUG-2009 10:53:33
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:08:47
Average Efficiency : 0.3163380
Average Efficiency Error : 8.7065995E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.229	3298.607	15141.00	0.3165374	1.3604476E-02	54.57225
NP-237	202.9926	28-FEB-2010	4436.880	4905.484	15237.00	0.3127136	1.5839646E-02	70.41494
CM-244	196.2330	28-FEB-2010	5531.409	5886.990	14242.00	0.3198532	1.6215732E-02	59.36025

Instrument : CHAMBER 011
Detector : 72531
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 3-AUG-2009 10:53:33
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:10:05
Average Efficiency : 0.2947833
Average Efficiency Error : 8.1152376E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2991.538	3301.988	14786.00	0.2934125	1.2615963E-02	51.15865
NP-237	214.4868	28-FEB-2010	4435.957	4905.467	15318.00	0.2975290	1.5069493E-02	57.97636
CM-244	208.4184	28-FEB-2010	5530.314	5886.614	13904.00	0.2940101	1.4910497E-02	52.04412

Instrument : CHAMBER 012
Detector : 67594
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 3-AUG-2009 10:53:33
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:10:47
Average Efficiency : 0.2985670
Average Efficiency Error : 8.2218517E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2988.398	3300.615	14557.00	0.2981249	1.2822272E-02	47.31236
NP-237	205.8930	28-FEB-2010	4437.450	4901.503	14889.00	0.3012659	1.5264360E-02	60.85177
CM-244	203.1954	28-FEB-2010	5534.709	5886.652	13676.00	0.2965543	1.5043142E-02	54.26840

Instrument : CHAMBER 013
Detector : 78790
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 3-AUG-2009 10:53:35
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:10:57
Average Efficiency : 0.3409691
Average Efficiency Error : 9.3713822E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2987.666	3298.441	16523.00	0.3426617	1.4705168E-02	49.16812
NP-237	210.2526	28-FEB-2010	4435.272	4902.524	17040.00	0.3376607	1.7080082E-02	61.60270
CM-244	201.9108	28-FEB-2010	5533.077	5883.559	15669.00	0.3420227	1.7318053E-02	54.98487

Instrument : CHAMBER 014
Detector : 67616
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 3-AUG-2009 10:53:35
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:11:09
Average Efficiency : 0.3130623
Average Efficiency Error : 8.6121503E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2992.504	3300.484	15590.00	0.3066251	1.3171598E-02	52.69585
NP-237	211.7160	28-FEB-2010	4435.990	4902.000	16202.00	0.3188440	1.6137818E-02	68.36411
CM-244	207.3882	28-FEB-2010	5532.918	5886.701	14925.00	0.3169042	1.6056320E-02	53.58373

Instrument : CHAMBER 015
Detector : 61581
Standard ID : AESS-015
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 3-AUG-2009 10:53:35
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:11:19
Average Efficiency : 0.3249588
Average Efficiency Error : 8.9409258E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2987.739	3297.575	15440.00	0.3196218	1.3732214E-02	68.63618
NP-237	200.6460	28-FEB-2010	4432.566	4904.976	15842.00	0.3289294	1.6652878E-02	78.34551
CM-244	195.9270	28-FEB-2010	5530.833	5887.242	14624.00	0.3288428	1.6665678E-02	73.03269

Instrument : CHAMBER 016
Detector : 78774
Standard ID : AESS-016
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 3-AUG-2009 10:53:35
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:11:28
Average Efficiency : 0.3372796
Average Efficiency Error : 9.2755891E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2990.015	3299.769	15968.00	0.3304942	1.4191121E-02	47.63641
NP-237	199.3962	28-FEB-2010	4432.750	4903.568	16594.00	0.3467403	1.7544748E-02	65.62801
CM-244	198.6402	28-FEB-2010	5531.945	5886.508	15241.00	0.3381473	1.7127821E-02	51.73166

Instrument : CHAMBER 017
Detector : 78791
Standard ID : AESS-017
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 3-AUG-2009 10:53:35
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:12:45
Average Efficiency : 0.2920910
Average Efficiency Error : 8.0447914E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2991.506	3301.266	14360.00	0.2887001	1.2420051E-02	46.05902
NP-237	208.5846	28-FEB-2010	4435.397	4901.753	14828.00	0.2961742	1.5007162E-02	55.70656
CM-244	205.5828	28-FEB-2010	5532.102	5885.058	13665.00	0.2929415	1.4859928E-02	50.18596

Instrument : CHAMBER 018
Detector : 78782
Standard ID : AESS-018
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 3-AUG-2009 10:53:35
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:12:56
Average Efficiency : 0.3172097
Average Efficiency Error : 8.7289969E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2988.342	3302.274	15345.00	0.3205433	1.3773307E-02	42.03425
NP-237	208.8990	28-FEB-2010	4435.776	4902.996	15628.00	0.3116947	1.5782947E-02	59.98587
CM-244	198.1458	28-FEB-2010	5535.506	5884.764	14315.00	0.3183995	1.6140889E-02	46.41229

Instrument : CHAMBER 019
Detector : 78786
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 3-AUG-2009 10:53:38
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:13:21
Average Efficiency : 0.2910323
Average Efficiency Error : 8.0228020E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2990.757	3299.102	13644.00	0.2815492	1.2124360E-02	48.88054
NP-237	202.9140	28-FEB-2010	4436.959	4904.938	14592.00	0.2996101	1.5184480E-02	53.45035
CM-244	199.3140	28-FEB-2010	5530.360	5882.637	13450.00	0.2972434	1.5081594E-02	50.55271

Instrument : CHAMBER 020
Detector : 78787
Standard ID : AESS-020
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 3-AUG-2009 10:53:38
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:13:30
Average Efficiency : 0.3471871
Average Efficiency Error : 9.5441081E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2988.029	3302.537	16453.00	0.3380062	1.4506385E-02	51.08092
NP-237	203.4984	28-FEB-2010	4437.491	4905.035	17379.00	0.3557895	1.7993098E-02	61.84319
CM-244	197.1096	28-FEB-2010	5532.389	5886.993	15772.00	0.3526238	1.7853415E-02	51.51802

Instrument : CHAMBER 021
Detector : 67047
Standard ID : AESS-021
Standard Reference Date : 19-FEB-2008 15:31:52
Calibration Analysis Date/Time : 3-AUG-2009 10:53:38
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:13:40
Average Efficiency : 0.3035440
Average Efficiency Error : 8.3565973E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2992.044	3301.105	14782.00	0.2995796	1.2881183E-02	58.16195
NP-237	210.1548	28-FEB-2010	4432.692	4903.261	15300.00	0.3033102	1.5362527E-02	64.83363
CM-244	200.7390	28-FEB-2010	5532.273	5884.483	14116.00	0.3096792	1.5701950E-02	51.57142

Instrument : CHAMBER 022
Detector : 72530
Standard ID : AESS-022
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 3-AUG-2009 10:53:38
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:13:53
Average Efficiency : 0.3171063
Average Efficiency Error : 8.7253209E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2987.876	3301.717	15368.00	0.3095404	1.3300211E-02	46.46027
NP-237	206.8830	28-FEB-2010	4432.553	4902.907	16121.00	0.3246614	1.6433254E-02	59.61079
CM-244	203.0208	28-FEB-2010	5531.719	5883.858	14793.00	0.3210209	1.6266784E-02	54.93265

Instrument : CHAMBER 023
Detector : 78264
Standard ID : AESS-023
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 3-AUG-2009 10:53:38
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:14:51
Average Efficiency : 0.3475247
Average Efficiency Error : 9.5510995E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2992.270	3297.465	16655.00	0.3390353	1.4547646E-02	44.65316
NP-237	207.4998	28-FEB-2010	4434.353	4902.238	17621.00	0.3537784	1.7888635E-02	67.17326
CM-244	199.8804	28-FEB-2010	5535.006	5884.098	16062.00	0.3541352	1.7925926E-02	50.59406

Instrument : CHAMBER 024
Detector : 76542
Standard ID : AESS-024
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 3-AUG-2009 10:53:38
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:15:01
Average Efficiency : 0.3329758
Average Efficiency Error : 9.1575533E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2988.735	3301.963	15751.00	0.3268531	1.4038056E-02	48.09840
NP-237	205.6662	28-FEB-2010	4435.585	4904.900	16552.00	0.3352655	1.6964708E-02	62.82615
CM-244	198.3060	28-FEB-2010	5532.247	5883.527	15292.00	0.3398233	1.7212013E-02	54.96418

Instrument : CHAMBER 025
Detector : 45-149AA5
Standard ID : AESS-025
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 3-AUG-2009 10:53:40
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:15:13
Average Efficiency : 0.3273577
Average Efficiency Error : 9.0229549E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2989.576	3302.009	15260.00	0.3295556	1.4161936E-02	65.60141
NP-237	167.9916	28-FEB-2010	4437.518	4905.500	13240.00	0.3283658	1.6664496E-02	71.67536
CM-244	157.2432	28-FEB-2010	5535.553	5882.966	11554.00	0.3234104	1.6448844E-02	64.13462

Instrument : CHAMBER 026
Detector : 78204
Standard ID : AESS-026
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 3-AUG-2009 10:53:40
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:15:23
Average Efficiency : 0.3163501
Average Efficiency Error : 9.2731481E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2989.278	3302.066	15073.00	0.3190832	1.6165398E-02	47.54145
NP-237	168.0294	28-FEB-2010	4432.530	4904.245	12818.00	0.3178037	1.6136298E-02	64.89447
CM-244	160.5822	28-FEB-2010	5530.854	5885.357	11388.00	0.3123012	1.5887389E-02	53.07367

Instrument : CHAMBER 027
Detector : 42484
Standard ID : AESS-027
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 3-AUG-2009 10:53:40
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:15:36
Average Efficiency : 0.3396688
Average Efficiency Error : 9.9549843E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2989.311	3298.574	15139.00	0.3305598	1.6745884E-02	45.75581
NP-237	161.6154	28-FEB-2010	4433.571	4901.458	13298.00	0.3428161	1.7396733E-02	58.91746
CM-244	148.1754	28-FEB-2010	5534.916	5884.719	11660.00	0.3465259	1.7621491E-02	49.89463

Instrument : CHAMBER 028
Detector : 78792
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 3-AUG-2009 10:53:40
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:15:45
Average Efficiency : 0.3070537
Average Efficiency Error : 9.0059368E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2988.458	3301.428	14649.00	0.3098790	1.5704965E-02	43.03392
NP-237	168.1992	28-FEB-2010	4433.918	4901.793	12445.00	0.3082309	1.5657367E-02	57.16418
CM-244	156.7614	28-FEB-2010	5530.766	5886.861	10793.00	0.3031792	1.5437813E-02	42.94358

Instrument : CHAMBER 029
Detector : 33454
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 3-AUG-2009 10:53:40
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:15:55
Average Efficiency : 0.3165512
Average Efficiency Error : 9.2795976E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2991.561	3299.264	14962.00	0.3134704	1.5882587E-02	59.06260
NP-237	169.7700	28-FEB-2010	4436.609	4905.813	12925.00	0.3171891	1.6103044E-02	65.57512
CM-244	154.8234	28-FEB-2010	5532.652	5886.650	11221.00	0.3191230	1.6238619E-02	58.94875

Instrument : CHAMBER 030
Detector : 33447
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 3-AUG-2009 10:53:40
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 3-AUG-2009 15:16:05
Average Efficiency : 0.3195129
Average Efficiency Error : 9.3687959E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2992.462	3300.436	14496.00	0.3076674	1.5595090E-02	51.22312
NP-237	166.3758	28-FEB-2010	4435.706	4901.528	13016.00	0.3259090	1.6544048E-02	70.89224
CM-244	157.1856	28-FEB-2010	5532.111	5885.667	11657.00	0.3264974	1.6603231E-02	58.51925

Instrument : CHAMBER 031
Detector : 67042
Standard ID : AESS-031
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 3-AUG-2009 10:53:41
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:16:16
Average Efficiency : 0.3333972
Average Efficiency Error : 9.1897855E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2990.816	3298.130	15264.00	0.3328327	1.4302717E-02	63.22559
NP-237	162.9186	28-FEB-2010	4432.666	4904.194	13199.00	0.3374993	1.7128870E-02	85.39982
CM-244	153.1968	28-FEB-2010	5530.750	5885.317	11495.00	0.3302312	1.6797049E-02	69.66753

Instrument : CHAMBER 032
Detector : 67041
Standard ID : AESS-032
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 3-AUG-2009 10:53:41
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:16:28
Average Efficiency : 0.3079946
Average Efficiency Error : 8.4994007E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.681	3302.442	14237.00	0.3079492	1.3250315E-02	56.35440
NP-237	165.9822	28-FEB-2010	4436.943	4904.070	12286.00	0.3083688	1.5667509E-02	62.42379
CM-244	153.7938	28-FEB-2010	5532.476	5883.050	10756.00	0.3076837	1.5668528E-02	54.99291

Instrument : CHAMBER 033
Detector : 78785
Standard ID : AESS-033
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 3-AUG-2009 10:53:41
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:16:44
Average Efficiency : 0.3159786
Average Efficiency Error : 8.7208869E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2988.750	3301.323	14152.00	0.3105978	1.3365801E-02	46.58186
NP-237	161.7816	28-FEB-2010	4437.327	4904.445	12331.00	0.3175407	1.6132571E-02	57.74305
CM-244	147.2670	28-FEB-2010	5532.298	5882.301	10791.00	0.3224820	1.6420925E-02	47.06204

Instrument : CHAMBER 034
Detector : 61586
Standard ID : AESS-034
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 3-AUG-2009 10:53:41
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:16:57
Average Efficiency : 0.3186626
Average Efficiency Error : 8.7871859E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2990.405	3301.020	14898.00	0.3137061	1.3486663E-02	63.62747
NP-237	167.2962	28-FEB-2010	4436.289	4905.558	12847.00	0.3199310	1.6243735E-02	89.06429
CM-244	154.4388	28-FEB-2010	5534.591	5883.408	11387.00	0.3247890	1.6522311E-02	62.47897

Instrument : CHAMBER 035
Detector : 78202
Standard ID : AESS-035
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 3-AUG-2009 10:53:41
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:17:07
Average Efficiency : 0.3066753
Average Efficiency Error : 8.4610144E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2988.026	3302.211	14579.00	0.3098971	1.3328200E-02	45.84651
NP-237	168.2934	28-FEB-2010	4437.360	4905.577	12421.00	0.3074051	1.5615990E-02	59.70762
CM-244	158.8128	28-FEB-2010	5534.350	5884.600	10890.00	0.3016905	1.5359893E-02	46.83206

Instrument : CHAMBER 036
Detector : 78203
Standard ID : AESS-036
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 3-AUG-2009 10:53:41
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:17:19
Average Efficiency : 0.3238717
Average Efficiency Error : 8.9277234E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2988.680	3301.073	15196.00	0.3187600	1.3699047E-02	53.56891
NP-237	167.4312	28-FEB-2010	4435.041	4905.984	13273.00	0.3302565	1.6759887E-02	68.47729
CM-244	156.4188	28-FEB-2010	5531.465	5885.278	11554.00	0.3251042	1.6534815E-02	54.91026

Instrument : CHAMBER 037
Detector : 45-149BB5
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 3-AUG-2009 10:53:43
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:17:30
Average Efficiency : 0.3588454
Average Efficiency Error : 9.8783271E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2991.168	3302.212	16427.00	0.3508205	1.5056745E-02	64.60843
NP-237	167.1294	28-FEB-2010	4432.895	4904.029	14662.00	0.3654579	1.8520588E-02	77.87219
CM-244	154.7664	28-FEB-2010	5532.110	5886.157	12816.00	0.3643632	1.8501068E-02	65.29257

Instrument : CHAMBER 038
Detector : 72532
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 3-AUG-2009 10:53:43
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:17:42
Average Efficiency : 0.3401872
Average Efficiency Error : 9.3690762E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2992.472	3300.031	15896.00	0.3353978	1.4402774E-02	52.10275
NP-237	170.0886	28-FEB-2010	4434.591	4905.742	14074.00	0.3446777	1.7477222E-02	66.10255
CM-244	157.7460	28-FEB-2010	5531.463	5885.396	12284.00	0.3427305	1.7413909E-02	59.13643

Instrument : CHAMBER 039
Detector : 45-149BB2
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 3-AUG-2009 10:53:43
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:17:50
Average Efficiency : 0.3635030
Average Efficiency Error : 1.0010615E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.231	3297.932	16136.00	0.3544406	1.5216673E-02	64.96208
NP-237	159.1506	28-FEB-2010	4433.148	4905.972	14381.00	0.3764731	1.9083694E-02	79.22511
CM-244	151.7142	28-FEB-2010	5532.651	5884.312	12578.00	0.3647127	1.8524269E-02	60.58306

Instrument : CHAMBER 040
Detector : 78773
Standard ID : AESS-040
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 3-AUG-2009 10:53:43
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:18:00
Average Efficiency : 0.3197618
Average Efficiency Error : 8.8180574E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2989.631	3299.278	14776.00	0.3208454	1.3795648E-02	47.91216
NP-237	166.8174	28-FEB-2010	4434.455	4902.104	12719.00	0.3176762	1.6131660E-02	62.00956
CM-244	155.0100	28-FEB-2010	5534.140	5885.901	11283.00	0.3203784	1.6300978E-02	46.47287

Instrument : CHAMBER 041
Detector : 78205
Standard ID : AESS-041
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 3-AUG-2009 10:53:43
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:18:09
Average Efficiency : 0.3320726
Average Efficiency Error : 9.1476394E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2988.485	3301.427	15744.00	0.3260407	1.4003299E-02	48.05792
NP-237	171.2268	28-FEB-2010	4434.095	4902.163	13892.00	0.3380044	1.7141877E-02	64.23948
CM-244	159.5796	28-FEB-2010	5531.498	5882.427	12150.00	0.3351395	1.7031105E-02	52.60388

Instrument : CHAMBER 042
Detector : 78793
Standard ID : AESS-042
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 3-AUG-2009 10:53:43
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:18:18
Average Efficiency : 0.3355130
Average Efficiency Error : 9.2503820E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2991.775	3302.182	14895.00	0.3333198	1.4329934E-02	45.19947
NP-237	159.6558	28-FEB-2010	4434.604	4903.031	12973.00	0.3384922	1.7183678E-02	58.44910
CM-244	150.5208	28-FEB-2010	5530.666	5882.826	11480.00	0.3356853	1.7074790E-02	51.00649

Instrument : CHAMBER 043
Detector : 76543
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 3-AUG-2009 10:53:44
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:18:26
Average Efficiency : 0.3394984
Average Efficiency Error : 9.3512600E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2990.605	3297.721	15848.00	0.3383991	1.4532390E-02	52.98521
NP-237	168.7422	28-FEB-2010	4435.729	4906.163	13860.00	0.3421971	1.7355058E-02	63.69067
CM-244	156.3252	28-FEB-2010	5530.889	5884.237	12022.00	0.3383877	1.7199298E-02	58.34155

Instrument : CHAMBER 044
Detector : 79459
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 3-AUG-2009 10:53:44
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:18:36
Average Efficiency : 0.3472623
Average Efficiency Error : 9.5641837E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2992.053	3299.650	16240.00	0.3526795	1.5139417E-02	46.60588
NP-237	166.6248	28-FEB-2010	4434.444	4905.733	13868.00	0.3467396	1.7585307E-02	67.40435
CM-244	155.8290	28-FEB-2010	5531.674	5885.749	12067.00	0.3406831	1.7315021E-02	50.52586

Instrument : CHAMBER 045
Detector : 78783
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 3-AUG-2009 10:53:44
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:18:46
Average Efficiency : 0.3473964
Average Efficiency Error : 9.5752627E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2991.163	3297.674	15321.00	0.3460006	1.4867575E-02	42.89996
NP-237	160.8066	28-FEB-2010	4435.665	4901.796	13169.00	0.3411981	1.7317103E-02	61.13550
CM-244	145.8384	28-FEB-2010	5533.912	5883.468	11808.00	0.3562486	1.8112443E-02	45.70908

Instrument : CHAMBER 046
Detector : 76544
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 3-AUG-2009 10:53:44
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:18:55
Average Efficiency : 0.3396656
Average Efficiency Error : 9.3595181E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2988.013	3297.754	15574.00	0.3376833	1.4506049E-02	53.28547
NP-237	164.6658	28-FEB-2010	4433.428	4906.578	13320.00	0.3369921	1.7100822E-02	64.03419
CM-244	151.3824	28-FEB-2010	5533.808	5885.833	11881.00	0.3453883	1.7558334E-02	49.95901

Instrument : CHAMBER 047
Detector : 46-089B1
Standard ID : AESS-047
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 3-AUG-2009 10:53:44
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:19:03
Average Efficiency : 0.3416091
Average Efficiency Error : 9.4094146E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2989.788	3298.531	15812.00	0.3381371	1.4521689E-02	57.51329
NP-237	168.3948	28-FEB-2010	4436.493	4903.356	13857.00	0.3428169	1.7386565E-02	66.01371
CM-244	154.6032	28-FEB-2010	5535.296	5884.198	12141.00	0.3454518	1.7555740E-02	60.25008

Instrument : CHAMBER 048
Detector : 42483
Standard ID : AESS-048
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 3-AUG-2009 10:53:44
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 3-AUG-2009 15:19:12
Average Efficiency : 0.3123633
Average Efficiency Error : 8.6213006E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2991.838	3299.553	14065.00	0.3096292	1.3325672E-02	54.65192
NP-237	161.5530	28-FEB-2010	4437.268	4906.475	12285.00	0.3167912	1.6095465E-02	66.40394
CM-244	151.1856	28-FEB-2010	5533.930	5885.396	10717.00	0.3119354	1.5885884E-02	57.74399

Instrument	:	CHAMBER 065
Detector	:	68551
Standard ID	:	AESS-001
Standard Reference Date	:	20-FEB-2008 09:54:53
Calibration Analysis Date/Time	:	11-AUG-2009 07:20:10
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	11-AUG-2009 11:32:36
Average Efficiency	:	0.3083470
Average Efficiency Error	:	8.5085379E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2991.020	3301.790	14596.00	0.2954247	1.2705522E-02	58.52770
NP-237	171.0024	28-FEB-2010	4435.576	4904.585	13191.00	0.3213498	1.6309390E-02	64.23100
CM-244	158.1060	28-FEB-2010	5533.015	5885.628	11352.00	0.3164231	1.6097672E-02	59.22498

Instrument	:	CHAMBER 066
Detector	:	46-089C1
Standard ID	:	AESS-002
Standard Reference Date	:	19-FEB-2008 11:05:22
Calibration Analysis Date/Time	:	11-AUG-2009 07:20:10
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	11-AUG-2009 11:33:22
Average Efficiency	:	0.3112474
Average Efficiency Error	:	8.5695526E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2988.945	3298.217	14657.00	0.3093549	1.3303596E-02	55.37485
NP-237	200.4990	28-FEB-2010	4435.388	4905.987	14981.00	0.3113079	1.5771858E-02	67.81973
CM-244	196.5558	28-FEB-2010	5534.885	5886.957	13998.00	0.3138950	1.5917554E-02	57.19744

Instrument	:	CHAMBER 067
Detector	:	46-089B4
Standard ID	:	AESS-003
Standard Reference Date	:	15-FEB-2008 13:12:27
Calibration Analysis Date/Time	:	11-AUG-2009 07:20:10
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	11-AUG-2009 11:33:34
Average Efficiency	:	0.3251616
Average Efficiency Error	:	8.9453170E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2990.195	3298.405	15523.00	0.3230599	1.3878663E-02	73.01379
NP-237	203.2080	28-FEB-2010	4432.996	4903.114	16006.00	0.3281700	1.6612297E-02	79.50097
CM-244	197.2236	28-FEB-2010	5531.881	5884.128	14543.00	0.3251645	1.6480407E-02	73.28760

Instrument : CHAMBER 068
Detector : 78794
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 11-AUG-2009 07:20:10
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:38:02
Average Efficiency : 0.2988316
Average Efficiency Error : 8.2298918E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2989.058	3297.794	14610.00	0.2994183	1.2877054E-02	47.51308
NP-237	204.2586	28-FEB-2010	4436.694	4904.361	14617.00	0.2981576	1.5110506E-02	57.11169
CM-244	198.8100	28-FEB-2010	5532.395	5887.637	13466.00	0.2986969	1.5155178E-02	48.38633

Instrument : CHAMBER 069
Detector : 78795
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 11-AUG-2009 07:20:10
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:38:36
Average Efficiency : 0.3175282
Average Efficiency Error : 8.7343659E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2991.230	3298.554	15670.00	0.3141076	1.3491860E-02	49.70101
NP-237	209.5938	28-FEB-2010	4432.770	4904.008	16141.00	0.3208218	1.6238715E-02	60.15531
CM-244	202.7478	28-FEB-2010	5535.390	5884.253	14673.00	0.3191766	1.6174993E-02	51.27451

Instrument : CHAMBER 070
Detector : 46-089B2
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 11-AUG-2009 07:20:10
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:38:49
Average Efficiency : 0.3529845
Average Efficiency Error : 9.7008841E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2992.134	3299.079	16742.00	0.3471912	1.4896408E-02	63.07681
NP-237	204.7038	28-FEB-2010	4435.081	4904.079	17300.00	0.3520767	1.7806258E-02	82.77227
CM-244	195.0060	28-FEB-2010	5531.689	5883.454	16039.00	0.3627528	1.8362503E-02	70.00533

Instrument : CHAMBER 071
Detector : 64259
Standard ID : AESS-007
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 11-AUG-2009 07:20:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:39:05
Average Efficiency : 0.3208804
Average Efficiency Error : 8.8285562E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2991.474	3300.552	15413.00	0.3149293	1.3531087E-02	62.47171
NP-237	205.0260	28-FEB-2010	4434.375	4901.563	15925.00	0.3235798	1.6380999E-02	71.98354
CM-244	199.6806	28-FEB-2010	5533.885	5882.968	14807.00	0.3270442	1.6571697E-02	60.00851

Instrument : CHAMBER 072
Detector : 45-149AA3
Standard ID : AESS-008
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 11-AUG-2009 07:20:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:41:05
Average Efficiency : 0.3267370
Average Efficiency Error : 8.9871846E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2989.276	3301.453	15650.00	0.3208615	1.3782272E-02	51.51645
NP-237	209.2716	28-FEB-2010	4434.016	4904.104	16413.00	0.3267362	1.6534751E-02	70.18485
CM-244	199.6488	28-FEB-2010	5533.538	5886.502	15197.00	0.3356811	1.7003637E-02	59.25634

Instrument : CHAMBER 073
Detector : 78775
Standard ID : AESS-009
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 11-AUG-2009 07:20:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:41:19
Average Efficiency : 0.3329331
Average Efficiency Error : 9.1557140E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2991.884	3298.904	15903.00	0.3302805	1.4182931E-02	45.72569
NP-237	204.0192	28-FEB-2010	4435.607	4905.083	16398.00	0.3348464	1.6945357E-02	65.14548
CM-244	197.2128	28-FEB-2010	5533.495	5885.787	14977.00	0.3348103	1.6962610E-02	52.22756

Instrument : CHAMBER 074
Detector : 78266
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 11-AUG-2009 07:20:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:41:50
Average Efficiency : 0.3171463
Average Efficiency Error : 8.7284483E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2992.157	3300.875	15091.00	0.3155650	1.3563500E-02	48.84003
NP-237	202.9926	28-FEB-2010	4434.541	4902.170	15525.00	0.3186204	1.6135018E-02	61.89280
CM-244	196.2330	28-FEB-2010	5535.537	5885.413	14144.00	0.3179084	1.6118674E-02	53.87412

Instrument : CHAMBER 075
Detector : 68550
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 11-AUG-2009 07:20:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:42:08
Average Efficiency : 0.2994908
Average Efficiency Error : 8.2427450E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2992.440	3300.846	15058.00	0.2988699	1.2846401E-02	51.75235
NP-237	214.4868	28-FEB-2010	4432.709	4904.580	15499.00	0.3010221	1.5244178E-02	70.86993
CM-244	208.4184	28-FEB-2010	5531.026	5885.258	14123.00	0.2988416	1.5152307E-02	52.88081

Instrument : CHAMBER 076
Detector : 78779
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 11-AUG-2009 07:20:11
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:42:40
Average Efficiency : 0.3028130
Average Efficiency Error : 8.3379308E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2991.979	3300.154	14630.00	0.2996896	1.2888389E-02	45.27155
NP-237	205.8930	28-FEB-2010	4436.825	4903.508	15329.00	0.3101608	1.5709149E-02	64.17129
CM-244	203.1954	28-FEB-2010	5535.510	5884.591	13832.00	0.3002685	1.5228972E-02	51.27063

Instrument : CHAMBER 077
Detector : 67576
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 11-AUG-2009 07:20:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 11-AUG-2009 11:42:53
Average Efficiency : 0.3266060
Average Efficiency Error : 8.9822784E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2989.957	3302.071	15788.00	0.3274788	1.4064389E-02	50.84729
NP-237	210.2526	28-FEB-2010	4433.544	4902.799	16283.00	0.3226589	1.6329939E-02	64.60262
CM-244	201.9108	28-FEB-2010	5530.788	5882.782	15087.00	0.3295008	1.6692154E-02	50.76959

Instrument : CHAMBER 078
Detector : 67577
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 11-AUG-2009 07:20:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 11-AUG-2009 11:43:47
Average Efficiency : 0.3266194
Average Efficiency Error : 8.9784693E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2988.255	3302.223	16485.00	0.3242883	1.3917238E-02	54.47247
NP-237	211.7160	28-FEB-2010	4437.236	4905.680	16830.00	0.3311986	1.6755598E-02	62.86163
CM-244	207.3882	28-FEB-2010	5535.005	5885.680	15311.00	0.3254575	1.6484126E-02	54.68671

Instrument : CHAMBER 079
Detector : 67598
Standard ID : AESS-015
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 11-AUG-2009 07:20:12
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 11-AUG-2009 11:44:09
Average Efficiency : 0.3272116
Average Efficiency Error : 9.0027396E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2989.159	3300.331	15511.00	0.3211554	1.3797027E-02	50.97751
NP-237	200.6460	28-FEB-2010	4434.317	4902.854	16177.00	0.3359110	1.7001966E-02	61.88776
CM-244	195.9270	28-FEB-2010	5535.480	5887.277	14557.00	0.3276861	1.6607955E-02	52.62397

Instrument	:	CHAMBER 080
Detector	:	78197
Standard ID	:	AESS-016
Standard Reference Date	:	14-FEB-2008 17:45:04
Calibration Analysis Date/Time	:	11-AUG-2009 12:17:29
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	12-AUG-2009 06:47:19
Average Efficiency	:	0.3321076
Average Efficiency Error	:	9.1349650E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2991.650	3302.015	15752.00	0.3260951	1.4005513E-02	48.00739
NP-237	199.3962	28-FEB-2010	4433.624	4906.537	16268.00	0.3399083	1.7203139E-02	68.49010
CM-244	198.6402	28-FEB-2010	5533.522	5887.645	15012.00	0.3333320	1.6887236E-02	53.20805

Instrument	:	CHAMBER 081
Detector	:	72533
Standard ID	:	AESS-017
Standard Reference Date	:	14-FEB-2008 17:45:04
Calibration Analysis Date/Time	:	11-AUG-2009 07:20:12
Calibration Count Time	:	240.0000
Efficiency Calibration Date/Time	:	11-AUG-2009 11:46:32
Average Efficiency	:	6.1864634E-03
Average Efficiency Error	:	2.9860463E-04
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2994.266	3303.451	1475.000	2.9659975E-02	1.4708204E-03	0.0000000E+00
NP-237	208.5846	28-FEB-2010	4435.242	4901.625	202.0000	4.0063704E-03	1.4766502E-04	575.4393
CM-244	205.5828	28-FEB-2010	5531.807	5884.164	427.0000	9.0843663E-03	3.3504453E-04	562.1900

Instrument	:	CHAMBER 082
Detector	:	64263
Standard ID	:	AESS-018
Standard Reference Date	:	14-FEB-2008 17:45:04
Calibration Analysis Date/Time	:	11-AUG-2009 07:20:12
Calibration Count Time	:	240.0000
Efficiency Calibration Date/Time	:	11-AUG-2009 11:47:05
Average Efficiency	:	0.3226976
Average Efficiency Error	:	8.8783512E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2987.542	3297.569	15428.00	0.3223361	1.3849068E-02	64.65321
NP-237	208.8990	28-FEB-2010	4435.421	4904.506	15892.00	0.3169125	1.6043896E-02	93.68992
CM-244	198.1458	28-FEB-2010	5534.230	5884.907	14803.00	0.3294876	1.6695555E-02	84.86885

Instrument : CHAMBER 083
Detector : 64278
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 11-AUG-2009 07:20:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:47:29
Average Efficiency : 0.3395500
Average Efficiency Error : 9.3379803E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2991.854	3298.707	15947.00	0.3291289	1.4132823E-02	53.16394
NP-237	202.9140	28-FEB-2010	4433.271	4906.151	16931.00	0.3476149	1.7584924E-02	67.04104
CM-244	199.3140	28-FEB-2010	5531.993	5884.932	15718.00	0.3476342	1.7601561E-02	59.50858

Instrument : CHAMBER 084
Detector : 78265
Standard ID : AESS-020
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 11-AUG-2009 07:20:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:47:52
Average Efficiency : 0.3397457
Average Efficiency Error : 9.3453201E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2988.678	3299.931	15922.00	0.3271575	1.4048551E-02	47.08979
NP-237	203.4984	28-FEB-2010	4434.465	4903.170	17250.00	0.3531433	1.7860783E-02	67.92932
CM-244	197.1096	28-FEB-2010	5531.407	5886.178	15482.00	0.3464514	1.7544933E-02	50.18247

Instrument : CHAMBER 085
Detector : 78776
Standard ID : AESS-021
Standard Reference Date : 19-FEB-2008 15:31:52
Calibration Analysis Date/Time : 11-AUG-2009 07:20:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:48:19
Average Efficiency : 0.3272626
Average Efficiency Error : 8.9994660E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2990.698	3300.313	15918.00	0.3226679	1.3855824E-02	49.75027
NP-237	210.1548	28-FEB-2010	4435.121	4902.282	16630.00	0.3296844	1.6681336E-02	59.70044
CM-244	200.7390	28-FEB-2010	5534.187	5882.859	15098.00	0.3315589	1.6796166E-02	51.87433

Instrument : CHAMBER 086
Detector : 78198
Standard ID : AESS-022
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 11-AUG-2009 07:20:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:48:41
Average Efficiency : 0.3012526
Average Efficiency Error : 8.2951793E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2990.009	3300.939	14622.00	0.2945913	1.2669257E-02	46.73733
NP-237	206.8830	28-FEB-2010	4436.927	4902.983	15242.00	0.3069340	1.5546833E-02	58.46733
CM-244	203.0208	28-FEB-2010	5531.983	5883.724	14065.00	0.3055728	1.5494397E-02	51.66624

Instrument : CHAMBER 087
Detector : 78199
Standard ID : AESS-023
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 11-AUG-2009 07:20:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:49:08
Average Efficiency : 0.3135695
Average Efficiency Error : 8.6297104E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2988.599	3301.987	15111.00	0.3076608	1.3223418E-02	48.25697
NP-237	207.4998	28-FEB-2010	4434.300	4902.242	15867.00	0.3185670	1.6127942E-02	61.93990
CM-244	199.8804	28-FEB-2010	5532.304	5887.140	14381.00	0.3173418	1.6086275E-02	50.20942

Instrument : CHAMBER 088
Detector : 33452
Standard ID : AESS-024
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 11-AUG-2009 07:20:14
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:50:14
Average Efficiency : 0.3028336
Average Efficiency Error : 8.3410190E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2989.881	3297.896	14259.00	0.2959496	1.2733680E-02	60.40763
NP-237	205.6662	28-FEB-2010	4436.727	4902.043	15208.00	0.3080562	1.5604130E-02	68.20498
CM-244	198.3060	28-FEB-2010	5532.799	5884.609	13848.00	0.3079579	1.5618804E-02	57.90837

Instrument : CHAMBER 089
Detector : 78262
Standard ID : AESS-025
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 11-AUG-2009 07:20:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 11-AUG-2009 11:50:54
Average Efficiency : 0.2999636
Average Efficiency Error : 8.2814181E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2989.340	3299.886	14192.00	0.3065364	1.3190371E-02	47.47885
NP-237	167.9916	28-FEB-2010	4433.954	4903.393	12026.00	0.2982433	1.5158199E-02	61.37537
CM-244	157.2432	28-FEB-2010	5533.423	5884.190	10453.00	0.2932044	1.4938097E-02	52.58473

Instrument : CHAMBER 090
Detector : 78263
Standard ID : AESS-026
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 11-AUG-2009 07:20:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 11-AUG-2009 11:51:07
Average Efficiency : 0.3280271
Average Efficiency Error : 9.6107582E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2992.174	3298.193	15340.00	0.3247949	1.6451096E-02	48.79327
NP-237	168.0294	28-FEB-2010	4432.899	4902.301	13513.00	0.3350319	1.6997805E-02	59.73701
CM-244	160.5822	28-FEB-2010	5531.267	5884.186	11821.00	0.3246754	1.6506171E-02	54.24763

Instrument : CHAMBER 091
Detector : 78259
Standard ID : AESS-027
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 11-AUG-2009 07:20:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 11-AUG-2009 11:51:19
Average Efficiency : 0.3422945
Average Efficiency Error : 1.0031743E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2988.796	3297.819	15212.00	0.3322093	1.6828449E-02	48.17033
NP-237	161.6154	28-FEB-2010	4433.118	4901.645	13301.00	0.3428935	1.7400602E-02	71.25236
CM-244	148.1754	28-FEB-2010	5531.054	5887.180	11864.00	0.3531335	1.7951898E-02	54.03432

Instrument : CHAMBER 092
Detector : 79457
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 11-AUG-2009 07:20:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 11-AUG-2009 11:52:08
Average Efficiency : 0.3126248
Average Efficiency Error : 9.1664707E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2988.378	3299.875	14752.00	0.3115867	1.5790872E-02	44.92863
NP-237	168.1992	28-FEB-2010	4435.762	4905.401	12691.00	0.3138909	1.5940819E-02	59.90319
CM-244	156.7614	28-FEB-2010	5534.466	5887.335	11106.00	0.3124176	1.5899830E-02	46.96757

Instrument : CHAMBER 093
Detector : 33206
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 11-AUG-2009 07:20:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 11-AUG-2009 11:52:22
Average Efficiency : 0.3223998
Average Efficiency Error : 9.4486484E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2988.021	3298.707	15183.00	0.3181591	1.6117128E-02	52.68830
NP-237	169.7700	28-FEB-2010	4432.645	4901.916	13165.00	0.3230736	1.6397305E-02	66.05635
CM-244	154.8234	28-FEB-2010	5530.870	5883.862	11451.00	0.3262046	1.6592693E-02	55.78003

Instrument : CHAMBER 094
Detector : 78267
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 11-AUG-2009 07:20:15
Calibration Count Time : 240.0000
Efficiency Calibration Date/Time : 11-AUG-2009 11:52:36
Average Efficiency : 0.3070784
Average Efficiency Error : 9.0072202E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2987.496	3299.970	14244.00	0.3023582	1.5329675E-02	44.82082
NP-237	166.3758	28-FEB-2010	4432.930	4902.883	12450.00	0.3117883	1.5837880E-02	57.18416
CM-244	157.1856	28-FEB-2010	5531.875	5884.464	10956.00	0.3073991	1.5648084E-02	55.69304

Instrument : CHAMBER 095
Detector : 64279
Standard ID : AESS-031
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 11-AUG-2009 07:20:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:53:20
Average Efficiency : 0.3112848
Average Efficiency Error : 8.5905641E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2991.646	3298.356	14103.00	0.3075817	1.3236930E-02	52.02211
NP-237	162.9186	28-FEB-2010	4435.397	4905.664	12249.00	0.3132029	1.5913907E-02	59.25825
CM-244	153.1968	28-FEB-2010	5530.369	5883.804	10942.00	0.3147666	1.6023749E-02	56.52655

Instrument : CHAMBER 096
Detector : 67605
Standard ID : AESS-032
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 11-AUG-2009 07:20:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:53:35
Average Efficiency : 0.3007939
Average Efficiency Error : 8.3044088E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2989.386	3301.860	13969.00	0.3022173	1.3008440E-02	46.72513
NP-237	165.9822	28-FEB-2010	4437.256	4904.015	11834.00	0.2969258	1.5095386E-02	61.08714
CM-244	153.7938	28-FEB-2010	5531.292	5886.331	10564.00	0.3028315	1.5425657E-02	47.63036

Instrument : CHAMBER 097
Detector : 67599
Standard ID : AESS-033
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 11-AUG-2009 07:20:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:54:04
Average Efficiency : 0.3450123
Average Efficiency Error : 9.5089795E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2991.155	3299.592	15339.00	0.3367012	1.4467746E-02	59.45457
NP-237	161.7816	28-FEB-2010	4437.204	4904.260	13605.00	0.3503401	1.7772736E-02	79.89651
CM-244	147.2670	28-FEB-2010	5531.403	5886.106	11772.00	0.3523416	1.7914115E-02	60.43928

Instrument : CHAMBER 098
Detector : 68644
Standard ID : AESS-034
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 11-AUG-2009 07:20:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:54:57
Average Efficiency : 0.3358550
Average Efficiency Error : 9.2535829E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2992.247	3301.860	15657.00	0.3297495	1.4163947E-02	50.47488
NP-237	167.2962	28-FEB-2010	4432.619	4906.019	13588.00	0.3383684	1.7165720E-02	63.83917
CM-244	154.4388	28-FEB-2010	5534.382	5884.237	11997.00	0.3424924	1.7407812E-02	51.17926

Instrument : CHAMBER 099
Detector : 70317
Standard ID : AESS-035
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 11-AUG-2009 07:20:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:55:11
Average Efficiency : 0.3432277
Average Efficiency Error : 9.4517590E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2987.820	3298.212	15976.00	0.3396714	1.4585057E-02	54.44847
NP-237	168.2934	28-FEB-2010	4437.036	4906.585	14008.00	0.3467679	1.7584279E-02	71.12630
CM-244	158.8128	28-FEB-2010	5530.871	5884.331	12421.00	0.3448446	1.7517686E-02	52.96134

Instrument : CHAMBER 100
Detector : 79456
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 11-AUG-2009 07:20:16
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:55:23
Average Efficiency : 0.3455574
Average Efficiency Error : 9.5195137E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2989.623	3299.666	15783.00	0.3422834	1.4700302E-02	52.09954
NP-237	164.6658	28-FEB-2010	4436.895	4905.650	13580.00	0.3435225	1.7427422E-02	69.24625
CM-244	151.3824	28-FEB-2010	5534.086	5886.872	12110.00	0.3525722	1.7917577E-02	56.51697

Instrument : CHAMBER 101
Detector : 64253
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 11-AUG-2009 07:20:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:55:41
Average Efficiency : 0.3333714
Average Efficiency Error : 9.1898674E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2990.814	3297.893	15101.00	0.3225393	1.3863103E-02	69.71876
NP-237	167.1294	28-FEB-2010	4435.403	4905.470	13614.00	0.3393782	1.7216442E-02	75.26087
CM-244	154.7664	28-FEB-2010	5534.897	5882.499	12090.00	0.3444314	1.7504154E-02	64.32682

Instrument : CHAMBER 102
Detector : 72525
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 11-AUG-2009 07:20:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:55:55
Average Efficiency : 0.3351222
Average Efficiency Error : 9.2311725E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2989.911	3298.890	15784.00	0.3331057	1.4306106E-02	52.96164
NP-237	170.0886	28-FEB-2010	4436.604	4903.163	13774.00	0.3373874	1.7112618E-02	67.26456
CM-244	157.7460	28-FEB-2010	5533.661	5884.537	12012.00	0.3357387	1.7064173E-02	56.82374

Instrument : CHAMBER 103
Detector : 79461
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 11-AUG-2009 07:20:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:56:06
Average Efficiency : 0.3326890
Average Efficiency Error : 9.1751814E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2989.467	3301.138	14760.00	0.3242984	1.3944432E-02	47.60223
NP-237	159.1506	28-FEB-2010	4432.983	4903.264	13171.00	0.3447756	1.7498676E-02	57.68694
CM-244	151.7142	28-FEB-2010	5533.387	5886.945	11484.00	0.3337491	1.6975598E-02	51.22444

Instrument : CHAMBER 104
Detector : 72524
Standard ID : AESS-040
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 11-AUG-2009 07:20:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:56:56
Average Efficiency : 0.3150799
Average Efficiency Error : 8.6921128E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2991.174	3300.565	14723.00	0.3197476	1.3749403E-02	50.59072
NP-237	166.8174	28-FEB-2010	4436.202	4904.648	12311.00	0.3074494	1.5620295E-02	55.80039
CM-244	155.0100	28-FEB-2010	5532.970	5885.836	11138.00	0.3167908	1.6121507E-02	49.72461

Instrument : CHAMBER 105
Detector : 78777
Standard ID : AESS-041
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 11-AUG-2009 07:20:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:57:20
Average Efficiency : 0.3276281
Average Efficiency Error : 9.0270750E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2990.222	3299.531	15562.00	0.3223552	1.3847793E-02	46.50069
NP-237	171.2268	28-FEB-2010	4434.728	4902.932	13744.00	0.3344322	1.6963221E-02	65.77631
CM-244	159.5796	28-FEB-2010	5530.878	5883.508	11897.00	0.3287036	1.6709210E-02	49.01804

Instrument : CHAMBER 106
Detector : 64274
Standard ID : AESS-042
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 11-AUG-2009 07:20:17
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:57:33
Average Efficiency : 0.3250493
Average Efficiency Error : 8.9671388E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2987.640	3299.757	14336.00	0.3208575	1.3803991E-02	53.47353
NP-237	159.6558	28-FEB-2010	4434.577	4901.415	12565.00	0.3278506	1.6651530E-02	72.39591
CM-244	150.5208	28-FEB-2010	5534.428	5884.452	11211.00	0.3283702	1.6708910E-02	56.10339

Instrument : CHAMBER 107
Detector : 67578
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 11-AUG-2009 07:20:19
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 11:58:23
Average Efficiency : 0.3085136
Average Efficiency Error : 8.5112611E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2988.547	3298.638	14405.00	0.3076421	1.3234209E-02	50.64014
NP-237	168.7422	28-FEB-2010	4435.772	4904.146	12514.00	0.3089727	1.5693650E-02	62.76998
CM-244	156.3252	28-FEB-2010	5532.554	5882.324	10968.00	0.3092847	1.5743818E-02	52.78785

Instrument : CHAMBER 108
Detector : 78778
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 11-AUG-2009 07:20:19
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 12:00:02
Average Efficiency : 0.3507076
Average Efficiency Error : 9.6569844E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2988.136	3297.898	16033.00	0.3482739	1.4953526E-02	49.59322
NP-237	166.6248	28-FEB-2010	4433.563	4901.441	14165.00	0.3542025	1.7958457E-02	66.29896
CM-244	155.8290	28-FEB-2010	5533.812	5885.772	12398.00	0.3507225	1.7816888E-02	52.33121

Instrument : CHAMBER 109
Detector : 79463
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 11-AUG-2009 07:20:19
Calibration Count Time : 239.9998
Efficiency Calibration Date/Time : 11-AUG-2009 12:00:23
Average Efficiency : 0.3572300
Average Efficiency Error : 9.8411189E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2990.332	3301.320	15964.00	0.3605992	1.5483866E-02	43.37672
NP-237	160.8066	28-FEB-2010	4437.566	4903.059	13542.00	0.3508754	1.7801007E-02	56.95218
CM-244	145.8384	28-FEB-2010	5534.376	5883.521	11884.00	0.3592313	1.8261438E-02	45.65917

Instrument	:	CHAMBER 110
Detector	:	67602
Standard ID	:	AESS-046
Standard Reference Date	:	8-JAN-2007 09:29:00
Calibration Analysis Date/Time	:	11-AUG-2009 07:20:19
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	11-AUG-2009 12:01:03
Average Efficiency	:	0.3231843
Average Efficiency Error	:	8.9130215E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.6531	28-FEB-2010	2987.980	3298.573	14814.00	0.3198501	1.3754530E-02	53.58074
NP-237	164.3834	28-FEB-2010	4433.010	4901.606	12984.00	0.3290606	1.6704626E-02	68.74621
CM-244	159.4253	28-FEB-2010	5534.957	5883.028	11170.00	0.3222606	1.6399227E-02	53.66474

Instrument	:	CHAMBER 111
Detector	:	79462
Standard ID	:	AESS-047
Standard Reference Date	:	19-FEB-2008 00:32:27
Calibration Analysis Date/Time	:	11-AUG-2009 07:20:19
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	11-AUG-2009 12:01:21
Average Efficiency	:	0.3397023
Average Efficiency Error	:	9.3582701E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2988.711	3298.714	15668.00	0.3351243	1.4394601E-02	47.62338
NP-237	168.3948	28-FEB-2010	4436.440	4905.458	13711.00	0.3392103	1.7206213E-02	64.03130
CM-244	154.6032	28-FEB-2010	5535.080	5885.693	12172.00	0.3470925	1.7637538E-02	47.05465

Instrument	:	CHAMBER 112
Detector	:	78261
Standard ID	:	AESS-048
Standard Reference Date	:	19-FEB-2008 00:32:27
Calibration Analysis Date/Time	:	11-AUG-2009 07:20:19
Calibration Count Time	:	239.9998
Efficiency Calibration Date/Time	:	11-AUG-2009 12:02:06
Average Efficiency	:	0.3161603
Average Efficiency Error	:	8.7240264E-03
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.059	3299.440	14279.00	0.3143869	1.3526597E-02	45.81523
NP-237	161.5530	28-FEB-2010	4434.653	4903.902	12390.00	0.3195488	1.6233314E-02	58.56979
CM-244	151.1856	28-FEB-2010	5532.350	5884.826	10815.00	0.3153441	1.6056247E-02	49.68813

Instrument : CHAMBER 113
Detector : 45-111B4
Standard ID : AESS-001
Standard Reference Date : 20-FEB-2008 09:54:53
Calibration Analysis Date/Time : 17-AUG-2009 09:40:49
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:57:05
Average Efficiency : 0.2505672
Average Efficiency Error : 6.9084223E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2990.867	3300.361	15169.00	0.2456670	1.0558164E-02	69.86203
NP-237	171.0024	28-FEB-2010	4434.565	4901.409	13130.00	0.2559362	1.2990281E-02	75.93420
CM-244	158.1060	28-FEB-2010	5532.822	5886.571	11319.00	0.2525721	1.2849954E-02	69.15296

Instrument : CHAMBER 114
Detector : 78258
Standard ID : AESS-007
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 17-AUG-2009 09:40:56
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:57:42
Average Efficiency : 0.2566939
Average Efficiency Error : 7.0618941E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2992.066	3300.343	15529.00	0.2538896	1.0907058E-02	46.46336
NP-237	205.0260	28-FEB-2010	4433.866	4902.961	15975.00	0.2597136	1.3147265E-02	59.75802
CM-244	199.6806	28-FEB-2010	5535.155	5886.142	14576.00	0.2577351	1.3062422E-02	48.49145

Instrument : CHAMBER 115
Detector : 45-132FF4
Standard ID : AESS-002
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 17-AUG-2009 09:41:02
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:57:55
Average Efficiency : 0.2653268
Average Efficiency Error : 7.2980789E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2989.683	3299.666	15797.00	0.2667769	1.1457291E-02	62.01321
NP-237	200.4990	28-FEB-2010	4433.623	4904.729	15897.00	0.2642607	1.3378277E-02	65.74837
CM-244	196.5558	28-FEB-2010	5534.066	5886.268	14729.00	0.2644131	1.3399067E-02	62.30648

Instrument : CHAMBER 116
Detector : 45-132FF2
Standard ID : AESS-008
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 17-AUG-2009 09:41:08
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:58:06
Average Efficiency : 0.2617015
Average Efficiency Error : 7.1968301E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2991.930	3301.615	15931.00	0.2613424	1.1222276E-02	57.22266
NP-237	209.2716	28-FEB-2010	4433.958	4904.160	16458.00	0.2621330	1.3264989E-02	65.63932
CM-244	199.6488	28-FEB-2010	5532.087	5883.400	14804.00	0.2617715	1.3264321E-02	58.02108

Instrument : CHAMBER 117
Detector : 33450
Standard ID : AESS-003
Standard Reference Date : 15-FEB-2008 13:12:27
Calibration Analysis Date/Time : 17-AUG-2009 09:41:13
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:58:17
Average Efficiency : 0.2525579
Average Efficiency Error : 6.9512939E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2989.306	3298.199	15015.00	0.2500224	1.0747343E-02	65.18716
NP-237	203.2080	28-FEB-2010	4433.520	4903.152	15609.00	0.2560285	1.2964435E-02	69.72454
CM-244	197.2236	28-FEB-2010	5530.582	5887.083	14123.00	0.2527719	1.2816428E-02	63.59301

Instrument : CHAMBER 118
Detector : 75544
Standard ID : AESS-009
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 17-AUG-2009 09:41:17
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:58:27
Average Efficiency : 0.2576301
Average Efficiency Error : 7.0881532E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2988.856	3302.528	15454.00	0.2568017	1.1033086E-02	48.57111
NP-237	204.0192	28-FEB-2010	4432.711	4902.773	15795.00	0.2580543	1.3065088E-02	53.80557
CM-244	197.2128	28-FEB-2010	5531.177	5883.080	14443.00	0.2583711	1.3096387E-02	48.23898

Instrument : CHAMBER 119
Detector : 74429
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 18-AUG-2009 08:34:33
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 2-FEB-2009 15:15:38
Average Efficiency : 0.2936279
Average Efficiency Error : 1.2630888E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2992.004	3299.253	1406.000	0.2936279	1.2630888E-02	0.0000000E+00
NP-237	204.2586	28-FEB-2010	4432.548	4906.013	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00
CM-244	198.8100	28-FEB-2010	5530.584	5883.165	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00

Instrument : CHAMBER 120
Detector : 74430
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 18-AUG-2009 08:35:01
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 18-AUG-2009 13:38:55
Average Efficiency : 0.2589359
Average Efficiency Error : 7.1242545E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2988.209	3300.389	15391.00	0.2575360	1.1065440E-02	43.23295
NP-237	202.9926	28-FEB-2010	4436.370	4904.997	15823.00	0.2598289	1.3154631E-02	56.74783
CM-244	196.2330	28-FEB-2010	5531.794	5882.950	14449.00	0.2600255	1.3180019E-02	54.60671

Instrument : CHAMBER 121
Detector : 75545
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 17-AUG-2009 09:41:25
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:58:37
Average Efficiency : 0.2477992
Average Efficiency Error : 6.8184505E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2991.483	3299.036	15409.00	0.2471195	1.0617682E-02	50.47642
NP-237	209.5938	28-FEB-2010	4436.007	4904.843	15591.00	0.2479274	1.2554423E-02	56.89366
CM-244	202.7478	28-FEB-2010	5531.746	5882.876	14277.00	0.2486278	1.2604386E-02	50.04906

Instrument : CHAMBER 122
Detector : 75546
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 17-AUG-2009 09:41:30
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:58:49
Average Efficiency : 0.2511526
Average Efficiency Error : 6.9076614E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2989.140	3302.149	15817.00	0.2511983	1.0788003E-02	55.71524
NP-237	214.4868	28-FEB-2010	4434.728	4903.501	16008.00	0.2487148	1.2590243E-02	57.96050
CM-244	208.4184	28-FEB-2010	5535.323	5886.133	14974.00	0.2536270	1.2849721E-02	53.77795

Instrument : CHAMBER 123
Detector : 45-142V3
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 17-AUG-2009 09:41:34
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:58:58
Average Efficiency : 0.2594329
Average Efficiency Error : 7.1380134E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2989.820	3298.601	15515.00	0.2574363	1.1059616E-02	71.81727
NP-237	204.7038	28-FEB-2010	4437.478	4905.941	15738.00	0.2562436	1.2974020E-02	72.62444
CM-244	195.0060	28-FEB-2010	5531.339	5886.453	14683.00	0.2658339	1.3471606E-02	67.85081

Instrument : CHAMBER 124
Detector : 45-142V2
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 17-AUG-2009 09:41:39
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:59:08
Average Efficiency : 0.2622745
Average Efficiency Error : 7.2123613E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2989.806	3300.376	16169.00	0.2650077	1.1376831E-02	65.10977
NP-237	205.8930	28-FEB-2010	4436.352	4902.974	16128.00	0.2610630	1.3214089E-02	71.08579
CM-244	203.1954	28-FEB-2010	5533.246	5885.946	14953.00	0.2598179	1.3163561E-02	70.97868

Instrument : CHAMBER 125
Detector : 75547
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-AUG-2009 09:41:44
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:59:18
Average Efficiency : 0.2577128
Average Efficiency Error : 7.0888288E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2987.619	3299.275	15570.00	0.2584035	1.1100472E-02	45.32409
NP-237	210.2526	28-FEB-2010	4433.269	4906.266	16194.00	0.2567104	1.2993116E-02	55.37461
CM-244	201.9108	28-FEB-2010	5531.959	5882.482	14741.00	0.2577693	1.3062201E-02	51.62124

Instrument : CHAMBER 126
Detector : 75548
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 17-AUG-2009 09:41:49
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:59:32
Average Efficiency : 0.2528252
Average Efficiency Error : 6.9586127E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2988.372	3298.946	15025.00	0.2481292	1.0665805E-02	51.29427
NP-237	202.9140	28-FEB-2010	4437.297	4901.551	15728.00	0.2582902	1.3077814E-02	59.55880
CM-244	199.3140	28-FEB-2010	5532.806	5882.587	14367.00	0.2543760	1.2894685E-02	53.51087

Instrument : CHAMBER 127
Detector : 78770
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 17-AUG-2009 09:41:53
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 14:59:46
Average Efficiency : 0.2467646
Average Efficiency Error : 6.7887292E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2989.622	3297.830	15608.00	0.2456636	1.0552737E-02	45.17228
NP-237	211.7160	28-FEB-2010	4435.622	4904.092	15815.00	0.2489925	1.2606090E-02	55.68476
CM-244	207.3882	28-FEB-2010	5535.184	5885.434	14463.00	0.2461215	1.2475103E-02	51.99955

Instrument : CHAMBER 128
Detector : 75549
Standard ID : AESS-020
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 17-AUG-2009 09:41:59
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:00:39
Average Efficiency : 0.2557978
Average Efficiency Error : 7.0393290E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2989.482	3299.177	15312.00	0.2510756	1.0789989E-02	50.23243
NP-237	203.4984	28-FEB-2010	4436.028	4905.664	15805.00	0.2584755	1.3086889E-02	59.26414
CM-244	197.1096	28-FEB-2010	5532.549	5883.141	14531.00	0.2601309	1.3184624E-02	52.60558

Instrument : CHAMBER 129
Detector : 76227
Standard ID : AESS-015
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-AUG-2009 09:42:03
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:00:50
Average Efficiency : 0.2636167
Average Efficiency Error : 7.2512124E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2992.146	3298.635	15855.00	0.2626581	1.1279699E-02	51.01081
NP-237	200.6460	28-FEB-2010	4432.563	4905.761	16101.00	0.2674463	1.3537456E-02	55.64974
CM-244	195.9270	28-FEB-2010	5531.918	5882.796	14498.00	0.2612732	1.3242676E-02	51.23387

Instrument : CHAMBER 130
Detector : 76228
Standard ID : AESS-021
Standard Reference Date : 19-FEB-2008 15:31:52
Calibration Analysis Date/Time : 17-AUG-2009 09:42:09
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:01:00
Average Efficiency : 0.2500172
Average Efficiency Error : 6.8798582E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2989.230	3297.665	15254.00	0.2474099	1.0632024E-02	49.47410
NP-237	210.1548	28-FEB-2010	4434.582	4901.937	15716.00	0.2492386	1.2619579E-02	59.00264
CM-244	200.7390	28-FEB-2010	5530.859	5884.881	14487.00	0.2546751	1.2908396E-02	49.18253

Instrument : CHAMBER 131
Detector : 33448
Standard ID : AESS-016
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-AUG-2009 09:42:13
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:01:10
Average Efficiency : 0.2486686
Average Efficiency Error : 6.8503493E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2988.455	3301.428	14427.00	0.2389750	1.0279993E-02	88.46142
NP-237	199.3962	28-FEB-2010	4434.994	4904.668	15550.00	0.2599315	1.3162703E-02	91.50983
CM-244	198.6402	28-FEB-2010	5532.826	5884.723	14238.00	0.2530668	1.2829903E-02	81.92683

Instrument : CHAMBER 132
Detector : 67579
Standard ID : AESS-022
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 17-AUG-2009 09:42:18
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:01:19
Average Efficiency : 0.2503150
Average Efficiency Error : 6.8899435E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.906	3301.298	15059.00	0.2427482	1.0434108E-02	48.23922
NP-237	206.8830	28-FEB-2010	4432.560	4903.500	15980.00	0.2574485	1.3032571E-02	59.84295
CM-244	203.0208	28-FEB-2010	5531.586	5882.587	14657.00	0.2549047	1.2918007E-02	51.83584

Instrument : CHAMBER 133
Detector : 76229
Standard ID : AESS-017
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-AUG-2009 09:42:22
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:01:29
Average Efficiency : 0.2444916
Average Efficiency Error : 6.7288522E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2992.199	3301.674	15088.00	0.2427499	1.0433814E-02	51.73604
NP-237	208.5846	28-FEB-2010	4436.849	4905.652	15341.00	0.2451461	1.2416095E-02	59.86903
CM-244	205.5828	28-FEB-2010	5530.602	5882.872	14343.00	0.2463241	1.2486813E-02	55.80942

Instrument : CHAMBER 134
Detector : 76230
Standard ID : AESS-023
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 17-AUG-2009 09:42:27
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:01:38
Average Efficiency : 0.2444722
Average Efficiency Error : 6.7306994E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2989.055	3302.112	14731.00	0.2399838	1.0319396E-02	45.58716
NP-237	207.4998	28-FEB-2010	4432.969	4905.408	15414.00	0.2475136	1.2535379E-02	52.40787
CM-244	199.8804	28-FEB-2010	5534.460	5883.375	14046.00	0.2480791	1.2579419E-02	47.39998

Instrument : CHAMBER 135
Detector : 64270
Standard ID : AESS-018
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 17-AUG-2009 09:42:32
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:01:50
Average Efficiency : 0.2546879
Average Efficiency Error : 7.0084208E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2987.813	3300.105	15110.00	0.2525907	1.0856513E-02	49.36219
NP-237	208.8990	28-FEB-2010	4435.123	4902.752	15878.00	0.2533506	1.2826114E-02	62.03614
CM-244	198.1458	28-FEB-2010	5532.979	5882.877	14546.00	0.2591602	1.3135060E-02	51.79539

Instrument : CHAMBER 136
Detector : 68549
Standard ID : AESS-024
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 17-AUG-2009 09:42:37
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:02:00
Average Efficiency : 0.2475998
Average Efficiency Error : 6.8165381E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2991.796	3301.682	14741.00	0.2447980	1.0526305E-02	60.65231
NP-237	205.6662	28-FEB-2010	4435.713	4901.780	15573.00	0.2523313	1.2777670E-02	84.66249
CM-244	198.3060	28-FEB-2010	5531.520	5884.028	13875.00	0.2470199	1.2527825E-02	70.83999

Instrument : CHAMBER 137
Detector : 64288
Standard ID : AESS-025
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-AUG-2009 15:19:29
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 18-AUG-2009 09:58:00
Average Efficiency : 0.2555233
Average Efficiency Error : 7.0462842E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2990.035	3302.352	15040.00	0.2599163	1.1172320E-02	62.16771
NP-237	167.9916	28-FEB-2010	4435.990	4901.349	12745.00	0.2528539	1.2839622E-02	74.72440
CM-244	157.2432	28-FEB-2010	5532.344	5883.346	11242.00	0.2523895	1.2842122E-02	61.62554

Instrument : CHAMBER 138
Detector : 65877
Standard ID : AESS-031
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-AUG-2009 10:05:25
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:10:23
Average Efficiency : 0.2550827
Average Efficiency Error : 7.0365570E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2990.457	3300.623	14458.00	0.2522955	1.0852579E-02	60.07153
NP-237	162.9186	28-FEB-2010	4436.833	4904.301	12578.00	0.2572678	1.3066470E-02	64.63396
CM-244	153.1968	28-FEB-2010	5531.035	5885.034	11155.00	0.2569406	1.3075489E-02	58.61239

Instrument : CHAMBER 139
Detector : 76231
Standard ID : AESS-026
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-AUG-2009 10:05:40
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:10:36
Average Efficiency : 0.2493770
Average Efficiency Error : 7.3113223E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2988.624	3300.322	14789.00	0.2505293	1.2695529E-02	52.23651
NP-237	168.0294	28-FEB-2010	4436.965	4901.673	12535.00	0.2486135	1.2627549E-02	58.33430
CM-244	160.5822	28-FEB-2010	5531.099	5884.173	11327.00	0.2489982	1.2667944E-02	53.91700

Instrument : CHAMBER 140
Detector : 78771
Standard ID : AESS-032
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-AUG-2009 10:05:55
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:10:53
Average Efficiency : 0.2545226
Average Efficiency Error : 7.0204390E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2992.243	3300.208	14492.00	0.2508534	1.0790074E-02	46.38138
NP-237	165.9822	28-FEB-2010	4435.227	4906.111	12782.00	0.2566222	1.3030458E-02	51.74347
CM-244	153.7938	28-FEB-2010	5531.085	5884.403	11234.00	0.2578183	1.3118429E-02	44.44519

Instrument : CHAMBER 141
Detector : 76232
Standard ID : AESS-027
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-AUG-2009 10:06:09
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:11:05
Average Efficiency : 0.2584702
Average Efficiency Error : 7.5807418E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2989.414	3297.748	14427.00	0.2520987	1.2779256E-02	53.56795
NP-237	161.6154	28-FEB-2010	4437.262	4901.753	12660.00	0.2610831	1.3258832E-02	57.80217
CM-244	148.1754	28-FEB-2010	5534.971	5886.637	11030.00	0.2627913	1.3375781E-02	54.14219

Instrument : CHAMBER 142
Detector : 64261
Standard ID : AESS-033
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-AUG-2009 10:06:21
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:11:22
Average Efficiency : 0.2600435
Average Efficiency Error : 7.1729934E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2988.269	3301.948	14656.00	0.2574165	1.1070056E-02	54.03382
NP-237	161.7816	28-FEB-2010	4433.864	4905.404	12714.00	0.2618904	1.3299029E-02	57.43495
CM-244	147.2670	28-FEB-2010	5531.110	5884.773	10935.00	0.2619993	1.3337597E-02	54.46835

Instrument : CHAMBER 143
Detector : 65882
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-AUG-2009 10:06:30
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:11:35
Average Efficiency : 0.2441945
Average Efficiency Error : 7.1629179E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2987.868	3300.973	14504.00	0.2454895	1.2443409E-02	48.86588
NP-237	168.1992	28-FEB-2010	4435.203	4905.234	12409.00	0.2458239	1.2487897E-02	54.42411
CM-244	156.7614	28-FEB-2010	5533.941	5886.181	10719.00	0.2413527	1.2290902E-02	48.55591

Instrument : CHAMBER 144
Detector : 75551
Standard ID : AESS-034
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-AUG-2009 10:06:42
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:11:48
Average Efficiency : 0.2468767
Average Efficiency Error : 6.8111387E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2992.050	3299.833	14487.00	0.2441242	1.0500696E-02	46.56598
NP-237	167.2962	28-FEB-2010	4433.005	4902.603	12463.00	0.2482506	1.2610275E-02	54.14901
CM-244	154.4388	28-FEB-2010	5530.735	5882.656	10920.00	0.2495103	1.2702089E-02	51.83741

Instrument : CHAMBER 145
Detector : 72526
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-AUG-2009 10:06:50
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:12:06
Average Efficiency : 0.2516074
Average Efficiency Error : 7.3767379E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2991.923	3299.882	14896.00	0.2497595	1.2655314E-02	52.44717
NP-237	169.7700	28-FEB-2010	4434.984	4905.949	12721.00	0.2497460	1.2682147E-02	64.14503
CM-244	154.8234	28-FEB-2010	5531.069	5884.490	11206.00	0.2555142	1.3001818E-02	51.97158

Instrument : CHAMBER 146
Detector : 72527
Standard ID : AESS-035
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-AUG-2009 10:06:56
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:12:19
Average Efficiency : 0.2487766
Average Efficiency Error : 6.8616522E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2989.460	3301.164	14683.00	0.2497765	1.0741138E-02	52.75697
NP-237	168.2934	28-FEB-2010	4435.288	4903.095	12451.00	0.2466013	1.2526580E-02	54.23803
CM-244	158.8128	28-FEB-2010	5534.042	5884.573	11233.00	0.2496148	1.2701104E-02	51.22379

Instrument : CHAMBER 147
Detector : 75550
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 17-AUG-2009 10:07:03
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:12:37
Average Efficiency : 0.2470976
Average Efficiency Error : 7.2475495E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2990.910	3299.539	14303.00	0.2429080	1.2314880E-02	46.94440
NP-237	166.3758	28-FEB-2010	4433.251	4901.935	12590.00	0.2521924	1.2808450E-02	53.36894
CM-244	157.1856	28-FEB-2010	5533.139	5883.368	10980.00	0.2465573	1.2550585E-02	53.24918

Instrument : CHAMBER 148
Detector : 74429
Standard ID : AESS-036
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 17-AUG-2009 10:07:10
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:12:57
Average Efficiency : 0.2480969
Average Efficiency Error : 6.8435837E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2990.725	3298.446	14645.00	0.2458259	1.0571792E-02	53.02917
NP-237	167.4312	28-FEB-2010	4436.496	4905.977	12647.00	0.2517435	1.2784752E-02	56.62496
CM-244	156.4188	28-FEB-2010	5533.919	5885.716	10983.00	0.2477803	1.2612724E-02	51.14078

Instrument : CHAMBER 149
Detector : 33449
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-AUG-2009 09:46:49
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:02:09
Average Efficiency : 0.2465136
Average Efficiency Error : 6.8024271E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2991.734	3299.272	14178.00	0.2423231	1.0427443E-02	68.70028
NP-237	167.1294	28-FEB-2010	4437.371	4901.944	12533.00	0.2499420	1.2695006E-02	68.91545
CM-244	154.7664	28-FEB-2010	5530.548	5882.851	10933.00	0.2492944	1.2690787E-02	65.41205

Instrument : CHAMBER 150
Detector : 75552
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-AUG-2009 09:47:06
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:02:19
Average Efficiency : 0.2486527
Average Efficiency Error : 6.8590841E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2992.316	3300.643	14670.00	0.2506822	1.0780259E-02	53.31720
NP-237	168.7422	28-FEB-2010	4435.415	4905.497	12565.00	0.2481675	1.2604410E-02	58.05605
CM-244	156.3252	28-FEB-2010	5534.121	5886.240	10915.00	0.2463857	1.2543092E-02	53.10606

Instrument : CHAMBER 151
Detector : 75556
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-AUG-2009 09:47:22
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:02:29
Average Efficiency : 0.2450182
Average Efficiency Error : 6.7593171E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2990.659	3302.040	14473.00	0.2443945	1.0512492E-02	52.21863
NP-237	170.0886	28-FEB-2010	4434.623	4901.634	12448.00	0.2439277	1.2390838E-02	56.98894
CM-244	157.7460	28-FEB-2010	5531.364	5886.469	11043.00	0.2470334	1.2573502E-02	57.42078

Instrument : CHAMBER 152
Detector : 76222
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-AUG-2009 09:47:27
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:02:41
Average Efficiency : 0.2490164
Average Efficiency Error : 6.8703890E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2991.044	3297.777	14243.00	0.2475301	1.0650607E-02	47.08284
NP-237	166.6248	28-FEB-2010	4437.300	4905.285	12419.00	0.2484124	1.2619114E-02	60.94747
CM-244	155.8290	28-FEB-2010	5531.209	5887.199	11119.00	0.2517907	1.2814093E-02	54.11842

Instrument : CHAMBER 153
Detector : 76223
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-AUG-2009 09:47:33
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:02:59
Average Efficiency : 0.2519075
Average Efficiency Error : 6.9520962E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2989.175	3301.127	14308.00	0.2515197	1.0821341E-02	47.18059
NP-237	159.1506	28-FEB-2010	4437.148	4906.174	12220.00	0.2558792	1.3001786E-02	54.79121
CM-244	151.7142	28-FEB-2010	5533.838	5885.640	10690.00	0.2486704	1.2664073E-02	49.37799

Instrument : CHAMBER 154
Detector : 76224
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-AUG-2009 09:47:38
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:03:12
Average Efficiency : 0.2559401
Average Efficiency Error : 7.0637148E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2991.160	3298.663	14169.00	0.2560697	1.1019127E-02	49.27927
NP-237	160.8066	28-FEB-2010	4435.792	4904.845	12224.00	0.2533519	1.2873255E-02	55.70718
CM-244	145.8384	28-FEB-2010	5532.170	5883.602	10681.00	0.2584613	1.3162896E-02	52.40295

Instrument : CHAMBER 155
Detector : 75553
Standard ID : AESS-040
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-AUG-2009 09:47:43
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:03:49
Average Efficiency : 0.2604031
Average Efficiency Error : 7.1793078E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2990.137	3299.574	15144.00	0.2631285	1.1309024E-02	51.70325
NP-237	166.8174	28-FEB-2010	4433.383	4905.252	13025.00	0.2602106	1.3208893E-02	58.26657
CM-244	155.0100	28-FEB-2010	5530.995	5884.485	11287.00	0.2569496	1.3073267E-02	54.09868

Instrument : CHAMBER 156
Detector : 75554
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 17-AUG-2009 09:47:48
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:03:58
Average Efficiency : 0.2478251
Average Efficiency Error : 6.8396293E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2991.410	3301.423	14146.00	0.2454547	1.0562697E-02	50.29560
NP-237	164.6658	28-FEB-2010	4436.034	4902.390	12227.00	0.2474083	1.2571326E-02	54.83716
CM-244	151.3824	28-FEB-2010	5532.563	5885.336	10800.00	0.2517493	1.2818515E-02	50.76693

Instrument : CHAMBER 157
Detector : 75555
Standard ID : AESS-041
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-AUG-2009 09:47:53
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:04:07
Average Efficiency : 0.2459567
Average Efficiency Error : 6.7838337E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2989.948	3299.042	14635.00	0.2425698	1.0431849E-02	49.95551
NP-237	171.2268	28-FEB-2010	4436.337	4902.073	12880.00	0.2506870	1.2727586E-02	53.18868
CM-244	159.5796	28-FEB-2010	5531.733	5884.378	11136.00	0.2462586	1.2532219E-02	53.03581

Instrument : CHAMBER 158
Detector : 33451
Standard ID : AESS-047
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-AUG-2009 09:47:59
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:04:18
Average Efficiency : 0.2470825
Average Efficiency Error : 6.8179565E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2990.074	3301.013	14195.00	0.2429217	1.0452971E-02	65.65772
NP-237	168.3948	28-FEB-2010	4435.907	4905.421	12486.00	0.2470921	1.2551059E-02	76.64585
CM-244	154.6032	28-FEB-2010	5535.323	5885.904	11102.00	0.2534059	1.2896620E-02	68.27572

Instrument : CHAMBER 159
Detector : 76225
Standard ID : AESS-042
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 17-AUG-2009 09:48:04
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:04:28
Average Efficiency : 0.2536185
Average Efficiency Error : 6.9992472E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2992.022	3301.502	14176.00	0.2538644	1.0924136E-02	47.45573
NP-237	159.6558	28-FEB-2010	4435.853	4902.842	12186.00	0.2543722	1.2925758E-02	52.94994
CM-244	150.5208	28-FEB-2010	5534.528	5883.086	10773.00	0.2525320	1.2859062E-02	52.36504

Instrument : CHAMBER 160
Detector : 76226
Standard ID : AESS-048
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 17-AUG-2009 09:48:09
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 17-AUG-2009 15:04:40
Average Efficiency : 0.2450936
Average Efficiency Error : 6.7667966E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.982	3298.890	13916.00	0.2451341	1.0552234E-02	50.78497
NP-237	161.5530	28-FEB-2010	4434.439	4901.761	11957.00	0.2465858	1.2534058E-02	58.31113
CM-244	151.1856	28-FEB-2010	5533.753	5882.414	10437.00	0.2435748	1.2410097E-02	52.51821

Instrument : CHAMBER 161
Detector : 70321
Standard ID : AESS-001
Standard Reference Date : 20-FEB-2008 09:54:53
Calibration Analysis Date/Time : 24-AUG-2009 08:39:50
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:06:47
Average Efficiency : 0.3731306
Average Efficiency Error : 1.0235887E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2988.799	3299.450	22121.00	0.3583271	1.5313427E-02	65.76945
NP-237	171.0024	28-FEB-2010	4437.354	4905.712	19775.00	0.3854371	1.9465830E-02	75.53835
CM-244	158.1060	28-FEB-2010	5533.034	5884.911	17229.00	0.3847365	1.9458989E-02	65.65879

Instrument : CHAMBER 162
Detector : 70323
Standard ID : AESS-007
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 24-AUG-2009 08:39:56
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:06:56
Average Efficiency : 0.3723955
Average Efficiency Error : 1.0201765E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2991.108	3297.679	22068.00	0.3608688	1.5422536E-02	59.05890
NP-237	205.0260	28-FEB-2010	4437.157	4905.370	23621.00	0.3840082	1.9362321E-02	75.93850
CM-244	199.6806	28-FEB-2010	5531.808	5882.856	21406.00	0.3787849	1.9115422E-02	59.17039

Instrument : CHAMBER 163
Detector : 70324
Standard ID : AESS-002
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 24-AUG-2009 08:40:01
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:07:06
Average Efficiency : 0.3784964
Average Efficiency Error : 1.0368022E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2989.316	3301.922	21875.00	0.3695002	1.5793122E-02	75.87975
NP-237	200.4990	28-FEB-2010	4434.725	4904.333	23130.00	0.3844810	1.9389626E-02	89.93044
CM-244	196.5558	28-FEB-2010	5532.622	5884.699	21494.00	0.3861476	1.9486297E-02	68.44479

Instrument : CHAMBER 164
Detector : 70325
Standard ID : AESS-008
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 24-AUG-2009 08:40:07
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:07:20
Average Efficiency : 0.3795241
Average Efficiency Error : 1.0392675E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2989.433	3301.590	22711.00	0.3726217	1.5919240E-02	60.22451
NP-237	209.2716	28-FEB-2010	4434.137	4904.243	23751.00	0.3782692	1.9072101E-02	72.85822
CM-244	199.6488	28-FEB-2010	5533.726	5886.727	22121.00	0.3914949	1.9750981E-02	58.50513

Instrument : CHAMBER 165
Detector : 72544
Standard ID : AESS-003
Standard Reference Date : 15-FEB-2008 13:12:27
Calibration Analysis Date/Time : 24-AUG-2009 08:40:14
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:07:34
Average Efficiency : 0.3818519
Average Efficiency Error : 1.0458693E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2990.235	3298.979	22293.00	0.3712923	1.5866017E-02	64.67880
NP-237	203.2080	28-FEB-2010	4434.502	4904.549	23821.00	0.3907148	1.9699110E-02	89.80749
CM-244	197.2236	28-FEB-2010	5532.823	5884.601	21728.00	0.3892223	1.9639486E-02	65.21038

Instrument : CHAMBER 166
Detector : 74545
Standard ID : AESS-009
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 24-AUG-2009 08:40:20
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:07:42
Average Efficiency : 0.3930937
Average Efficiency Error : 1.0762543E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2991.175	3297.621	23070.00	0.3834404	1.6378330E-02	51.93287
NP-237	204.0192	28-FEB-2010	4434.428	4904.926	24581.00	0.4015882	2.0242147E-02	75.61842
CM-244	197.2128	28-FEB-2010	5535.556	5884.119	22299.00	0.3992831	2.0142501E-02	56.82180

Instrument : CHAMBER 167
Detector : 72546
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 24-AUG-2009 08:40:25
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:07:51
Average Efficiency : 0.3896100
Average Efficiency Error : 1.0666691E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2990.148	3302.011	23242.00	0.3811870	1.6280681E-02	60.73105
NP-237	204.2586	28-FEB-2010	4433.463	4903.100	24426.00	0.3985536	2.0090239E-02	78.42995
CM-244	198.8100	28-FEB-2010	5531.940	5884.576	22136.00	0.3933990	1.9846944E-02	60.41788

Instrument : CHAMBER 168
Detector : 72547
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 24-AUG-2009 08:40:32
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:07:59
Average Efficiency : 0.3891803
Average Efficiency Error : 1.0657012E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2989.237	3300.921	22691.00	0.3797462	1.6223785E-02	60.45912
NP-237	202.9926	28-FEB-2010	4437.534	4902.237	24096.00	0.3956006	1.9943606E-02	81.13048
CM-244	196.2330	28-FEB-2010	5531.663	5884.741	22054.00	0.3970870	2.0033659E-02	60.17071

Instrument : CHAMBER 169
Detector : 72548
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 24-AUG-2009 08:40:37
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:08:11
Average Efficiency : 0.3755721
Average Efficiency Error : 1.0284009E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2992.165	3298.594	22868.00	0.3668304	1.5670519E-02	63.17508
NP-237	209.5938	28-FEB-2010	4434.229	4903.754	23971.00	0.3811674	1.9216783E-02	80.00423
CM-244	202.7478	28-FEB-2010	5532.658	5885.433	21988.00	0.3832155	1.9334303E-02	60.82853

Instrument : CHAMBER 170
Detector : 72549
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 24-AUG-2009 08:40:43
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:08:20
Average Efficiency : 0.3679080
Average Efficiency Error : 1.0074493E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2988.025	3299.867	22620.00	0.3593037	1.5351000E-02	55.68573
NP-237	214.4868	28-FEB-2010	4432.622	4903.408	24183.00	0.3757574	1.8942678E-02	83.32780
CM-244	208.4184	28-FEB-2010	5534.316	5882.981	22007.00	0.3730944	1.8823531E-02	57.78218

Instrument : CHAMBER 171
Detector : 78260
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 24-AUG-2009 08:40:49
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:08:29
Average Efficiency : 0.3855957
Average Efficiency Error : 1.0559761E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2988.433	3300.366	22641.00	0.3757591	1.6053872E-02	54.75708
NP-237	204.7038	28-FEB-2010	4436.595	4905.826	23976.00	0.3903738	1.9680876E-02	77.89750
CM-244	195.0060	28-FEB-2010	5533.870	5885.935	21851.00	0.3959031	1.9975597E-02	57.65449

Instrument : CHAMBER 172
Detector : 78772
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 24-AUG-2009 08:40:55
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:08:40
Average Efficiency : 0.3797724
Average Efficiency Error : 1.0397769E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2991.870	3297.903	22889.00	0.3752128	1.6028440E-02	52.39552
NP-237	205.8930	28-FEB-2010	4433.678	4903.969	23812.00	0.3854640	1.9434443E-02	82.21458
CM-244	203.1954	28-FEB-2010	5534.514	5883.121	21897.00	0.3807611	1.9211210E-02	56.07287

Instrument : CHAMBER 173
Detector : 74431
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 24-AUG-2009 08:41:01
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:08:49
Average Efficiency : 0.2601730
Average Efficiency Error : 7.1557011E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2988.449	3298.086	15819.00	0.2625923	1.1277330E-02	48.84491
NP-237	210.2526	28-FEB-2010	4435.604	4905.905	16223.00	0.2571892	1.3017043E-02	57.42966
CM-244	201.9108	28-FEB-2010	5534.021	5885.467	14862.00	0.2599279	1.3170394E-02	53.55892

Instrument : CHAMBER 174
Detector : 74432
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 24-AUG-2009 08:41:06
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:08:58
Average Efficiency : 0.2560052
Average Efficiency Error : 7.0460425E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2988.639	3300.179	15066.00	0.2488402	1.0695883E-02	51.37117
NP-237	202.9140	28-FEB-2010	4435.486	4905.219	15899.00	0.2611338	1.3219978E-02	60.89258
CM-244	199.3140	28-FEB-2010	5531.026	5885.734	14784.00	0.2618657	1.3269406E-02	47.62206

Instrument : CHAMBER 175
Detector : 74433
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 24-AUG-2009 08:41:12
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:09:06
Average Efficiency : 0.2541471
Average Efficiency Error : 6.9896011E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2992.018	3300.926	15876.00	0.2499355	1.0733101E-02	50.54956
NP-237	211.7160	28-FEB-2010	4437.197	4902.367	16318.00	0.2568789	1.3000464E-02	57.64658
CM-244	207.3882	28-FEB-2010	5531.134	5883.215	15134.00	0.2576209	1.3050339E-02	53.56906

Instrument : CHAMBER 176
Detector : 74434
Standard ID : AESS-020
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 24-AUG-2009 08:41:18
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:09:15
Average Efficiency : 0.2565841
Average Efficiency Error : 7.0622312E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2987.853	3298.318	15148.00	0.2490841	1.0705328E-02	47.98410
NP-237	203.4984	28-FEB-2010	4433.083	4904.101	15833.00	0.2593126	1.3128439E-02	58.20272
CM-244	197.1096	28-FEB-2010	5532.948	5884.695	14821.00	0.2655677	1.3456577E-02	49.33431

Instrument : CHAMBER 177
Detector : 74435
Standard ID : AESS-015
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 24-AUG-2009 08:41:25
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:09:24
Average Efficiency : 0.2668152
Average Efficiency Error : 7.3382389E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2989.857	3298.211	15920.00	0.2637714	1.1326759E-02	49.45098
NP-237	200.6460	28-FEB-2010	4433.475	4903.934	16338.00	0.2714185	1.3736055E-02	53.30935
CM-244	195.9270	28-FEB-2010	5533.213	5885.773	14796.00	0.2666922	1.3513907E-02	53.74039

Instrument : CHAMBER 178
Detector : 74436
Standard ID : AESS-021
Standard Reference Date : 19-FEB-2008 15:31:52
Calibration Analysis Date/Time : 24-AUG-2009 08:41:30
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:09:35
Average Efficiency : 0.2595187
Average Efficiency Error : 7.1381964E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2991.399	3300.807	15690.00	0.2545363	1.0932880E-02	44.11681
NP-237	210.1548	28-FEB-2010	4432.785	4903.123	16730.00	0.2653126	1.3423340E-02	55.16845
CM-244	200.7390	28-FEB-2010	5531.481	5883.158	14852.00	0.2611876	1.3234260E-02	50.76077

Instrument : CHAMBER 179
Detector : 74437
Standard ID : AESS-016
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 24-AUG-2009 08:41:36
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:09:44
Average Efficiency : 0.2718232
Average Efficiency Error : 7.4735158E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2990.874	3299.393	16266.00	0.2694745	1.1567459E-02	45.58660
NP-237	199.3962	28-FEB-2010	4435.018	4905.518	16480.00	0.2754735	1.3939864E-02	58.76590
CM-244	198.6402	28-FEB-2010	5534.758	5887.251	15277.00	0.2715900	1.3756392E-02	54.51526

Instrument : CHAMBER 180
Detector : 74438
Standard ID : AESS-022
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 24-AUG-2009 08:41:41
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:09:54
Average Efficiency : 0.2528372
Average Efficiency Error : 6.9568004E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.946	3300.627	15376.00	0.2479020	1.0651710E-02	47.69878
NP-237	206.8830	28-FEB-2010	4434.505	4904.405	15995.00	0.2576708	1.3043700E-02	52.34612
CM-244	203.0208	28-FEB-2010	5531.104	5886.649	14679.00	0.2553639	1.2941188E-02	49.43889

Instrument : CHAMBER 181
Detector : 74439
Standard ID : AESS-017
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 24-AUG-2009 08:41:46
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:10:03
Average Efficiency : 0.2567677
Average Efficiency Error : 7.0618824E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2988.658	3302.315	15809.00	0.2543999	1.0925616E-02	48.94121
NP-237	208.5846	28-FEB-2010	4432.549	4902.677	16291.00	0.2603085	1.3174290E-02	56.85185
CM-244	205.5828	28-FEB-2010	5531.208	5883.203	14943.00	0.2566723	1.3004515E-02	53.00024

Instrument : CHAMBER 182
Detector : 74440
Standard ID : AESS-023
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 24-AUG-2009 08:41:51
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:10:14
Average Efficiency : 0.2534730
Average Efficiency Error : 6.9745579E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.553	3299.709	15297.00	0.2492435	1.0710318E-02	46.65529
NP-237	207.4998	28-FEB-2010	4435.824	4905.707	15977.00	0.2566445	1.2991886E-02	50.94455
CM-244	199.8804	28-FEB-2010	5533.404	5884.684	14515.00	0.2565299	1.3002145E-02	46.18616

Instrument : CHAMBER 183
Detector : 74441
Standard ID : AESS-018
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 24-AUG-2009 08:41:56
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:10:29
Average Efficiency : 0.2637588
Average Efficiency Error : 7.2541810E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2989.015	3297.962	16012.00	0.2677119	1.1494849E-02	47.11412
NP-237	208.8990	28-FEB-2010	4434.099	4904.342	16303.00	0.2601227	1.3164749E-02	52.97176
CM-244	198.1458	28-FEB-2010	5532.826	5884.696	14712.00	0.2621811	1.3286361E-02	53.53780

Instrument : CHAMBER 184
Detector : 74442
Standard ID : AESS-024
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 24-AUG-2009 08:42:02
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:10:41
Average Efficiency : 0.2604004
Average Efficiency Error : 7.1640476E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2989.045	3299.169	15378.00	0.2554370	1.0975426E-02	49.39055
NP-237	205.6662	28-FEB-2010	4437.505	4902.470	16322.00	0.2645144	1.3386835E-02	57.05146
CM-244	198.3060	28-FEB-2010	5535.333	5886.318	14804.00	0.2636573	1.3359983E-02	50.92117

Instrument : CHAMBER 185
Detector : 68615
Standard ID : AESS-025
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 24-AUG-2009 08:42:07
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:10:54
Average Efficiency : 0.2583998
Average Efficiency Error : 7.1241027E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2987.897	3299.344	14977.00	0.2588871	1.1128917E-02	59.70583
NP-237	167.9916	28-FEB-2010	4432.571	4905.243	13169.00	0.2612911	1.3261506E-02	62.76381
CM-244	157.2432	28-FEB-2010	5530.503	5886.106	11355.00	0.2549717	1.2971560E-02	55.40694

Instrument : CHAMBER 186
Detector : 68616
Standard ID : AESS-031
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 24-AUG-2009 08:42:13
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:11:06
Average Efficiency : 0.2578412
Average Efficiency Error : 7.1111098E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2992.379	3299.140	14692.00	0.2564398	1.1027561E-02	55.81911
NP-237	162.9186	28-FEB-2010	4434.242	4902.774	12639.00	0.2585895	1.3132489E-02	57.78773
CM-244	153.1968	28-FEB-2010	5534.982	5886.349	11244.00	0.2590897	1.3183227E-02	55.94541

Instrument : CHAMBER 187
Detector : 68620
Standard ID : AESS-026
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 24-AUG-2009 08:42:19
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:11:16
Average Efficiency : 0.2520546
Average Efficiency Error : 7.3888451E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2991.498	3300.157	14978.00	0.2537758	1.2857930E-02	50.69514
NP-237	168.0294	28-FEB-2010	4437.493	4903.961	12739.00	0.2526664	1.2830210E-02	58.36928
CM-244	160.5822	28-FEB-2010	5535.243	5883.722	11357.00	0.2497735	1.2706947E-02	53.40160

Instrument : CHAMBER 188
Detector : 68621
Standard ID : AESS-032
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 24-AUG-2009 08:42:24
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:11:25
Average Efficiency : 0.2590206
Average Efficiency Error : 7.1418569E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2988.985	3297.497	14940.00	0.2586645	1.1119837E-02	50.77880
NP-237	165.9822	28-FEB-2010	4433.354	4904.064	12857.00	0.2581703	1.3107833E-02	59.69577
CM-244	153.7938	28-FEB-2010	5533.683	5886.437	11347.00	0.2603945	1.3247656E-02	50.83346

Instrument : CHAMBER 189
Detector : 68622
Standard ID : AESS-027
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 24-AUG-2009 08:42:30
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:11:34
Average Efficiency : 0.2605012
Average Efficiency Error : 7.6393606E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2990.052	3301.735	14579.00	0.2547995	1.2914370E-02	54.11663
NP-237	161.6154	28-FEB-2010	4436.853	4905.539	12669.00	0.2612749	1.3268417E-02	57.74998
CM-244	148.1754	28-FEB-2010	5532.776	5884.354	11162.00	0.2659585	1.3534531E-02	55.68552

Instrument : CHAMBER 190
Detector : 68623
Standard ID : AESS-033
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 24-AUG-2009 08:42:35
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:11:43
Average Efficiency : 0.2627709
Average Efficiency Error : 7.2474247E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2991.652	3298.950	14837.00	0.2606309	1.1205810E-02	49.34105
NP-237	161.7816	28-FEB-2010	4435.677	4904.720	12625.00	0.2599701	1.3203092E-02	52.76612
CM-244	147.2670	28-FEB-2010	5532.170	5883.736	11225.00	0.2689729	1.3686700E-02	52.48962

Instrument : CHAMBER 191
Detector : 68624
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 24-AUG-2009 08:42:40
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:11:54
Average Efficiency : 0.2621362
Average Efficiency Error : 7.6808794E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2991.100	3299.772	15569.00	0.2636111	1.3349629E-02	49.40056
NP-237	168.1992	28-FEB-2010	4437.436	4904.158	13280.00	0.2631744	1.3355431E-02	53.16087
CM-244	156.7614	28-FEB-2010	5530.545	5884.668	11529.00	0.2596773	1.3207550E-02	53.47022

Instrument : CHAMBER 192
Detector : 74430
Standard ID : AESS-034
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 24-AUG-2009 08:42:45
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:12:04
Average Efficiency : 0.2555450
Average Efficiency Error : 7.0466422E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2988.046	3297.560	14899.00	0.2511216	1.0796109E-02	50.91946
NP-237	167.2962	28-FEB-2010	4437.061	4903.990	12977.00	0.2585397	1.3124744E-02	59.22014
CM-244	154.4388	28-FEB-2010	5535.519	5883.955	11337.00	0.2591194	1.3182904E-02	51.43979

Instrument : CHAMBER 193
Detector : 68627
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 24-AUG-2009 08:42:50
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:12:15
Average Efficiency : 0.2629034
Average Efficiency Error : 7.7030240E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2990.087	3301.572	15539.00	0.2605920	1.3197066E-02	51.03585
NP-237	169.7700	28-FEB-2010	4436.483	4905.309	13298.00	0.2610572	1.3247789E-02	60.49369
CM-244	154.8234	28-FEB-2010	5532.931	5884.819	11722.00	0.2672982	1.3591460E-02	49.40217

Instrument : CHAMBER 194
Detector : 68635
Standard ID : AESS-035
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 24-AUG-2009 08:42:56
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:12:24
Average Efficiency : 0.2559154
Average Efficiency Error : 7.0551960E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2990.152	3297.570	15094.00	0.2568187	1.1038445E-02	52.22760
NP-237	168.2934	28-FEB-2010	4434.536	4903.587	12941.00	0.2562945	1.3011310E-02	57.01247
CM-244	158.8128	28-FEB-2010	5530.970	5882.461	11437.00	0.2543004	1.2935611E-02	52.26905

Instrument : CHAMBER 195
Detector : 68636
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 24-AUG-2009 08:43:02
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:12:38
Average Efficiency : 0.2667065
Average Efficiency Error : 7.8130718E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2992.288	3300.624	15672.00	0.2662604	1.3482675E-02	51.81870
NP-237	166.3758	28-FEB-2010	4434.057	4902.978	13400.00	0.2684508	1.3621432E-02	55.01876
CM-244	157.1856	28-FEB-2010	5534.813	5885.542	11813.00	0.2654414	1.3495106E-02	48.18431

Instrument : CHAMBER 196
Detector : 68637
Standard ID : AESS-036
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 24-AUG-2009 08:43:07
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:12:49
Average Efficiency : 0.2563491
Average Efficiency Error : 7.0671304E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2990.410	3301.963	15144.00	0.2542627	1.0927959E-02	54.37652
NP-237	167.4312	28-FEB-2010	4437.321	4906.417	12971.00	0.2582058	1.3107896E-02	61.84642
CM-244	156.4188	28-FEB-2010	5534.476	5886.645	11409.00	0.2574924	1.3098660E-02	57.13540

Instrument : CHAMBER 197
Detector : 78894
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 24-AUG-2009 08:43:12
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:12:58
Average Efficiency : 0.2565553
Average Efficiency Error : 7.0746746E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2991.920	3300.320	14773.00	0.2525423	1.0858861E-02	53.38351
NP-237	167.1294	28-FEB-2010	4436.468	4902.348	13097.00	0.2612088	1.3258392E-02	59.72187
CM-244	154.7664	28-FEB-2010	5532.745	5886.065	11302.00	0.2578566	1.3119171E-02	59.33312

Instrument : CHAMBER 198
Detector : 78895
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 24-AUG-2009 08:43:18
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:13:11
Average Efficiency : 0.2541020
Average Efficiency Error : 7.0067579E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2991.305	3299.642	14821.00	0.2533123	1.0891330E-02	54.52969
NP-237	168.7422	28-FEB-2010	4434.397	4904.448	12902.00	0.2548661	1.2939337E-02	62.13729
CM-244	156.3252	28-FEB-2010	5533.011	5885.087	11271.00	0.2544529	1.2946853E-02	57.18044

Instrument : CHAMBER 199
Detector : 78896
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 24-AUG-2009 08:43:24
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:13:20
Average Efficiency : 0.2501573
Average Efficiency Error : 6.8986462E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2988.912	3297.497	14841.00	0.2506579	1.0776930E-02	55.76347
NP-237	170.0886	28-FEB-2010	4433.891	4904.941	12813.00	0.2510752	1.2748260E-02	59.43263
CM-244	157.7460	28-FEB-2010	5535.121	5882.869	11103.00	0.2485638	1.2650183E-02	55.23568

Instrument : CHAMBER 200
Detector : 78900
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 24-AUG-2009 08:43:29
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:13:29
Average Efficiency : 0.2684568
Average Efficiency Error : 7.3974063E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2991.845	3300.480	15537.00	0.2700785	1.1602442E-02	51.63891
NP-237	166.6248	28-FEB-2010	4436.941	4902.709	13461.00	0.2692276	1.3660024E-02	60.85046
CM-244	155.8290	28-FEB-2010	5532.744	5885.759	11723.00	0.2655081	1.3500395E-02	52.11015

Instrument : CHAMBER 201
Detector : 78902
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 24-AUG-2009 08:43:34
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:13:38
Average Efficiency : 0.2592217
Average Efficiency Error : 7.1504964E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.531	3297.499	14697.00	0.2584198	1.1112645E-02	48.26062
NP-237	159.1506	28-FEB-2010	4434.991	4906.359	12598.00	0.2638277	1.3399226E-02	56.82220
CM-244	151.7142	28-FEB-2010	5531.510	5884.700	10999.00	0.2559689	1.3029314E-02	45.31117

Instrument : CHAMBER 202
Detector : 78903
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 24-AUG-2009 08:43:39
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:13:47
Average Efficiency : 0.2636107
Average Efficiency Error : 7.2720256E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2990.301	3298.322	14668.00	0.2651460	1.1402297E-02	43.51926
NP-237	160.8066	28-FEB-2010	4432.596	4902.750	12471.00	0.2585094	1.3131124E-02	55.44957
CM-244	145.8384	28-FEB-2010	5531.710	5884.137	11024.00	0.2668914	1.3584715E-02	46.64507

Instrument : CHAMBER 203
Detector : 78905
Standard ID : AESS-040
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 24-AUG-2009 08:43:44
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:16:33
Average Efficiency : 0.2640079
Average Efficiency Error : 7.2768405E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2988.566	3301.771	15299.00	0.2658898	1.1425615E-02	49.79924
NP-237	166.8174	28-FEB-2010	4437.077	4902.609	13111.00	0.2619471	1.3295709E-02	56.73104
CM-244	155.0100	28-FEB-2010	5532.534	5885.590	11568.00	0.2635126	1.3401660E-02	53.98056

Instrument : CHAMBER 204
Detector : 78907
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 24-AUG-2009 08:43:49
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:14:37
Average Efficiency : 0.2523464
Average Efficiency Error : 6.9619059E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2990.303	3298.289	14571.00	0.2528380	1.0874456E-02	50.39679
NP-237	164.6658	28-FEB-2010	4433.152	4903.866	12403.00	0.2510013	1.2750966E-02	53.81767
CM-244	151.3824	28-FEB-2010	5533.856	5886.993	10856.00	0.2530294	1.2882944E-02	47.99111

Instrument : CHAMBER 205
Detector : 78908
Standard ID : AESS-041
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 24-AUG-2009 08:43:54
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:14:46
Average Efficiency : 0.2560018
Average Efficiency Error : 7.0556081E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2991.267	3299.423	15358.00	0.2545983	1.0939639E-02	47.30880
NP-237	171.2268	28-FEB-2010	4434.928	4905.917	13265.00	0.2582288	1.3104673E-02	60.39516
CM-244	159.5796	28-FEB-2010	5530.946	5884.256	11561.00	0.2557920	1.3009178E-02	54.31215

Instrument : CHAMBER 206
Detector : 78909
Standard ID : AESS-047
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 24-AUG-2009 08:44:00
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:14:55
Average Efficiency : 0.2539860
Average Efficiency Error : 7.0044687E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2991.740	3299.836	14668.00	0.2510710	1.0797012E-02	49.54147
NP-237	168.3948	28-FEB-2010	4434.469	4904.811	12921.00	0.2557680	1.2984839E-02	58.90450
CM-244	154.6032	28-FEB-2010	5534.058	5886.660	11229.00	0.2564440	1.3048770E-02	52.29348

Instrument : CHAMBER 207
Detector : 78910
Standard ID : AESS-042
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 24-AUG-2009 08:44:06
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:15:04
Average Efficiency : 0.2567169
Average Efficiency Error : 7.0834220E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2987.560	3301.824	14325.00	0.2565888	1.1039187E-02	52.32441
NP-237	159.6558	28-FEB-2010	4434.563	4905.877	12409.00	0.2590533	1.3159815E-02	57.42267
CM-244	150.5208	28-FEB-2010	5530.790	5883.765	10855.00	0.2546263	1.2963978E-02	55.85357

Instrument : CHAMBER 208
Detector : 78911
Standard ID : AESS-048
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 24-AUG-2009 08:44:11
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 24-AUG-2009 14:15:14
Average Efficiency : 0.2558721
Average Efficiency Error : 7.0590605E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2990.613	3299.492	14536.00	0.2561232	1.1016136E-02	49.47414
NP-237	161.5530	28-FEB-2010	4436.795	4902.883	12269.00	0.2531039	1.2859914E-02	57.37383
CM-244	151.1856	28-FEB-2010	5533.327	5886.561	11065.00	0.2584097	1.3152145E-02	53.34291

Instrument : CHAMBER 209
Detector : 79188
Standard ID : AESS-001
Standard Reference Date : 20-FEB-2008 09:54:53
Calibration Analysis Date/Time : 27-JUL-2009 11:47:13
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 13:59:46
Average Efficiency : 0.3720503
Average Efficiency Error : 1.0203380E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2989.310	3300.226	22310.00	0.3611241	1.5431225E-02	61.07782
NP-237	171.0024	28-FEB-2010	4435.667	4905.853	19559.00	0.3812561	1.9256754E-02	78.47396
CM-244	158.1060	28-FEB-2010	5530.947	5884.845	17057.00	0.3798239	1.9212671E-02	62.16251

Instrument : CHAMBER 210
Detector : 79189
Standard ID : AESS-002
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 27-JUL-2009 11:47:19
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 13:59:55
Average Efficiency : 0.3939427
Average Efficiency Error : 1.0785731E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2990.620	3297.977	22918.00	0.3868399	1.6524704E-02	56.73992
NP-237	200.4990	28-FEB-2010	4435.731	4905.552	24207.00	0.4024462	2.0287881E-02	74.58759
CM-244	196.5558	28-FEB-2010	5534.352	5886.824	22110.00	0.3960794	1.9982373E-02	58.11366

Instrument : CHAMBER 211
Detector : 79190
Standard ID : AESS-003
Standard Reference Date : 15-FEB-2008 13:12:27
Calibration Analysis Date/Time : 27-JUL-2009 11:47:25
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:00:03
Average Efficiency : 0.3799735
Average Efficiency Error : 1.0408110E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2988.121	3301.259	22155.00	0.3687188	1.5757136E-02	56.93997
NP-237	203.2080	28-FEB-2010	4436.737	4902.524	23738.00	0.3893826	1.9632483E-02	71.62598
CM-244	197.2236	28-FEB-2010	5532.952	5886.368	21725.00	0.3879907	1.9577414E-02	62.12684

Instrument : CHAMBER 212
Detector : 79191
Standard ID : AESS-004
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 27-JUL-2009 11:47:32
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:00:11
Average Efficiency : 0.3809828
Average Efficiency Error : 1.0432592E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2989.135	3301.447	22739.00	0.3726791	1.5921319E-02	60.42460
NP-237	204.2586	28-FEB-2010	4434.433	4904.665	23808.00	0.3885271	1.9588865E-02	78.17927
CM-244	198.8100	28-FEB-2010	5534.267	5887.313	21781.00	0.3859496	1.9473951E-02	58.94521

Instrument : CHAMBER 213
Detector : 79192
Standard ID : AESS-005
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 27-JUL-2009 11:47:39
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:00:20
Average Efficiency : 0.3632684
Average Efficiency Error : 9.9503463E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2990.470	3298.036	22131.00	0.3547624	1.5160903E-02	63.50857
NP-237	209.5938	28-FEB-2010	4436.689	4901.687	23169.00	0.3684698	1.8581852E-02	80.13203
CM-244	202.7478	28-FEB-2010	5531.037	5883.842	21347.00	0.3709584	1.8720919E-02	62.77599

Instrument : CHAMBER 214
Detector : 79193
Standard ID : AESS-006
Standard Reference Date : 14-FEB-2008 09:35:18
Calibration Analysis Date/Time : 27-JUL-2009 11:47:45
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:00:29
Average Efficiency : 0.3836091
Average Efficiency Error : 1.0504629E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2990.553	3297.788	22693.00	0.3763517	1.6078612E-02	56.27348
NP-237	204.7038	28-FEB-2010	4436.227	4901.574	23647.00	0.3850555	1.9414932E-02	74.54285
CM-244	195.0060	28-FEB-2010	5531.780	5885.252	21759.00	0.3931459	1.9837169E-02	56.86452

Instrument	:	CHAMBER 215
Detector	:	79194
Standard ID	:	AESS-007
Standard Reference Date	:	14-FEB-2008 13:39:25
Calibration Analysis Date/Time	:	27-JUL-2009 11:47:51
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	28-JUL-2009 14:00:38
Average Efficiency	:	0.3803512
Average Efficiency Error	:	1.0415906E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2989.364	3302.121	22674.00	0.3705170	1.5829490E-02	58.59007
NP-237	205.0260	28-FEB-2010	4437.186	4903.222	23893.00	0.3884499	1.9584402E-02	72.67680
CM-244	199.6806	28-FEB-2010	5534.359	5882.968	21950.00	0.3872738	1.9539375E-02	61.41080

Instrument	:	CHAMBER 216
Detector	:	79195
Standard ID	:	AESS-008
Standard Reference Date	:	14-FEB-2008 13:39:25
Calibration Analysis Date/Time	:	27-JUL-2009 11:47:57
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	28-JUL-2009 14:00:46
Average Efficiency	:	0.3731616
Average Efficiency Error	:	1.0220583E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2990.730	3302.451	22182.00	0.3636904	1.5542008E-02	60.14384
NP-237	209.2716	28-FEB-2010	4434.761	4905.361	23781.00	0.3787806	1.9097654E-02	75.39853
CM-244	199.6488	28-FEB-2010	5530.680	5884.547	21648.00	0.3820059	1.9275997E-02	60.78160

Instrument	:	CHAMBER 217
Detector	:	79410
Standard ID	:	AESS-009
Standard Reference Date	:	19-FEB-2008 11:05:22
Calibration Analysis Date/Time	:	27-JUL-2009 11:48:04
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	28-JUL-2009 14:00:55
Average Efficiency	:	0.3778184
Average Efficiency Error	:	1.0346431E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2988.264	3300.395	22447.00	0.3728177	1.5929710E-02	59.20551
NP-237	204.0192	28-FEB-2010	4433.666	4904.432	23270.00	0.3801880	1.9172091E-02	76.02460
CM-244	197.2128	28-FEB-2010	5535.108	5883.550	21438.00	0.3827657	1.9316062E-02	61.20031

Instrument : CHAMBER 218
Detector : 79411
Standard ID : AESS-010
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 27-JUL-2009 11:48:10
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:01:03
Average Efficiency : 0.3940997
Average Efficiency Error : 1.0791861E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2991.480	3299.092	22843.00	0.3820206	1.6319500E-02	60.57081
NP-237	202.9926	28-FEB-2010	4433.463	4904.366	24456.00	0.4015617	2.0241646E-02	78.79704
CM-244	196.2330	28-FEB-2010	5534.949	5883.207	22582.00	0.4054522	2.0451389E-02	60.53443

Instrument : CHAMBER 219
Detector : 79412
Standard ID : AESS-011
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 27-JUL-2009 11:48:16
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:01:48
Average Efficiency : 0.3662424
Average Efficiency Error : 1.0028155E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2991.558	3298.478	22686.00	0.3600933	1.5384067E-02	58.88719
NP-237	214.4868	28-FEB-2010	4436.677	4902.329	24003.00	0.3730206	1.8805804E-02	79.43044
CM-244	208.4184	28-FEB-2010	5533.300	5887.374	21804.00	0.3685999	1.8598294E-02	60.23553

Instrument : CHAMBER 220
Detector : 79413
Standard ID : AESS-012
Standard Reference Date : 14-FEB-2008 13:39:25
Calibration Analysis Date/Time : 27-JUL-2009 11:48:23
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:02:00
Average Efficiency : 0.3800345
Average Efficiency Error : 1.0404716E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2990.238	3297.635	22946.00	0.3758968	1.6057028E-02	61.95944
NP-237	205.8930	28-FEB-2010	4436.067	4906.404	23867.00	0.3863981	1.9481128E-02	76.81815
CM-244	203.1954	28-FEB-2010	5530.768	5883.799	21903.00	0.3797704	1.9161157E-02	61.74461

Instrument : CHAMBER 221
Detector : 79414
Standard ID : AESS-013
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 27-JUL-2009 11:48:29
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:02:09
Average Efficiency : 0.3757081
Average Efficiency Error : 1.0287202E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2988.031	3301.906	22489.00	0.3730499	1.5939282E-02	52.97857
NP-237	210.2526	28-FEB-2010	4434.520	4906.347	23758.00	0.3766535	1.8990556E-02	73.94412
CM-244	201.9108	28-FEB-2010	5532.427	5886.301	21697.00	0.3785694	1.9102205E-02	60.49401

Instrument : CHAMBER 222
Detector : 79415
Standard ID : AESS-014
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 27-JUL-2009 11:48:37
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:02:19
Average Efficiency : 0.3486046
Average Efficiency Error : 9.5541952E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2988.828	3299.834	21348.00	0.3358505	1.4359185E-02	53.28439
NP-237	211.7160	28-FEB-2010	4436.567	4903.132	22784.00	0.3587198	1.8092748E-02	75.86924
CM-244	207.3882	28-FEB-2010	5532.999	5885.314	21129.00	0.3587538	1.8106727E-02	62.25880

Instrument : CHAMBER 223
Detector : 79416
Standard ID : AESS-015
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 27-JUL-2009 11:48:43
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:02:29
Average Efficiency : 0.3842350
Average Efficiency Error : 1.0522764E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2988.719	3302.203	22642.00	0.3749019	1.6017098E-02	52.37010
NP-237	200.6460	28-FEB-2010	4434.717	4901.802	23720.00	0.3940558	1.9868227E-02	70.08206
CM-244	195.9270	28-FEB-2010	5534.370	5883.775	21616.00	0.3886585	1.9611971E-02	55.34917

Instrument : CHAMBER 224
Detector : 79417
Standard ID : AESS-016
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 27-JUL-2009 11:48:51
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:02:37
Average Efficiency : 0.3844876
Average Efficiency Error : 1.0532029E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2991.902	3302.451	22483.00	0.3722161	1.5903715E-02	55.77303
NP-237	199.3962	28-FEB-2010	4433.496	4905.621	23986.00	0.4009725	2.0215105E-02	74.29817
CM-244	198.6402	28-FEB-2010	5531.081	5884.107	21855.00	0.3876156	1.9557375E-02	62.08027

Instrument : CHAMBER 225
Detector : 79418
Standard ID : AESS-017
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 27-JUL-2009 11:48:57
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:02:46
Average Efficiency : 0.3784786
Average Efficiency Error : 1.0361850E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2989.698	3301.928	23097.00	0.3714026	1.5863828E-02	56.57831
NP-237	208.5846	28-FEB-2010	4436.047	4902.115	24170.00	0.3862496	1.9471634E-02	72.01178
CM-244	205.5828	28-FEB-2010	5533.662	5882.674	22249.00	0.3812986	1.9235564E-02	61.39241

Instrument : CHAMBER 226
Detector : 79419
Standard ID : AESS-018
Standard Reference Date : 14-FEB-2008 17:45:04
Calibration Analysis Date/Time : 27-JUL-2009 11:49:04
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:02:55
Average Efficiency : 0.3808596
Average Efficiency Error : 1.0428368E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2990.229	3299.048	22549.00	0.3767624	1.6097387E-02	54.38462
NP-237	208.8990	28-FEB-2010	4436.278	4902.399	23852.00	0.3805940	1.9188609E-02	81.14477
CM-244	198.1458	28-FEB-2010	5532.943	5886.259	21774.00	0.3871692	1.9535474E-02	57.36676

Instrument : CHAMBER 227
Detector : 79420
Standard ID : AESS-019
Standard Reference Date : 19-FEB-2008 11:05:22
Calibration Analysis Date/Time : 27-JUL-2009 11:49:10
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:03:04
Average Efficiency : 0.3843335
Average Efficiency Error : 1.0524626E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2988.495	3300.898	22690.00	0.3745091	1.5999891E-02	56.91222
NP-237	202.9140	28-FEB-2010	4435.132	4906.286	23781.00	0.3906433	1.9695761E-02	72.78109
CM-244	199.3140	28-FEB-2010	5532.133	5886.196	22245.00	0.3930259	1.9827209E-02	61.27127

Instrument : CHAMBER 228
Detector : 79421
Standard ID : AESS-020
Standard Reference Date : 14-FEB-2008 21:55:55
Calibration Analysis Date/Time : 27-JUL-2009 11:49:16
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:03:13
Average Efficiency : 0.3819269
Average Efficiency Error : 1.0460673E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2990.613	3298.829	22551.00	0.3705553	1.5832171E-02	51.70354
NP-237	203.4984	28-FEB-2010	4434.639	4905.792	23625.00	0.3869812	1.9512173E-02	70.48917
CM-244	197.1096	28-FEB-2010	5531.072	5884.538	22079.00	0.3946491	1.9910410E-02	54.39862

Instrument : CHAMBER 229
Detector : 79422
Standard ID : AESS-021
Standard Reference Date : 19-FEB-2008 15:31:52
Calibration Analysis Date/Time : 27-JUL-2009 11:49:22
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:03:22
Average Efficiency : 0.3798401
Average Efficiency Error : 1.0399979E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2990.805	3298.464	23010.00	0.3730097	1.5933167E-02	54.32673
NP-237	210.1548	28-FEB-2010	4434.226	4906.242	23918.00	0.3793714	1.9126525E-02	69.91097
CM-244	200.7390	28-FEB-2010	5533.427	5882.943	22277.00	0.3907950	1.9714409E-02	60.50524

Instrument	:	CHAMBER 230
Detector	:	79423
Standard ID	:	AESS-022
Standard Reference Date	:	14-FEB-2008 21:55:55
Calibration Analysis Date/Time	:	27-JUL-2009 11:49:29
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	28-JUL-2009 14:03:31
Average Efficiency	:	0.3762562
Average Efficiency Error	:	1.0304146E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.308	3297.622	22698.00	0.3656987	1.5623449E-02	50.65837
NP-237	206.8830	28-FEB-2010	4433.975	4905.433	24027.00	0.3871273	1.9516820E-02	69.68443
CM-244	203.0208	28-FEB-2010	5531.188	5884.956	21996.00	0.3817128	1.9258413E-02	56.82364

Instrument	:	CHAMBER 231
Detector	:	79424
Standard ID	:	AESS-023
Standard Reference Date	:	14-FEB-2008 21:55:55
Calibration Analysis Date/Time	:	27-JUL-2009 11:49:35
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	28-JUL-2009 14:03:40
Average Efficiency	:	0.3847702
Average Efficiency Error	:	1.0534914E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.586	3298.189	23057.00	0.3754197	1.6035730E-02	56.58625
NP-237	207.4998	28-FEB-2010	4432.432	4903.240	24264.00	0.3897645	1.9648222E-02	77.05042
CM-244	199.8804	28-FEB-2010	5533.660	5887.186	22354.00	0.3940257	1.9876782E-02	61.75343

Instrument	:	CHAMBER 232
Detector	:	79425
Standard ID	:	AESS-024
Standard Reference Date	:	14-FEB-2008 21:55:55
Calibration Analysis Date/Time	:	27-JUL-2009 11:49:42
Calibration Count Time	:	300.0000
Efficiency Calibration Date/Time	:	28-JUL-2009 14:03:48
Average Efficiency	:	0.3748871
Average Efficiency Error	:	1.0271599E-02
Confidence	:	95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2989.229	3299.258	21761.00	0.3612023	1.5439365E-02	56.38522
NP-237	205.6662	28-FEB-2010	4433.403	4904.597	23806.00	0.3858308	1.9452941E-02	74.06577
CM-244	198.3060	28-FEB-2010	5534.062	5886.338	21708.00	0.3856767	1.9460704E-02	58.09093

Instrument : CHAMBER 233
Detector : 79426
Standard ID : AESS-025
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 27-JUL-2009 11:49:48
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:03:57
Average Efficiency : 0.3793921
Average Efficiency Error : 1.0403312E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2989.053	3300.219	21850.00	0.3774274	1.6132066E-02	56.42078
NP-237	167.9916	28-FEB-2010	4437.148	4902.933	19321.00	0.3833666	1.9365741E-02	74.45728
CM-244	157.2432	28-FEB-2010	5534.654	5884.028	16885.00	0.3782761	1.9136583E-02	61.18657

Instrument : CHAMBER 234
Detector : 79427
Standard ID : AESS-026
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 27-JUL-2009 11:49:54
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:04:08
Average Efficiency : 0.3700874
Average Efficiency Error : 1.0797138E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2990.497	3297.542	21594.00	0.3656335	1.8451264E-02	61.40455
NP-237	168.0294	28-FEB-2010	4434.922	4904.935	19043.00	0.3777652	1.9085610E-02	76.29016
CM-244	160.5822	28-FEB-2010	5534.289	5887.217	16745.00	0.3673259	1.8584441E-02	59.63282

Instrument : CHAMBER 235
Detector : 79428
Standard ID : AESS-027
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 27-JUL-2009 11:50:01
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:04:17
Average Efficiency : 0.3932829
Average Efficiency Error : 1.1475780E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2988.334	3300.717	21681.00	0.3786630	1.9108076E-02	53.32552
NP-237	161.6154	28-FEB-2010	4435.003	4906.236	19404.00	0.4001970	2.0215055E-02	77.72460
CM-244	148.1754	28-FEB-2010	5532.236	5886.409	16945.00	0.4028875	2.0380763E-02	59.12006

Instrument : CHAMBER 236
Detector : 79429
Standard ID : AESS-028
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 27-JUL-2009 11:50:07
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:04:27
Average Efficiency : 0.3837650
Average Efficiency Error : 1.1193846E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2987.761	3298.777	22073.00	0.3734792	1.8843459E-02	56.09225
NP-237	168.1992	28-FEB-2010	4435.283	4906.214	19676.00	0.3898810	1.9691262E-02	74.38795
CM-244	156.7614	28-FEB-2010	5532.557	5887.291	17304.00	0.3888687	1.9666921E-02	61.23972

Instrument : CHAMBER 237
Detector : 79430
Standard ID : AESS-029
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 27-JUL-2009 11:50:14
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:04:36
Average Efficiency : 0.3796787
Average Efficiency Error : 1.1077547E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2990.197	3297.861	21831.00	0.3658611	1.8460920E-02	57.27552
NP-237	169.7700	28-FEB-2010	4432.935	4904.354	19680.00	0.3864051	1.9515611E-02	75.85569
CM-244	154.8234	28-FEB-2010	5530.478	5884.662	17077.00	0.3885164	1.9652124E-02	63.51448

Instrument : CHAMBER 238
Detector : 79431
Standard ID : AESS-030
Standard Reference Date : 15-FEB-2008 09:06:52
Calibration Analysis Date/Time : 27-JUL-2009 11:50:20
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:04:46
Average Efficiency : 0.3810317
Average Efficiency Error : 1.1114767E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2987.703	3299.637	22045.00	0.3742708	1.8883610E-02	56.22876
NP-237	166.3758	28-FEB-2010	4437.459	4902.787	19439.00	0.3894599	1.9672327E-02	69.82738
CM-244	157.1856	28-FEB-2010	5533.171	5886.843	16955.00	0.3799904	1.9222379E-02	58.92646

Instrument : CHAMBER 239
Detector : 79432
Standard ID : AESS-031
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 27-JUL-2009 11:50:26
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:04:55
Average Efficiency : 0.3927835
Average Efficiency Error : 1.0770131E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2990.694	3302.472	22065.00	0.3848595	1.6447702E-02	55.29106
NP-237	162.9186	28-FEB-2010	4436.142	4902.540	19439.00	0.3976750	2.0087343E-02	70.90855
CM-244	153.1968	28-FEB-2010	5534.989	5884.715	17391.00	0.3998017	2.0218691E-02	58.92552

Instrument : CHAMBER 240
Detector : 79433
Standard ID : AESS-032
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 27-JUL-2009 11:50:32
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:05:04
Average Efficiency : 0.3772089
Average Efficiency Error : 1.0348574E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.448	3302.009	21172.00	0.3663063	1.5662992E-02	53.41883
NP-237	165.9822	28-FEB-2010	4434.377	4905.282	19119.00	0.3839507	1.9397326E-02	73.43593
CM-244	153.7938	28-FEB-2010	5531.249	5885.600	16917.00	0.3873951	1.9597435E-02	58.29160

Instrument : CHAMBER 241
Detector : 79434
Standard ID : AESS-033
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 27-JUL-2009 11:50:38
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:05:13
Average Efficiency : 0.3940109
Average Efficiency Error : 1.0806140E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2990.069	3301.257	21921.00	0.3848144	1.6447132E-02	59.39081
NP-237	161.7816	28-FEB-2010	4433.036	4904.033	19316.00	0.3979853	2.0104248E-02	71.72956
CM-244	147.2670	28-FEB-2010	5530.409	5885.133	16898.00	0.4041099	2.0443266E-02	59.86270

Instrument : CHAMBER 242
Detector : 79435
Standard ID : AESS-034
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 27-JUL-2009 11:50:45
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:05:21
Average Efficiency : 0.3872019
Average Efficiency Error : 1.0618003E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2987.986	3300.537	22304.00	0.3756698	1.6052835E-02	60.14239
NP-237	167.2962	28-FEB-2010	4434.402	4905.006	19728.00	0.3930755	1.9852022E-02	81.49045
CM-244	154.4388	28-FEB-2010	5535.112	5883.069	17513.00	0.3993755	2.0195547E-02	60.38340

Instrument : CHAMBER 243
Detector : 79436
Standard ID : AESS-035
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 27-JUL-2009 11:50:51
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:05:30
Average Efficiency : 0.3689618
Average Efficiency Error : 1.0121634E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2988.831	3301.144	21270.00	0.3616530	1.5463094E-02	51.17657
NP-237	168.2934	28-FEB-2010	4435.437	4901.520	19256.00	0.3813798	1.9266052E-02	75.58389
CM-244	158.8128	28-FEB-2010	5533.039	5887.402	16593.00	0.3679604	1.8618485E-02	58.44908

Instrument : CHAMBER 244
Detector : 79437
Standard ID : AESS-036
Standard Reference Date : 18-FEB-2008 11:28:15
Calibration Analysis Date/Time : 27-JUL-2009 11:50:57
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:05:39
Average Efficiency : 0.3687662
Average Efficiency Error : 1.0117218E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2990.561	3301.814	21334.00	0.3579595	1.5304583E-02	62.36397
NP-237	167.4312	28-FEB-2010	4433.746	4904.768	18977.00	0.3778012	1.9088112E-02	75.63606
CM-244	156.4188	28-FEB-2010	5531.146	5885.854	16722.00	0.3765100	1.9049343E-02	61.05648

Instrument : CHAMBER 245
Detector : 79438
Standard ID : AESS-037
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 27-JUL-2009 11:51:02
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:05:48
Average Efficiency : 0.3877061
Average Efficiency Error : 1.0631136E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2990.519	3298.200	22136.00	0.3781450	1.6160103E-02	62.31918
NP-237	167.1294	28-FEB-2010	4434.025	4906.060	19910.00	0.3970917	2.0053044E-02	78.86944
CM-244	154.7664	28-FEB-2010	5533.264	5882.788	17268.00	0.3929479	1.9873664E-02	61.71907

Instrument : CHAMBER 246
Detector : 78912
Standard ID : AESS-038
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 27-JUL-2009 11:51:08
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:05:57
Average Efficiency : 0.3708842
Average Efficiency Error : 1.0172031E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2989.883	3302.161	21584.00	0.3642771	1.5572389E-02	64.71516
NP-237	170.0886	28-FEB-2010	4436.171	4902.069	19259.00	0.3774192	1.9065937E-02	76.67652
CM-244	157.7460	28-FEB-2010	5533.279	5887.441	16761.00	0.3742064	1.8932275E-02	58.21912

Instrument : CHAMBER 247
Detector : 79440
Standard ID : AESS-039
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 27-JUL-2009 11:51:13
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:06:06
Average Efficiency : 0.3957888
Average Efficiency Error : 1.0855773E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2989.314	3301.154	21842.00	0.3837782	1.6403578E-02	54.27637
NP-237	159.1506	28-FEB-2010	4435.427	4902.237	19566.00	0.4097880	2.0697797E-02	74.12901
CM-244	151.7142	28-FEB-2010	5535.390	5885.574	17262.00	0.4007001	2.0265834E-02	60.50509

Instrument : CHAMBER 248
Detector : 79441
Standard ID : AESS-040
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 27-JUL-2009 11:51:19
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:06:15
Average Efficiency : 0.3937030
Average Efficiency Error : 1.0792862E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2989.045	3301.474	22331.00	0.3878492	1.6573036E-02	60.09726
NP-237	166.8174	28-FEB-2010	4436.389	4902.813	19896.00	0.3975548	2.0076567E-02	79.69174
CM-244	155.0100	28-FEB-2010	5534.872	5884.178	17540.00	0.3984762	2.0149769E-02	58.60526

Instrument : CHAMBER 249
Detector : 79442
Standard ID : AESS-041
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 27-JUL-2009 11:51:24
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:10:21
Average Efficiency : 0.3675877
Average Efficiency Error : 1.0082438E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2991.808	3298.538	21645.00	0.3585607	1.5327478E-02	53.17529
NP-237	171.2268	28-FEB-2010	4433.459	4906.270	19414.00	0.3779393	1.9090647E-02	76.86456
CM-244	159.5796	28-FEB-2010	5535.492	5886.613	16816.00	0.3711205	1.8775435E-02	56.57472

Instrument : CHAMBER 250
Detector : 79443
Standard ID : AESS-042
Standard Reference Date : 18-FEB-2008 15:31:47
Calibration Analysis Date/Time : 27-JUL-2009 11:51:30
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:07:02
Average Efficiency : 0.3960947
Average Efficiency Error : 1.0862177E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2988.616	3300.155	21788.00	0.3900070	1.6670316E-02	52.60693
NP-237	159.6558	28-FEB-2010	4432.911	4904.182	19368.00	0.4043324	2.0424359E-02	73.85986
CM-244	150.5208	28-FEB-2010	5530.811	5885.622	16966.00	0.3969653	2.0080892E-02	59.65899

Instrument : CHAMBER 251
Detector : 79444
Standard ID : AESS-043
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 27-JUL-2009 11:51:36
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:07:11
Average Efficiency : 0.3862193
Average Efficiency Error : 1.0589682E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2990.845	3297.824	22101.00	0.3774794	1.6131971E-02	54.21589
NP-237	168.7422	28-FEB-2010	4433.069	4905.749	19931.00	0.3937052	1.9881824E-02	74.21349
CM-244	156.3252	28-FEB-2010	5534.571	5885.360	17400.00	0.3919745	1.9822748E-02	57.06868

Instrument : CHAMBER 252
Detector : 79445
Standard ID : AESS-044
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 27-JUL-2009 11:51:43
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:07:24
Average Efficiency : 0.3698718
Average Efficiency Error : 1.0146284E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2990.916	3302.142	21075.00	0.3660958	1.5654918E-02	61.30944
NP-237	166.6248	28-FEB-2010	4434.879	4906.631	18642.00	0.3729277	1.8845377E-02	80.38726
CM-244	155.8290	28-FEB-2010	5534.322	5884.528	16473.00	0.3722862	1.8838966E-02	60.16105

Instrument : CHAMBER 253
Detector : 79446
Standard ID : AESS-045
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 27-JUL-2009 11:51:49
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:07:35
Average Efficiency : 0.4175173
Average Efficiency Error : 1.1444525E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2987.796	3301.166	22755.00	0.4110381	1.7559895E-02	55.81194
NP-237	160.8066	28-FEB-2010	4435.182	4903.720	20118.00	0.4169668	2.1054644E-02	75.83978
CM-244	145.8384	28-FEB-2010	5533.610	5884.813	17722.00	0.4279359	2.1636952E-02	56.91713

Instrument : CHAMBER 254
Detector : 79447
Standard ID : AESS-046
Standard Reference Date : 19-FEB-2008 19:35:48
Calibration Analysis Date/Time : 27-JUL-2009 11:51:54
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:07:52
Average Efficiency : 0.4058467
Average Efficiency Error : 1.1127573E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2991.474	3298.982	22591.00	0.3918256	1.6740572E-02	58.61956
NP-237	164.6658	28-FEB-2010	4434.396	4906.361	20593.00	0.4168403	2.1043487E-02	82.24182
CM-244	151.3824	28-FEB-2010	5533.560	5883.122	17929.00	0.4170516	2.1083934E-02	61.14439

Instrument : CHAMBER 255
Detector : 79448
Standard ID : AESS-047
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 27-JUL-2009 11:52:00
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:08:10
Average Efficiency : 0.3643631
Average Efficiency Error : 9.9972216E-03
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2992.107	3299.169	20953.00	0.3583827	1.5326263E-02	55.06876
NP-237	168.3948	28-FEB-2010	4434.844	4902.471	18382.00	0.3638436	1.8389078E-02	74.38364
CM-244	154.6032	28-FEB-2010	5531.565	5882.529	16422.00	0.3740352	1.8928226E-02	58.14114

Instrument : CHAMBER 256
Detector : 79449
Standard ID : AESS-048
Standard Reference Date : 19-FEB-2008 00:32:27
Calibration Analysis Date/Time : 27-JUL-2009 11:52:06
Calibration Count Time : 300.0000
Efficiency Calibration Date/Time : 28-JUL-2009 14:08:26
Average Efficiency : 0.3831320
Average Efficiency Error : 1.0509511E-02
Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2989.102	3301.350	21361.00	0.3761188	1.6080733E-02	55.66320
NP-237	161.5530	28-FEB-2010	4435.732	4901.991	18891.00	0.3897299	1.9691780E-02	78.88689
CM-244	151.1856	28-FEB-2010	5533.871	5883.102	16615.00	0.3870071	1.9581940E-02	56.91294

LUCAS CELL COUNTERS

General Engineering Laboratories
2040 Savage Road, Charleston, SC 29414
(843)556-8171

Lucas Cell Calibration Package

	YES	NO	Comments
1) Is all calibration standard information enclosed for:			
the primary standard certificate?	✓		
the secondard standard(s) documentation?	✓		
standard preparation information?	✓		
standard < 1 Year old or verified?	✓		
2) Is the efficiency calibration report included ?	✓		
3) Is the raw count data included for:			
Cell constant determination?	✓		
Plateau generation?	✓		
4) Are the calibration verifications included?	✓		
5) Are the instrument settings included:			
HVPS settings?	✓		
6) Has the CELLEFF.xls file been updated ?	✓		
7) Have the calibration dates been updated in ALPHALIMS ?	✓		

Prepared By: Kellie S Denice   Date: 8/29/08

Reviewed By: [signature]   Date: 8/28/08

Effective Date: 8/29/08

Ra-226 Cell Constants

standard ID : 0299-G
Volume added (mL) : 0.1
Standard Reference Activity (DPM/mL) : 2446.35

Lucas cell #	Cell constant			Standard Source	Date/Time of count	Date/time flushed to cell	Date/time end of degas	Bkg Counts	bkg cpm	total counts	count time min	cpm	Known activity dpm	t1 (days) end-degas to flush	t2 (days) end-flush to count	t3 (days) Std Ref Date to count	Decay from Std Ref Date to count
101	1.796	Average	1.751	17	6/11/2008 22:40	6/11/2008 14:55	6/5/2008 14:10	8	0.267	8239	30	274.63	244.63	6.03125	0.32292	3102	0.9963
101	1.729	Stdev	0.039	15	8/15/2008 12:50	8/15/2008 9:25	8/12/2008 16:10	8	0.267	4800	30	160.00	244.63	2.71875	0.14236	3167	0.9962
101	1.728			14	7/31/2008 15:35	7/31/2008 8:55	7/28/2008 10:55	8	0.267	4938	30	164.60	244.63	2.91667	0.27778	3152	0.9963
102	1.677	Average	1.647	41	6/11/2008 23:15	6/11/2008 15:20	6/5/2008 14:10	8	0.267	7698	30	256.60	244.63	6.04861	0.32986	3102	0.9963
102	1.632	Stdev	0.026	44	8/4/2008 16:35	8/4/2008 9:45	8/1/2008 13:30	8	0.267	4570	30	152.33	244.63	2.84375	0.28472	3156	0.9963
102	1.632			44	7/31/2008 16:10	7/31/2008 9:20	7/28/2008 10:55	8	0.267	4680	30	156.00	244.63	2.93403	0.28472	3152	0.9963
103	1.864	Average	1.752	47	6/11/2008 13:40	6/11/2008 9:40	6/5/2008 14:10	8	0.267	8620	30	287.33	244.63	5.81250	0.16667	3102	0.9963
103	1.687	Stdev	0.098	36	7/31/2008 16:40	7/31/2008 9:50	7/28/2008 10:55	7	0.233	4862	30	162.07	244.63	2.95486	0.28472	3152	0.9963
103	1.704			36	8/4/2008 17:10	8/4/2008 10:15	8/1/2008 13:30	7	0.233	4796	30	159.87	244.63	2.86458	0.28819	3156	0.9963
104	1.937	Average	1.973	3	6/11/2008 14:10	6/11/2008 10:00	6/5/2008 14:10	6	0.200	8955	30	298.50	244.63	5.82639	0.17361	3102	0.9963
104	1.917	Stdev	0.080	21	6/24/2008 17:20	6/24/2008 14:10	6/20/2008 9:50	8	0.267	7275	30	242.50	244.63	4.18056	0.13194	3115	0.9963
104	2.064			19	7/31/2008 17:20	7/31/2008 10:15	7/28/2008 10:55	8	0.267	5964	30	198.80	244.63	2.97222	0.29514	3152	0.9963
105	1.916	Average	1.749	37	8/15/2008 13:55	8/15/2008 9:55	8/12/2008 16:10	8	0.267	5327	30	177.57	244.63	2.73958	0.16667	3167	0.9962
105	1.700	Stdev	0.149	30	7/31/2008 17:55	7/31/2008 10:45	7/28/2008 10:55	4	0.133	4933	30	164.43	244.63	2.99306	0.29861	3152	0.9963
105	1.631			30	8/4/2008 18:35	8/4/2008 11:05	8/1/2008 13:30	1	0.033	4605	30	153.50	244.63	2.89931	0.31250	3156	0.9963
106	1.594	Average	1.486	43	8/15/2008 14:30	8/15/2008 10:15	8/12/2008 16:10	8	0.267	4441	30	148.03	244.63	2.75347	0.17708	3167	0.9962
106	1.441	Stdev	0.094	46	7/31/2008 18:25	7/31/2008 11:15	7/28/2008 10:55	8	0.267	4208	30	140.27	244.63	3.01389	0.29861	3152	0.9963
106	1.422			15	8/19/2008 8:00	8/18/2008 16:00	8/15/2008 9:25	8	0.267	4132	30	137.73	244.63	3.27431	0.66667	3170	0.9962
107	1.779	Average	1.773	25	6/11/2008 15:50	6/11/2008 11:10	6/5/2008 14:10	8	0.267	8232	30	274.40	244.63	5.87500	0.19444	3102	0.9963
107	1.751	Stdev	0.020	13	7/31/2008 19:05	7/31/2008 11:40	7/28/2008 10:55	7	0.233	5121	30	170.70	244.63	3.03125	0.30903	3152	0.9963
107	1.790			13	8/4/2008 19:40	8/4/2008 12:00	8/1/2008 13:30	8	0.267	5105	30	170.17	244.63	2.93750	0.31944	3156	0.9963
108	1.755	Average	1.840	36	6/11/2008 17:00	6/11/2008 11:30	6/5/2008 14:10	7	0.233	8081	30	269.37	244.63	5.88889	0.22917	3102	0.9963
108	1.937	Stdev	0.092	47	6/25/2008 20:00	6/25/2008 15:40	6/20/2008 9:50	8	0.267	8413	30	280.43	244.63	5.24306	0.18056	3116	0.9963
108	1.827			46	8/15/2008 15:00	8/15/2008 10:15	8/12/2008 16:10	8	0.267	5071	30	169.03	244.63	2.75347	0.19792	3167	0.9962
109	1.646	Average	1.512	21	6/11/2008 17:35	6/11/2008 11:45	6/5/2008 14:10	8	0.267	7570	30	252.33	244.63	5.89931	0.24306	3102	0.9963
109	1.441	Stdev	0.117	42	8/1/2008 8:55	7/31/2008 13:05	7/28/2008 10:55	6	0.200	3894	30	129.80	244.63	3.09028	0.82639	3152	0.9963
109	1.448			42	8/4/2008 20:40	8/4/2008 13:40	8/1/2008 13:30	8	0.267	4226	30	140.87	244.63	3.00694	0.29167	3156	0.9963
110	1.664	Average	1.544	36	6/24/2008 21:15	6/24/2008 15:05	6/20/2008 9:50	8	0.267	6214	30	207.13	244.63	4.21875	0.25694	3115	0.9963
110	1.566	Stdev	0.133	13	8/15/2008 15:35	8/15/2008 10:50	8/12/2008 16:10	8	0.267	4377	30	145.90	244.63	2.77778	0.19792	3167	0.9962
110	1.401			15	8/4/2008 21:10	8/4/2008 14:05	8/1/2008 13:30	8	0.267	4103	30	136.77	244.63	3.02431	0.29514	3156	0.9963
111	1.632	Average	1.575	37	6/24/2008 22:30	6/24/2008 15:30	6/20/2008 9:50	7	0.233	6071	30	202.37	244.63	4.23611	0.29167	3115	0.9963
111	1.517	Stdev	0.057	43	8/1/2008 10:30	7/31/2008 14:00	7/28/2008 10:55	8	0.267	4120	30	137.33	244.63	3.12847	0.85417	3152	0.9963
111	1.576			43	8/4/2008 21:35	8/4/2008 14:30	8/1/2008 13:30	7	0.233	4636	30	154.53	244.63	3.04167	0.29514	3156	0.9963
112	1.797	Average	1.648	43	6/11/2008 22:10	6/11/2008 14:30	6/5/2008 14:10	8	0.267	8239	30	274.63	244.63	6.01389	0.31944	3102	0.9963
112	1.588	Stdev	0.130	37	8/1/2008 11:00	7/31/2008 14:00	7/28/2008 10:55	8	0.267	4294	30	143.13	244.63	3.12847	0.87500	3152	0.9963
112	1.559			37	8/4/2008 22:00	8/4/2008 14:50	8/1/2008 13:30	8	0.267	4599	30	153.30	244.63	3.05556	0.29861	3156	0.9963

KP 8/29/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 19	500	6/5/08 1410						
Cal 13	500	6/5/08 1410						
Cal 10	500	6/5/08 1410						
Cal 14	500	6/5/08 1410						
Cal 34	500	6/5/08 1410						
Cal 21	500	6/20/08 0950	6/24/08 1410	6/24/08 1720	104	1	8	7275
~~Cal 40~~	~~500~~	~~6/20/08 0950~~	~~6/24/08 1430~~	6.24.08 1820	107	1	8	~~18~~ KD 8/30/08
~~Cal 25~~	~~500~~	~~6/20/08 0950~~	~~6/24/08 1450~~	6.24.08 1921	108	1	8	~~7547~~
Cal 36	500	6/20/08 0950	6/24/08 1505	6.24.08 2115	110	1	8	6214
Cal 37	500	6/20/08 0950	6/24/08 1530	6.24.08 2230	111	1	7	6071
~~Cal 11~~	500	6/20/08 0950	6/24/08 1545	6.24.08 2305	112	1	8	5592
~~Cal 3~~	~~500~~	6/20/08 0950	6/25/08 1405	6.25.08 1705	102	1	8	8275
~~Cal 32~~	~~500~~	6/20/08 0950	6/25/08 1420	6.25.08 1740	101	1	8	~~3362~~ KD 8/29/08
~~Cal 41~~	~~500~~	6/20/08 0950	6/25/08 1445	6.25.08 1820	103	1	8	~~8405~~
~~Cal 39~~	500	6/20/08 0950	6/25/08 1510	6.25.08 1851	105	1	8	9300
~~Cal 43~~	500	6/20/08 0950	6/25/08 1525	6.25.08 1933	109	1	8	~~8121~~
Cal 47	500	6/20/08 0950	6/25/08 1540	6.25.08 2000	109	1	8	8413
								KD 8/29/08

577

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 47	500	6/5/08 1410	6/11/08 0940	6/11/08 1340	103	1	8	8620
Cal 3	500	6/5/08 1410	6/11/08 1000	6/11/08 1410	104	1	6	8955
~~Cal 37~~	~~500~~	~~6/5/08 1410~~	6/11/08 1015	~~6/11/08 1440~~	~~105~~	~~1~~	~~4~~	~~9629~~
~~Cal 40~~	~~500~~	~~6/5/08 1410~~	~~6/11/08 1045~~	6/11/08 1510	106	1	8	3534
Cal 25	500	6/5/08 1410	6/11/08 1110	6/11/08 1550	107	1	8	8232
Cal 36	500	6/5/08 1410	6/11/08 1130	6/11/08 1700	108	1	7	8081
Cal 21	500	6/5/08 1410	6/11/08 1145	6/11/08 1735	109	1	8	7570
~~Cal 32~~	~~500~~	~~6/5/08 1410~~	~~6/11/08 1350~~	~~6/11/08 2040~~	~~110~~	~~1~~	~~8~~	~~4366~~
~~Cal 34~~	~~500~~	~~6/5/08 1410~~	~~6/11/08 1415~~	~~6/11.08 2115~~	~~111~~	~~1~~	~~6~~	~~6792~~
Cal 43	500	6/5/08 1410	6/11/08 1430	6.11.08 2210	111	1	8	5867
Cal 17	500	6/5/08 1410	6/11/08 1455	6.11.08 2240	101	1	8	8239
Cal 41	500	6/5/08 1410	6/11/08 1520	6.11.08 2315	102	1	8	7698
Cal 11	500	6/5/08 1410						
Cal 30	500	6/5/08 1410						
Cal 7	500	6/5/08 1410						
Cal 9	500	6/5/08 1410						
Cal 6	500	6/5/08 1410						
Cal 8	500	6/5/08 1410						
Cal 35	500	6/5/08 1410						

578

1 of 10
8/29/08

Ra-226 Verification Sheet rig 1

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 14	500	7/28/08 1055	7/31/08 0855	7/31/08 1535	101	1	8	4938
Cal 44	500	7/28/08 1055	7/31/08 0920	7/31/08 1610	102	1	8	4680
Cal 36	500	7/28/08 1055	7/31/08 0950	7/31/08 1640	103	1	7	4862
Cal 19	500	7/28/08 1055	7/31/08 1015	7/31/08 1720	104	1	8	5964
Cal 30	500	7/28/08 1055	7/31/08 1045	7/31/08 1755	105	1	4	4933
Cal 46	500	7/28/08 1055	7/31/08 1115	7/31/08 1825	106	1	8	4208
Cal 13	500	7/28/08 1055	7/31/08 1140	7/31/08 1905	107	1	7	5121
~~Cal 25~~	~~500~~	~~7/28/08 1055~~	~~7/31/08 1205~~	8/1/08 0815	108	1	8	3159
Cal 42	500	7/28/08 1055	7/31/08 1305	8/1/08 0855	109	1	6	3894
~~Cal 15~~	~~500~~	~~7/28/08 1055~~	~~7/31/08 1330~~	~~8/1/08 0930~~	110	1	6	~~3185~~
Cal 43	500	7/28/08 1055	7/31/08 1400	8/1/08 1030	111	1	8	4120
Cal 37	500	7/28/08 1055	7/31/08 (KD 7/31/08) 1415	8/1/08 1100	112	1	8	4294

579

KD 8/29/08

Ra-226 Verification Sheet

Rig 1

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
~~Cal 44~~	500	8/1/08 1330	8/4/08 0915	8/4/08 1550	101	1	8	3638
44	500	8/1/08 1330	8/4/08 0945	8.4.08 1635	102	1	8	4570
36	500	8/1/08 1337	8/4/08 1015	8.4.08 1710	103	1	7	4796
~~19~~	500	~~8/1/08 1330~~	~~8/4/08 1035~~	8.4.08 1745	104	1	6	~~4733~~
30	500	8/1/08 1330	8/4/08 1105	8.4.08 1835	105	1	1	4605
~~46~~	500	~~8/1/08 1330~~	~~8/4/08 1130~~	8.4.08 1910	106	1	6	~~3725~~
13	500	8/1/08 1330	8/4/08 1200	8.4.08 1940	107	1	8	5105
~~25~~	~~500~~	~~8/1/08 1330~~	~~8/4/08 1310~~	8.4.08 2010	108	1	8	~~4575~~
42	500	8/1/08 1330	8/4/08 1340	8.4.08 2040	109	1	8	4226
15	500	8/1/08 1330	8/4/08 1405	8.4.08 2110	110	1	8	4103
43	500	8/1/08 1330	8/4/08 1430	8.4.08 2135	111	1	7	4636
37	500	8/1/08 1330	8/4/08 1450	8.4.08 2200	112	1	8	4599

KD 8/29/08

KD 8/29/08

Ra-226 Verification Sheet

Rig 1

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
		~~8/4/08 1305~~						
Cal 15		8/12/08 1610	8/15/08 0925	8/15/08 1250	101	1	8	4900
Cal 37		8/12/08 1610	8/15/08 0955	8/15/08 1335	105	1	8	5327
Cal 43		8/12/08 1610	8/15/08 1015	8/15/08 1430	106	1	8	4411
Cal 46		8/12/08 1610	8/15/08 1030	8/15/08 1500	108	1	8	5071
Cal 13		8/12/08 1610	8/15/08 1050	8/15/08 1535	110	1	8	4377
~~Cal 15~~	~~500~~	~~8/15/08 0925~~	~~8/18/08 1000~~	~~8-18-08 1720~~	~~106~~	~~1~~	~~4132~~	~~462~~
CAL-15	500	8/15/08 0925	8/18/08 1600	8/19/08 0900	106	1	8	4132

LLA 8/19/08

581

KW 8/29/08

Verification for Ra-226 Standard 0299-G

4/2/2008	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff	Standard Mass. Used (G)	Source DPM/G
D. Roy	0299-G N1	2536.9600	52.4000	2484.5600	1.917186	0.5057	2562.667649
	0299-G N2	2520.2500	52.4000	2467.8500	1.917186	0.5056	2545.935781
	0299-G N3	2532.5000	52.4000	2480.1000	1.917186	0.5042	2565.677715
						Average =	2558.093715
Mean Value (Counting) =	2558.093715		**104.944421**	**Pass**			
Stdev =	10.63610098		0.00415782	**Rule 3 (Pass/Fail)**			

Certificate Value =	2437.6	dpm/mL
Lower Limit =	2536.821513	dpm/mL
Upper Limit =	2579.365917	dpm/mL
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**
Two sigma =	21.27220197	dpm/mL
10 % of Mean =	255.8093715	dpm/mL
Rule 2 (Pass/Fail)	**Pass**	

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 0299-G by transferring portions of the standard into tared glass liquid scintillation vials. One mL of DI Water and ten mLs of Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC Gold for Radium source standard verification. The Ra-226 efficiency calibration which was used for verification calculations was performed on 4/02/08 using source 0024-A (Ra-226). Calibration data is recorded in this logbook under Ra-226 0024. Each verification source calculation was performed as follows:

Source dpm/g = (A - B)/(C)(D)

where:

A = Ver. source cpm,
B = BKG cpm,
C = System efficiency, (cpm/dpm), and
D = mass used for standard verification.

RAD SOP M-001

KD 8/29/08

4/9/08

David Roy 4/10/08

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0299
Prepared By:	Angela Johnson
Carrier Conc:	0.5 M HCL
Reference Date:	12/15/1999
Ampoule Mass (g):	5.0368 g
Uncertainty:	+/- 2.5 %
LogBook No:	RC S 027 128

A Solution Material Info	
Isotope:	Radium-226
Prepared By:	Angela Johnson
Prep Date:	09/15/2000
Verification Date:	01/23/2008
Expiration Date:	01/23/2009
Primary Code:	0299-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.6634 g
Density(g/mL):	1.0012
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (100 mL) = 122414.2500 dpm/mL
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (1.0012 g/mL) / (100 mL) = 122273.3377 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
08/26/2003	Angela Johnson	1.9909	100	0299-E	2434.34 dpm/mL	11/04/2004	11/04/2005
08/26/2003	Angela Johnson	1.9872	100	0299-F	2429.82 dpm/mL	08/26/2004	08/26/2005
04/05/2005	Amanda Fehr	5.0018	250	0299-G	2446.3471 dpm/mL	04/02/2008	04/02/2009

GEL Laboratories LLC
Version 1.0 9/18/2000

8/28/08

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-008

Isotope: Ra-226

Date Standards Prepared: 4/5/05

Cocktail Type Used: N/A

Standard ID: D299-6

Matrix of Vial/Planchett: N/A / N/A / N/A

Amount Used (g or (ml)): 0.1

Standard Activity (DPM/g or (mL)): 2446.347

Type of Scintillation Vial: N/A

Reference Date: 12/15/99

Pipette ID Used: 1429303

Expiration Date: 4/12/09

Balance ID Used: 3/6040216

Residue/Carrier Agent: 0.5M HCl

Quenching Agent: N/A

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
1	CAL 1				
2	CAL 2				
3	CAL 3				
4	CAL 4				
5	CAL 5				
6	CAL 6				
7	CAL 7				
8	CAL 8				
9	CAL 9				
10	CAL 10				
11	CAL 11				
12	CAL 12				
13	CAL 13				
14	CAL 14				
15	CAL 15				

N.W. 8/29/05

Prepared By: [signature] Date: 8/29/05

Reviewed By: [signature] Date: 8/29/05

Rev 1 RLM 9/10/97

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-008

Isotope: Ra-226

Date Standards Prepared: 4/5/05

Cocktail Type Used: N/A

Standard ID: D299-6

Matrix of Vial/Planchett: N/A, N/A, N/A

Amount Used (g or (ml)): 0.1

Standard Activity (DPM/g or (mL)): 2446.347

Type of Scintillation Vial: N/A

Reference Date: 12/15/99

Pipette ID Used: 1429303

Expiration Date: 4/12/09

Balance ID Used: 36040216

Residue/Carrier Agent: 0.5M HCl

Quenching Agent: N/A

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
16	CAL16				
17	CAL17				
18	CAL18				
19	CAL19				
20	CAL20				
21	CAL21				
22	CAL22				
23	CAL23				
24	CAL24				
25	CAL25				
26	CAL26				
27	CAL27				
28	CAL28				
29	CAL29				
30	CAL30				

KW 8/28/08

Prepared By: Kelli W Powell Date: 8/28/08

Reviewed By: [signature] Date: 8/28/08

Rev 1 RLM 9/10/97

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-008

Isotope: Ra-226

Date Standards Prepared: 4/15/05

Cocktail Type Used: N/A

Standard ID: D291-6

Matrix of Vial/Planchett: N/A

N/A

N/A

Amount Used (g or (ml)): 0.1

Standard Activity (DPM/g or (mL)): 2446.347

Type of Scintillation Vial: N/A

Reference Date: 12/15/99

Pipette ID Used: 14229303

Expiration Date: 4/12/09

Balance ID Used: 3600402162

Residue/Carrier Agent: 0.5M HCl

Quenching Agent: N/A

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
31	CAL31				
32	CAL 32				
33	CAL33				
34	CAL34				
35	CAL35				
36	CAL36				
37	CAL37				
38	CAL38				
39	CAL 39				
40	CAL 40				
41	CAL 41				
42	CAL 42				
43	CAL43				
44	CAL 44				
45	CAL 45				

8/25/05

Prepared By: [signature] Date: 8/25/05

Reviewed By: [signature] Date: 8/28/05

Rev 1 RLM 9/10/97

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-003

Isotope: Ra-226

Date Standards Prepared: 4/15/05

Cocktail Type Used: N/A

Standard ID: 0799-G

Matrix of Vial/Planchett: N/A / N/A / N/A

Amount Used (g or ml): 0.1

Standard Activity (DPM/g or mL): 2446.347

Type of Scintillation Vial: N/A

Reference Date: 12/15/99

Pipette ID Used: 1429303

Expiration Date: 4/12/09

Balance ID Used: 36040216

Residue/Carrier Agent: 0.5M HCl

Quenching Agent: N/A

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (g)
46	CAL 46				
47	CAL 47				
48	CAL 48				

Prepared By: [signature] Date: 8/28/08

Reviewed By: [signature] Date: 8/28/08

Rev 1 RLM 9/10/97

! 8-21-00

Nycomed Amersham plc
Amersham Laboratories

0299

[redacted]

NAMAS
CALIBRATION
No. 0146

Nycomed Amersham plc
Radiation & Radioactivity
Calibration Laboratory
Amersham Laboratories
White Lion Road
Amersham
Buckinghamshire
HP7 9LL

ISSUED FOR:

AEA Technology plc
Isotrak
Amersham Laboratories
White Lion Road
Amersham
Buckinghamshire
HP7 9LL

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ion Principal radionuclide: Radium-226

Product code: RAY44
Solution number: R4/131/89

ment Reference time: 1200 GMT on 15 December 1999

data Nuclear data quoted on this certificate are taken from the Joint European File, Version 2.2.

ion of The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k = 2.00, which
inties for a *t*-distribution with $\nu_{eff} = \infty$ effective degrees of freedom corresponds to a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Unless indicated, all other uncertainties are expressed at the confidence level associated with one standard uncertainty.

The format used for the uncertainties in the values of radionuclidic purity is illustrated in the following examples;

6.5(21)	=	6.5 ± 2.1
6.54(21)	=	6.54 ± 0.21
6.543(21)	=	6.543 ± 0.021

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Date of issue 17th December 1999

588

Nycomed Amersham

Ra-226 WATER

Batch : LCSVER
Date : 8/20/2008
Analyst : KSD1

Procedure Code : LUC26RAL
Parmname : Radium-226
MDA : 1 pCi/L
Bkg Count Time: 30 min
Instrument Used : LUCAS CELL DETECTOR

Sample ID	Sample Vol L	Count Time min	Gross counts cts	Cell # num	Cell Const. num	BKG	BKG cpm	Ra-226 MDA pCi/L	**Ra-226 RESULT pCi/L**	Ra-226 ERROR pCi/L	COUNT DATE/TIME
Ver 1	0.500	30	738	**101**	1.751	8	0.267	0.4737	**21.7600**	1.5957	8/26/2008 16:10
Ver 2	0.500	30	770	**102**	1.647	8	0.267	0.5038	**24.1604**	1.7334	8/26/2008 17:05
Ver 3	0.500	30	716	**103**	1.752	8	0.267	0.4735	**21.0967**	1.5715	8/26/2008 17:45
Ver 4	0.500	30	820	**104**	1.973	6	0.200	0.3728	**21.4823**	1.4866	8/26/2008 18:15
Ver 5	0.500	30	656	**106**	1.486	8	0.267	0.5576	**22.7382**	1.7722	8/26/2008 19:00
Ver 6	0.500	30	860	**107**	1.773	8	0.267	0.4674	**25.0613**	1.6986	8/26/2008 19:35
Ver 7	0.500	30	867	**108**	1.840	8	0.267	0.4505	**24.3515**	1.6436	8/26/2008 20:10
Ver 8	0.500	30	756	**110**	1.544	8	0.267	0.5372	**25.2853**	1.8313	8/26/2008 20:40
Ver 9	0.500	30	827	**111**	1.575	4	0.133	0.3989	**27.2897**	1.8735	8/26/2008 21:10
VER 10	0.500	30	851	**112**	1.648	8	0.267	0.5042	**26.7480**	1.8227	8/26/2008 21:45

KD 8/25/08

Sample ID	Sample Dup	Det #	Run Date	Sample Type	Standard ID	NC	NC units	Recovery/RPD
Ver 1		1	8/26/2008 13:00	LCS	0638-F	24.10	pCi/L	**90%**
Ver 2		1	8/26/2008 13:30	LCS	0638-F	24.10	pCi/L	**100%**
Ver 3		1	8/26/2008 13:55	LCS	0638-F	24.10	pCi/L	**88%**
Ver 4		1	8/26/2008 14:25	LCS	0638-F	24.10	pCi/L	**89%**
Ver 5		1	8/26/2008 14:45	LCS	0638-F	24.10	pCi/L	**94%**
Ver 6		1	8/26/2008 15:05	LCS	0638-F	24.10	pCi/L	**104%**
Ver 7		1	8/26/2008 15:25	LCS	0638-F	24.10	pCi/L	**101%**
Ver 8		1	8/26/2008 15:40	LCS	0638-F	24.10	pCi/L	**105%**
Ver 9		1	8/26/2008 15:55	LCS	0638-F	24.10	pCi/L	**113%**
Ver 10		1	8/26/2008 16:10	LCS	0638-F	24.10	pCi/L	**111%**

DEGASSING DATE/TIME	DE-EMAN. DATE/TIME	DEGASS-DE-EM	dE-EM-COUNT	constant	constant	constant	Net CPM cpm	Ingrowth constant
8/21/2008 15:30	8/26/2008 13:00	117.50	3.17	0.5882	0.9764	1.0019	24.3333	0.5754
8/21/2008 15:30	8/26/2008 13:30	118.00	3.58	0.5897	0.9733	1.0019	25.4000	0.5751
8/21/2008 15:30	8/26/2008 13:55	118.42	3.83	0.5910	0.9715	1.0019	23.6000	0.5752
8/21/2008 15:30	8/26/2008 14:25	118.92	3.83	0.5925	0.9715	1.0019	27.1333	0.5767
8/21/2008 15:30	8/26/2008 14:45	119.25	4.25	0.5936	0.9684	1.0019	21.6000	0.5759
8/21/2008 15:30	8/26/2008 15:05	119.58	4.50	0.5946	0.9666	1.0019	28.4000	0.5758
8/21/2008 15:30	8/26/2008 15:25	119.92	4.75	0.5956	0.9648	1.0019	28.6333	0.5757
8/21/2008 15:30	8/26/2008 15:40	120.17	5.00	0.5964	0.9630	1.0019	24.9333	0.5754
8/21/2008 15:30	8/26/2008 15:55	120.42	5.25	0.5971	0.9611	1.0019	27.4333	0.5750
8/21/2008 15:30	8/26/2008 16:10	120.67	5.58	0.5979	0.9587	1.0019	28.1000	0.5743

590

KB 8/29/08

Ra-226 Verification Sheet

Rig 1

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Ver 1	500	8/21/08 1530	8/26/08 1300	8/26/08 1610	101	1	8	738
Ver 2	500	8/21/08 1530	8/26/08 1330	8/26/08 1705	102	1	8	770
Ver 3	500	8/21/08 1530	8/26/08 1355	8.26.08 1745	103	1	8	716
Ver 4	500	8/21/08 1530	8/26/08 1425	8.26.08 1815	104	1	8	820
Ver 5	500	8/21/08 1530	8/26/08 1445	8.26.08 1900	106	1	8	656
Ver 6	500	8/21/08 1530	8/26/08 1505	8.26.08 1935	107	1	8	860
Ver 7	500	8/21/08 1530	8/26/08 1525	8.26.08 2010	108	1	8	867
Ver 8	500	8/21/08 1530	8/26/08 1540	8.26.08 2040	110	1	8	756
Ver 9	500	8/21/08 1530	8/26/08 1555	8.26.08 2110	111	1	4	827
Ver 10	500	8/21/08 1530	8/26/08 1610	8.26.08 2145	112	1	8	851
Ver 11	500	8/21/08 1530						
Ver 12	500	8/21/08 1530						

591

KD 8/27/08

Verification for Ra-226 Standard 0638-F

D Roy
12/27/2007

	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff	Standard Mass. Used (mL)	Source DPM/mL
	0638-F N1	1239.9000	31.5000	1208.4000	4.624018	1.0000	261.3311626
	0638-F N2	1222.8000	31.5000	1191.3000	4.624018	1.0000	257.6330801
	0638-F N3	1219.4000	31.5000	1187.9000	4.624018	1.0000	256.8977889
						Average =	258.6206772
Mean Value (Counting) =	258.6206772		**96.8384646**	**Pass**			
Stdev =	2.375965421		0.00918707	**Rule 3 (Pass/Fail)**			
Certificate Value =	267.1						
Lower Limit =	253.8687464						
Upper Limit =	263.3726081						
Rule 1 Pass/Fail	**Fail**	*exception taken due to full recovery of standard					
Two sigma =	4.751930843						
10 % of Mean =	25.86206772						
Rule 2 (Pass/Fail)	**Pass**						

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 0638-F by transferring portions of the standard into tared glass liquid scintillation vials. One mL of DI Water and 10 mL Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC YELLOW using source standard verification. The Ra-226 efficiency calibration which was used for verification calculations was performed on 12/27/07 using source 0024-A (Ra-226). Calibration data is recorded in this logbook under Ra-226 (0024-A). Each verification source calculation was performed as follows:

Source dpm/g = (A - B)/(C)(D)
where:
A = Ver. source cpm,
B = BKG cpm,
C = System efficiency, (cpm/dpm), and
D = mass used for standard verification.
Reference RAD SOP M-001

KD 8/22/08

1/4/07

Amanda L. Tech 1/4/07

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number GL-RAD-A-008

Isotope Ra-226

Date Standards Prepared 12/18/07

Cocktail Type Used N/A

Standard ID 0638-F

Matrix of Vial/Planchett N/A

N/A

N/A

Amount Used (g or (ml)) 0.1

Standard Activity (DPM/g or (mL)) 267.519

Type of Scintillation Vial N/A

Reference Date 1/23/04

Pipette ID Used 1429303

Expiration Date 12/20/08

Balance ID Used 3604046

Residue/Carrier Agent 0.1M HCl

Quenching Agent N/A

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
1	Ver1				
2	Ver2				
3	ver3				
4	ver4				
5	Ver5				
6	Ver6				
7	Ver7				
8	Ver8				
9	ver9				
10	Ver10				
11	Ver11				
12	Ver12				
13	Ver13				
14	Ver14				
15	Ver15				

KD 8/29/08

Prepared By: Kelli Denelle Date 8/29/08

Reviewed By: [signature] Date 8/29/08

Rev 1 RLM 9/10/97

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD. A-008

Isotope: Ra-226

Date Standards Prepared: 12/18/07

Cocktail Type Used: N/A

Standard ID: 0638-F

Matrix of Vial/Planchett: N/A / N/A / N/A

Amount Used (g or (ml)): 10.1

Standard Activity (DPM/g or (mL)): 267-519

Type of Scintillation Vial: N/A

Reference Date: 1/23/04

Pipette ID Used: 1429303

Expiration Date: 12/20/08

Balance ID Used: 3604046

Residue/Carrier Agent: 0.1M HCl

Quenching Agent: N/A

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
16	Ver 16				
17	Ver 17				
18	Ver 18				
19	Ver 19				
20	Ver 20				
21	Ver 21				
22	Ver 22				
23	Ver 23				
24	Ver 24				

N/A 8/29/08

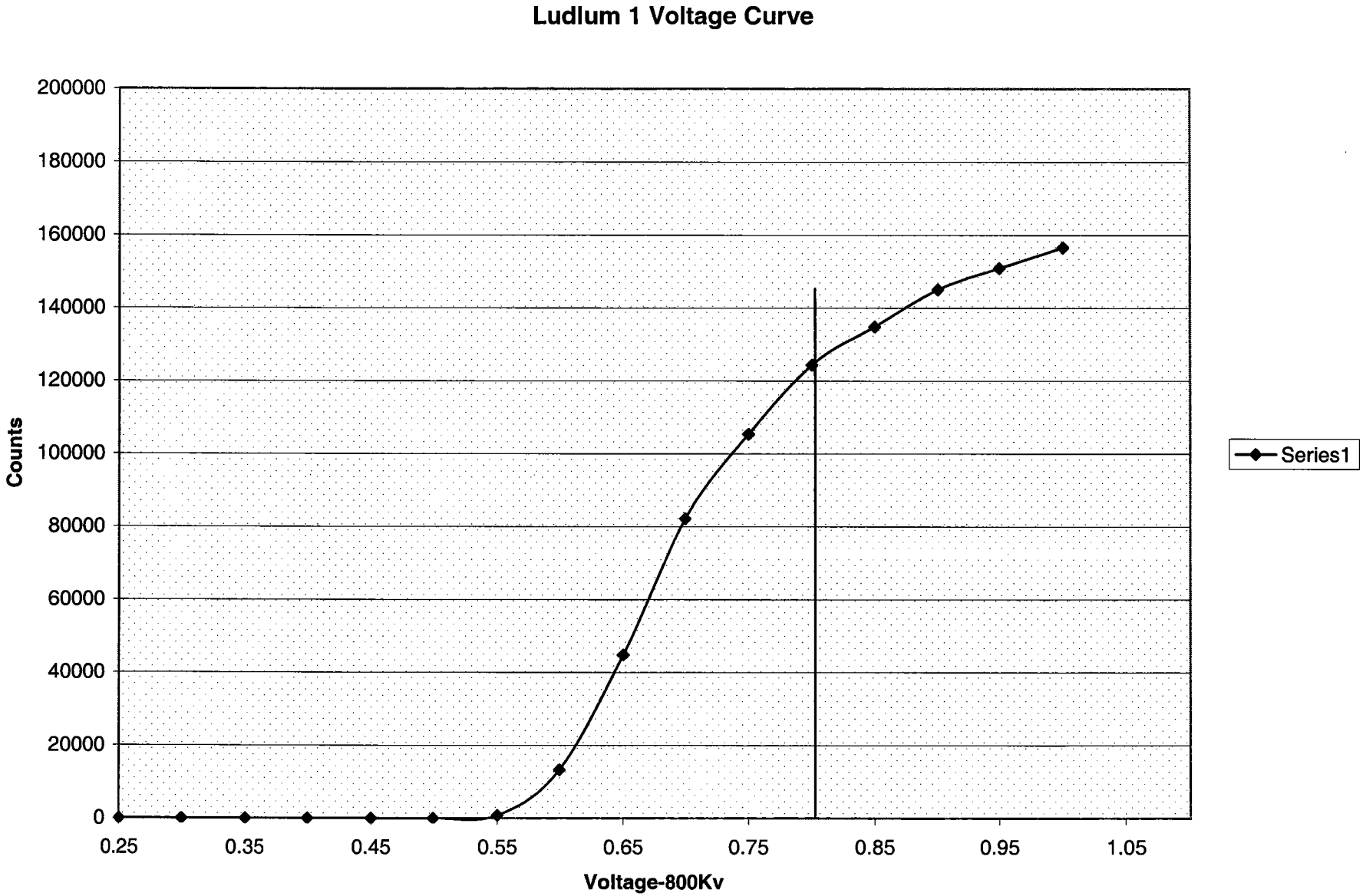
Prepared By: Kelly Powell Date: 8/29/08

Reviewed By: [signature] Date: 8/29/08

Rev 1 RLM 9/10/97

Voltage Curve Ludlum # 1				
Volts	**Counts**	**Date**	**Time**	**Detector**
0.00	0	8/19/2008	11:00	1
0.05	0	8/19/2008	11:00	1
0.10	0	8/19/2008	11:00	1
0.15	0	8/19/2008	11:00	1
0.20	0	8/19/2008	11:00	1
0.25	0	8/19/2008	11:00	1
0.30	0	8/19/2008	11:00	1
0.35	0	8/19/2008	11:00	1
0.40	0	8/19/2008	11:00	1
0.45	0	8/19/2008	11:00	1
0.50	0	8/19/2008	11:00	1
0.55	813	8/19/2008	11:00	1
0.60	13369	8/19/2008	11:00	1
0.65	44807	8/19/2008	11:00	1
0.70	82131	8/19/2008	11:00	1
0.75	105365	8/19/2008	11:00	1
0.80	124405	8/19/2008	11:00	1
0.85	134938	8/19/2008	11:00	1
0.90	145048	8/19/2008	11:00	1
0.95	150949	8/19/2008	11:00	1
1.00	156594	8/19/2008	11:00	1

596


Ludlum 1 Voltage Curve
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
Counts
0.25
0.35
0.45
0.55
0.65
0.75
0.85
0.95
1.05
Voltage-800Kv
Series1

KO 8/29/08

101	1.751	8/29/2008
102	1.647	8/29/2008
103	1.752	8/29/2008
104	1.973	8/29/2008
105	1.749	8/29/2008
106	1.486	8/29/2008
107	1.773	8/29/2008
108	1.840	8/29/2008
109	1.512	8/29/2008
110	1.544	8/29/2008
111	1.575	8/29/2008
112	1.648	8/29/2008

KD 8/29/08

General Engineering Laboratories
2040 Savage Road, Charleston, SC 29414
(843)556-8171

Lucas Cell Calibration Package

	YES	NO	Comments
1) Is all calibration standard information enclosed for:			
the primary standard certificate?	✓	✓	
the secondard standard(s) documentation?	✓	✓	
standard preparation information?	✓	✓	
standard < 1 Year old or verified?	✓	✓	
2) Is the efficiency calibration report included ?	✓	✓	
3) Is the raw count data included for:			
Cell constant determination?	✓	✓	
Plateau generation?	✓	✓	
4) Are the calibration verifications included?	✓	✓	
5) Are the instrument settings included:			
HVPS settings?	✓	✓	
6) Has the CELLEFF.xls file been updated ?	✓	✓	
7) Have the calibration dates been updated in ALPHALIMS ?	✓	✓	

Prepared By: Kelli Darnell Date: 12/19/08

Reviewed By: [signature] Date: 12/19/08

Effective Date: 12/19/08

Ra-226 Cell Constants

NLD 12/19/08

Standard Reference date :	12/15/1999
standard ID :	0299-G
Volume added (mL) :	0.1
Standard Reference Activity (DPM/mL) :	2446.35

Lucas cell #	Cell constant			Standard Source	Date/Time of count	Date/time flushed to cell	Date/time end of degas	bkg cpm	total counts	count time min	cpm	Known activity dpm	t1 (days) end-degas to flush	t2 (days) end-flush to count	t3 (days) Std Ref Date to count	Decay from Std Ref Date to count
201	2.021	Average	1.993	Cal 14	9/15/2008 15:45	9/15/2008 9:05	9/12/2008 13:20	0.267	5596	30	186.53	243.02	2.82292	0.27778	3198	0.9962
201	2.043	Stdev	0.068	Cal 14	9/18/2008 13:00	9/18/2008 8:10	9/15/2008 9:05	0.267	5949	30	198.30	243.02	2.96181	0.20139	3201	0.9962
201	1.915			Cal 14	9/25/2008 19:35	9/25/2008 9:15	9/22/2008 10:00	0.267	5361	30	178.70	243.02	2.96875	0.43056	3208	0.9962
202	2.436	Average	2.261	Cal 13	9/15/2008 16:20	9/15/2008 9:35	9/12/2008 13:20	0.267	6779	30	225.97	243.02	2.84375	0.28125	3198	0.9962
202	2.209	Stdev	0.156	Cal 13	9/18/2008 13:50	9/18/2008 8:45	9/15/2008 9:35	0.267	6425	30	214.17	243.02	2.96528	0.21181	3201	0.9962
202	2.137			Cal 14	10/21/2008 13:50	10/20/2008 13:45	10/13/2008 16:00	0.267	9248	30	308.27	243.02	6.90625	1.00347	3234	0.9962
203	2.255	Average	2.254	Cal 43	9/15/2008 16:50	9/15/2008 10:00	9/12/2008 13:20	0.267	6300	30	210.00	243.02	2.86111	0.28472	3198	0.9962
203	2.273	Stdev	0.019	Cal 43	9/18/2008 14:25	9/18/2008 9:15	9/15/2008 10:00	0.267	6613	30	220.43	243.02	2.96875	0.21528	3201	0.9962
203	2.234			Cal 43	9/25/2008 21:00	9/25/2008 10:15	9/22/2008 10:00	0.267	6298	30	209.93	243.02	3.01042	0.44792	3208	0.9962
204	2.184	Average	2.193	Cal 15	9/15/2008 17:25	9/15/2008 10:30	9/12/2008 13:20	0.267	6132	30	204.40	243.02	2.88194	0.28819	3198	0.9962
204	2.300	Stdev	0.102	Cal 15	9/18/2008 14:55	9/18/2008 9:35	9/15/2008 10:30	0.267	6671	30	222.37	243.02	2.96181	0.22222	3201	0.9962
204	2.096			Cal 15	9/30/2008 14:05	9/30/2008 9:10	9/26/2008 9:45	0.133	7535	30	251.17	243.02	3.97569	0.20486	3213	0.9962
205	1.677	Average	1.799	Cal 13	10/21/2008 8:30	10/20/2008 14:05	10/13/2008 16:00	0.267	7584	30	252.80	243.02	6.92014	0.76736	3233	0.9962
205	1.730	Stdev	0.167	Cal 44	9/18/2008 16:00	9/18/2008 10:05	9/15/2008 10:55	0.167	4999	30	166.63	243.02	2.96528	0.24653	3201	0.9962
205	1.990			Cal 44	9/30/2008 14:45	9/30/2008 9:40	9/26/2008 9:45	0.167	7170	30	239.00	243.02	3.99653	0.21181	3213	0.9962
206	2.240	Average	2.259	Cal 46	9/15/2008 21:10	9/15/2008 11:25	9/12/2008 13:20	0.233	6216	30	207.20	243.02	2.92014	0.40625	3198	0.9962
206	2.293	Stdev	0.030	Cal 46	9/18/2008 16:35	9/18/2008 10:25	9/15/2008 11:25	0.267	6604	30	220.13	243.02	2.95833	0.25694	3201	0.9962
206	2.245			Cal 46	9/30/2008 15:20	9/30/2008 10:15	9/26/2008 9:45	0.267	8125	30	270.83	243.02	4.02083	0.21181	3213	0.9962
207	2.187	Average	2.146	Cal 36	9/15/2008 21:40	9/15/2008 11:50	9/12/2008 13:20	0.267	6094	30	203.13	243.02	2.93750	0.40972	3198	0.9962
207	2.141	Stdev	0.038	Cal 36	9/18/2008 17:55	9/18/2008 10:40	9/15/2008 11:50	0.267	6105	30	203.50	243.02	2.95139	0.30208	3201	0.9962
207	2.110			Cal 36	9/30/2008 16:00	9/30/2008 10:45	9/26/2008 9:45	0.233	7656	30	255.20	243.02	4.04167	0.21875	3213	0.9962
~~208~~	~~2.239~~	~~Average~~	~~2.283~~	~~Cal 30~~	~~9/15/2008 22:15~~	~~9/15/2008 12:15~~	~~9/12/2008 13:20~~	~~0.267~~	~~6258~~	~~30~~	~~208.60~~	~~243.02~~	~~3.95486~~	~~0.41667~~	~~3198~~	~~0.9962~~
~~208~~	~~2.243~~	~~Stdev~~	~~0.135~~	~~Cal 30~~	~~9/18/2008 18:30~~	~~9/18/2008 11:00~~	~~9/15/2008 10:15~~	~~0.133~~	~~6374~~	~~30~~	~~212.47~~	~~243.02~~	~~2.94792~~	~~0.81250~~	~~3201~~	~~0.9962~~
~~208~~	~~2.116~~			~~Cal 30~~	~~9/30/2008 18:35~~	~~9/30/2008 11:10~~	~~9/26/2008 9:45~~	~~0.333~~	~~7681~~	~~30~~	~~256.03~~	~~243.02~~	~~4.05903~~	~~0.99653~~	~~3213~~	~~0.9962~~
209	2.471	Average	2.291	Cal 19	9/15/2008 22:45	9/15/2008 13:50	9/12/2008 13:20	0.033	7073	30	235.77	243.02	3.02083	0.37153	3198	0.9962
209	2.212	Stdev	0.137	Cal 19	9/18/2008 19:15	9/18/2008 11:15	9/15/2008 13:50	0.067	6170	30	205.67	243.02	2.89236	0.33333	3201	0.9962
209	2.420			Cal 19	9/30/2008 17:25	9/30/2008 11:40	9/26/2008 9:45	0.100	8795	30	293.17	243.02	4.07986	0.23958	3213	0.9962
210	2.320	Average	2.253	Cal 47	9/15/2008 23:15	9/15/2008 14:15	9/12/2008 13:20	0.033	6665	30	222.17	243.02	3.03819	0.37500	3198	0.9962
210	2.210	Stdev	0.059	Cal 47	9/18/2008 19:45	9/18/2008 11:30	9/15/2008 14:15	0.100	6142	30	204.73	243.02	2.88542	0.34375	3201	0.9962
210	2.230			Cal 47	9/30/2008 18:00	9/30/2008 12:05	9/26/2008 9:45	0.033	8116	30	270.53	243.02	4.09722	0.24653	3213	0.9962
211	2.140	Average	2.171	Cal 37	9/15/2008 23:50	9/15/2008 14:30	9/12/2008 13:20	0.033	6150	30	205.00	243.02	3.04861	0.38889	3198	0.9962
211	2.238	Stdev	0.057	Cal 37	9/18/2008 22:20	9/18/2008 12:35	9/15/2008 14:30	0.133	6207	30	206.90	243.02	2.92014	0.40625	3201	0.9962
211	2.136			Cal 37	9/30/2008 18:30	9/30/2008 13:35	9/26/2008 9:45	0.100	7917	30	263.90	243.02	4.15972	0.20486	3213	0.9962
212	2.405	Average	2.322	Cal 42	9/16/2008 0:20	9/15/2008 14:50	9/12/2008 13:20	0.033	6926	30	230.87	243.02	3.06250	0.39583	3198	0.9962
212	2.315	Stdev	0.081	Cal 42	9/18/2008 22:55	9/18/2008 12:50	9/15/2008 14:50	0.267	6405	30	213.50	243.02	2.91667	0.42014	3201	0.9962
212	2.244			Cal 42	9/30/2008 19:50	9/30/2008 14:00	9/26/2008 9:45	0.267	8287	30	276.23	243.02	4.17708	0.24306	3213	0.9962

599

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 14	500	9/22/08 1000	9/25/08 0015	9/25/08 1935	201	2	0	5361
~~Cal 13~~	500	~~9/22/08 1000~~	~~9/25/08 0150~~	~~9/25/08 2010~~	202	2	0	5845
Cal 43	500	9/22/08 1000	9/25/08 1015	9/25/08 2100	203	2	0	6298
Cal 15	500	9/22/08 1000						
Cal 44	500	9/22/08 1000						
Cal 46	500	9/22/08 1000						
Cal 36	500	9/22/08 1000						
Cal 30	500	9/22/08 1000						
Cal 19	500	9/22/08 1000						
Cal 47	500	9/22/08 1000						
Cal 37	500	9/22/08 1000						
Cal 42	500	9/22/08 1000						

KW 12/18/08

KW 12/18/08

KW 12/18/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 14	500	9/12/08 1320	9/15/08 0905	9/15/08 1545	201	2	8	5596
Cal 13	500	9/12/08 1320	9/15/08 0935	9/15/08 1620	202	2	8	6779
Cal 43	500	9/12/08 1320	9/15/08 1000	9.15.08 1650	203	2	8	6300
Cal 15	500	9/12/08 1320	9/15/08 1030	9.15.08 1725	204	2	8	6132
~~Cal 44~~	~~500~~	~~9/12/08 1320~~	9/15/08 1055	9.15.08 1805	~~205~~	~~2~~	5	6132
Cal 46	500	9/12/08 1320	9/15/08 1125	9.15.08 2110	206	2	7	6216
Cal 36	500	9/12/08 1320	9/15/08 1150	9.15.08 2140	207	2	8	6094
~~Cal 30~~	500	9/12/08 1320	9/15/08 1215	9.15.08 2215	~~208~~	~~2~~	8	6258
Cal 19	500	9/12/08 1320	9/15/08 1350	9.15.08 2245	209	2	1	7073
Cal 47	500	9/12/08 1320	9/15/08 1415	9.15.08 2315	210	2	1	6665
Cal 37	500	9/12/08 1320	9/15/08 1430	9.15.08 2350	211	2	1	6150
Cal 42	500	9/12/08 1320	9/15/08 1450	9.16.08 0020	212	2	1	6926

KD 12/18/08

KD 12/19/08

KD 12/18/08

KD 12/19/08

001

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
15	500	9/26/08 0945	9/30/08 0910	9/30/08 1405	204	2	4	7535
44	500	9/26/08 0945	9/30/08 0940	9/30/08 1445	205	2	5	7170
46	500	9/26/08 0945	9/30/08 1015	9/30/08 1520	206	2	8	8125
36	500	9/26/08 0945	9/30/08 1015	9/30/08 1600	207	2	7	7656
~~30~~	~~500~~	~~9/26/08 0945~~	~~9/30/08 1110~~	~~9/30/08 1635~~	~~208~~	~~2~~	~~1~~	~~7681~~
19	500	9/26/08 0945	9/30/08 1140	9.30.08 1725	209	2	3	8795
47	500	9/26/08 0945	9/30/08 1205	9.30.08 1800	210	2	1	8116
37	500	9/26/08 0945	9/30/08 1335	9.30.08 1830	211	2	3	7917
42	500	9/26/08 0945	9/30/08 1400	9.30.08 1950	212	2	8	8287

602

KD 12/19/08

KD 12/18/08

KD 12/19/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 14	500	9/15/08 0905	9/18/08 0810	9/18/08 1300	201	2	8	5949
cal 13	500	9/15/08 0935	9/18/08 0845	9/18/08 1350	202	2	8	6425
Cal 43	500	9/15/08 1000	9/18/08 0915	9/18/08 1425	203	2	8	6413
cal 15	500	9/15/08 1030	9/18/08 0935	9/18/08 1455	204	2	8	6671
cal 44	500	9/15/08 1055	9/18/08 1005	9/18/08 1600	205	2	5	4999
Cal 46	500	9/15/08 1125	9/18/08 1025	9/18/08 1635	206	2	8	6604
Ca136	500	9/15/08 1150	9/18/08 1040	9/18/08 1755	207	2	8	6105
~~Cal 30~~	~~500~~	9/15/08 1215	9/18/08 1100	9/18/08 1830	208	2	4	6374
Cal 19	500	9/15/08 1350	9/18/08 1115	9/18/08 1915	209	2	2	6170
Cal 47	500	9/15/08 1415	9/18/08 1130	9/18/08 1945	210	2	3	6142
Cal 37	500	9/15/08 1430	9/18/08 1235	9/18/08 2220	211	2	4	6207
Ca142	500	9/15/08 1450	9/18/08 1250	9/18/08 2255	212	2	8	6405

603

KW 12/19/08

KW 12/18/08

KW 12/19/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 14	500	10/13/08 1600	10/20/08 1345	~~10/20/08~~ 10.21.08 13:50	202	2	8	9248
13	500	10/13/08 1600	10/20/08 1405	10/21/08 0830	205	2	8	1584
43								
44								
15								
36								
46								
30								
19								
47								
37				160 12/18/08				
42								

160 12/19/08

12/19/08

604

Verification for Ra-226 Standard 0299-G

4/2/2008	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff	Standard Mass. Used (G)	Source DPM/G
D. Roy	0299-G N1	2536.9600	52.4000	2484.5600	1.917186	0.5057	2562.667649
	0299-G N2	2520.2500	52.4000	2467.8500	1.917186	0.5056	2545.935781
	0299-G N3	2532.5000	52.4000	2480.1000	1.917186	0.5042	2565.677715
						Average =	2558.093715
Mean Value (Counting) =	2558.093715		**104.944421**	**Pass**			
Stdev =	10.63610098		0.00415782	**Rule 3 (Pass/Fail)**			

Certificate Value =	2437.6	dpm/mL
Lower Limit =	2536.821513	dpm/mL
Upper Limit =	2579.365917	dpm/mL
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**
Two sigma =	21.27220197	dpm/mL
10 % of Mean =	255.8093715	dpm/mL
Rule 2 (Pass/Fail)	**Pass**	

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 0299-G by transferring portions of the standard into tared glass liquid scintillation vials. One mL of DI Water and ten mLs of Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC Gold for Radium source standard verification. The Ra-226 efficiency calibration which was used for verification calculations was performed on 4/02/08 using source 0024-A (Ra-226). Calibration data is recorded in this logbook under Ra-226 0024. Each verification source calculation was performed as follows:

Source dpm/g = (A - B)/(C)(D)

where:

A = Ver. source cpm,
B = BKG cpm,
C = System efficiency, (cpm/dpm), and
D = mass used for standard verification.

RAD SOP M-001

4/10/08

4/9/08

4/10/08

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0299
Prepared By:	Angela Johnson
Carrier Conc:	0.5 M HCL
Reference Date:	12/15/1999
Ampoule Mass (g):	5.0368 g
Uncertainty:	+/- 2.5 %
LogBook No:	RC S 027 128

A Solution Material Info	
Isotope:	Radium-226
Prepared By:	Angela Johnson
Prep Date:	09/15/2000
Verification Date:	01/23/2008
Expiration Date:	01/23/2009
Primary Code:	0299-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.6634 g
Density(g/mL):	1.0012
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (100 mL) = 122414.2500 dpm/mL
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (1.0012 g/mL) / (100 mL) = 122273.3377 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
08/26/2003	Angela Johnson	1.9909	100	0299-E	2434.34 dpm/mL	11/04/2004	11/04/2005
08/26/2003	Angela Johnson	1.9872	100	0299-F	2429.82 dpm/mL	08/26/2004	08/26/2005
04/05/2005	Amanda Fehr	5.0018	250	0299-G	2446.3471 dpm/mL	04/02/2008	04/02/2009

GEL Laboratories LLC
Version 1.0 9/18/2000

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD A-008

Isotope: Ra-226

Date Standards Prepared: 4/5/05

Cocktail Type Used: NA

Standard ID: 0299-G

Matrix of Vial/Planchett: NA / NA / NA

Amount Used (g or (ml)): 0.1

Standard Activity (DPM/g or (mL)): 1446.347

Type of Scintillation Vial: NA

Reference Date: 4/15/99

Pipette ID Used: 1429303

Expiration Date: 4/2/09

Balance ID Used: 36040216

Residue/Carrier Agent: 0.5 M HCl

Quenching Agent: NA

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
14	Cal14				
13	Cal13				
43	Cal43				
15	Cal15				
44	Cal44				
46	Cal46				
36	Cal36				
19	Cal19				
47	Cal47				
37	Cal37				
42	Cal42				

Prepared By: Kelli S Dermody Date: 12/19/08

Reviewed By: [signature] Date: 12/19/08

Rev 1 RLM 9/10/97

0299

[redacted]

UKAS ACCREDITED CALIBRATION LABORATORY No. 0146

ement

Reference time for solution number R4/131/89:	1200 GMT on 15 December 1999	
Radioactive concentration of radium-226:	43.75	kilobecquerels per gram of solution
which is equivalent to:	1.183	microcuries per gram of solution
Mass of solution:	5.0368	grams
Total activity of radium-226:	220.4	kilobecquerels
which is equivalent to:	5.956	microcuries
Recommended half life:	1600	years

Method of measurement:
The activity of the solution was measured using a high pressure re-entrant ionisation chamber calibrated with a large number of absolutely standardised solutions.

Calibration date: 15 December 1999
The calibration date is provided for added information only, and must not be confused with the reference date on pages 1 and 2 of the certificate. It is the reference date that must be used in all calculations relating to the values of activity.

acy

Expanded uncertainty in the radioactive concentration quoted above: ± 2.5 %

Combined Type A uncertainty: ± 0.2 %
Combined Type B uncertainty: ± 1.3 %

onuclidic

The estimated activities of any radioactive impurities found by high-resolution gamma ray spectrometry, or in any other examination of the solution, are listed below expressed as percentages of the activity of the principal radionuclide at the reference time.

tical
position

Carrier free in 0.5M HCl

arks

This product meets the quality assurance requirements for achieving traceability to NIST as defined in ANSI N42.22-1995.

1 year = 365.25 days

At the reference date radium-226 was shown to be in radioactive equilibrium with its daughter nuclides down the decay chain to polonium-214 and thallium-210, the precursors of lead-210. The ionisation chamber was calibrated using a standard supplied by the National Institute of Standards and Technology, Washington DC, USA.

MCR 12/19/58
LD 12/19/58

ver 11-08

Ra-226 WATER

Batch : LCSVER
Date : 10/31/2008
Analyst : KSD1

Bkg Count Time: 30 min

Procedure Code : LUC26RAL
Parmname : Radium-226
MDA : 1 pCi/L
Instrument Used : LUCAS CELL DETECTOR

609

Sample ID	Sample Vol L	Count Time min	Gross counts cts	Cell # num	Cell Const. num	BKG cpm	Ra-226 MDA pCi/L	**Ra-226 RESULT pCi/L**	Ra-226 ERROR pCi/L	COUNT DATE/TIME
VER 1	0.500	30	1014	**201**	**1.993**	0.267	0.3504	**22.1841**	1.3817	11/17/2008 15:10
VER 2	0.500	30	1056	**202**	**2.261**	0.267	0.3089	**20.3702**	1.2427	11/17/2008 15:45
VER 3	0.500	30	726	**203**	**2.254**	0.267	0.5419	**24.4866**	1.8110	10/30/2008 16:05
VER 4	0.500	30	737	**204**	**2.193**	0.267	0.5519	**25.3188**	1.8580	10/30/2008 18:20
VER 5	0.500	30	937	**205**	**1.799**	0.267	0.3882	**22.6936**	1.4718	11/17/2008 16:20
VER 6	0.500	30	780	**206**	**2.259**	0.267	0.5373	**26.1045**	1.8604	10/30/2008 20:20
VER 7	0.500	30	711	**207**	**2.146**	0.267	0.5705	**25.2245**	1.8858	10/30/2008 22:00
~~VER 3~~	~~0.500~~	~~30~~	~~533~~	~~**208**~~	~~**2.283**~~	~~0.267~~	~~0.5132~~	~~**16.9552**~~	~~1.4723~~	~~11/20/2008 16:40~~ KD
VER 9	0.500	30	630	**209**	**2.291**	0.133	0.4042	**21.0513**	1.6596	10/30/2008 23:40 12/19/08
VER 10	0.500	30	691	**210**	**2.253**	0.033	0.2527	**23.7356**	1.7736	10/31/2008 1:15
VER 11	0.500	30	1067	**211**	**2.171**	0.267	0.3314	**22.0840**	1.3401	11/17/2008 21:55
VER 12	0.500	30	648	**212**	**2.322**	0.133	0.4223	**22.6294**	1.7586	10/31/2008 9:15

LL LA 12/19/08
KD 12/19/08

Sample ID	Sample Dup	Det #	Run Date	Sample Type	Standard ID	NC	NC units	Recovery/RPD
201		2	11/17/2008 10:20	LCS	0638-F	24.10	pCi/L	92%
202		2	11/17/2008 10:45	LCS	0638-F	24.10	pCi/L	85%
203		2	10/30/2008 11:05	LCS	0638-F	24.10	pCi/L	102%
204		2	10/30/2008 12:30	LCS	0638-F	24.10	pCi/L	105%
205		2	11/17/2008 11:10	LCS	0638-F	24.10	pCi/L	94%
206		2	10/30/2008 13:10	LCS	0638-F	24.10	pCi/L	108%
207		2	10/30/2008 13:25	LCS	0638-F	24.10	pCi/L	105%
~~208~~		~~2~~	~~11/20/2008 11:45~~	~~LCS~~	~~0638-F~~	~~24.10~~	~~pCi/L~~	~~70%~~
209		2	10/30/2008 14:05	LCS	0638-F	24.10	pCi/L	87%
210		2	10/30/2008 14:25	LCS	0638-F	24.10	pCi/L	98%
211		2	11/17/2008 12:20	LCS	0638-F	24.10	pCi/L	92%
212		2	10/30/2008 14:55	LCS	0638-F	24.10	pCi/L	94%

KD 12/18/08

DEGASSING DATE/TIME	DE-EMAN. DATE/TIME	DEGASS-DE-EM	dE-EM-COUNT	constant	constant	constant	Net CPM cpm	Ingrowth constant
11/10/2008 15:35	11/17/2008 10:20	162.75	4.83	0.7073	0.9642	1.0019	33.5333	0.6833
11/10/2008 15:35	11/17/2008 10:45	163.17	5.00	0.7083	0.9630	1.0019	34.9333	0.6833
10/27/2008 14:20	10/30/2008 11:05	68.75	5.00	0.4049	0.9630	1.0019	23.9333	0.3907
10/27/2008 14:20	10/30/2008 12:30	70.17	5.83	0.4113	0.9569	1.0019	24.3000	0.3943
11/10/2008 15:35	11/17/2008 11:10	163.58	5.17	0.7092	0.9617	1.0019	30.9667	0.6833
10/27/2008 14:20	10/30/2008 13:10	70.83	7.17	0.4142	0.9473	1.0019	25.7333	0.3931
10/27/2008 14:20	10/30/2008 13:25	71.08	8.58	0.4153	0.9373	1.0019	23.4330	0.3900
~~11/17/2008 11:10~~	~~11/20/2008 11:45~~	~~72.58~~	~~4.92~~	~~0.4219~~	~~0.9636~~	~~1.0019~~	~~17.5000~~	~~0.4073~~
10/27/2008 14:20	10/30/2008 14:05	71.75	9.58	0.4182	0.9302	1.0019	20.8670	0.3898
10/27/2008 14:20	10/30/2008 14:25	72.08	10.83	0.4197	0.9215	1.0019	23.0003	0.3875
11/10/2008 15:35	11/17/2008 12:20	164.75	9.58	0.7117	0.9302	1.0019	35.3000	0.6633
10/27/2008 14:20	10/30/2008 14:55	72.58	18.33	0.4219	0.8707	1.0019	21.4670	0.3681

KD 12/18/08

610

NCA 12/19/08
KD 12/18/08 ✓

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
VER 1	500	~~11/10/08 1535~~ ~~10/30/08 1430~~ 11/10/08	11/17/08 1020	11/17/08 1510	201	2	8	1014
2	500	11/10/08 1535	11/17/08 1045	11/17/08 1545	202	2	8	1056
3	500	11/10/08 1535	11/17/08 1110	11/17/08 1620	205	2	8	937
4	500	11/10/08 1535	11/17/08 1135	~~11.17.08 2050~~	~~208~~	~~2~~	~~8~~	~~786~~
5	500	11/10/08 1535	11/17/08 1150	11.17.08 2120	209	2	8	1200
6	500	11/10/08 1535	11/17/08 1220	11.17.08 2155	211	2	8	1067
7	~~500~~	~~11/10/08 1535~~	~~11/17/08 0845~~	~~11/17/08 1330~~	~~702~~	~~1~~	~~8~~	~~982~~
8	500	11/10/08 1535	11/17/08 0900	~~11/17/08 1405~~	~~708~~	~~7~~	~~8~~	~~1164~~
9	500	~~11/10/08 1535~~	11/17/08 0930	11/17/08 1435	705	7	8	1122
10								
11								
12								
~~VER 3~~	500	~~11/17/08 1110~~	~~11/20/08 1145~~	~~11/20/08 1640~~	~~208~~	~~2~~	~~8~~	~~533~~

611

KW 12/18/08

KW 12/18/08

KW 12/18/08

KW 12/18/08

KW 11/21/08

KW 12/18/08

KW 12/18/08

KW 12/19/08

KW 12/18/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
~~VW 1~~	~~500~~	~~10/27/08 1420~~	~~10/30/08 0945~~	10/30/08 1500	201	~~2~~	~~4~~	~~452~~
~~VW 2~~	~~500~~	~~10/27/08 1420~~	10/30/08 1005	10/30/08 1535	202	2	~~6~~	~~789~~
VW 3	500	10/27/08 1420	10/30/08 1105	10/30/08 1605	~~203~~ 204	2	8	726
VW 4	500	10/27/08 1420	10/30/08 1230	10/30/08 1820	~~204~~ 205	2	8	737
~~VW 5~~	~~500~~	~~10/27/08 1420~~	~~10/30/08 1250~~	10/30/08 1900	205	2	6	663
VW 6	500	10/27/08 1420	10/30/08 1310	10/30/08 2020	206	2	8	780
VW 7	500	10/27/08 1420	10/30/08 1425	10/30/08 2200	207	2	8	711
~~VW 8~~	~~500~~	10/27/08 1420	10/30/08 1345	10/30/08 2300	208	2	4	~~497~~
VW 9	500	10/27/08 1420	10/30/08 1405	10/30/08 2340	209	2	4	630
VW 10	500	10/27/08 1420	10/30/08 1425	10/31/08 0115	210	2	1	691
~~VW 11~~	~~500~~	10/27/08 1420	10/30/08 1440	10/31/08 0835	211	2	3	~~423~~
VW 12	500	10/27/08 1420	10/30/08 1455	10/31/08 0915	212	2	4	648

612

Verification for Ra-226 Standard 0638-F

D Roy
12/27/2007

	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff	Standard Mass. Used (mL)	Source DPM/mL
	0638-F N1	1239.9000	31.5000	1208.4000	4.624018	1.0000	261.3311626
	0638-F N2	1222.8000	31.5000	1191.3000	4.624018	1.0000	257.6330801
	0638-F N3	1219.4000	31.5000	1187.9000	4.624018	1.0000	256.8977889
						Average =	258.6206772
Mean Value (Counting) =	258.6206772		**96.8384646**	**Pass**			
Stdev =	2.375965421		0.00918707	**Rule 3 (Pass/Fail)**			
Certificate Value =	267.1						
Lower Limit =	253.8687464						
Upper Limit =	263.3726081						
Rule 1 Pass/Fail	**Fail**	'exception taken due to full recovery of standard					
Two sigma =	4.751930843						
10 % of Mean =	25.86206772						
Rule 2 (Pass/Fail)	**Pass**						

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 0638-F by transferring portions of the standard into tared glass liquid scintillation vials. One mL of DI Water and 10 mL Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC YELLOW using source standard verification. The Ra-226 efficiency calibration which was used for verification calculations was performed on 12/27/07 using source 0024-A (Ra-226). Calibration data is recorded in this logbook under Ra-226 (0024-A). Each verification source calculation was performed as follows:

Source dpm/g = (A - B)/(C)(D)
where:
A = Ver. source cpm,
B = BKG cpm,
C = System efficiency, (cpm/dpm), and
D = mass used for standard verification.
Reference RAD SOP M-001

LW 12/19/08

1/4/07

Amanda L. Tech 1/4/07

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-008

Isotope: RA-226

Date Standards Prepared: 12/18/07

Cocktail Type Used: NA

Standard ID: 0638-F

Matrix of Vial/Planchett: NA / NA / NA

Amount Used (g or ml): 0.1

Standard Activity (DPM/g or mL): 167.519

Type of Scintillation Vial: NA

Reference Date: 1/23/04

Pipette ID Used: 1425303

Expiration Date: 12/2008

Balance ID Used: 3604046

Residue/Carrier Agent: 0.1M HCl

Quenching Agent: NA

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
1	Ver 1				
2	Ver 2				
3	Ver 3				
4	Ver 4				
5	Ver 5				
6	Ver 6				
7	Ver 7				
8	Ver 8				
9	Ver 9				
10	Ver 10				
11	Ver 11				
12	Ver 12				

12/19/08

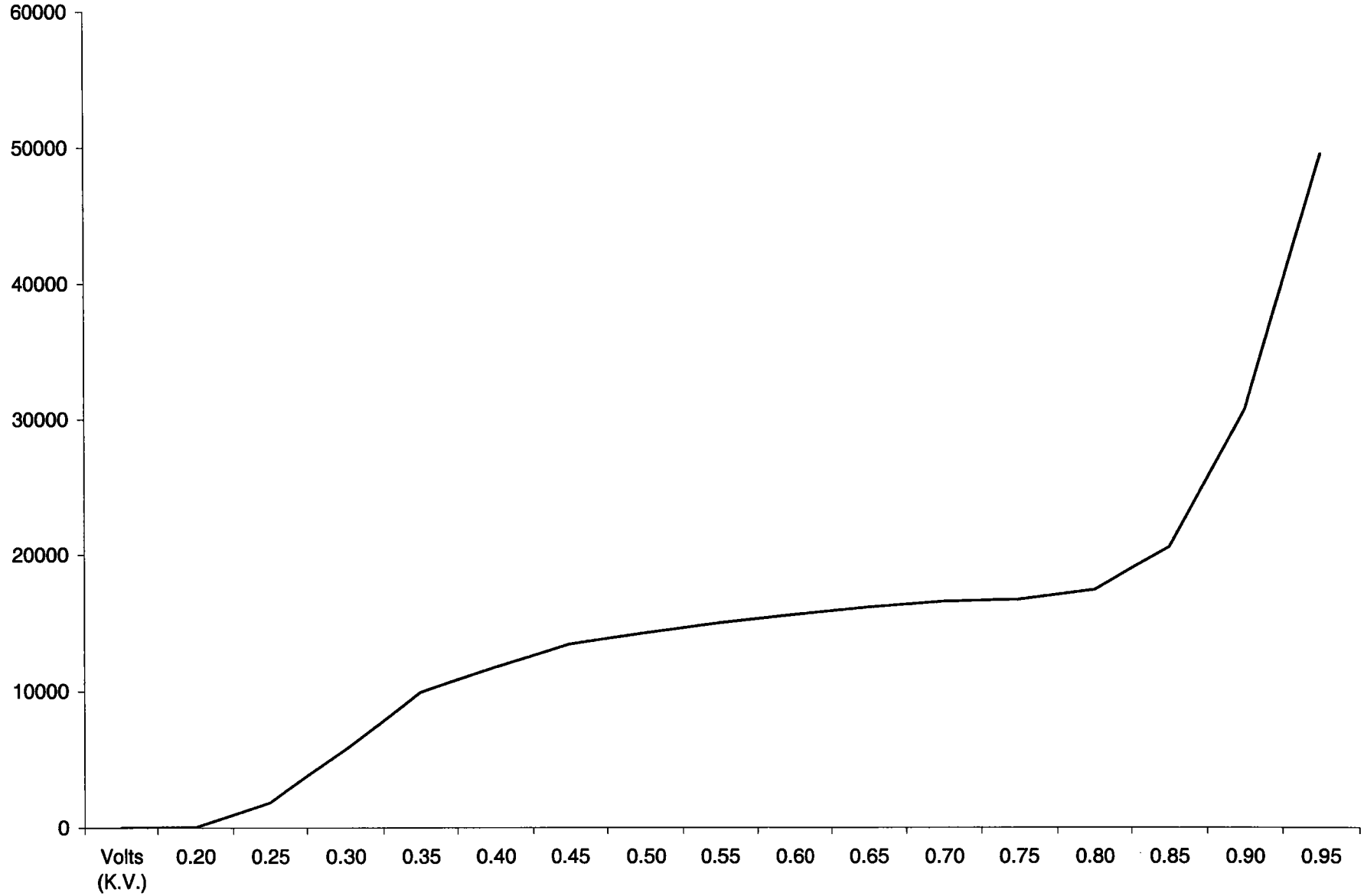
Prepared By: Kelli Dienel Date: 12/19/08

Reviewed By: [signature] Date: 12/19/08

Rev 1 RLM 9/10/97

Voltage Curve Ludlum # 2				
Volts (K.V.)	**Counts**	**Date**	**Time**	**Detector**
0.20	0	9/19/2008	10:00	2
0.25	0	9/19/2008	10:00	2
0.30	0	9/19/2008	10:00	2
0.35	0	9/19/2008	10:00	2
0.40	0	9/19/2008	10:00	2
0.45	36	9/19/2008	10:00	2
0.50	1860	9/19/2008	10:00	2
0.55	5751	9/19/2008	10:00	2
0.60	9916	9/19/2008	10:00	2
0.65	11761	9/19/2008	10:00	2
0.70	13431	9/19/2008	10:00	2
0.75	14254	9/19/2008	10:00	2
0.80	14984	9/19/2008	10:00	2
0.85	15598	9/19/2008	10:00	2
0.90	16129	9/19/2008	10:00	2
0.95	16562	9/19/2008	10:00	2
1.00	16711	9/19/2008	10:00	2
1.05	17428	9/19/2008	10:00	2
1.10	20558	9/19/2008	10:00	2
1.15	30722	9/19/2008	10:00	2
1.20	49527	9/19/2008	10:00	2
1.25	71509	9/19/2008	10:00	2
1.30	115018	9/19/2008	10:00	2

12/19/08
12/19/08



616

12/19/08

12/19/08

201	1.993	12/19/2008
202	2.261	12/19/2008
203	2.254	12/19/2008
204	2.193	12/19/2008
205	1.799	12/19/2008
206	2.259	12/19/2008
207	2.146	12/19/2008
209	2.291	12/19/2008
210	2.253	12/19/2008
211	2.171	12/19/2008
212	2.322	12/19/2008

12/19/08

General Engineering Laboratories
2040 Savage Road, Charleston, SC 29414
(843)556-8171

Lucas Cell Calibration Package

	YES	NO	Comments
1) Is all calibration standard information enclosed for:			
the primary standard certificate?	✓		
the secondard standard(s) documentation?	✓		
standard preparation information?	✓		
standard < 1 Year old or verified?	✓		
2) Is the efficiency calibration report included ?	✓		
3) Is the raw count data included for:			
Cell constant determination?	✓		
Plateau generation?	✓		
4) Are the calibration verifications included?	✓		
5) Are the instrument settings included:			
HVPS settings?	✓		
6) Has the CELLEFF.xls file been updated ?	✓		
7) Have the calibration dates been updated in ALPHALIMS ?	✓		

Prepared By: Kelli Darnell Date: 2/31/09

Reviewed By: Lindy G. Hess Date: 2/4/09

Effective Date: 2/4/09

Ra-226 Cell Constants

Standard Reference date :	12/15/1999
standard ID :	0299-G
Volume added (mL) :	0.1
Standard Reference Activity (DPM/mL) :	2446.35

Lucas cell #	Cell constant			Standard Source	Date/Time of count	Date/time flushed to cell	Date/time end of degas	bkg cpm	total counts	count time min	cpm	Known activity dpm	t1 (days) end-degas to flush	t2 (days) end-flush to count	t3 (days) Std Ref Date to count	Decay from Std Ref Date to count
301	1.867	Average	2.021	43	1/20/2009 11:05	1/19/2009 10:10	1/9/2009 15:45	0.267	9355	30	311.83	243.67	9.76736	1.03819	3324	0.9961
301	2.184	Stdev	0.159	43	1/29/2009 11:50	1/29/2009 8:50	1/26/2009 13:00	0.267	6239	30	207.97	243.67	2.82639	0.12500	3333	0.9961
301	2.011			43	1/26/2009 14:35	1/26/2009 9:25	1/22/2009 9:10	0.267	7282	30	242.73	243.67	4.01042	0.21528	3331	0.9961
302	2.082	Average	2.131	13	1/30/2009 11:30	1/30/2009 8:30	1/26/2009 13:00	0.267	7401	30	246.70	243.67	3.81250	0.12500	3334	0.9961
302	2.225	Stdev	0.082	47	1/29/2009 13:30	1/29/2009 9:20	1/26/2009 13:00	0.233	6335	30	211.17	243.67	2.84722	0.17361	3334	0.9961
302	2.086			47	1/26/2009 15:30	1/26/2009 9:55	1/22/2009 9:10	0.267	7555	30	251.83	243.67	4.03125	0.23264	3331	0.9961
303	1.958	Average	2.136	19	1/20/2009 13:40	1/19/2009 11:00	1/9/2009 15:45	0.267	9695	30	323.17	243.67	9.80208	1.11111	3325	0.9961
303	2.218	Stdev	0.154	19	1/22/2009 20:35	1/22/2009 10:05	1/19/2009 15:00	0.267	5938	30	197.93	243.67	2.79514	0.43750	3327	0.9961
303	2.231			19	1/26/2009 17:20	1/26/2009 10:25	1/22/2009 9:10	0.267	8028	30	267.60	243.67	4.05208	0.28819	3331	0.9961
305	1.897	Average	2.057	42	1/20/2009 14:50	1/19/2009 11:35	1/9/2009 15:45	0.200	9357	30	311.90	243.67	9.82639	1.13542	3325	0.9961
305	2.191	Stdev	0.149	42	1/22/2009 21:50	1/22/2009 11:05	1/19/2009 15:00	0.267	5921	30	197.37	243.67	2.83681	0.44792	3327	0.9961
305	2.083			42	1/26/2009 23:00	1/26/2009 11:20	1/22/2009 9:10	0.267	7280	30	242.67	243.67	4.09028	0.48611	3331	0.9961
306	1.730	Average	1.747	44	1/20/2009 15:20	1/19/2009 11:50	1/9/2009 15:45	0.167	8521	30	284.03	243.67	9.83681	1.14583	3325	0.9961
306	1.691	Stdev	0.067	30	1/29/2009 14:30	1/29/2009 10:20	1/26/2009 13:00	0.233	4869	30	162.30	243.67	2.88889	0.17361	3334	0.9961
306	1.821			44	1/26/2009 23:30	1/26/2009 11:50	1/22/2009 9:10	0.267	6387	30	212.90	243.67	4.11111	0.48611	3331	0.9961
307	1.818	Average	1.931	15	1/20/2009 15:50	1/19/2009 12:05	1/9/2009 15:45	0.267	8944	30	298.13	243.67	9.84722	1.15625	3325	0.9961
307	2.095	Stdev	0.145	36	1/30/2009 12:55	1/30/2009 9:10	1/26/2009 13:00	0.267	7442	30	248.07	243.67	3.84028	0.15625	3335	0.9961
307	1.881			15	1/27/2009 0:05	1/26/2009 12:10	1/22/2009 9:10	0.267	6598	30	219.93	243.67	4.12500	0.49653	3331	0.9961
308	2.129	Average	1.950	44	1/29/2009 15:50	1/29/2009 11:05	1/26/2009 13:00	0.133	6149	30	204.97	243.67	2.92014	0.19792	3334	0.9961
308	1.858	Stdev	0.155	14	1/23/2009 9:35	1/22/2009 13:45	1/19/2009 15:00	0.267	4829	30	160.97	243.67	2.94792	0.82639	3327	0.9961
308	1.862			14	1/27/2009 8:30	1/26/2009 13:15	1/22/2009 9:10	0.267	6226	30	207.53	243.67	4.17014	0.80208	3331	0.9961
309	1.857	Average	1.877	13	1/20/2009 17:20	1/19/2009 13:35	1/9/2009 15:45	0.033	9149	30	304.97	243.67	9.90972	1.15625	3325	0.9961
309	1.964	Stdev	0.079	13	1/23/2009 10:30	1/22/2009 14:05	1/19/2009 15:00	0.267	5100	30	170.00	243.67	2.96181	0.85069	3327	0.9961
309	1.810			13	1/27/2009 9:05	1/26/2009 13:30	1/22/2009 9:10	0.267	6046	30	201.53	243.67	4.18056	0.81597	3331	0.9961
311	2.140	Average	2.114	15	1/29/2009 16:40	1/29/2009 11:20	1/26/2009 13:00	0.267	6176	30	205.87	243.67	2.93056	0.22222	3334	0.9961
311	2.212	Stdev	0.114	28	1/23/2009 12:20	1/22/2009 14:25	1/19/2009 15:00	0.267	5698	30	189.93	243.67	2.97569	0.91319	3328	0.9961
311	1.988			28	1/27/2009 10:15	1/26/2009 13:45	1/22/2009 9:10	0.267	6607	30	220.23	243.67	4.19097	0.85417	3331	0.9961
312	1.871	Average	1.944	36	1/20/2009 19:16	1/19/2009 14:10	1/9/2009 15:45	0.100	9135	30	304.50	243.67	9.93403	1.21250	3325	0.9961
312	2.014	Stdev	0.071	14	1/29/2009 17:10	1/29/2009 11:35	1/26/2009 13:00	0.167	5814	30	193.80	243.67	2.94097	0.23264	3334	0.9961
312	1.946			36	1/27/2009 11:10	1/26/2009 14:00	1/22/2009 9:10	0.267	6446	30	214.87	243.67	4.20139	0.88194	3331	0.9961

619

KO 2/3/09

Ra-226 Verification Sheet

#3

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 13	500	11/26/09 1300	11/30/09 0830	11/30/09 1130	302	3	8	7401
~~Cal 28~~	~~500~~	~~11/26/09 1300~~	~~11/30/09 0855~~	~~11/30/09 1200~~	~~304~~	~~3~~	~~8~~	~~7101~~
Cal 36	500	11/26/09 1300	11/30/09 0910	11/30/09 1255	307	3	8	7442

KD 2/3/09

1/3/09

620

KD 2/3/09

MCA 2/4/09

KD 2/3/09

Ra-226 Verification Sheet

#3

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 43	500	1/26/09 1300	1/29/09 0850	1/29/09 1150	301	3	8	6239
Cal 47	500	1/26/09 1300	1/29/09 0920	1/29/09 1330	302	3	7	6335
~~Cal 49~~	~~500~~	~~1/26/09 1300~~	~~1/29/09 0950~~	~~1/29/09 1400~~	~~304~~	~~3~~	~~2~~	~~6472~~
Cal 130	500	1/26/09 1300	1/29/09 1020	1/29/09 1430	306	3	7	4869
~~Cal 42~~	~~500~~	~~1/26/09 1300~~	~~1/29/09 1045~~	~~1/29/09 1515~~	~~307~~	~~3~~	~~3~~	~~6668~~
Cal 144	500	1/26/09 1300	1/29/09 1105	1/29/09 1550	308	3	4	6149
Cal 15	500	1/26/09 1300	1/29/09 1120	1/29/09 1640	311	3	8	6176
Cal 14	500	1/26/09 1300	1/29/09 1135	1/29/09 1710	312	3	5	5814
Cal 13	500	1/26/09 1300						
Cal 28	500	1/26/09 1300						
Cal 36	500	1/26/09 1300						
Cal 37	500	1/26/09 1300						

621

KW 2/3/09

KW 2/3/09

KW 2/3/09

KD 2/3/09

M.A 2/4/09

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts	
Cal 43	500	1/9/09 1545	1/19/09 1010	1/20/09 1105	301	3	8	9355	
~~Cal 47~~	~~500~~	~~1/9/09 1545~~	~~1/19/09 1040~~	~~1/20/09 1150~~	~~302~~	~~3~~	~~8~~	~~8933~~	KD 2/3/09
Cal 19	500	1/9/09 1545	1/19/09 1100	1/20/09 1340	303	3	8	9695	
~~Cal 30~~	~~500~~	~~1/9/09 1545~~	~~1/19/09 1120~~	~~1/20/09 1420~~	~~304~~	~~3~~	~~8~~	~~9630~~	KD 2/3/09
Cal 42	500	1/9/09 1545	1/19/09 1135	1/20/09 1450	305	3	5	9357	
Cal 44	500	1/9/09 1545	1/19/09 1150	1/20/09 ~~1520~~ 1520 KD 1/20/09	306	3	7	8521	
Cal 15	500	1/9/09 1545	1/19/09 1205	1/20/09 1550	307	3	8	8944	
~~Cal 14~~	~~500~~	~~1/9/09 1545~~	~~1/19/09 1315~~	~~1/20/09 1645~~	~~308~~	~~3~~	~~3~~	~~6938~~	KD 2/3/09
Cal 13	500	1/9/09 1545	1/19/09 1335	1/20/09 1720	309	3	1	9149	
~~Cal 28~~	~~500~~	~~1/9/09 1545~~	~~1/19/09 1355~~	~~1/20/09 1840~~	~~311~~	~~3~~	~~8~~	~~8648~~	KD 2/3/09
Cal 36	500	1/9/09 1545	1/19/09 1410	1/20/09 1916	312	3	1	9135	
~~Cal 37~~	500	1/9/09 1545							
								KD 2/3/09	KD 2/3/09 Rec'd 2/11/09

622

Ra-226 Verification Sheet

Cal for #3

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts	
~~Cal 43~~	~~500~~	~~11/19/09 1500~~	~~11/22/09 0910~~	~~11/23/09 1525~~	~~301~~	~~3~~	~~8~~	~~6408~~	KD 2/3/09
~~Cal 44~~	~~500~~	~~11/19/09 1500~~	~~11/22/09 0935~~	11/22/09 1605	302	3	~~8~~	6493	KD 2/3/09
Cal 29	500	11/19/09 1500	11/22/09 1005	1.22.09 2035	303	3	8	5938	
Cal 30	500	11/19/09 1500	11/22/09 1035	1.22.09 2120	~~304~~	~~3~~	~~8~~	~~5240~~	KD 2/3/09
Cal 42	500	11/19/09 1500	11/22/09 1105	11/22/09 2150	305	3	8	5921	
~~Cal 44~~	~~500~~	~~11/19/09 1500~~	~~11/22/09 1135~~	~~11/23/09 0830~~	~~306~~	~~3~~	~~8~~	~~5393~~	KD 2/3/09
~~Cal 15~~	~~500~~	~~11/19/09 1500~~	~~11/22/09 1320~~	11/23/09 0950	~~307~~	~~3~~	~~8~~	~~5870~~	KD 2/3/09
Cal 14	500	11/19/09 1500	11/22/09 1345	11/23/09 0935	308	3	8	4826	
Cal 13	500	11/19/09 1500	11/22/09 1405	11/23/09 1030	309	3	8	5100	
Cal 28	500	11/19/09 1500	11/22/09 1425	11/23/09 1220	311	3	8	5698	
~~Cal 36~~	500	~~11/19/09 1500~~	11/22/09 1440	~~11/23/09 1315~~	~~312~~	~~3~~	~~8~~	5881	KD 2/3/09
Cal 27	500	11/19/09 1500	11/22/09						
					KD 2/3/09				KD 2/3/09 RLA 2/4/09

623

Ra-226 Verification Sheet

Cal for #3

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 43	500	11/22/09 0910	11/26/09 0925	11/26/09 1455	301	3	8	7282
Cal 47	500	11/22/09 0910	11/26/09 0955	11/26/09 1530	302	3	8	1555
Cal 19	500	11/22/09 0910	11/26/09 1025	11/26/09 1610 1720	303	3	8	8028
~~Cal 30~~	~~500~~	~~11/22/09 0910~~	11/26/09 1050	~~1.26.09 1645~~	~~304~~	~~3~~		5162
Cal 42	500	11/22/09 0910	11/26/09 1120	1.26.09 2300	305	3	8	7280
Cal 44	500	11/22/09 0910	11/26/09 1150	1.26.09 2330	306	3	8	6387
Cal 15	500	11/22/09 0910	11/26/09 1210	1.27.09 0005	307	3	8	6598
Cal 14	500	11/22/09 0910	11/26/09 1315	11/27/09 0830	308	3	8	6726
Cal 13	500	11/22/09 0910	11/26/09 1330	11/27/09 0905	309	3	8	6046
Cal 28	500	11/22/09 0910	11/26/09 1345	11/27/09 1015	311	3	8	6607
Cal 36	500	11/22/09 1910	11/26/09 1400	11/27/09 1110	312	3	8	6446
~~Cal 37~~								

KD 2/3/09

KD 2/3/09

ALM 2/4/09

624

Verification for Ra-226 Standard 0299-G

4/2/2008	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff	Standard Mass. Used (G)	Source DPM/G
D. Roy	0299-G N1	2536.9600	52.4000	2484.5600	1.917186	0.5057	2562.667649
	0299-G N2	2520.2500	52.4000	2467.8500	1.917186	0.5056	2545.935781
	0299-G N3	2532.5000	52.4000	2480.1000	1.917186	0.5042	2565.677715
						Average =	2558.093715

Mean Value (Counting) =	2558.093715		**104.944421**	**Pass**
Stdev =	10.63610098		0.00415782	**Rule 3 (Pass/Fail)**
Certificate Value =	2437.6	dpm/mL		
Lower Limit =	2536.821513	dpm/mL		
Upper Limit =	2579.365917	dpm/mL		
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**		
Two sigma =	21.27220197	dpm/mL		
10 % of Mean =	255.8093715	dpm/mL		
Rule 2 (Pass/Fail)	**Pass**			

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 0299-G by transferring portions of the standard into tared glass liquid scintillation vials. One mL of DI Water and ten mLs of Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC Gold for Radium source standard verification. The Ra-226 efficiency calibration which was used for verification calculations was performed on 4/02/08 using source 0024-A (Ra-226). Calibration data is recorded in this logbook under Ra-226 0024. Each verification source calculation was performed as follows:

Source dpm/g = (A - B)/(C)(D)

where:

A = Ver. source cpm,

B = BKG cpm,

C = System efficiency, (cpm/dpm), and

D = mass used for standard verification.

RAD SOP M-001

2/3/09

2/4/09

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0299
Prepared By:	Angela Johnson
Carrier Conc:	0.5 M HCL
Reference Date:	12/15/1999
Ampoule Mass (g):	5.0368 g
Uncertainty:	+/- 2.5 %
LogBook No:	RC S 027 128

A Solution Material Info	
Isotope:	Radium-226
Prepared By:	Angela Johnson
Prep Date:	09/15/2000
Verification Date:	01/23/2008
Expiration Date:	01/23/2009
Primary Code:	0299-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.6634 g
Density(g/mL):	1.0012
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (100 mL) = 122414.2500 dpm/mL
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (1.0012 g/mL) / (100 mL) = 122273.3377 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
08/26/2003	Angela Johnson	1.9909	100	0299-E	2434.34 dpm/mL	11/04/2004	11/04/2005
08/26/2003	Angela Johnson	1.9872	100	0299-F	2429.82 dpm/mL	08/26/2004	08/26/2005
04/05/2005	Amanda Fehr	5.0018	250	0299-G	2446.3471 dpm/mL	04/02/2008	04/02/2009

GEL Laboratories LLC
Version 1.0 9/18/2000

KD 2/3/09
ALLA 2/4/09

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-008

Isotope: RA-226

Date Standards Prepared: 4/5/09

Cocktail Type Used: NA

Standard ID: 02996

Matrix of Vial/Planchett: NA / NA / NA

Amount Used (g or ml): 0.1

Standard Activity (DPM/g or mL): 246.347

Type of Scintillation Vial: NA

Reference Date: 12/15/99

Pipette ID Used: 1429303

Expiration Date: 4/2/09

Balance ID Used: 36040216

Residue/Carrier Agent: 0.5 M HCl

Quenching Agent: NA

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
43	Cal 43				
47	Cal 47				
19	Cal 19				
30	Cal 30				
42	Cal 42				
44	Cal 44				
15	Cal 15				
14	Cal 14				
13	Cal 13				
28	Cal 28				
36	Cal 36				

LVO 2/31/09

Prepared By: Kelli S Power Date: 2/31/09

Reviewed By: [signature] Date: 2/4/09

Rev 1 RLM 9/10/97

0299

Certificate of Calibration for Radium Reference Solution

UKAS ACCREDITED CALIBRATION LABORATORY No. 0146

ement	Reference time for solution number R4/131/89:	1200 GMT on 15 December 1999
	Radioactive concentration of radium-226:	43.75 kilobecquerels per gram of solution
	which is equivalent to:	1.183 microcuries per gram of solution
	Mass of solution:	5.0368 grams
	Total activity of radium-226:	220.4 kilobecquerels
	which is equivalent to:	5.956 microcuries
	Recommended half life:	1600 years

Method of measurement:
The activity of the solution was measured using a high pressure re-entrant ionisation chamber calibrated with a large number of absolutely standardised solutions.

Calibration date: 15 December 1999
The calibration date is provided for added information only, and must not be confused with the reference date on pages 1 and 2 of the certificate. It is the reference date that must be used in all calculations relating to the values of activity.

acy Expanded uncertainty in the radioactive concentration quoted above: ± 2.5 %

Combined Type A uncertainty: ± 0.2 %
Combined Type B uncertainty: ± 1.3 %

onuclidic The estimated activities of any radioactive impurities found by high-resolution gamma ray spectrometry, or in any other examination of the solution, are listed below expressed as percentages of the activity of the principal radionuclide at the reference time.

nical Carrier free in 0.5M HCl
position

arks This product meets the quality assurance requirements for achieving traceability to NIST as defined in ANSI N42.22-1995.

1 year = 365.25 days

At the reference date radium-226 was shown to be in radioactive equilibrium with its daughter nuclides down the decay chain to polonium-214 and thallium-210, the precursors of lead-210. The ionisation chamber was calibrated using a standard supplied by the National Institute of Standards and Technology, Washington DC, USA.

KD 2/3/09
2/11/09

Ra-226 WATER

Batch : LCSVER
Date : 1/2/2009
Analyst : KSD1
Bkg Count Time: 30 min

Procedure Code : LUC26RAL
Parmname : Radium-226
MDA : 1 pCi/L
Instrument Used : LUCAS CELL DETECTOR

Sample ID	Sample Vol L	Count Time min	Gross counts cts	Cell # num	Cell Const. num	BKG cpm	Ra-226 MDA pCi/L	**Ra-226 RESULT pCi/L**	Ra-226 ERROR pCi/L	COUNT DATE/TIME
1	0.500	30	656	**301**	2.021	0.267	0.4919	**20.0589**	1.5634	1/30/2009 15:05
1	0.500	30	655	**302**	2.131	0.267	0.5554	**22.6149**	1.7640	2/2/2009 13:40
2	0.500	30	914	**303**	2.136	0.267	0.4647	**26.4838**	1.7397	1/30/2009 15:40
3	0.500	30	791	**305**	2.057	0.267	0.4845	**23.8718**	1.6891	1/30/2009 17:05
4	0.500	30	768	**306**	1.747	0.267	0.5709	**27.2885**	1.9605	1/30/2009 17:37
2	0.500	30	720	**307**	1.931	0.267	0.6113	**27.3779**	2.0335	2/2/2009 14:15
5	0.500	30	730	**308**	1.950	0.267	0.5149	**23.3957**	1.7254	1/30/2009 19:05
6	0.500	30	764	**309**	1.877	0.267	0.5908	**28.0944**	2.0238	1/31/2009 10:20
7	0.500	30	594	**311**	2.114	0.267	0.5510	**20.3087**	1.6667	1/31/2009 17:20
8	0.500	30	542	**312**	1.944	0.267	0.8009	**26.8983**	2.3154	2/2/2009 8:25

629

2/4/09

2/4/09

Sample ID	Cell #	Det #	Run Date	Sample Type	Standard ID	NC	NC units	Recovery/RPD
1	**301**	3	1/30/2009 10:40	LCS	0638-F	24.10	pCi/L	**83%**
2	**302**	3	2/2/2009 9:15	LCS	0638-F	24.10	pCi/L	**94%**
2	**303**	3	1/30/2009 11:05	LCS	0638-F	24.10	pCi/L	**110%**
						24.10		
3	**305**	3	1/30/2009 11:30	LCS	0638-F	24.10	pCi/L	**99%**
4	**306**	3	1/30/2009 11:45	LCS	0638-F	24.10	pCi/L	**113%**
2	**307**	3	2/2/2009 9:40	LCS	0638-F	24.10	pCi/L	**114%**
5	**308**	3	1/30/2009 12:00	LCS	0638-F	24.10	pCi/L	**97%**
3	**309**	3	1/30/2009 13:05	LCS	0638-F	24.10	pCi/L	**117%**
						24.10		
7	**311**	3	1/30/2009 13:20	LCS	0638-F	24.10	pCi/L	**84%**
8	**312**	3	1/30/2009 13:40	LCS	0638-F	24.10	pCi/L	**112%**

DEGASSING DATE/TIME	DE-EMAN. DATE/TIME	DEGASS-DE-EM	dE-EM-COUNT	constant	constant	constant	Net CPM cpm	Ingrowth constant
1/26/2009 16:05	1/30/2009 10:40	90.58	4.42	0.4954	0.9672	1.0019	21.6000	0.4800
1/30/2009 10:00	2/2/2009 9:15	71.25	4.42	0.4160	0.9672	1.0019	21.5667	0.4032
1/26/2009 16:05	1/30/2009 11:05	91.00	4.58	0.4969	0.9660	1.0019	30.1997	0.4809
1/26/2009 16:05	1/30/2009 11:30	91.42	5.58	0.4985	0.9587	1.0019	26.1000	0.4788
1/26/2009 16:05	1/30/2009 11:45	91.67	5.87	0.4995	0.9567	1.0019	25.3330	0.4787
1/30/2009 10:00	2/2/2009 9:40	71.67	4.58	0.4179	0.9660	1.0019	23.7330	0.4044
1/26/2009 16:05	1/30/2009 12:00	91.92	7.08	0.5004	0.9479	1.0019	24.0667	0.4753
1/26/2009 16:05	1/30/2009 13:05	93.00	21.25	0.5045	0.8518	1.0019	25.1997	0.4305
1/26/2009 16:05	1/30/2009 13:20	93.25	28.00	0.5054	0.8095	1.0019	19.5330	0.4099
1/26/2009 16:05	1/30/2009 13:40	93.58	66.75	0.5067	0.6041	1.0019	17.7997	0.3067

630

LCWA 2141.9

#3

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Ver 1	500	11/26/09 1605	11/30/09 1040	11/30/09 1505	301	3	8	656
Ver 2	500	11/26/09 1605	11/30/09 1105	11/30/09 1510	303	3	8	914
Ver 3	500	11/26/09 1605	11/30/09 1130	11/30/09 1705	305	3	8	791
Ver 4	500	11/26/09 1605	11/30/09 1145	~~11/30/09~~ 1.30.09 1737	306	3	8	768
Ver 5	500	11/26/09 1605	11/30/09 1200	~~11/30/09~~ 1.30.09 1905	308	3	8	730
Ver 6	500	11/26/09 1605	11/30/09 1305	1.31.09 1020	309	3	8	764
Ver 7	500	11/26/09 1605	11/30/09 1320	1.31.09 1720	311	3	8	594
Ver 8	500	11/26/09 1605	11/30/09 1340	2/1/09 0825	312	3	8	542
~~Ver 9~~ 93	500	11/26/09 1605						
Ver 10	500	11/26/09 1605						
Ver 11	500	11/26/09 1605						
Ver 12	500	11/26/09 1605						

KD 2/3/09

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
VW 1	500	11/30/09 1000	12/1/09 0915	12/1/09 1340	307	3	8	655
VW 2	500	11/30/09 1000	12/1/09 0940	12/1/09 1415	307	3	8	720
~~VW 3~~	~~500~~	~~11/30/09 1000~~	~~12/1/09 1115~~	12/1/09 1450	~~309~~	3	8	~~754~~

KD 2/3/09

KD 2/3/09

KD 2/3/09

632

Verification for Ra-226 Standard 0638-F

D. Roy 2/2/2009	Isotope	Value	Uncertainty
	0638-F #1	24.629	1.7426
	0638-F #2	24.438	1.7557
	0638-F #3	22.791	1.6808
Mean Value (Counting) =	23.953	99.60	**Pass**
Stdev =	1.010781096		**Rule 3 (Pass/Fail)**
Target =	24.05		
Lower Limit =	21.93100448		
Upper Limit =	25.97412886		
Rule 1 Pass/Fail	**Pass**		
Two sigma =	2.021562191		
10 % of Mean =	2.395256667		
Rule 2 (Pass/Fail)	**Pass**		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 0638-F using 0.1 mL for each source. Each source was counted using routine Lucas cell procedures. Calibration for 0299-G was used in this verification.

LO 2/4/09

2/2/09

2/4/09

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-008

Isotope: Ra-226

Date Standards Prepared: 12/15/2007

Cocktail Type Used: N/A

Standard ID: 0635-F

Matrix of Vial/Planchett: N/A / N/A / N/A

Amount Used (g or ml): 0.1 ml

Standard Activity (DPM/g or mL): 267.5 dpm/ml

Type of Scintillation Vial: N/A

Reference Date: 1/23/2004

Pipette ID Used: 147, 9303

Expiration Date: 2/4/09 (2 µL A 2/4/09)

Balance ID Used: N/A

Residue/Carrier Agent: 0.1 ml HCl

Quenching Agent: N/A

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
1	Ver 1				
2	Ver 2				
3	Ver 3				
4	Ver 4				
5	Ver 5				
6	Ver 6				
7	Ver 7				
8	Ver 8				
9	Ver 9				
10	Ver 10				
11	Ver 11				
12	Ver 12				

VO 2/3/09

Prepared By: Kelli Bonnell Date: 2/3/09

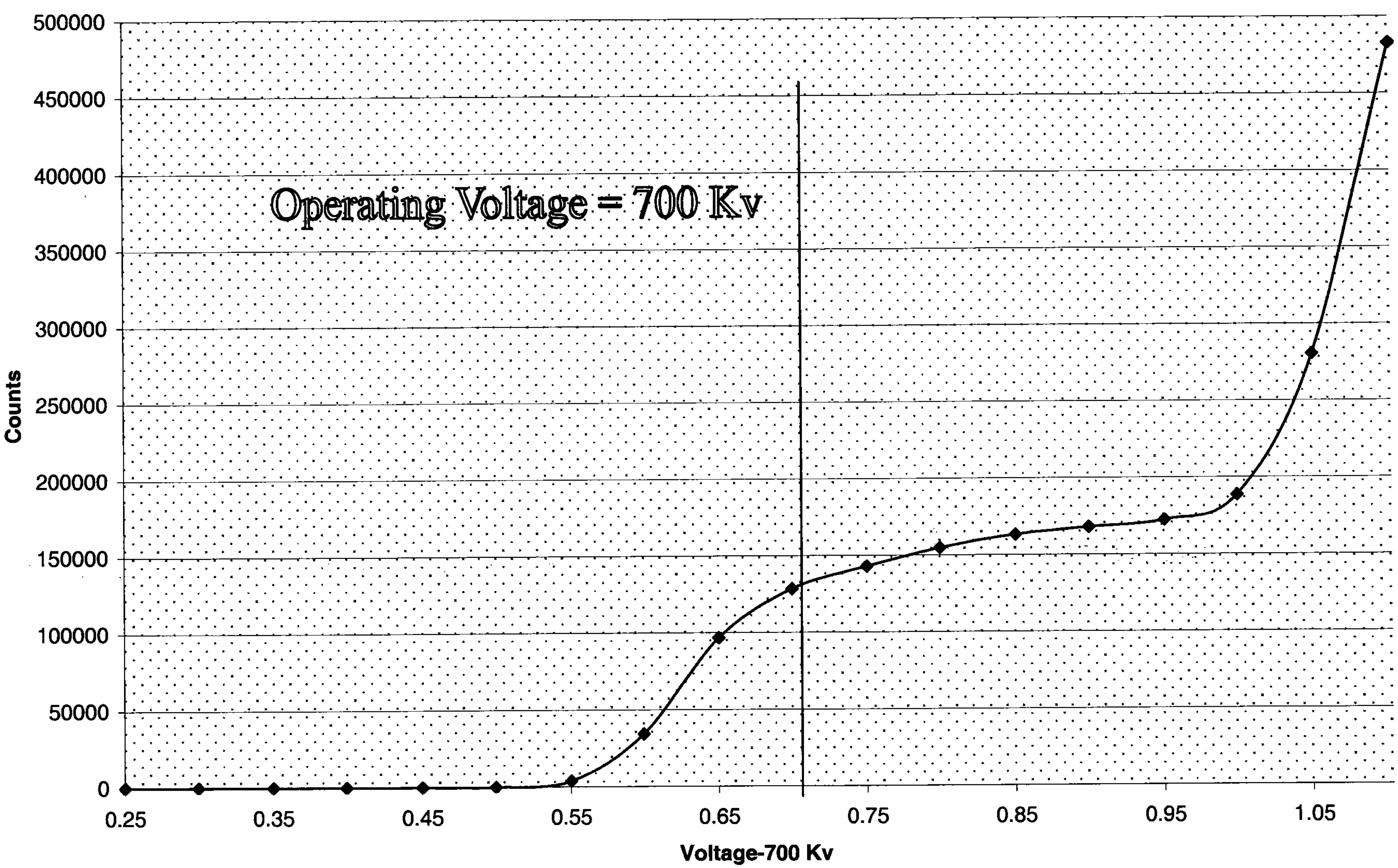
Reviewed By: [signature] Date: 2/4/09

Rev 1 RLM 9/10/97

Voltage Curve Ludlum # 3				
Volts	**Counts**	**Date**	**Time**	**Detector**
0.00	0	1/20/2009	13:45	3
0.05	0	1/20/2009	13:46	3
0.10	0	1/20/2009	13:47	3
0.15	0	1/20/2009	13:48	3
0.20	0	1/20/2009	13:49	3
0.25	0	1/20/2009	14:00	3
0.30	0	1/20/2009	14:01	3
0.35	0	1/20/2009	14:02	3
0.40	0	1/20/2009	14:03	3
0.45	0	1/20/2009	14:04	3
0.50	0	1/20/2009	14:05	3
0.55	3914	1/20/2009	14:06	3
0.60	34392	1/20/2009	14:07	3
0.65	96643	1/20/2009	14:08	3
0.70	128361	1/20/2009	14:09	3
0.75	142888	1/20/2009	14:10	3
0.80	154583	1/20/2009	14:11	3
0.85	163087	1/20/2009	14:12	3
0.90	167801	1/20/2009	14:13	3
0.95	172317	1/20/2009	14:14	3
1.00	188508	1/20/2009	14:15	3

ALA 2/4/09
KM 2/3/09

Ludlum 3 Voltage Curve



KO 2/3/09

MCA 2/4/09

301	2.021	2/4/2009
302	2.131	2/4/2009
303	2.136	2/4/2009
305	2.057	2/4/2009
306	1.747	2/4/2009
307	1.931	2/4/2009
308	1.950	2/4/2009
309	1.877	2/4/2009
311	2.114	2/4/2009
312	1.944	2/4/2009

General Engineering Laboratories
2040 Savage Road, Charleston, SC 29414
(843)556-8171

Lucas Cell Calibration Package

	YES	NO	Comments
1) Is all calibration standard information enclosed for:			
the primary standard certificate?	✓		
the secondard standard(s) documentation?	✓		
standard preparation information?	✓		
standard < 1 Year old or verified?	✓		
2) Is the efficiency calibration report included ?	✓		
3) Is the raw count data included for:			
Cell constant determination?	✓		
Plateau generation?	✓		
4) Are the calibration verifications included?	✓		
5) Are the instrument settings included:			
HVPS settings?	✓		
6) Has the CELLEFF.xls file been updated ?	✓		
7) Have the calibration dates been updated in ALPHALIMS ?	✓		

Prepared By: Kelli Worrell Date: 2/28/09

Reviewed By: [signature] Date: 3/2/09

Effective Date: 3/2/09

Ra-226 Cell Constants

Standard Reference date :	12/15/1999
standard ID :	0.299-G
Volume added (mL) :	0.1
Standard Reference Activity (DPM/mL) :	2446.35

Lucas cell #	Cell constant			Standard Source	Date/Time of count	Date/time flushed to cell	Date/time end of degas	bkg cpm	total counts	count time min	cpm	Known activity dpm	t1 (days) end-degas to flush	t2 (days) end-flush to count	t3 (days) Std Ref Date to count	Decay from Std Ref Date to count
401	1.689	Average	1.574	3	2/23/2009 16:15	2/23/2009 10:30	2/20/2009 17:25	0.267	4580	30	152.67	243.66	2.71181	0.23958	3359	0.9960
401	1.585	Stdev	0.121	3	2/27/2009 13:15	2/27/2009 9:00	2/23/2009 16:05	0.267	5474	30	182.47	243.66	3.70486	0.17708	3363	0.9960
401	1.448			38	2/25/2009 14:40	2/25/2009 7:55	2/20/2009 17:25	0.267	5677	30	189.23	243.66	4.60417	0.28125	3361	0.9960
402	2.133	Average	2.118	43	2/23/2009 16:55	2/23/2009 11:05	2/20/2009 17:25	0.267	5817	30	193.90	243.66	2.73611	0.24306	3359	0.9960
402	2.173	Stdev	0.064	43	2/27/2009 14:10	2/27/2009 9:30	2/23/2009 16:05	0.267	7507	30	250.23	243.66	3.72569	0.19444	3363	0.9960
402	2.048			15	2/25/2009 15:25	2/25/2009 8:15	2/20/2009 17:25	0.267	8017	30	267.23	243.66	4.61806	0.29861	3361	0.9960
403	1.475	Average	1.463	7	2/23/2009 18:30	2/23/2009 11:30	2/20/2009 17:25	0.267	4011	30	133.70	243.66	2.75347	0.29167	3359	0.9960
403	1.495	Stdev	0.039	7	2/27/2009 14:50	2/27/2009 10:00	2/23/2009 16:05	0.267	5182	30	172.73	243.66	3.74653	0.20139	3363	0.9960
403	1.419			14	2/25/2009 15:55	2/25/2009 8:35	2/20/2009 17:25	0.267	5562	30	185.40	243.66	4.63194	0.30556	3361	0.9960
404	1.792	Average	1.931	42	2/23/2009 19:05	2/23/2009 13:10	2/20/2009 17:25	0.267	5005	30	166.83	243.66	2.82292	0.24653	3359	0.9960
404	2.142	Stdev	0.186	42	2/27/2009 15:25	2/27/2009 10:30	2/23/2009 16:05	0.267	7443	30	248.10	243.66	3.76736	0.20486	3363	0.9960
404	1.859			46	2/25/2009 20:20	2/25/2009 8:55	2/20/2009 17:25	0.267	7075	30	235.83	243.66	4.64583	0.47569	3361	0.9960
405	2.066	Average	1.903	38	3/2/2009 13:40	3/2/2009 10:30	2/25/2009 14:00	0.267	8602	30	286.73	243.66	4.85417	0.13194	3366	0.9960
405	1.899	Stdev	0.161	13	2/27/2009 16:00	2/27/2009 10:55	2/23/2009 16:05	0.267	6612	30	220.40	243.66	3.78472	0.21181	3363	0.9960
405	1.745			47	2/25/2009 20:55	2/25/2009 10:10	2/20/2009 17:25	0.267	6721	30	224.03	243.66	4.69792	0.44792	3361	0.9960
409	1.805	Average	2.036	30	2/24/2009 0:30	2/23/2009 15:20	2/20/2009 17:25	0.267	5039	30	167.97	243.66	2.91319	0.38194	3359	0.9960
409	2.153	Stdev	0.200	44	2/3/2009 21:10	2/3/2009 15:00	1/30/2009 10:50	0.267	7949	30	264.97	243.67	4.17361	0.25694	3339	0.9960
409	2.149			44	2/27/2009 16:35	2/27/2009 11:30	2/23/2009 16:05	0.267	7516	30	250.53	243.66	3.80903	0.21181	3363	0.9960
410	1.869	Average	1.886	28	2/26/2009 8:50	2/25/2009 13:05	2/20/2009 17:25	0.267	6838	30	227.93	243.66	4.81944	0.82292	3361	0.9960
410	1.965	Stdev	0.072	15	2/4/2009 8:30	2/3/2009 15:30	1/30/2009 10:50	0.267	6708	30	223.60	243.67	4.19444	0.70833	3339	0.9960
410	1.824			48	2/24/2009 8:00	2/23/2009 15:40	2/20/2009 17:25	0.267	4840	30	161.33	243.66	2.92708	0.68056	3359	0.9960
411	1.824	Average	1.824	36	2/24/2009 8:40	2/23/2009 15:55	2/20/2009 17:25	0.267	4839	30	161.30	243.66	2.93750	0.69792	3359	0.9960
411	1.811	Stdev	0.013	30	2/27/2009 17:45	2/27/2009 12:20	2/23/2009 16:05	0.267	6357	30	211.90	243.66	3.84375	0.22569	3363	0.9960
411	1.836			9	2/26/2009 9:30	2/25/2009 13:40	2/20/2009 17:25	0.267	6734	30	224.47	243.66	4.84375	0.82639	3361	0.9960
412	1.947	Average	1.967	34	2/26/2009 10:15	2/25/2009 14:05	2/20/2009 17:25	0.267	7137	30	237.90	243.66	4.86111	0.84028	3361	0.9960
412	2.131	Stdev	0.156	48	2/27/2009 18:20	2/27/2009 12:45	2/23/2009 16:05	0.267	7495	30	249.83	243.66	3.86111	0.23264	3363	0.9960
412	1.822			35	2/24/2009 9:40	2/23/2009 16:10	2/20/2009 17:25	0.267	4818	30	160.60	243.66	2.94792	0.72917	3359	0.9960

EffErr 0.123705 <- Put in Machines.xls (Lucas Cell Tab)

3/2/09

3/2/09

401	1.574	3/2/2009
402	2.118	3/2/2009
403	1.463	3/2/2009
404	1.931	3/2/2009
405	1.903	3/2/2009
409	2.036	3/2/2009
410	1.886	3/2/2009
411	1.824	3/2/2009
412	1.967	3/2/2009

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-008

Isotope: Ra-226

Date Standards Prepared: 4/15/05

Cocktail Type Used: NA

Standard ID: D2996

Matrix of Vial/Planchett: NA / NA / NA

Amount Used (g or (ml)): 0.1

Standard Activity (DPM/g or (mL)): 2446.347

Type of Scintillation Vial: NA

Reference Date: 12/15/99

Pipette ID Used: 1429303

Expiration Date: 4/2/09

Balance ID Used: 3604021C

Residue/Carrier Agent: 0.5M HCl

Quenching Agent: NA

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
3	Cal 3				
43	Cal 43				
7	Cal 7				
42	Cal 42				
13	Cal 43				
44	Cal 44				
30	Cal 30				
48	Cal 48				
36	Cal 36				
35	Cal 35				
38	Cal 38				
15	Cal 15				
14	Cal 14				
46	Cal 46				
47	Cal 47				

3/2/09

Prepared By: Kelli Dowdle Date: 3/2/09

Reviewed By: Angela Johnson Date: 3/2/09

Rev 1 RLM 9/10/97

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-008

Isotope: RA-226

Date Standards Prepared: 4/5/05

Cocktail Type Used: NA

Standard ID: 0299G

Matrix of Vial/Planchett: NA / NA / NA

Amount Used (g or ml): ~~0.2~~ KD 3/2/09 0.1

Type of Scintillation Vial: NA

Standard Activity (DPM/g or mL): 2.446.347

Pipette ID Used: 1429305

Reference Date: 12/15/99

Balance ID Used: 36040216

Expiration Date: 4/2/09

Quenching Agent: NA

Residue/Carrier Agent: 0.5M HCl

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
16	CA116				
25	CA125				
23	CA123				
28	CA128				
9	CA19				
34	CA134				

KD 3/2/09

Prepared By: Kelli Dorsee Date: 3/2/09

Reviewed By: Angle A. [signature] Date: 3/2/09

Rev 1 RLM 9/10/97

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0299
Prepared By:	Angela Johnson
Carrier Conc:	0.5 M HCL
Reference Date:	12/15/1999
Ampoule Mass (g):	5.0368 g
Uncertainty:	+/- 2.5 %
LogBook No:	RC S 027 128

A Solution Material Info	
Isotope:	Radium-226
Prepared By:	Angela Johnson
Prep Date:	09/15/2000
Verification Date:	01/23/2008
Expiration Date:	01/23/2009
Primary Code:	0299-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.6634 g
Density(g/mL):	1.0012
Balance ID:	

643

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (100 mL) = 122414.2500 dpm/mL
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (1.0012 g/mL) / (100 mL) = 122273.3377 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
08/26/2003	Angela Johnson	1.9909	100	0299-E	2434.34 dpm/mL	11/04/2004	11/04/2005
08/26/2003	Angela Johnson	1.9872	100	0299-F	2429.82 dpm/mL	08/26/2004	08/26/2005
04/05/2005	Amanda Fehr	5.0018	250	0299-G	2446.3471 dpm/mL	04/02/2008	04/02/2009

! 8-21-00

Nycomed Amersham plc
Amersham Laboratories

0299

[redacted]

NAMAS
CALIBRATION
No. 0146

Nycomed Amersham plc
Radiation & Radioactivity
Calibration Laboratory
Amersham Laboratories
White Lion Road
Amersham
Buckinghamshire
HP7 9LL

ISSUED FOR:

AEA Technology plc
Isotrak
Amersham Laboratories
White Lion Road
Amersham
Buckinghamshire
HP7 9LL

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ion Principal radionuclide: Radium-226

Product code: RAY44
Solution number: R4/131/89

ment Reference time: 1200 GMT on 15 December 1999

data Nuclear data quoted on this certificate are taken from the Joint European File, Version 2.2.

ion of The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k = 2.00, which
inties for a t-distribution with $\nu_{eff} = \infty$ effective degrees of freedom corresponds to a coverage probability of approximately
95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Unless indicated, all other uncertainties are expressed at the confidence level associated with one standard uncertainty.

The format used for the uncertainties in the values of radionuclidic purity is illustrated in the following examples;

6.5(21)	=	6.5 ± 2.1
6.54(21)	=	6.54 ± 0.21
6.543(21)	=	6.543 ± 0.021

ved
ory

Date of issue: 17th December 1999

644

Nycomed Amersham

Verification for Ra-226 Standard 0299-G

	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff	Standard Mass. Used (G)	Source DPM/G
4/2/2008							
D. Roy	0299-G N1	2536.9600	52.4000	2484.5600	1.917186	0.5057	2562.667649
	0299-G N2	2520.2500	52.4000	2467.8500	1.917186	0.5056	2545.935781
	0299-G N3	2532.5000	52.4000	2480.1000	1.917186	0.5042	2565.677715
						Average =	2558.093715
Mean Value (Counting) =	2558.093715		**104.944421**	**Pass**			
Stdev =	10.63610098		0.00415782	**Rule 3 (Pass/Fail)**			

Certificate Value =	2437.6	dpm/mL
Lower Limit =	2536.821513	dpm/mL
Upper Limit =	2579.365917	dpm/mL
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**
Two sigma =	21.27220197	dpm/mL
10 % of Mean =	255.8093715	dpm/mL
Rule 2 (Pass/Fail)	**Pass**	

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 0299-G by transferring portions of the standard into tared glass liquid scintillation vials. One mL of DI Water and ten mLs of Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC Gold for Radium source standard verification. The Ra-226 efficiency calibration which was used for verification calculations was performed on 4/02/08 using source 0024-A (Ra-226). Calibration data is recorded in this logbook under Ra-226 0024. Each verification source calculation was performed as follows:

Source dpm/g = (A - B)/(C)(D)

where:

A = Ver. source cpm,
B = BKG cpm,
C = System efficiency, (cpm/dpm), and
D = mass used for standard verification.

RAD SOP M-001

4/9/10

David Dry 4/10/08

Cal #4

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts	
~~Cal #3~~		~~11/30/09 1050~~	~~2/3/09 1355~~	~~2.3.09 1710~~	~~401~~	~~4~~	~~8~~	~~6763~~	
47		11/30/09 1050	2/3/09 1310	2.3.09 1800	402	4	8	9067	KM 3/2/09
~~19~~		~~11/30/09 1050~~	2/3/09 1335	2.3.09 1840	~~403~~	4	8	~~7092~~	KM 3/2/09
~~30~~		11/30/09 1050	2/3/09 1400	2.3.09 1915	~~404~~	4	8	7877	KM 3/2/09
42		11/30/09 ~~1050~~	~~2/3/09 1425~~	2.3.09 2035	405	4	8	8700	KM 3/2/09
44		11/30/09 1050	2/3/09 1500	2.3.09 2110	409	4	8	7949	
15		11/30/09 1050	2/3/09 1530	~~2/4/09~~ 2/4/09 0830	410	4	8	4108	
~~14~~		~~11/30/09 1050~~	~~2/3/09 1545~~	~~2/4/09 1015~~	~~411~~	4	8	~~7562~~	KM 3/2/09
~~13~~		11/30/09 1050	2/3/09 1600	2/4/09 1100	412	4	8	~~9523~~	KM 3/2/09
~~38~~									
36									
				KM 2/26/09					KM 3/2/09
									KM 3/2/09

646

Ra-226 Verification Sheet

Cal #4

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 3	500	2/20/09 1725	2/23/09 1030	2/23/09 1415	401	4	8	4580
43	500	2/20/09 1725	2/23/09 1105	2/23/09 1655	402	4	8	~~4817~~ 5017 KD 2/23/09
7	500	2/20/09 1725	2/23/09 1130	2.23.09 1930	403	4	8	4011
42	500	2/20/09 1725	2/23/09 1310	2.23.09 1905	404	4	8	5005
~~13~~	~~500~~	2/20/09 1725	2/23/09 1340	2.23.09 1955	405	4	8	~~4224~~ KD 2/28/09
~~34~~	~~500~~	2/20/09 1725	~~2/23/09~~ 1405	2.23.09 2250	406	4		~~2355~~ KD 2/28/09
44	500	~~2/20/09 1725~~	~~2/23/09 1435~~	2.23.09 2330	407	4		2359 2/28/09 KD
~~14~~	500	2/20/09 1725	2/23/09 1455	2.24.09 00:00	408	4		~~2598~~ KD 2/28/09
30	500	2/20/09 1725	2/23/09 1520	2.24.09 00:30	409	4	8	~~5000~~ 5035 KD 2/24/09
48	500	2/20/09 1725	2/23/09 1540	~~2/24/09 0850~~ 2/24/09 0800	40	4	8	4840
36	500	2/20/09 1725	2/23/09 1555	2/24/09 0840	411	4	8	4839
35	500	2/20/09 1725	2/23/09 1610	2/24/09 0940	412	4	8	4818

KD 2/28/09

KD 3/2/09

KD 3/2/09

647

Ra-226 Verification Sheet #4

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 38	500	2/20/09 1725	2/25/09 0755	2/25/09 1440	401	4	8	5677
15	500	2/20/09 1725	2/25/09 0815	2/25/09 1525	402	4	8	8017
14	500	2/20/09 1725	2/25/09 0835	2/25/09 1555	403	4	8	5562
46	500	2/20/09 1725	2/25/09 0855	2.25.09 20:20	404	4	8	7075
47	500	2/20/09 1725	2/25/09 1010	2.25.09 2055	405	4	8	6721
~~16~~	~~500~~	~~2/20/09 1725~~	~~2/25/09 1040~~	2.26.09 20.22 ~~2.25.09 2135~~	~~406~~	~~4~~	~~8~~	~~2091~~ #9 3/2/09
~~25~~	~~500~~	~~2/20/09 1725~~	~~2/25/09 1110~~	~~2.25.09 2205~~	~~407~~	~~4~~	~~8~~	~~2827~~ #9 3/2/09
~~23~~	~~500~~	~~2/20/09 1725~~	~~2/25/09 1145~~	~~2.25.09 22:40~~ 2253	~~408~~	~~4~~	~~8~~	~~3137~~ #9 3/2/09
~~39~~	500	2/20/09 1725	2/25/09 1210	2/26/09 0810	409	4	8	~~5169~~ kw 3/2/09
28	500	2/20/09 1725	2/25/09 1305	2/26/09 0850	410	4	8	6838
9	500	2/20/09 1725	2/25/09 1340	2/26/09 0930	411	4	8	6734
34	500	2/20/09 1725	2/25/09 1405	2/26/09 1015	412	4	8	7137

kw 2/26/09

#9 3/2/09

kw 3/2/09

Ra-226 Verification Sheet

Cal #4

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
~~Cal 5~~ Cal 3	500	2/23/09 1605	2/27/09 0900	2/27/09 0915	401	4	8	5474
Cal 43	500	2/23/09 1605	2/27/09 0930	2/27/09 1416	402	4	8	7507
Cal 7	500	2/23/09 1605	2/27/09 1000	2/27/09 1450	403	4	8	5182
Cal 42	500	2/23/09 1605	2/27/09 1030	2/27/09 1525	404	4	8	7443
Cal 13	500	2/23/09 1605	2/27/09 1055	2/27/09 1600	405	4	8	6612
Cal 44	500	2/23/09 1605	2/27/09 1130	2/27/09 16:35	409	4	8	7516
~~Cal 9~~	~~500~~	~~2/23/09 1605~~	~~2/27/09 1150~~	~~2/27/09 17:15~~	~~410~~	~~4~~	~~8~~	~~7850~~
Cal 30	500	2/23/09 1605	2/27/09 1220	2/27/09 17:45	411	4	8	~~2357~~ 6357
Cal 48	500	2/23/09 1605	2/27/09 1245	2/27/09 18:20	412	4	8	7495

649

ICV 3/2/09

ICV 2/28/09

ICV 2/28/09

ICV 3/2/09

Ra-226 Verification Sheet Cal #4

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 38	500	2/25/09 1450	3/2/09 1030	3/2/09 1340	405	4	8	8602

650

KH 3/2/09

KH & 3/2/09

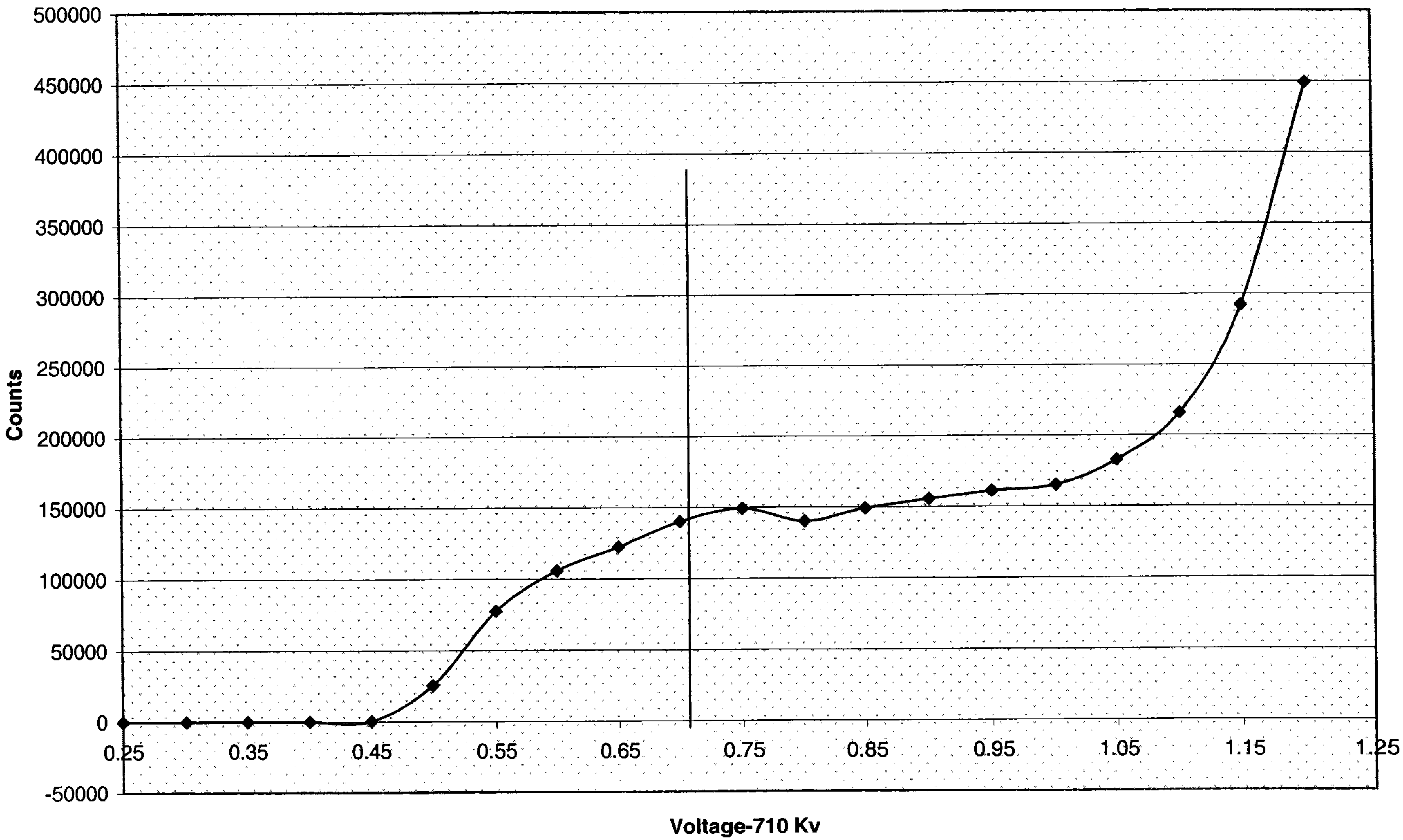
KH 3/2/09

Voltage Curve Ludlum # 4				
Volts (K.V.)	Counts	Date	Time	Detector
0.20	0	2/2/2009	9:00	4
0.25	0	2/2/2009	9:00	4
0.30	0	2/2/2009	9:00	4
0.35	0	2/2/2009	9:00	4
0.40	0	2/2/2009	9:00	4
0.45	473	2/2/2009	9:00	4
0.50	25577	2/2/2009	9:00	4
0.55	77365	2/2/2009	9:00	4
0.60	105618	2/2/2009	9:00	4
0.65	122379	2/2/2009	9:00	4
0.70	140073	2/2/2009	9:00	4
0.75	149183	2/2/2009	9:00	4
0.80	140046	2/2/2009	9:00	4
0.85	149183	2/2/2009	9:00	4
0.90	155553	2/2/2009	9:00	4
0.95	161020	2/2/2009	9:00	4
1.00	165182	2/2/2009	9:00	4
1.05	182720	2/2/2009	9:00	4
1.10	215932	2/2/2009	9:00	4
1.15	292211	2/2/2009	9:00	4
1.20	449383	2/2/2009	9:00	4

3/2/09

lm 3/2/09

Ludlum 4 Voltage Curve



KO 3/2/09

General Engineering Laboratories
2040 Savage Road, Charleston, SC 29414
(843)556-8171

Lucas Cell Calibration Package
(501-512)

	YES	NO	Comments
1) Is all calibration standard information enclosed for:			
the primary standard certificate?	✓		
the secondard standard(s) documentation?	✓		
standard preparation information?	✓		
standard < 1 Year old or verified?	✓		
2) Is the efficiency calibration report included ?	✓		
3) Is the raw count data included for:			
Cell constant determination?	✓		
Plateau generation?	✓		
4) Are the calibration verifications included?	✓		
5) Are the instrument settings included:			
HVPS settings?	✓		
6) Has the CELLEFF.xls file been updated ?	✓		
7) Have the calibration dates been updated in ALPHALIMS ?	✓		

Prepared By: Kelli Sparrow Date: 3/24/09

Reviewed By: Angela Quinn Date: 3/25/09

Effective Date: 3/25/09

Ra-226 Cell Constants

standard ID :	0299-E
Volume added (mL) :	0.1
Standard Reference Activity (DPM/mL) :	2434.34

Lucas cell #	Cell constant			Standard Source	Date/Time of count	Date/time flushed to cell	Date/time end of degas	total counts	count time min	cpm	Known activity dpm	t1 (days) end-degas to flush	t2 (days) end-flush to count	t3 (days) Std Ref Date to count	Decay from Std Ref Date to count
501	1.927	Average	2.087	15	3/6/2009 7:50	3/3/2009 8:15	2/25/2009 14:00	5281	30	176.03	243.03	5.76042	2.98264	3369	0.9960
501	2.086	Stdev	0.160	9	3/11/2009 10:40	3/10/2009 12:50	3/5/2009 14:00	7611	30	253.70	243.03	4.95139	0.90972	3374	0.9960
501	2.247			42	3/12/2009 13:30	3/12/2009 9:10	3/6/2009 15:25	10210	30	340.33	243.03	5.73958	0.18056	3376	0.9960
502	1.772	Average	1.878	16	3/18/2009 8:25	3/17/2009 12:50	3/10/2009 14:00	7951	30	265.03	243.03	6.95139	0.81597	3381	0.9960
502	2.045	Stdev	0.146	14	3/11/2009 11:15	3/10/2009 13:20	3/5/2009 14:00	7474	30	249.13	243.03	4.97222	0.91319	3374	0.9960
502	1.816			19	3/12/2009 14:20	3/12/2009 9:35	3/6/2009 15:25	8243	30	274.77	243.03	5.75694	0.19792	3376	0.9960
503	1.581	Average	1.601	46	3/6/2009 9:20	3/5/2009 9:20	2/25/2009 14:00	7250	30	241.67	243.03	7.80556	1.00000	3369	0.9960
503	1.633	Stdev	0.028	42	3/19/2009 20:15	3/19/2009 15:15	3/12/2009 12:10	8282	30	276.07	243.03	7.12847	0.20833	3383	0.9960
503	1.588			44	3/12/2009 14:50	3/12/2009 10:00	3/6/2009 15:25	7214	30	240.47	243.03	5.77431	0.20139	3376	0.9960
504	1.592	Average	1.615	47	3/6/2009 10:30	3/5/2009 9:40	2/25/2009 14:00	7262	30	242.07	243.03	7.81944	1.03472	3369	0.9960
504	1.611	Stdev	0.025	34	3/11/2009 12:30	3/10/2009 14:05	3/5/2009 14:00	5889	30	196.30	243.03	5.00347	0.93403	3375	0.9960
504	1.641			19	3/19/2009 20:50	3/19/2009 15:30	3/12/2009 12:10	8310	30	277.00	243.03	7.13889	0.22222	3383	0.9960
505	2.364	Average	2.331	16	3/6/2009 12:40	3/5/2009 10:05	2/25/2009 14:00	10654	30	355.13	243.03	7.83681	1.10764	3370	0.9960
505	2.438	Stdev	0.127	23	3/11/2009 13:00	3/10/2009 14:30	3/5/2009 14:00	8924	30	297.47	243.03	5.02083	0.93750	3375	0.9960
505	2.190			7	3/12/2009 17:01	3/12/2009 10:50	3/6/2009 15:25	9884	30	329.47	243.03	5.80903	0.25764	3376	0.9960
506	1.902	Average	2.004	25	3/6/2009 13:10	3/5/2009 10:30	2/25/2009 14:00	8576	30	285.87	243.03	7.85417	1.11111	3370	0.9960
506	2.124	Stdev	0.112	47	3/11/2009 13:30	3/10/2009 15:05	3/5/2009 14:00	7804	30	260.13	243.03	5.04514	0.93403	3375	0.9960
506	1.985			13	3/12/2009 17:40	3/12/2009 11:15	3/6/2009 15:25	8954	30	298.47	243.03	5.82639	0.26736	3376	0.9960
507	1.708	Average	1.701	23	3/6/2009 13:45	3/5/2009 10:55	2/25/2009 14:00	7695	30	256.50	243.03	7.87153	1.11806	3370	0.9960
507	1.722	Stdev	0.024	25	3/11/2009 14:20	3/10/2009 15:27	3/5/2009 14:00	6315	30	210.50	243.03	5.06042	0.95347	3375	0.9960
507	1.674			43	3/12/2009 18:30	3/12/2009 11:35	3/6/2009 15:25	7535	30	251.17	243.03	5.84028	0.28819	3376	0.9960
508	1.605	Average	1.534	39	3/6/2009 14:20	3/5/2009 11:25	2/25/2009 14:00	7236	30	241.20	243.03	7.89236	1.12153	3370	0.9960
508	1.497	Stdev	0.062	44	3/19/2009 21:30	3/19/2009 15:45	3/12/2009 12:10	7561	30	252.03	243.03	7.14931	0.23958	3383	0.9960
508	1.499			3	3/12/2009 20:45	3/12/2009 12:10	3/6/2009 15:25	6680	30	222.67	243.03	5.86458	0.35764	3376	0.9960
509	1.730	Average	1.798	28	3/6/2009 14:50	3/5/2009 11:45	2/25/2009 14:00	7795	30	259.83	243.03	7.90625	1.12847	3370	0.9960
509	1.857	Stdev	0.064	39	3/11/2009 15:25	3/10/2009 16:05	3/5/2009 14:00	6810	30	227.00	243.03	5.08681	0.97222	3375	0.9960
509	1.806			36	3/12/2009 21:20	3/12/2009 12:35	3/6/2009 15:25	8049	30	268.30	243.03	5.88194	0.36458	3376	0.9960
510	1.460	Average	1.458	9	3/6/2009 15:25	3/5/2009 12:10	2/25/2009 14:00	6578	30	219.27	243.03	7.92361	1.13542	3370	0.9960
510	1.433	Stdev	0.024	28	3/11/2009 16:05	3/10/2009 16:20	3/5/2009 14:00	5246	30	174.87	243.03	5.09722	0.98958	3375	0.9960
510	1.481			35	3/12/2009 21:55	3/12/2009 12:50	3/6/2009 15:25	6589	30	219.63	243.03	5.89236	0.37847	3376	0.9960
511	1.839	Average	1.959	34	3/6/2009 16:30	3/5/2009 13:20	2/25/2009 14:00	8316	30	277.20	243.03	7.97222	1.13194	3370	0.9960
511	1.995	Stdev	0.106	46	3/11/2009 16:50	3/10/2009 16:35	3/5/2009 14:00	7283	30	242.77	243.03	5.10764	1.01042	3375	0.9960
511	2.041			37	3/12/2009 22:40	3/12/2009 13:10	3/6/2009 15:25	9068	30	302.27	243.03	5.90625	0.39583	3376	0.9960
512	1.796	Average	1.956	48	3/11/2009 17:35	3/10/2009 16:50	3/5/2009 14:00	6542	30	218.07	243.03	5.11806	1.03125	3375	0.9960
512	2.100	Stdev	0.152	38	3/12/2009 23:15	3/12/2009 13:30	3/6/2009 15:25	9322	30	310.73	243.03	5.92014	0.40625	3376	0.9960
512	1.972			48	3/18/2009 13:00	3/17/2009 14:00	3/10/2009 14:00	8653	30	288.43	243.03	7.00000	0.95833	3382	0.9960

EffErr 0.143768 <- Put in Machines.xls (Lucas Cell Tab)

*Backgrounds are not significant enough to be considered in calculations. ANSI N42.25-1997 (B.2).

654

Cal #5

Calibration

Ra-226 ~~Verification~~ Sheet JH 3/16/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 15	500	2/25/09 1400	3/3/09 0815	3/6/09 0750	501	5	8	5281
~~Cal 14~~	~~500~~	~~2/25/09 1400~~	~~3/3/09 0845~~	~~3/6/09 0840~~	502	5	1	~~4308~~
		~~2/25/09 1400~~	3/3/09		~~503~~	5	~~No~~ 3/3/09	~~6860~~
Cal 46	500	2/25/09 1400	3/5/09 0920	3/6/09 0920	503	5	3	7250
Cal 47	500	2/25/09 1400	3/5/09 0940	3/6/09 1030	504	5	1	7262
Cal 16	500	2/25/09 1400	3/5/09 1005	3/6/09 1240	505	5	3	10654
Cal 25	500	2/25/09 1400	3/5/09 1030	3/6/09 1310	506	5	8	8576
Cal 23	500	2/25/09 1400	3/5/09 1055	3/6/09 1345	507	5	4	7695
Cal 39	500	2/25/09 1400	3/5/09 1125	3/6/09 1420	508	5	1	7236
Cal 28	500	2/25/09 1400	3/5/09 1145	3/6/09 1450	509	5	8	7795
Cal 9	500	2/25/09 1400	3/5/09 1210	3/6/09 1525	510	5	2	6578
Cal 34	502	2/25/09 1400	3/5/09 1320	3/6/09 1630	511	5	6	8316

~~No~~ 3/24/09 JH 3/19/09

JH 3/16/09

655

Calibration

Ra-226 ~~Verification~~ Sheet

JH 3/16/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts	
Cal 9	500	3/5/09 1400	3/10/09 1250	3/11/09 1040	501	5	8	7611	
Cal 14	500	3/5/09 1400	3/10/09 1320	3/11/09 1115	502	5	5	7414	
~~Cal 15~~	~~500~~	~~3/5/09 1400~~	~~3/10/09 1345~~	~~3/11/09 1155~~	503	5	8	7352	KD 3/24/09
Cal 34	500	3/5/09 1400	3/10/09 1405	3/11/09 1230	504	5	4	5889	
Cal 23	500	3/5/09 1400	3/10/09 1430	3/11/09 1300	505	5	2	8924	
Cal 47	500	3/5/09 1400	3/10/09 1505	3/11/09 1330	506	5	8	7804	
~~Cal 45~~	~~500~~	~~3/5/09 1400~~	3/10/09 1527	3/11/09 1420	~~507~~	~~5~~	~~4~~	~~6315~~	KD 3/24/09
~~Cal 16~~	~~500~~	~~3/5/09 1400~~	3/10/09 1550	3/11/09 1455	~~508~~	~~5~~	~~4~~	~~6443~~	KD 3/24/09
Cal 39	500	3/5/09 1400	3/10/09 1605	3/11/09 1525	509	5	8	6810	
Cal 28	500	3/5/09 1400	3/10/09 1620	3/11/09 16:07	510	5	3	7246	
Cal 46	500	3/5/09 1400	3/10/09 1635	3/11/09 16:50	511	5	8	7283	
Cal 48	500	3/5/09 1400	3/10/09 1650	3/11/09 17:35	512	5	8	6542	

656

JH 3/16/09

Calibration

Ra-226 ~~Verification~~ Sheet

JH 3/11/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 42	500	3/6/09 1525	3/12/09 0910	3/12/09 1330	501	5	8	10210
Cal 19	500	3/6/09 1525	3/12/09 ~~0940~~ 0935 ~~to 3/11/09~~	3/12/09 1420	502	5	8	8243
Cal 44	500	3/6/09 1525	3/12/09 1000	3/12/09 1450	503	5	2	7214
~~Cal 40~~	500	3/6/09 1525	3/12/09 1025	3/11/09 1525	~~504~~	~~5~~	~~0~~	~~420~~
Cal 7	500	3/6/09 1525	3/12/09 1050	3/12/09 1701	505	5	5	9884
Cal 15	500	3/6/09 1525	3/12/09 1115	3/12/09 17:40	506	5	8	8954
Cal 43	500	3/6/09 1525	3/12/09 1135	3/12/09 18:30	507	5	6	7535
Cal 3	500	~~3/6/09~~ to 3/12/09 3/6/09 1525	3/12/09 1210	3/12/09 20:45	508	5	0	6640
Cal 36	500	3/6/09 1525	3/12/09 1235	3/12/09 21:20	509	5	8	8049
Cal 35	500	3/6/09 1525	3/12/09 1250	3/12/09 21:55	510	5	1	6589
Cal 37	500	3/6/09 1525	3/12/09 1310	3/12/09 22:40	511	5	8	9068
Cal 38	500	3/6/09 1525	3/12/09 1330	3/12/09 23:15	512	5	5	9322

LCD 3/24/09

JH 3/11/09

Calibration

Ra-226 ~~Verification~~ Sheet Cal #5's

KD 3/25/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 1A	500	3/10/09 1400	3/17/09 1250	3/18/09 0825	502	5	5	7951
~~Cal 3A~~	~~500~~	~~3/10/09 1400~~	~~3/17/09 1325~~	~~3/18/09 0855~~	~~503~~	5		6855
~~Cal 2B~~	~~500~~	~~3/10/09 1400~~	~~3/17/09 1345~~	~~3/18/09 1025~~	~~504~~	5		6804
Cal 4B	500	3/10/09 1400	3/17/09 1400	3/18/09 1300	512	5	8	8653
Cal 2S	500	3/5/09 1400	3/10/09 1527	3/11/09 1420	507	5	4	6315

KD 3/24/09

KD 3/24/09

KD 3/24/09

KD 3/25/09

658

Ra-226 Calibration Sheet

Standard ID: 0249-0

Volume Added (mL): 0.1

Expiration Date: 4/1/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Total Counts
Cal 42	500	3/12/09 1210	3/19/09 1515	3/19/09 2015	503	~~8~~5	8282
Cal 19	500	3/12/09 1210	3/19/09 1530	3/19/09 2050	504	5	8310
Cal 44	500	3/12/09 1216	3/19/09 1545	3/19/09 2130	508	5	7561
~~Cal 30~~	~~500~~	~~3/12/09 1210~~	~~3/19/09 1600~~	~~3/19/09 2200~~	~~509~~	~~5~~	~~9942~~

WD 3/24/09 (beside Det # header)

WD 3/24/09 (beside struck row)

WD 3/24/09

[signature] 3/25/09

8-21-00

Nycomed Amersham plc
Amersham Laboratories

0299

NAMAS
CALIBRATION
No. 0146

Certificate of calibration of a radionuclide reference solution

Nycomed Amersham plc
Radiation & Radioactivity
Calibration Laboratory
Amersham Laboratories
White Lion Road
Amersham
Buckinghamshire
HP7 9LL

ISSUED FOR:

AEA Technology plc
Isotrak
Amersham Laboratories
White Lion Road
Amersham
Buckinghamshire
HP7 9LL

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ion Principal radionuclide: Radium-226

Product code: RAY44
Solution number: R4/131/89

ment Reference time: 1200 GMT on 15 December 1999

data Nuclear data quoted on this certificate are taken from the Joint European File, Version 2.2.

ion of The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k = 2.00$, which
inties for a t-distribution with $\nu_{eff} = \infty$ effective degrees of freedom corresponds to a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Unless indicated, all other uncertainties are expressed at the confidence level associated with one standard uncertainty.

The format used for the uncertainties in the values of radionuclidic purity is illustrated in the following examples;

6.5(21)	=	6.5 ± 2.1
6.54(21)	=	6.54 ± 0.21
6.543(21)	=	6.543 ± 0.021

ved

660

Date of 17th December 1999

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0299
Prepared By:	Angela Johnson
Carrier Conc:	0.5 M HCL
Reference Date:	12/15/1999
Ampoule Mass (g):	5.0368 g
Uncertainty:	+/- 2.5 %
LogBook No:	RC S 027 128

A Solution Material Info	
Isotope:	Radium-226
Prepared By:	Angela Johnson
Prep Date:	09/15/2000
Verification Date:	01/23/2008
Expiration Date:	01/23/2009
Primary Code:	0299-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.6634 g
Density(g/mL):	1.0012
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (kBq/g)) * (conversion dpm to kBq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (100 mL) = 122414.2500 dpm/mL
(4.6634 g) * (43.75 kBq/g) * (60000 dpm/kBq) / (1.0012 g/mL) / (100 mL) = 122273.3377 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
08/26/2003	Angela Johnson	1.9909	100	0299-E	2434.34 dpm/mL	11/04/2004	11/04/2005
08/26/2003	Angela Johnson	1.9872	100	0299-F	2429.82 dpm/mL	08/26/2004	08/26/2005
04/05/2005	Amanda Fehr	5.0018	250	0299-G	2446.3471 dpm/mL	04/02/2008	04/02/2009

GEL Laboratories LLC
Version 1.0 9/18/2000

Kelli Darnell

Verification for Ra-226 Standard 0299-G

4/2/2008	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff	Standard Mass. Used (G)	Source DPM/G
D. Roy	0299-G N1	2536.9600	52.4000	2484.5600	1.917186	0.5057	2562.667649
	0299-G N2	2520.2500	52.4000	2467.8500	1.917186	0.5056	2545.935781
	0299-G N3	2532.5000	52.4000	2480.1000	1.917186	0.5042	2565.677715
						Average =	2558.093715
Mean Value (Counting) =	2558.093715		**104.944421**	**Pass**			
Stdev =	10.63610098		0.00415782	**Rule 3 (Pass/Fail)**			

Certificate Value =	2437.6	dpm/mL
Lower Limit =	2536.821513	dpm/mL
Upper Limit =	2579.365917	dpm/mL
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**
Two sigma =	21.27220197	dpm/mL
10 % of Mean =	255.8093715	dpm/mL
Rule 2 (Pass/Fail)	**Pass**	

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 0299-G by transferring portions of the standard into tared glass liquid scintillation vials. One mL of DI Water and ten mLs of Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC Gold for Radium source standard verification. The Ra-226 efficiency calibration which was used for verification calculations was performed on 4/02/08 using source 0024-A (Ra-226). Calibration data is recorded in this logbook under Ra-226 0024. Each verification source calculation was performed as follows:

Source dpm/g = (A - B)/(C)(D)

where:

A = Ver. source cpm,
B = BKG cpm,
C = System efficiency, (cpm/dpm), and
D = mass used for standard verification.

RAD SOP M-001

3/24/08 4/9/08

4/10/08

General Engineering Laboratories

~~Verification~~ Source Preparation Sheet

3/25/09 Calibration

Applicable SOP Number: GL-RAD-A-008

Date Standards Prepared: 4/15/05

Standard ID: 0249-G

Amount Used (g or ml): 0.1

Standard Activity (DPM/g or mL): 12446.347

Reference Date: 12/15/99

Expiration Date: 4/2/09

Residue/Carrier Agent: 0.5M HCl

Isotope: RA-226

Cocktail Type Used: NA

Matrix of Vial/Planchett: NA

NA

NA

Type of Scintillation Vial: NA

Pipette ID Used: 1425303

Balance ID Used: 3600402216

Quenching Agent: NA

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
15	Cal 15				
46	Cal 46				
47	Cal 47				
16	Cal 16				
25	Cal 25				
23	Cal 23				
39	Cal 39				
28	Cal 28				
9	Cal 9				
34	Cal 34				
42	Cal 42				
19	Cal 19				
44	Cal 44				
7	Cal 7				
13	Cal 13				

3/24/09

Prepared By: Kelli Dixon Date: 3/24/09

Reviewed By: _____ Date: _____

Rev 1 RLM 9/10/97

General Engineering Laboratories

~~Verification~~ Source Preparation Sheet

3/25/09 Calibration

Applicable SOP Number: GL-RAD-A-008

Date Standards Prepared: 4/5/09

Standard ID: 12946

Amount Used (g or ml): 0.1

Standard Activity (DPM/g or mL): 2146.347

Reference Date: 12/15/99

Expiration Date: 4/2/09

Residue/Carrier Agent: 0.5M HCl

Isotope: Ra-226

Cocktail Type Used: NA

Matrix of Vial/Planchett: NA / NA / NA

Type of Scintillation Vial: NA

Pipette ID Used: 1429303

Balance ID Used: 36040216

Quenching Agent: NA

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
43	Cal 43				
3	Cal 3				
36	Cal 36				
35	Cal 35				
37	Cal 37				
38	Cal 38				

3/24/09

Prepared By: Kelli Davee Date: 3/24/09

Reviewed By: _____ Date: _____

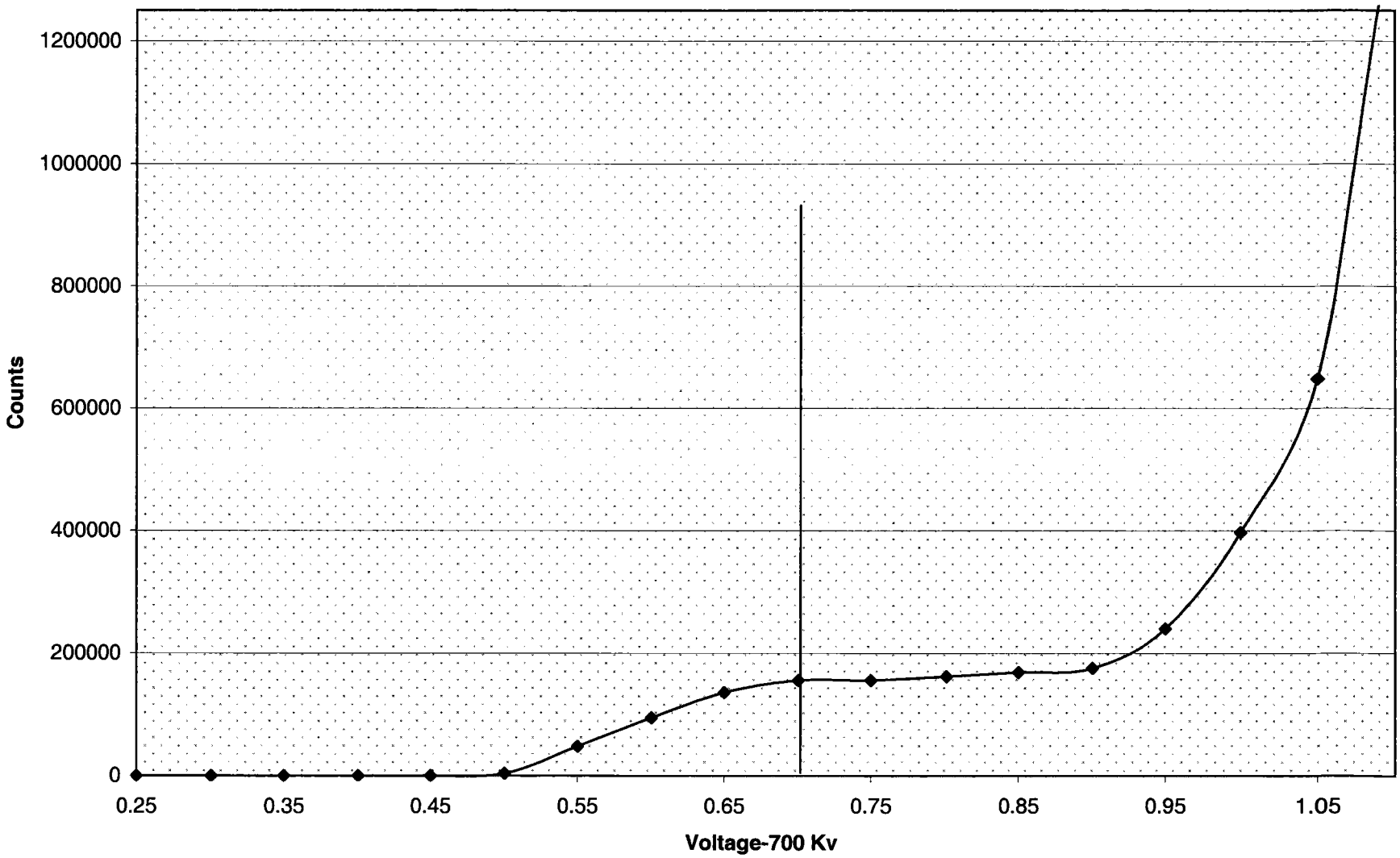
Rev 1 RLM 9/10/97

Voltage Curve Ludlum # 5				
Volts	**Counts**	**Date**	**Time**	**Detector**
0.00	0	2/25/2009	9:20	5
0.05	0	2/25/2009	9:20	5
0.10	0	2/25/2009	9:20	5
0.15	0	2/25/2009	9:20	5
0.20	0	2/25/2009	9:20	5
0.25	0	2/25/2009	9:20	5
0.30	0	2/25/2009	9:20	5
0.35	0	2/25/2009	9:20	5
0.40	0	2/25/2009	9:20	5
0.45	0	2/25/2009	9:20	5
0.50	3611	2/25/2009	9:20	5
0.55	47984	2/25/2009	9:20	5
0.60	94752	2/25/2009	9:20	5
0.65	135854	2/25/2009	9:20	5
0.70	155952	2/25/2009	9:20	5
0.75	155696	2/25/2009	9:20	5
0.80	161972	2/25/2009	9:20	5
0.85	168840	2/25/2009	9:20	5
0.90	175598	2/25/2009	9:20	5
0.95	239969	2/25/2009	9:20	5
1.00	397249	2/25/2009	9:20	5

VD 3/24/09

999

Ludlum 5 Voltage Curve



KAP 3/24/09

Ra-226 WATER

Batch : LCSVER
Date : 2/20/2008
Analyst : DXM2
Bkg Count Time: 30 min

Procedure Code : LUC26RAL
Parmname : Radium-226
MDA : 1 pCi/L
Instrument Used : LUCAS CELL DETECTOR

Sample ID	Sample Vol L	Count Time min	Gross counts cts	Cell # num	Cell Const. num	BKG cpm	Ra-226 MDA pCi/L	**Ra-226 RESULT pCi/L**	Ra-226 ERROR pCi/L	COUNT DATE/TIME
Ver 1	0.500	30	766	**501**	**2.087**	0.267	0.6041	**28.8142**	2.0728	3/16/2009 15:10
Ver 2	0.500	30	537	**502**	**1.878**	0.167	0.5682	**23.0223**	1.9747	3/16/2009 19:25
Ver 3	0.500	30	518	**503**	**1.601**	0.267	0.8071	**25.9035**	2.2832	3/16/2009 20:20
Ver 4	0.500	30	701	**504**	**1.615**	0.267	0.6021	**26.2570**	1.9774	3/20/2009 19:00
Ver 5	0.500	30	680	**505**	**2.331**	0.033	0.2559	**23.5744**	1.7758	3/16/2009 22:00
Ver 6	0.500	30	893	**506**	**2.004**	0.267	0.4859	**27.0593**	1.7988	3/20/2009 19:40
Ver 7	0.500	30	488	**507**	**1.701**	0.267	0.7287	**22.0004**	2.0008	3/16/2009 23:00
Ver 8	0.500	30	544	**508**	**1.534**	0.033	0.3760	**27.7023**	2.3344	3/16/2009 23:30
Ver 9	0.500	30	768	**509**	**1.798**	0.267	0.5430	**25.9694**	1.8657	3/20/2009 20:50
Ver 10	0.500	30	432	**510**	**1.458**	0.033	0.3700	**21.6379**	2.0476	3/17/2009 5:00
Ver 11	0.500	30	577	**511**	**1.959**	0.267	0.5934	**21.2369**	1.7694	3/17/2009 5:35
Ver 12	0.500	30	723	**512**	**1.956**	0.267	0.5945	**26.7349**	1.9815	3/17/2009 6:10

Sample ID	Sample Dup	Det #	Run Date	Sample Type	Standard ID	NC	NC units	Recovery/RPD
501		5	3/16/2009 15:10	LCS	0638-F	24.05	pCi/L	**120%**
502		5	3/16/2009 19:25	LCS	0638-F	24.05	pCi/L	**96%**
503		5	3/16/2009 20:20	LCS	0638-F	24.05	pCi/L	**108%**
504		5	3/20/2009 19:00	LCS	0638-F	24.05	pCi/L	**109%**
505		5	3/16/2009 22:00	LCS	0638-F	24.05	pCi/L	**98%**
506		5	3/20/2009 19:40	LCS	0638-F	24.05	pCi/L	**113%**
507		5	3/16/2009 23:00	LCS	0638-F	24.05	pCi/L	**91%**
508		5	3/16/2009 23:30	LCS	0638-F	24.05	pCi/L	**115%**
509		5	3/20/2009 20:50	LCS	0638-F	24.05	pCi/L	**108%**
510		5	3/17/2009 5:00	LCS	0638-F	24.05	pCi/L	**90%**
511		5	3/17/2009 5:35	LCS	0638-F	24.05	pCi/L	**88%**
512		5	3/17/2009 6:10	LCS	0638-F	24.05	pCi/L	**111%**

DEGASSING DATE/TIME	DE-EMAN. DATE/TIME	DEGASS-DE-EM	dE-EM-COUNT	constant	constant	constant	Net CPM cpm	Ingrowth constant
3/13/2009 15:30	3/16/2009 9:45	66.25	5.42	0.3936	0.9599	1.0019	25.2667	0.3785
3/13/2009 15:30	3/16/2009 10:10	66.67	9.25	0.3955	0.9325	1.0019	17.7333	0.3695
3/13/2009 15:30	3/16/2009 10:30	67.00	9.83	0.3970	0.9284	1.0019	17.0000	0.3693
3/16/2009 14:00	3/20/2009 13:05	95.08	5.92	0.5122	0.9563	1.0019	23.1000	0.4908
3/13/2009 15:30	3/16/2009 11:25	67.92	10.58	0.4012	0.9232	1.0019	22.6333	0.3711
3/16/2009 14:00	3/20/2009 13:20	95.33	6.33	0.5131	0.9533	1.0019	29.5000	0.4901
3/13/2009 15:30	3/16/2009 13:50	70.33	9.17	0.4120	0.9331	1.0019	15.9997	0.3852
3/13/2009 15:30	3/16/2009 13:50	70.33	9.67	0.4120	0.9296	1.0019	18.1000	0.3837
3/16/2009 14:00	3/20/2009 13:45	95.75	7.08	0.5147	0.9479	1.0019	25.3333	0.4888
3/13/2009 5:30	3/16/2009 14:25	80.92	14.58	0.4571	0.8957	1.0019	14.3667	0.4103
3/13/2009 5:30	3/16/2009 14:45	81.25	14.83	0.4585	0.8941	1.0019	18.9663	0.4107
3/13/2009 5:30	3/16/2009 15:00	81.50	15.17	0.4595	0.8918	1.0019	23.8330	0.4106

668

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
VER 1	500	3/13/09 1530	3/16/09 0945	~~3/16/09 1510~~ 3.16.09 1510 ->SEA 3.17.09	501	5	8	766
VER 2	500	3/13/09 1530	3/16/09 1010	3.16.09 1925	502	5	~~8~~ 5 KD 3/25/09	537
VER 3	500	3/13/09 1530	3/16/09 1030	3/16/09 2020	503	5	8	518
~~VER 4~~	~~500~~	~~3/13/09 1530~~	~~3/16/09~~ 1100	~~3.16.09 2115~~	504	5	8	~~577~~
VER 5	500	3/13/09 1530	3/16/09 1125	3.16.09 2200	505	5	~~8~~ 1 KD 3/25/09	680
~~VER 6~~	~~500~~	3/13/09 1530	3/16/09 1155	3.16.09 2230	506	5	8	~~707~~
VER 7	500	3/13/09 1530	3/16/09 1320	3.16.09 2300	507	5	8	488
VER 8	500	3/13/09 1530	3/16/09 1350	3.16.09 2330	508	5	~~8~~ 1 KD 3/25/09	544
~~VER 9~~	~~500~~	~~3/13/09 1530~~	~~3/16/09 1410~~	~~3/17/09 0315~~ 0415 3/17/09	509	5	8	640
VER 10	500	3/13/09 1530	3/16/09 1425	3/17/09 0500	510	5	~~8~~ 1 KD 3/25/09	432
VER 11	500	3/13/09 1530	3/16/09 1445	3/17/09 0535	511	5	8	577
VER 12	500	3/13/09 1530	3/16/09 1500	3/17/09 0610	512	5	8	723
				KD 3/24/09				

699

~~VER 4~~ KD 3/24/09

~~VER 6~~ KD 3/24/09

~~VER 9~~ KD 3/24/09

KD 3/25/09

Ra-226 Verification Sheet

Standard ID: 0638F
Volume Added (mL): D.I
Expiration Date: 2/2/10

KW 3/24/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background Counts	Total Counts
~~Ver 1~~	~~500~~	~~3/16/09 1400~~	3/20/09 1245	3/20/09 1820	501	5	~~8~~	~~10~~
Ver 2	500	3/16/09 1400	3/20/09 1305	3/20/09 1900	504	5	8	701
Ver 3	500	3/16/09 1400	3/20/09 1320	3/~~30~~20/09 1940	506	5	8	893
Ver 4	500	3/16/09 1400	3/20/09 1345	3/~~30~~20/09 2050	509	5	8	768

KW 3/24/09

670

KW 3/24/09

General Engineering Laboratories
Verification Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-008

Date Standards Prepared: 11/16/09

Standard ID: 0638-F

Amount Used (g or ml): 0.1

Standard Activity (DPM/g or mL): 267.519

Reference Date: 1123104

Expiration Date: 2/2/10

Residue/Carrier Agent: NA

Isotope: RA-226

Cocktail Type Used: NA

Matrix of Vial/Planchett: NA / NA / NA

Type of Scintillation Vial: NA

Pipette ID Used: 1429303

Balance ID Used: 3808004

Quenching Agent: NA

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
1	Ver 1				
2	ver 2				
3	Ver 3				
4	Ver 4				
5	Ver 5				
6	Ver 6				
7	Ver 7				
8	Ver 8				
9	Ver 9		LD 3/24/09		
10	Ver 10				
11	Ver 11				
12	Ver 12				

Prepared By: Kelli Diesel Date: 3/24/09

Reviewed By: Angela A Quinn Date: 3/25/09

Rev 1 RLM 9/10/97

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0638
Prepared By:	Amanda Fehr
Carrier Conc:	0.1M HCl
Reference Date:	01/23/2004
Ampoule Mass (g):	5.01065 g
Uncertainty:	+/- 3.3 %
LogBook No:	RC-S-037-037

A Solution Material Info	
Isotope:	Radium-226
Prepared By:	Amanda Fehr
Prep Date:	01/16/2006
Verification Date:	03/04/2007
Expiration Date:	03/04/2008
Primary Code:	0638-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.8398 g
Density(g/mL):	1.0266
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (dps)) * (conversion dpm to dps) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (dps)) * (conversion dpm to dps) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(4.8398 g) * (23530 dps) * (60 dpm/dps) / (5.01065 g * 100 mL) = 13636.6133 dpm/mL
(4.8398 g) * (23530 dps) * (60 dpm/dps) / (1.0266 g/mL)/ (5.01065 g * 100 mL) = 13282.9676 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/17/2006	Amanda Fehr	2.1041	100	0638-B	279.0211 dpm/mL	01/17/2007	01/17/2008
07/17/2006	Mary Aders	2.1313	100	0638-C	282.6281 dpm/mL	07/26/2006	07/26/2007
03/28/2007	Daniel Roy	2.1025	100	0638-D	279.2744 dpm/ml	04/08/2007	04/08/2008
03/28/2007	Daniel Roy	45.468	250	0638-E	2415.7999 dpm/ml	04/09/2008	04/08/2009
12/18/2007	Daniel Roy	2.014	100	0638-F	267.519 dpm/ml	02/02/2009	02/02/2010
02/12/2008	Daniel Roy	.5004	100	0638-G	66.468 dpm/ml	03/04/2008	03/04/2009
07/23/2008	Daniel Roy	5.0607	250	0638-H	268.8845 dpm/ml	07/23/2008	07/23/2009

Verification for Ra-226 Standard 0638-F

D. Roy	Isotope	Value	Uncertainty
2/2/2009	0638-F #1	24.629	1.7426
	0638-F #2	24.438	1.7557
	0638-F #3	22.791	1.6808
Mean Value (Counting) =	23.953	99.60	**Pass**
Stdev =	1.010781096		**Rule 3 (Pass/Fail)**
Target =	24.05		
Lower Limit =	21.93100448		
Upper Limit =	25.97412886		
Rule 1 Pass/Fail	**Pass**		
Two sigma =	2.021562191		
10 % of Mean =	2.395256667		
Rule 2 (Pass/Fail)	**Pass**		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 0638-F using 0.1 mL for each source. Each source was counted using routine Lucas cell procedures. Calibration for 0299-G was used in this verification.

1W 3/24/09

2/2/09

General Engineering Laboratories
2040 Savage Road, Charleston, SC 29414
(843)556-8171

Lucas Cell Calibration Package

	YES	NO	Comments
1) Is all calibration standard information enclosed for:			
the primary standard certificate?	√		
the secondard standard(s) documentation?	√		
standard preparation information?	√		
standard < 1 Year old or verified?	√		
2) Is the efficiency calibration report included ?	√		
3) Is the raw count data included for:			
Cell constant determination?	√		
Plateau generation?	√		
4) Are the calibration verifications included?	√		
5) Are the instrument settings included:			
HVPS settings?	√		
6) Has the CELLEFF.xls file been updated ?	√		
7) Have the calibration dates been updated in ALPHALIMS ?	√		

Prepared By: [signature] Date: 8/4/09

Reviewed By: [signature] Date: 8/6/09

Effective Date: 8/4/09

KD 8/6/09

Ra-226 Cell Constants

Standard Reference date :	***12/15/1999***
standard ID :	***0299-G***
Volume added (mL) :	***0.1***
Standard Reference Activity (DPM/mL) :	***2446.3471***

Lucas cell #	*Cell constant*			*Standard Source*	*Date/Time of count*	*Date/time flushed to cell*	*Date/time end of degas*	*total counts*	*count time min*	*cpm*	*Known activity dpm*	*t1 (days) end-degas to flush*	*t2 (days) end-flush to count*	*t3 (days) Std Ref Date to count*	*Decay from Std Ref Date to count*
601	**2.164**	Average	**2.181**	9	5/26/2009 13:30	5/26/2009 9:30	5/19/2009 14:00	10883	30	*362.77*	*244.63*	*6.81250*	*0.16667*	*3451*	*0.9959*
601	**2.253**	Stdev	**0.065**	1	5/22/2009 12:55	5/22/2009 9:15	5/19/2009 14:00	6378	30	*212.60*	*244.63*	*2.80208*	*0.15278*	*3447*	*0.9959*
601	**2.126**			5	5/29/2009 14:45	5/29/2009 9:50	5/22/2009 10:45	10735	30	*357.83*	*244.63*	*6.96181*	*0.20486*	*3454*	*0.9959*
602	**2.007**	Average	**2.168**	6	5/29/2009 15:20	5/29/2009 10:15	5/22/2009 10:45	10133	30	*337.77*	*244.63*	*6.97917*	*0.21181*	*3454*	*0.9959*
602	**2.194**	Stdev	**0.150**	10	5/26/2009 14:05	5/26/2009 9:55	5/19/2009 14:00	11033	30	*367.77*	*244.63*	*6.82986*	*0.17361*	*3451*	*0.9959*
602	**2.304**			5	6/2/2009 14:45	6/2/2009 11:30	5/29/2009 9:50	8575	30	*285.83*	*244.63*	*4.06944*	*0.13542*	*3458*	*0.9959*
604	**2.244**	Average	**2.133**	6	6/2/2009 15:50	6/2/2009 11:50	5/29/2009 9:50	8321	30	*277.37*	*244.63*	*4.08333*	*0.16667*	*3458*	*0.9959*
604	**2.076**	Stdev	**0.096**	7	5/29/2009 15:55	5/29/2009 10:45	5/22/2009 12:00	10451	30	*348.37*	*244.63*	*6.94792*	*0.21528*	*3454*	*0.9959*
604	**2.079**			11	5/26/2009 15:45	5/26/2009 10:20	5/19/2009 14:00	10372	30	*345.73*	*244.63*	*6.84722*	*0.22569*	*3451*	*0.9959*
605	**2.096**	Average	**2.149**	12	5/26/2009 16:15	5/26/2009 10:50	5/19/2009 14:00	10474	30	*349.13*	*244.63*	*6.86806*	*0.22569*	*3451*	*0.9959*
605	**2.228**	Stdev	**0.070**	4	5/22/2009 16:25	5/22/2009 10:45	5/19/2009 14:00	6318	30	*210.60*	*244.63*	*2.86458*	*0.23611*	*3447*	*0.9959*
605	**2.122**			8	5/29/2009 17:15	5/29/2009 11:05	5/22/2009 12:50	10587	30	*352.90*	*244.63*	*6.92708*	*0.25694*	*3454*	*0.9959*
606	**2.543**	Average	**2.348**	9	5/29/2009 17:45	5/29/2009 13:10	5/26/2009 9:30	7816	30	*260.53*	*244.63*	*3.15278*	*0.19097*	*3454*	*0.9959*
606	**2.202**	Stdev	**0.176**	1	5/26/2009 16:45	5/26/2009 12:25	5/22/2009 12:00	8057	30	*268.57*	*244.63*	*4.01736*	*0.18056*	*3451*	*0.9959*
606	**2.298**			7	6/2/2009 18:20	6/2/2009 12:55	5/29/2009 9:50	8495	30	*283.17*	*244.63*	*4.12847*	*0.22569*	*3458*	*0.9959*
607	**2.454**	Average	**2.450**	8	6/2/2009 19:00	6/2/2009 13:10	5/29/2009 9:50	9057	30	*301.90*	*244.63*	*4.13889*	*0.24306*	*3458*	*0.9959*
607	**2.572**	Stdev	**0.123**	10	5/29/2009 19:00	5/29/2009 13:25	5/26/2009 9:55	7832	30	*261.07*	*244.63*	*3.14583*	*0.23264*	*3454*	*0.9959*
607	**2.325**			2	5/26/2009 17:15	5/26/2009 12:50	5/22/2009 12:00	8527	30	*284.23*	*244.63*	*4.03472*	*0.18403*	*3451*	*0.9959*
609	**2.277**	Average	**2.316**	3	5/26/2009 19:20	5/26/2009 13:10	5/22/2009 12:00	8261	30	*275.37*	*244.63*	*4.04861*	*0.25694*	*3451*	*0.9959*
609	**2.280**	Stdev	**0.066**	7	5/22/2009 19:20	5/22/2009 12:00	5/19/2009 14:00	6473	30	*215.77*	*244.63*	*2.91667*	*0.30556*	*3447*	*0.9959*
609	**2.392**			11	5/29/2009 19:40	5/29/2009 13:45	5/26/2009 10:20	7261	30	*242.03*	*244.63*	*3.14236*	*0.24653*	*3454*	*0.9959*
611	**2.488**	Average	**2.307**	12	5/29/2009 20:20	5/29/2009 14:00	5/26/2009 10:50	7510	30	*250.33*	*244.63*	*3.13194*	*0.26389*	*3454*	*0.9959*
611	**2.245**	Stdev	**0.160**	4	5/26/2009 22:00	5/26/2009 13:25	5/22/2009 12:00	8010	30	*267.00*	*244.63*	*4.05903*	*0.35764*	*3451*	*0.9959*
611	**2.187**			9	6/2/2009 19:50	6/2/2009 13:25	5/29/2009 9:50	8052	30	*268.40*	*244.63*	*4.14931*	*0.26736*	*3458*	*0.9959*

EffErr 0.066051 <- Put in Machines.xls (Lucas Cell Tab)

Backgrounds are not significant enough to be included in calculations ANSI N42.25-1997 (B.2).

675

8/6/09

8/6/09

601	2.181	8/4/2009
602	2.168	8/4/2009
604	2.133	8/4/2009
605	2.149	8/4/2009
606	2.348	8/4/2009
607	2.45	8/4/2009
609	2.316	8/4/2009
611	2.307	8/4/2009

Lucas	Ra-226	
Oldest Cal	01/23/2008	
Detector	**Eff Error**	**Cal Date**
1	0.0958	8/29/2008
2	0.0772	12/19/2008
3	0.0608	1/23/2008
4	0.1237	3/2/2009
5	0.1438	3/25/2009
6	0.0661	8/4/2009
7	0.0855	11/21/2008

General Engineering Laboratories
Calibration Source Preparation Sheet

Applicable SOP Number: GL-RAD-A-008

Isotope: Ra226

Date Standards Prepared: 4/5/05

Cocktail Type Used: NA

Standard ID: 0299-G

Matrix of Vial/Planchett: NA / NA / NA

Amount Used (g or (ml)): 0.1

Standard Activity (DPM/g or mL): 2446.3471

Type of Scintillation Vial: NA

Reference Date: 12/15/99

Pipette ID Used: 1429303

Expiration Date: 1/26/10

Balance ID Used: 38080204

Residue/Carrier Agent: 0.1 M HCl

Quenching Agent: NA

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
1	Cal 1				
2	Cal 2				
3	Cal 3				
4	Cal 4				
5	Cal 5				
6	Cal 6				
7	Cal 7				
8	Cal 8				
9	Cal 9				
10	Cal 10				
11	Cal 11				
12	Cal 12				

8/4/09

8/4/09

Prepared By: [signature] Date: 8/4/09

Reviewed By: [signature] Date: 8/4/09

Rev 1 RLM 9/10/97

10/8/6/05

Ra-226 Calibration Sheet

Standard ID: ~~0630-G~~ 0299-G
Volume Added (mL): 0.1 JH 8/4/09
Expiration Date: ~~4/9/10~~ JH 8/4/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Total Counts
Cal 5	500	5/22/09 1045	5/26/09 0950	5/29/09 14:45	601	6	10735
Cal 6	500	5/22/09 1045	5/26/09 1015	5/29/09 15:20	602	6	10133
Cal 7	500	5/22/09 1200	5/26/09 1045	5/29/09 15:55	604	6	10451
Cal 8	500	5/22/09 1250	5/26/09 1105	5/29/09 17:15	605	6	10587
Cal 9	500	5/26/09 0930	5/26/09 1310	5/29/09 17:45	606	6	7816
Cal 10	500	5/26/09 0955	5/26/09 1325	5/29/09 19:00	607	6	7832
Cal 11	500	5/26/09 1020	5/26/09 1345	5/29/09 19:40	609	6	7261
Cal 12	500	5/26/09 1050	5/26/09 1400	5/29/09 20:20	611	6	7510
					WO 8/4/09		

WO 8/4/09
JH 8/4/09

679

Ra-226 Calibration Sheet

Standard ID: ~~0036-G~~ 0299-G

Volume Added (mL): 0.1 +1 8/4/09

Expiration Date: ~~11/4/10~~ 11/26/10 +1 8/4/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Total Counts	
Cal 1	500	5/19/09 1400	5/22/09 0915	5/22/09 1255	601	6	6378	
~~Cal 2~~	~~500~~	~~5/19/09 1400~~	5/22/09 0945	5/22/09 1325	602	6	~~6358~~	KD 8/4/09
~~Cal 3~~	~~500~~	~~5/19/09 1400~~	~~5/22/09 1010~~	~~5/22/09 1420~~	~~604~~	~~6~~	~~4600~~	KD 8/4/09
Cal 4	500	5/19/09 1400	5/22/09 1045	5/22/09 1625	605	6	6318	
~~Cal 5~~	~~500~~	~~5/19/09 1400~~	~~5/22/09 1115~~	~~5/22/09 1700~~	~~606~~	~~6~~	~~6494~~	KD 8/4/09
~~Cal 6~~	~~500~~	~~5/19/09 1400~~	~~5/22/09 1140~~	~~5/22/09 1735~~	~~607~~	~~6~~	~~6428~~	KD 8/4/09
Cal 7	500	5/19/09 1400	5/22/09 1200	5/22/09 1920	609	6	6473	
~~Cal 8~~	~~500~~	~~5/19/09 1410~~	~~5/22/09 1200~~	~~5/22/09 2035~~	~~611~~	~~6~~	~~6358~~ 6162	KD 8/4/09
Cal 9								
Cal 10								
Cal 11								
Cal 12								

KD 8/4/09

+1 8/4/09

KD 8/6/09

680

Ra-226 Calibration Sheet

Standard ID: ~~0039E~~ 0299-G MH 8/14/09
Volume Added (mL): 0.1
Expiration Date: ~~4/9/10~~ 1/22/10 MH 8/14/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Total Counts
Cal 5	500	5/29/09 0950	6/2/09 1130	6/2/09 1445	602	6	8575
Cal 6	500	5/29/09 0950	6/2/09 1150	6/2/09 1650	604	6	8321
Cal 7	500	5/29/09 0950	6/2/09 1255	6.2.09 1820	606	6	8495
Cal 8	500	5/29/09 0950	6/2/09 1310	6.2.09 1900	607	6	9057
Cal 9	500	5/29/09 0950	6/2/09 1325	6.2.09 1950	611	6	8052
				KH 8/14/09			

MH 8/14/09

KD 8/16/09

Ra-226 Calibration Sheet

Standard ID: ~~[illegible]~~ 0299-G
Volume Added (mL): 0.1 JH 8/14/09
Expiration Date: ~~11/9/10~~ 11/26/10 JH 8/14/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Total Counts
Cal 9	500	5/19/09 1400	5/26/09 0930	5/26/09 1330	601	6	10883
Cal 10	500	5/19/09 1400	5/26/09 0955	5/26/09 1405	602	6	11033
Cal 11	500	5/19/09 1400	5/26/09 1020	5.26.09 1545	604	6	10372
Cal 12	500	5/19/09 1400	5/26/09 1050	5.26.09 1615	605	6	10474
Cal 1	500	5/22/09 1200	5/26/09 1225	5.26.09 1645	606	6	8057
Cal 2	500	5/22/09 1200	5/26/09 1250	5.26.09 1715	607	6	8527
Cal 3	500	5/22/09 1200	5/26/09 1310	5.26.09 1920	609	6	8261
Cal 4	500	5/22/09 1200	5/26/09 1325	5.26.09 2200	611	6	8010
				KO 8/14/09			

JH 8/14/09

KO 8/16/09

eec 8-21-00

Nycomed Amersham plc
Amersham Laboratories

0299

[redacted]

CALIBRATION
No. 0146

[redacted]

ISSUED BY:	Nycomed Amersham plc Radiation & Radioactivity Calibration Laboratory Amersham Laboratories White Lion Road Amersham Buckinghamshire HP7 9LL	ISSUED FOR:	AEA Technology plc Isotrak Amersham Laboratories White Lion Road Amersham Buckinghamshire HP7 9LL

Description Principal radionuclide: Radium-226

Product code: RAY44
Solution number: R4/131/89

Measurement Reference time: 1200 GMT on 15 December 1999

Nuclear data Nuclear data quoted on this certificate are taken from the Joint European File, Version 2.2.

Expression of uncertainties The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k = 2.00, which for a *t*-distribution with $\nu_{eff} = \infty$ effective degrees of freedom corresponds to a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Unless indicated, all other uncertainties are expressed at the confidence level associated with one standard uncertainty.

The format used for the uncertainties in the values of radionuclidic purity is illustrated in the following examples;

6.5(21)	=	6.5 ± 2.1
6.54(21)	=	6.54 ± 0.21
6.543(21)	=	6.543 ± 0.021

Approved Signatory

Date of issue 17th December 1999

Nycomed Amersham

Verification for Ra-226 Standard 0299-G

M. Aders	Isotope	Value DPM	Uncertainty
1/26/2009	0299-A #1	220.970	0.2670
	0299-A #2	241.730	0.2670
	0299-A #3	257.470	0.2670
Mean Value (Counting) =	240.057	98.52	**Pass**
Stdev =	18.30744475		**Rule 3 (Pass/Fail)**
Target =	243.67		
Lower Limit =	203.4417772		
Upper Limit =	276.6715562		
Rule 1 Pass/Fail	**Pass**		
Two sigma =	36.6148895		
10 % of Mean =	24.00566667		
Rule 2 (Pass/Fail)	**Fail**	***exception taken due to full recovery of standard**	

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 0299-A using 0.1 mL for each source. Each standard was degassed and transferred according to SOP GL-RAD-A-008. Each source was counted using Ra-226 procedures.

8/4/09

8/4/09

Ra-226 Cell Constants

Standard Reference date :	12/15/1999
standard ID :	0299-G
Volume added (mL) :	0.1
Standard Reference Activity (DPM/mL) :	2446.35

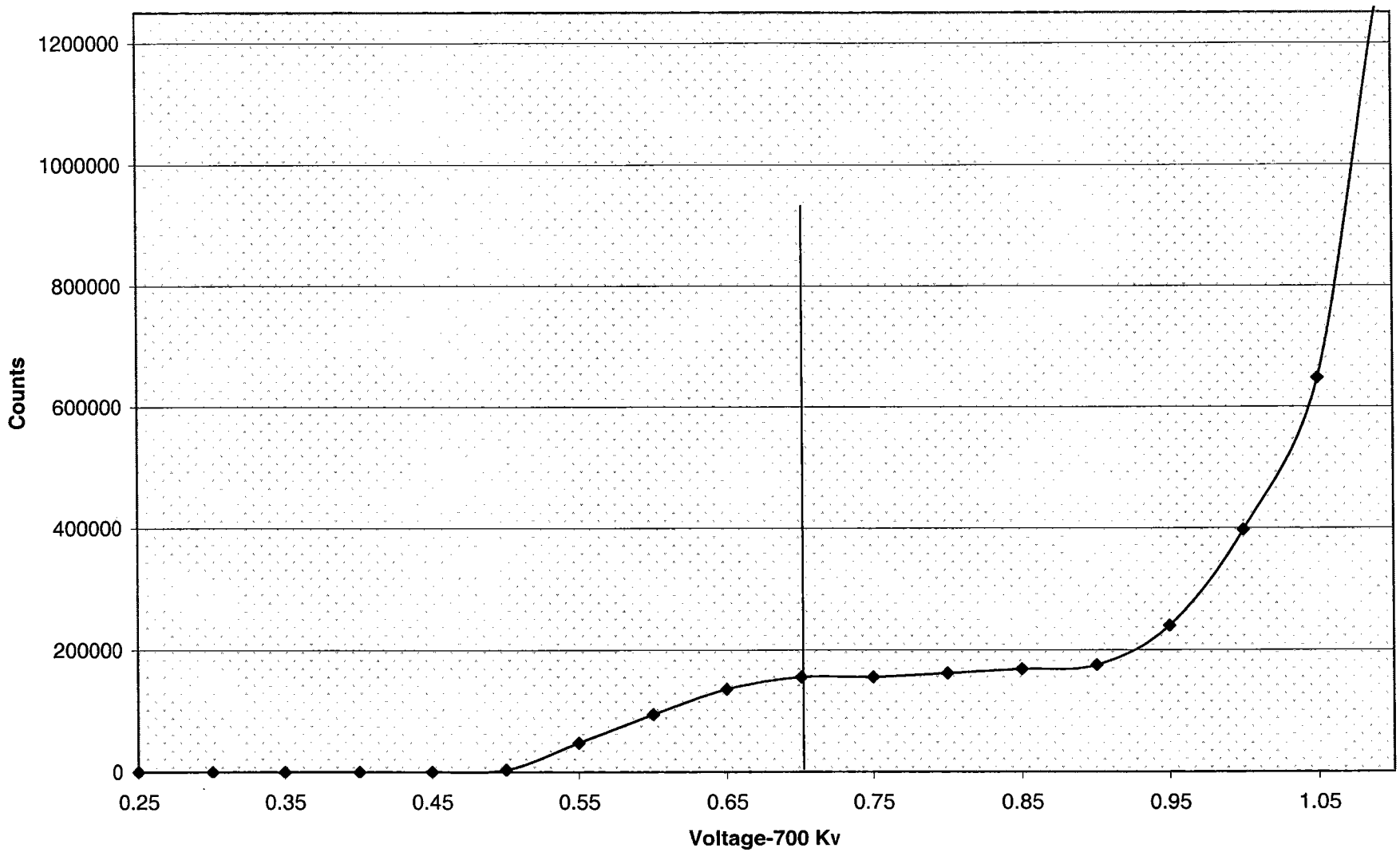
Lucas cell #	Cell constant	Standard Source	Date/Time of count	Date/time flushed to cell	Date/time end of degas	bkg cpm	total counts	count time min	cpm	Known activity dpm	t1 (days) end-degas to flush	t2 (days) end-flush to count	t3 (days) Std Ref Date to count	Decay from Std Ref Date to count
301	2.021	43	39839.60764	39839.39236	39835.38194	0.267	7282	30	242.73	243.6698	4.01041667	0.2152778	3330.607639	0.996055555
302	2.131	47	39839.64583	39839.41319	39835.38194	0.267	7555	30	251.83	243.6698	4.03125	0.2326389	3330.645833	0.99605551
303	2.136	19	39839.72222	39839.43403	39835.38194	0.267	8028	30	267.60	243.6697	4.05208333	0.2881944	3330.722222	0.996055419

Voltage Curve Ludlum # 6				
Volts	**Counts**	**Date**	**Time**	**Detector**
0.00	0	5/20/2009	9:00	6
0.05	0	5/20/2009	9:01	6
0.10	0	5/20/2009	9:02	6
0.15	0	5/20/2009	9:03	6
0.20	0	5/20/2009	9:04	6
0.25	0	5/20/2009	9:05	6
0.30	0	5/20/2009	9:06	6
0.35	0	5/20/2009	9:07	6
0.40	0	5/20/2009	9:08	6
0.45	512	5/20/2009	9:09	6
0.50	3625	5/20/2009	9:10	6
0.55	47990	5/20/2009	9:11	6
0.60	94752	5/20/2009	9:12	6
0.65	135854	5/20/2009	9:13	6
0.70	155952	5/20/2009	9:14	6
0.75	155700	5/20/2009	9:15	6
0.80	161972	5/20/2009	9:16	6
0.85	168860	5/20/2009	9:17	6
0.90	175598	5/20/2009	9:18	6
0.95	239969	5/20/2009	9:19	6
1.00	397270	5/20/2009	9:20	6

8/4/09

687

Ludlum 6 Voltage Curve



8/4/09

Ra-226 WATER

Batch : LCSVER
Date : 6/2/2009
Analyst : KSD1

Procedure Code : LUC26RAL
Parmname : Radium-226
MDA : 1 pCi/L
Bkg Count Time: 30 min
Instrument Used : LUCAS CELL DETECTOR

Sample ID	Sample Vol L	Count Time min	Gross counts cts	Cell # num	Cell Const. num	BKG cpm	Ra-226 MDA pCi/L	**Ra-226 RESULT pCi/L**	Ra-226 ERROR pCi/L	COUNT DATE/TIME
ver 1	0.800	30	1018	**601**	**2.181**	0.267	0.2115	**13.4431**	0.8356	6/8/2009 15:35
ver 2	0.800	30	994	**602**	**2.168**	0.100	0.1442	**13.2563**	0.8279	6/8/2009 16:05
ver 3	0.800	30	955	**604**	**2.133**	0.167	0.1786	**12.9119**	0.8254	6/8/2009 16:40
ver 4	0.800	30	1144	**605**	**2.149**	0.267	0.2143	**15.3201**	0.8971	6/8/2009 17:15
ver 5	0.800	30	1046	**606**	**2.348**	0.233	0.1867	**12.8971**	0.7895	6/8/2009 18:30
ver 6	0.800	30	1001	**607**	**2.450**	0.267	0.1893	**11.8239**	0.7413	6/8/2009 19:15
ver 7	0.800	30	1060	**609**	**2.316**	0.267	0.2007	**13.2848**	0.8089	6/8/2009 20:05
ver 8	0.800	30	943	**611**	**2.307**	0.267	0.2053	**12.0754**	0.7806	6/8/2009 23:10

688

8/16/09
8/16/09

Sample ID	Cell #	Det #	Run Date	Sample Type	Standard ID	NC	NC units	Recovery/RPD
ver 1	**601**	6	6/8/2009 15:35	LCS	0638-F	15.03	pCi/L	**89%**
ver 2	**602**	6	6/8/2009 16:05	LCS	0638-F	15.03	pCi/L	**88%**
ver 3	**604**	6	6/8/2009 16:40	LCS	0638-F	15.03	pCi/L	**86%**
ver 4	**605**	6	6/8/2009 17:15	LCS	0638-F	15.03	pCi/L	**102%**
ver 5	**606**	6	6/8/2009 18:30	LCS	0638-F	15.03	pCi/L	**86%**
ver 6	**607**	6	6/8/2009 19:15	LCS	0638-F	15.03	pCi/L	**79%**
ver 7	**609**	6	6/8/2009 20:05	LCS	0638-F	15.03	pCi/L	**88%**
ver 8	**611**	6	6/8/2009 23:10	LCS	0638-F	15.03	pCi/L	**80%**

DEGASSING DATE/TIME	DE-EMAN. DATE/TIME	DEGASS-DE-EM	dE-EM-COUNT	constant	constant	constant	Net CPM cpm	Ingrowth constant
6/2/2009 12:40	6/8/2009 12:15	143.58	3.33	0.6618	0.9751	1.0019	33.6667	0.6466
6/2/2009 12:40	6/8/2009 12:40	144.00	3.42	0.6628	0.9745	1.0019	33.0333	0.6472
6/2/2009 12:40	6/8/2009 13:05	144.42	3.58	0.6639	0.9733	1.0019	31.6663	0.6474
6/2/2009 12:40	6/8/2009 13:30	144.83	3.75	0.6650	0.9721	1.0019	37.8667	0.6476
6/2/2009 12:40	6/8/2009 13:50	145.17	4.67	0.6658	0.9654	1.0019	34.6333	0.6440
6/2/2009 12:40	6/8/2009 14:15	145.58	5.00	0.6668	0.9630	1.0019	33.0997	0.6434
6/2/2009 12:40	6/8/2009 14:35	145.92	5.50	0.6677	0.9593	1.0019	35.0667	0.6417
6/2/2009 12:40	6/8/2009 15:00	146.33	8.17	0.6687	0.9402	1.0019	31.1663	0.6299

689

8/6/09

Ra-226 Verification Sheet

Ver #6

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Ver 1	500	6/2/09 1240	6/8/09 1215	6.8.09 1535	601	6	8	1018
Ver 2	500	6/2/09 1240	6/8/09 1240	6.8.09 1605	602	6	3	994
Ver 3	500	6/2/09 1240	6/8/09 1305	6.8.09 1640	604	6	5	955
Ver 4	500	6/2/09 1240	6/8/09 1330	6.8.09 1715	605	6	8	1144
Ver 5	500	6/2/09 1240	6/8/09 1350	6.8.09 1830	606	6	7	1046
Ver 6	500	6/2/09 1240	6/8/09 1413	6.8.09 1915	607	6	8	1001
Ver 7	500	6/2/09 1240	6/8/09 1435	6.8.09 2005	609	6	8	1060
Ver 8	500	6/2/09 1240	6/8/09 1500	6.8.09 2310	611	6	8	943
Ver 9	500							
Ver 10	500							
Ver 11	500							
Ver 12	500							

VO 8/4/09

VO 8/4/09

8/4/09

8/4/09

General Engineering Laboratories
Verification Source Preparation Sheet

A VP 8/4/09

Applicable SOP Number GL-RAD-D08

Date Standards Prepared 11/6/09

Standard ID 0638-F

Amount Used (g or (ml)) 0.1

Standard Activity (DPM/g or (mL)) 267.519

Reference Date 1/23/04

Expiration Date 2/2/10

Residue/Carrier Agent NA

Isotope Ra 226

Cocktail Type Used NA

Matrix of Vial/Planchett NA

NA

NA

Type of Scintillation Vial NA

Pipette ID Used 1172303

Balance ID Used 38080204

Quenching Agent NA

	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
1	Ver 1				
2	Ver 2				
3	Ver 3				
4	Ver 4				
5	Ver 5				
6	Ver 6				
7	Ver 7				
8	Ver 8				

VP 8/4/09

Prepared By: Vicki A Davis Date 8/4/09

Reviewed By: Angela A Quinn Date 8/4/09

Rev 1 RLM 9/10/97

VP 8/4/09

ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 - U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

0638

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

67519-278

Ra-226 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

Analytics maintains traceability to the National Institute of Standards and Technology through participation in a Measurements Assurance Program as described in USNRC Reg. Guide 4.15, Revision 1, February 1979.

ISOTOPE:	Ra-226
ACTIVITY (dps):	2.353 E4
HALF-LIFE:	1.600 E3 years
CALIBRATION DATE:	January 23, 2004 12:00 EST
RELATIVE EXPANDED UNCERTAINTY (k=2):	3.3%

Impurities: γ-impurities (other than decay products) <0.1%

5.01065 grams 0.1M HCl solution with 50 µg/g Ba carrier.

P O NUMBER 3231RD, Item 5

SOURCE PREPARED BY: M. D. Currie
M. D. Currie, Radiochemist

Q A APPROVED: 1/26/04

WD 8/4/09

RC-S-037-037a

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0638
Prepared By:	Amanda Fehr
Carrier Conc:	0.1M HCl
Reference Date:	01/23/2004
Ampoule Mass (g):	5.01065 g
Uncertainty:	+/- 3.3 %
LogBook No:	RC-S-037-037

A Solution Material Info	
Isotope:	Radium-226
Prepared By:	Amanda Fehr
Prep Date:	01/16/2006
Verification Date:	04/09/2009
Expiration Date:	04/09/2010
Primary Code:	0638-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.8398 g
Density(g/mL):	1.0266
Balance ID:	38080204

693

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (dps)) * (conversion dpm to dps) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (dps)) * (conversion dpm to dps) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(4.8398 g) * (23530 dps) * (60 dpm/dps) / (5.01065 g * 100 mL) = 13636.6133 dpm/mL
(4.8398 g) * (23530 dps) * (60 dpm/dps) / (1.0266 g/mL)/ (5.01065 g * 100 mL) = 13282.9676 dpm/g

8/4/09

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/17/2006	Amanda Fehr	2.1041	100	0638-B	279.0211 dpm/mL	01/17/2007	01/17/2008
07/17/2006	Mary Aders	2.1313	100	0638-C	282.6281 dpm/mL	07/26/2006	07/26/2007
03/28/2007	Daniel Roy	2.1025	100	0638-D	279.2744 dpm/ml	04/08/2007	04/08/2008
03/28/2007	Daniel Roy	45.468	250	0638-E	2415.7999 dpm/ml	04/09/2009	04/09/2010
12/18/2007	Daniel Roy	2.014	100	0638-F	267.519 dpm/ml	02/02/2009	02/02/2010
02/12/2008	Daniel Roy	.5004	100	0638-G	66.468 dpm/ml	03/02/2009	03/02/2010
07/23/2008	Daniel Roy	5.0607	250	0638-H	268.8845 dpm/ml	07/17/2009	07/17/2010

GEL Laboratories LLC
Version 1.0 9/18/2000

694

VD 8/4/15

Verification for Ra-226 Standard 0638-F

D. Roy 2/2/2009	**Isotope**	**Value**	**Uncertainty**
	0638-F #1	24.629	1.7426
	0638-F #2	24.438	1.7557
	0638-F #3	22.791	1.6808
Mean Value (Counting) =	23.953	99.60	**Pass**
Stdev =	1.010781096		**Rule 3 (Pass/Fail)**
Target =	24.05		
Lower Limit =	21.93100448		
Upper Limit =	25.97412886		
Rule 1 Pass/Fail	**Pass**		
Two sigma =	2.021562191		
10 % of Mean =	2.395256667		
Rule 2 (Pass/Fail)	**Pass**		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 0638-F using 0.1 mL for each source. Each source was counted using routine Lucas cell procedures. Calibration for 0299-G was used in this verification.

2/4/09

2/2/09

Radium-226 Que Sheet

02/03/2009 *General Engineering Laboratories, Radiochemistry Division*

Batch #: 838839 **Analyst:KSD1** **First Client Due Date:** **Internal Due Date:02/07/2009**

Spike Isotope: Radium-226 **Spike Code:** [illegible] **Expiration Date:** 12/27/09 **Vol:** [illegible] **Nom Conc:**

LCS Isotope: Radium-226 **LCS Code:** [illegible] **Expiration Date:** 12/27/09 **Vol:** [illegible] **Nom Conc:**

Prep Date: 12/16/09 **Pipet ID:** **Initials:** KSD **Witness:** **Sample Count Time:** 300 (Min)

Bkg Count Time: 300 (Min)

Sample I	Client Description	Type	Hazard Code	Matrix	Min CRDL	Client	Vol (mL)	End Init Degas Date/Tin	End LN De-em Date/Time	Start Count Date/Time	Cell #	Det #	Bkg counts	Total Counts
1201770521-1	LCS for batch 838839	LCS		GROUND WAT	1 pCi/L	QC ACCOUNT	500	12/16/09 1003	1/3/10 1130	1/3/10 1705	325	3	9	7611
1201770522-1	LCS for batch 838839	LCS		GROUND WAT	1 pCi/L	QC ACCOUNT	500	12/16/09 1003	1/3/10 1145	1/3/10 1737	364	3	8	7768
1201770523-1	LCS for batch 838839	LCS		GROUND WAT	1 pCi/L	QC ACCOUNT	500	12/16/09 1003	1/3/10 1202	1/3/10 1905	305	3	9	730

969

Comments:

Instrument ID's:

LUCAS1:50238, LUCAS2:130917, LUCAS3:90989, LUCAS4:102753, LUC5:132286, LUC6:170055

Data Reviewed By: WO 8/16/10

Page 1 of 1

Radium-226 Liquid

Filename : RA226.XLS
File type : Excel
Version # : 1.2.3

Batch : 838839
Analyst : KSD1
Prep Date : 1/26/2009
Ra-226 Abundance : 1
Ra-226 Method Uncertainty : 0.0918

Spike S/N : N/A
Spike Exp Date : N/A
Spike Activity (dpm/ml): N/A
Spike Volume Added: N/A

LCS S/N : 0638-F
LCS Exp Date : 12/20/2008
LCS Activity (dpm/ml): 266.94
LCS Volume Added: 0.10

Pipet, 0.1 ml Stdev : +/- 0.000701 ml
Pipet, 0.5 ml Stdev : +/- 0.002564 ml
Pipet, 1 ml Stdev : +/- 0.005480 ml

Procedure Code : LUC26RAL
Parmname : Radium-226
Required MDA : 1 pCi/L
Halflife of Ra-226 : 1600 years
Halflife of Rn-222: 3.823 days
Batch counted on : LUCAS CELL DETECTOR
BKG Count time : 30 min

Sample Characteristics				Count Raw Data				Weekly Background			
Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Cell Number	Counting Time (min.)	Gross Counts	Gross CPM	Counts	CPM	Count Time (min.)	Detector Efficiency (cpm/dpm)
1201770521.1	0.5000	2.0256E-05	1/26/2009 0:00	305	30	791	26.367	8	0.267	30	1.9930
1201770522.1	0.5000	2.0256E-05	1/26/2009 0:00	306	30	768	25.600	8	0.267	30	1.9500
1201770523.1	0.5000	2.0256E-05	1/26/2009 0:00	308	30	730	24.333	8	0.267	30	2.0010

697

Detector Efficiency Error (cpm/dpm)	Cell Calibration Date	Cell Calibration Due Date	De-Gas Date/Time	Rn-222 Ingrow End Date/Time	Count Start Date/Time	Rn-222 Corrections			
						De-Gas to Ingrowth	Ingrowth to Count	During Count	Ra-226 Decay
0.06082	1/23/2008	1/22/2009	1/26/2009 16:05	1/30/2009 11:30	1/30/2009 17:05	0.499	0.959	1.002	1.000
0.06082	1/23/2008	1/22/2009	1/26/2009 16:05	1/30/2009 11:45	1/30/2009 17:37	0.500	0.957	1.002	1.000
0.06082	1/23/2008	1/22/2009	1/26/2009 16:05	1/30/2009 12:00	1/30/2009 19:05	0.501	0.948	1.002	1.000

869

K0816109

Notes.
1 - Results are decay corrected to Sample Date/Time
2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3 - Spike Nominals are decay corrected to Sample Date/Time

669

Results

Decision Level pCi/L	Critical Level pCi/L	MDA pCi/L	Sample Act. Conc. pCi/L	Sample Act. Error pCi/L	Net Count Rate CPM	Net Count Rate Error CPM	**2 SIGMA** Counting Uncertainty pCi/L	**2 SIGMA** Total Prop. Uncertainty pCi/L	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
0.2932	0.2070	0.5083	**24.6287**	0.0707	26.1000	0.9422	1.7426	5.5940		LCS			24.0486	102.4%
0.2997	0.2116	0.5196	**24.4384**	0.0710	25.3333	0.9286	1.7557	5.5591		LCS			24.0486	101.6%
0.2942	0.2077	0.5101	**22.7906**	0.0715	24.0667	0.9055	1.6808	5.1982		LCS			24.0486	94.8%

GAS FLOW PROPORTIONAL COUNTERS

General Engineering Laboratories
2040 Savage Road, Charleston, SC 29414
(843)556-8171

Gas Flow Proportional Counter Calibration Package

Method: Ra-228 (PIC)

	YES	NO	Comments
1) Is all calibration standard information enclosed for:			
primary standard certificate?	✓		
secondard standard(s) documentation?	✓		
standard preparation information?	✓		
standard < 1 Year old or verified?	✓		
2) Are the detector graphs included?			
beta absorption curves?			Average Efficiency
beta plateau?	✓		
3) Is the raw count data included for:			
the plateau generation?	✓		
the absorption curve generation?	✓		
the calibration verification?	✓		
the crosstalk calculations?	✓		
4) Are the calibration verification calculations included?			
are verification recoveries 100% +/- 25%	✓		
5) Is the method Carrier Standardization included?			N/A

Prepared By: _____ Date: 7/2/09

Reviewed By: _____ Date: 7/2/09

Effective Date: 7/2/09

Ra-228 Calibration PROTEAN Detectors

Detector #	Source #	Seperation date	Count date	Ac-228 decay (dec)	Spike Vol. Ra-228 (mL)	Seperation time Decay Corrected Std. Act. Ra-228 dpm/mL	Volume corrected Standard Nominal dpm	raw beta counts	ct. time (min)	Beta cpm	corrected* cpm	Ra-228 eff (cpm/dpm)	
1A	1	7/1/09 10:45	7/1/2009 13:36	0.7249	1.5	6363.2	9544.8	13564	3	4521.3	6237.434348	0.6535	
1A	2	7/1/09 10:45	7/1/2009 13:52	0.7032	1.5	6363.2	9544.8	12775	3	4258.3	6055.521583	0.6344	
1A	3	7/1/09 10:45	7/1/2009 13:48	0.7083	1.5	6363.2	9544.8	12750	3	4250.0	6000.085083	0.6286	Average EFF
1A	4	7/1/09 10:45	7/1/2009 13:41	0.7170	1.5	6363.2	9544.8	12410	3	4136.7	5769.693602	0.6045	0.6303
1B	1	7/1/09 10:45	7/1/2009 13:41	0.7174	1.5	6363.2	9544.8	13292	3	4430.7	6176.07771	0.6471	
1B	2	7/1/09 10:45	7/1/2009 13:36	0.7246	1.5	6363.2	9544.8	13274	3	4424.7	6106.181463	0.6397	
1B	3	7/1/09 10:45	7/1/2009 13:52	0.7031	1.5	6363.2	9544.8	12699	3	4233.0	6020.43969	0.6308	Average EFF
1B	4	7/1/09 10:45	7/1/2009 13:48	0.7082	1.5	6363.2	9544.8	12072	3	4024.0	5682.267909	0.5953	0.6282
1C	1	7/1/09 10:45	7/1/2009 13:48	0.7085	1.5	6363.2	9544.8	12813	3	4271.0	6028.410186	0.6316	
1C	2	7/1/09 10:45	7/1/2009 13:41	0.7172	1.5	6363.2	9544.8	12979	3	4326.3	6032.15531	0.6320	
1C	3	7/1/09 10:45	7/1/2009 13:36	0.7245	1.5	6363.2	9544.8	12755	3	4251.7	5868.722998	0.6149	Average EFF
1C	4	7/1/09 10:45	7/1/2009 13:52	0.7030	1.5	6363.2	9544.8	11917	3	3972.3	5650.765354	0.5920	0.6176
1D	1	7/1/09 10:45	7/1/2009 13:52	0.7033	1.5	6363.2	9544.8	12473	3	4157.7	5911.258105	0.6193	
1D	2	7/1/09 10:45	7/1/2009 13:48	0.7084	1.5	6363.2	9544.8	12484	3	4161.3	5874.170562	0.6154	
1D	3	7/1/09 10:45	7/1/2009 13:41	0.7171	1.5	6363.2	9544.8	12289	3	4096.3	5712.363902	0.5985	Average EFF
1D	4	7/1/09 10:45	7/1/2009 13:36	0.7243	1.5	6363.2	9544.8	12115	3	4038.3	5575.47435	0.5841	0.6043
2A	1	7/1/09 10:45	7/1/2009 13:57	0.6960	1.5	6363.2	9544.8	12499	3	4166.3	5986.085459	0.6272	
2A	2	7/1/09 10:45	7/1/2009 14:15	0.6728	1.5	6363.2	9544.8	12103	3	4034.3	5996.6905	0.6283	
2A	3	7/1/09 10:45	7/1/2009 14:09	0.6815	1.5	6363.2	9544.8	11968	3	3989.3	5854.110901	0.6133	Average EFF
2A	4	7/1/09 10:45	7/1/2009 14:02	0.6899	1.5	6363.2	9544.8	11855	3	3951.7	5728.227222	0.6001	0.6172
2B	1	7/1/09 10:45	7/1/2009 14:02	0.6903	1.5	6363.2	9544.8	12471	3	4157.0	6022.286434	0.6309	
2B	2	7/1/09 10:45	7/1/2009 13:57	0.6958	1.5	6363.2	9544.8	12492	3	4164.0	5984.232843	0.6270	
2B	3	7/1/09 10:45	7/1/2009 14:15	0.6727	1.5	6363.2	9544.8	11892	3	3964.0	5892.884561	0.6174	Average EFF
2B	4	7/1/09 10:45	7/1/2009 14:09	0.6814	1.5	6363.2	9544.8	11539	3	3846.3	5644.974311	0.5914	0.6167
2C	1	7/1/09 10:45	7/1/2009 14:08	0.6817	1.5	6363.2	9544.8	12050	3	4016.7	5892.005142	0.6173	
2C	2	7/1/09 10:45	7/1/2009 14:02	0.6901	1.5	6363.2	9544.8	11914	3	3971.3	5754.571355	0.6029	
2C	3	7/1/09 10:45	7/1/2009 13:58	0.6957	1.5	6363.2	9544.8	11994	3	3998.0	5746.92868	0.6021	Average EFF
2C	4	7/1/09 10:45	7/1/2009 14:15	0.6726	1.5	6363.2	9544.8	10889	3	3629.7	5396.37168	0.5654	0.5969
2D	1	7/1/09 10:45	7/1/2009 14:15	0.6729	1.5	6363.2	9544.8	12010	3	4003.3	5949.493049	0.6233	
2D	2	7/1/09 10:45	7/1/2009 14:08	0.6816	1.5	6363.2	9544.8	12124	3	4041.3	5929.303014	0.6212	
2D	3	7/1/09 10:45	7/1/2009 14:02	0.6900	1.5	6363.2	9544.8	12168	3	4056.0	5878.360714	0.6159	Average EFF
2D	4	7/1/09 10:45	7/1/2009 13:58	0.6954	1.5	6363.2	9544.8	11692	3	3897.3	5604.156523	0.5871	0.6119
3A	1	7/1/09 10:45	7/1/2009 14:19	0.6675	1.5	6363.2	9544.8	11194	3	3731.3	5589.748519	0.5856	
3A	2	7/1/09 10:45	7/1/2009 14:35	0.6482	1.5	6363.2	9544.8	14227	4	3556.8	5486.792678	0.5748	
3A	3	7/1/09 10:45	7/1/2009 14:30	0.6548	1.5	6363.2	9544.8	14180	4	3545.0	5414.108112	0.5672	Average EFF
3A	4	7/1/09 10:45	7/1/2009 14:25	0.6608	1.5	6363.2	9544.8	13754	4	3438.5	5203.464549	0.5452	0.5682
3B	1	7/1/09 10:45	7/1/2009 14:25	0.6612	1.5	6363.2	9544.8	15370	4	3842.5	5811.010789	0.6088	
3B	2	7/1/09 10:45	7/1/2009 14:20	0.6673	1.5	6363.2	9544.8	11695	3	3898.3	5842.303251	0.6121	
3B	3	7/1/09 10:45	7/1/2009 14:35	0.6481	1.5	6363.2	9544.8	14905	4	3726.3	5749.171166	0.6023	Average EFF
3B	4	7/1/09 10:45	7/1/2009 14:30	0.6547	1.5	6363.2	9544.8	14220	4	3555.0	5430.231301	0.5689	0.5980
3C	1	7/1/09 10:45	7/1/2009 14:29	0.6552	1.5	6363.2	9544.8	15644	4	3911.0	5969.527404	0.6254	
3C	2	7/1/09 10:45	7/1/2009 14:25	0.6611	1.5	6363.2	9544.8	15964	4	3991.0	6036.911214	0.6325	
3C	3	7/1/09 10:45	7/1/2009 14:20	0.6672	1.5	6363.2	9544.8	11701	3	3900.3	5846.033242	0.6125	Average EFF
3C	4	7/1/09 10:45	7/1/2009 14:35	0.6480	1.5	6363.2	9544.8	14729	4	3682.3	5682.352456	0.5953	0.6164
3D	1	7/1/09 10:45	7/1/2009 14:35	0.6484	1.5	6363.2	9544.8	15152	4	3788.0	5842.430209	0.6121	
3D	2	7/1/09 10:45	7/1/2009 14:30	0.6550	1.5	6363.2	9544.8	15168	4	3792.0	5789.343603	0.6065	
3D	3	7/1/09 10:45	7/1/2009 14:25	0.6610	1.5	6363.2	9544.8	15295	4	3823.8	5785.011122	0.6061	Average EFF
3D	4	7/1/09 10:45	7/1/2009 14:20	0.6670	1.5	6363.2	9544.8	10942	3	3647.3	5468.022172	0.5729	0.5994
4A	1	7/1/09 10:45	7/1/2009 14:40	0.6418	1.5	6363.2	9544.8	15298	4	3824.5	5959.288371	0.6243	
4A	2	7/1/09 10:45	7/1/2009 15:00	0.6187	1.5	6363.2	9544.8	14897	4	3724.3	6019.957238	0.6307	
4A	3	7/1/09 10:45	7/1/2009 14:53	0.6266	1.5	6363.2	9544.8	15050	4	3762.5	6005.095127	0.6291	Average EFF
4A	4	7/1/09 10:45	7/1/2009 14:48	0.6325	1.5	6363.2	9544.8	14462	4	3615.5	5715.951787	0.5989	0.6208
4B	1	7/1/09 10:45	7/1/2009 14:48	0.6329	1.5	6363.2	9544.8	15335	4	3833.8	6057.768128	0.6347	
4B	2	7/1/09 10:45	7/1/2009 14:41	0.6416	1.5	6363.2	9544.8	15513	4	3878.3	6044.745331	0.6333	
4B	3	7/1/09 10:45	7/1/2009 15:00	0.6186	1.5	6363.2	9544.8	14521	4	3630.3	5868.56525	0.6148	Average EFF
4B	4	7/1/09 10:45	7/1/2009 14:53	0.6265	1.5	6363.2	9544.8	14328	4	3582.0	5717.547589	0.5990	0.6205
4C	1	7/1/09 10:45	7/1/2009 14:53	0.6268	1.5	6363.2	9544.8	14733	4	3683.3	5876.583259	0.6157	
4C	2	7/1/09 10:45	7/1/2009 14:48	0.6327	1.5	6363.2	9544.8	14902	4	3725.5	5888.011911	0.6169	
4C	3	7/1/09 10:45	7/1/2009 14:41	0.6414	1.5	6363.2	9544.8	14856	4	3714.0	5790.010642	0.6066	Average EFF
4C	4	7/1/09 10:45	7/1/2009 15:00	0.6185	1.5	6363.2	9544.8	13733	4	3433.3	5550.795964	0.5816	0.6052
4D	1	7/1/09 10:45	7/1/2009 15:00	0.6188	1.5	6363.2	9544.8	14167	4	3541.8	5723.884149	0.5997	
4D	2	7/1/09 10:45	7/1/2009 14:53	0.6267	1.5	6363.2	9544.8	14204	4	3551.0	5666.467573	0.5937	
4D	3	7/1/09 10:45	7/1/2009 14:48	0.6326	1.5	6363.2	9544.8	14131	4	3532.8	5584.07765	0.5850	Average EFF
4D	4	7/1/09 10:45	7/1/2009 14:41	0.6413	1.5	6363.2	9544.8	13978	4	3494.5	5449.182717	0.5709	0.5873
5A	1	7/1/09 10:45	7/1/2009 15:06	0.6112	1.5	6363.2	9544.8	14870	4	3717.5	6082.165089	0.6372	
5A	2	7/1/09 10:45	7/1/2009 15:21	0.5943	1.5	6363.2	9544.8	14487	4	3621.8	6094.223373	0.6385	
5A	3	7/1/09 10:45	7/1/2009 15:17	0.5996	1.5	6363.2	9544.8	14259	4	3564.8	5945.170793	0.6229	Average EFF
5A	4	7/1/09 10:45	7/1/2009 15:12	0.6047	1.5	6363.2	9544.8	13957	4	3489.3	5770.592799	0.6046	0.6258
5B	1	7/1/09 10:45	7/1/2009 15:12	0.6050	1.5	6363.2	9544.8	14869	4	3717.3	6144.005028	0.6437	
5B	2	7/1/09 10:45	7/1/2009 15:06	0.6111	1.5	6363.2	9544.8	14821	4	3705.3	6063.072791	0.6352	
5B	3	7/1/09 10:45	7/1/2009 15:21	0.5942	1.5	6363.2	9544.8	14289	4	3572.3	6011.872812	0.6299	Average EFF
5B	4	7/1/09 10:45	7/1/2009 15:17	0.5995	1.5	6363.2	9544.8	13809	4	3452.3	5758.629577	0.6033	0.6280
5C	1	7/1/09 10:45	7/1/2009 15:17	0.5994	1.5	6363.2	9544.8	14676	4	3669.0	6120.953053	0.6413	
5C	2	7/1/09 10:45	7/1/2009 15:12	0.6049	1.5	6363.2	9544.8	15122	4	3780.5	6249.917577	0.6548	
5C	3	7/1/09 10:45	7/1/2009 15:07	0.6108	1.5	6363.2	9544.8	14958	4	3739.5	6121.8025	0.6414	Average EFF

7/2/09

5C	4	7/1/09 10:45	7/1/2009 15:21	0.5941	1.5	6363.2	9544.8	13831	4	3457.8	5819.905873	0.6097	0.6368
5D	1	7/1/09 10:45	7/1/2009 15:21	0.5943	1.5	6363.2	9544.8	14321	4	3580.3	6024.014899	0.6311	
5D	2	7/1/09 10:45	7/1/2009 15:17	0.5993	1.5	6363.2	9544.8	14642	4	3660.5	6107.538025	0.6399	
5D	3	7/1/09 10:45	7/1/2009 15:12	0.6048	1.5	6363.2	9544.8	14443	4	3610.8	5970.409434	0.6255	Average EFF
5D	4	7/1/09 10:45	7/1/2009 15:07	0.6107	1.5	6363.2	9544.8	13954	4	3488.5	5711.973074	0.5984	0.6237
6A	1	7/1/09 10:45	7/1/2009 15:27	0.5885	1.5	6363.2	9544.8	14018	4	3504.5	5955.42076	0.6239	
6A	2	7/1/09 10:45	7/1/2009 15:40	0.5735	1.5	6363.2	9544.8	12283	3.5	3509.4	6118.819734	0.6411	
6A	3	7/1/09 10:45	7/1/2009 15:36	0.5779	1.5	6363.2	9544.8	12111	3.5	3460.3	5987.187856	0.6273	Average EFF
6A	4	7/1/09 10:45	7/1/2009 15:32	0.5826	1.5	6363.2	9544.8	11598	3.5	3313.7	5687.952648	0.5959	0.6221
6B	1	7/1/09 10:45	7/1/2009 15:32	0.5824	1.5	6363.2	9544.8	12151	3.5	3471.7	5961.398905	0.6246	
6B	2	7/1/09 10:45	7/1/2009 15:27	0.5885	1.5	6363.2	9544.8	14371	4	3592.8	6105.389624	0.6397	
6B	3	7/1/09 10:45	7/1/2009 15:40	0.5734	1.5	6363.2	9544.8	11705	3.5	3344.3	5831.983307	0.6110	Average EFF
6B	4	7/1/09 10:45	7/1/2009 15:36	0.5779	1.5	6363.2	9544.8	11388	3.5	3253.7	5630.295163	0.5899	0.6163
6C	1	7/1/09 10:45	7/1/2009 15:36	0.5778	1.5	6363.2	9544.8	12161	3.5	3474.6	6013.224586	0.6300	
6C	2	7/1/09 10:45	7/1/2009 15:32	0.5821	1.5	6363.2	9544.8	12083	3.5	3452.3	5930.638446	0.6213	
6C	3	7/1/09 10:45	7/1/2009 15:27	0.5883	1.5	6363.2	9544.8	13638	4	3409.5	5795.433731	0.6072	Average EFF
6C	4	7/1/09 10:45	7/1/2009 15:40	0.5733	1.5	6363.2	9544.8	11218	3.5	3205.1	5590.212659	0.5857	0.6111
6D	1	7/1/09 10:45	7/1/2009 15:40	0.5732	1.5	6363.2	9544.8	11987	3.5	3424.9	5974.547886	0.6259	
6D	2	7/1/09 10:45	7/1/2009 15:36	0.5777	1.5	6363.2	9544.8	12183	3.5	3480.9	6025.235519	0.6313	
6D	3	7/1/09 10:45	7/1/2009 15:32	0.5819	1.5	6363.2	9544.8	11882	3.5	3394.9	5833.810262	0.6112	Average EFF
6D	4	7/1/09 10:45	7/1/2009 15:27	0.5881	1.5	6363.2	9544.8	13018	4	3254.5	5533.699914	0.5798	0.6120
7A	1	7/1/09 10:45	7/1/2009 15:46	0.5673	1.5	6363.2	9544.8	12007	3.5	3430.6	6047.285606	0.6336	
7A	2	7/1/09 10:45	7/1/2009 16:00	0.5525	1.5	6363.2	9544.8	11655	3.5	3330.0	6027.30696	0.6315	
7A	3	7/1/09 10:45	7/1/2009 15:56	0.5569	1.5	6363.2	9544.8	11445	3.5	3270.0	5871.972756	0.6152	Average EFF
7A	4	7/1/09 10:45	7/1/2009 15:50	0.5627	1.5	6363.2	9544.8	11121	3.5	3177.4	5646.694018	0.5916	0.6180
7B	1	7/1/09 10:45	7/1/2009 15:51	0.5622	1.5	6363.2	9544.8	11968	3.5	3419.4	6082.664171	0.6373	
7B	2	7/1/09 10:45	7/1/2009 15:46	0.5673	1.5	6363.2	9544.8	12050	3.5	3442.9	6069.322745	0.6359	
7B	3	7/1/09 10:45	7/1/2009 16:00	0.5524	1.5	6363.2	9544.8	11675	3.5	3335.7	6038.785014	0.6327	Average EFF
7B	4	7/1/09 10:45	7/1/2009 15:56	0.5567	1.5	6363.2	9544.8	11271	3.5	3220.3	5784.331251	0.6060	0.6280
7C	1	7/1/09 10:45	7/1/2009 15:56	0.5566	1.5	6363.2	9544.8	11781	3.5	3366.0	6047.202464	0.6336	
7C	2	7/1/09 10:45	7/1/2009 15:51	0.5621	1.5	6363.2	9544.8	11760	3.5	3360.0	5978.073192	0.6263	
7C	3	7/1/09 10:45	7/1/2009 15:46	0.5670	1.5	6363.2	9544.8	11766	3.5	3361.7	5928.878357	0.6212	Average EFF
7C	4	7/1/09 10:45	7/1/2009 16:00	0.5523	1.5	6363.2	9544.8	10888	3.5	3110.9	5632.598965	0.5901	0.6178
7D	1	7/1/09 10:45	7/1/2009 16:00	0.5522	1.5	6363.2	9544.8	11605	3.5	3315.7	6004.271132	0.6291	
7D	2	7/1/09 10:45	7/1/2009 15:56	0.5565	1.5	6363.2	9544.8	11920	3.5	3405.7	6119.509991	0.6411	
7D	3	7/1/09 10:45	7/1/2009 15:51	0.5619	1.5	6363.2	9544.8	11933	3.5	3409.4	6067.346561	0.6357	Average EFF
7D	4	7/1/09 10:45	7/1/2009 15:46	0.5668	1.5	6363.2	9544.8	11305	3.5	3230.0	5698.36602	0.5970	0.6257
8A	1	7/1/09 10:45	7/1/2009 16:06	0.5466	1.5	6363.2	9544.8	11673	3.5	3335.1	6101.651756	0.6393	
8A	2	7/1/09 10:45	7/1/2009 16:19	0.5333	1.5	6363.2	9544.8	11172	3.5	3192.0	5985.379105	0.6271	
8A	3	7/1/09 10:45	7/1/2009 16:15	0.5377	1.5	6363.2	9544.8	11258	3.5	3216.6	5982.329368	0.6268	Average EFF
8A	4	7/1/09 10:45	7/1/2009 16:10	0.5424	1.5	6363.2	9544.8	10977	3.5	3136.3	5782.059146	0.6058	0.6247
8B	1	7/1/09 10:45	7/1/2009 16:10	0.5423	1.5	6363.2	9544.8	11583	3.5	3309.4	6102.412618	0.6393	
8B	2	7/1/09 10:45	7/1/2009 16:06	0.5466	1.5	6363.2	9544.8	11758	3.5	3359.4	6146.082528	0.6439	
8B	3	7/1/09 10:45	7/1/2009 16:19	0.5332	1.5	6363.2	9544.8	11499	3.5	3285.4	6161.727069	0.6456	Average EFF
8B	4	7/1/09 10:45	7/1/2009 16:15	0.5376	1.5	6363.2	9544.8	10844	3.5	3098.3	5763.600098	0.6038	0.6332
8C	1	7/1/09 10:45	7/1/2009 16:15	0.5375	1.5	6363.2	9544.8	11539	3.5	3296.9	6133.762218	0.6426	
8C	2	7/1/09 10:45	7/1/2009 16:10	0.5422	1.5	6363.2	9544.8	11774	3.5	3364.0	6204.011354	0.6500	
8C	3	7/1/09 10:45	7/1/2009 16:06	0.5465	1.5	6363.2	9544.8	11611	3.5	3317.4	6070.574762	0.6360	Average EFF
8C	4	7/1/09 10:45	7/1/2009 16:19	0.5331	1.5	6363.2	9544.8	10809	3.5	3088.3	5793.080291	0.6069	0.6339
8D	1	7/1/09 10:45	7/1/2009 16:19	0.5330	1.5	6363.2	9544.8	11301	3.5	3228.9	6057.336905	0.6346	
8D	2	7/1/09 10:45	7/1/2009 16:15	0.5374	1.5	6363.2	9544.8	11412	3.5	3260.6	6067.58377	0.6357	
8D	3	7/1/09 10:45	7/1/2009 16:10	0.5421	1.5	6363.2	9544.8	11660	3.5	3331.4	6145.674775	0.6439	Average EFF
8D	4	7/1/09 10:45	7/1/2009 16:06	0.5464	1.5	6363.2	9544.8	10918	3.5	3119.4	5709.327085	0.5982	0.6281
9A	1	7/1/09 10:45	7/1/2009 16:24	0.5280	1.5	6363.2	9544.8	11605	3.5	3315.7	6280.207813	0.6580	
9A	2	7/1/09 10:45	7/1/2009 16:42	0.5106	1.5	6363.2	9544.8	11281	3.5	3223.1	6313.016372	0.6614	
9A	3	7/1/09 10:45	7/1/2009 16:33	0.5196	1.5	6363.2	9544.8	11301	3.5	3228.9	6214.402502	0.6511	Average EFF
9A	4	7/1/09 10:45	7/1/2009 16:29	0.5236	1.5	6363.2	9544.8	10987	3.5	3139.1	5995.155865	0.6281	0.6496
9B	1	7/1/09 10:45	7/1/2009 16:29	0.5235	1.5	6363.2	9544.8	11151	3.5	3186.0	6085.406603	0.6376	
9B	2	7/1/09 10:45	7/1/2009 16:24	0.5280	1.5	6363.2	9544.8	11462	3.5	3274.9	6202.821366	0.6499	
9B	3	7/1/09 10:45	7/1/2009 16:42	0.5104	1.5	6363.2	9544.8	11004	3.5	3144.0	6160.125852	0.6454	Average EFF
9B	4	7/1/09 10:45	7/1/2009 16:33	0.5195	1.5	6363.2	9544.8	10581	3.5	3023.1	5819.569586	0.6097	0.6356
9C	1	7/1/09 10:45	7/1/2009 16:33	0.5194	1.5	6363.2	9544.8	11026	3.5	3150.3	6064.890483	0.6354	
9C	2	7/1/09 10:45	7/1/2009 16:29	0.5235	1.5	6363.2	9544.8	11281	3.5	3223.1	6157.122814	0.6451	
9C	3	7/1/09 10:45	7/1/2009 16:24	0.5279	1.5	6363.2	9544.8	11016	3.5	3147.4	5962.583098	0.6247	Average EFF
9C	4	7/1/09 10:45	7/1/2009 16:42	0.5103	1.5	6363.2	9544.8	10297	3.5	2942.0	5765.244836	0.6040	0.6273
9D	1	7/1/09 10:45	7/1/2009 16:38	0.5146	1.5	6363.2	9544.8	11135	3.5	3181.4	6182.4976	0.6477	
9D	2	7/1/09 10:45	7/1/2009 16:33	0.5193	1.5	6363.2	9544.8	11412	3.5	3260.6	6276.391381	0.6578	
9D	3	7/1/09 10:45	7/1/2009 16:29	0.5234	1.5	6363.2	9544.8	11340	3.5	3240.0	6190.682442	0.6486	Average EFF
9D	4	7/1/09 10:45	7/1/2009 16:24	0.5278	1.5	6363.2	9544.8	10912	3.5	3117.7	5907.401951	0.6189	0.6433
10A	1	7/1/09 10:45	7/1/2009 16:47	0.5057	1.5	6363.2	9544.8	10991	3.5	3140.3	6209.984837	0.6506	
10A	2	7/1/09 10:45	7/1/2009 17:12	0.4824	1.5	6363.2	9544.8	11959	4	2989.8	6198.168046	0.6494	
10A	3	7/1/09 10:45	7/1/2009 16:58	0.4958	1.5	6363.2	9544.8	10553	3.5	3015.1	6081.381423	0.6371	Average EFF
10A	4	7/1/09 10:45	7/1/2009 16:53	0.5003	1.5	6363.2	9544.8	10338	3.5	2953.7	5903.409852	0.6185	0.6389
10B	1	7/1/09 10:45	7/1/2009 17:03	0.4910	1.5	6363.2	9544.8	11110	4	2777.5	5656.748417	0.5927	
10B	2	7/1/09 10:45	7/1/2009 16:47	0.5057	1.5	6363.2	9544.8	10812	3.5	3089.1	6109.231533	0.6401	
10B	3	7/1/09 10:45	7/1/2009 17:12	0.4822	1.5	6363.2	9544.8	11422	4	2855.5	5921.333197	0.6204	Average EFF
10B	4	7/1/09 10:45	7/1/2009 16:58	0.4957	1.5	6363.2	9544.8	9967	3.5	2847.7	5744.946895	0.6019	0.6137
10C	1	7/1/09 10:45	7/1/2009 16:58	0.4956	1.5	6363.2	9544.8	10482	3.5	2994.9	6042.548531	0.6331	
10C	2	7/1/09 10:45	7/1/2009 16:53	0.5001	1.5	6363.2	9544.8	10535	3.5	3010.0	6018.73284	0.6306	
10C	3	7/1/09 10:45	7/1/2009 16:47	0.5054	1.5	6363.2	9544.8	10723	3.5	3063.7	6061.601256	0.6351	Average EFF
10C	4	7/1/09 10:45	7/1/2009 17:13	0.4820	1.5	6363.2	9544.8	11066	4	2766.5	5739.114805	0.6013	0.6250
10D	1	7/1/09 10:45	7/1/2009 17:13	0.4819	1.5	6363.2	9544.8	12021	4	3005.3	6236.356344	0.6534	
10D	2	7/1/09 10:45	7/1/2009 16:58	0.4955	1.5	6363.2	9544.8	10614	3.5	3032.6	6119.984615	0.6412	

10D	3	7/1/09 10:45	7/1/2009 16:53	0.5000	1.5	6363.2	9544.8	10643	3.5	3040.9	6081.577364	0.6372	Average EFF
10D	4	7/1/09 10:45	7/1/2009 16:48	0.5053	1.5	6363.2	9544.8	10064	3.5	2875.4	5690.501596	0.5962	0.6320
11A	1	7/1/09 10:45	7/1/2009 11:56	0.8745	1.5	6363.2	9544.8	14773	3	4924.3	5631.22443	0.5900	
11A	2	7/1/09 10:45	7/1/2009 12:08	0.8547	1.5	6363.2	9544.8	14429	3	4809.7	5627.17636	0.5896	
11A	3	7/1/09 10:45	7/1/2009 12:04	0.8607	1.5	6363.2	9544.8	14454	3	4818.0	5597.851728	0.5865	Average EFF
11A	4	7/1/09 10:45	7/1/2009 12:00	0.8677	1.5	6363.2	9544.8	14013	3	4671.0	5383.193838	0.5640	0.5825
11B	1	7/1/09 10:45	7/1/2009 12:00	0.8681	1.5	6363.2	9544.8	16203	3	5401.0	6221.768068	0.6518	
11B	2	7/1/09 10:45	7/1/2009 11:56	0.8742	1.5	6363.2	9544.8	16106	3	5368.7	6141.073627	0.6434	
11B	3	7/1/09 10:45	7/1/2009 12:08	0.8545	1.5	6363.2	9544.8	15643	3	5214.3	6102.154531	0.6393	Average EFF
11B	4	7/1/09 10:45	7/1/2009 12:04	0.8606	1.5	6363.2	9544.8	15133	3	5044.3	5861.738123	0.6141	0.6372
11C	1	7/1/09 10:45	7/1/2009 12:04	0.8609	1.5	6363.2	9544.8	15637	3	5212.3	6054.305139	0.6343	
11C	2	7/1/09 10:45	7/1/2009 12:00	0.8680	1.5	6363.2	9544.8	15919	3	5306.3	6113.481467	0.6405	
11C	3	7/1/09 10:45	7/1/2009 11:56	0.8740	1.5	6363.2	9544.8	16452	3	5484.0	6274.376359	0.6574	Average EFF
11C	4	7/1/09 10:45	7/1/2009 12:08	0.8544	1.5	6363.2	9544.8	14887	3	4962.3	5808.157492	0.6085	0.6352
11D	1	7/1/09 10:45	7/1/2009 12:08	0.8548	1.5	6363.2	9544.8	15607	3	5202.3	6085.822645	0.6376	
11D	2	7/1/09 10:45	7/1/2009 12:04	0.8608	1.5	6363.2	9544.8	15944	3	5314.7	6174.136045	0.6469	
11D	3	7/1/09 10:45	7/1/2009 12:00	0.8679	1.5	6363.2	9544.8	16098	3	5366.0	6182.998937	0.6478	Average EFF
11D	4	7/1/09 10:45	7/1/2009 11:56	0.8738	1.5	6363.2	9544.8	15191	3	5063.7	5794.733717	0.6071	0.6348
12A	1	7/1/09 10:45	7/1/2009 12:15	0.8437	1.5	6363.2	9544.8	15450	3	5150.0	6104.026984	0.6395	
12A	2	7/1/09 10:45	7/1/2009 12:28	0.8234	1.5	6363.2	9544.8	15016	3	5005.3	6078.958269	0.6369	
12A	3	7/1/09 10:45	7/1/2009 12:24	0.8296	1.5	6363.2	9544.8	14984	3	4994.7	6020.558384	0.6308	Average EFF
12A	4	7/1/09 10:45	7/1/2009 12:20	0.8358	1.5	6363.2	9544.8	14530	3	4843.3	5794.58497	0.6071	0.6286
12B	1	7/1/09 10:45	7/1/2009 12:20	0.8362	1.5	6363.2	9544.8	15404	3	5134.7	6140.635636	0.6433	
12B	2	7/1/09 10:45	7/1/2009 12:15	0.8437	1.5	6363.2	9544.8	15607	3	5202.3	6166.05496	0.6460	
12B	3	7/1/09 10:45	7/1/2009 12:28	0.8232	1.5	6363.2	9544.8	15060	3	5020.0	6097.91718	0.6389	Average EFF
12B	4	7/1/09 10:45	7/1/2009 12:24	0.8295	1.5	6363.2	9544.8	14553	3	4851.0	5848.11587	0.6127	0.6352
12C	1	7/1/09 10:45	7/1/2009 12:24	0.8300	1.5	6363.2	9544.8	15183	3	5061.0	6097.649845	0.6388	
12C	2	7/1/09 10:45	7/1/2009 12:20	0.8361	1.5	6363.2	9544.8	15651	3	5217.0	6239.881493	0.6537	
12C	3	7/1/09 10:45	7/1/2009 12:15	0.8436	1.5	6363.2	9544.8	15216	3	5072.0	6012.519531	0.6299	Average EFF
12C	4	7/1/09 10:45	7/1/2009 12:28	0.8231	1.5	6363.2	9544.8	14117	3	4705.7	5716.805229	0.5989	0.6304
12D	1	7/1/09 10:45	7/1/2009 12:28	0.8235	1.5	6363.2	9544.8	15174	3	5058.0	6141.959419	0.6435	
12D	2	7/1/09 10:45	7/1/2009 12:24	0.8298	1.5	6363.2	9544.8	15137	3	5045.7	6080.699807	0.6371	
12D	3	7/1/09 10:45	7/1/2009 12:20	0.8359	1.5	6363.2	9544.8	15418	3	5139.3	6148.142699	0.6441	Average EFF
12D	4	7/1/09 10:45	7/1/2009 12:15	0.8434	1.5	6363.2	9544.8	14566	3	4855.3	5756.75774	0.6031	0.6320
13A	1	7/1/09 10:45	7/1/2009 12:33	0.8153	1.5	6363.2	9544.8	15230	3	5076.7	6226.552932	0.6524	
13A	2	7/1/09 10:45	7/1/2009 12:50	0.7902	1.5	6363.2	9544.8	14784	3	4928.0	6236.596242	0.6534	
13A	3	7/1/09 10:45	7/1/2009 12:41	0.8031	1.5	6363.2	9544.8	14851	3	4950.3	6164.384216	0.6458	Average EFF
13A	4	7/1/09 10:45	7/1/2009 12:37	0.8090	1.5	6363.2	9544.8	14183	3	4727.7	5843.553624	0.6122	0.6410
13B	1	7/1/09 10:45	7/1/2009 12:37	0.8094	1.5	6363.2	9544.8	15625	3	5208.3	6434.850276	0.6742	
13B	2	7/1/09 10:45	7/1/2009 12:33	0.8153	1.5	6363.2	9544.8	15450	3	5150.0	6316.496573	0.6618	
13B	3	7/1/09 10:45	7/1/2009 12:50	0.7901	1.5	6363.2	9544.8	14689	3	4896.3	6197.297391	0.6493	Average EFF
13B	4	7/1/09 10:45	7/1/2009 12:41	0.8029	1.5	6363.2	9544.8	14377	3	4792.3	5968.757323	0.6253	0.6526
13C	1	7/1/09 10:45	7/1/2009 12:41	0.8033	1.5	6363.2	9544.8	15426	3	5142.0	6401.251014	0.6707	
13C	2	7/1/09 10:45	7/1/2009 12:37	0.8093	1.5	6363.2	9544.8	15315	3	5105.0	6307.973396	0.6609	
13C	3	7/1/09 10:45	7/1/2009 12:33	0.8152	1.5	6363.2	9544.8	15288	3	5096.0	6251.048762	0.6549	Average EFF
13C	4	7/1/09 10:45	7/1/2009 12:50	0.7900	1.5	6363.2	9544.8	14222	3	4740.7	6001.209943	0.6287	0.6538
13D	1	7/1/09 10:45	7/1/2009 12:50	0.7903	1.5	6363.2	9544.8	14492	3	4830.7	6112.65055	0.6404	
13D	2	7/1/09 10:45	7/1/2009 12:46	0.7958	1.5	6363.2	9544.8	14858	3	4952.7	6223.19528	0.6520	
13D	3	7/1/09 10:45	7/1/2009 12:37	0.8092	1.5	6363.2	9544.8	14873	3	4957.7	6126.881339	0.6419	Average EFF
13D	4	7/1/09 10:45	7/1/2009 12:33	0.8151	1.5	6363.2	9544.8	14389	3	4796.3	5884.197712	0.6165	0.6377
14A	1	7/1/09 10:45	7/1/2009 12:54	0.7834	1.5	6363.2	9544.8	14463	3	4821.0	6153.596507	0.6447	
14A	2	7/1/09 10:45	7/1/2009 13:17	0.7507	1.5	6363.2	9544.8	14137	3	4712.3	6277.53373	0.6577	
14A	3	7/1/09 10:45	7/1/2009 13:13	0.7571	1.5	6363.2	9544.8	14022	3	4674.0	6173.627369	0.6468	Average EFF
14A	4	7/1/09 10:45	7/1/2009 13:02	0.7727	1.5	6363.2	9544.8	13451	3	4483.7	5802.830587	0.6080	0.6393
14B	1	7/1/09 10:45	7/1/2009 13:01	0.7730	1.5	6363.2	9544.8	14039	3	4679.7	6054.030301	0.6343	
14B	2	7/1/09 10:45	7/1/2009 12:54	0.7834	1.5	6363.2	9544.8	14398	3	4799.3	6126.324754	0.6418	
14B	3	7/1/09 10:45	7/1/2009 13:17	0.7505	1.5	6363.2	9544.8	13475	3	4491.7	5984.510182	0.6270	Average EFF
14B	4	7/1/09 10:45	7/1/2009 13:13	0.7569	1.5	6363.2	9544.8	13077	3	4359.0	5758.643863	0.6033	0.6266
14C	1	7/1/09 10:45	7/1/2009 13:12	0.7573	1.5	6363.2	9544.8	14116	3	4705.3	6213.261445	0.6510	
14C	2	7/1/09 10:45	7/1/2009 13:02	0.7729	1.5	6363.2	9544.8	14187	3	4729.0	6118.427365	0.6410	
14C	3	7/1/09 10:45	7/1/2009 12:55	0.7832	1.5	6363.2	9544.8	14409	3	4803.0	6132.734423	0.6425	Average EFF
14C	4	7/1/09 10:45	7/1/2009 13:17	0.7505	1.5	6363.2	9544.8	13229	3	4409.7	5875.993199	0.6156	0.6375
14D	1	7/1/09 10:45	7/1/2009 13:17	0.7508	1.5	6363.2	9544.8	13927	3	4642.3	6183.314452	0.6478	
14D	2	7/1/09 10:45	7/1/2009 13:12	0.7572	1.5	6363.2	9544.8	14089	3	4696.3	6202.348821	0.6498	
14D	3	7/1/09 10:45	7/1/2009 13:02	0.7728	1.5	6363.2	9544.8	13912	3	4637.3	6000.768164	0.6287	Average EFF
14D	4	7/1/09 10:45	7/1/2009 12:55	0.7830	1.5	.6363.2	9544.8	13545	3	4515.0	5766.084113	0.6041	0.6326

*Background is considered negligible

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time
1	1A	3	126	13564	7/1/2009 13:36	7/1/2009 13:39
2	1A	3	136	12775	7/1/2009 13:52	7/1/2009 13:55
3	1A	3	135	12750	7/1/2009 13:48	7/1/2009 13:51
4	1A	3	142	12410	7/1/2009 13:41	7/1/2009 13:44
1	1B	3	115	13292	7/1/2009 13:41	7/1/2009 13:44
2	1B	3	136	13274	7/1/2009 13:36	7/1/2009 13:39
3	1B	3	131	12699	7/1/2009 13:52	7/1/2009 13:55
4	1B	3	129	12072	7/1/2009 13:48	7/1/2009 13:51
1	1C	3	207	12813	7/1/2009 13:48	7/1/2009 13:51
2	1C	3	221	12979	7/1/2009 13:41	7/1/2009 13:44
3	1C	3	189	12755	7/1/2009 13:36	7/1/2009 13:39
4	1C	3	179	11917	7/1/2009 13:52	7/1/2009 13:55
1	1D	3	558	12473	7/1/2009 13:52	7/1/2009 13:55
2	1D	3	582	12484	7/1/2009 13:48	7/1/2009 13:51
3	1D	3	632	12289	7/1/2009 13:41	7/1/2009 13:44
4	1D	3	568	12115	7/1/2009 13:36	7/1/2009 13:39
1	2A	3	424	12499	7/1/2009 13:57	7/1/2009 14:00
2	2A	3	449	12103	7/1/2009 14:15	7/1/2009 14:18
3	2A	3	419	11968	7/1/2009 14:09	7/1/2009 14:12
4	2A	3	417	11855	7/1/2009 14:02	7/1/2009 14:05
1	2B	3	42	12471	7/1/2009 14:02	7/1/2009 14:05
2	2B	3	39	12492	7/1/2009 13:57	7/1/2009 14:00
3	2B	3	54	11892	7/1/2009 14:15	7/1/2009 14:18
4	2B	3	69	11539	7/1/2009 14:09	7/1/2009 14:12
1	2C	3	504	12050	7/1/2009 14:08	7/1/2009 14:11
2	2C	3	527	11914	7/1/2009 14:02	7/1/2009 14:05
3	2C	3	496	11994	7/1/2009 13:58	7/1/2009 14:01
4	2C	3	499	10889	7/1/2009 14:15	7/1/2009 14:18
1	2D	3	543	12010	7/1/2009 14:15	7/1/2009 14:18
2	2D	3	508	12124	7/1/2009 14:08	7/1/2009 14:11
3	2D	3	542	12168	7/1/2009 14:02	7/1/2009 14:05
4	2D	3	544	11692	7/1/2009 13:58	7/1/2009 14:01
1	3A	3	1397	11194	7/1/2009 14:19	7/1/2009 14:22
2	3A	4	1809	14227	7/1/2009 14:35	7/1/2009 14:39
3	3A	4	1757	14180	7/1/2009 14:30	7/1/2009 14:34
4	3A	4	1725	13754	7/1/2009 14:25	7/1/2009 14:29
1	3B	4	914	15370	7/1/2009 14:25	7/1/2009 14:29
2	3B	3	731	11695	7/1/2009 14:20	7/1/2009 14:23
3	3B	4	960	14905	7/1/2009 14:35	7/1/2009 14:39
4	3B	4	922	14220	7/1/2009 14:30	7/1/2009 14:34
1	3C	4	671	15644	7/1/2009 14:29	7/1/2009 14:33
2	3C	4	722	15964	7/1/2009 14:25	7/1/2009 14:29
3	3C	3	558	11701	7/1/2009 14:20	7/1/2009 14:23
4	3C	4	647	14729	7/1/2009 14:35	7/1/2009 14:39
1	3D	4	651	15152	7/1/2009 14:35	7/1/2009 14:39
2	3D	4	722	15168	7/1/2009 14:30	7/1/2009 14:34
3	3D	4	684	15295	7/1/2009 14:25	7/1/2009 14:29
4	3D	3	466	10942	7/1/2009 14:20	7/1/2009 14:23
1	4A	4	412	15298	7/1/2009 14:40	7/1/2009 14:44
2	4A	4	407	14897	7/1/2009 15:00	7/1/2009 15:04
3	4A	4	389	15050	7/1/2009 14:53	7/1/2009 14:57

7/2/09

4 4A	4	417	14462	7/1/2009 14:48	7/1/2009 14:52
1 4B	4	58	15335	7/1/2009 14:48	7/1/2009 14:52
2 4B	4	61	15513	7/1/2009 14:41	7/1/2009 14:45
3 4B	4	53	14521	7/1/2009 15:00	7/1/2009 15:04
4 4B	4	72	14328	7/1/2009 14:53	7/1/2009 14:57
1 4C	4	532	14733	7/1/2009 14:53	7/1/2009 14:57
2 4C	4	545	14902	7/1/2009 14:48	7/1/2009 14:52
3 4C	4	486	14856	7/1/2009 14:41	7/1/2009 14:45
4 4C	4	540	13733	7/1/2009 15:00	7/1/2009 15:04
1 4D	4	1158	14167	7/1/2009 15:00	7/1/2009 15:04
2 4D	4	1192	14204	7/1/2009 14:53	7/1/2009 14:57
3 4D	4	1136	14131	7/1/2009 14:48	7/1/2009 14:52
4 4D	4	1149	13978	7/1/2009 14:41	7/1/2009 14:45
1 5A	4	424	14870	7/1/2009 15:06	7/1/2009 15:10
2 5A	4	395	14487	7/1/2009 15:21	7/1/2009 15:25
3 5A	4	403	14259	7/1/2009 15:17	7/1/2009 15:21
4 5A	4	389	13957	7/1/2009 15:12	7/1/2009 15:16
1 5B	4	428	14869	7/1/2009 15:12	7/1/2009 15:16
2 5B	4	440	14821	7/1/2009 15:06	7/1/2009 15:10
3 5B	4	420	14289	7/1/2009 15:21	7/1/2009 15:25
4 5B	4	414	13809	7/1/2009 15:17	7/1/2009 15:21
1 5C	4	436	14676	7/1/2009 15:17	7/1/2009 15:21
2 5C	4	443	15122	7/1/2009 15:12	7/1/2009 15:16
3 5C	4	433	14958	7/1/2009 15:07	7/1/2009 15:11
4 5C	4	416	13831	7/1/2009 15:21	7/1/2009 15:25
1 5D	4	451	14321	7/1/2009 15:21	7/1/2009 15:25
2 5D	4	452	14642	7/1/2009 15:17	7/1/2009 15:21
3 5D	4	444	14443	7/1/2009 15:12	7/1/2009 15:16
4 5D	4	414	13954	7/1/2009 15:07	7/1/2009 15:11
1 6A	4	272	14018	7/1/2009 15:27	7/1/2009 15:31
2 6A	3.5	246	12283	7/1/2009 15:40	7/1/2009 15:44
3 6A	3.5	231	12111	7/1/2009 15:36	7/1/2009 15:40
4 6A	3.5	229	11598	7/1/2009 15:32	7/1/2009 15:35
1 6B	3.5	540	12151	7/1/2009 15:32	7/1/2009 15:36
2 6B	4	592	14371	7/1/2009 15:27	7/1/2009 15:31
3 6B	3.5	498	11705	7/1/2009 15:40	7/1/2009 15:44
4 6B	3.5	498	11388	7/1/2009 15:36	7/1/2009 15:40
1 6C	3.5	462	12161	7/1/2009 15:36	7/1/2009 15:40
2 6C	3.5	468	12083	7/1/2009 15:32	7/1/2009 15:36
3 6C	4	534	13638	7/1/2009 15:27	7/1/2009 15:31
4 6C	3.5	455	11218	7/1/2009 15:40	7/1/2009 15:44
1 6D	3.5	456	11987	7/1/2009 15:40	7/1/2009 15:44
2 6D	3.5	468	12183	7/1/2009 15:36	7/1/2009 15:40
3 6D	3.5	496	11882	7/1/2009 15:32	7/1/2009 15:36
4 6D	4	525	13018	7/1/2009 15:27	7/1/2009 15:31
1 7A	3.5	466	12007	7/1/2009 15:46	7/1/2009 15:50
2 7A	3.5	491	11655	7/1/2009 16:00	7/1/2009 16:04
3 7A	3.5	444	11445	7/1/2009 15:56	7/1/2009 15:59
4 7A	3.5	477	11121	7/1/2009 15:50	7/1/2009 15:54
1 7B	3.5	418	11968	7/1/2009 15:51	7/1/2009 15:54
2 7B	3.5	448	12050	7/1/2009 15:46	7/1/2009 15:50
3 7B	3.5	460	11675	7/1/2009 16:00	7/1/2009 16:04

4 7B	3.5	413	11271	7/1/2009 15:56	7/1/2009 16:00
1 7C	3.5	471	11781	7/1/2009 15:56	7/1/2009 16:00
2 7C	3.5	457	11760	7/1/2009 15:51	7/1/2009 15:54
3 7C	3.5	454	11766	7/1/2009 15:46	7/1/2009 15:50
4 7C	3.5	406	10888	7/1/2009 16:00	7/1/2009 16:04
1 7D	3.5	359	11605	7/1/2009 16:00	7/1/2009 16:04
2 7D	3.5	391	11920	7/1/2009 15:56	7/1/2009 16:00
3 7D	3.5	386	11933	7/1/2009 15:51	7/1/2009 15:55
4 7D	3.5	400	11305	7/1/2009 15:46	7/1/2009 15:50
1 8A	3.5	348	11673	7/1/2009 16:06	7/1/2009 16:09
2 8A	3.5	340	11172	7/1/2009 16:19	7/1/2009 16:22
3 8A	3.5	298	11258	7/1/2009 16:15	7/1/2009 16:18
4 8A	3.5	327	10977	7/1/2009 16:10	7/1/2009 16:13
1 8B	3.5	124	11583	7/1/2009 16:10	7/1/2009 16:13
2 8B	3.5	112	11758	7/1/2009 16:06	7/1/2009 16:09
3 8B	3.5	110	11499	7/1/2009 16:19	7/1/2009 16:23
4 8B	3.5	102	10844	7/1/2009 16:15	7/1/2009 16:18
1 8C	3.5	202	11539	7/1/2009 16:15	7/1/2009 16:18
2 8C	3.5	196	11774	7/1/2009 16:10	7/1/2009 16:14
3 8C	3.5	203	11611	7/1/2009 16:06	7/1/2009 16:09
4 8C	3.5	207	10809	7/1/2009 16:19	7/1/2009 16:23
1 8D	3.5	240	11301	7/1/2009 16:19	7/1/2009 16:23
2 8D	3.5	248	11412	7/1/2009 16:15	7/1/2009 16:18
3 8D	3.5	233	11660	7/1/2009 16:10	7/1/2009 16:14
4 8D	3.5	235	10918	7/1/2009 16:06	7/1/2009 16:10
1 9A	3.5	39	11605	7/1/2009 16:24	7/1/2009 16:28
2 9A	3.5	49	11281	7/1/2009 16:42	7/1/2009 16:46
3 9A	3.5	47	11301	7/1/2009 16:33	7/1/2009 16:36
4 9A	3.5	64	10987	7/1/2009 16:29	7/1/2009 16:32
1 9B	3.5	53	11151	7/1/2009 16:29	7/1/2009 16:32
2 9B	3.5	39	11462	7/1/2009 16:24	7/1/2009 16:28
3 9B	3.5	45	11004	7/1/2009 16:42	7/1/2009 16:46
4 9B	3.5	51	10581	7/1/2009 16:33	7/1/2009 16:36
1 9C	3.5	49	11026	7/1/2009 16:33	7/1/2009 16:36
2 9C	3.5	49	11281	7/1/2009 16:29	7/1/2009 16:32
3 9C	3.5	40	11016	7/1/2009 16:24	7/1/2009 16:28
4 9C	3.5	60	10297	7/1/2009 16:42	7/1/2009 16:46
1 9D	3.5	65	11135	7/1/2009 16:38	7/1/2009 16:41
2 9D	3.5	53	11412	7/1/2009 16:33	7/1/2009 16:37
3 9D	3.5	54	11340	7/1/2009 16:29	7/1/2009 16:32
4 9D	3.5	77	10912	7/1/2009 16:24	7/1/2009 16:28
1 10A	3.5	71	10991	7/1/2009 16:47	7/1/2009 16:51
2 10A	4	106	11959	7/1/2009 17:12	7/1/2009 17:16
3 10A	3.5	70	10553	7/1/2009 16:58	7/1/2009 17:01
4 10A	3.5	95	10338	7/1/2009 16:53	7/1/2009 16:56
1 10B	4	139	11110	7/1/2009 17:03	7/1/2009 17:07
2 10B	3.5	102	10812	7/1/2009 16:47	7/1/2009 16:51
3 10B	4	103	11422	7/1/2009 17:12	7/1/2009 17:16
4 10B	3.5	110	9967	7/1/2009 16:58	7/1/2009 17:01
1 10C	3.5	74	10482	7/1/2009 16:58	7/1/2009 17:01
2 10C	3.5	79	10535	7/1/2009 16:53	7/1/2009 16:57
3 10C	3.5	87	10723	7/1/2009 16:47	7/1/2009 16:51

4 10C	4	95	11066	7/1/2009 17:13	7/1/2009 17:17
1 10D	4	102	12021	7/1/2009 17:13	7/1/2009 17:17
2 10D	3.5	75	10614	7/1/2009 16:58	7/1/2009 17:01
3 10D	3.5	78	10643	7/1/2009 16:53	7/1/2009 16:57
4 10D	3.5	81	10064	7/1/2009 16:48	7/1/2009 16:51
1 11A	3	31	14773	7/1/2009 11:56	7/1/2009 11:59
2 11A	3	23	14429	7/1/2009 12:08	7/1/2009 12:11
3 11A	3	33	14454	7/1/2009 12:04	7/1/2009 12:07
4 11A	3	49	14013	7/1/2009 12:00	7/1/2009 12:03
1 11B	3	43	16203	7/1/2009 12:00	7/1/2009 12:03
2 11B	3	53	16106	7/1/2009 11:56	7/1/2009 11:59
3 11B	3	46	15643	7/1/2009 12:08	7/1/2009 12:11
4 11B	3	42	15133	7/1/2009 12:04	7/1/2009 12:07
1 11C	3	27	15637	7/1/2009 12:04	7/1/2009 12:07
2 11C	3	38	15919	7/1/2009 12:00	7/1/2009 12:03
3 11C	3	33	16452	7/1/2009 11:56	7/1/2009 11:59
4 11C	3	46	14887	7/1/2009 12:08	7/1/2009 12:11
1 11D	3	43	15607	7/1/2009 12:08	7/1/2009 12:11
2 11D	3	42	15944	7/1/2009 12:04	7/1/2009 12:07
3 11D	3	32	16098	7/1/2009 12:00	7/1/2009 12:03
4 11D	3	39	15191	7/1/2009 11:56	7/1/2009 11:59
1 12A	3	29	15450	7/1/2009 12:15	7/1/2009 12:18
2 12A	3	28	15016	7/1/2009 12:28	7/1/2009 12:31
3 12A	3	31	14984	7/1/2009 12:24	7/1/2009 12:27
4 12A	3	46	14530	7/1/2009 12:20	7/1/2009 12:23
1 12B	3	26	15404	7/1/2009 12:20	7/1/2009 12:23
2 12B	3	31	15607	7/1/2009 12:15	7/1/2009 12:18
3 12B	3	34	15060	7/1/2009 12:28	7/1/2009 12:31
4 12B	3	49	14553	7/1/2009 12:24	7/1/2009 12:27
1 12C	3	24	15183	7/1/2009 12:24	7/1/2009 12:27
2 12C	3	44	15651	7/1/2009 12:20	7/1/2009 12:23
3 12C	3	46	15216	7/1/2009 12:15	7/1/2009 12:18
4 12C	3	60	14117	7/1/2009 12:28	7/1/2009 12:31
1 12D	3	48	15174	7/1/2009 12:28	7/1/2009 12:31
2 12D	3	37	15137	7/1/2009 12:24	7/1/2009 12:27
3 12D	3	25	15418	7/1/2009 12:20	7/1/2009 12:23
4 12D	3	59	14566	7/1/2009 12:15	7/1/2009 12:18
1 13A	3	50	15230	7/1/2009 12:33	7/1/2009 12:36
2 13A	3	36	14784	7/1/2009 12:50	7/1/2009 12:53
3 13A	3	41	14851	7/1/2009 12:41	7/1/2009 12:44
4 13A	3	49	14183	7/1/2009 12:37	7/1/2009 12:40
1 13B	3	39	15625	7/1/2009 12:37	7/1/2009 12:40
2 13B	3	41	15450	7/1/2009 12:33	7/1/2009 12:36
3 13B	3	37	14689	7/1/2009 12:50	7/1/2009 12:53
4 13B	3	47	14377	7/1/2009 12:41	7/1/2009 12:44
1 13C	3	54	15426	7/1/2009 12:41	7/1/2009 12:44
2 13C	3	41	15315	7/1/2009 12:37	7/1/2009 12:40
3 13C	3	36	15288	7/1/2009 12:33	7/1/2009 12:36
4 13C	3	34	14222	7/1/2009 12:50	7/1/2009 12:53
1 13D	3	47	14492	7/1/2009 12:50	7/1/2009 12:53
2 13D	3	50	14858	7/1/2009 12:46	7/1/2009 12:49
3 13D	3	43	14873	7/1/2009 12:37	7/1/2009 12:40

4 13D	3	47	14389	7/1/2009 12:33	7/1/2009 12:36
1 14A	3	44	14463	7/1/2009 12:54	7/1/2009 12:57
2 14A	3	41	14137	7/1/2009 13:17	7/1/2009 13:20
3 14A	3	45	14022	7/1/2009 13:13	7/1/2009 13:16
4 14A	3	51	13451	7/1/2009 13:02	7/1/2009 13:05
1 14B	3	42	14039	7/1/2009 13:01	7/1/2009 13:04
2 14B	3	36	14398	7/1/2009 12:54	7/1/2009 12:57
3 14B	3	47	13475	7/1/2009 13:17	7/1/2009 13:20
4 14B	3	47	13077	7/1/2009 13:13	7/1/2009 13:16
1 14C	3	26	14116	7/1/2009 13:12	7/1/2009 13:15
2 14C	3	35	14187	7/1/2009 13:02	7/1/2009 13:05
3 14C	3	37	14409	7/1/2009 12:55	7/1/2009 12:58
4 14C	3	38	13229	7/1/2009 13:17	7/1/2009 13:20
1 14D	3	16	13927	7/1/2009 13:17	7/1/2009 13:20
2 14D	3	32	14089	7/1/2009 13:12	7/1/2009 13:15
3 14D	3	16	13912	7/1/2009 13:02	7/1/2009 13:05
4 14D	3	47	13545	7/1/2009 12:55	7/1/2009 12:58

Radium-228 Liquid

Filename : RA228.XLS
File type : Excel
Version # : 1.2.3

Batch : 595514
Analyst : AF1
Prep Date : 7/1/2009

Ra-228 Abundance : 1
Ra-228 Method Uncertainty : 0.0784

Calibration Date : 6/2/2008
Calibration Due Date : 6/30/2009

Spike S/N : N/A
Spike Exp Date : N/A
Spike Activity (dpm/ml): N/A
Spike Volume Added: N/A

LCS S/N : 0503-B
LCS Exp Date : 9/13/2009
LCS Activity (dpm/ml): 182.42
LCS Volume Added: 2.00

Tracer S/N : 0112-J
Tracer Exp Date : 2/17/2010
Tracer Volume Added: 0.10

Pipet, 0.1 ml Stdev : +/- 0.000701 ml
Pipet, 0.5 ml Stdev : +/- 0.002564 ml
Pipet, 1 ml Stdev : +/- 0.005480 ml

Procedure Code : GFC90SRL
Parmname : Radium-228
Required MDA : 1 pCi/L
Halflife of Ra-228 : 5.75 years
Halflife of Ac-228 : 6.13 hours
Batch counted on : PIC
BKG Count time : 500 min

Sample Characteristics					Count raw Data																	Results
Pos.	Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Pos.	Detector ID	Counting Time (min.)	Gross Counts Alpha	Gross Counts Beta	Beta cpm	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Weekly Bkg cpm	Count Time (min.)	Separation Date/Time	Count Start Date/Time	Ra-228 Decay	Ac-228 Decay	Ac-228 Count Correction	Calculated Sample Recovery %	Sample Recovery Error %	Pos.
1	1201245712.1	1.0000	2.0399E-05	7/1/2009 0:00	1	1A	15	36	1980	132.000	0.6303	0.00600	0.312	500	7/2/2009 5:40	7/2/2009 8:39	1.000	0.713	1.014	100.83%	1.00%	1 *
2	1201245713.1	1.0000	2.0399E-05	7/1/2009 0:00	2	1B	15	27	1959	130.600	0.6282	0.00409	0.342	500	7/2/2009 5:40	7/2/2009 8:40	1.000	0.712	1.014	108.20%	1.00%	2 *
3	1201245714.1	1.0000	2.0399E-05	7/1/2009 0:00	3	1C	15	44	2108	140.533	0.6176	0.00344	0.716	500	7/2/2009 5:40	7/2/2009 8:40	1.000	0.712	1.014	114.22%	1.00%	3 *
4	1201245715.1	1.0000	2.0399E-05	7/1/2009 0:00	4	1D	15	108	2265	151.000	0.6043	0.00511	0.524	500	7/2/2009 5:40	7/2/2009 8:40	1.000	0.712	1.014	120.58%	1.00%	4 *
5	1201245716.1	1.0000	2.0399E-05	7/1/2009 0:00	5	2A	15	69	1838	122.533	0.6172	0.00349	0.450	500	7/2/2009 5:40	7/2/2009 8:40	1.000	0.712	1.014	105.84%	1.00%	5 *
6	1201245717.1	1.0000	2.0399E-05	7/1/2009 0:00	6	2B	15	8	2053	136.867	0.6167	0.00383	1.428	500	7/2/2009 5:40	7/2/2009 8:40	1.000	0.712	1.014	102.70%	1.00%	6 *
7	1201245718.1	1.0000	2.0399E-05	7/1/2009 0:00	7	2C	15	96	1982	132.133	0.5969	0.00575	0.334	500	7/2/2009 5:40	7/2/2009 8:40	1.000	0.711	1.014	112.82%	1.00%	7 *
8	1201245719.1	1.0000	2.0399E-05	7/1/2009 0:00	8	2D	15	93	1984	132.267	0.6119	0.00479	0.378	500	7/2/2009 5:40	7/2/2009 9:08	1.000	0.676	1.014	111.91%	1.00%	8 *
9	1201245720.1	1.0000	2.0399E-05	7/1/2009 0:00	9	3A	15	233	1645	109.667	0.5682	0.00943	0.762	500	7/2/2009 5:40	7/2/2009 9:08	1.000	0.675	1.014	100.83%	1.00%	9 *
10	1201245721.1	1.0000	2.0399E-05	7/1/2009 0:00	10	3B	15	99	1821	121.400	0.5980	0.00655	1.710	500	7/2/2009 5:40	7/2/2009 9:08	1.000	0.675	1.014	108.20%	1.00%	10 *
11	1201245722.1	1.0000	2.0399E-05	7/1/2009 0:00	11	3C	15	96	1942	129.467	0.6164	0.00535	0.822	500	7/2/2009 5:40	7/2/2009 9:08	1.000	0.675	1.014	114.22%	1.00%	11 *
12	1201245723.1	1.0000	2.0399E-05	7/1/2009 0:00	12	3D	15	90	2076	138.400	0.5994	0.00464	0.630	500	7/2/2009 5:40	7/2/2009 9:08	1.000	0.675	1.014	120.58%	1.00%	12 *
13	1201245724.1	1.0000	2.0399E-05	7/1/2009 0:00	13	4A	15	79	1877	125.133	0.6208	0.00744	0.890	500	7/2/2009 5:40	7/2/2009 9:08	1.000	0.675	1.014	105.84%	1.00%	13 *
14	1201245725.1	1.0000	2.0399E-05	7/1/2009 0:00	14	4B	15	13	1909	127.267	0.6205	0.00196	1.838	500	7/2/2009 5:40	7/2/2009 9:08	1.000	0.675	1.014	102.70%	1.00%	14 *
15	1201245726.1	1.0000	2.0399E-05	7/1/2009 0:00	15	4C	15	97	1974	131.600	0.6052	0.00426	1.260	500	7/2/2009 5:40	7/2/2009 9:09	1.000	0.674	1.014	112.82%	1.00%	15 *
16	1201245727.1	1.0000	2.0399E-05	7/1/2009 0:00	16	4D	15	181	1880	125.333	0.5873	0.00816	1.070	500	7/2/2009 5:40	7/2/2009 9:25	1.000	0.654	1.014	111.91%	1.00%	16 *
17	1201245728.1	1.0000	2.0399E-05	7/1/2009 0:00	17	5A	15	53	1818	121.200	0.6258	0.00816	0.496	500	7/2/2009 5:40	7/2/2009 9:26	1.000	0.653	1.014	100.83%	1.00%	17 *
18	1201245729.1	1.0000	2.0399E-05	7/1/2009 0:00	18	5B	15	59	1785	119.000	0.6280	0.00816	1.050	500	7/2/2009 5:40	7/2/2009 9:26	1.000	0.653	1.014	108.20%	1.00%	18 *
19	1201245730.1	1.0000	2.0399E-05	7/1/2009 0:00	19	5C	15	43	2009	133.933	0.6368	0.00816	0.946	500	7/2/2009 5:40	7/2/2009 9:26	1.000	0.653	1.014	114.22%	1.00%	19 *
20	1201245731.1	1.0000	2.0399E-05	7/1/2009 0:00	20	5D	15	59	2107	140.467	0.6237	0.00816	1.248	500	7/2/2009 5:40	7/2/2009 9:26	1.000	0.652	1.014	120.58%	1.00%	20 *
21	1201245732.1	1.0000	2.0399E-05	7/1/2009 0:00	21	6A	15	35	1800	120.000	0.6221	0.00816	1.004	500	7/2/2009 5:40	7/2/2009 9:27	1.000	0.652	1.014	105.84%	1.00%	21 *
22	1201245733.1	1.0000	2.0399E-05	7/1/2009 0:00	22	6B	15	71	1816	121.067	0.6163	0.00816	0.764	500	7/2/2009 5:40	7/2/2009 9:27	1.000	0.651	1.014	102.70%	1.00%	22 *
23	1201245734.1	1.0000	2.0399E-05	7/1/2009 0:00	23	6C	15	81	1933	128.867	0.6111	0.00816	1.836	500	7/2/2009 5:40	7/2/2009 9:27	1.000	0.651	1.014	112.82%	1.00%	23 *
24	1201245735.1	1.0000	2.0399E-05	7/1/2009 0:00	24	6D	15	81	1826	121.733	0.6120	0.00816	0.362	500	7/2/2009 5:40	7/2/2009 9:47	1.000	0.627	1.014	111.91%	1.00%	24 *
25	1201245736.1	1.0000	2.0399E-05	7/1/2009 0:00	25	7A	15	75	1711	114.067	0.6180	0.00816	0.344	500	7/2/2009 5:40	7/2/2009 9:48	1.000	0.627	1.014	100.83%	1.00%	25 *
26	1201245737.1	1.0000	2.0399E-05	7/1/2009 0:00	26	7B	15	59	1783	118.867	0.6280	0.00816	0.378	500	7/2/2009 5:40	7/2/2009 9:48	1.000	0.627	1.014	108.20%	1.00%	26 *
27	1201245738.1	1.0000	2.0399E-05	7/1/2009 0:00	27	7C	15	74	1934	128.933	0.6178	0.00816	0.302	500	7/2/2009 5:40	7/2/2009 9:48	1.000	0.627	1.014	114.22%	1.00%	27 *
28	1201245739.1	1.0000	2.0399E-05	7/1/2009 0:00	28	7D	15	83	1963	130.867	0.6257	0.00816	0.396	500	7/2/2009 5:40	7/2/2009 9:48	1.000	0.627	1.014	120.58%	1.00%	28 *
29	1201245740.1	1.0000	2.0399E-05	7/1/2009 0:00	29	8A	15	49	1653	110.200	0.6247	0.00816	0.788	500	7/2/2009 5:40	7/2/2009 9:48	1.000	0.626	1.014	105.84%	1.00%	29 *
30	1201245741.1	1.0000	2.0399E-05	7/1/2009 0:00	30	8B	15	20	1788	119.200	0.6332	0.00816	1.946	500	7/2/2009 5:40	7/2/2009 9:48	1.000	0.626	1.014	102.70%	1.00%	30 *
31	1201245742.1	1.0000	2.0399E-05	7/1/2009 0:00	31	8C	15	34	1920	128.000	0.6339	0.00816	0.676	500	7/2/2009 5:40	7/2/2009 9:48	1.000	0.626	1.014	112.82%	1.00%	31 *
32	1201245743.1	1.0000	2.0399E-05	7/1/2009 0:00	32	8D	15	45	1782	118.800	0.6281	0.00816	1.312	500	7/2/2009 5:40	7/2/2009 10:07	1.000	0.604	1.014	111.91%	1.00%	32 *
33	1201490021.1	1.0000	2.0399E-05	7/1/2009 0:00	33	9A	15	17	1689	112.600	0.6496	0.00816	0.380	500	7/2/2009 5:40	7/2/2009 10:06	1.000	0.605	1.014	100.83%	1.00%	33 *
34	1201490022.1	1.0000	2.0399E-05	7/1/2009 0:00	34	9B	15	13	1706	113.733	0.6356	0.00816	1.206	500	7/2/2009 5:40	7/2/2009 10:06	1.000	0.605	1.014	108.20%	1.00%	34 *
35	1201490023.1	1.0000	2.0399E-05	7/1/2009 0:00	35	9C	15	13	1802	120.133	0.6273	0.00816	0.370	500	7/2/2009 5:40	7/2/2009 10:06	1.000	0.605	1.014	114.22%	1.00%	35 *
36	1201490024.1	1.0000	2.0399E-05	7/1/2009 0:00	36	9D	15	15	1945	129.667	0.6433	0.00816	1.292	500	7/2/2009 5:40	7/2/2009 10:06	1.000	0.605	1.014	120.58%	1.00%	36 *
37	1201490025.1	1.0000	2.0399E-05	7/1/2009 0:00	37	10A	15	10	1708	113.867	0.6389	0.00816	0.316	500	7/2/2009 5:40	7/2/2009 10:07	1.000	0.604	1.014	105.84%	1.00%	37 *
38	1201490026.1	1.0000	2.0399E-05	7/1/2009 0:00	38	10B	15	19	1743	116.200	0.6137	0.00816	6.596	500	7/2/2009 5:40	7/2/2009 10:07	1.000	0.604	1.014	102.70%	1.00%	38 *
39	1201490027.1	1.0000	2.0399E-05	7/1/2009 0:00	39	10C	15	15	1826	121.733	0.6250	0.00816	0.324	500	7/2/2009 5:40	7/2/2009 10:07	1.000	0.604	1.014	112.82%	1.00%	39 *
40	1201490028.1	1.0000	2.0399E-05	7/1/2009 0:00	40	10D	15	14	1769	117.933	0.6320	0.00816	0.348	500	7/2/2009 5:40	7/2/2009 10:22	1.000	0.587	1.014	111.91%	1.00%	40 *
41	1201245736.1	1.0000	2.0399E-05	7/1/2009 0:00	41	11A	15	19	2125	141.667	0.5825	0.00816	0.344	500	7/2/2009 5:40	7/2/2009 7:26	1.000	0.819	1.014	100.83%	1.00%	41 *
42	1201245737.1	1.0000	2.0399E-05	7/1/2009 0:00	42	11B	15	22	2260	150.667	0.6372	0.00816	0.378	500	7/2/2009 5:40	7/2/2009 7:26	1.000	0.819	1.014	108.20%	1.00%	42 *
43	1201245738.1	1.0000	2.0399E-05	7/1/2009 0:00	43	11C	15	13	2544	169.600	0.6352	0.00816	0.302	500	7/2/2009 5:40	7/2/2009 7:26	1.000	0.819	1.014	114.22%	1.00%	43 *
44	1201245739.1	1.0000	2.0399E-05	7/1/2009 0:00	44	11D	15	14	2596	173.067	0.6348	0.00816	0.396	500	7/2/2009 5:40	7/2/2009 7:26	1.000	0.819	1.014	120.58%	1.00%	44 *
45	1201245740.1	1.0000	2.0399E-05	7/1/2009 0:00	45	12A	15	17	2235	149.000	0.6286	0.00816	0.788	500	7/2/2009 5:40	7/2/2009 7:26	1.000	0.818	1.014	105.84%	1.00%	45 *
46	1201245741.1	1.0000	2.0399E-05	7/1/2009 0:00	46	12B	15	10	2330	155.333	0.6352	0.00816	1.946	500	7/2/2009 5:40	7/2/2009 7:26	1.000	0.818	1.014	102.70%	1.00%	46 *
47	1201245742.1	1.0000	2.0399E-05	7/1/2009 0:00	47	12C	15	16	2530	168.667	0.6304	0.00816	0.676	500	7/2/2009 5:40	7/2/2009 7:26	1.000	0.818	1.014	112.82%	1.00%	47 *
48	1201245743.1	1.0000	2.0399E-05	7/1/2009 0:00	48	12D	15	10	2463	164.200	0.6320	0.00816	1.312	500	7/2/2009 5:40	7/2/2009 7:26	1.000	0.818	1.014	111.91%	1.00%	48 *
49	1201490021.1	1.0000	2.0399E-05	7/1/2009 0:00	49	13A	15	11	2231	148.733	0.6410	0.00816	0.380	500	7/2/2009 5:40	7/2/2009 7:49	1.000	0.783	1.014	100.83%	1.00%	49 *
50	1201490022.1	1.0000	2.0399E-05	7/1/2009 0:00	50	13B	15	13	2190	146.000	0.6526	0.00816	1.206	500	7/2/2009 5:40	7/2/2009 7:49	1.000	0.783	1.014	108.20%	1.00%	50 *
51	1201490023.1	1.0000	2.0399E-05	7/1/2009 0:00	51	13C	15	11	2458	163.867	0.6538	0.00816	0.370	500	7/2/2009 5:40	7/2/2009 7:49	1.000	0.783	1.014	114.22%	1.00%	51 *
52	1201490024.1	1.0000	2.0399E-05	7/1/2009 0:00	52	13D	15	12	2635	175.667	0.6377	0.00816	1.292	500	7/2/2009 5:40	7/2/2009 7:50	1.000	0.783	1.014	120.58%	1.00%	52 *
53	1201490025.1	1.0000	2.0399E-05	7/1/2009 0:00	53	14A	15	11	2173	144.867	0.6393	0.00816	0.316	500	7/2/2009 5:40	7/2/2009 7:50	1.000	0.783	1.014	105.84%	1.00%	53 *
54	1201490026.1	1.0000	2.0399E-05	7/1/2009 0:00	54	14B	15	11	2281	152.067	0.6266	0.00816	6.596	500	7/2/2009 5:40	7/2/2009 7:50	1.000	0.782	1.014	102.70%	1.00%	54 *
55	1201490027.1	1.0000	2.0399E-05	7/1/2009 0:00	55	14C	15	14	2323	154.867	0.6375	0.00816	0.324	500	7/2/2009 5:40	7/2/2009 7:50	1.000	0.782	1.014	112.82%	1.00%	55 *
56	1201490028.1	1.0000	2.0399E-05	7/1/2009 0:00	56	14D	15	14	2388	159.200	0.6326	0.00816	0.348	500	7/2/2009 5:40	7/2/2009 7:50	1.000	0.782	1.014	111.91%	1.00%	56 *

710

7/2/09

Notes:
1 - Results are decay corrected to Sample Date/Time
2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3 - Spike Nominals are decay corrected to Sample Date/Time

* indicates results calculated at 100% recovery

s Decision Level pCi/L	Critical Level pCi/L	Required MDA pCi/L	MDA pCi/L	Sample Act. Conc. pCi/L	Sample Act Error pCi/L	Net Count Rate CPM	Net Count Rate Error CPM	2 SIGMA Counting Uncertainty pCi/L	2 SIGMA Total Prop. Uncertainty pCi/L	Sample Type	Nominal pCi/L	Recovery
0.3471	0.2451	1	0.6937	**134.0279**	0.0254	131.6880	2.9666	5.9178	21.6466	LCS	164.3409	81.6%
0.3647	0.2575	1	0.7192	**133.0399**	0.0251	130.2580	2.9508	5.9071	21.4655	LCS	164.3409	81.0%
0.5369	0.3790	1	0.9659	**145.2921**	0.0243	139.8173	3.0611	6.2347	23.3752	LCS	164.3409	88.4%
0.4695	0.3314	1	0.8753	**159.8328**	0.0239	150.4760	3.1730	6.6057	25.6756	LCS	164.3409	97.3%
0.4261	0.3008	1	0.8097	**127.0000**	0.0257	122.0833	2.8583	5.8279	20.5368	LCS	164.3409	77.3%
0.7599	0.5365	1	1.2813	**141.0616**	0.0247	135.4387	3.0211	6.1673	22.7300	LCS	164.3409	85.8%
0.3798	0.2681	1	0.7515	**141.8559**	0.0253	131.7993	2.9681	6.2613	22.9053	LCS	164.3409	86.3%
0.4150	0.2930	1	0.8072	**145.8192**	0.0251	131.8887	2.9696	6.4352	23.5274	LCS	164.3409	88.7%
0.6347	0.4481	1	1.1343	**129.6854**	0.0284	108.9047	2.7042	6.3116	21.1935	LCS	164.3409	78.9%
0.9035	0.6379	1	1.5022	**135.4510**	0.0266	119.6900	2.8455	6.3115	21.9803	LCS	164.3409	82.4%
0.6078	0.4291	1	1.0779	**141.2594**	0.0255	128.6447	2.9382	6.3235	22.8259	LCS	164.3409	86.0%
0.5473	0.3864	1	0.9987	**155.5960**	0.0247	137.7700	3.0378	6.7244	25.0636	LCS	164.3409	94.7%
0.6283	0.4436	1	1.1054	**135.5336**	0.0264	124.2433	2.8886	6.1761	21.9739	LCS	164.3409	82.5%
0.9036	0.6379	1	1.4942	**136.9155**	0.0254	125.4287	2.9134	6.2333	22.1127	LCS	164.3409	83.3%
0.7676	0.5419	1	1.3079	**145.9626**	0.0252	130.3400	2.9624	6.5032	23.5621	LCS	164.3409	88.8%
0.7520	0.5309	1	1.3000	**147.9661**	0.0266	124.2633	2.8910	6.7471	24.0105	LCS	164.3409	90.0%
0.4809	0.3395	1	0.9027	**134.9911**	0.0269	120.7040	2.8427	6.2312	21.9265	LCS	164.3409	82.1%
0.6974	0.4924	1	1.2076	**131.4742**	0.0271	117.9500	2.8170	6.1544	21.3797	LCS	164.3409	80.0%
0.6530	0.4610	1	1.1419	**148.2299**	0.0259	132.9873	2.9884	6.4406	23.6659	LCS	164.3409	89.0%
0.7661	0.5409	1	1.3064	**156.3706**	0.0255	139.2187	3.0605	6.7377	25.2668	LCS	164.3409	95.2%
0.6899	0.4871	1	1.1997	**134.1883**	0.0270	118.9960	2.8288	6.2523	21.8127	LCS	164.3409	81.7%
0.6079	0.4292	1	1.0862	**137.0396**	0.0269	120.3027	2.8412	6.3436	22.2643	LCS	164.3409	83.4%
0.9509	0.6713	1	1.5725	**146.0056**	0.0264	127.0307	2.9317	6.6044	23.6775	LCS	164.3409	88.8%
0.4376	0.3090	1	0.8562	**144.5849**	0.0268	121.3713	2.8489	6.6518	23.4785	LCS	164.3409	88.0%
0.4227	0.2984	1	0.8330	**134.2390**	0.0275	113.7227	2.7577	6.3803	21.8573	LCS	164.3409	81.7%
0.4360	0.3079	1	0.8480	**137.6373**	0.0270	118.4887	2.8152	6.4094	22.3723	LCS	164.3409	83.8%
0.3962	0.2797	1	0.7956	**151.8935**	0.0262	128.6313	2.9319	6.7858	24.6088	LCS	164.3409	92.4%
0.4480	0.3163	1	0.8657	**152.1131**	0.0261	130.4707	2.9539	6.7499	24.6318	LCS	164.3409	92.6%
0.6332	0.4470	1	1.1278	**127.8251**	0.0279	109.4120	2.7108	6.2072	20.8518	LCS	164.3409	77.8%
0.9817	0.6931	1	1.6167	**135.1471**	0.0273	117.2540	2.8197	6.3699	21.9896	LCS	164.3409	82.2%
0.5779	0.4080	1	1.0463	**146.5864**	0.0263	127.3240	2.9214	6.5922	23.7610	LCS	164.3409	89.2%
0.8422	0.5946	1	1.4301	**141.4935**	0.0272	117.4880	2.8147	6.6441	23.0149	LCS	164.3409	86.1%
0.4379	0.3091	1	0.8509	**130.5505**	0.0276	112.2200	2.7400	6.2476	21.2692	LCS	164.3409	79.4%
0.7972	0.5629	1	1.3635	**133.7974**	0.0277	112.5273	2.7540	6.4182	21.8026	LCS	164.3409	81.4%
0.4475	0.3159	1	0.8728	**144.2924**	0.0269	119.7633	2.8301	6.6832	23.4437	LCS	164.3409	87.8%
0.8154	0.5757	1	1.3863	**150.8313**	0.0263	128.3747	2.9406	6.7718	24.4459	LCS	164.3409	91.8%
0.4063	0.2868	1	0.8104	**134.4151**	0.0275	113.5507	2.7553	6.3927	21.8871	LCS	164.3409	81.8%
1.9322	1.3641	1	2.9747	**135.0540**	0.0285	109.6040	2.7857	6.7277	22.0820	LCS	164.3409	82.2%
0.4205	0.2969	1	0.8358	**146.9063**	0.0268	121.4093	2.8489	6.7565	23.8548	LCS	164.3409	89.4%
0.4437	0.3132	1	0.8728	**144.8386**	0.0271	117.5853	2.8041	6.7699	23.5500	LCS	164.3409	88.1%
0.3432	0.2423	1	0.6763	**135.4549**	0.0253	141.3227	3.0733	5.7736	21.8705	LCS	164.3409	82.4%
0.3289	0.2322	1	0.6397	**131.6931**	0.0247	150.2887	3.1694	5.4434	21.2189	LCS	164.3409	80.1%
0.2949	0.2082	1	0.5922	**148.8038**	0.0237	169.2980	3.3626	5.7929	23.8866	LCS	164.3409	90.5%
0.3379	0.2385	1	0.6530	**151.8473**	0.0235	172.6707	3.3968	5.8549	24.3615	LCS	164.3409	92.4%
0.4816	0.3400	1	0.8577	**131.6889**	0.0249	148.2120	3.1520	5.4891	21.2301	LCS	164.3409	80.1%
0.7488	0.5287	1	1.2332	**134.8566**	0.0246	153.3873	3.2186	5.5463	21.7215	LCS	164.3409	82.1%
0.4447	0.3140	1	0.8052	**148.8317**	0.0238	167.9907	3.3535	5.8232	23.8982	LCS	164.3409	90.6%
0.6180	0.4363	1	1.0494	**143.9479**	0.0241	162.8880	3.3090	5.7315	23.1384	LCS	164.3409	87.6%
0.3427	0.2420	1	0.6660	**135.0873**	0.0248	148.3533	3.1490	5.6202	21.7752	LCS	164.3409	82.2%
0.5997	0.4234	1	1.0256	**129.5009**	0.0251	144.7940	3.1202	5.4697	20.8960	LCS	164.3409	78.8%
0.3316	0.2341	1	0.6469	**146.0021**	0.0240	163.4967	3.3053	5.7852	23.4616	LCS	164.3409	88.8%
0.6355	0.4487	1	1.0805	**159.6717**	0.0235	174.3747	3.4225	6.1425	25.6134	LCS	164.3409	97.2%
0.3136	0.2214	1	0.6255	**132.0625**	0.0251	144.5507	3.1078	5.5650	21.3060	LCS	164.3409	80.4%
1.4618	1.0321	1	2.2506	**135.6135**	0.0254	145.4707	3.1861	5.8215	21.9070	LCS	164.3409	82.5%
0.3185	0.2249	1	0.6330	**141.6298**	0.0245	154.5427	3.2133	5.7718	22.7990	LCS	164.3409	86.2%
0.3327	0.2349	1	0.6546	**146.7439**	0.0242	158.8520	3.2579	5.8988	23.6017	LCS	164.3409	89.3%

7/2/09

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine
1	1A	15	36	1980	7/2/2009 8:39	7/2/2009 8:54	Protean
2	1B	15	27	1959	7/2/2009 8:40	7/2/2009 8:55	Protean
3	1C	15	44	2108	7/2/2009 8:40	7/2/2009 8:55	Protean
4	1D	15	108	2265	7/2/2009 8:40	7/2/2009 8:55	Protean
5	2A	15	69	1838	7/2/2009 8:40	7/2/2009 8:55	Protean
6	2B	15	8	2053	7/2/2009 8:40	7/2/2009 8:55	Protean
7	2C	15	96	1982	7/2/2009 8:40	7/2/2009 8:55	Protean
8	2D	15	93	1984	7/2/2009 9:08	7/2/2009 9:23	Protean
1	3A	15	233	1645	7/2/2009 9:08	7/2/2009 9:23	Protean
2	3B	15	99	1821	7/2/2009 9:08	7/2/2009 9:23	Protean
3	3C	15	96	1942	7/2/2009 9:08	7/2/2009 9:23	Protean
4	3D	15	90	2076	7/2/2009 9:08	7/2/2009 9:23	Protean
5	4A	15	79	1877	7/2/2009 9:08	7/2/2009 9:23	Protean
6	4B	15	13	1909	7/2/2009 9:08	7/2/2009 9:23	Protean
7	4C	15	97	1974	7/2/2009 9:09	7/2/2009 9:24	Protean
8	4D	15	181	1880	7/2/2009 9:25	7/2/2009 9:40	Protean
1	5A	15	53	1818	7/2/2009 9:26	7/2/2009 9:41	Protean
2	5B	15	59	1785	7/2/2009 9:26	7/2/2009 9:41	Protean
3	5C	15	43	2009	7/2/2009 9:26	7/2/2009 9:41	Protean
4	5D	15	59	2107	7/2/2009 9:26	7/2/2009 9:41	Protean
5	6A	15	35	1800	7/2/2009 9:27	7/2/2009 9:42	Protean
6	6B	15	71	1816	7/2/2009 9:27	7/2/2009 9:42	Protean
7	6C	15	81	1933	7/2/2009 9:27	7/2/2009 9:42	Protean
8	6D	15	81	1826	7/2/2009 9:47	7/2/2009 10:02	Protean
1	7A	15	75	1711	7/2/2009 9:48	7/2/2009 10:03	Protean
2	7B	15	59	1783	7/2/2009 9:48	7/2/2009 10:03	Protean
3	7C	15	74	1934	7/2/2009 9:48	7/2/2009 10:03	Protean
4	7D	15	83	1963	7/2/2009 9:48	7/2/2009 10:03	Protean
5	8A	15	49	1653	7/2/2009 9:48	7/2/2009 10:03	Protean
6	8B	15	20	1788	7/2/2009 9:48	7/2/2009 10:03	Protean
7	8C	15	34	1920	7/2/2009 9:48	7/2/2009 10:03	Protean
8	8D	15	45	1782	7/2/2009 10:07	7/2/2009 10:22	Protean
1	9A	15	17	1689	7/2/2009 10:06	7/2/2009 10:21	Protean
2	9B	15	13	1706	7/2/2009 10:06	7/2/2009 10:21	Protean
3	9C	15	13	1802	7/2/2009 10:06	7/2/2009 10:21	Protean
4	9D	15	15	1945	7/2/2009 10:06	7/2/2009 10:21	Protean
5	10A	15	10	1708	7/2/2009 10:07	7/2/2009 10:22	Protean
6	10B	15	19	1743	7/2/2009 10:07	7/2/2009 10:22	Protean
7	10C	15	15	1826	7/2/2009 10:07	7/2/2009 10:22	Protean
8	10D	15	14	1769	7/2/2009 10:22	7/2/2009 10:37	Protean
1	11A	15	19	2125	7/2/2009 7:26	7/2/2009 7:41	Protean
2	11B	15	22	2260	7/2/2009 7:26	7/2/2009 7:41	Protean
3	11C	15	13	2544	7/2/2009 7:26	7/2/2009 7:41	Protean
4	11D	15	14	2596	7/2/2009 7:26	7/2/2009 7:41	Protean
5	12A	15	17	2235	7/2/2009 7:26	7/2/2009 7:41	Protean
6	12B	15	10	2330	7/2/2009 7:26	7/2/2009 7:41	Protean
7	12C	15	16	2530	7/2/2009 7:26	7/2/2009 7:41	Protean
8	12D	15	10	2463	7/2/2009 7:26	7/2/2009 7:41	Protean
1	13A	15	11	2231	7/2/2009 7:49	7/2/2009 8:04	Protean
2	13B	15	13	2190	7/2/2009 7:49	7/2/2009 8:04	Protean
3	13C	15	11	2458	7/2/2009 7:49	7/2/2009 8:04	Protean

7/21/09

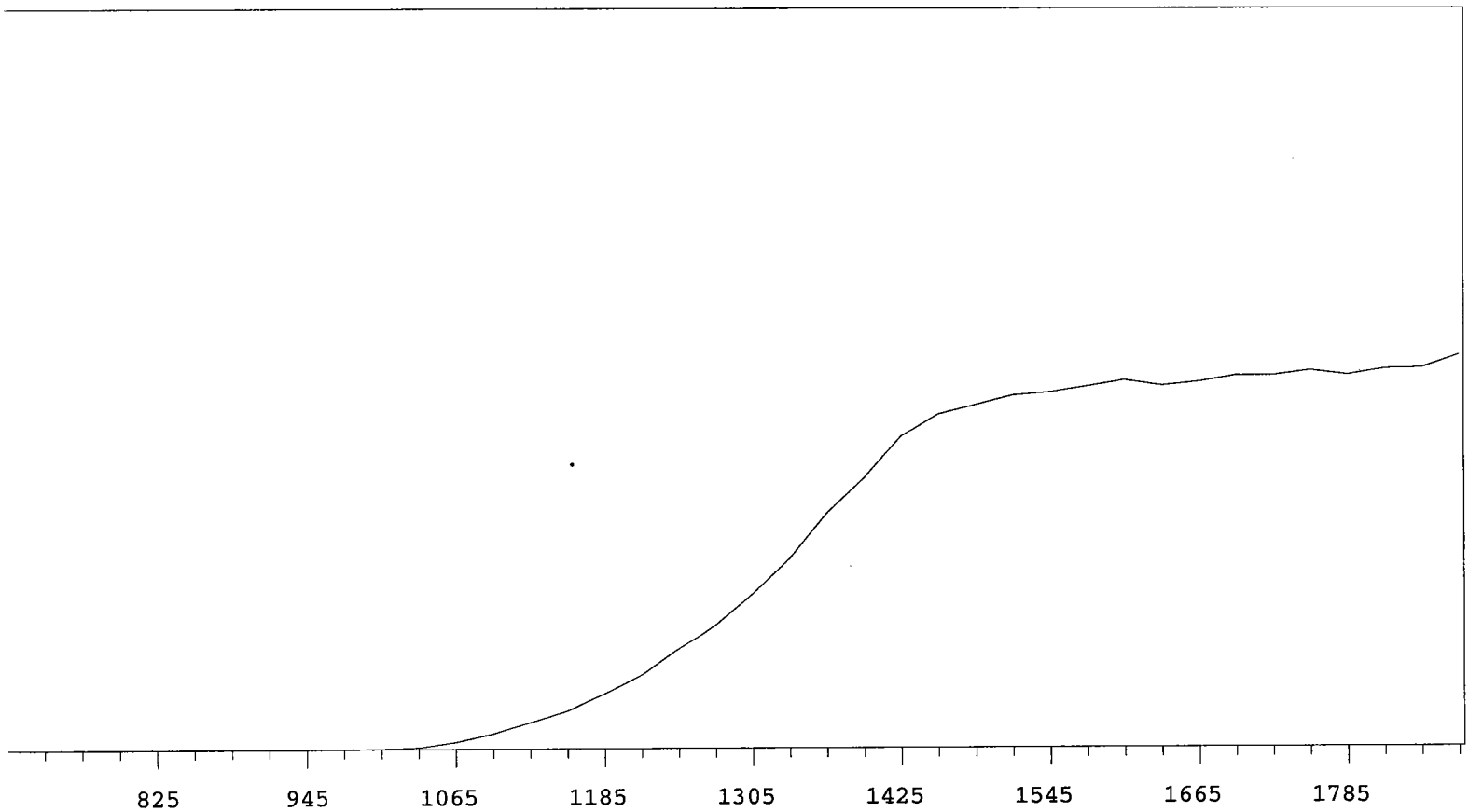
4	13D	15	12	2635	7/2/2009 7:50	7/2/2009 8:05	Protean
5	14A	15	11	2173	7/2/2009 7:50	7/2/2009 8:05	Protean
6	14B	15	11	2281	7/2/2009 7:50	7/2/2009 8:05	Protean
7	14C	15	14	2323	7/2/2009 7:50	7/2/2009 8:05	Protean
8	14D	15	14	2388	7/2/2009 7:50	7/2/2009 8:05	Protean

Ra-228	Cal Date	7/2/2009	Exp Date	7/31/2009	
Protean	A0	A1	A2	A3	A4
1A	6.30258E-01				
1B	6.28221E-01				
1C	6.17615E-01				
1D	6.04341E-01				
2A	6.17224E-01				
2B	6.16681E-01				
2C	5.96919E-01				
2D	6.11886E-01				
3A	5.68218E-01				
3B	5.98041E-01				
3C	6.16431E-01				
3D	5.99405E-01				
4A	6.20765E-01				
4B	6.20459E-01				
4C	6.05183E-01				
4D	5.87325E-01				
5A	6.25790E-01				
5B	6.28027E-01				
5C	6.36802E-01				
5D	6.23741E-01				
6A	6.22050E-01				
6B	6.16280E-01				
6C	6.11053E-01				
6D	6.12043E-01				
7A	6.17961E-01				
7B	6.27962E-01				
7C	6.17791E-01				
7D	6.25720E-01				
8A	6.24723E-01				
8B	6.33167E-01				
8C	6.33890E-01				
8D	6.28089E-01				
9A	6.496412E-01				
9B	6.356321E-01				
9C	6.273008E-01				
9D	6.432553E-01				
10A	6.389066E-01				
10B	6.137441E-01				
10C	6.249999E-01				
10D	6.319781E-01				
11A	5.82502E-01				
11B	6.37172E-01				
11C	6.35171E-01				
11D	6.34840E-01				
12A	6.28566E-01				
12B	6.35234E-01				
12C	6.30366E-01				
12D	6.31956E-01				
13A	6.40953E-01				

13B	6.52643E-01
13C	6.53798E-01
13D	6.37701E-01
14A	6.39290E-01
14B	6.26611E-01
14C	6.37531E-01
14D	6.32609E-01

MPC 9600 Plateau Instrument 1 MPC 9604 Detector A 7/1/2009

Alpha Volts: 1575 Beta Volts: 1575

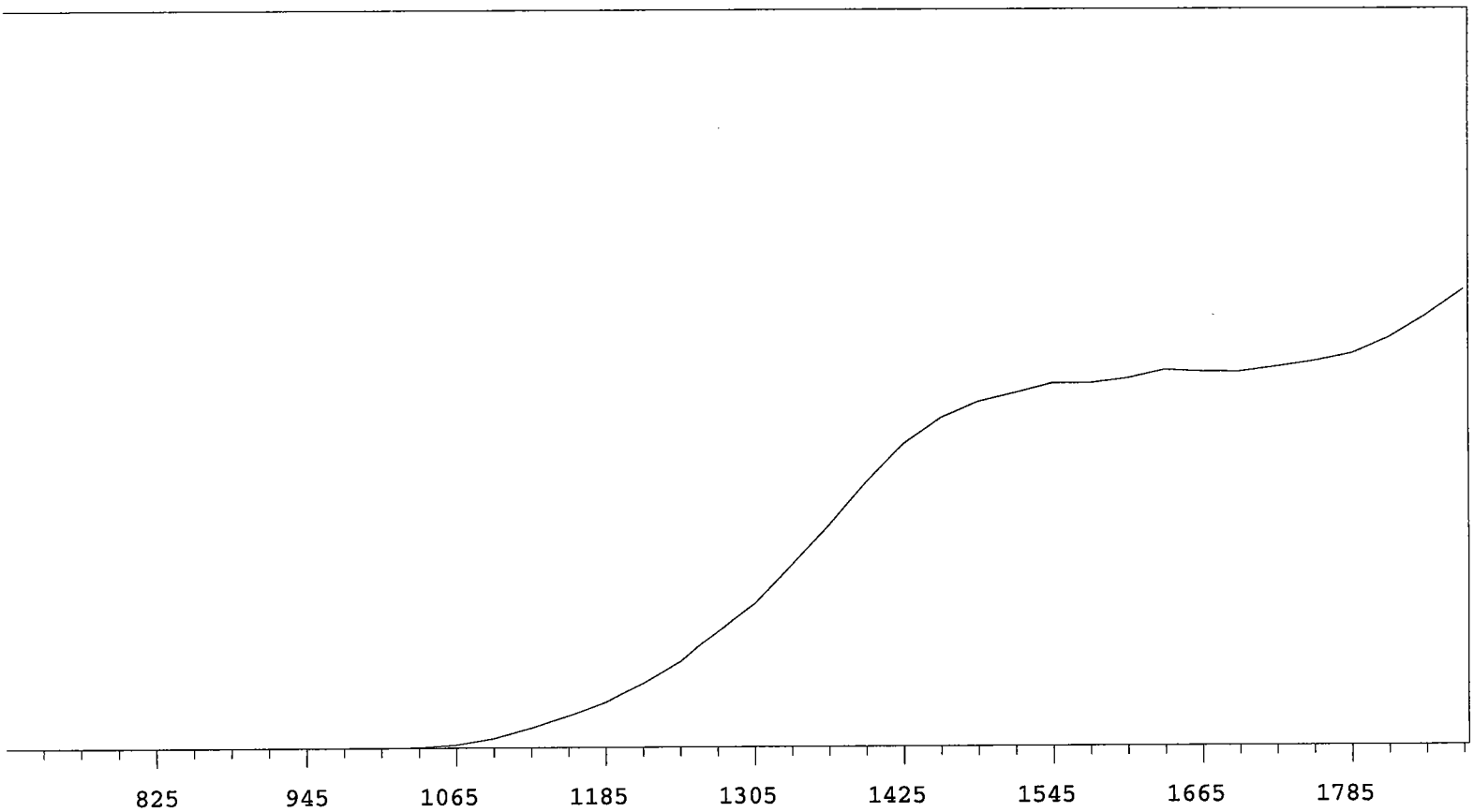


VOLTS	COUNTS	%/100 Volts
705	1	
735	1	
765	0	
795	0	+0.00
825	0	>100
855	1	>100
885	0	+55.56
915	2	+66.67
945	0	>100
975	2	>100
1005	42	>100
1035	145	>100
1065	544	>100
1095	1136	>100
1125	1967	>100
1155	2845	>100
1185	4078	>100
1215	5483	+93.18
1245	7400	+83.35
1275	9328	+75.40

VOLTS	COUNTS	%/100 Volts
1305	11640	+69.78
1335	14241	+62.88
1365	17534	+55.91
1395	20127	+45.04
1425	23254	+31.29
1455	24902	+20.41
1485	25605	+10.49
1515	26310	+6.44
1545	26535	+5.31
1575	26953	+2.79
1605	27399	+1.83
1635	27000	+1.71
1665	27255	+1.62
1695	27723	+3.14
1725	27705	+1.56
1755	28072	+1.15
1785	27729	+1.43
1815	28194	+3.24
1845	28243	
1875	29191	

MPC 9600 Plateau Instrument 1 MPC 9604 Detector B 7/1/2009

Alpha Volts: 1575 Beta Volts: 1575

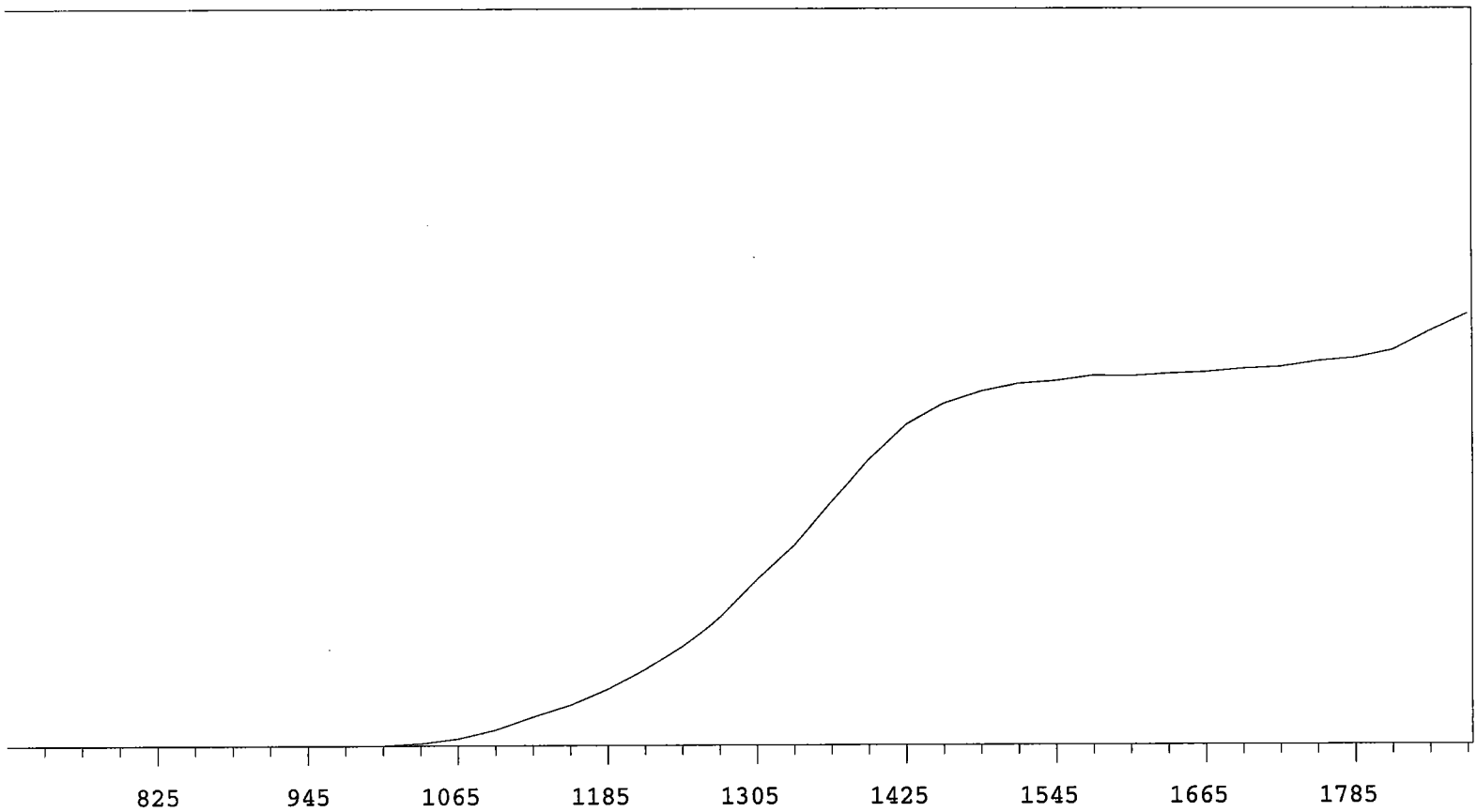


VOLTS	COUNTS	%/100 Volts
705	1	
735	0	
765	0	+55.56
795	1	+83.33
825	1	+55.56
855	0	>100
885	1	+0.00
915	0	+0.00
945	1	>100
975	0	>100
1005	4	>100
1035	56	>100
1065	292	>100
1095	890	>100
1125	1841	>100
1155	2936	>100
1185	4179	>100
1215	5837	>100
1245	7821	+91.28
1275	10638	+83.88

VOLTS	COUNTS	%/100 Volts
1305	13188	+75.92
1335	16818	+67.60
1365	20420	+59.86
1395	24341	+47.85
1425	27854	+35.51
1455	30288	+23.26
1485	31798	+14.54
1515	32622	+8.32
1545	33496	+5.11
1575	33475	+4.43
1605	33903	+3.09
1635	34654	+2.46
1665	34485	+1.74
1695	34445	+1.84
1725	34908	+3.91
1755	35401	+6.80
1785	36062	+10.27
1815	37505	+14.30
1845	39508	
1875	41843	

MPC 9600 Plateau Instrument 1 MPC 9604 Detector C 7/1/2009

Alpha Volts: 1575 Beta Volts: 1575

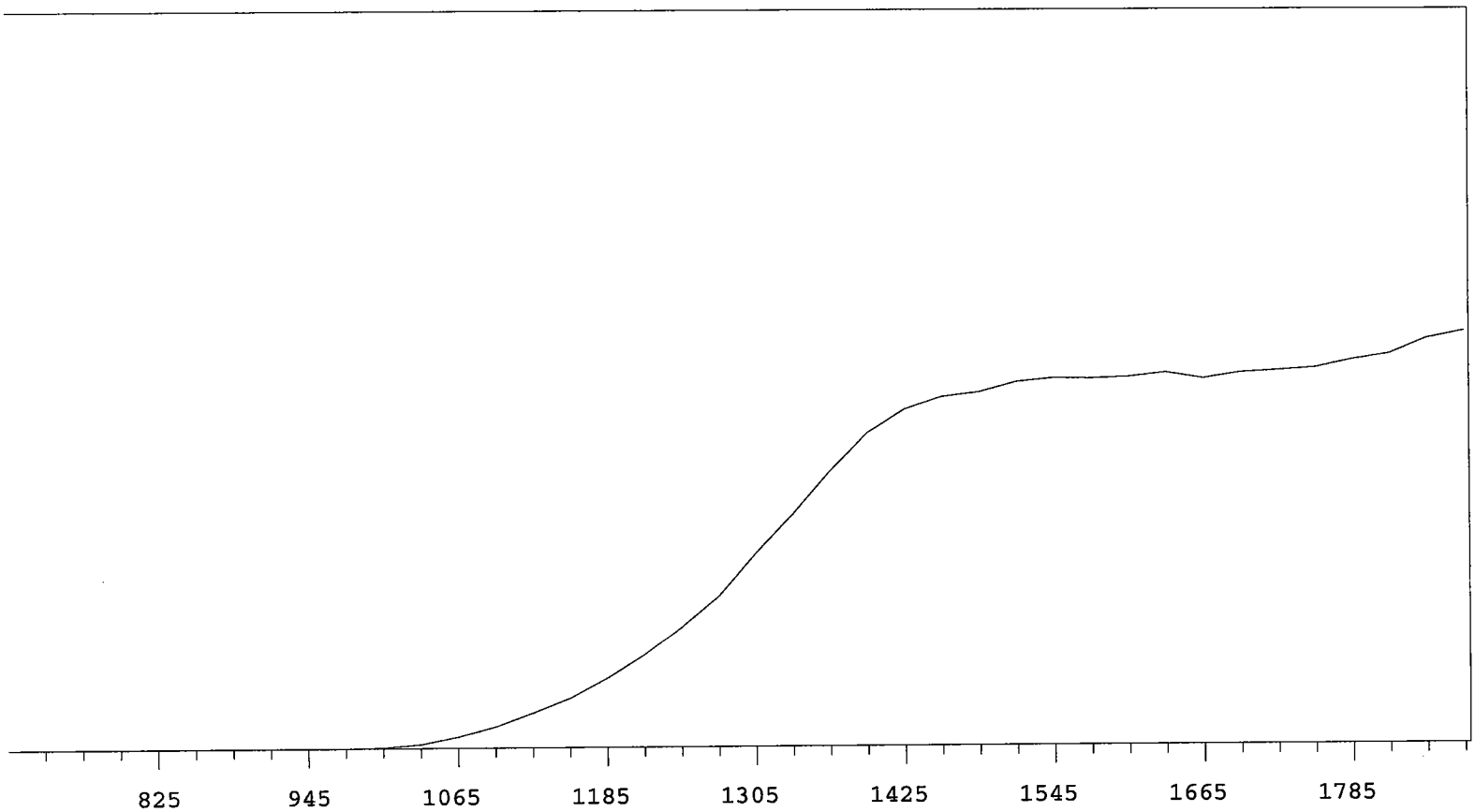


VOLTS	COUNTS	%/100 Volts
705	1	
735	0	
765	1	+0.00
795	0	>100
825	1	-55.56
855	1	+55.56
885	0	>100
915	1	>100
945	0	>100
975	4	>100
1005	32	>100
1035	206	>100
1065	639	>100
1095	1416	>100
1125	2551	>100
1155	3619	>100
1185	5037	+98.68
1215	6875	+91.19
1245	8915	+85.53
1275	11519	+77.28

VOLTS	COUNTS	%/100 Volts
1305	14817	+71.06
1335	17823	+63.34
1365	21704	+53.63
1395	25422	+42.55
1425	28424	+29.21
1455	30244	+18.11
1485	31305	+10.10
1515	31989	+6.07
1545	32223	+3.43
1575	32671	+2.15
1605	32621	+1.68
1635	32837	+1.52
1665	32961	+2.01
1695	33249	+2.64
1725	33409	+3.21
1755	33931	+4.07
1785	34234	+7.20
1815	34909	+10.28
1845	36660	
1875	38205	

MPC 9600 Plateau Instrument 1 MPC 9604 Detector D 7/1/2009

Alpha Volts: 1575 Beta Volts: 1575

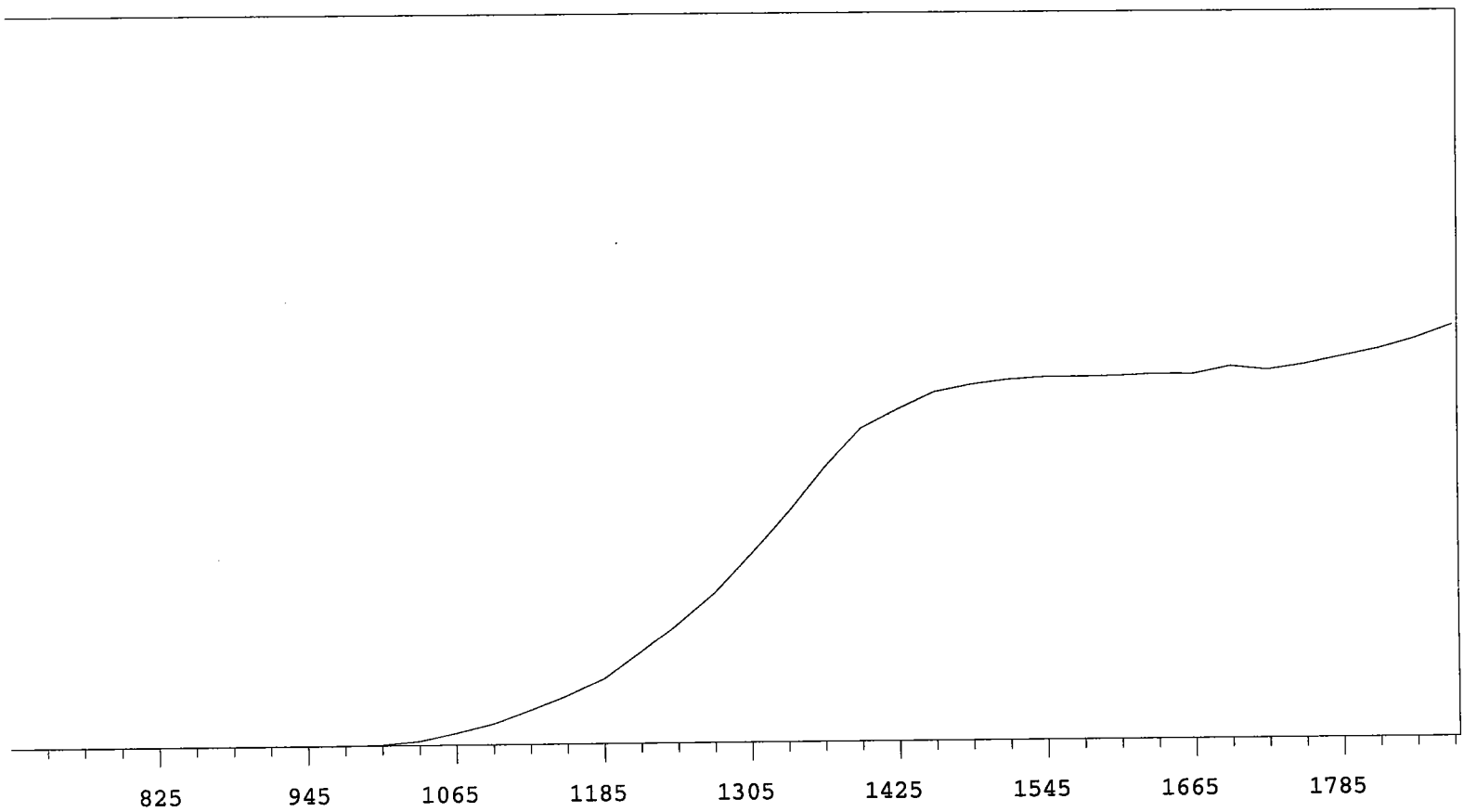


VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	+0.00
795	1	+0.00
825	0	+0.00
855	1	>100
885	0	>100
915	0	>100
945	0	>100
975	8	>100
1005	75	>100
1035	303	>100
1065	872	>100
1095	1656	>100
1125	2729	>100
1155	3862	>100
1185	5425	+98.19
1215	7256	+88.82
1245	9510	+81.89
1275	11944	+74.07

VOLTS	COUNTS	%/100 Volts
1305	15202	+66.36
1335	18216	+57.86
1365	21597	+45.58
1395	24648	+32.96
1425	26505	+19.92
1455	27475	+11.42
1485	27836	+7.08
1515	28609	+4.51
1545	28896	+2.93
1575	28862	+1.66
1605	28969	+0.36
1635	29292	+0.80
1665	28836	+1.06
1695	29279	+1.48
1725	29439	+3.59
1755	29642	+4.07
1785	30243	+6.51
1815	30699	+7.79
1845	31876	
1875	32444	

MPC 9600 Plateau Instrument 2 MPC 9604 Detector A 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

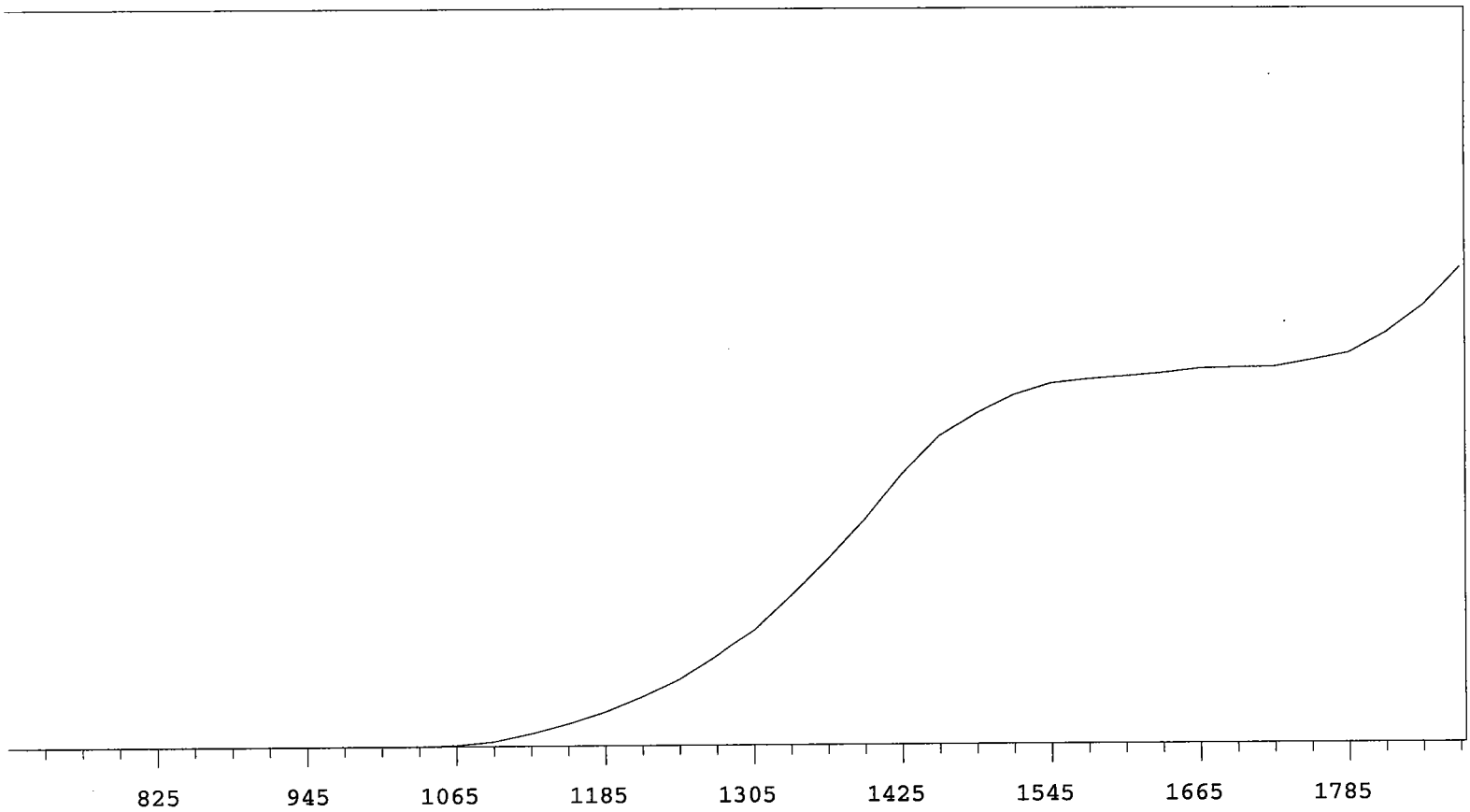


VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	+83.33
795	0	-83.33
825	1	>100
855	0	>100
885	1	+100.00
915	1	>100
945	2	>100
975	12	>100
1005	91	>100
1035	421	>100
1065	1239	>100
1095	2155	>100
1125	3527	>100
1155	4974	>100
1185	6647	+97.44
1215	9250	+89.00
1245	12041	+82.15
1275	15094	+73.81

VOLTS	COUNTS	%/100 Volts
1305	19017	+67.45
1335	23157	+59.23
1365	27625	+45.78
1395	31465	+32.72
1425	33352	+20.41
1455	35084	+11.74
1485	35819	+7.11
1515	36292	+3.35
1545	36527	+1.63
1575	36540	+0.87
1605	36585	+0.48
1635	36742	+1.76
1665	36691	+1.53
1695	37461	+1.89
1725	37073	+3.07
1755	37603	+4.02
1785	38346	+6.58
1815	39111	+7.95
1845	40115	
1875	41409	

MPC 9600 Plateau Instrument 2 MPC 9604 Detector B 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

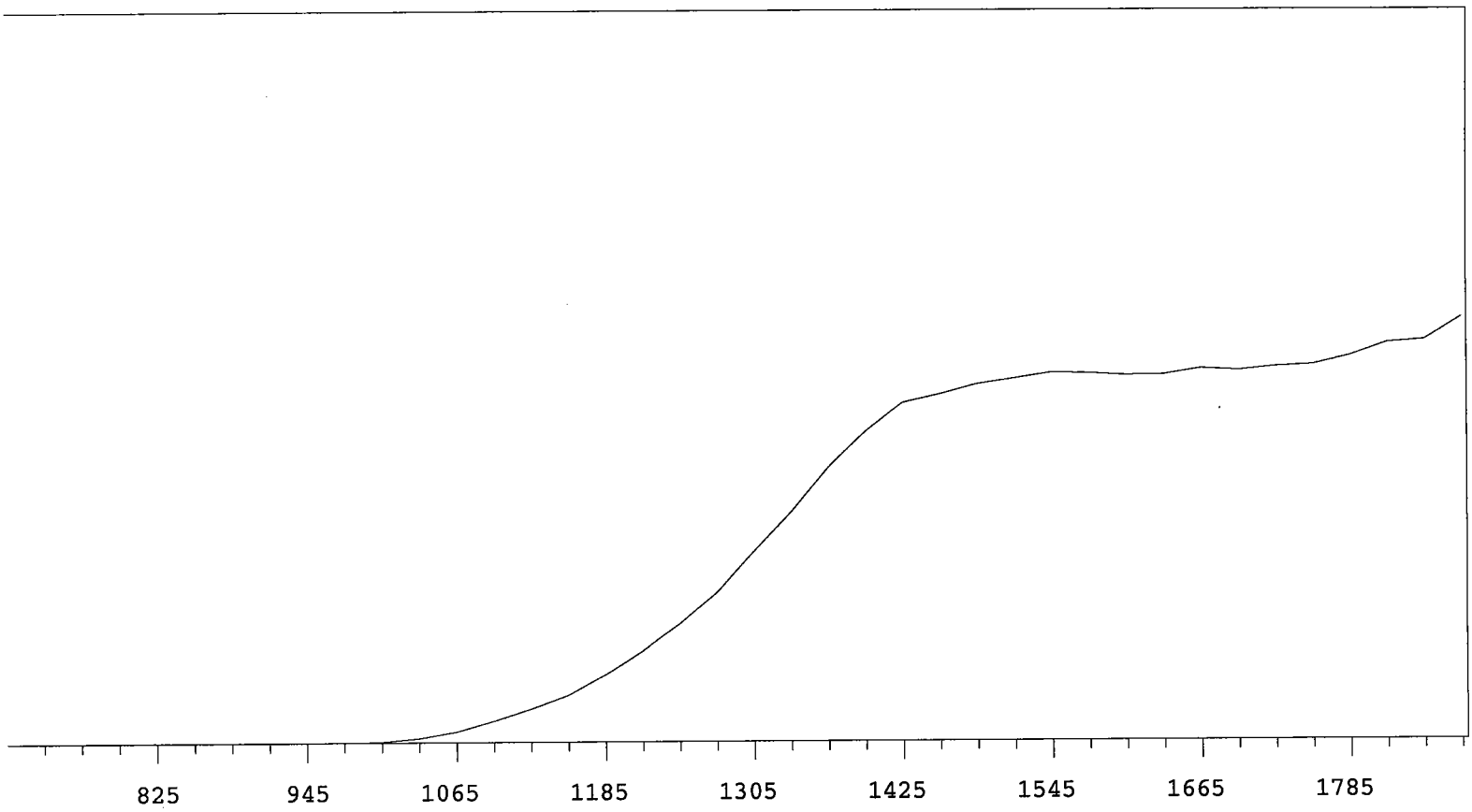


VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	1	>100
975	2	>100
1005	3	>100
1035	14	>100
1065	127	>100
1095	500	>100
1125	1332	>100
1155	2373	>100
1185	3614	>100
1215	5227	>100
1245	7060	+97.33
1275	9574	+90.30

VOLTS	COUNTS	%/100 Volts
1305	12541	+83.18
1335	16192	+74.48
1365	20083	+67.17
1395	24273	+58.43
1425	29090	+46.86
1455	33223	+34.56
1485	35608	+22.67
1515	37581	+13.63
1545	38762	+8.18
1575	39185	+4.42
1605	39484	+3.06
1635	39806	+2.61
1665	40264	+2.03
1695	40353	+2.32
1725	40431	+3.28
1755	41127	+7.09
1785	41882	+12.40
1815	44049	+18.52
1845	46950	
1875	51097	

MPC 9600 Plateau Instrument 2 MPC 9604 Detector C 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

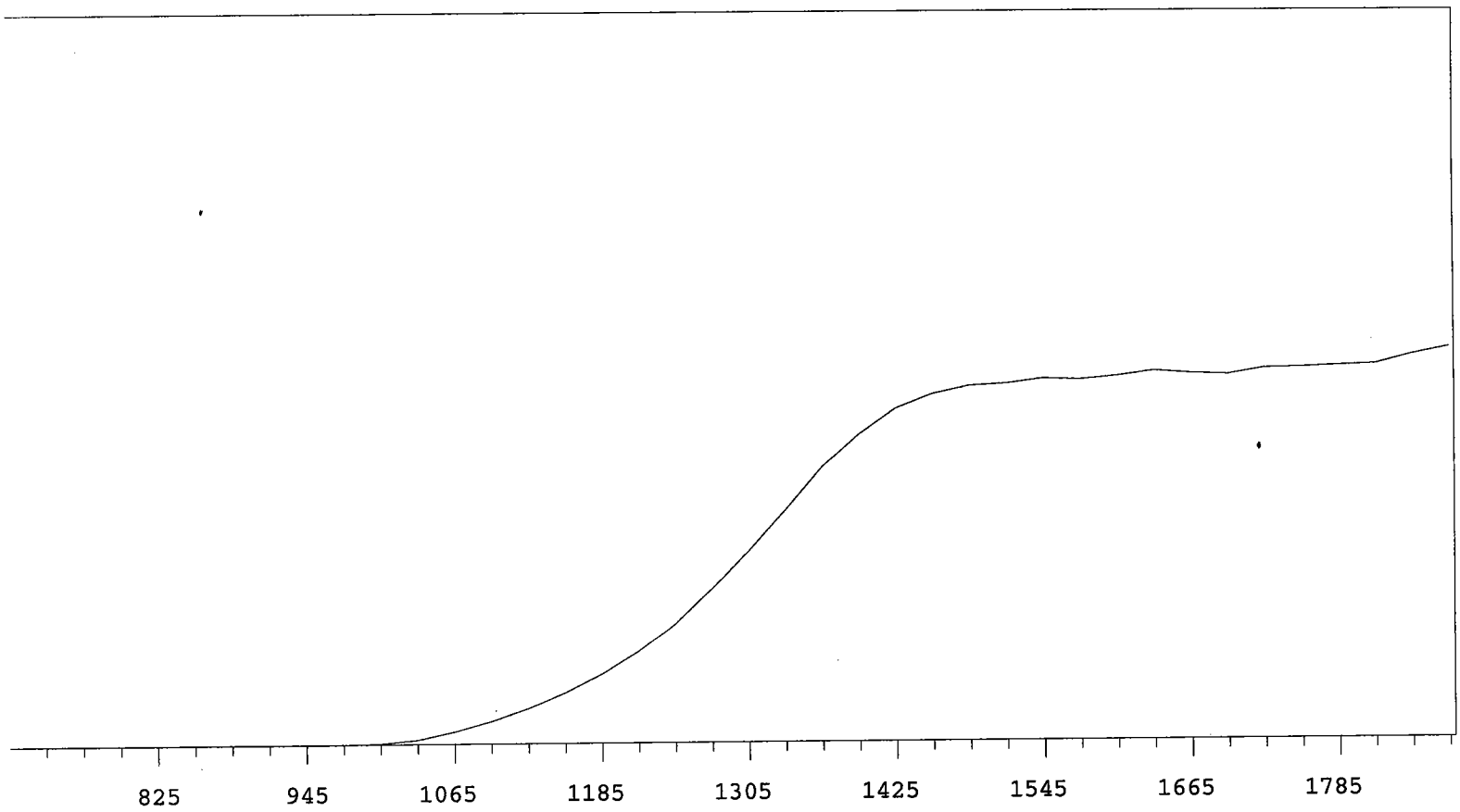


VOLTS	COUNTS	%/100 Volts
705	1	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	1	>100
945	0	>100
975	17	>100
1005	87	>100
1035	438	>100
1065	1055	>100
1095	2114	>100
1125	3282	>100
1155	4625	>100
1185	6554	+97.66
1215	8743	+88.09
1245	11345	+81.31
1275	14261	+74.60

VOLTS	COUNTS	%/100 Volts
1305	18216	+67.74
1335	21995	+58.11
1365	26173	+46.11
1395	29479	+32.75
1425	32186	+20.62
1455	33022	+12.13
1485	33981	+7.22
1515	34520	+4.95
1545	35095	+2.07
1575	35014	+0.38
1605	34812	+0.55
1635	34859	+1.11
1665	35460	+1.94
1695	35273	+1.95
1725	35629	+2.73
1755	35811	+5.77
1785	36656	+6.44
1815	37896	+9.21
1845	38145	
1875	40283	

MPC 9600 Plateau Instrument 2 MPC 9604 Detector D 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

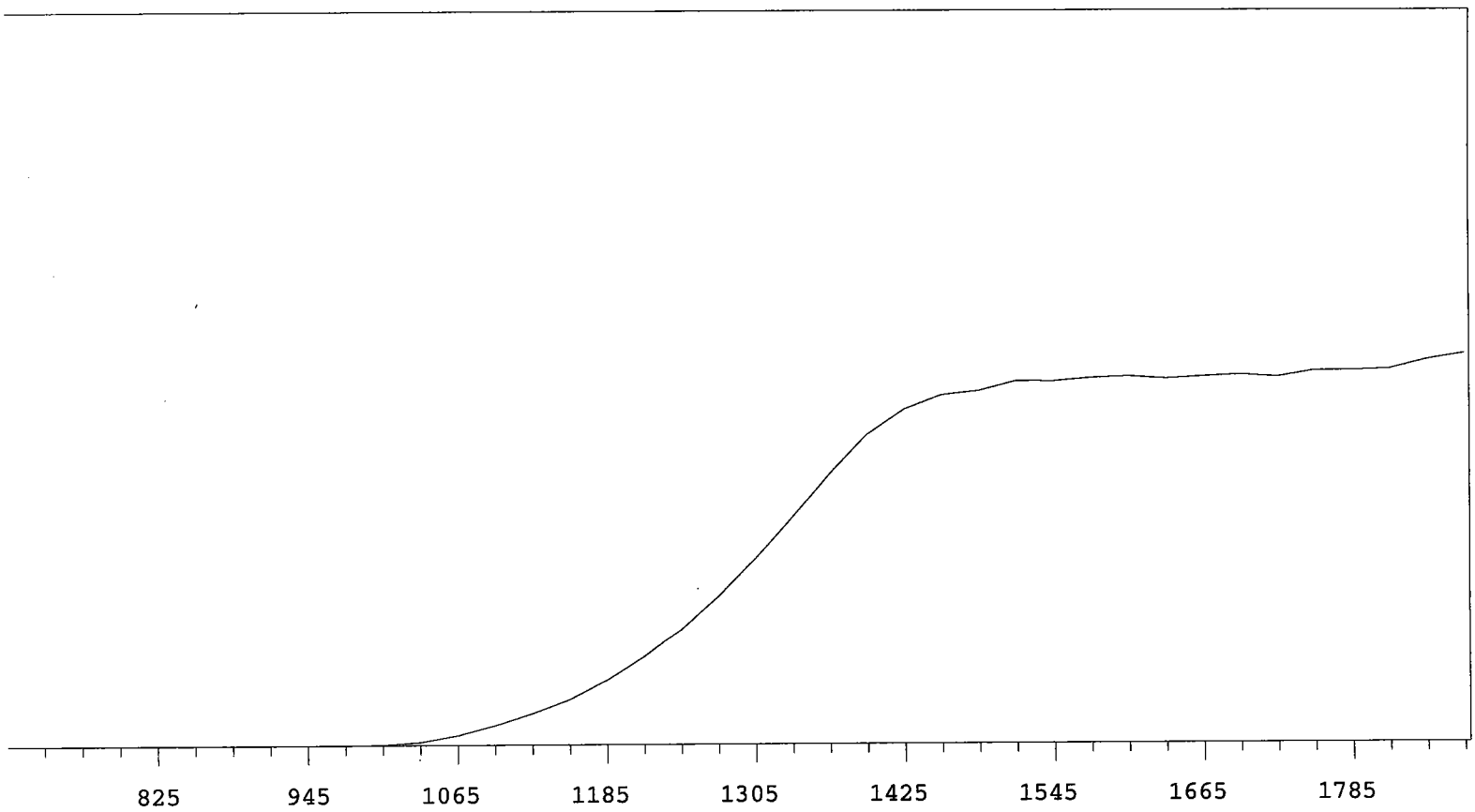


VOLTS	COUNTS	%/100 Volts
705	1	
735	0	
765	0	+83.33
795	2	+55.56
825	1	>100
855	0	>100
885	0	>100
915	0	>100
945	2	>100
975	9	>100
1005	89	>100
1035	439	>100
1065	1198	>100
1095	2164	>100
1125	3436	>100
1155	4917	>100
1185	6762	+96.59
1215	9006	+89.14
1245	11800	+81.34
1275	15132	+73.59

VOLTS	COUNTS	%/100 Volts
1305	18675	+65.94
1335	22620	+55.69
1365	26869	+44.63
1395	29957	+32.08
1425	32494	+20.49
1455	33836	+11.98
1485	34627	+6.45
1515	34849	+3.22
1545	35298	+1.98
1575	35180	+2.37
1605	35503	+1.57
1635	36006	+0.99
1665	35722	+0.89
1695	35597	+0.93
1725	36188	+1.86
1755	36272	+1.90
1785	36389	+2.55
1815	36529	+4.39
1845	37459	
1875	38170	

MPC 9600 Plateau Instrument 3 MPC 9604 Detector A 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

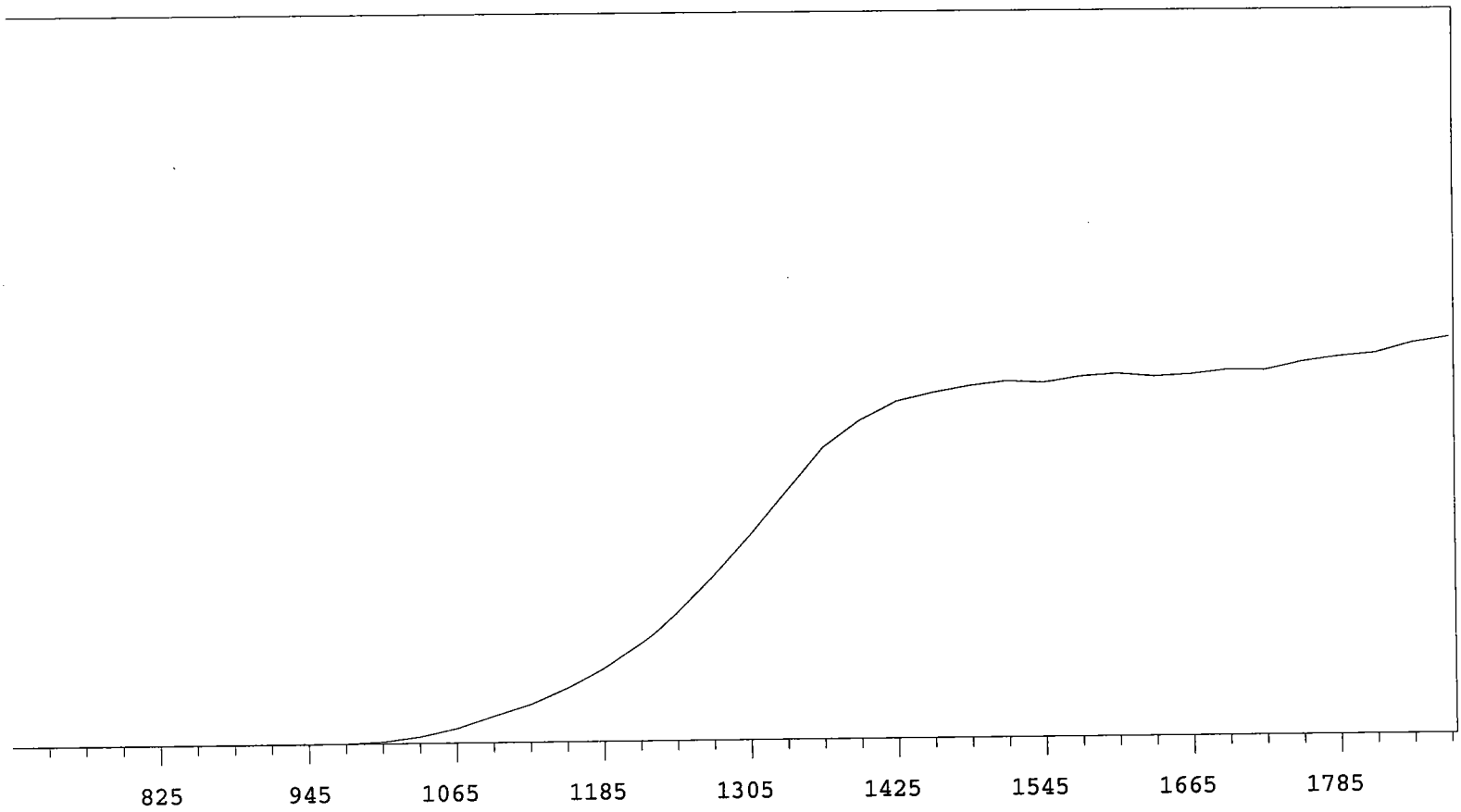


VOLTS	COUNTS	%/100 Volts
705	1	
735	0	
765	0	+55.56
795	1	>100
825	1	+0.00
855	1	>100
885	0	>100
915	0	>100
945	0	>100
975	9	>100
1005	53	>100
1035	302	>100
1065	878	>100
1095	1805	>100
1125	2887	>100
1155	4163	>100
1185	5842	+99.81
1215	7959	+90.90
1245	10323	+83.03
1275	13250	+75.91

VOLTS	COUNTS	%/100 Volts
1305	16654	+68.57
1335	20416	+59.26
1365	24191	+47.28
1395	27643	+34.04
1425	29891	+21.08
1455	31183	+12.30
1485	31558	+6.67
1515	32444	+4.05
1545	32413	+2.90
1575	32704	+0.81
1605	32837	+0.71
1635	32629	+0.49
1665	32797	+0.16
1695	32964	+1.32
1725	32746	+1.40
1755	33308	+1.56
1785	33318	+3.21
1815	33456	+3.92
1845	34283	
1875	34815	

MPC 9600 Plateau Instrument 3 MPC 9604 Detector B 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

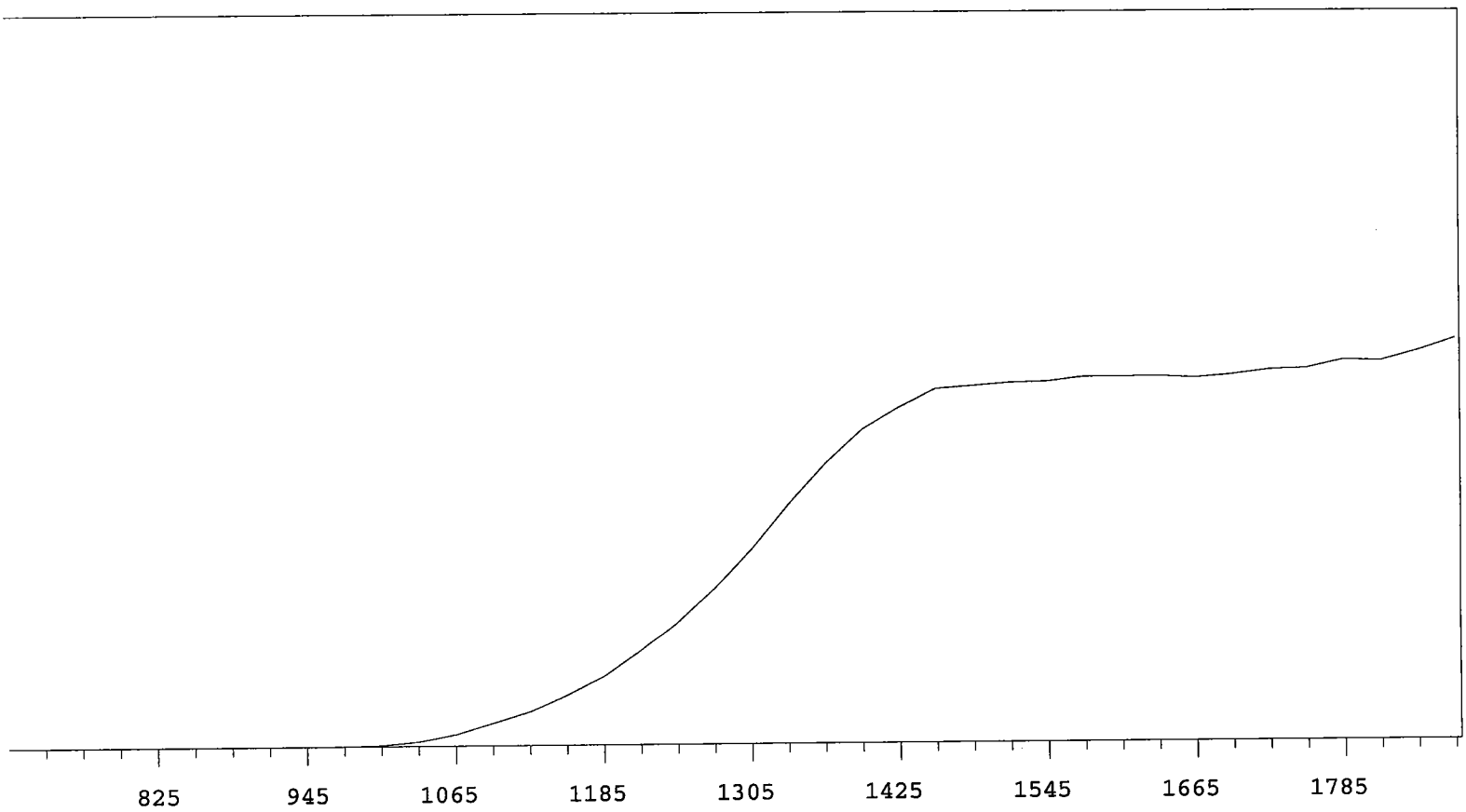


VOLTS	COUNTS	%/100 Volts
705	1	
735	1	
765	0	-55.56
795	0	>100
825	1	>100
855	3	+33.33
885	0	+0.00
915	1	>100
945	2	>100
975	29	>100
1005	165	>100
1035	613	>100
1065	1394	>100
1095	2558	>100
1125	3702	>100
1155	5222	>100
1185	7161	+96.06
1215	9507	+89.18
1245	12552	+81.52
1275	16030	+73.64

VOLTS	COUNTS	%/100 Volts
1305	19810	+64.73
1335	23962	+52.62
1365	28091	+39.27
1395	30594	+25.61
1425	32381	+14.86
1455	33206	+8.91
1485	33832	+4.41
1515	34260	+3.01
1545	34071	+2.33
1575	34623	+1.34
1605	34848	+1.22
1635	34564	+0.89
1665	34733	+1.01
1695	35144	+2.76
1725	35084	+3.66
1755	35839	+3.97
1785	36332	+5.39
1815	36654	+5.35
1845	37609	
1875	38164	

MPC 9600 Plateau Instrument 3 MPC 9604 Detector C 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

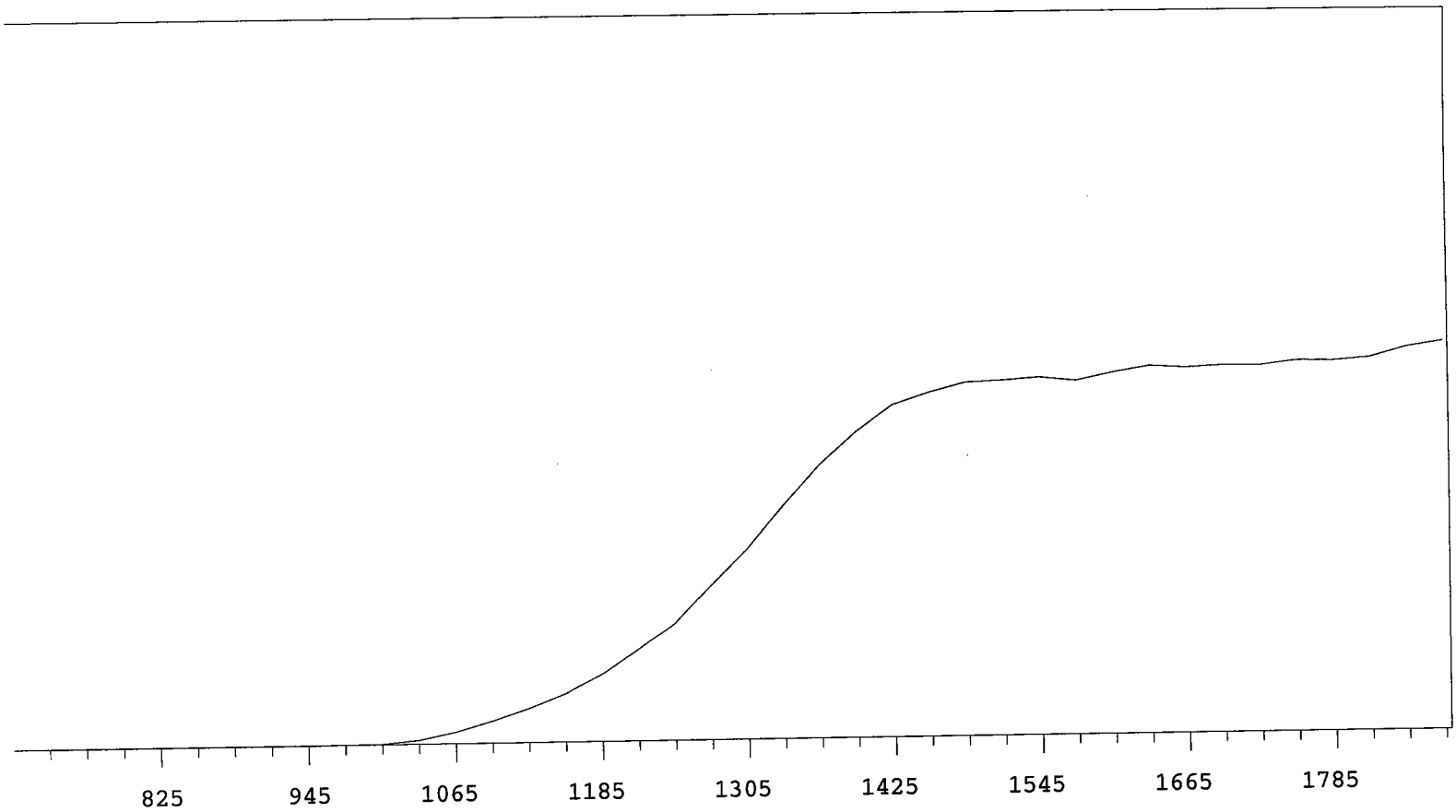


VOLTS	COUNTS	%/100 Volts
705	1	
735	1	
765	1	
795	0	>100
825	0	+0.00
855	0	>100
885	1	>100
915	1	>100
945	1	>100
975	17	>100
1005	122	>100
1035	533	>100
1065	1287	>100
1095	2493	>100
1125	3753	>100
1155	5482	>100
1185	7538	+99.39
1215	10305	+90.31
1245	13415	+82.57
1275	17141	+75.13

VOLTS	COUNTS	%/100 Volts
1305	21412	+66.80
1335	26262	+56.32
1365	30679	+43.71
1395	34466	+31.61
1425	36949	+20.14
1455	38998	+11.16
1485	39313	+5.34
1515	39625	+2.44
1545	39751	+2.04
1575	40227	+1.45
1605	40228	+0.56
1635	40255	+0.13
1665	40075	+1.22
1695	40384	+1.95
1725	40900	+3.50
1755	41028	+3.05
1785	41899	+3.71
1815	41767	+5.64
1845	42852	
1875	44132	

MPC 9600 Plateau Instrument 3 MPC 9604 Detector D 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

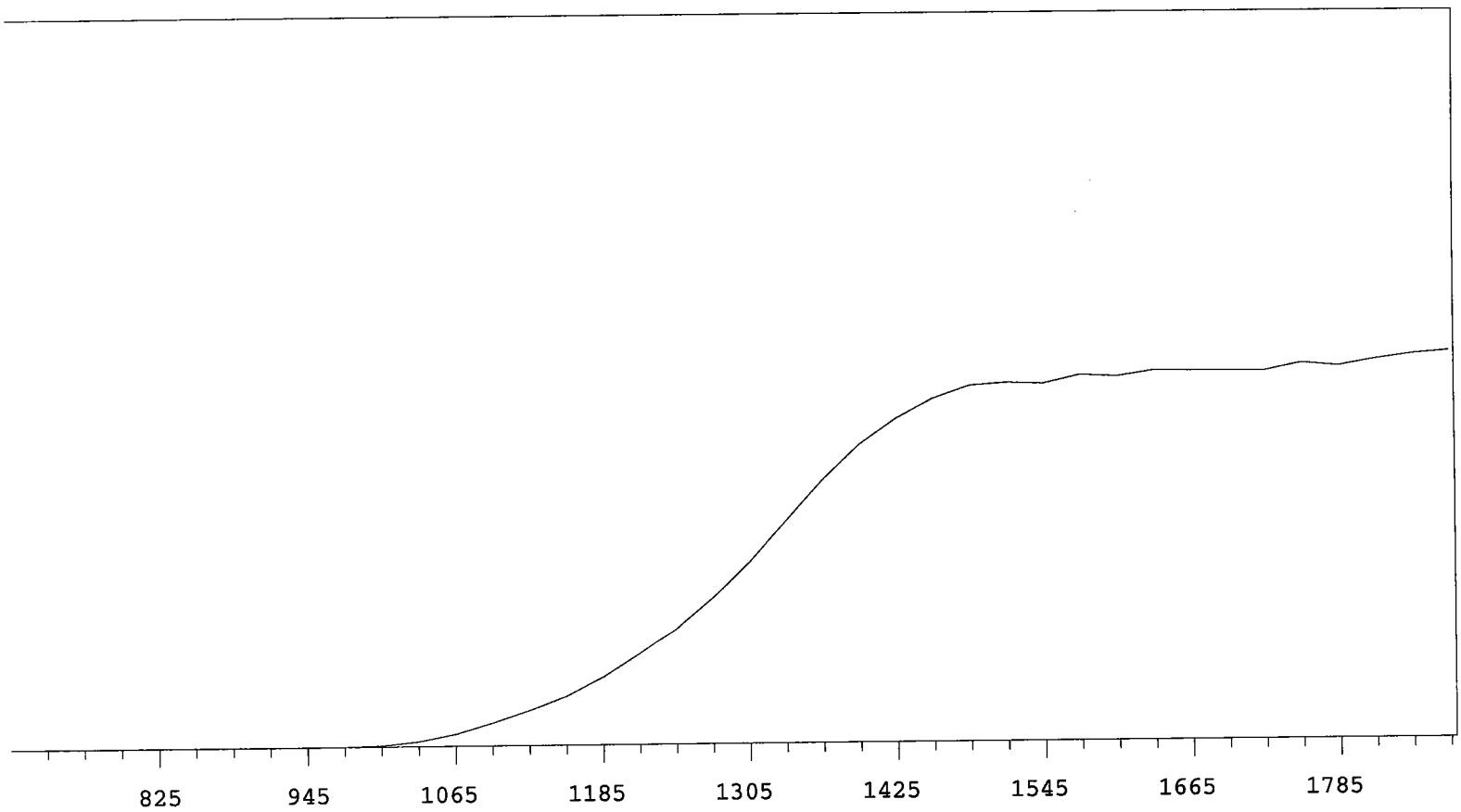


VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	+0.00
795	1	>100
825	0	+83.33
855	0	-83.33
885	1	>100
915	0	>100
945	1	>100
975	12	>100
1005	51	>100
1035	298	>100
1065	848	>100
1095	1649	>100
1125	2535	>100
1155	3602	>100
1185	5036	+98.31
1215	6880	+91.37
1245	8822	+82.29
1275	11546	+74.61

VOLTS	COUNTS	%/100 Volts
1305	14171	+66.45
1335	17362	+54.90
1365	20310	+43.83
1395	22647	+30.82
1425	24551	+20.19
1455	25440	+11.69
1485	26124	+5.90
1515	26245	+2.21
1545	26428	+1.39
1575	26151	+2.69
1605	26721	+2.72
1635	27168	+2.80
1665	27007	+0.87
1695	27135	+0.70
1725	27089	+1.24
1755	27414	+1.43
1785	27373	+3.21
1815	27581	+4.34
1845	28332	
1875	28750	

MPC 9600 Plateau Instrument 4 MPC 9604 Detector A 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

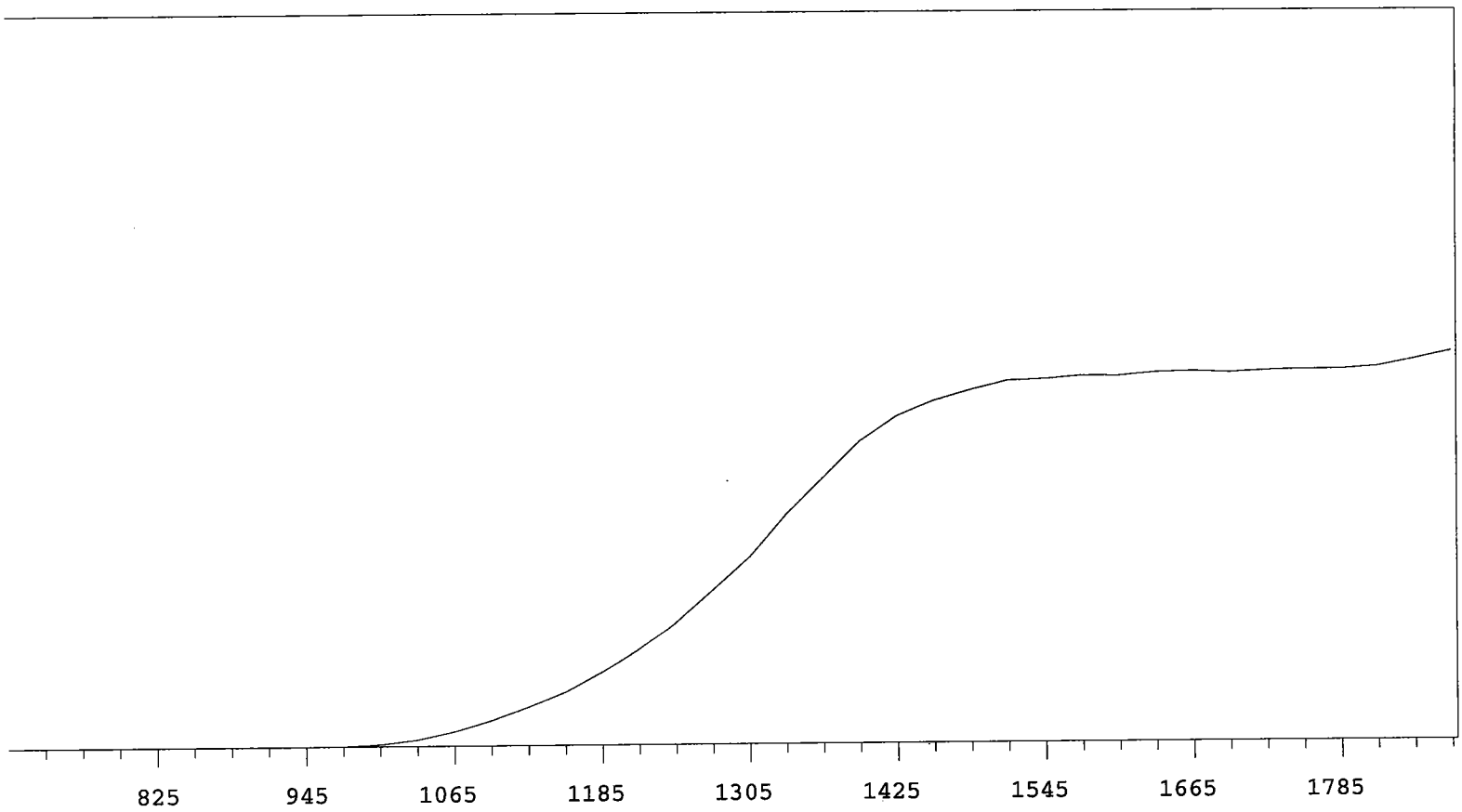


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	2	+55.56
855	1	>100
885	0	-55.56
915	3	>100
945	0	>100
975	16	>100
1005	114	>100
1035	451	>100
1065	1100	>100
1095	2068	>100
1125	3189	>100
1155	4386	>100
1185	6094	+94.81
1215	8184	+87.09
1245	10489	+78.88
1275	13273	+72.66

VOLTS	COUNTS	%/100 Volts
1305	16442	+66.24
1335	20146	+57.40
1365	23769	+46.40
1395	26926	+34.68
1425	29276	+24.40
1455	31037	+15.28
1485	32197	+7.91
1515	32425	+4.33
1545	32314	+2.14
1575	33071	+2.66
1605	32918	+2.52
1635	33435	+1.02
1665	33382	+0.73
1695	33349	+1.07
1725	33324	+1.28
1755	34001	+2.26
1785	33701	+3.08
1815	34304	+2.97
1845	34744	
1875	35012	

MPC 9600 Plateau Instrument 4 MPC 9604 Detector B 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

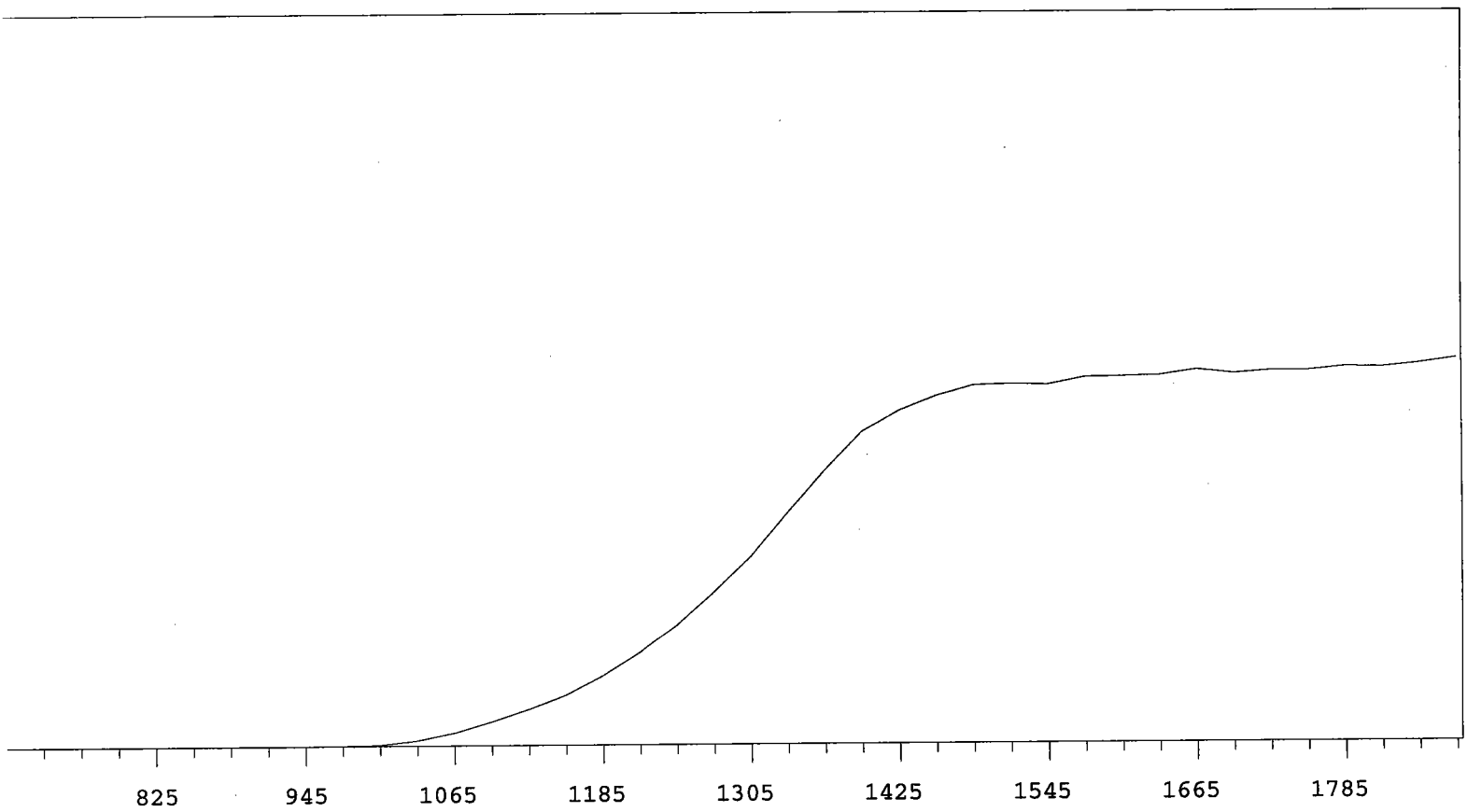


VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	+0.00
795	1	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	2	>100
975	31	>100
1005	176	>100
1035	550	>100
1065	1218	>100
1095	2114	>100
1125	3212	>100
1155	4416	>100
1185	6066	+92.28
1215	7936	+85.60
1245	10288	+76.79
1275	13020	+70.59

VOLTS	COUNTS	%/100 Volts
1305	15747	+62.38
1335	19230	+54.19
1365	22255	+44.46
1395	25299	+32.45
1425	27370	+22.24
1455	28625	+14.10
1485	29467	+8.56
1515	30213	+5.29
1545	30326	+2.77
1575	30564	+1.57
1605	30548	+1.52
1635	30820	+0.85
1665	30898	+0.79
1695	30779	+0.44
1725	30934	+0.45
1755	31008	+0.96
1785	30991	+2.01
1815	31196	+3.80
1845	31781	
1875	32406	

MPC 9600 Plateau Instrument 4 MPC 9604 Detector C 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

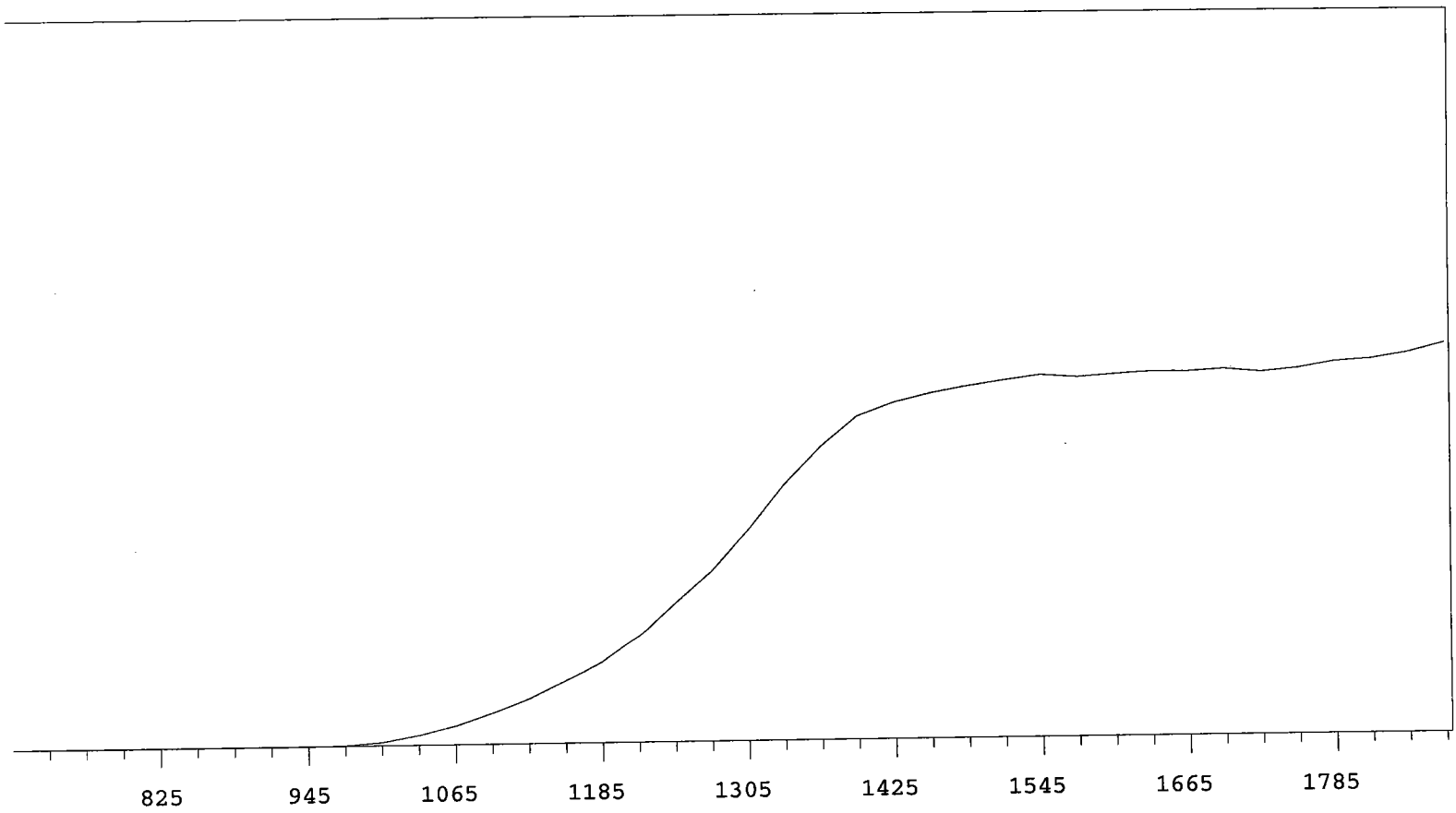


VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	+55.56
795	2	+0.00
825	0	-55.56
855	1	>100
885	0	>100
915	0	>100
945	2	>100
975	24	>100
1005	134	>100
1035	558	>100
1065	1361	>100
1095	2511	>100
1125	3762	>100
1155	5246	>100
1185	7268	+96.29
1215	9733	+88.98
1245	12701	+79.94
1275	16176	+73.13

VOLTS	COUNTS	%/100 Volts
1305	19796	+65.77
1335	24338	+57.55
1365	28686	+45.86
1395	32750	+32.27
1425	34919	+20.83
1455	36434	+11.45
1485	37487	+5.80
1515	37623	+3.32
1545	37528	+2.07
1575	38277	+2.12
1605	38338	+2.70
1635	38426	+1.12
1665	39007	+1.06
1695	38592	+0.64
1725	38870	+0.63
1755	38868	+1.30
1785	39238	+1.45
1815	39169	+2.34
1845	39570	
1875	40086	

MPC 9600 Plateau Instrument 4 MPC 9604 Detector D 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

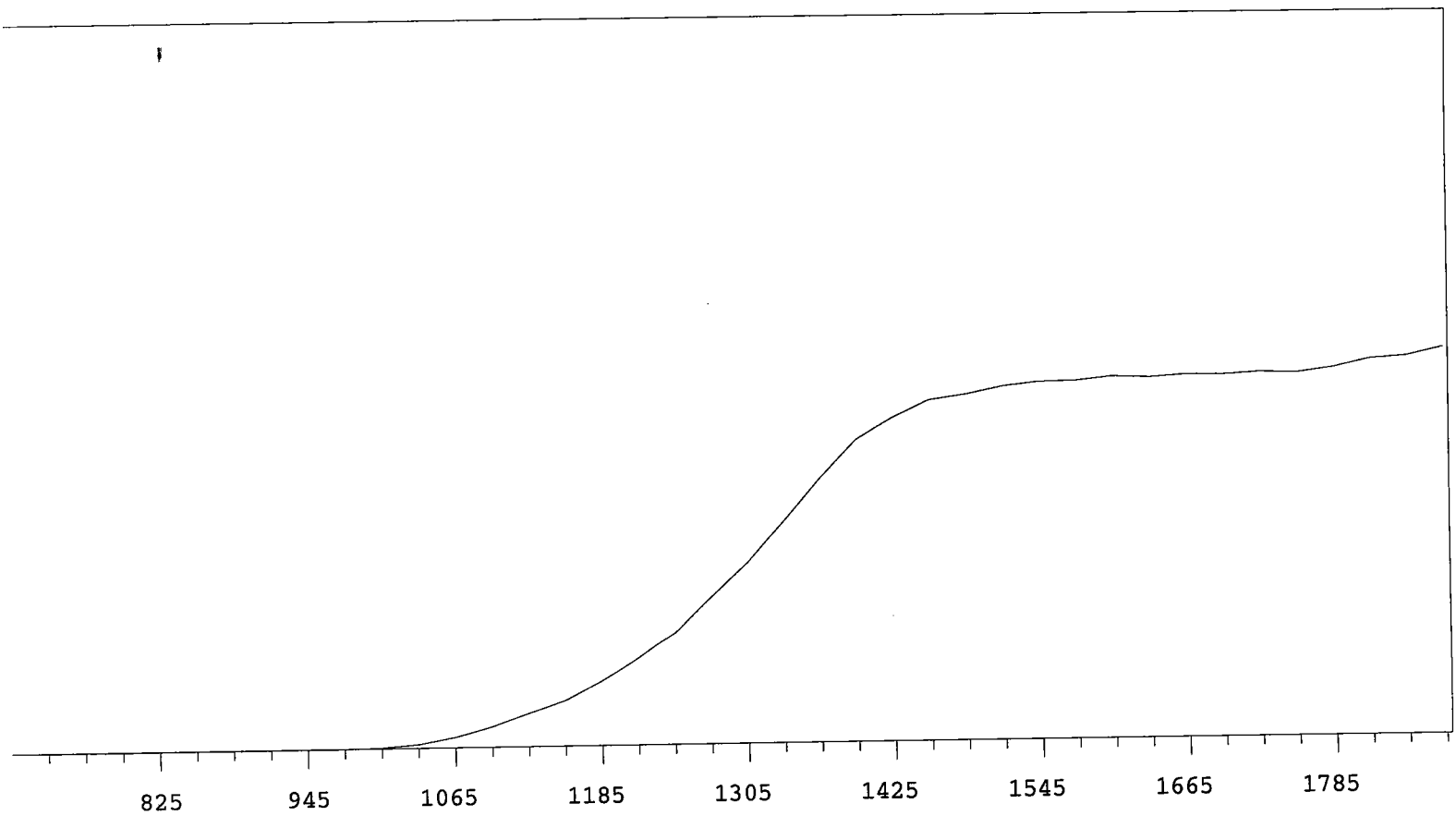


VOLTS	COUNTS	%/100 Volts
705	1	
735	0	
765	0	+0.00
795	0	>100
825	1	+83.33
855	1	+55.56
885	0	+0.00
915	1	>100
945	1	>100
975	60	>100
1005	297	>100
1035	855	>100
1065	1647	>100
1095	2700	>100
1125	3921	>100
1155	5471	+96.54
1185	7042	+90.21
1215	9405	+82.23
1245	12266	+76.33
1275	14989	+69.38

VOLTS	COUNTS	%/100 Volts
1305	18491	+61.09
1335	22444	+51.56
1365	25756	+37.44
1395	28379	+23.82
1425	29517	+14.00
1455	30309	+8.08
1485	30874	+6.03
1515	31345	+3.66
1545	31782	+2.17
1575	31567	+1.31
1605	31789	+0.78
1635	31963	+1.34
1665	31956	+0.29
1695	32123	+0.20
1725	31850	+1.46
1755	32114	+2.39
1785	32665	+3.95
1815	32876	+4.96
1845	33399	
1875	34206	

MPC 9600 Plateau Instrument 5 MPC 9604 Detector A 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

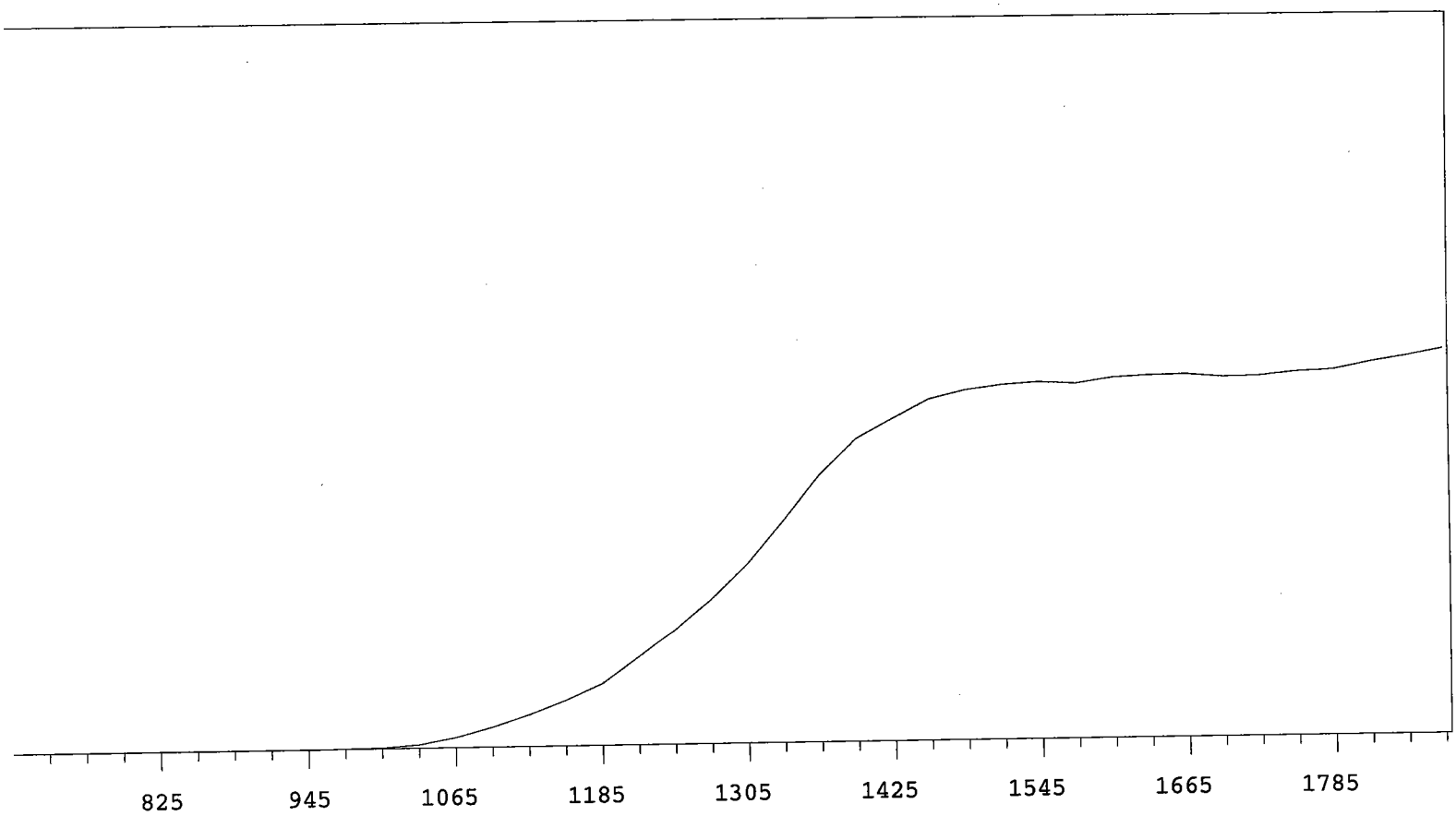


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	1	
795	1	+83.33
825	1	-83.33
855	1	>100
885	0	-55.56
915	0	>100
945	1	>100
975	9	>100
1005	76	>100
1035	308	>100
1065	814	>100
1095	1600	>100
1125	2598	>100
1155	3596	>100
1185	5065	+96.05
1215	6773	+90.23
1245	8717	+81.43
1275	11391	+74.83

VOLTS	COUNTS	%/100 Volts
1305	13974	+68.00
1335	17170	+58.62
1365	20456	+47.04
1395	23332	+33.83
1425	24996	+21.10
1455	26290	+12.40
1485	26683	+7.74
1515	27270	+4.43
1545	27590	+3.48
1575	27635	+1.71
1605	27932	+1.20
1635	27807	+0.88
1665	28006	+0.62
1695	27964	+0.63
1725	28112	+0.98
1755	28020	+2.84
1785	28392	+3.76
1815	29028	+5.17
1845	29220	
1875	29849	

MPC 9600 Plateau Instrument 5 MPC 9604 Detector B 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

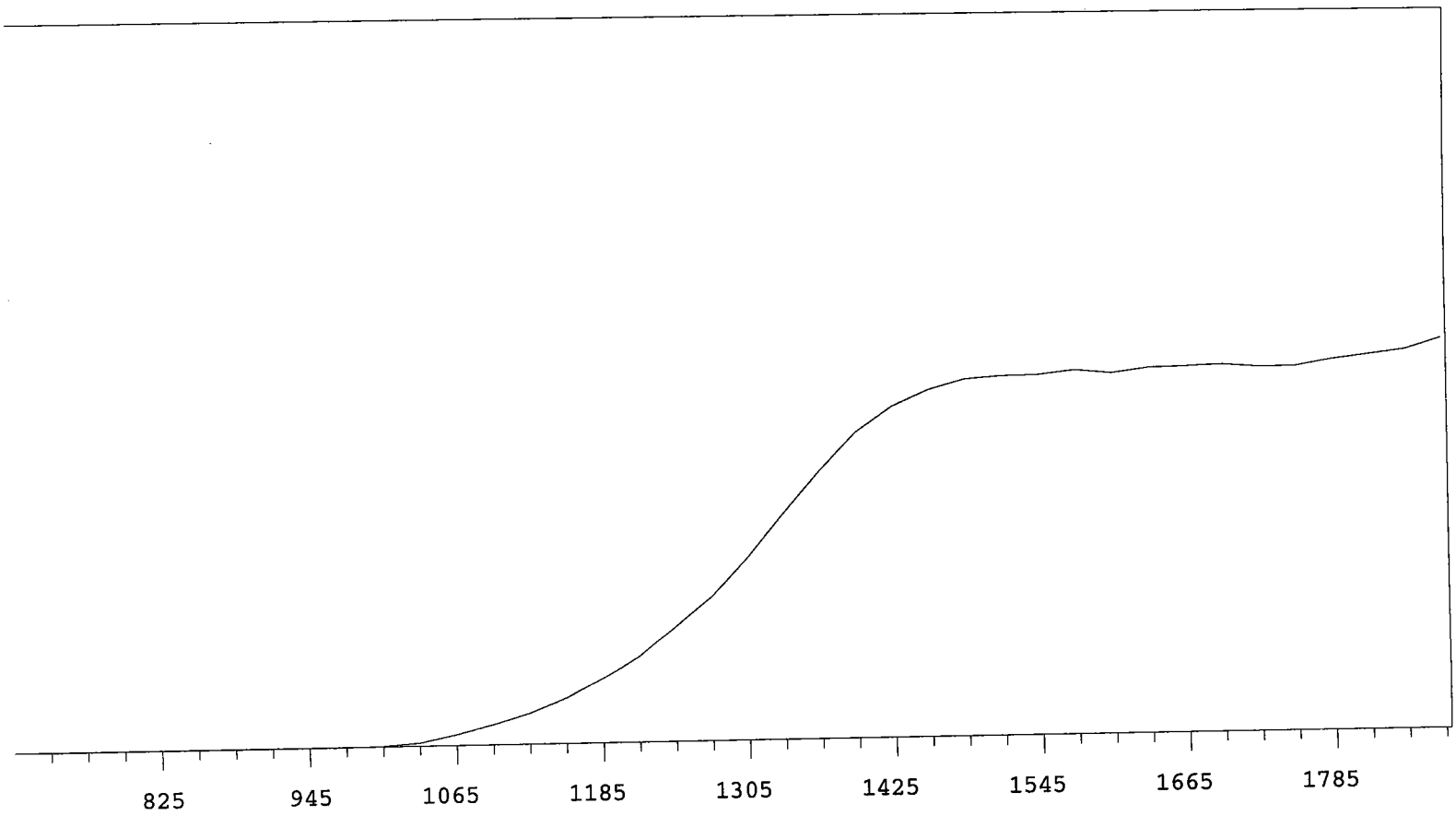


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	1	>100
855	1	+41.67
885	2	-33.33
915	0	>100
945	1	>100
975	17	>100
1005	87	>100
1035	336	>100
1065	1010	>100
1095	1955	>100
1125	3124	>100
1155	4486	>100
1185	6017	>100
1215	8507	+91.20
1245	11148	+82.59
1275	14003	+74.21

VOLTS	COUNTS	%/100 Volts
1305	17414	+68.46
1335	21540	+59.98
1365	25854	+46.75
1395	29222	+33.38
1425	31128	+21.52
1455	32995	+13.26
1485	33846	+8.09
1515	34289	+3.25
1545	34528	+2.00
1575	34311	+1.78
1605	34866	+1.78
1635	35046	+1.14
1665	35087	-0.26
1695	34795	+0.11
1725	34857	+0.93
1755	35220	+2.81
1785	35363	+3.98
1815	36028	+4.79
1845	36577	
1875	37207	

MPC 9600 Plateau Instrument 5 MPC 9604 Detector C 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

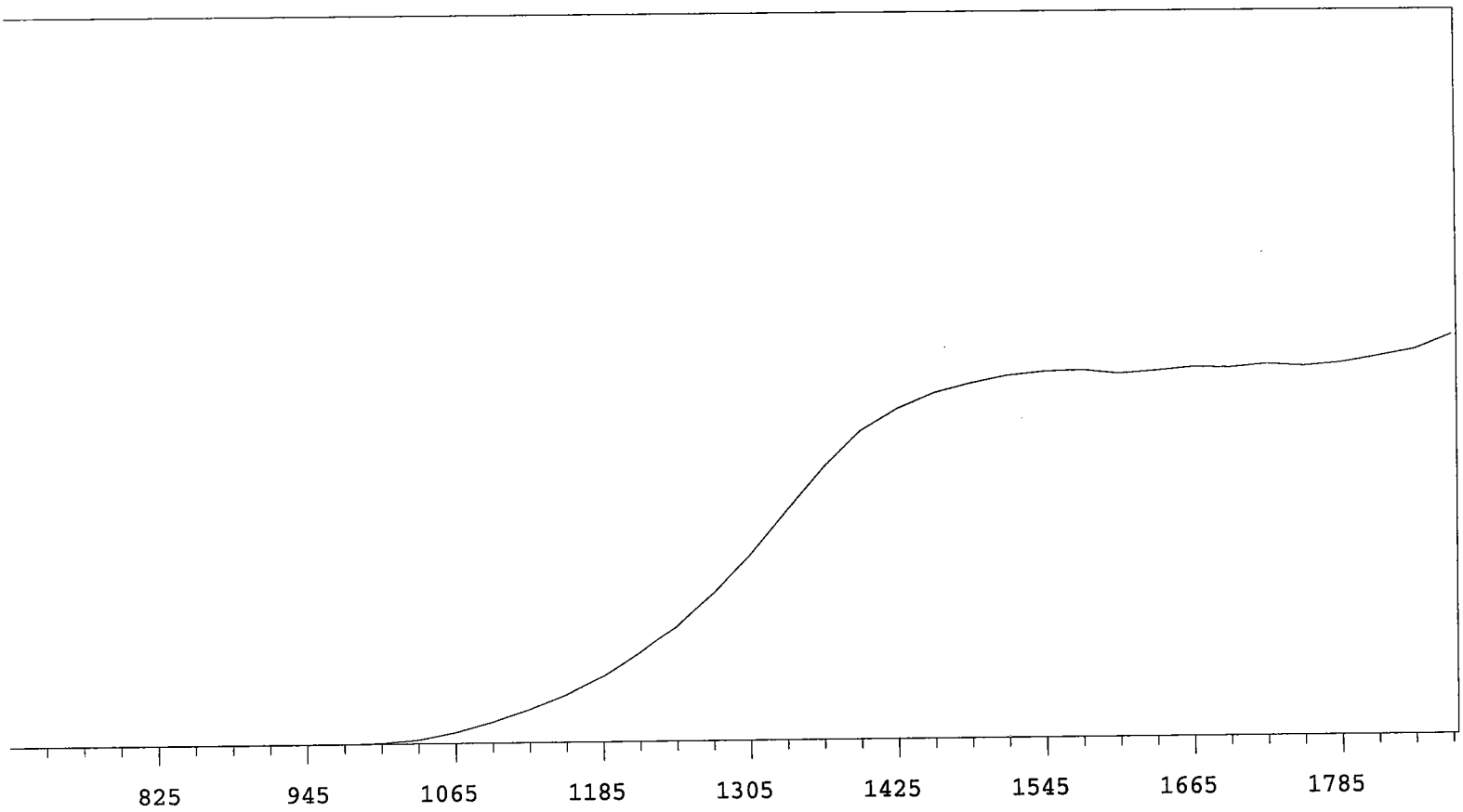


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	1	>100
885	0	>100
915	1	>100
945	2	>100
975	7	>100
1005	56	>100
1035	305	>100
1065	982	>100
1095	1874	>100
1125	2890	>100
1155	4260	>100
1185	6001	>100
1215	8050	+91.54
1245	10895	+82.98
1275	13556	+76.26

VOLTS	COUNTS	%/100 Volts
1305	17085	+68.24
1335	21135	+59.99
1365	25066	+47.39
1395	28530	+33.93
1425	30823	+22.30
1455	32287	+12.93
1485	33217	+6.71
1515	33474	+3.57
1545	33517	+1.17
1575	33921	+1.13
1605	33584	+1.27
1635	34014	+1.12
1665	34116	+0.98
1695	34225	-0.22
1725	33980	+0.58
1755	33971	+1.96
1785	34541	+3.64
1815	34954	+5.38
1845	35375	
1875	36384	

MPC 9600 Plateau Instrument 5 MPC 9604 Detector D 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

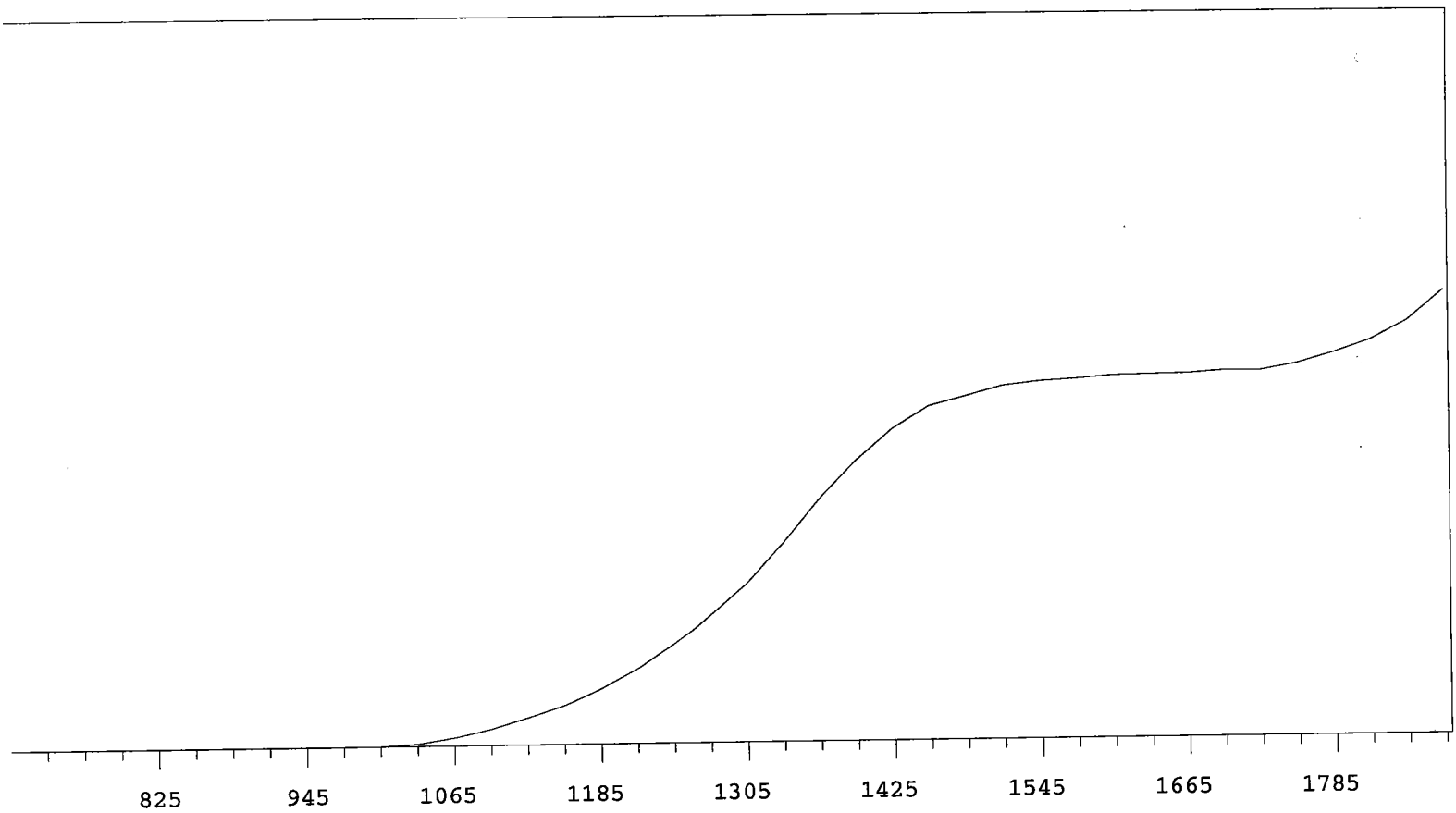


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	6	>100
1005	81	>100
1035	318	>100
1065	897	>100
1095	1710	>100
1125	2714	>100
1155	3925	>100
1185	5395	+97.31
1215	7282	+88.49
1245	9426	+81.36
1275	12007	+75.65

VOLTS	COUNTS	%/100 Volts
1305	15025	+68.87
1335	18640	+58.97
1365	22048	+45.84
1395	24877	+32.08
1425	26653	+20.83
1455	27899	+13.08
1485	28670	+8.43
1515	29257	+5.13
1545	29568	+2.06
1575	29683	+0.52
1605	29362	+0.57
1635	29589	+0.80
1665	29870	+1.82
1695	29783	+0.90
1725	30077	+0.75
1755	29889	+2.02
1785	30152	+3.33
1815	30656	+6.54
1845	31211	
1875	32389	

MPC 9600 Plateau Instrument 6 MPC 9604 Detector A 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

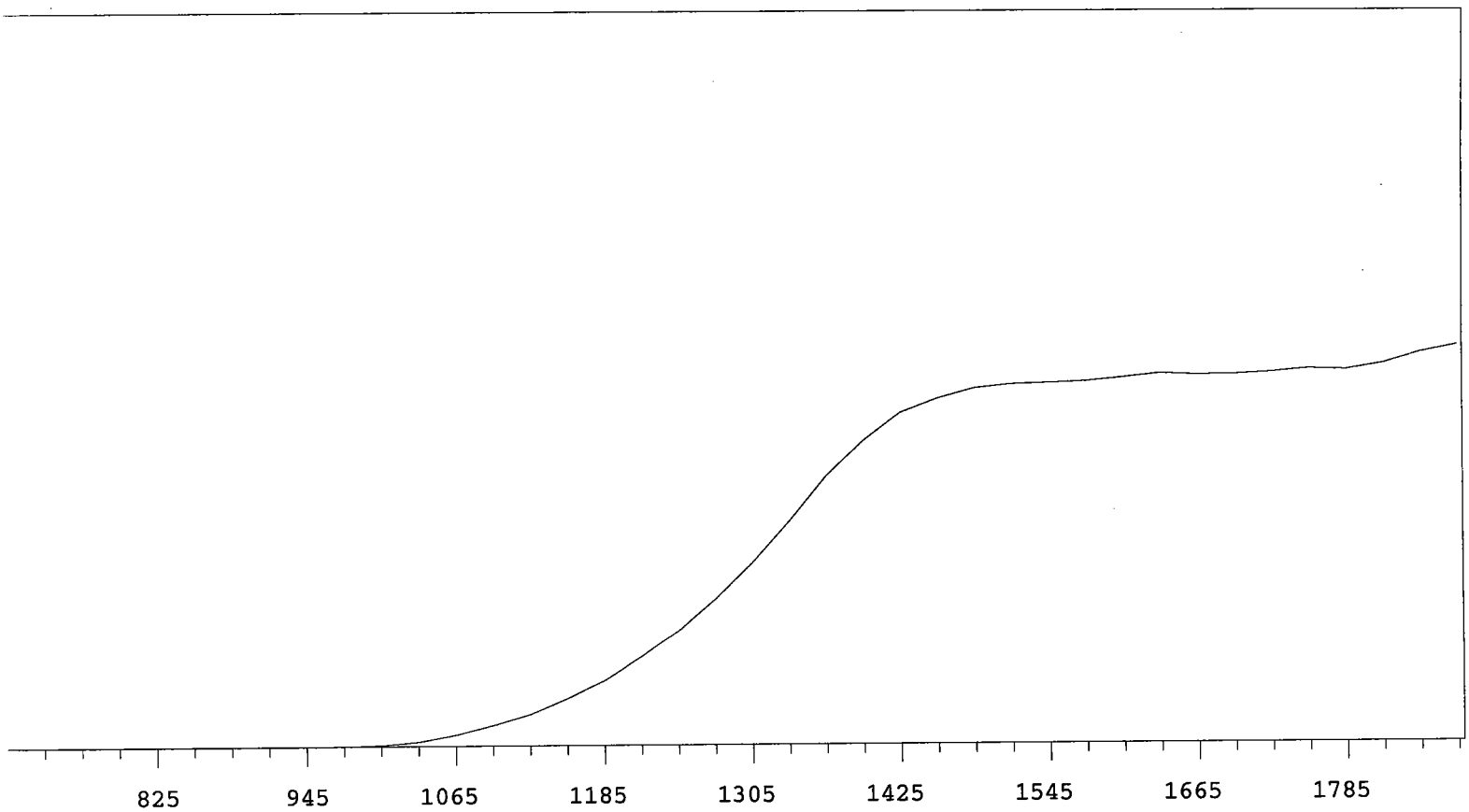


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	7	>100
1005	31	>100
1035	238	>100
1065	810	>100
1095	1637	>100
1125	2743	>100
1155	3932	>100
1185	5579	>100
1215	7602	+94.41
1245	10078	+84.86
1275	13091	+77.67

VOLTS	COUNTS	%/100 Volts
1305	16217	+71.57
1335	20184	+63.76
1365	24605	+53.98
1395	28528	+41.40
1425	31675	+28.02
1455	33899	+17.93
1485	34826	+10.65
1515	35815	+6.13
1545	36225	+4.15
1575	36456	+2.28
1605	36747	+1.47
1635	36801	+1.26
1665	36859	+0.85
1695	37095	+1.85
1725	37072	+4.01
1755	37724	+6.65
1785	38802	+10.33
1815	40036	+14.71
1845	41975	
1875	45123	

MPC 9600 Plateau Instrument 6 MPC 9604 Detector B 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

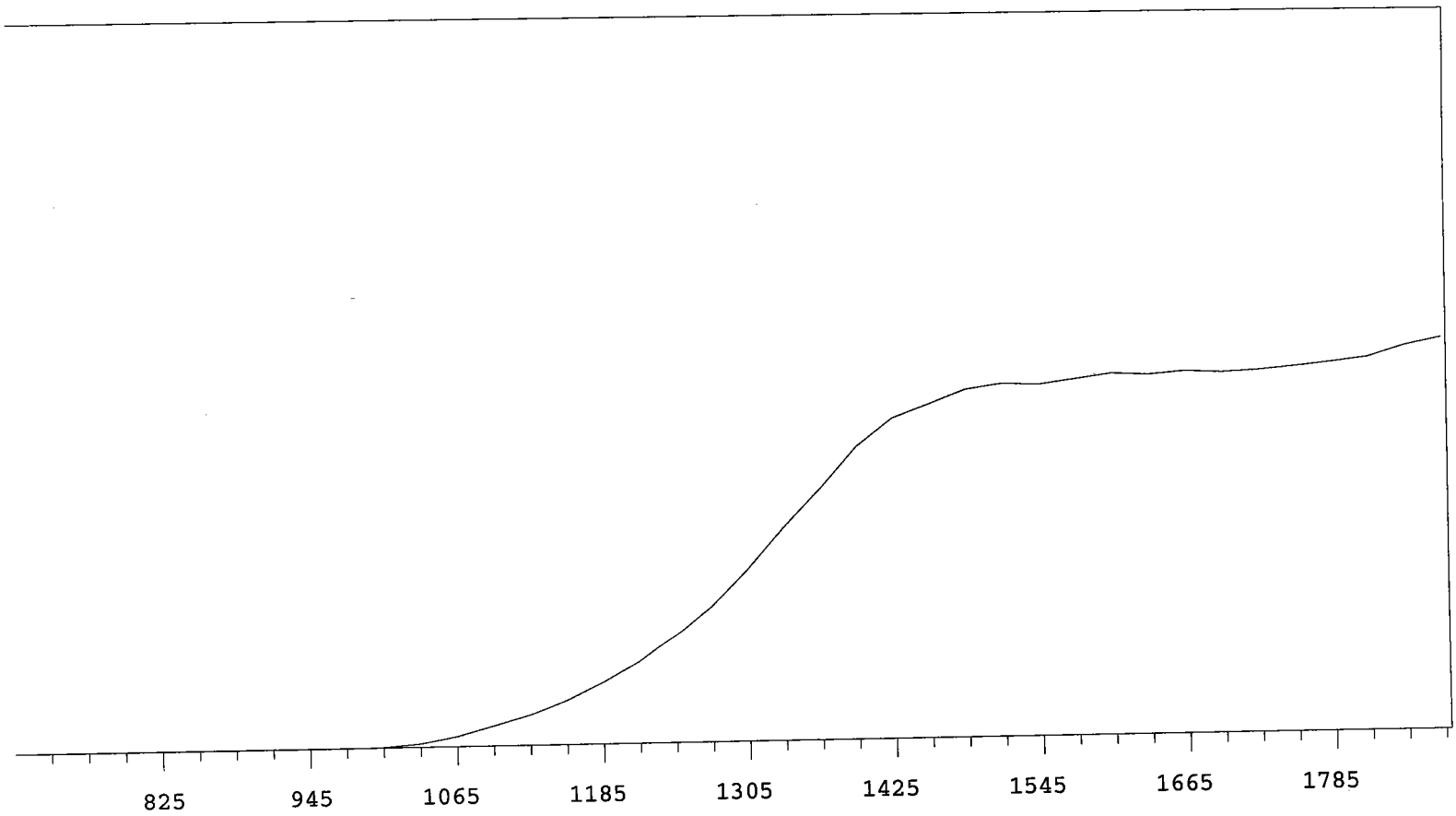


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	1	+83.33
855	1	-83.33
885	0	>100
915	0	>100
945	5	>100
975	18	>100
1005	125	>100
1035	482	>100
1065	1255	>100
1095	2318	>100
1125	3540	>100
1155	5288	>100
1185	7168	+98.51
1215	9760	+88.48
1245	12656	+81.52
1275	16065	+74.58

VOLTS	COUNTS	%/100 Volts
1305	20094	+68.67
1335	24665	+59.40
1365	29591	+47.86
1395	33376	+34.51
1425	36440	+22.50
1455	38024	+13.58
1485	39187	+7.04
1515	39608	+3.63
1545	39722	+2.10
1575	39894	+2.32
1605	40298	+2.09
1635	40711	+1.41
1665	40574	+0.80
1695	40608	+1.02
1725	40839	+1.28
1755	41201	+1.97
1785	41065	+3.74
1815	41711	+5.42
1845	42917	
1875	43699	

MPC 9600 Plateau Instrument 6 MPC 9604 Detector C 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

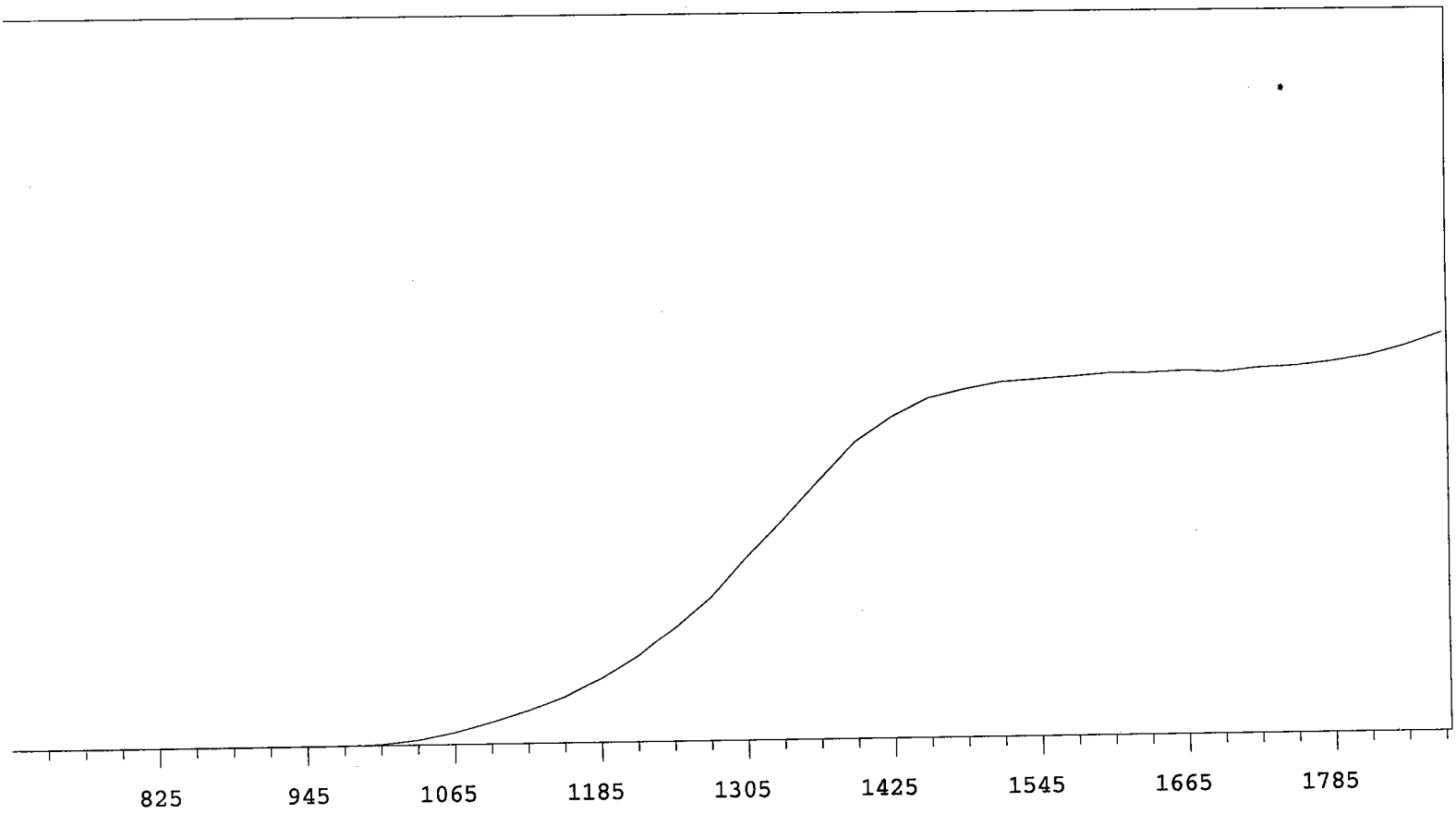


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	1	+0.00
795	0	>100
825	0	+0.00
855	0	>100
885	1	>100
915	1	>100
945	2	>100
975	8	>100
1005	70	>100
1035	353	>100
1065	990	>100
1095	1956	>100
1125	3024	>100
1155	4400	>100
1185	6173	+99.75
1215	8230	+89.85
1245	10904	+82.36
1275	13747	+76.18

VOLTS	COUNTS	%/100 Volts
1305	17350	+67.80
1335	21371	+60.27
1365	25084	+49.32
1395	29177	+36.15
1425	31927	+24.86
1455	33217	+14.70
1485	34545	+7.74
1515	35097	+4.64
1545	34927	+2.96
1575	35439	+2.21
1605	35939	+2.41
1635	35763	+0.94
1665	36053	+0.35
1695	35886	+1.15
1725	36066	+1.77
1755	36379	+3.03
1785	36768	+4.80
1815	37193	+6.14
1845	38320	
1875	39061	

MPC 9600 Plateau Instrument 6 MPC 9604 Detector D 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

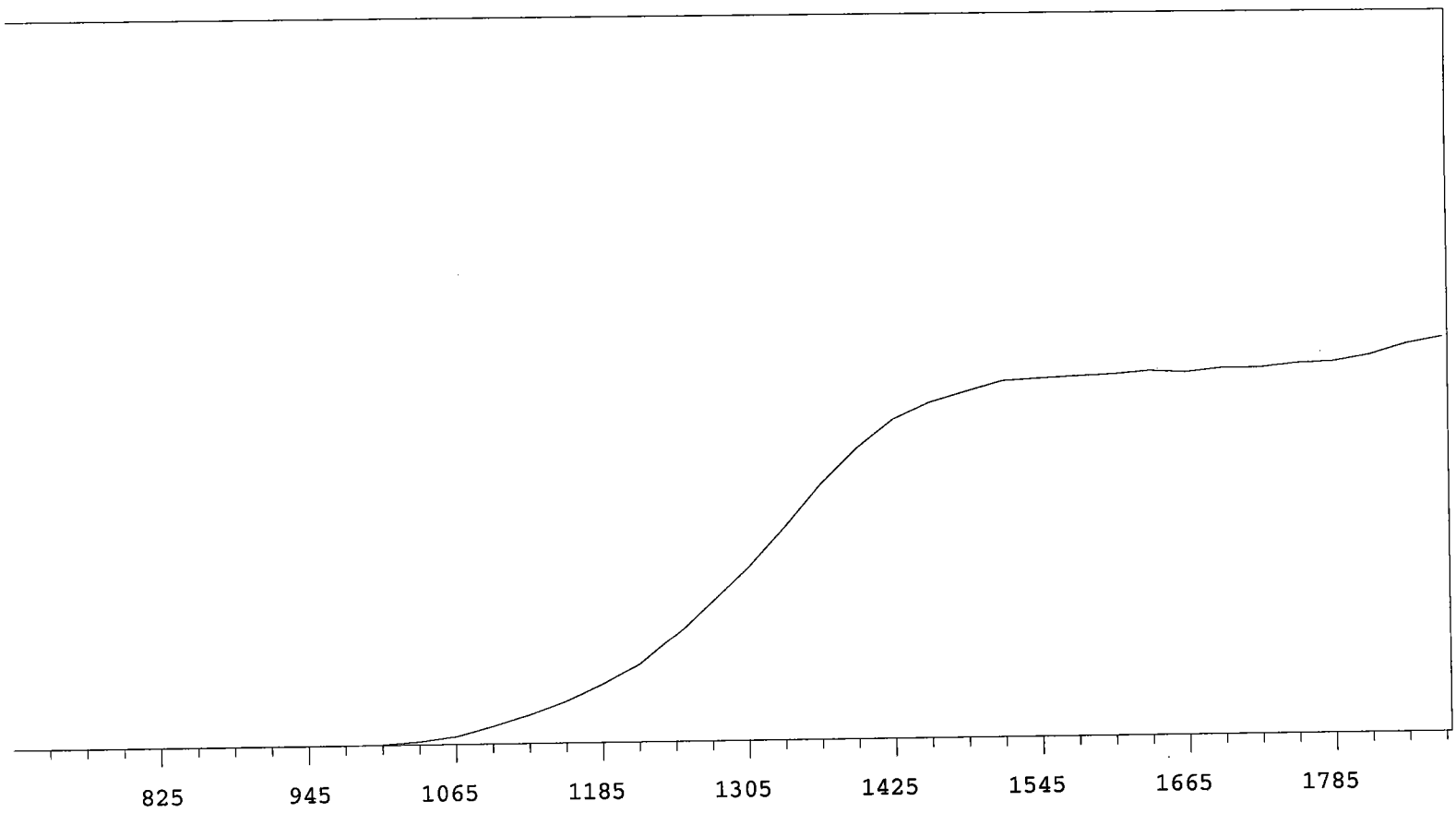


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	1	+0.00
825	0	>100
855	0	+0.00
885	0	>100
915	1	>100
945	0	>100
975	14	>100
1005	109	>100
1035	481	>100
1065	1177	>100
1095	2133	>100
1125	3243	>100
1155	4554	>100
1185	6285	+98.38
1215	8468	+89.75
1245	11266	+83.13
1275	14088	+74.43

VOLTS	COUNTS	%/100 Volts
1305	17954	+65.82
1335	21482	+57.64
1365	25373	+45.78
1395	29042	+34.80
1425	31373	+23.29
1455	33143	+14.25
1485	34006	+8.49
1515	34662	+4.71
1545	34892	+3.14
1575	35129	+1.86
1605	35411	+1.49
1635	35380	+0.62
1665	35554	+0.65
1695	35385	+1.18
1725	35755	+1.89
1755	35907	+3.26
1785	36305	+4.62
1815	36870	+6.98
1845	37807	
1875	39047	

MPC 9600 Plateau Instrument 7 MPC 9604 Detector A 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

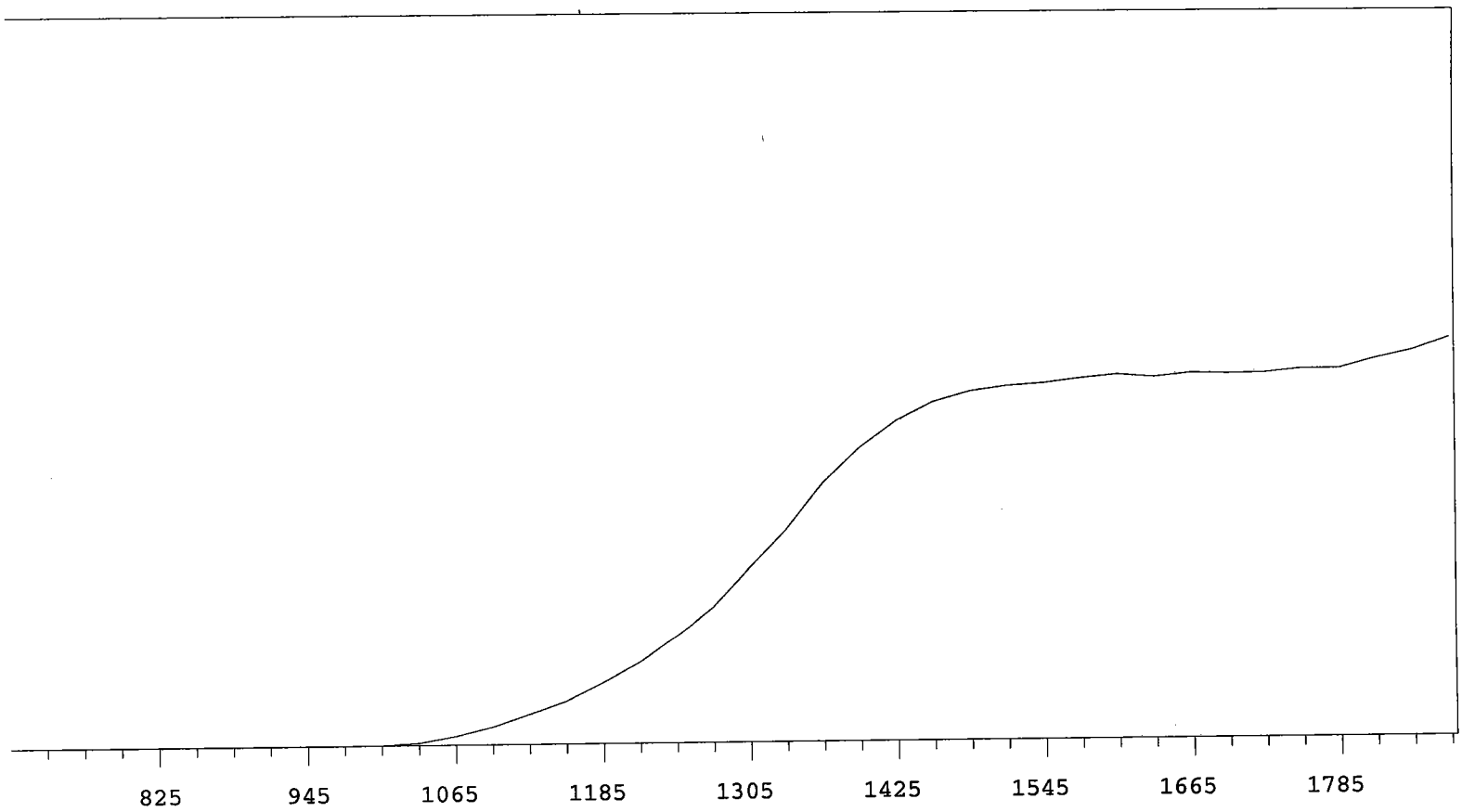


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	1	+83.33
855	1	-83.33
885	0	-55.56
915	0	>100
945	1	>100
975	3	>100
1005	42	>100
1035	242	>100
1065	613	>100
1095	1353	>100
1125	2213	>100
1155	3256	>100
1185	4474	>100
1215	5932	+94.10
1245	8072	+87.32
1275	10579	+79.61

VOLTS	COUNTS	%/100 Volts
1305	13228	+70.36
1335	16271	+60.12
1365	19506	+49.19
1395	22188	+36.46
1425	24373	+24.43
1455	25649	+15.99
1485	26433	+9.58
1515	27195	+5.74
1545	27367	+3.24
1575	27490	+1.86
1605	27608	+1.22
1635	27841	+1.33
1665	27695	+1.11
1695	27999	+1.42
1725	27992	+2.04
1755	28289	+2.52
1785	28408	+4.56
1815	28863	+5.70
1845	29664	
1875	30148	

MPC 9600 Plateau Instrument 7 MPC 9604 Detector B 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

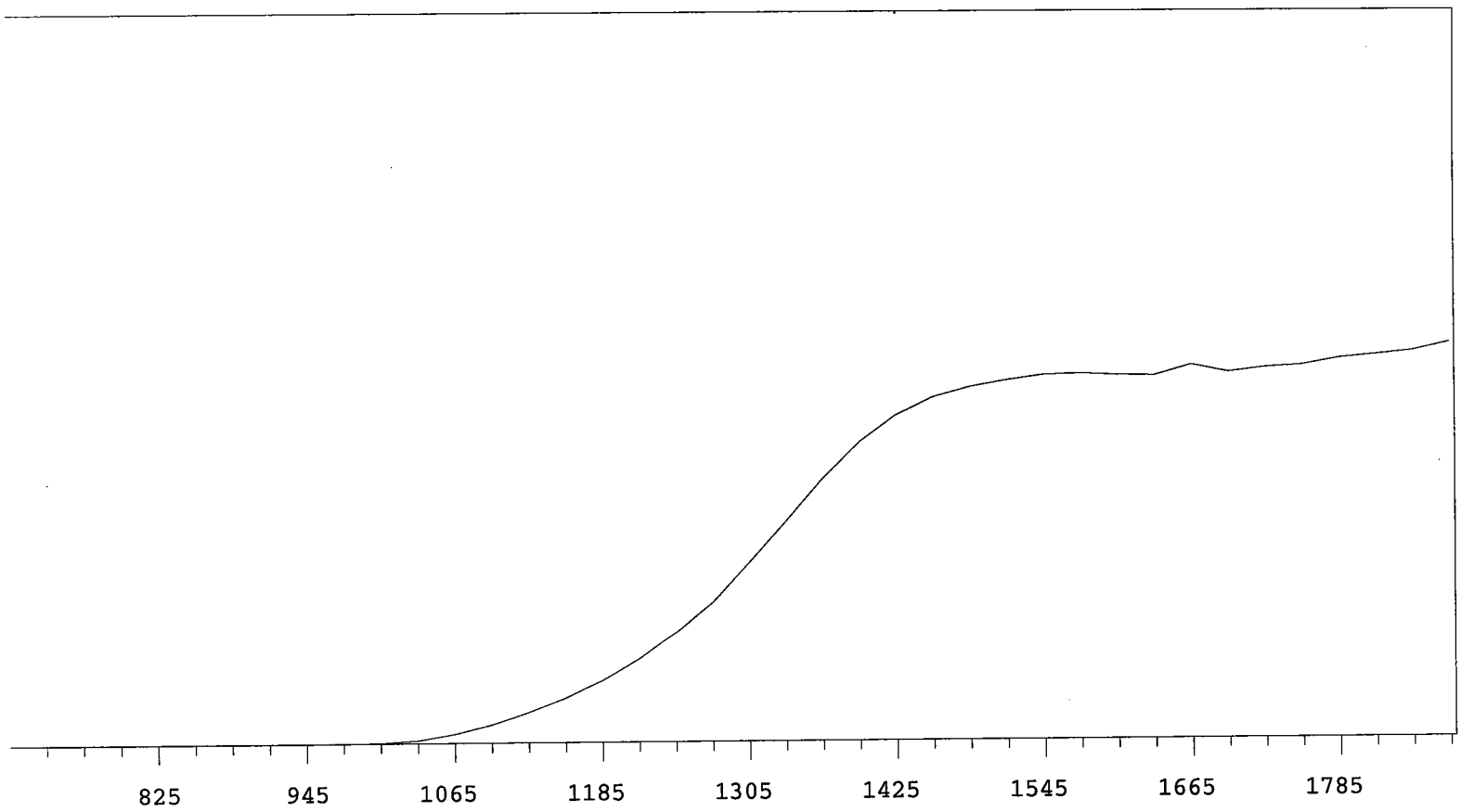


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	1	>100
945	1	>100
975	3	>100
1005	34	>100
1035	221	>100
1065	825	>100
1095	1709	>100
1125	2873	>100
1155	4078	>100
1185	5858	>100
1215	7809	+91.82
1245	10336	+85.02
1275	13215	+77.79

VOLTS	COUNTS	%/100 Volts
1305	16978	+70.97
1335	20569	+61.39
1365	24989	+48.97
1395	28389	+36.69
1425	30977	+24.05
1455	32727	+14.93
1485	33697	+8.42
1515	34195	+4.89
1545	34437	+3.49
1575	34850	+2.11
1605	35174	+1.62
1635	34923	+0.68
1665	35250	+0.35
1695	35171	+1.24
1725	35237	+1.02
1755	35584	+2.79
1785	35587	+4.59
1815	36485	+6.74
1845	37270	
1875	38453	

MPC 9600 Plateau Instrument 7 MPC 9604 Detector C 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

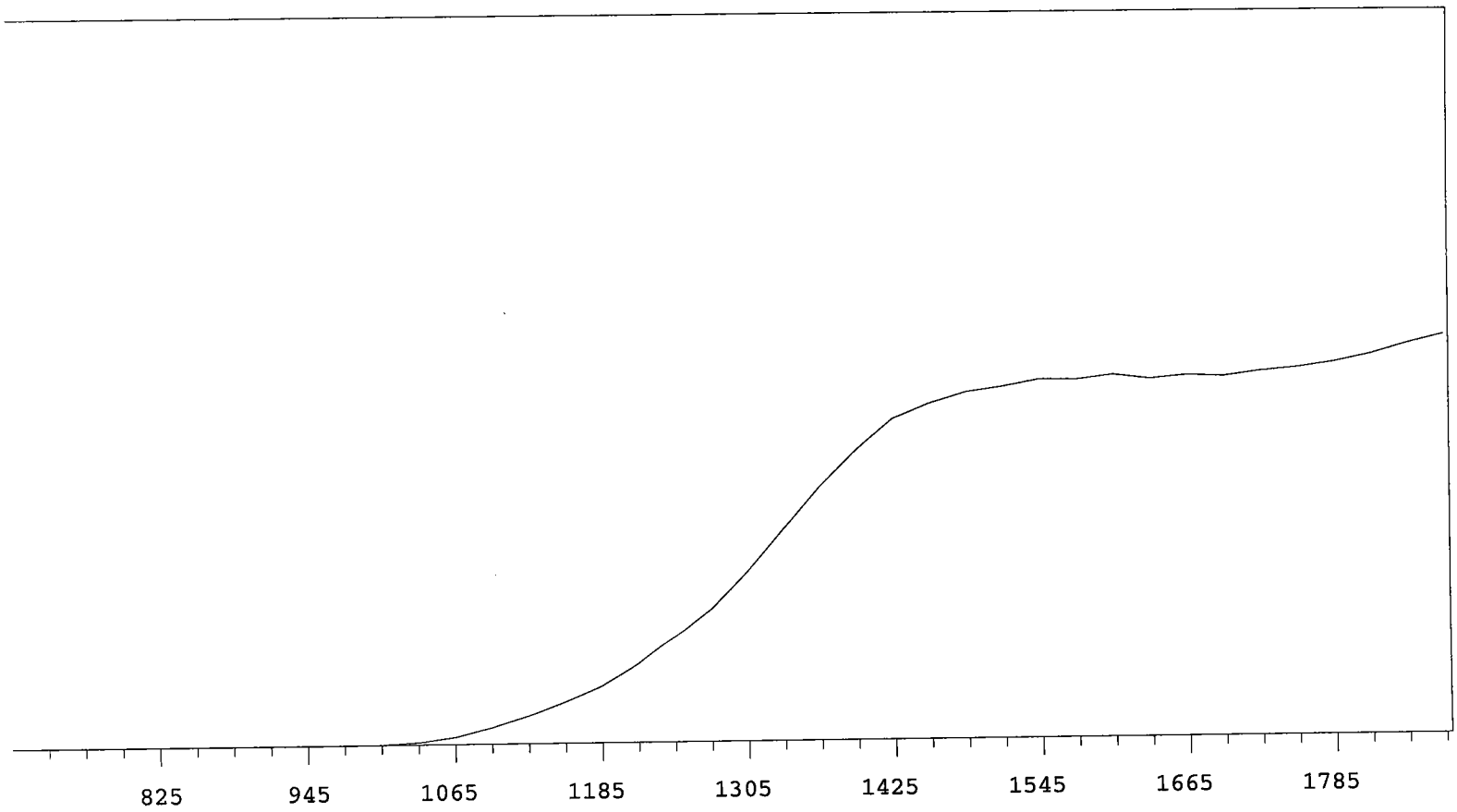


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	4	>100
1005	57	>100
1035	277	>100
1065	817	>100
1095	1666	>100
1125	2766	>100
1155	4077	>100
1185	5667	>100
1215	7694	+91.50
1245	10209	+84.83
1275	12950	+77.50

VOLTS	COUNTS	%/100 Volts
1305	16543	+70.03
1335	20257	+60.71
1365	24245	+48.17
1395	27602	+35.50
1425	30019	+23.48
1455	31614	+14.53
1485	32522	+8.91
1515	33103	+5.28
1545	33572	+2.60
1575	33695	+0.70
1605	33525	+1.48
1635	33477	+0.99
1665	34432	+1.49
1695	33745	+1.43
1725	34149	+1.60
1755	34350	+3.69
1785	34955	+3.62
1815	35251	+4.44
1845	35592	
1875	36382	

MPC 9600 Plateau Instrument 7 MPC 9604 Detector D 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

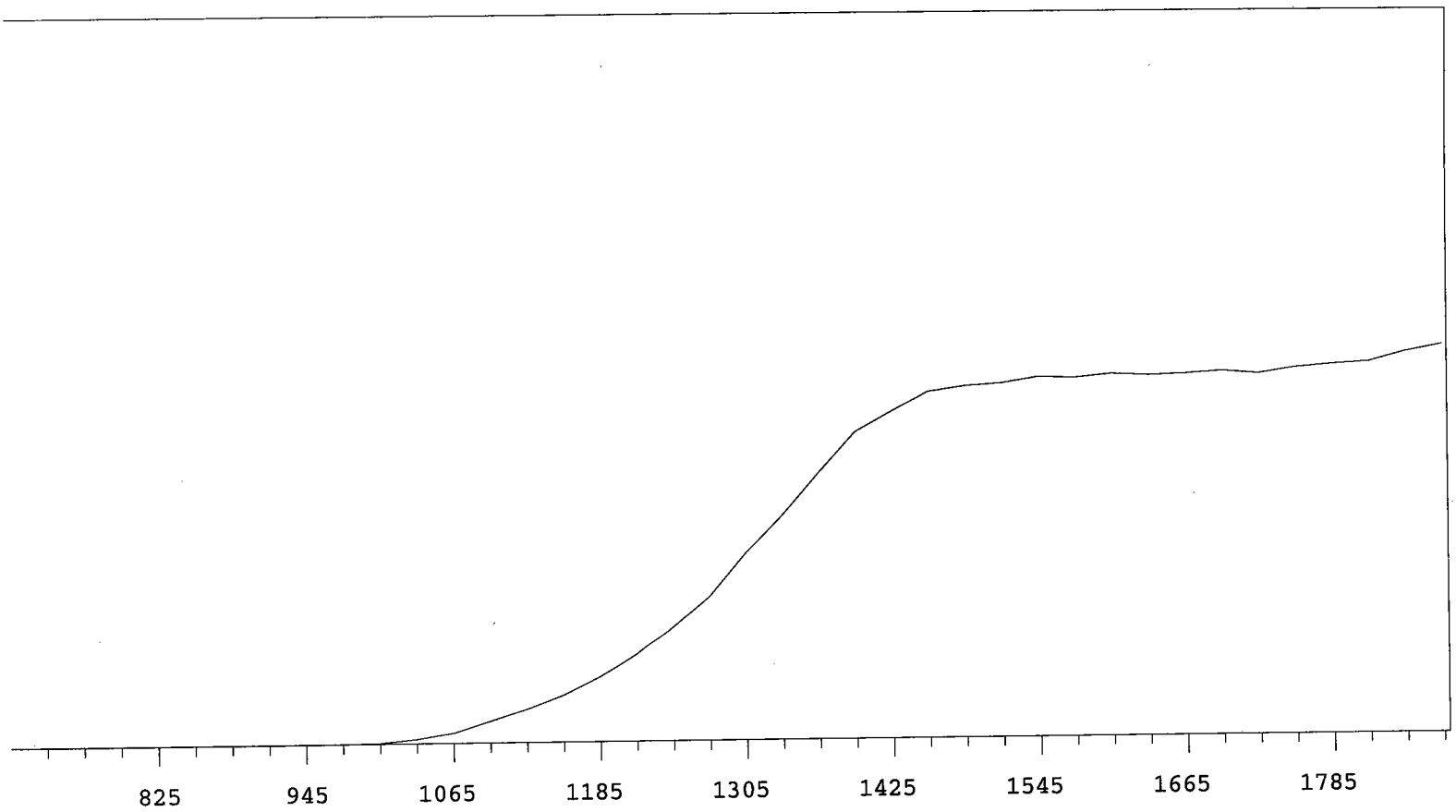


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	5	>100
1005	29	>100
1035	204	>100
1065	609	>100
1095	1354	>100
1125	2316	>100
1155	3418	>100
1185	4654	>100
1215	6455	+92.99
1245	8669	+86.45
1275	10931	+79.15

VOLTS	COUNTS	%/100 Volts
1305	14016	+71.42
1335	17436	+62.21
1365	20814	+50.32
1395	23760	+36.91
1425	26302	+24.91
1455	27519	+15.17
1485	28410	+8.91
1515	28843	+5.41
1545	29396	+3.58
1575	29357	+1.54
1605	29719	+0.51
1635	29358	+0.23
1665	29623	+0.57
1695	29509	+2.12
1725	29896	+2.84
1755	30165	+4.42
1785	30570	+5.65
1815	31180	+6.95
1845	31995	
1875	32717	

MPC 9600 Plateau Instrument 8 MPC 9604 Detector A 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

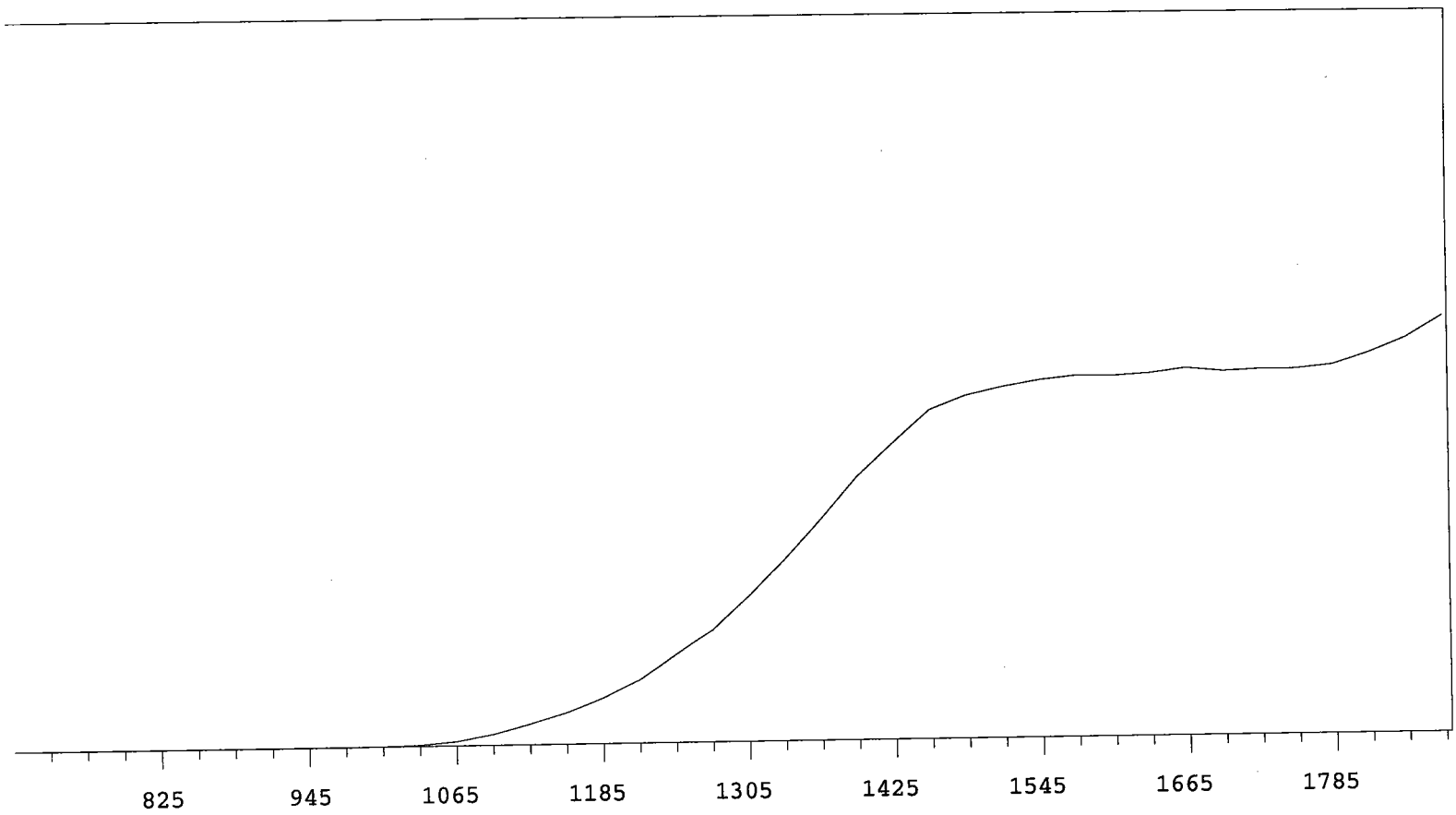


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	1	>100
975	9	>100
1005	96	>100
1035	468	>100
1065	1084	>100
1095	2286	>100
1125	3479	>100
1155	4912	>100
1185	6819	+98.23
1215	9153	+89.05
1245	12105	+83.21
1275	15122	+75.24

VOLTS	COUNTS	%/100 Volts
1305	19482	+67.45
1335	23344	+59.35
1365	27793	+45.86
1395	31916	+34.29
1425	33979	+21.61
1455	35993	+11.71
1485	36530	+7.04
1515	36796	+3.11
1545	37393	+2.44
1575	37279	+1.41
1605	37650	+0.49
1635	37458	+0.91
1665	37579	+0.12
1695	37828	+1.10
1725	37535	+1.72
1755	38104	+2.18
1785	38416	+4.12
1815	38633	+4.92
1845	39649	
1875	40366	

MPC 9600 Plateau Instrument 8 MPC 9604 Detector B 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

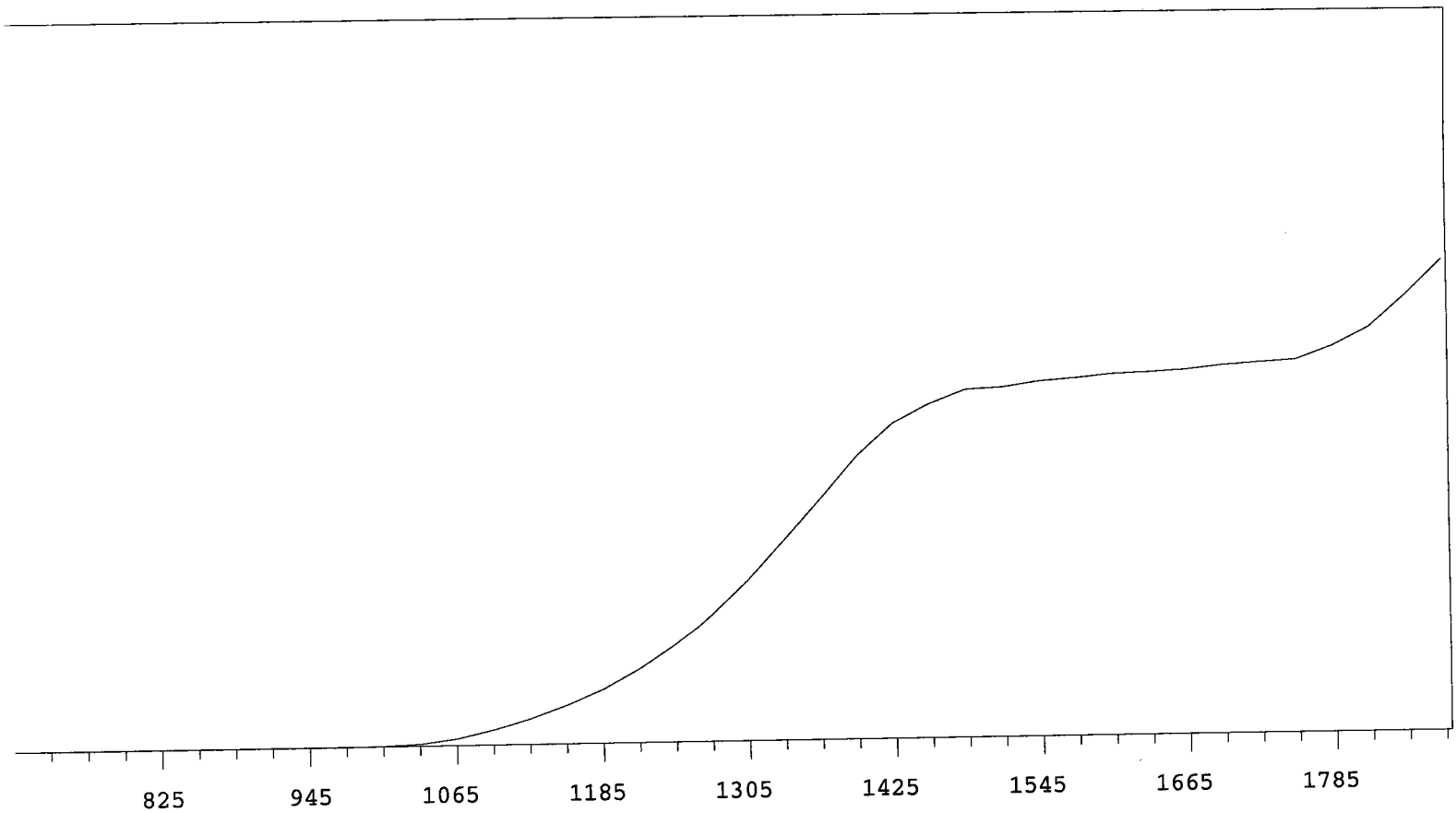


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	0	>100
1005	20	>100
1035	122	>100
1065	511	>100
1095	1263	>100
1125	2390	>100
1155	3641	>100
1185	5246	>100
1215	7212	+98.32
1245	9897	+89.80
1275	12742	+82.40

VOLTS	COUNTS	%/100 Volts
1305	16337	+74.91
1335	20471	+68.07
1365	25012	+57.86
1395	29694	+47.48
1425	33409	+35.17
1455	37013	+23.27
1485	38629	+14.35
1515	39529	+7.69
1545	40284	+4.34
1575	40711	+2.52
1605	40642	+1.97
1635	40879	+1.11
1665	41405	+0.98
1695	41011	+0.30
1725	41182	+0.41
1755	41178	+3.28
1785	41573	+6.47
1815	42858	+10.82
1845	44440	
1875	46780	

MPC 9600 Plateau Instrument 8 MPC 9604 Detector C 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

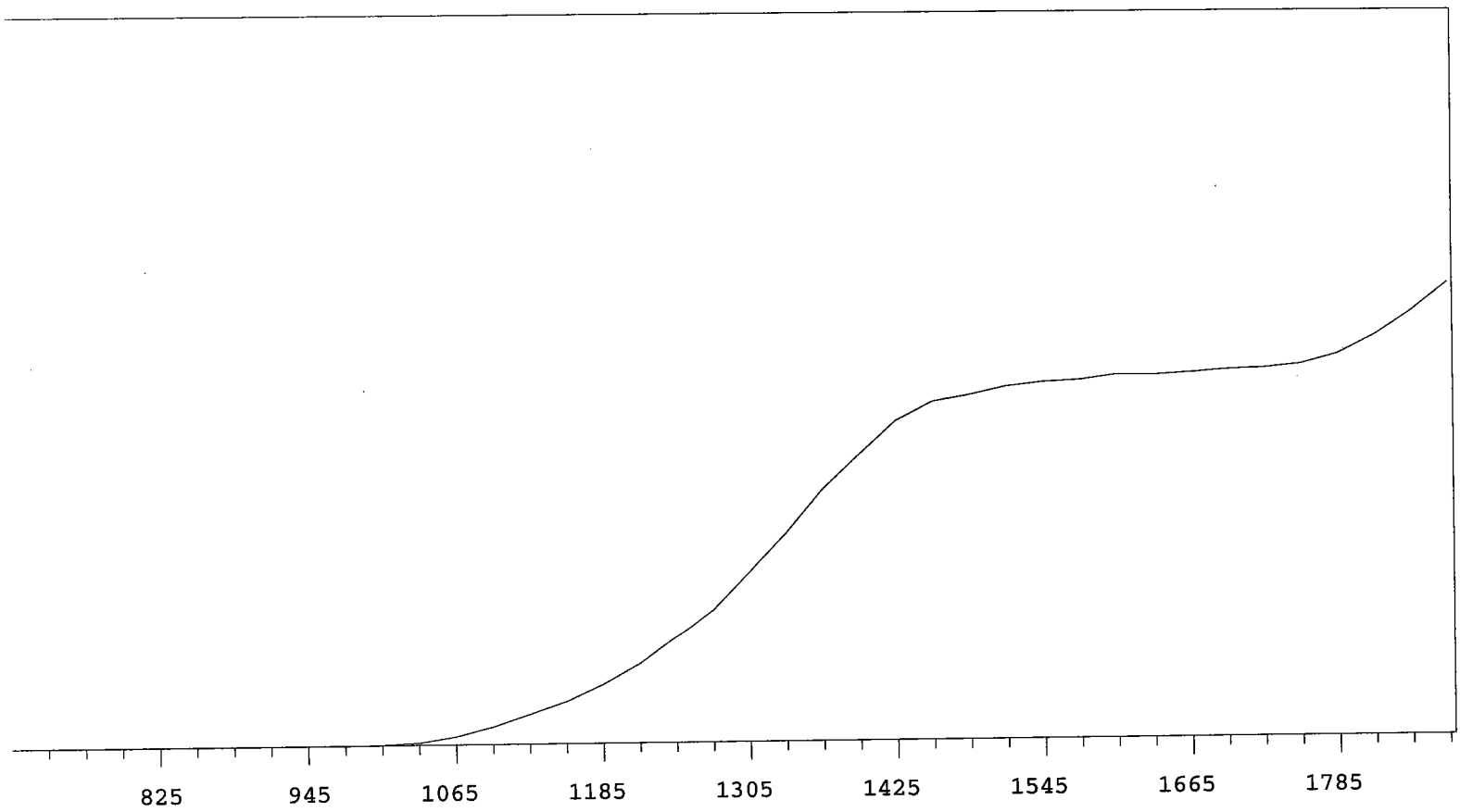


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	4	>100
1005	46	>100
1035	202	>100
1065	697	>100
1095	1532	>100
1125	2614	>100
1155	3953	>100
1185	5474	>100
1215	7466	+93.09
1245	9842	+86.73
1275	12814	+80.29

VOLTS	COUNTS	%/100 Volts
1305	16303	+72.82
1335	20309	+64.32
1365	24364	+53.82
1395	28527	+40.95
1425	31774	+28.74
1455	33631	+16.87
1485	35030	+9.25
1515	35208	+5.21
1545	35741	+3.27
1575	36019	+2.95
1605	36373	+2.21
1635	36484	+2.27
1665	36713	+2.28
1695	37093	+2.46
1725	37325	+4.17
1755	37543	+7.52
1785	38833	+13.43
1815	40656	+19.49
1845	43753	
1875	47246	

MPC 9600 Plateau Instrument 8 MPC 9604 Detector D 7/1/2009

Alpha Volts: 705 Beta Volts: 1575

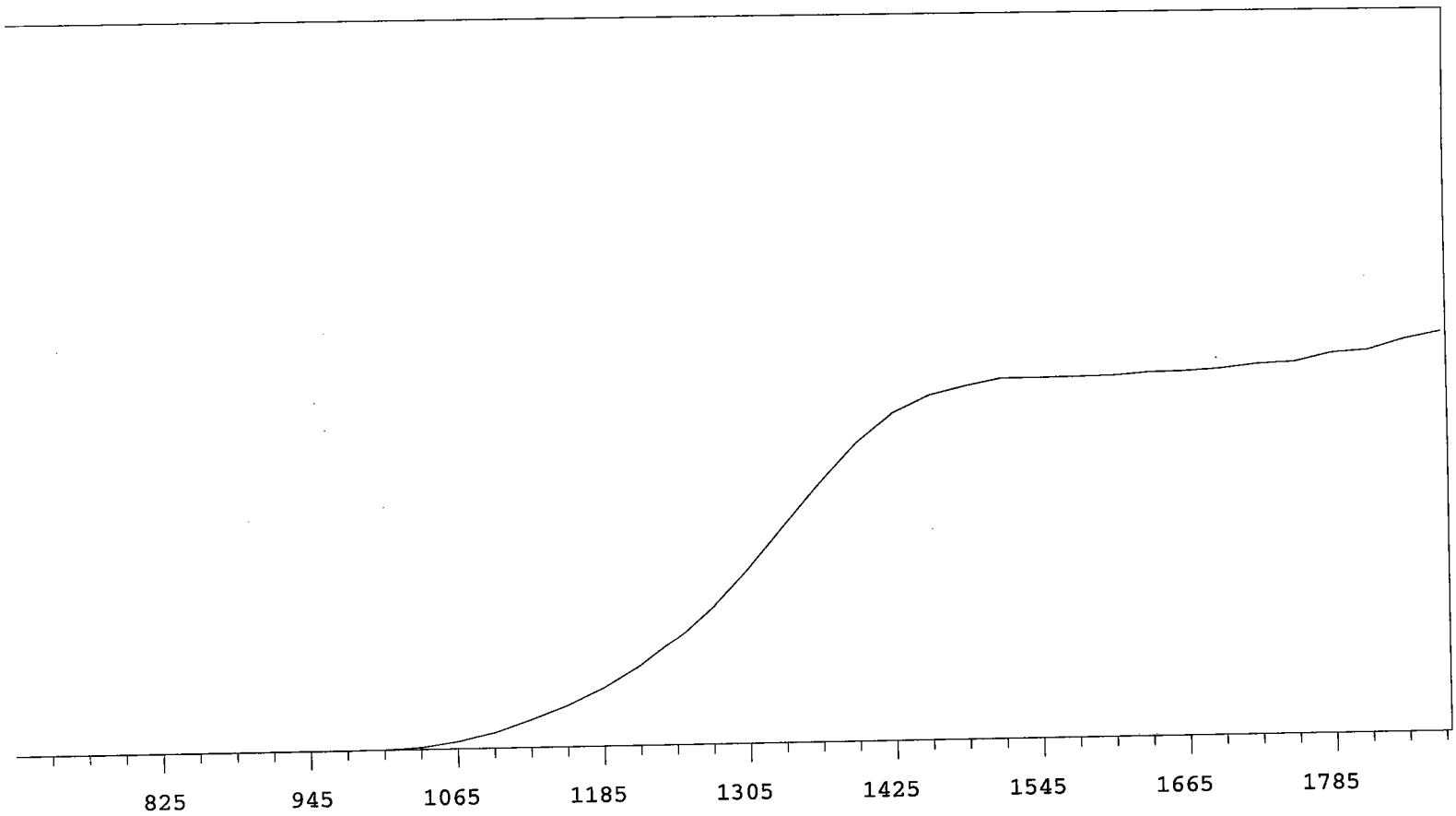


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	1	+0.00
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	5	>100
1005	47	>100
1035	243	>100
1065	792	>100
1095	1744	>100
1125	2933	>100
1155	4123	>100
1185	5780	>100
1215	7791	+91.58
1245	10478	+84.93
1275	13118	+77.50

VOLTS	COUNTS	%/100 Volts
1305	16889	+70.18
1335	20600	+61.29
1365	24824	+50.40
1395	28208	+38.85
1425	31539	+25.79
1455	33391	+16.06
1485	33991	+8.60
1515	34782	+5.01
1545	35201	+4.10
1575	35380	+2.50
1605	35849	+1.87
1635	35784	+1.79
1665	36000	+1.43
1695	36269	+2.10
1725	36381	+3.46
1755	36733	+6.86
1785	37669	+11.78
1815	39465	+16.64
1845	41803	
1875	44665	

MPC 9600 Plateau Instrument 9 MPC 9604 Detector A 7/1/2009

Alpha Volts: 870 Beta Volts: 1530

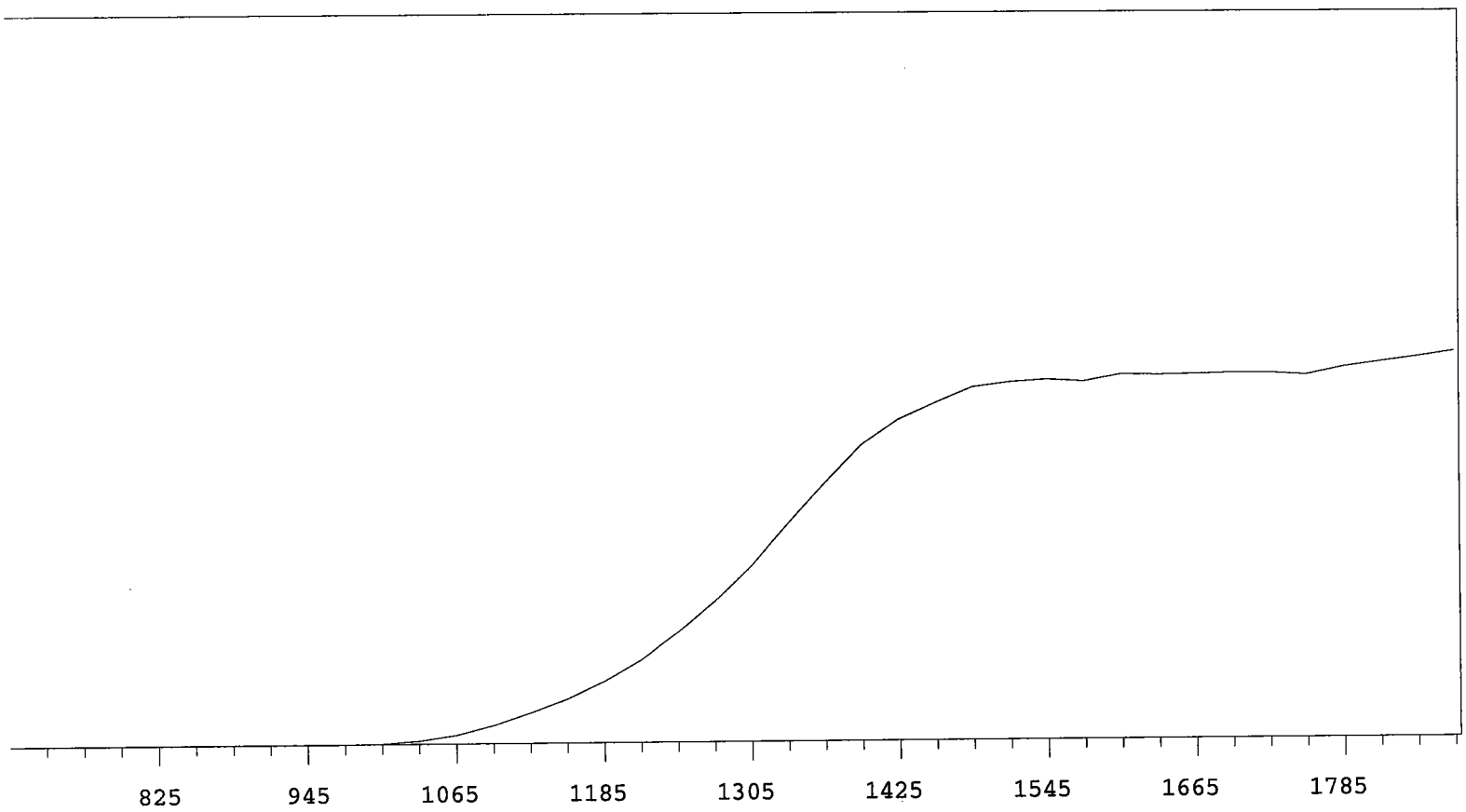


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	1	+0.00
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	2	>100
1005	33	>100
1035	203	>100
1065	668	>100
1095	1403	>100
1125	2545	>100
1155	3800	>100
1185	5363	>100
1215	7355	+95.00
1245	9807	+87.69
1275	12700	+80.28

VOLTS	COUNTS	%/100 Volts
1305	16226	+71.71
1335	20083	+61.95
1365	23913	+49.99
1395	27526	+36.97
1425	30193	+24.54
1455	31747	+14.71
1485	32544	+7.71
1515	33198	+3.66
1545	33188	+1.51
1575	33227	+0.73
1605	33278	+1.04
1635	33518	+1.38
1665	33565	+1.95
1695	33774	+1.99
1725	34135	+3.30
1755	34244	+3.67
1785	35022	+4.84
1815	35229	+5.93
1845	36179	
1875	36821	

MPC 9600 Plateau Instrument 9 MPC 9604 Detector B 7/1/2009

Alpha Volts: 870 Beta Volts: 1530

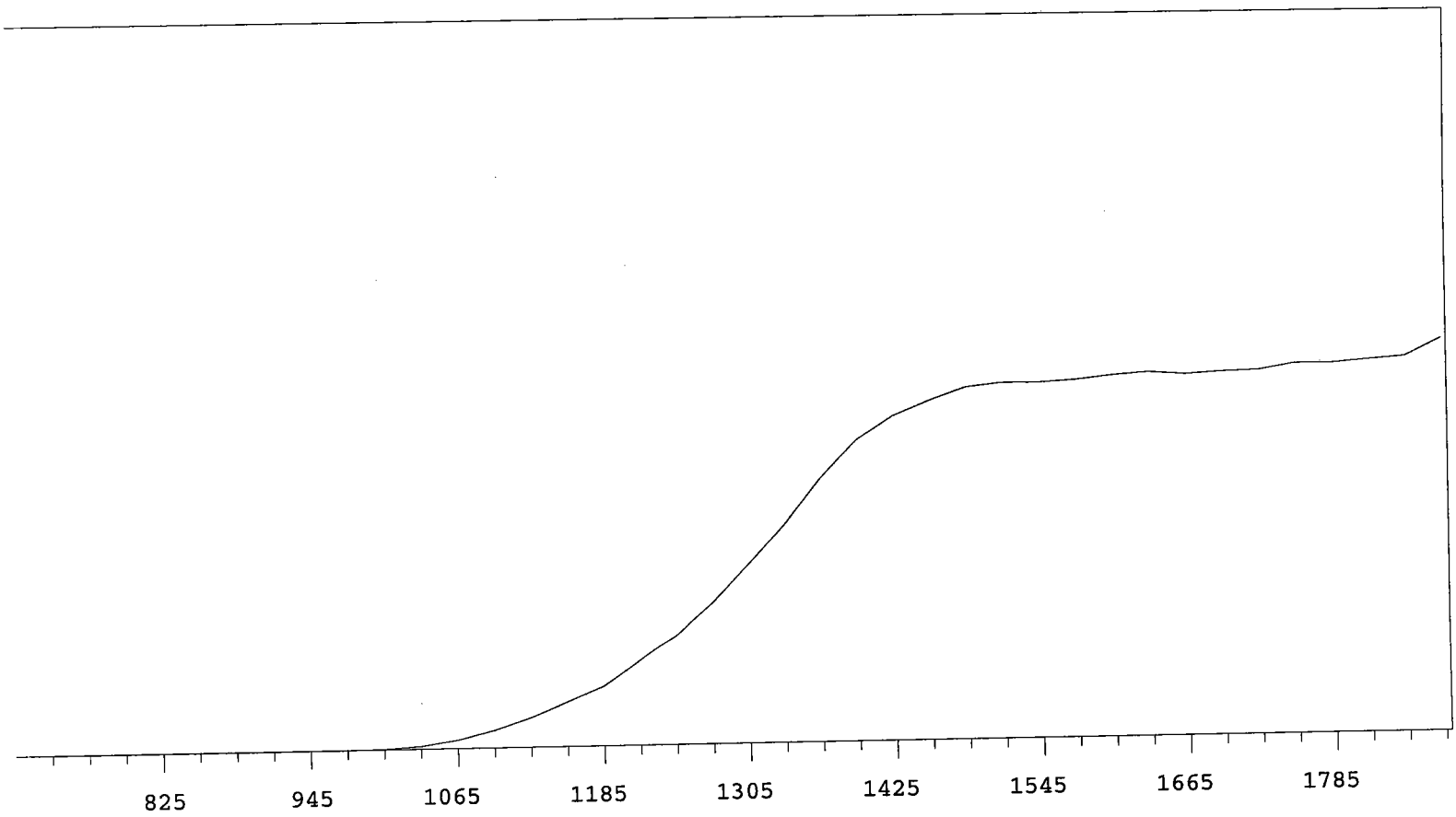


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	4	>100
1005	45	>100
1035	300	>100
1065	836	>100
1095	1742	>100
1125	2896	>100
1155	4198	>100
1185	5849	>100
1215	7887	+92.20
1245	10561	+83.55
1275	13442	+76.62

VOLTS	COUNTS	%/100 Volts
1305	16723	+68.78
1335	20749	+60.55
1365	24686	+48.78
1395	28343	+35.24
1425	30657	+24.31
1455	32208	+15.22
1485	33662	+9.32
1515	34098	+4.47
1545	34326	+2.17
1575	34133	+1.60
1605	34758	+1.41
1635	34706	+1.35
1665	34769	+0.30
1695	34830	-0.10
1725	34850	+0.90
1755	34613	+2.41
1785	35351	+3.87
1815	35849	+4.97
1845	36285	
1875	36814	

MPC 9600 Plateau Instrument 9 MPC 9604 Detector C 7/1/2009

Alpha Volts: 870 Beta Volts: 1530

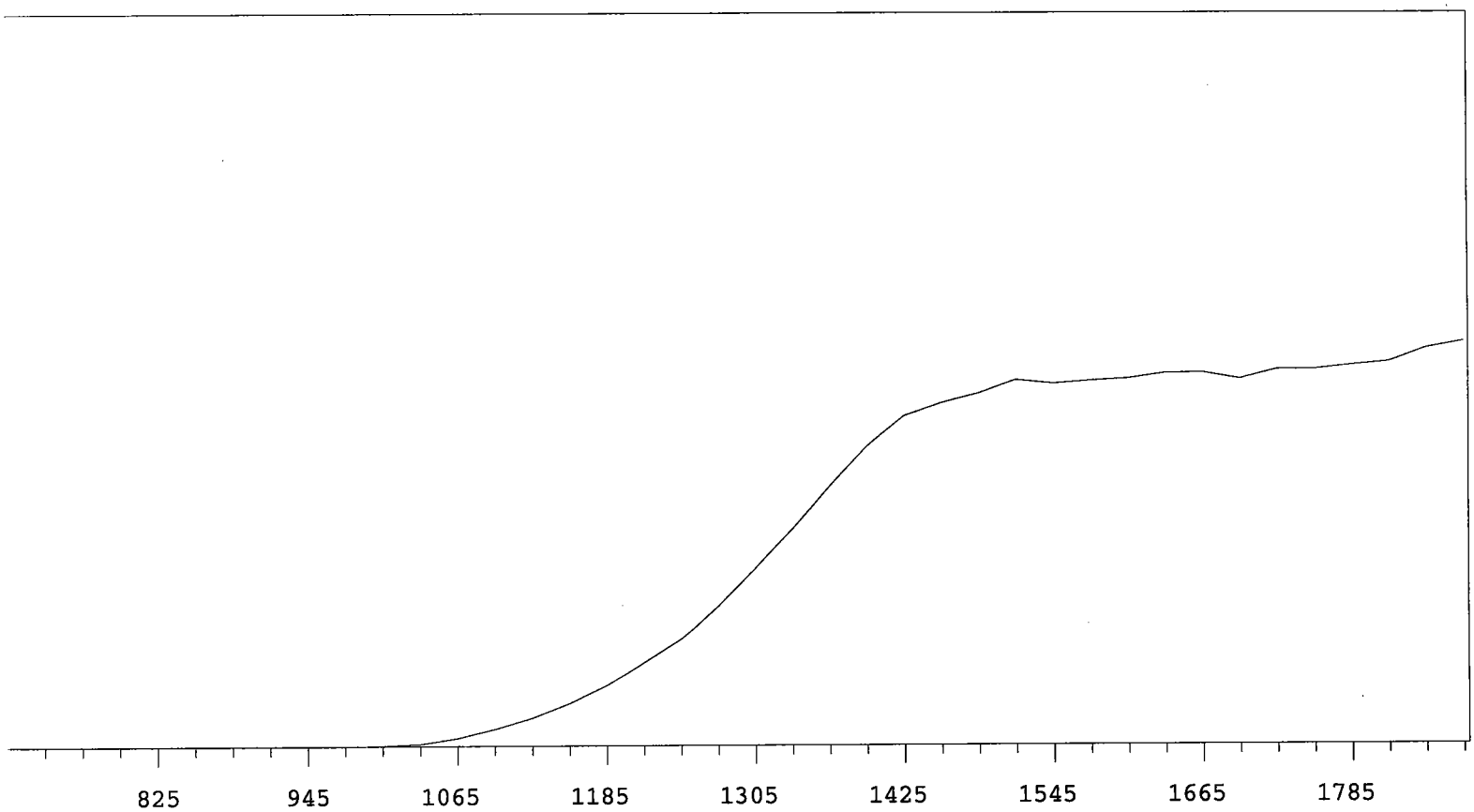


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	1	>100
915	1	>100
945	2	>100
975	3	>100
1005	64	>100
1035	349	>100
1065	970	>100
1095	1982	>100
1125	3328	>100
1155	5012	>100
1185	6669	>100
1215	9448	+92.67
1245	12293	+86.58
1275	15917	+76.99

VOLTS	COUNTS	%/100 Volts
1305	20192	+70.39
1335	24524	+60.97
1365	29650	+48.44
1395	33904	+35.09
1425	36549	+22.73
1455	38217	+13.58
1485	39628	+7.51
1515	40035	+3.73
1545	40020	+1.92
1575	40236	+2.06
1605	40680	+1.62
1635	40953	+1.03
1665	40643	+0.43
1695	40882	+1.41
1725	40979	+2.18
1755	41654	+2.20
1785	41602	+2.27
1815	41935	+4.50
1845	42259	
1875	44183	

MPC 9600 Plateau Instrument 9 MPC 9604 Detector D 7/1/2009

Alpha Volts: 870 Beta Volts: 1530

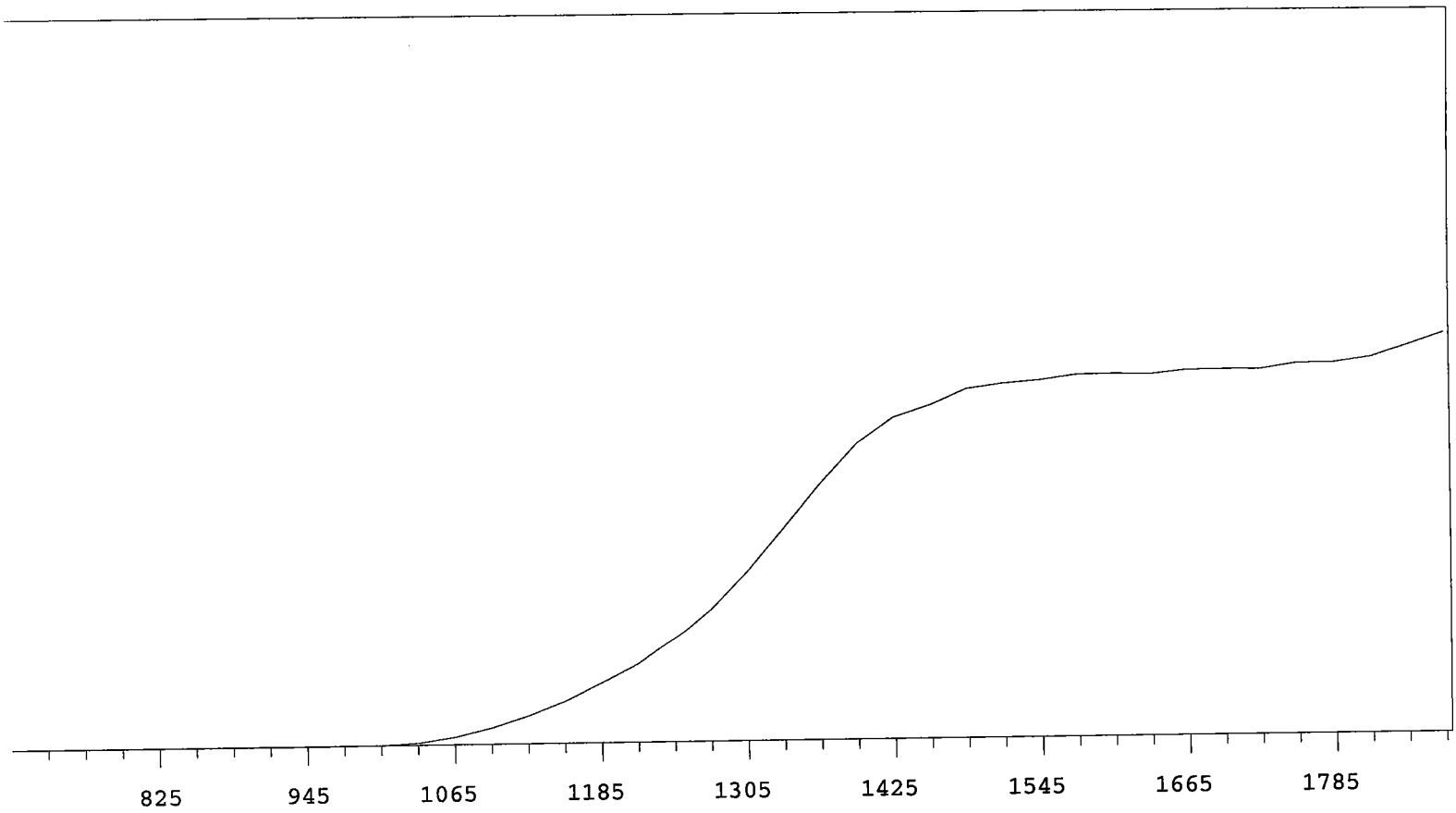


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	1	>100
945	0	>100
975	5	>100
1005	35	>100
1035	186	>100
1065	618	>100
1095	1280	>100
1125	2141	>100
1155	3268	>100
1185	4659	>100
1215	6343	+90.68
1245	8064	+83.46
1275	10497	+77.03

VOLTS	COUNTS	%/100 Volts
1305	13319	+70.94
1335	16319	+61.35
1365	19577	+50.27
1395	22498	+36.85
1425	24782	+23.90
1455	25761	+15.37
1485	26486	+8.38
1515	27503	+5.11
1545	27223	+2.67
1575	27453	+1.71
1605	27604	+2.70
1635	28021	+0.78
1665	28059	+1.05
1695	27548	+0.90
1725	28280	+2.16
1755	28290	+3.51
1785	28600	+4.46
1815	28879	+6.35
1845	29913	
1875	30417	

MPC 9600 Plateau Instrument 10 MPC 9604 Detector A 7/1/2009

Alpha Volts: 870 Beta Volts: 1552

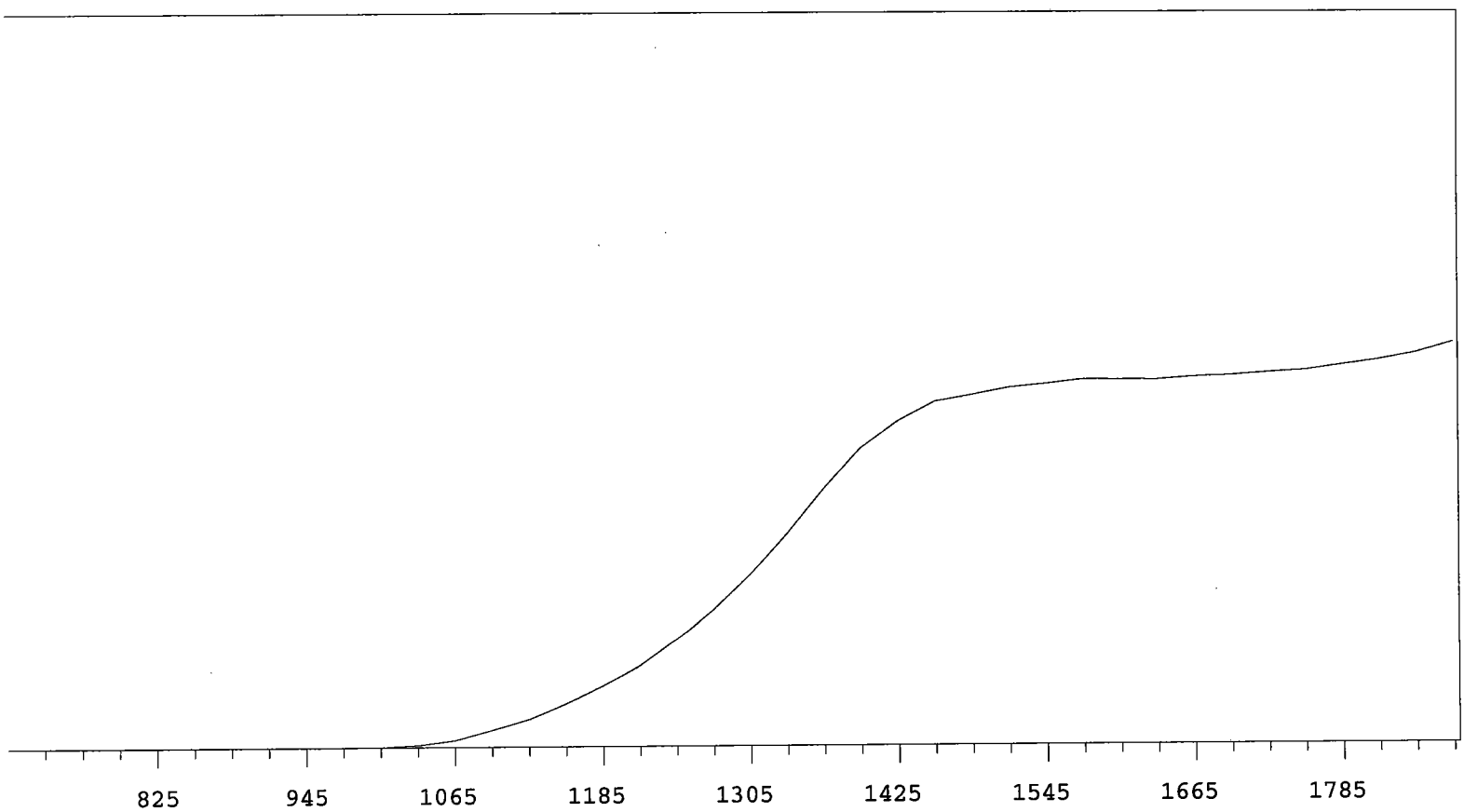


VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	1	>100
1005	37	>100
1035	198	>100
1065	687	>100
1095	1491	>100
1125	2580	>100
1155	3920	>100
1185	5588	>100
1215	7384	+91.32
1245	9794	+84.81
1275	12572	+79.73

VOLTS	COUNTS	%/100 Volts
1305	16076	+72.76
1335	19985	+63.85
1365	24102	+50.95
1395	27819	+36.01
1425	30228	+23.86
1455	31343	+14.40
1485	32811	+8.77
1515	33243	+6.10
1545	33518	+3.25
1575	34010	+1.98
1605	34061	+1.59
1635	33973	+0.97
1665	34346	+0.93
1695	34366	+1.72
1725	34341	+1.54
1755	34860	+2.47
1785	34897	+4.50
1815	35377	+6.60
1845	36458	
1875	37630	

MPC 9600 Plateau Instrument 10 MPC 9604 Detector B 7/1/2009

Alpha Volts: 870 Beta Volts: 1552

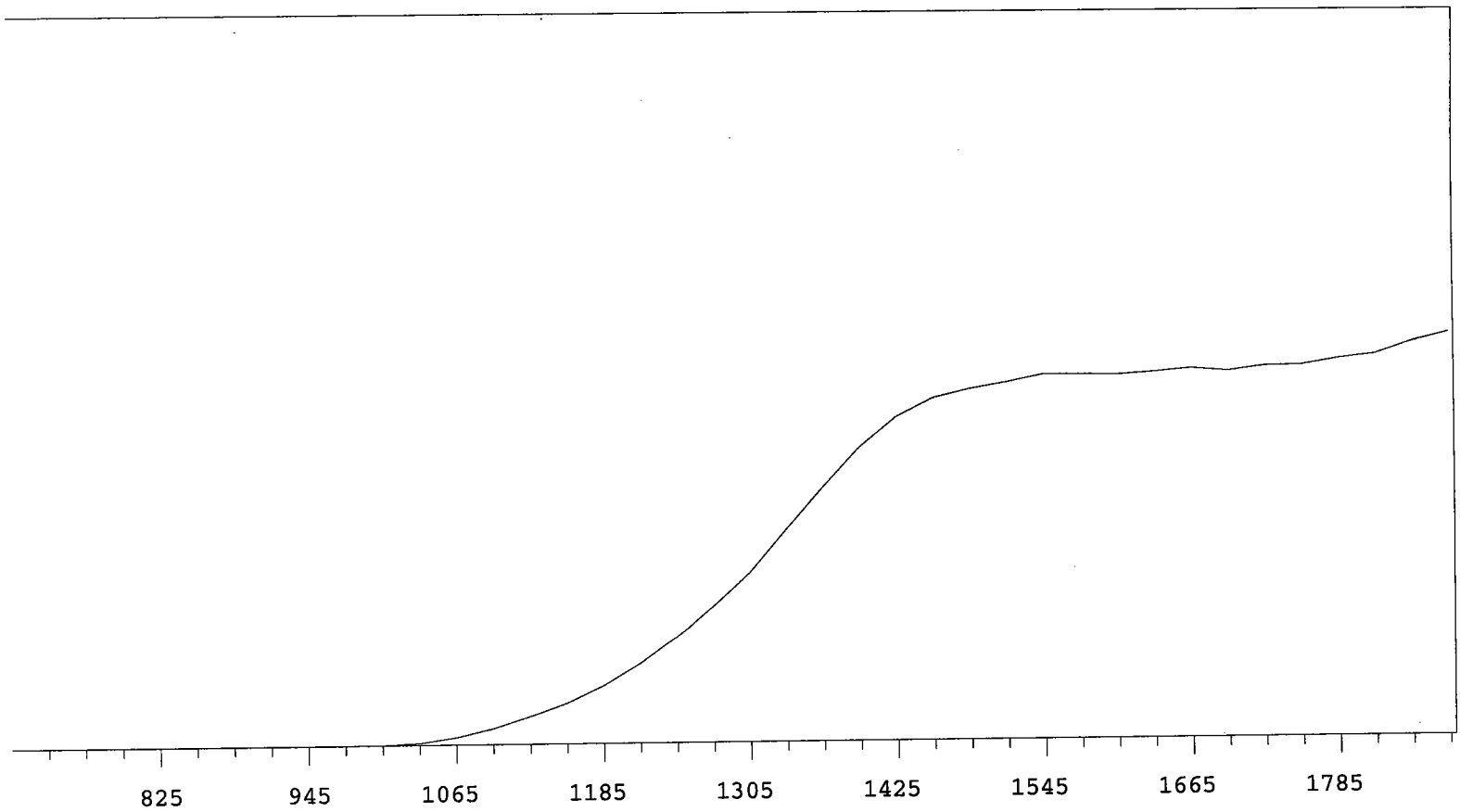


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	1	>100
975	7	>100
1005	28	>100
1035	190	>100
1065	597	>100
1095	1474	>100
1125	2383	>100
1155	3680	>100
1185	5131	>100
1215	6808	+89.95
1245	8990	+83.03
1275	11493	+77.30

VOLTS	COUNTS	%/100 Volts
1305	14469	+71.08
1335	17904	+63.07
1365	21677	+51.20
1395	25027	+38.06
1425	27237	+24.55
1455	28914	+14.61
1485	29480	+8.48
1515	30075	+5.06
1545	30374	+3.42
1575	30738	+1.68
1605	30703	+1.08
1635	30679	+0.77
1665	30902	+1.46
1695	30992	+1.89
1725	31224	+2.40
1755	31397	+3.27
1785	31826	+4.13
1815	32236	+5.59
1845	32782	
1875	33632	

MPC 9600 Plateau Instrument 10 MPC 9604 Detector C 7/1/2009

Alpha Volts: 870 Beta Volts: 1552

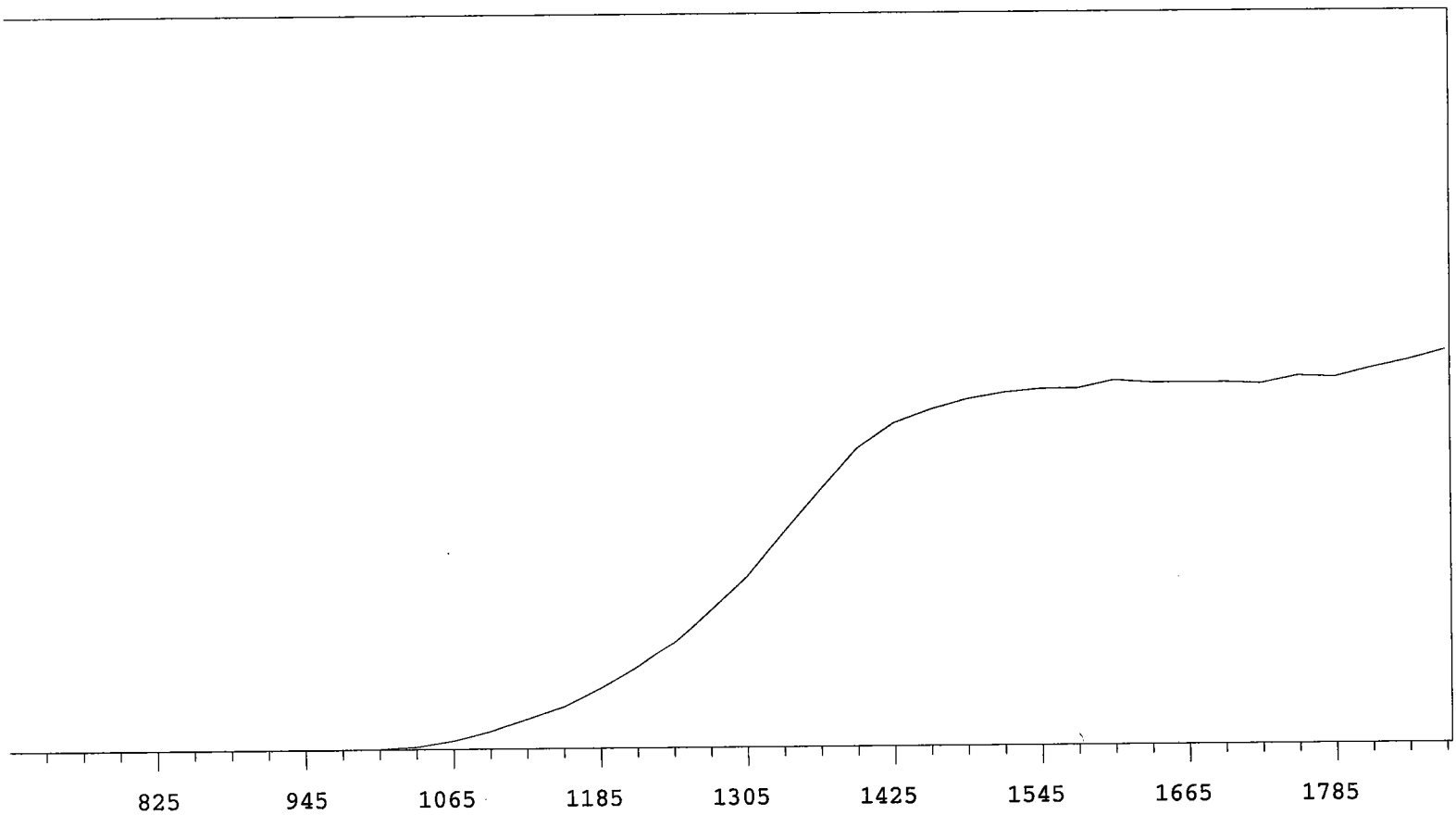


VOLTS	COUNTS	%/100 Volts
705	1	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	1	>100
915	0	>100
945	2	>100
975	2	>100
1005	36	>100
1035	220	>100
1065	780	>100
1095	1712	>100
1125	2926	>100
1155	4297	>100
1185	6097	>100
1215	8397	+95.11
1245	11155	+85.84
1275	14430	+78.79

VOLTS	COUNTS	%/100 Volts
1305	18051	+71.16
1335	22586	+62.34
1365	26973	+51.47
1395	31137	+38.24
1425	34321	+25.70
1455	36267	+15.37
1485	37197	+9.21
1515	37851	+5.38
1545	38622	+3.00
1575	38600	+1.55
1605	38538	+1.03
1635	38786	+0.91
1665	39129	+1.38
1695	38832	+1.20
1725	39323	+2.00
1755	39390	+3.35
1785	40031	+4.86
1815	40466	+6.64
1845	41713	
1875	42620	

MPC 9600 Plateau Instrument 10 MPC 9604 Detector D 7/1/2009

Alpha Volts: 870 Beta Volts: 1552

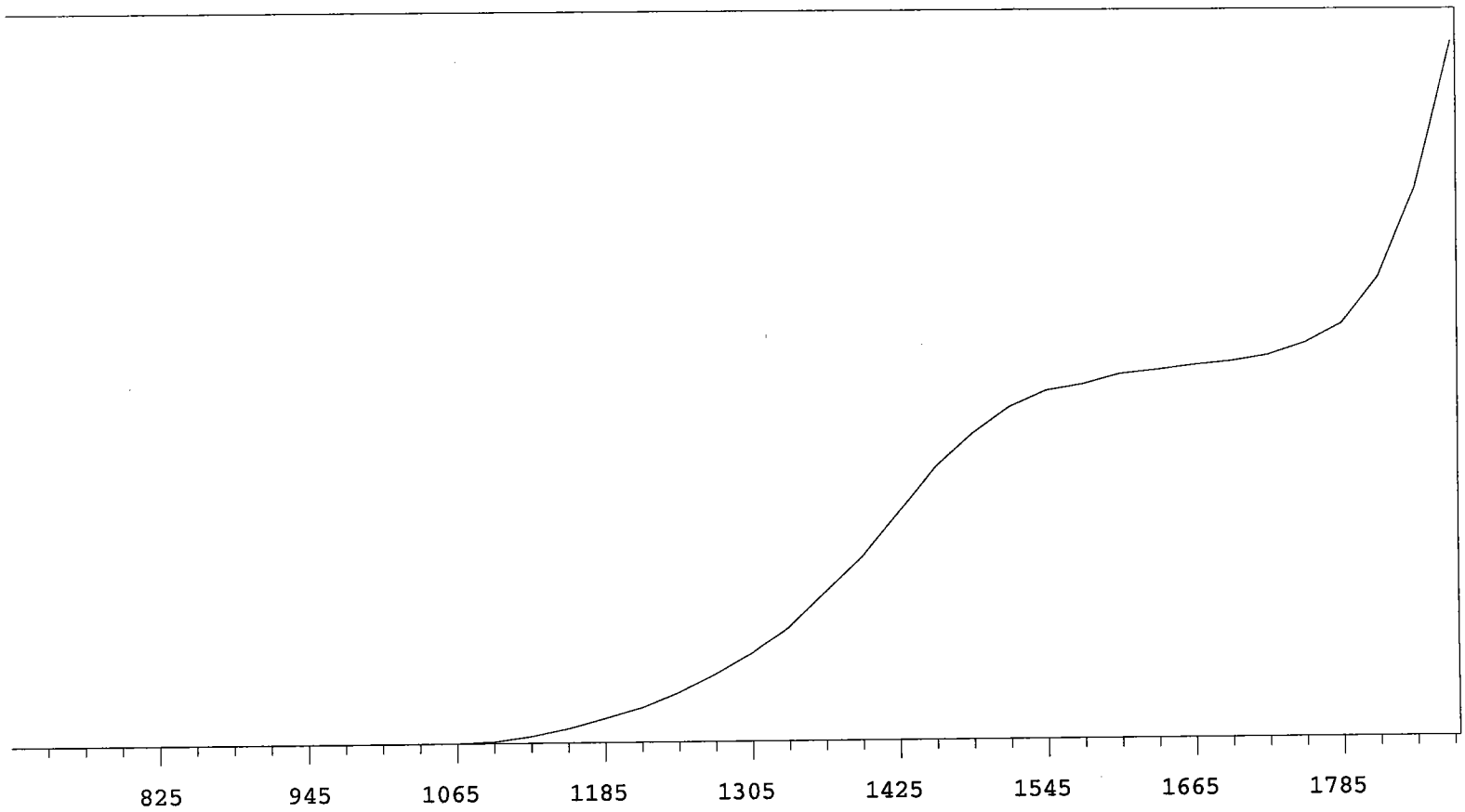


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	3	>100
1005	49	>100
1035	244	>100
1065	764	>100
1095	1584	>100
1125	2677	>100
1155	3763	>100
1185	5395	>100
1215	7350	+93.71
1245	9655	+83.52
1275	12504	+76.82

VOLTS	COUNTS	%/100 Volts
1305	15430	+69.87
1335	19258	+61.49
1365	23018	+50.06
1395	26562	+35.34
1425	28750	+22.67
1455	29911	+13.20
1485	30798	+8.01
1515	31375	+4.83
1545	31684	+3.74
1575	31721	+2.38
1605	32398	+1.44
1635	32154	+0.64
1665	32157	-0.77
1695	32152	+0.99
1725	32029	+1.41
1755	32699	+3.00
1785	32566	+4.71
1815	33351	+5.92
1845	34031	
1875	34941	

Plateau 7/1/09 Instrument 11 MPC 9604 Detector A 7/1/2009

Alpha Volts: 1515 Beta Volts: 1515

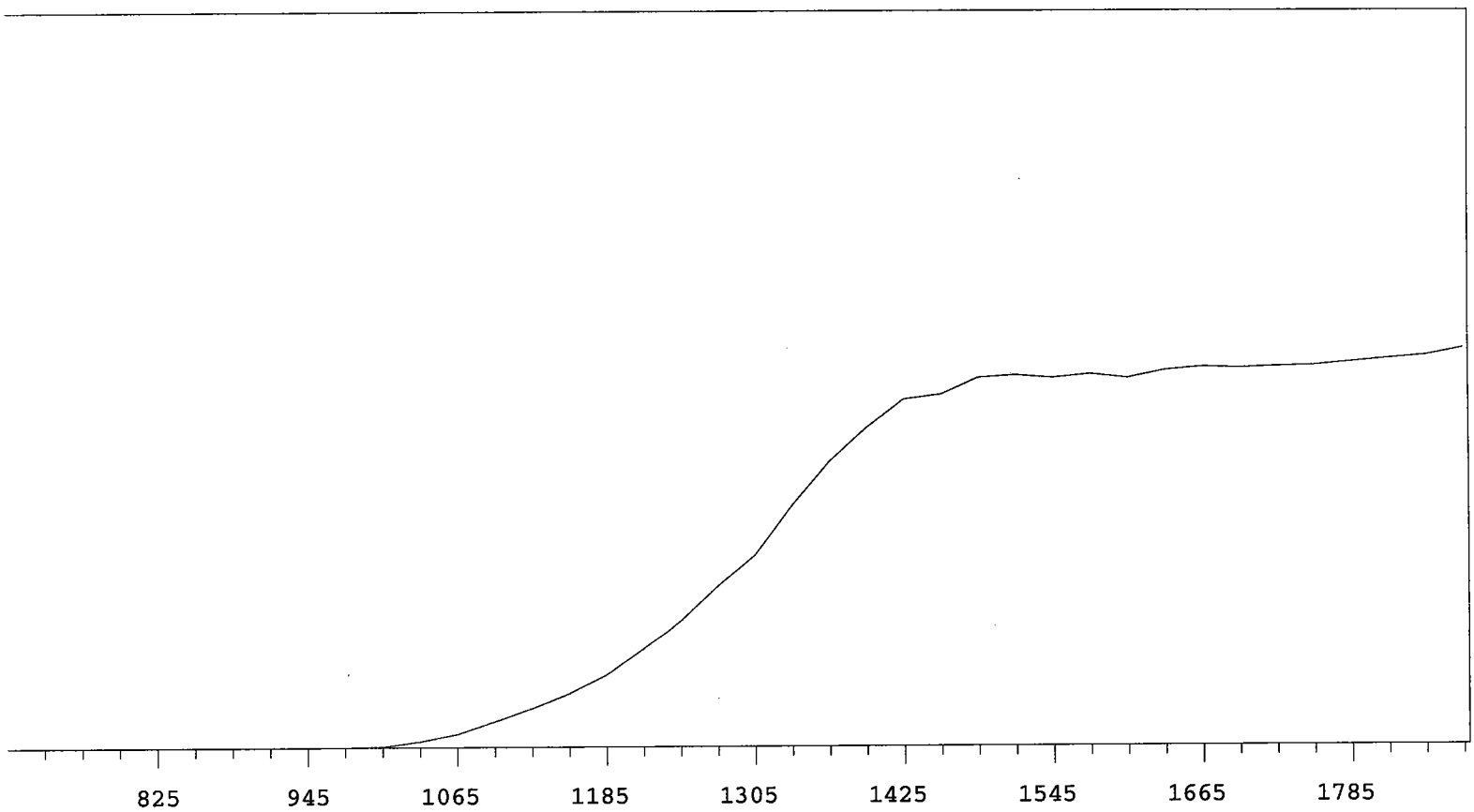


VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	1	+0.00
975	0	>100
1005	0	>100
1035	2	>100
1065	9	>100
1095	61	>100
1125	248	>100
1155	528	>100
1185	882	>100
1215	1270	>100
1245	1786	>100
1275	2478	+93.67

VOLTS	COUNTS	%/100 Volts
1305	3225	+87.64
1335	4189	+80.15
1365	5428	+75.12
1395	6662	+68.60
1425	8241	+58.14
1455	9857	+46.65
1485	11018	+33.24
1515	11953	+21.01
1545	12538	+13.57
1575	12760	+8.35
1605	13114	+5.84
1635	13258	+4.78
1665	13430	+3.99
1695	13551	+5.46
1725	13771	+8.65
1755	14204	+16.44
1785	14916	+30.03
1815	16579	+48.74
1845	19717	
1875	25029	

Plateau 7/1/09 Instrument 11 MPC 9604 Detector B 7/1/2009

Alpha Volts: 1515 Beta Volts: 1515

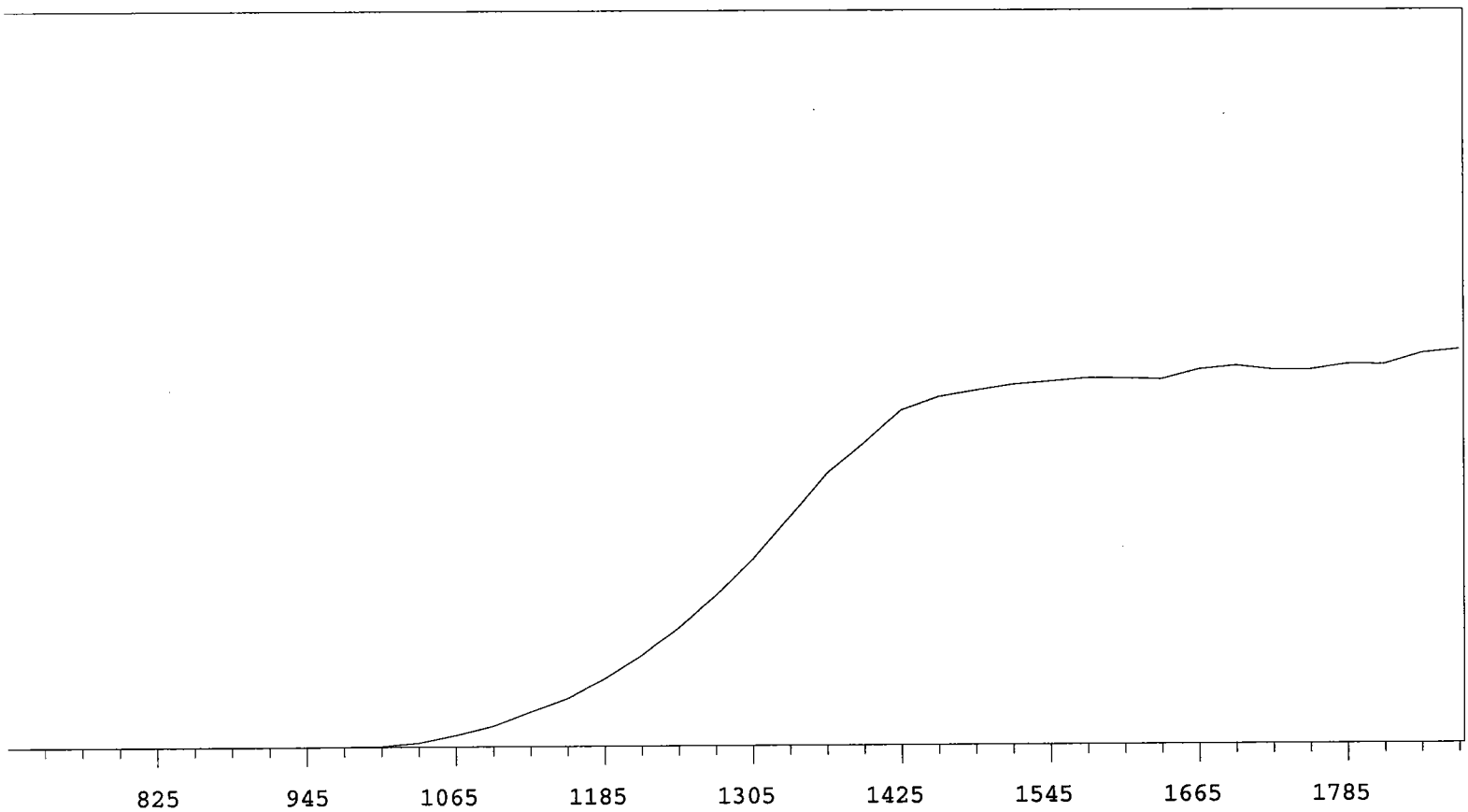


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	1	>100
945	0	>100
975	11	>100
1005	47	>100
1035	280	>100
1065	610	>100
1095	1192	>100
1125	1789	>100
1155	2466	>100
1185	3337	+94.91
1215	4526	+88.85
1245	5885	+78.40
1275	7518	+72.09

VOLTS	COUNTS	%/100 Volts
1305	8947	+65.63
1335	11238	+56.58
1365	13246	+46.66
1395	14838	+30.69
1425	16166	+20.11
1455	16396	+11.95
1485	17161	+5.61
1515	17274	+3.59
1545	17144	-0.00
1575	17323	+0.80
1605	17136	+2.21
1635	17484	+1.94
1665	17638	+2.16
1695	17580	+0.85
1725	17655	+1.05
1755	17700	+1.98
1785	17857	+2.38
1815	18006	+3.36
1845	18140	
1875	18468	

Plateau 7/1/09 Instrument 11 MPC 9604 Detector C 7/1/2009

Alpha Volts: 1515 Beta Volts: 1515

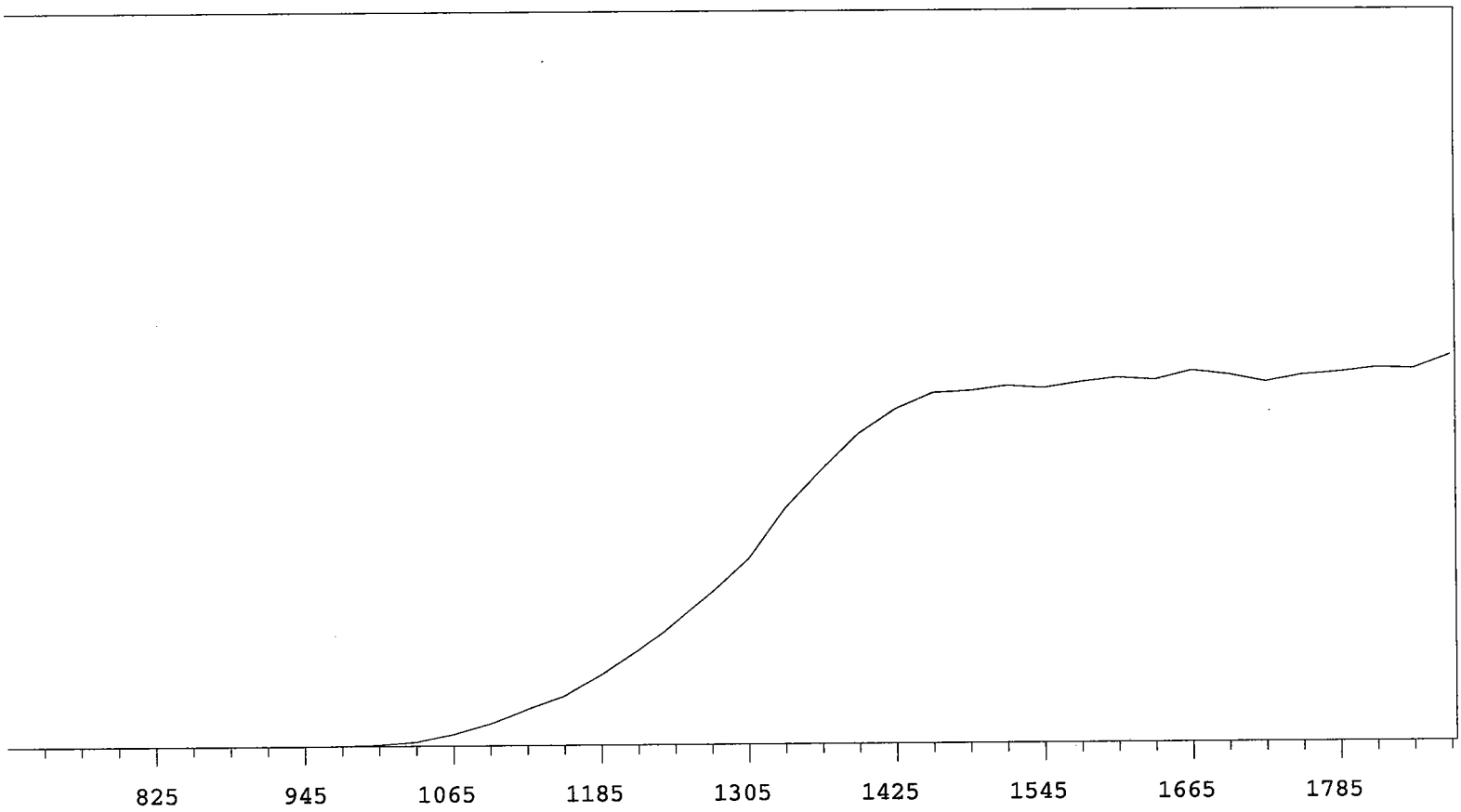


VOLTS	COUNTS	%/100 Volts
705	1	
735	0	
765	0	+0.00
795	0	>100
825	1	+0.00
855	0	>100
885	0	+0.00
915	0	>100
945	1	>100
975	7	>100
1005	46	>100
1035	191	>100
1065	540	>100
1095	957	>100
1125	1597	>100
1155	2217	>100
1185	3154	+98.74
1215	4239	+89.75
1245	5550	+79.98
1275	6980	+73.12

VOLTS	COUNTS	%/100 Volts
1305	8636	+66.44
1335	10593	+56.56
1365	12582	+46.23
1395	13957	+33.45
1425	15443	+21.49
1455	16048	+13.14
1485	16331	+6.45
1515	16603	+4.19
1545	16736	+2.73
1575	16884	+1.11
1605	16875	+1.91
1635	16813	+2.86
1665	17257	+2.60
1695	17425	+1.58
1725	17238	+0.49
1755	17230	+0.63
1785	17482	+3.27
1815	17468	+4.46
1845	17977	
1875	18163	

Plateau 7/1/09 Instrument 11 MPC 9604 Detector D 7/1/2009

Alpha Volts: 1515 Beta Volts: 1515

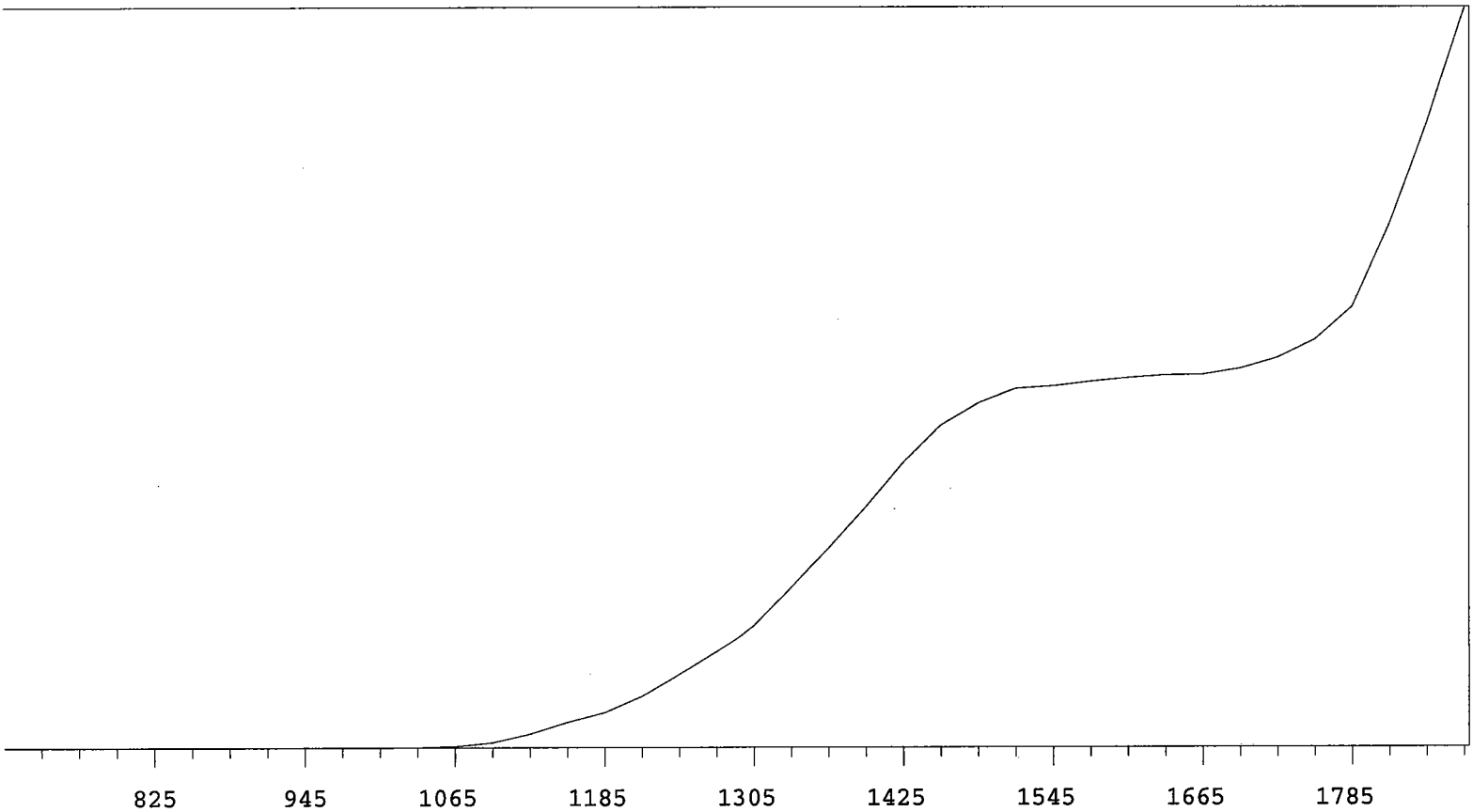


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	1	+83.33
885	1	+55.56
915	0	>100
945	1	>100
975	9	>100
1005	60	>100
1035	173	>100
1065	480	>100
1095	911	>100
1125	1508	>100
1155	2024	>100
1185	2872	+97.38
1215	3858	+89.30
1245	5070	+78.02
1275	6322	+73.30

VOLTS	COUNTS	%/100 Volts
1305	7679	+65.97
1335	9737	+57.57
1365	11301	+45.87
1395	12767	+31.71
1425	13767	+19.90
1455	14399	+10.72
1485	14467	+4.38
1515	14671	+2.12
1545	14576	+2.61
1575	14808	+1.80
1605	14974	+3.15
1635	14872	+1.76
1665	15248	-0.41
1695	15067	-0.27
1725	14784	-0.43
1755	15044	+2.01
1785	15163	+2.82
1815	15333	+3.61
1845	15278	
1875	15817	

Plateau 7/1/09 Instrument 12 MPC 9604 Detector A 7/1/2009

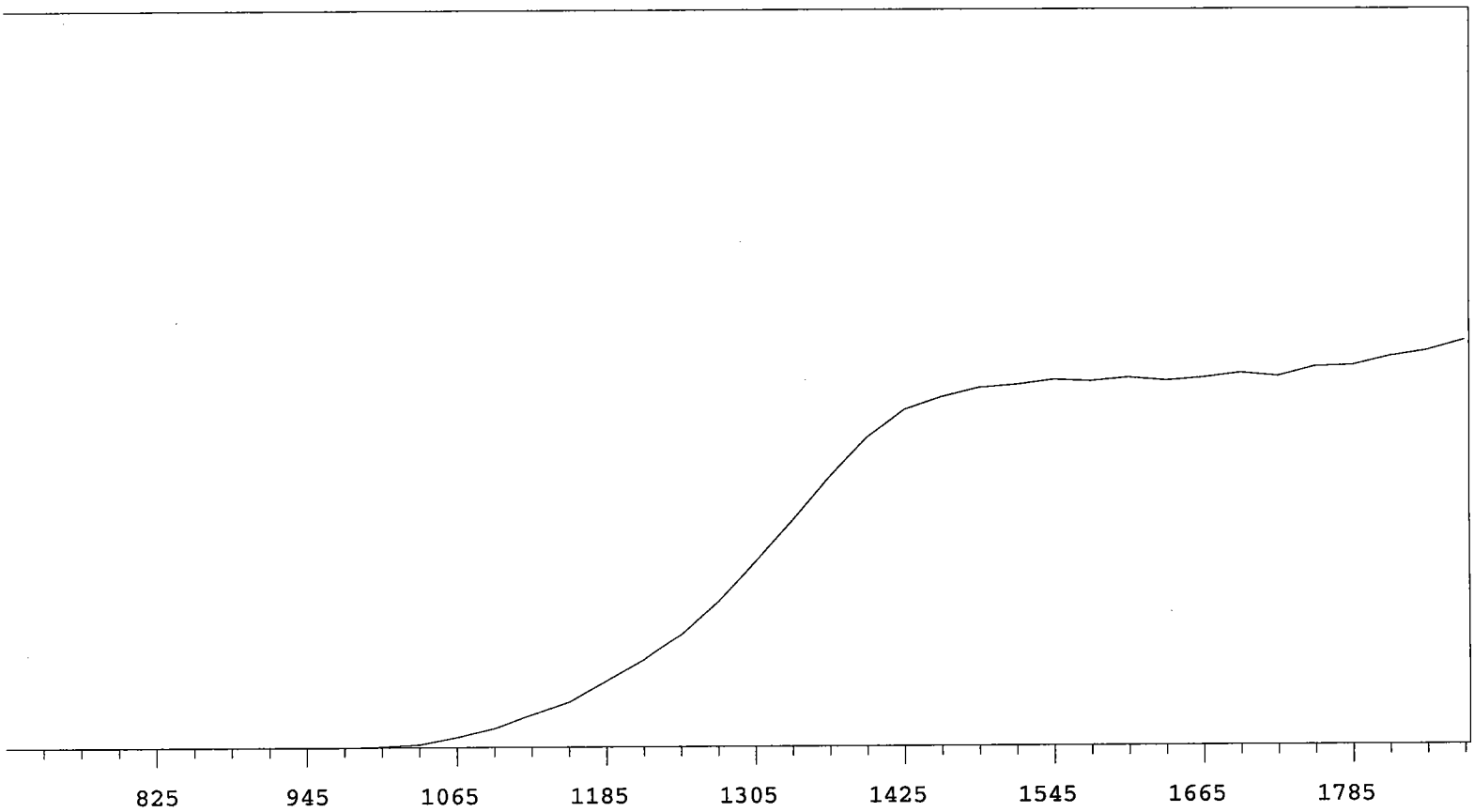
Alpha Volts: 705 Beta Volts: 1515



VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	1	>100
1005	3	>100
1035	17	>100
1065	84	>100
1095	267	>100
1125	709	>100
1155	1299	>100
1185	1813	>100
1215	2638	>100
1245	3777	+96.47
1275	4915	+87.98
1305	6302	+80.03
1335	8191	+73.78
1365	10140	+66.18
1395	12247	+55.83
1425	14468	+43.92
1455	16303	+31.28
1485	17411	+18.64
1515	18150	+9.87
1545	18275	+5.30
1575	18496	+3.16
1605	18685	+2.66
1635	18820	+2.63
1665	18855	+4.16
1695	19152	+7.70
1725	19706	+13.90
1755	20640	+26.51
1785	22308	+40.92
1815	26460	+51.46
1845	31616	
1875	37348	

Plateau 7/1/09 Instrument 12 MPC 9604 Detector B 7/1/2009

Alpha Volts: 705 Beta Volts: 1515

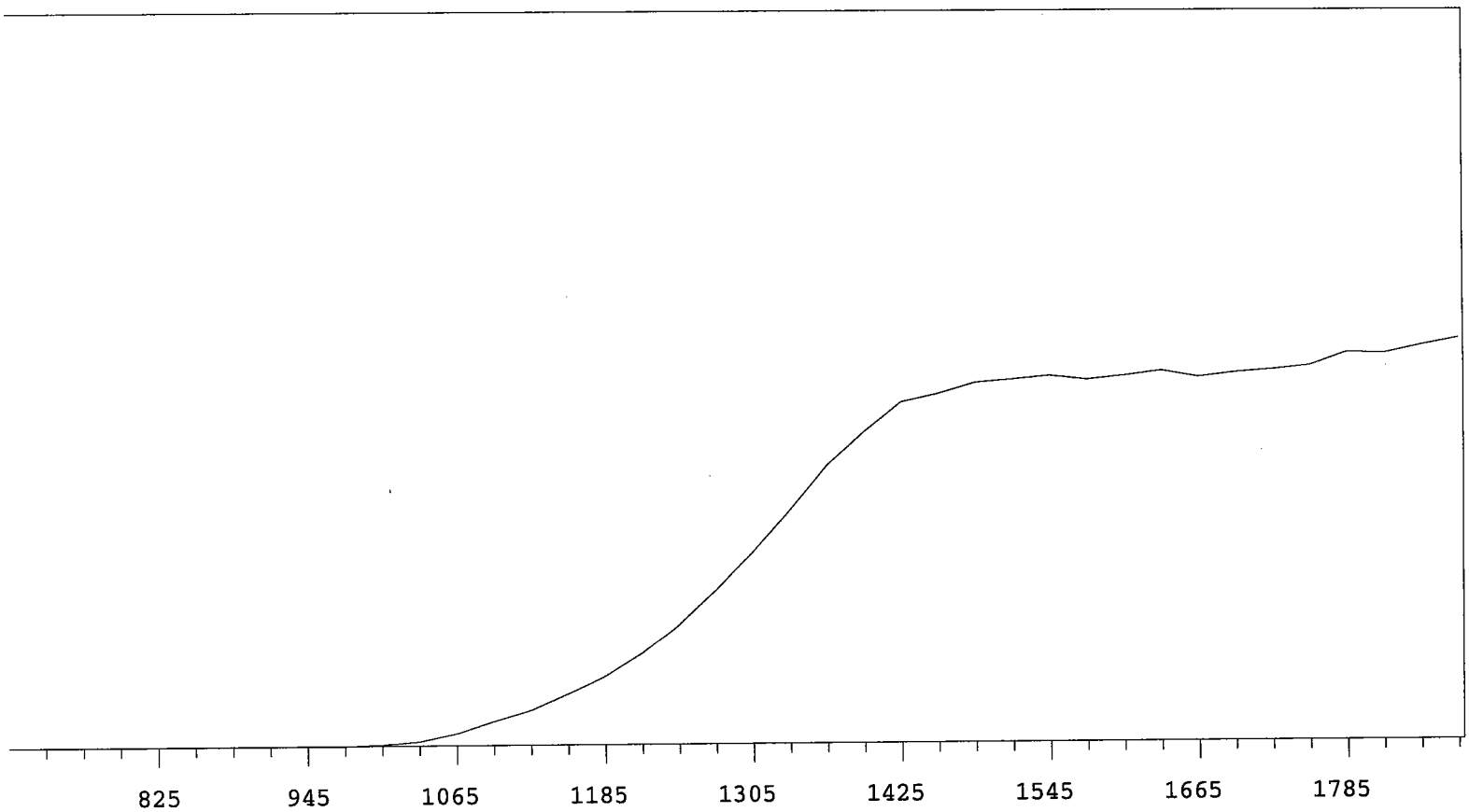


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	1	+83.33
885	1	-83.33
915	0	-55.56
945	0	>100
975	1	>100
1005	43	>100
1035	165	>100
1065	557	>100
1095	1055	>100
1125	1775	>100
1155	2470	>100
1185	3617	+98.46
1215	4757	+90.95
1245	6186	+83.59
1275	8021	+77.85

VOLTS	COUNTS	%/100 Volts
1305	10207	+70.42
1335	12473	+60.75
1365	14900	+48.87
1395	17101	+35.36
1425	18643	+22.53
1455	19350	+12.34
1485	19848	+6.68
1515	20014	+3.51
1545	20278	+2.03
1575	20186	+0.80
1605	20375	+0.32
1635	20209	+1.36
1665	20364	+0.83
1695	20607	+2.43
1725	20429	+2.51
1755	20924	+3.64
1785	20984	+5.11
1815	21470	+5.63
1845	21773	
1875	22346	

Plateau 7/1/09 Instrument 12 MPC 9604 Detector C 7/1/2009

Alpha Volts: 705 Beta Volts: 1515

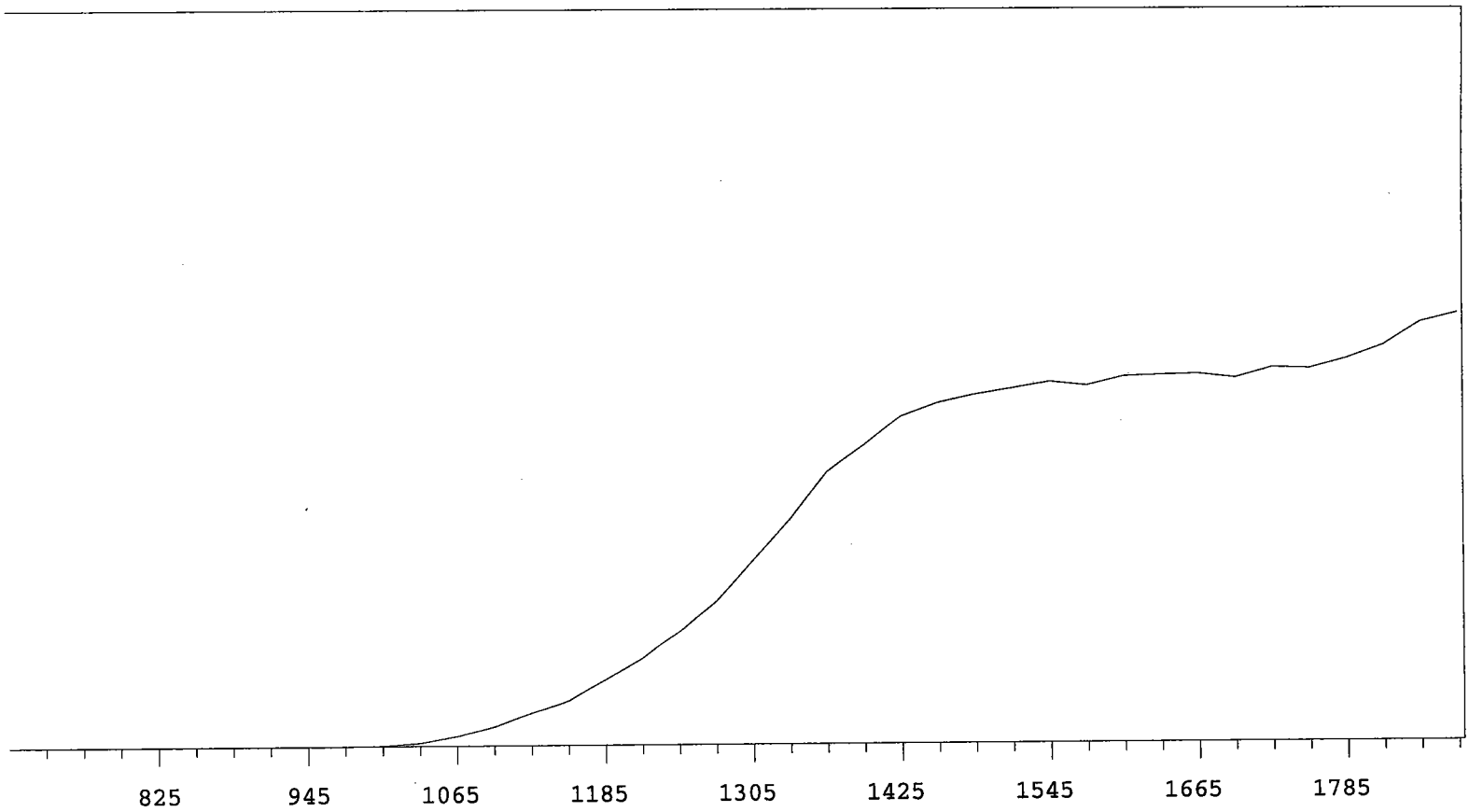


VOLTS	COUNTS	%/100 Volts
705	1	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	1	+0.00
915	0	>100
945	0	>100
975	7	>100
1005	52	>100
1035	214	>100
1065	590	>100
1095	1201	>100
1125	1759	>100
1155	2569	>100
1185	3440	+95.13
1215	4583	+87.74
1245	5985	+81.67
1275	7682	+74.54

VOLTS	COUNTS	%/100 Volts
1305	9543	+67.01
1335	11617	+56.47
1365	13791	+45.47
1395	15387	+31.66
1425	16819	+20.02
1455	17210	+11.63
1485	17742	+6.05
1515	17892	+3.04
1545	18070	+1.09
1575	17856	+1.43
1605	18054	+0.42
1635	18287	+1.06
1665	17969	+0.78
1695	18187	+1.48
1725	18317	+4.89
1755	18518	+4.76
1785	19156	+5.18
1815	19100	+5.18
1845	19496	
1875	19842	

Plateau 7/1/09 Instrument 12 MPC 9604 Detector D 7/1/2009

Alpha Volts: 705 Beta Volts: 1515

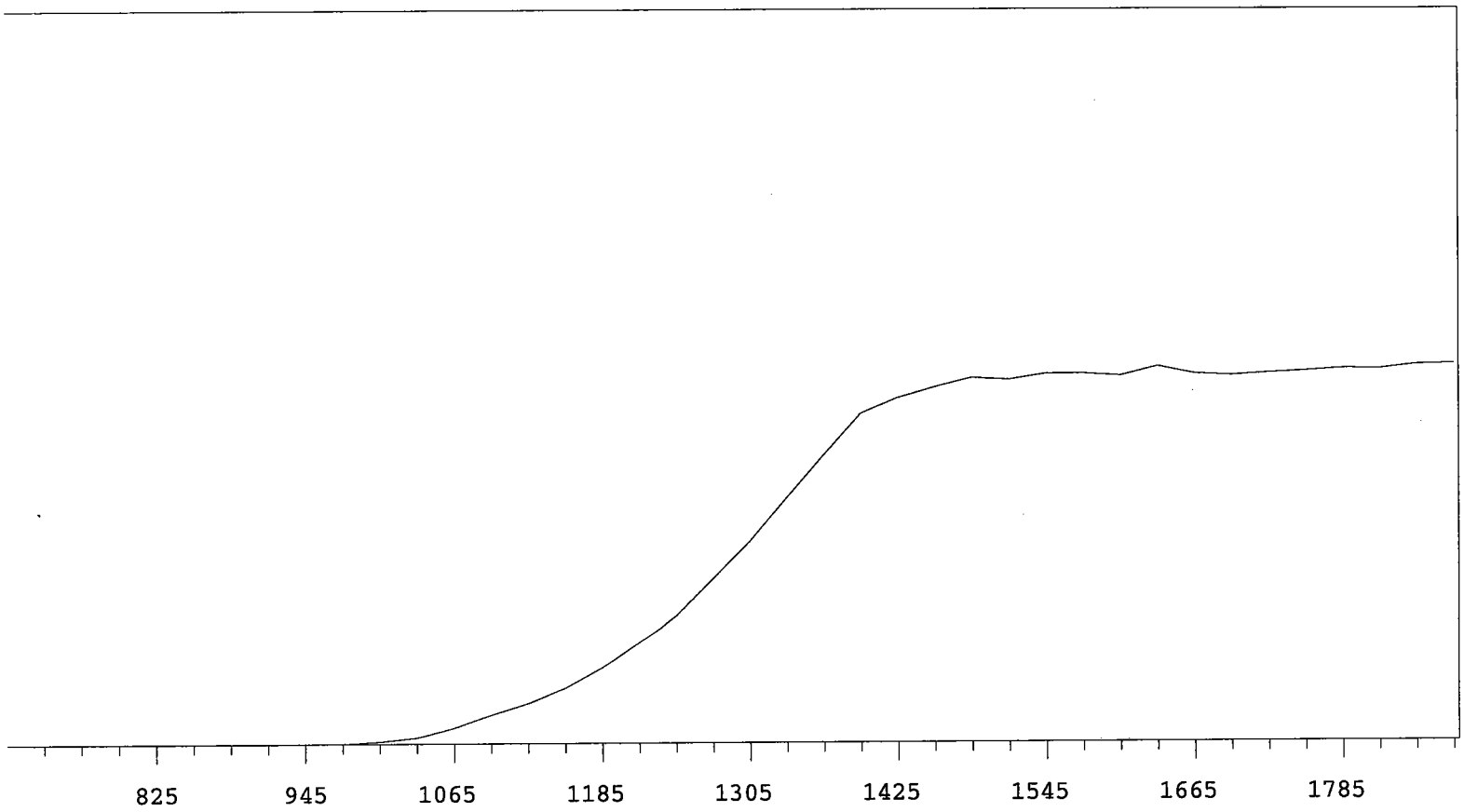


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	4	>100
1005	26	>100
1035	169	>100
1065	483	>100
1095	955	>100
1125	1639	>100
1155	2233	>100
1185	3262	+98.61
1215	4306	+89.77
1245	5662	+82.36
1275	7113	+76.36

VOLTS	COUNTS	%/100 Volts
1305	9144	+69.92
1335	11120	+58.43
1365	13399	+45.40
1395	14711	+32.57
1425	16134	+20.69
1455	16805	+13.46
1485	17209	+7.90
1515	17500	+4.31
1545	17812	+3.48
1575	17629	+2.80
1605	18066	+2.23
1635	18122	+1.44
1665	18166	+1.20
1695	17967	+1.60
1725	18469	+3.41
1755	18409	+6.35
1785	18884	+9.47
1815	19535	+11.98
1845	20630	
1875	21076	

Plateau 7/1/09 Instrument 13 MPC 9604 Detector A 7/1/2009

Alpha Volts: 705 Beta Volts: 1515

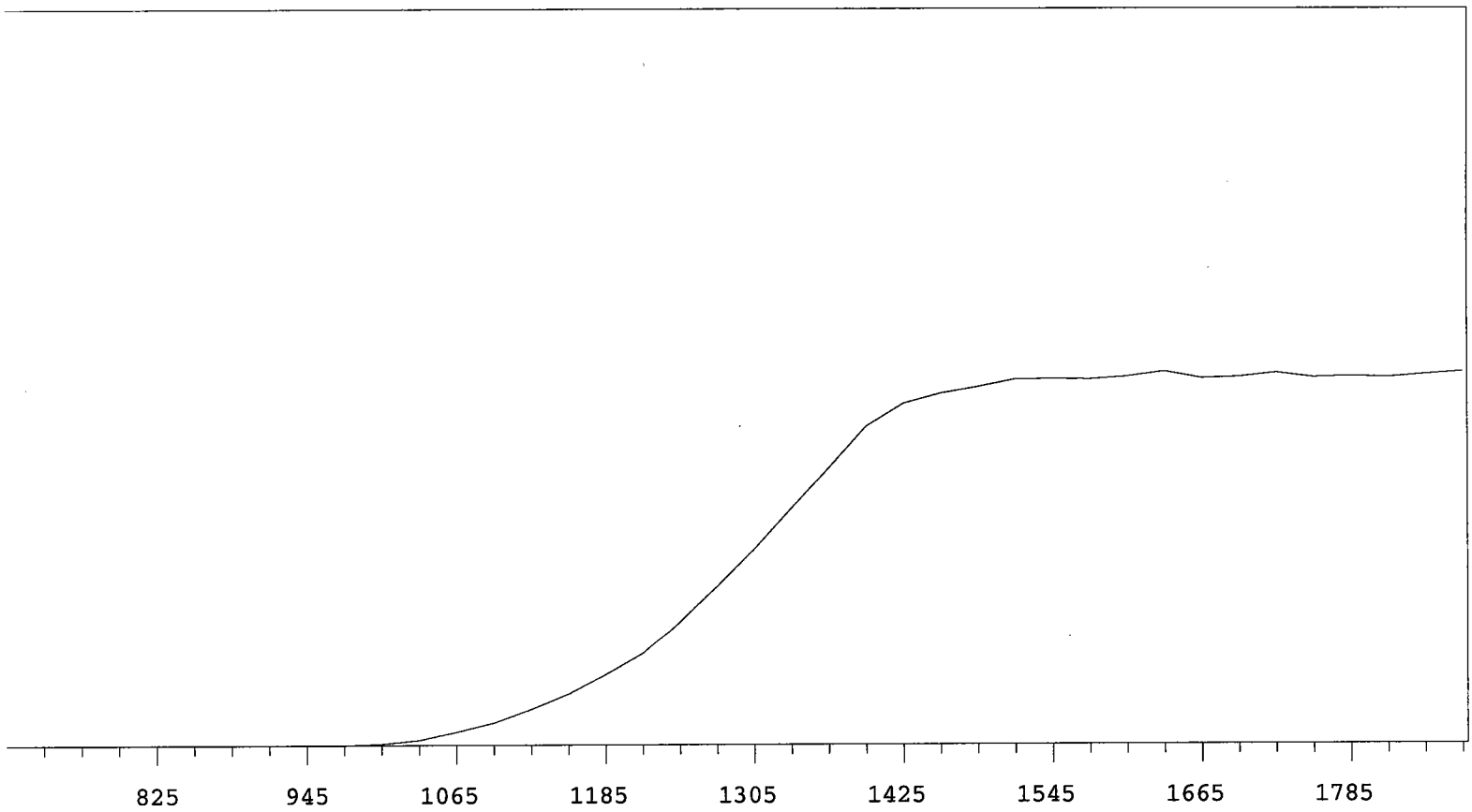


VOLTS	COUNTS	%/100 Volts
705	0	
735	1	
765	0	+55.56
795	2	>100
825	0	+0.00
855	0	>100
885	1	>100
915	0	>100
945	1	>100
975	14	>100
1005	104	>100
1035	281	>100
1065	720	>100
1095	1302	>100
1125	1834	>100
1155	2544	>100
1185	3485	+92.28
1215	4624	+85.50
1245	5878	+77.82
1275	7515	+71.49

VOLTS	COUNTS	%/100 Volts
1305	9209	+64.55
1335	11200	+55.94
1365	13123	+43.27
1395	14957	+29.04
1425	15658	+17.41
1455	16123	+8.01
1485	16530	+4.92
1515	16437	+2.71
1545	16704	+0.83
1575	16707	+2.14
1605	16602	+0.55
1635	17024	-0.28
1665	16684	-0.42
1695	16597	-0.85
1725	16711	+1.27
1755	16796	+1.51
1785	16903	+1.57
1815	16880	+1.46
1845	17066	
1875	17085	

Plateau 7/1/09 Instrument 13 MPC 9604 Detector B 7/1/2009

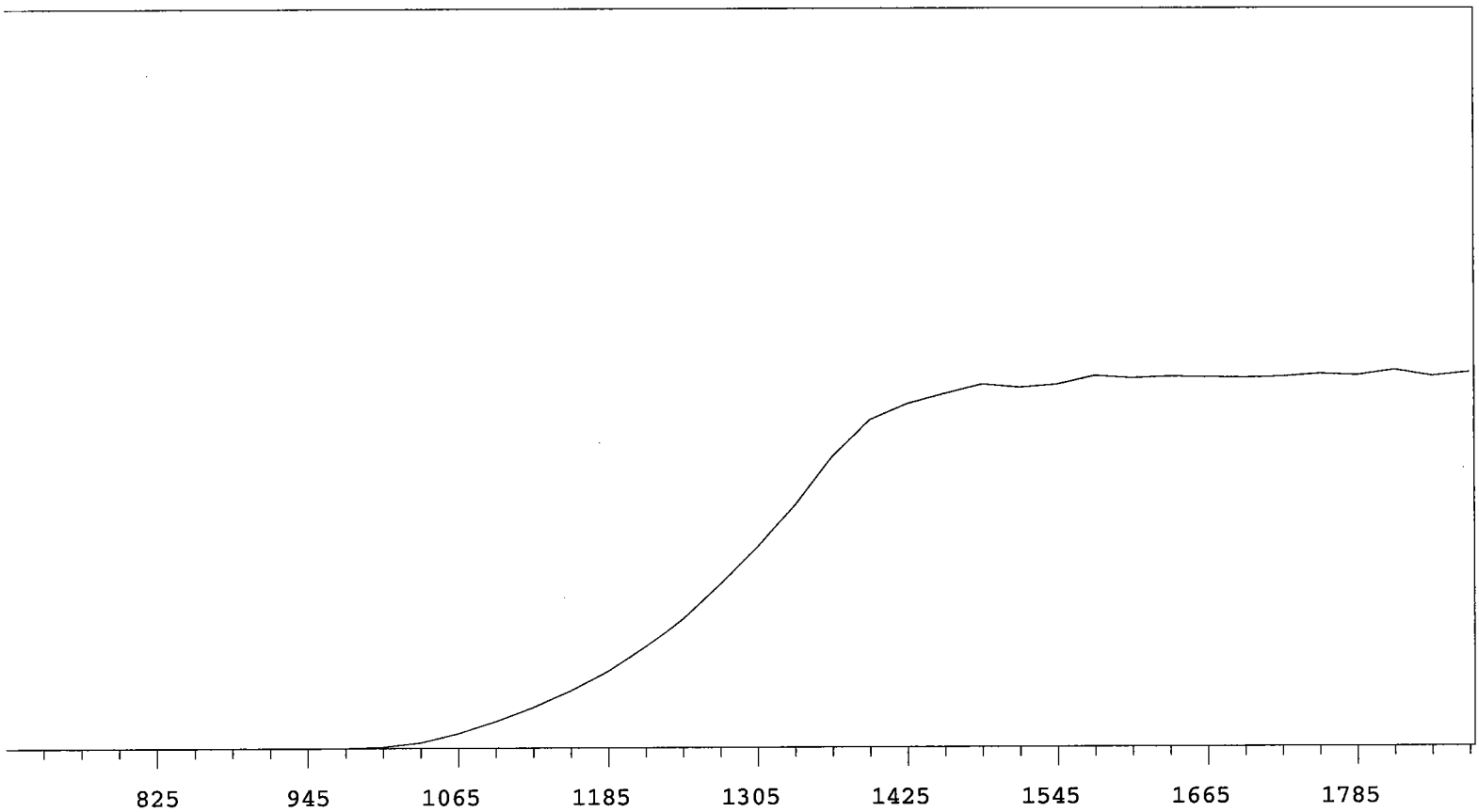
Alpha Volts: 705 Beta Volts: 1515



VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	1	>100
945	0	>100
975	4	>100
1005	70	>100
1035	257	>100
1065	648	>100
1095	1116	>100
1125	1784	>100
1155	2560	>100
1185	3531	+96.11
1215	4568	+89.22
1245	6137	+81.65
1275	7855	+74.42

VOLTS	COUNTS	%/100 Volts
1305	9666	+64.39
1335	11722	+55.91
1365	13680	+44.91
1395	15677	+31.56
1425	16786	+19.46
1455	17283	+10.57
1485	17608	+5.95
1515	17972	+3.32
1545	18006	+1.84
1575	17970	+1.58
1605	18104	+0.74
1635	18351	+0.24
1665	18016	+0.16
1695	18080	-0.63
1725	18283	+0.29
1755	18047	-0.47
1785	18110	-0.32
1815	18040	+1.17
1845	18200	
1875	18320	

Plateau 7/1/09 Instrument 13 MPC 9604 Detector C 7/1/2009
Alpha Volts: 705 Beta Volts: 1515

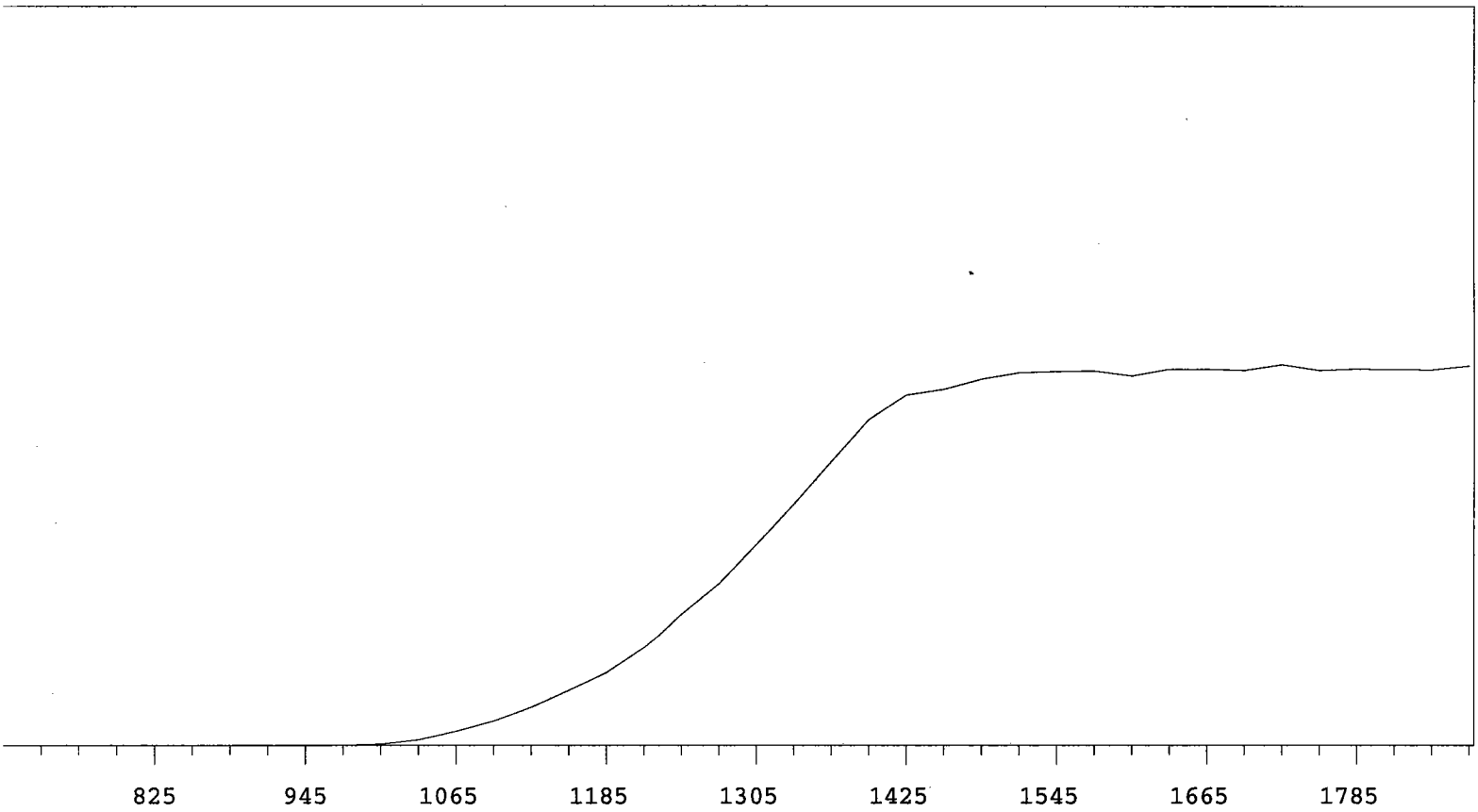


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	9	>100
1005	93	>100
1035	325	>100
1065	834	>100
1095	1525	>100
1125	2318	>100
1155	3233	>100
1185	4357	+92.07
1215	5755	+85.64
1245	7438	+78.35
1275	9463	+70.89

VOLTS	COUNTS	%/100 Volts
1305	11573	+64.95
1335	13929	+56.47
1365	16726	+43.82
1395	18834	+29.38
1425	19743	+16.84
1455	20314	+7.95
1485	20860	+4.16
1515	20670	+3.23
1545	20844	+2.09
1575	21330	+2.48
1605	21188	+1.16
1635	21280	-0.32
1665	21237	+0.08
1695	21202	+0.42
1725	21254	+0.60
1755	21406	+1.41
1785	21326	+0.42
1815	21619	+0.16
1845	21282	
1875	21478	

Plateau 7/1/09 Instrument 13 MPC 9604 Detector D 7/1/2009

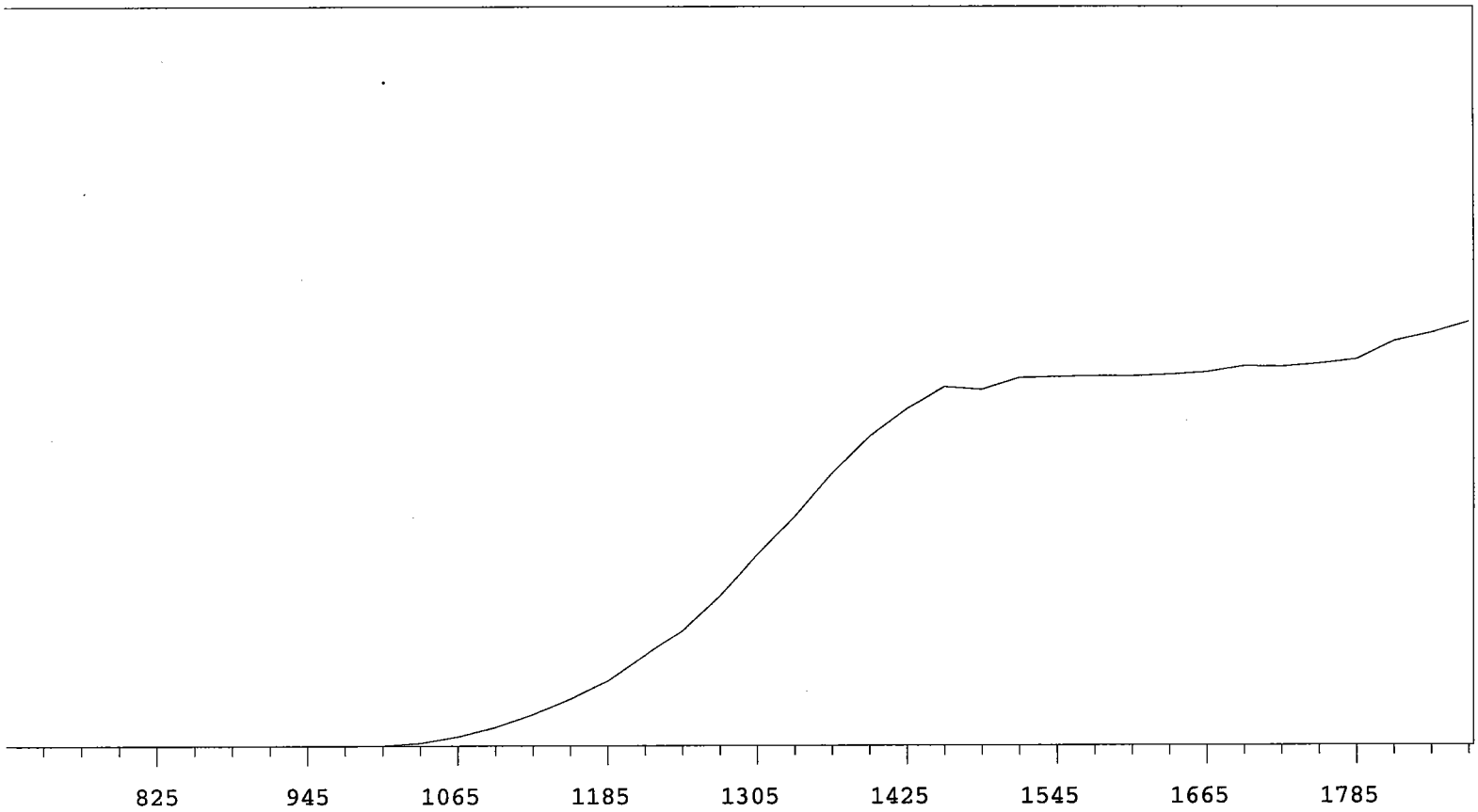
Alpha Volts: 705 Beta Volts: 1515



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	7524	+61.93
735	0		1335	9002	+55.36
765	0		1365	10542	+44.70
795	0	>100	1395	12064	+31.21
825	0	>100	1425	12981	+19.20
855	0	>100	1455	13192	+10.41
885	0	>100	1485	13570	+5.93
915	0	>100	1515	13820	+4.08
945	0	>100	1545	13866	+0.75
975	9	>100	1575	13880	+0.21
1005	58	>100	1605	13695	+0.59
1035	228	>100	1635	13950	+0.77
1065	544	>100	1665	13954	+1.92
1095	936	>100	1695	13911	+0.19
1125	1468	>100	1725	14116	+0.02
1155	2110	>100	1755	13908	-0.24
1185	2770	+94.71	1785	13960	-0.81
1215	3670	+85.91	1815	13939	+0.71
1245	4937	+79.46	1845	13931	
1275	6066	+70.79	1875	14071	

Plateau 7/1/09 Instrument 14 MPC 9604 Detector A 7/1/2009

Alpha Volts: 705 Beta Volts: 1515

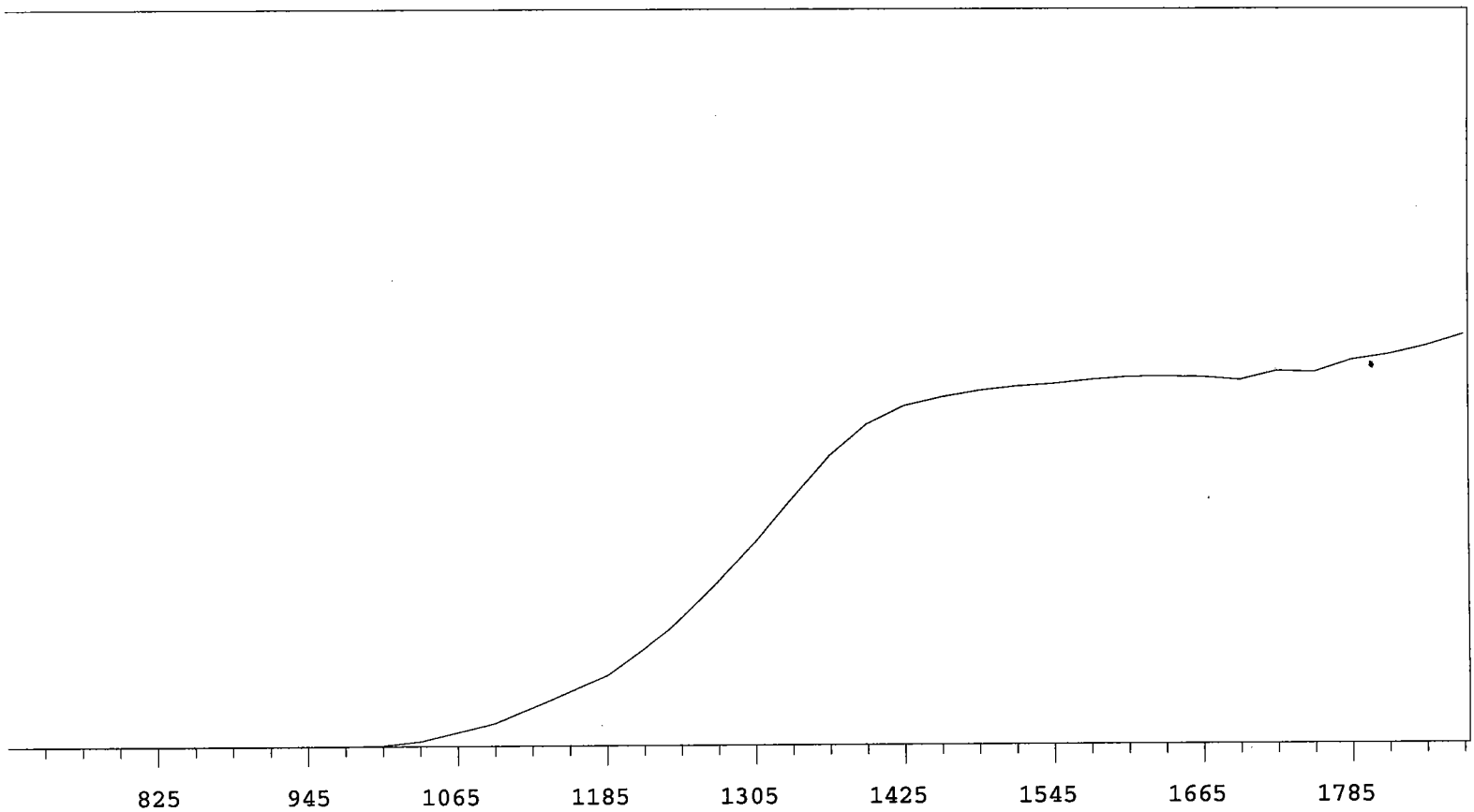


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	1	+0.00
915	0	>100
945	0	>100
975	0	>100
1005	18	>100
1035	137	>100
1065	430	>100
1095	865	>100
1125	1444	>100
1155	2151	>100
1185	2981	>100
1215	4168	+92.14
1245	5377	+84.73
1275	6924	+74.92

VOLTS	COUNTS	%/100 Volts
1305	8778	+67.49
1335	10502	+57.68
1365	12516	+46.36
1395	14215	+35.88
1425	15472	+22.01
1455	16469	+12.99
1485	16342	+6.70
1515	16874	+3.07
1545	16918	+2.53
1575	16950	+0.58
1605	16943	+0.95
1635	17008	+2.13
1665	17130	+2.45
1695	17403	+2.43
1725	17377	+2.43
1755	17515	+4.88
1785	17710	+7.54
1815	18533	+9.04
1845	18905	
1875	19415	

Plateau 7/1/09 Instrument 14 MPC 9604 Detector B 7/1/2009

Alpha Volts: 705 Beta Volts: 1515

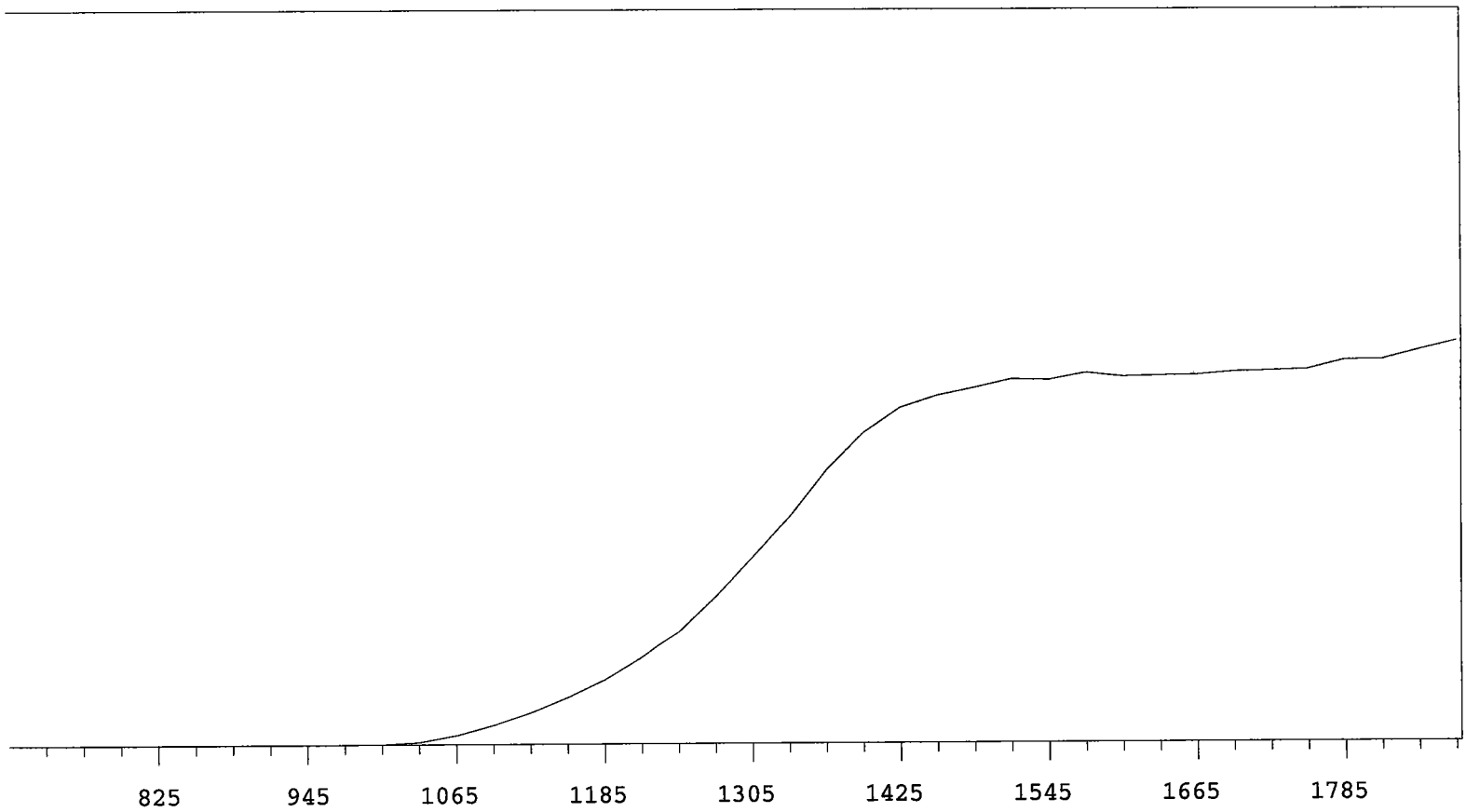


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	1	+0.00
885	0	>100
915	0	>100
945	0	>100
975	3	>100
1005	40	>100
1035	210	>100
1065	590	>100
1095	983	>100
1125	1645	>100
1155	2342	>100
1185	3045	+96.43
1215	4201	+90.42
1245	5579	+83.64
1275	7121	+74.44

VOLTS	COUNTS	%/100 Volts
1305	8797	+65.44
1335	10726	+54.47
1365	12570	+41.11
1395	13917	+26.79
1425	14687	+15.44
1455	15048	+8.47
1485	15318	+5.00
1515	15494	+3.76
1545	15606	+3.04
1575	15776	+2.35
1605	15889	+1.44
1635	15907	-0.16
1665	15881	+0.64
1695	15741	+1.21
1725	16124	+3.63
1755	16076	+5.41
1785	16588	+5.79
1815	16830	+7.53
1845	17185	
1875	17682	

Plateau 7/1/09 Instrument 14 MPC 9604 Detector C 7/1/2009

Alpha Volts: 705 Beta Volts: 1515

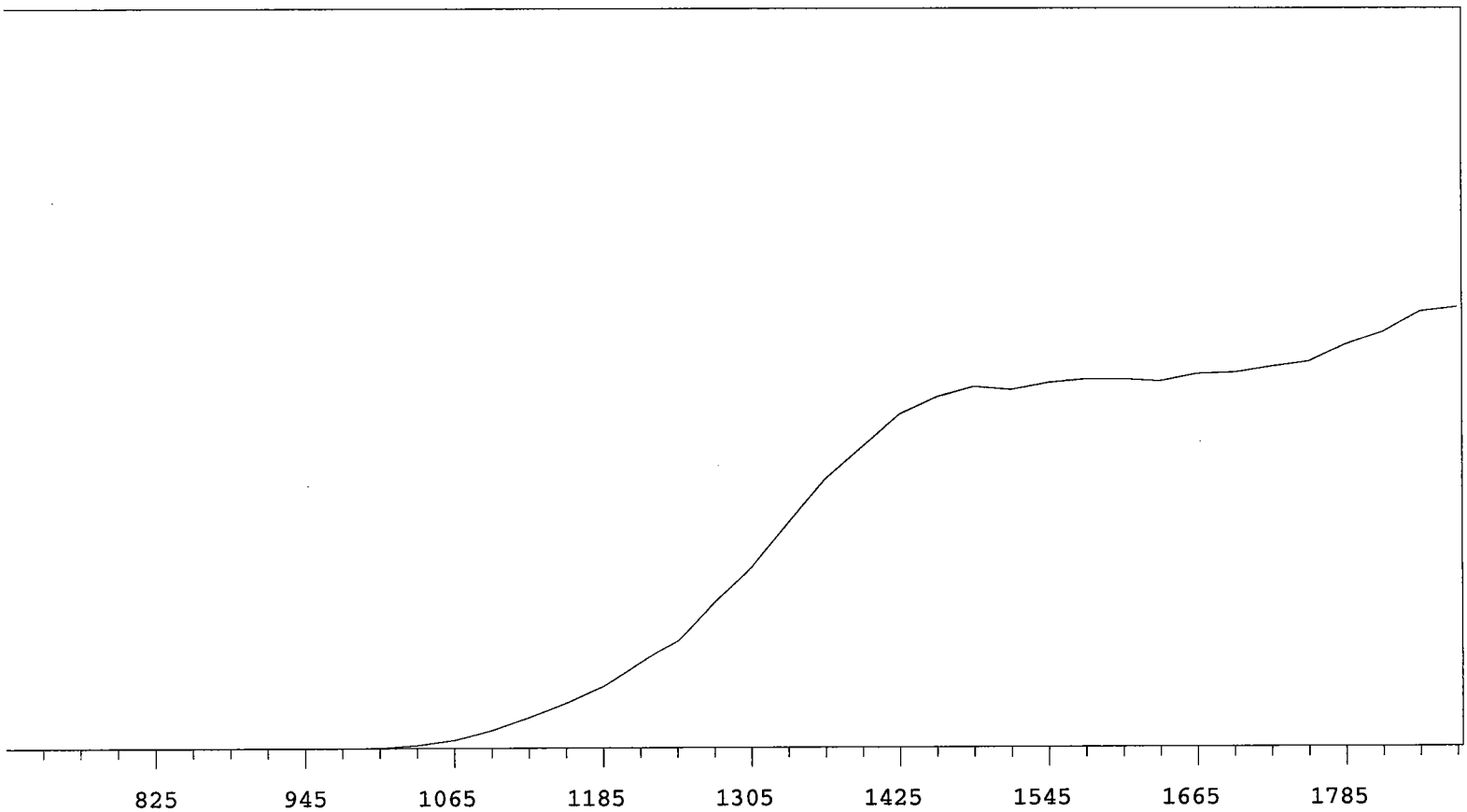


VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	1	+0.00
915	0	>100
945	0	>100
975	2	>100
1005	21	>100
1035	132	>100
1065	491	>100
1095	1036	>100
1125	1698	>100
1155	2517	>100
1185	3468	>100
1215	4721	+91.83
1245	6175	+85.13
1275	8025	+76.82

VOLTS	COUNTS	%/100 Volts
1305	10118	+69.76
1335	12269	+59.65
1365	14810	+47.35
1395	16773	+33.46
1425	18104	+20.13
1455	18720	+11.98
1485	19122	+6.50
1515	19580	+4.77
1545	19527	+2.48
1575	19902	+0.81
1605	19690	+0.53
1635	19739	+0.23
1665	19765	+1.29
1695	19932	+1.40
1725	19976	+2.72
1755	20051	+2.92
1785	20523	+4.26
1815	20542	+5.57
1845	21035	
1875	21528	

Plateau 7/1/09 Instrument 14 MPC 9604 Detector D 7/1/2009

Alpha Volts: 705 Beta Volts: 1515



VOLTS	COUNTS	%/100 Volts
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	1	>100
1005	14	>100
1035	130	>100
1065	363	>100
1095	785	>100
1125	1357	>100
1155	1996	>100
1185	2735	+99.45
1215	3785	+94.20
1245	4857	+86.43
1275	6571	+78.80

VOLTS	COUNTS	%/100 Volts
1305	8095	+71.16
1335	10052	+58.38
1365	11990	+47.92
1395	13400	+35.01
1425	14808	+23.58
1455	15554	+13.45
1485	15987	+6.39
1515	15861	+3.45
1545	16156	+2.18
1575	16297	+1.72
1605	16297	+1.33
1635	16208	+1.62
1665	16526	+2.92
1695	16581	+3.94
1725	16832	+5.91
1755	17039	+8.68
1785	17800	+11.53
1815	18351	+11.46
1845	19265	
1875	19468	

0553

ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 · U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

66002-278

Ra-228 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Ra-228
ACTIVITY (dps):	2.367 E4
HALF-LIFE:	5.75 years
CALIBRATION DATE:	April 23, 2003 12:00 EST
TOTAL UNCERTAINTY*:	2.4%

*95% Confidence Level

Impurities: γ-impurities (other than decay products) <0.1%, Ra-226 <0.1%

5.31628 grams 4M HCl solution with 100 µg/g Ba carrier.

P O NUMBER 3219 RD, Item 1

SOURCE PREPARED BY: M Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED: W. Monty 4-23-03

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0553-A
Prepared By:	Lonnie Morris
Carrier Conc:	0.5M HCl
Reference Date:	04/23/2003
Ampoule Mass (g):	5.0235 g
Uncertainty:	+/-
LogBook No:	RC-S-035-068

A Solution Material Info	
Isotope:	Radium-228 SPIKE
Prepared By:	Lonnie Morris
Prep Date:	04/25/2003
Verification Date:	04/27/2005
Expiration Date:	04/27/2006
Primary Code:	0553-B
Dilution(mL):	1000 mL
Mass of Parent(g):	30.535 g
Density(g/mL):	
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (dpm/mL)) * (conversion dpm to dpm) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (dpm/mL)) * (conversion dpm to dpm) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(30.535 g) * (13419.8626 dpm/mL) * (1 dpm/dpm) / (1000 mL) = 409.7755 dpm/mL
(30.535 g) * (13419.8626 dpm/mL) * (1 dpm/dpm) / (g/mL) / (1000 mL) = dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date

GEL Laboratories LLC
Version 1.0 9/18/2000

0503

ANALYTICS

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318 · U.S.A.

Phone (404) 352-8677
Fax (404) 352-2837

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

64673-278

Ra-228 5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:	Ra-228
ACTIVITY (dps):	1.939 E4
HALF-LIFE:	5.75 years
CALIBRATION DATE:	October 1, 2002 12:00 EST
TOTAL UNCERTAINTY*:	3.6%
SYSTEMATIC:	3.4%
RANDOM:	1.1%

*99% Confidence Level

Impurities: γ-impurities <0.1%

5.02617 grams 0.1M HCl solution with 110 µg/g Ba carrier.

P O NUMBER 3208RD, Item 2

SOURCE PREPARED BY: M Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED: M. Mtg 10-2-02

RC-S-035-018a

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0503
Prepared By:	Angela Johnson
Carrier Conc:	0.1 M HCL
Reference Date:	10/01/2002
Ampoule Mass (g):	5.02617 g
Uncertainty:	+/- 3.6 %
LogBook No:	RC S 035 018

A Solution Material Info	
Isotope:	Radium-228
Prepared By:	Angela Johnson
Prep Date:	02/20/2003
Verification Date:	04/09/2004
Expiration Date:	04/09/2005
Primary Code:	0503-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.4737 g
Density(g/mL):	0.9992
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (dps)) * (conversion dpm to dps) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (dps)) * (conversion dpm to dps) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(4.4737 g) * (19390 dps) * (60 dpm/dps) / (5.02617 g * 100 mL) = 10355.2060 dpm/mL
(4.4737 g) * (19390 dps) * (60 dpm/dps) / (0.9992 g/mL)/ (5.02617 g * 100 mL) = 10363.0820 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
04/02/2003	Lonnie Morris	39.71	1000	0503-B	411.518 dpm/mL	09/13/2008	09/13/2009

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Ra-228 Standard 0503-B

D. Roy 9/13/2008	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff	Standard Mass. Used (mL)	Source DPM/mL
	0503-B	1962.0000	45.6000	1916.4000	9.263763	1.0000	206.8705773
	0503-B	1983.2000	45.6000	1937.6000	9.263763	1.0000	209.1590642
	0503-B	1927.0000	45.6000	1881.4000	9.263763	1.0000	203.092415
							206.3740189

Mean Value (Counting) =	206.3740189	dpm/mL	**102.880426**	**Pass**
Stdev =	3.063655617	dpm/mL	0.01484516	**Rule 3 (Pass/Fail)**
Certificate Value =	200.596	dpm/mL		
Lower Limit =	200.2467076	dpm/mL		
Upper Limit =	212.5013301	dpm/mL		
Rule 1 Pass/Fail	**Pass**			
Two sigma =	6.127311233			
10 % of Mean =	20.63740189			
Rule 2 (Pass/Fail)	**Pass**			

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for Ra-228 source 0503-B by transferring portions of the standard into glass liquid scintillation vials. Ten mL of Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC Gold for Ra-228 source standard verification. The Ra-228 efficiency calibration which was used for verification calculations was performed on 9/13/08 using source 0683-A (Ra-228). Calibration data is recorded in this logbook under Ra-228 0683-A. Each verification source calculation was performed as follows:

Source dpm/g = (A - B)/(C)(D)
where:
A = Ver. source cpm,
B = BKG cpm,
C = System efficiency, (cpm/dpm), and
D = mass used for standard verification.

Reference RAD SOP M-001

David D Roy 9/16/08

Douglas A Johnson 9/17/08

ID:TOTAL ACTIVITY 16 SEP 2008 16:24

USER:11 COMMENT:GOLD

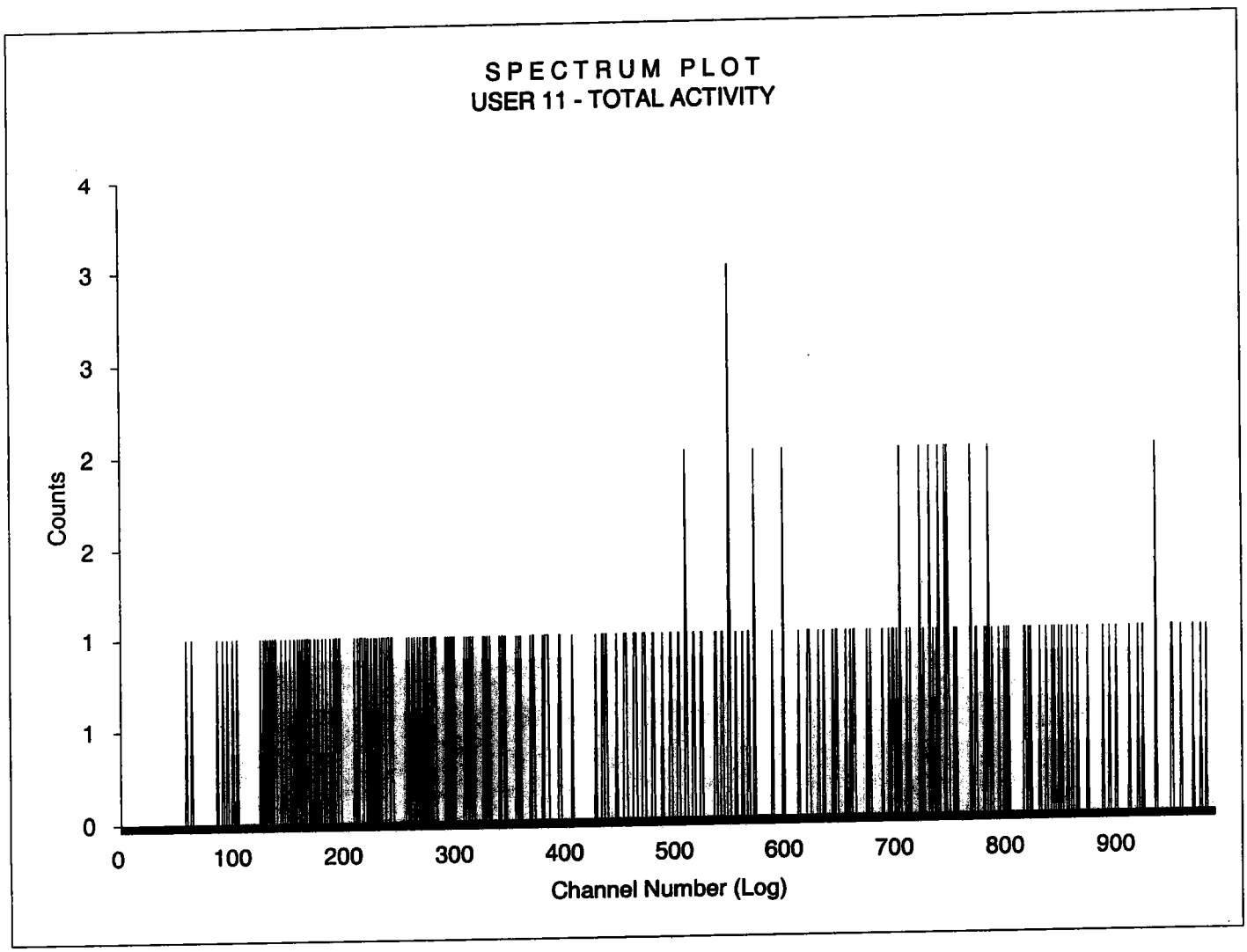
PRESET TIME :	5.00						
DATA CALC :	CPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	:EDIT
TWO PHASE :	NO	AQC	: NO	CYCLE REPEATS :	1	DISK	: OFF
SCINTILLATOR:	LIQUID	LUMEX	:YES	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:				none	

CHAN: 0.0 - 990.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
CHAN: 0.0 - 1000.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

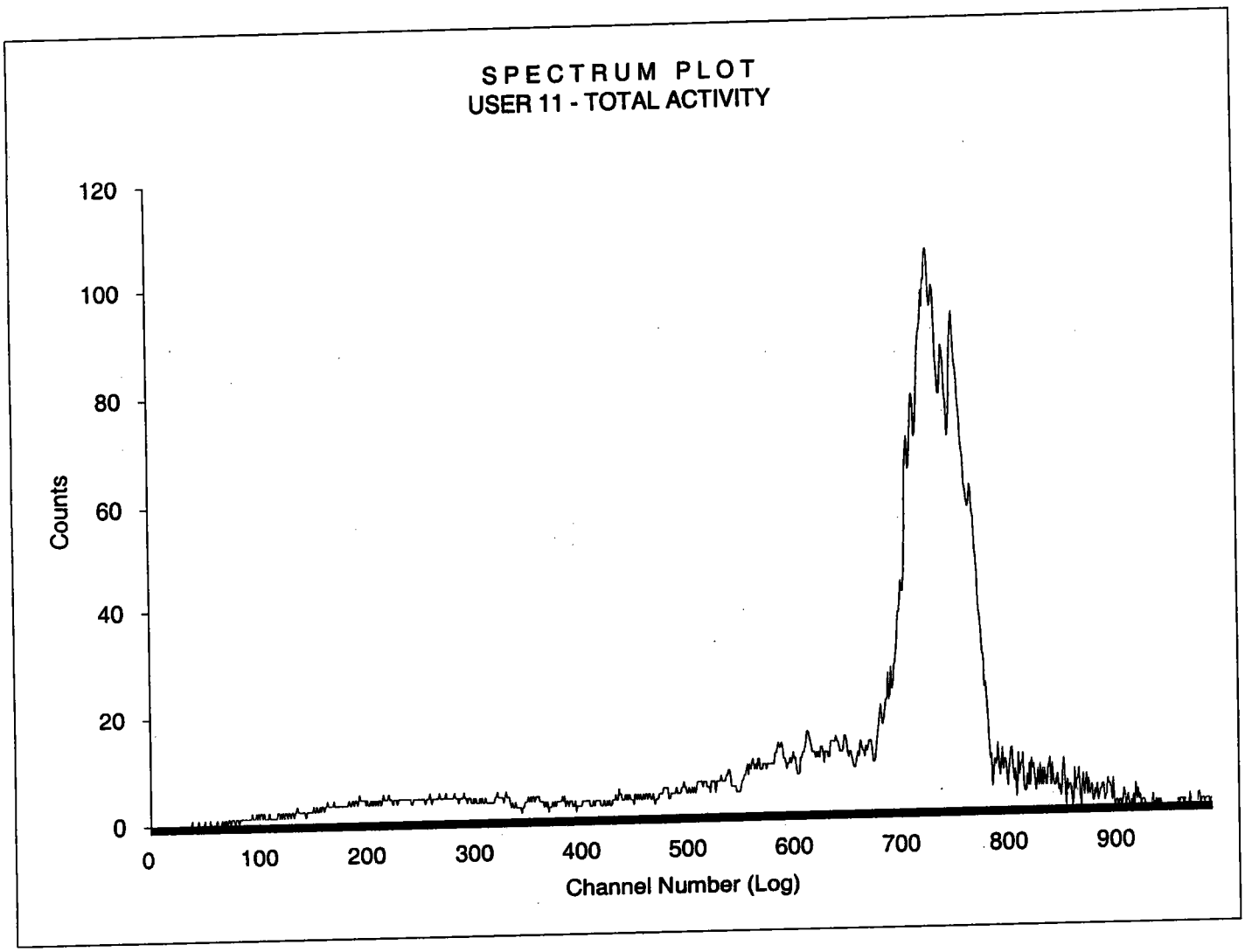
SAM NO	POS	TIME MIN	H#	WIND1 CPM	WIND1 %ERROR	WIND2 CPM	WIND2 %ERROR	LUMEX %	ELAPSED TIME
1	11-1	5.00	98.2	50.40	12.60	54.00	12.17	0.41	5.55
2	11-2	1.30	99.3	7802.31	1.99	7803.08	1.99	0.00	7.81
3	11-3	1.30	100.4	7782.31	1.99	7786.15	1.99	0.00	10.14
4	11-4	1.35	99.2	7581.48	1.98	7585.19	1.98	0.01	12.51
5	11-5	5.00	97.9	45.60	13.25	47.20	13.02	0.43	18.61
6	11-6	5.00	110.7	1962.00	2.02	1964.80	2.02	0.01	24.65
7	11-7	5.00	110.8	1983.20	2.01	1984.80	2.01	0.01	30.75
8	11-8	5.00	110.7	1927.00	2.04	1927.80	2.04	0.02	36.85

9/19/08
VB

Sample Count Start Time:	16 Sep 2008 16:46:59		
Data Capture Date:	9/16/2008 16:52:01		
User Filename:	S11091611-5A.WK1		
	U11091611-1A.WK1		
Spectrum Type	Log Counts		
User Number:	11		
User Id:	TOTAL ACTIVITY		
User Comment:	GOLD		
Isotope Name:	14C		
Scintillator:	LIQUID		
Sample, Rack-Pos, Time:	5	11-5	5.00
H#, Total Counts:	97.9	69	
Start, End, X-Axis:	0	990	Channel Number

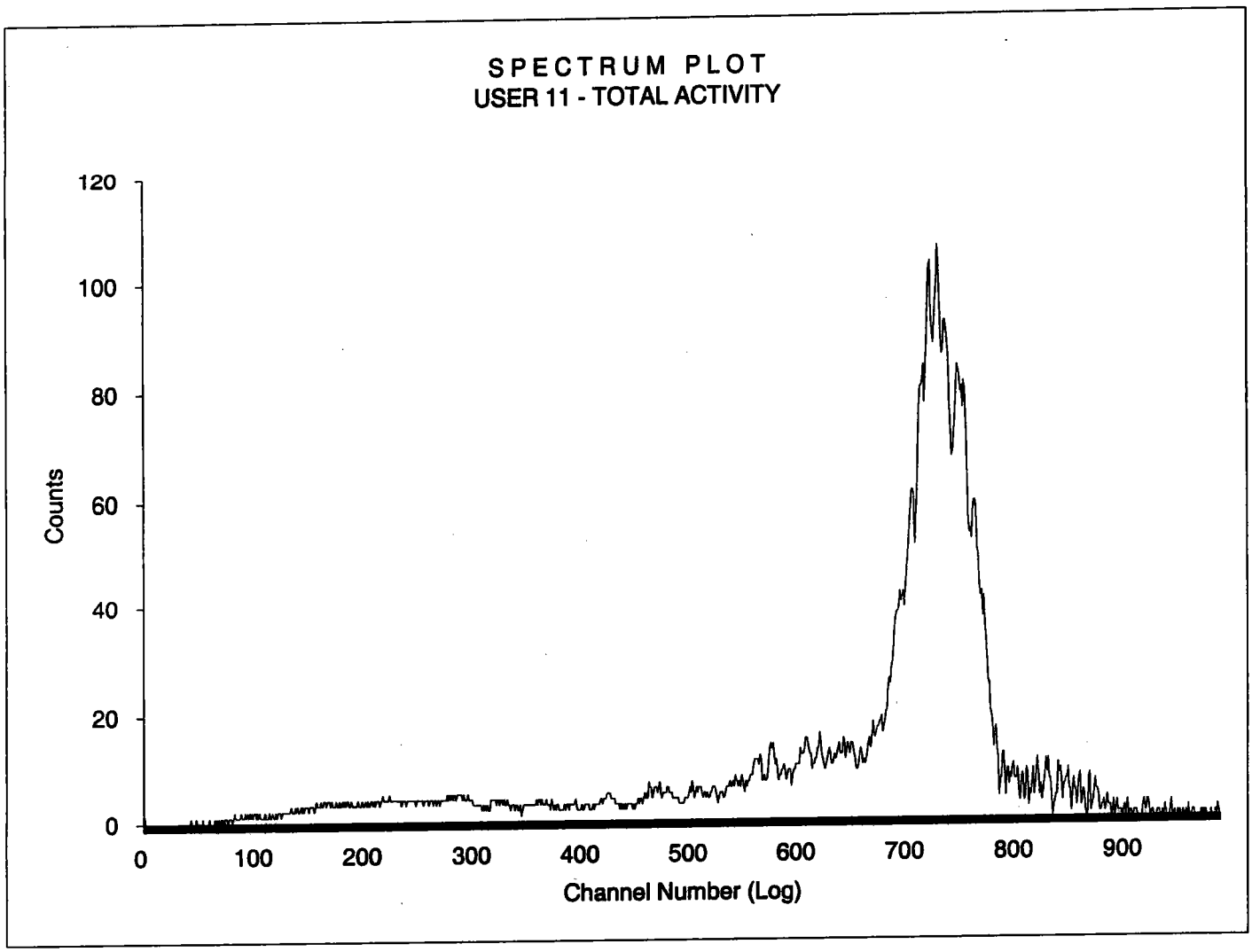


Sample Count Start Time:	16 Sep 2008 16:53:01		
Data Capture Date:	9/16/2008 16:58:06		
User Filename:	S11091611-6A.WK1		
	U11091611-1A.WK1		
Spectrum Type	Log Counts		
User Number:	11		
User Id:	TOTAL ACTIVITY		
User Comment:	GOLD		
Isotope Name:	14C		
Scintillator:	LIQUID		
Sample, Rack-Pos, Time:	6	11-6	5.00
H#, Total Counts:	110.7	7666	
Start, End, X-Axis:	0	990	Channel Number



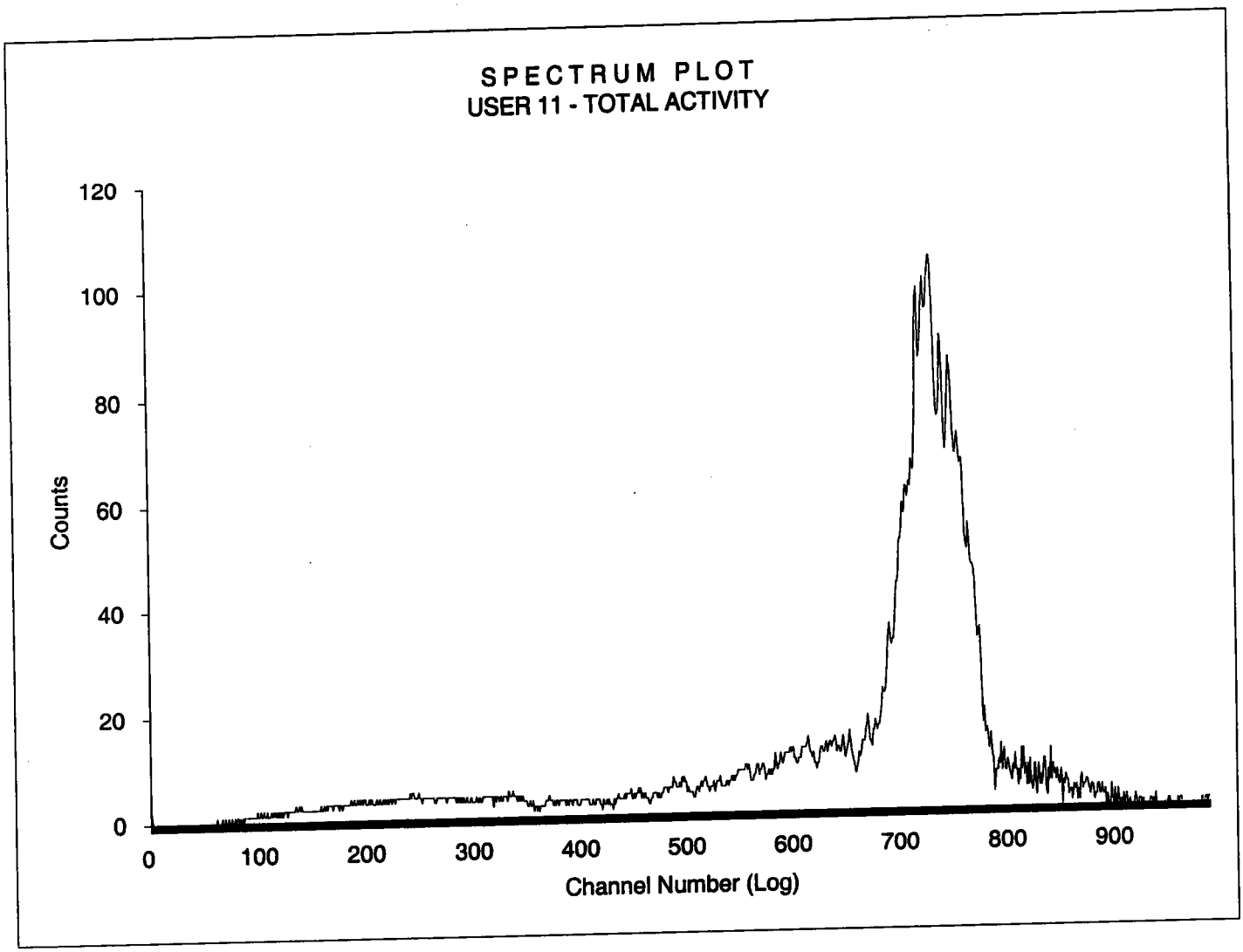
8/9/16

Sample Count Start Time:	16 Sep 2008 16:59:07		
Data Capture Date:	9/16/2008 17:04:12		
User Filename:	S11091611-7A.WK1		
	U11091611-1A.WK1		
Spectrum Type	Log Counts		
User Number:	11		
User Id:	TOTAL ACTIVITY		
User Comment:	GOLD		
Isotope Name:	14C		
Scintillator:	LIQUID		
Sample, Rack-Pos, Time:	7	11-7	5.00
H#, Total Counts:	110.8	7726	
Start, End, X-Axis:	0	990	Channel Number



8/9/16

Sample Count Start Time:	16 Sep 2008 17:05:13		
Data Capture Date:	9/16/2008 17:10:18		
User Filename:	S11091611-8A.WK1		
	U11091611-1A.WK1		
Spectrum Type	Log Counts		
User Number:	11		
User Id:	TOTAL ACTIVITY		
User Comment:	GOLD		
Isotope Name:	14C		
Scintillator:	LIQUID		
Sample, Rack-Pos, Time:	8	11-8	5.00
H#, Total Counts:	110.7	7557	
Start, End, X-Axis:	0	990	Channel Number



Radium-228 Que Sheet

JRS 6/30/09

Batch #: 881540 Analyst:DXM2 First Client Due Date: Internal Due Date07/03/2009 Ac-228 Ingrow: 2025 6/30/09

Spike Isotope: Radium-228 Spike Code: ~~0~~ NA Expiration Date: NA Vol: NA

LCS Isotope: Radium-228 LCS Code: 0503-B Expiration Date: 9/13/09 Vol: 2 Ac-228 Separation Date/Time: 7-2-09 0540

Tracer Isotope: Barium-133 Tracer Code: 0112-J Expiration Date: 2/17/10 Vol: 0.1 Witness: JRS 6/30/09

Prep Date: 6/30/09 Initials: JRS Pipet ID: 1734218 Balance ID: NA

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collect Date & Time	Pos. #	Vol (mL)	Det #	Ba Yield (%)	Gamma Det. #
1201872112-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	1	20		100.83	
1201872113-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	2	20		108.20	
1201872114-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	3	20		114.22	
1201872115-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	4	20		120.58	W2AL4
1201872116-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	5	20		105.84	
1201872117-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	6	20		102.70	
1201872118-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	7	20		112.82	
1201872119-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	8	20		111.91	

SL 7/2/09

782

Comments:

Data Reviewed By: 7/2/09

Instrument Used: (Circle One) PIC S/N: 10751-4

ASSAY 30-Jun-09 19:32:06

Protocol	id	8	228_REC
Time	limit	180	
Count	limit	50000	
Isotope	Ba-133		
Protocol	date	9-Apr-07	10:03:07
Run	id.	54	

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	97	1	180	779	229.3	4.13		19:32:13
2	97	2	180	785	231.2	4.11	100.83	19:35:24
3	97	3	180	835	248.1	3.95	108.20	19:38:35
4	97	4	180	877	261.9	3.83	114.22	19:41:47
5	97	5	180	921	276.5	3.71	120.58	19:44:58
6	72	6	180	819	242.7	4	105.84	19:48:17
7	72	7	180	798	235.5	4.07	102.70	19:51:28
8	72	8	180	867	258.7	3.85	112.82	19:54:40
9	72	9	180	861	256.6	3.87	111.91	19:57:51

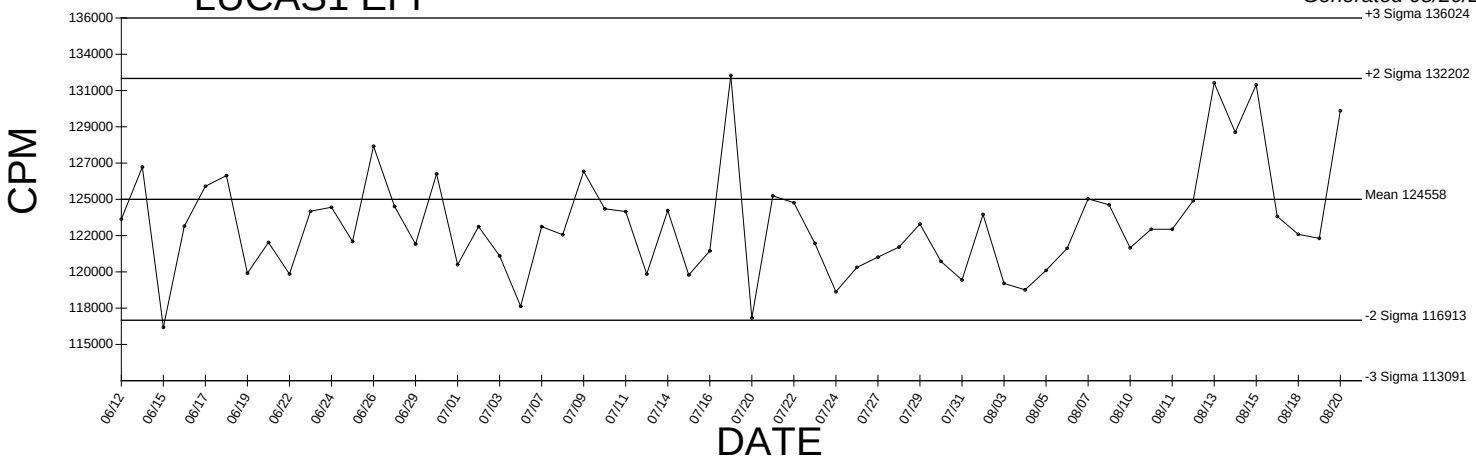
END OF ASSAY

7/2/09

BACKGROUND AND EFFICIENCY DATA

LUCAS1 EFF

Generated 08/20/2009



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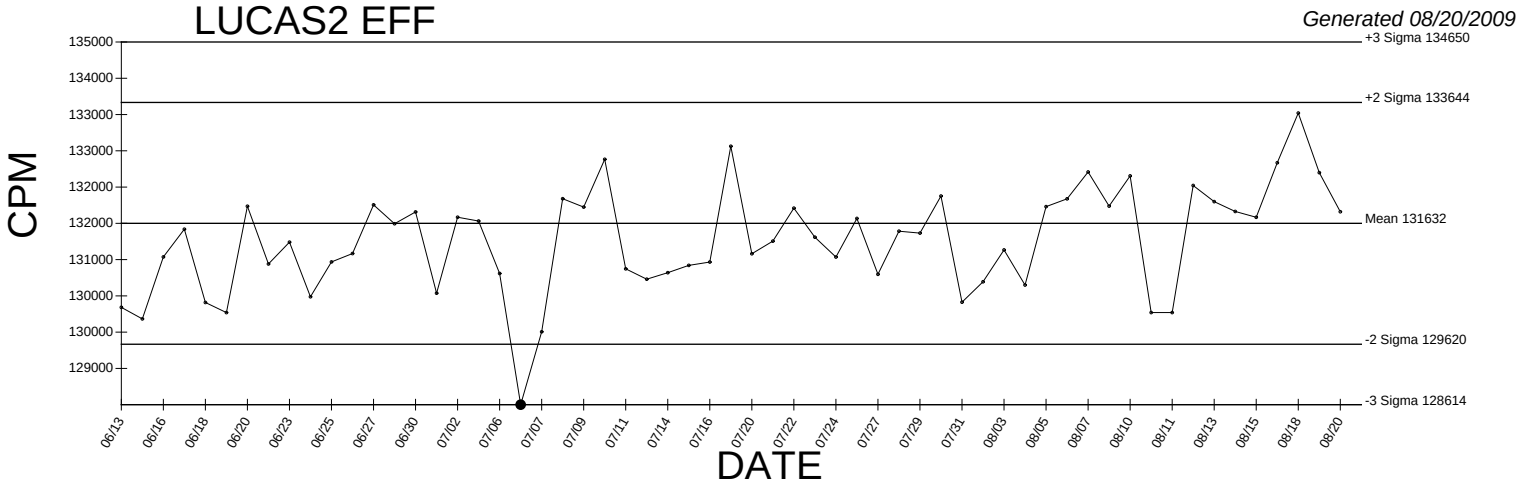

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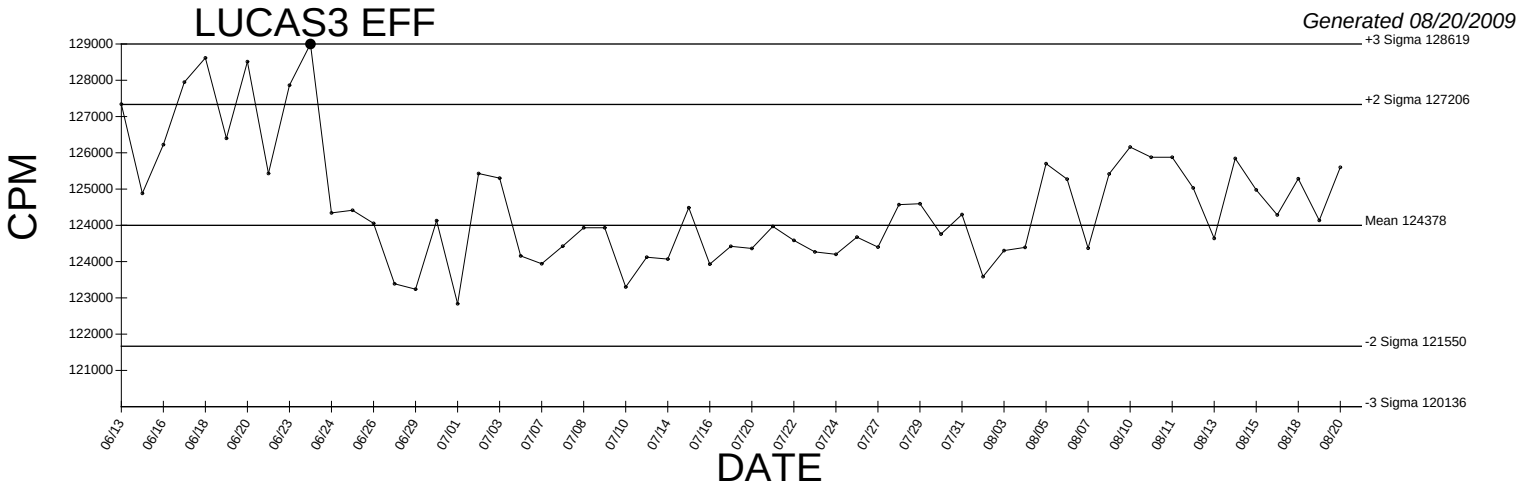

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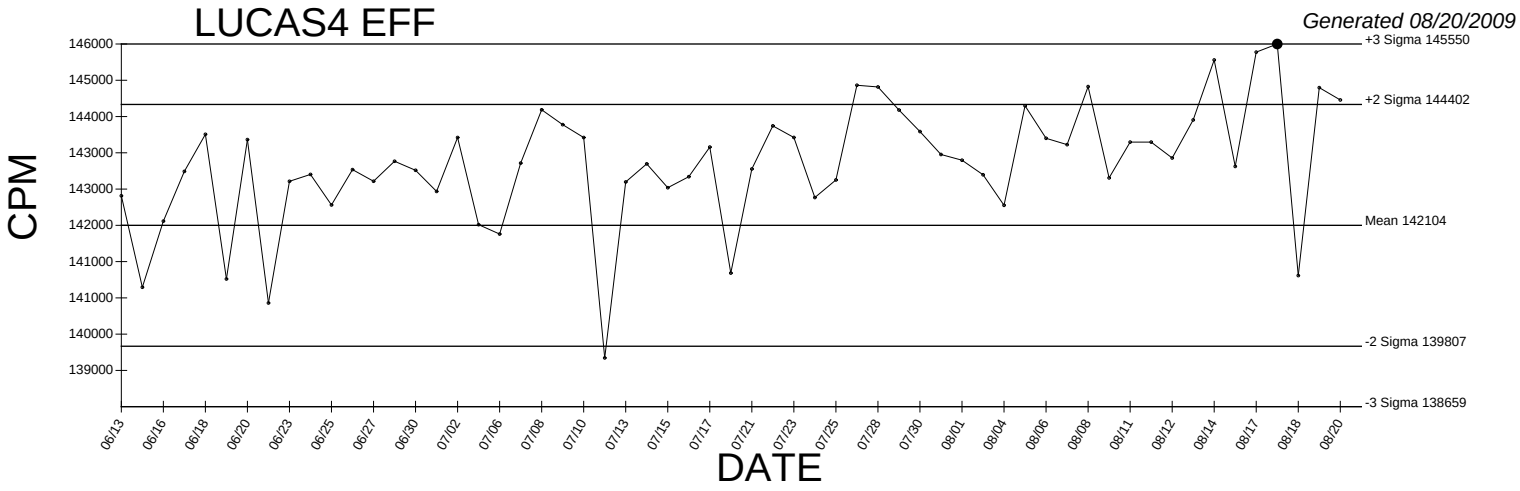

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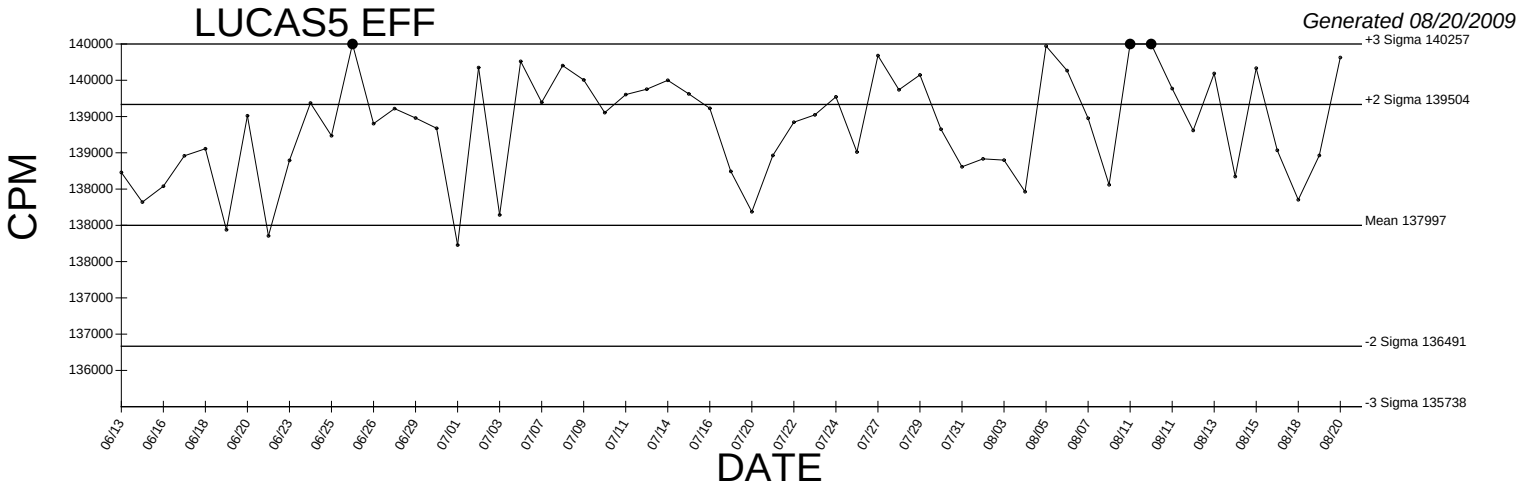

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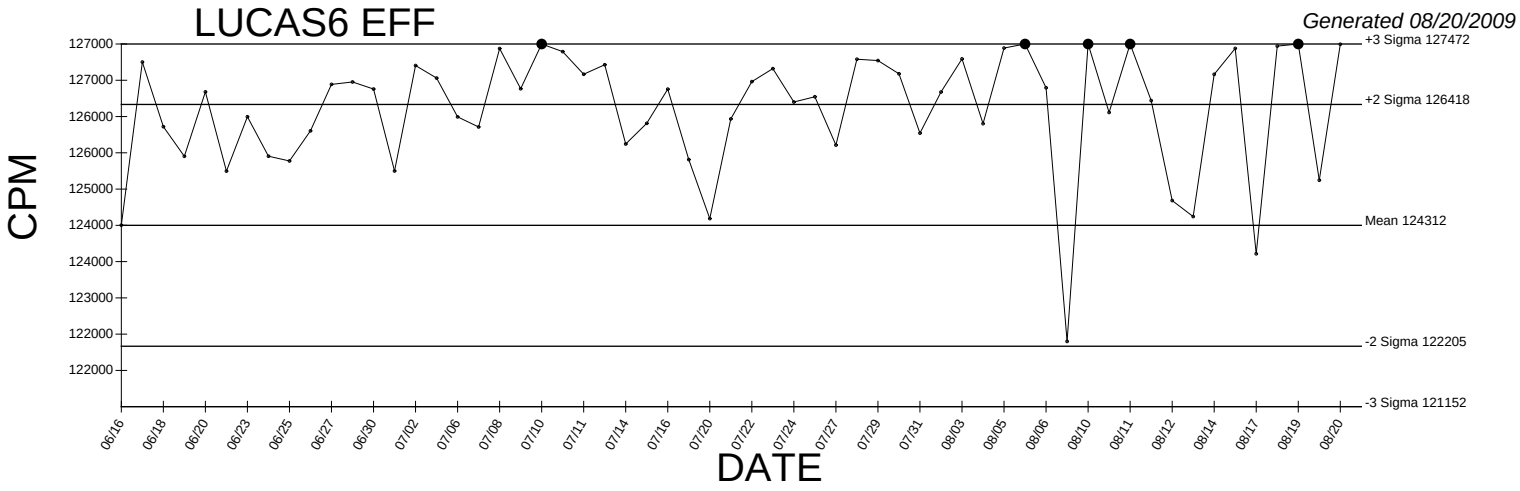

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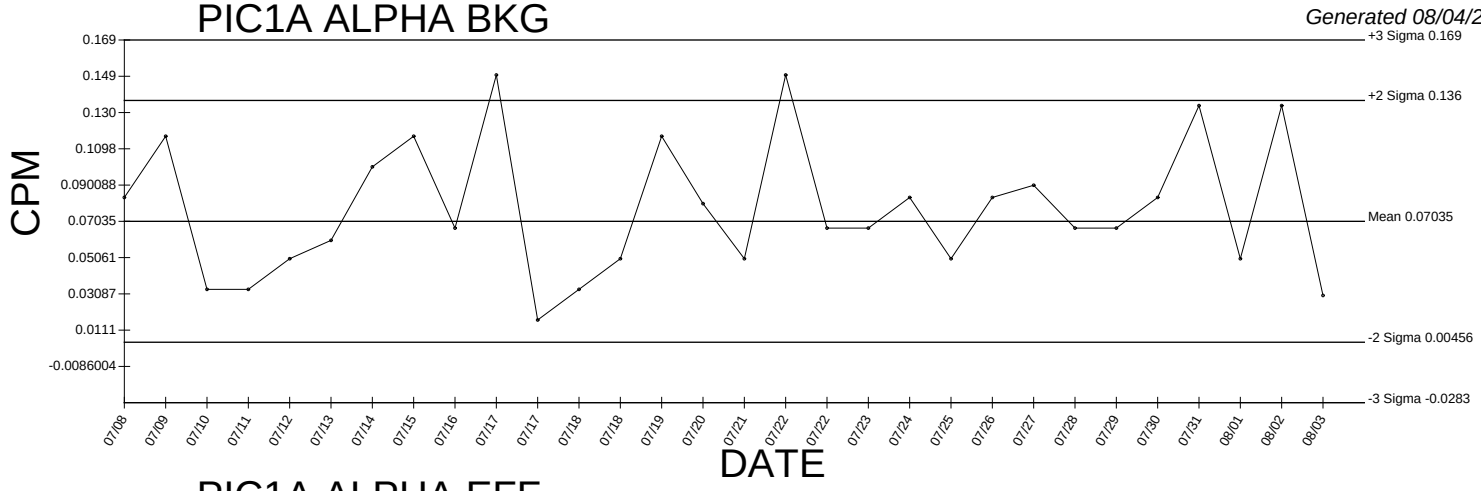
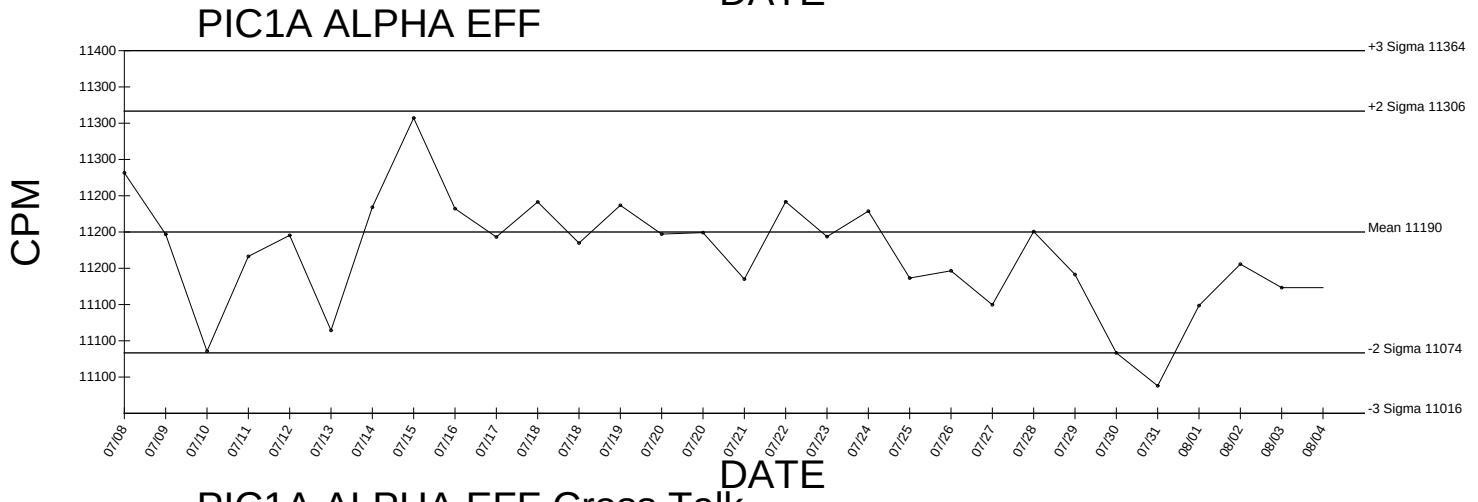
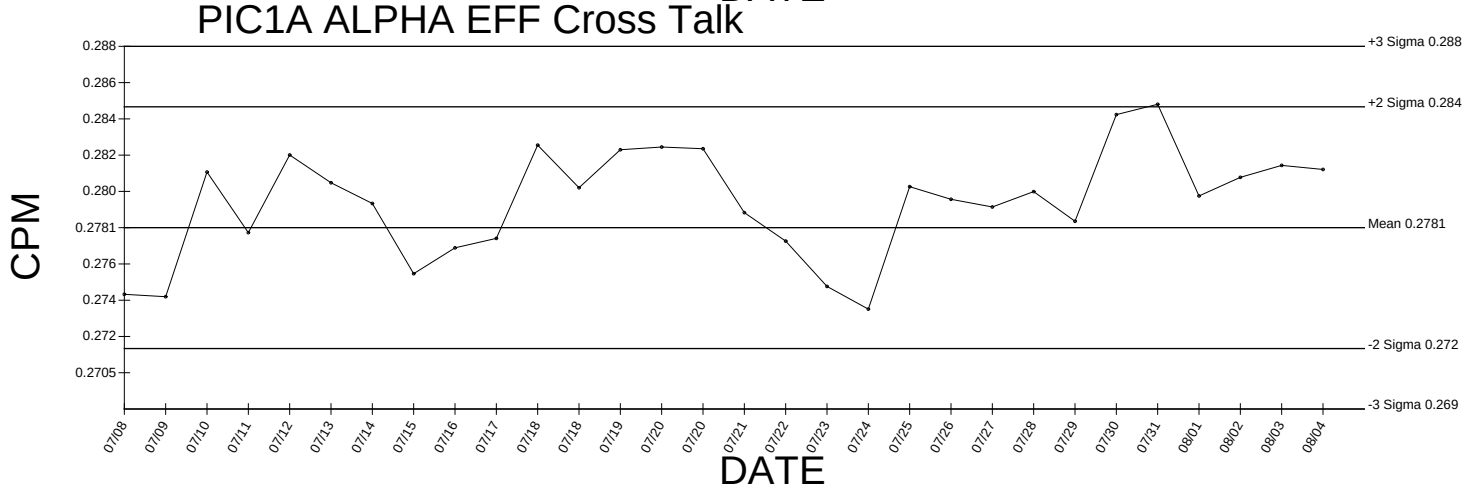
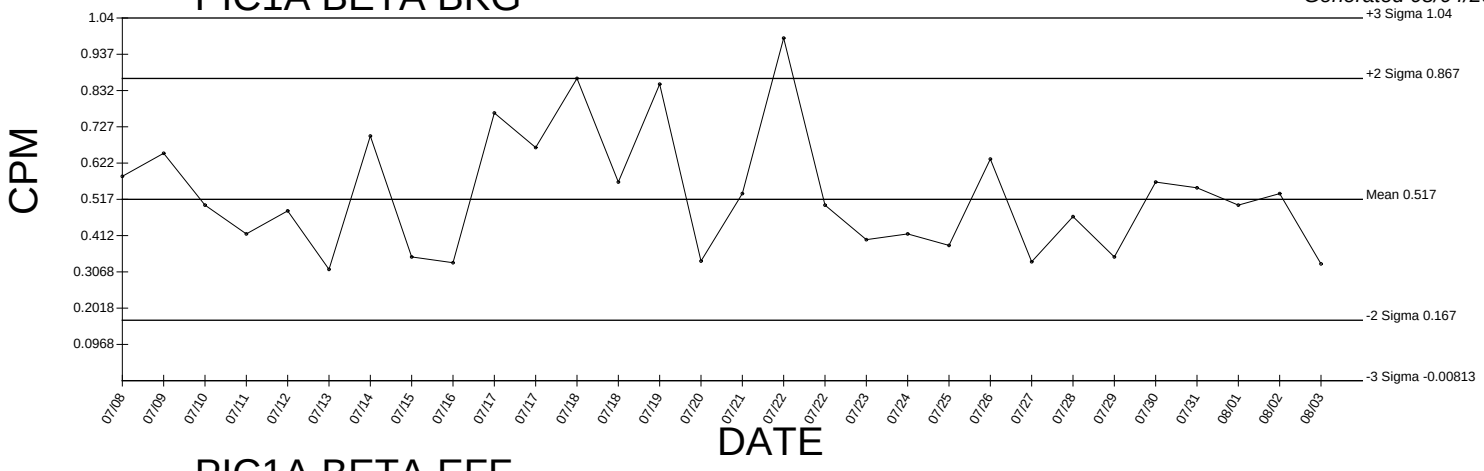






● Denotes Outlier

PIC1A BETA BKG



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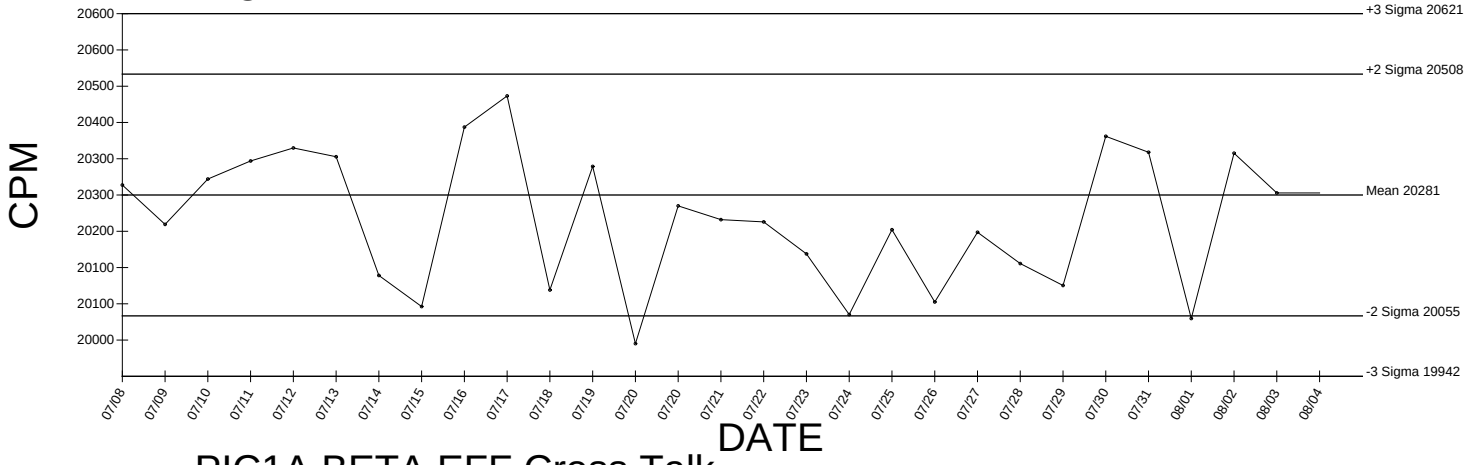
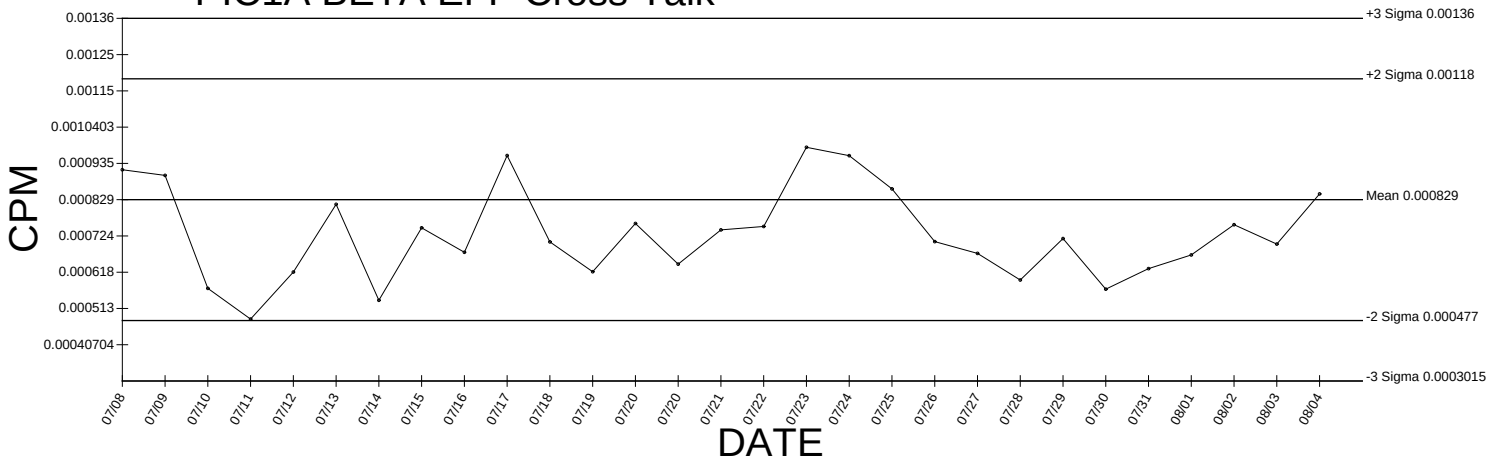


PIC1A BETA EFF Cross Talk



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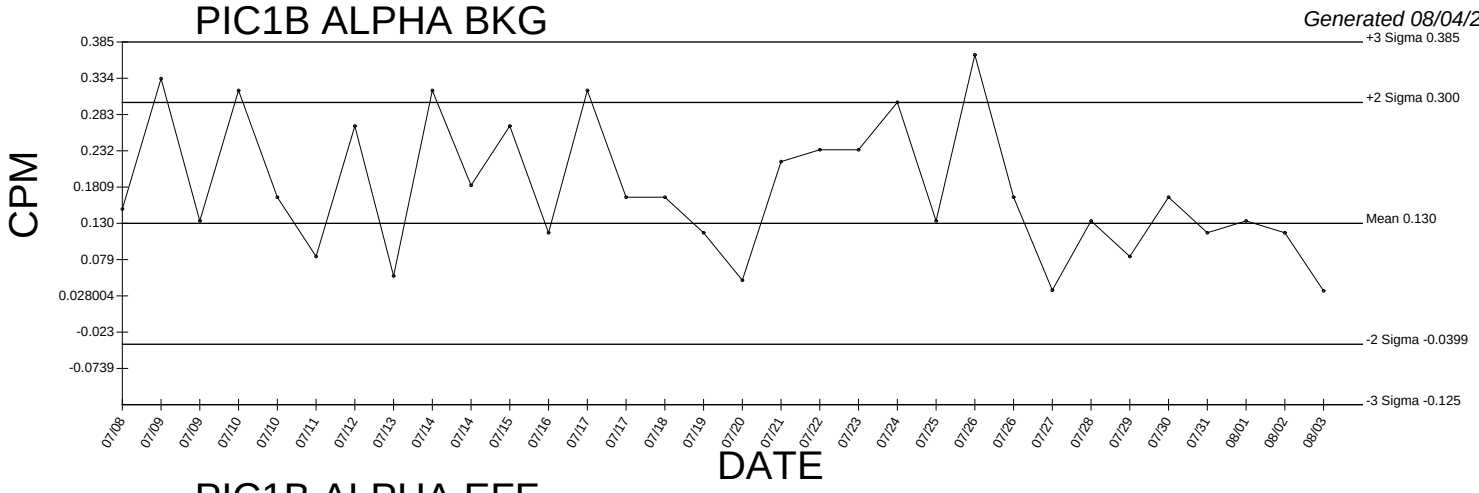

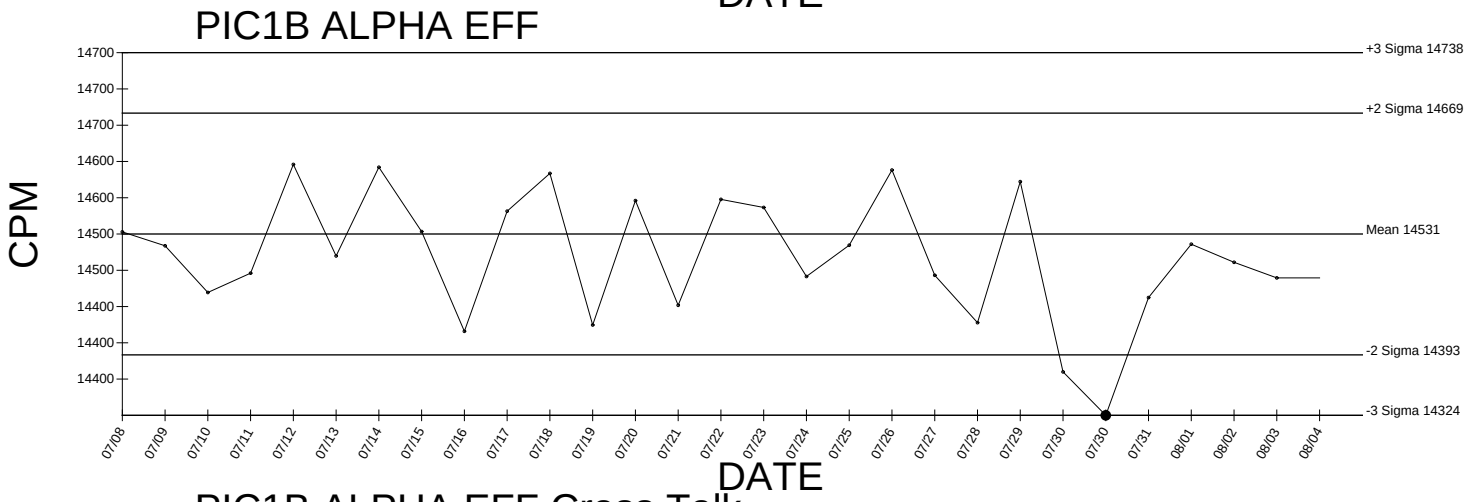

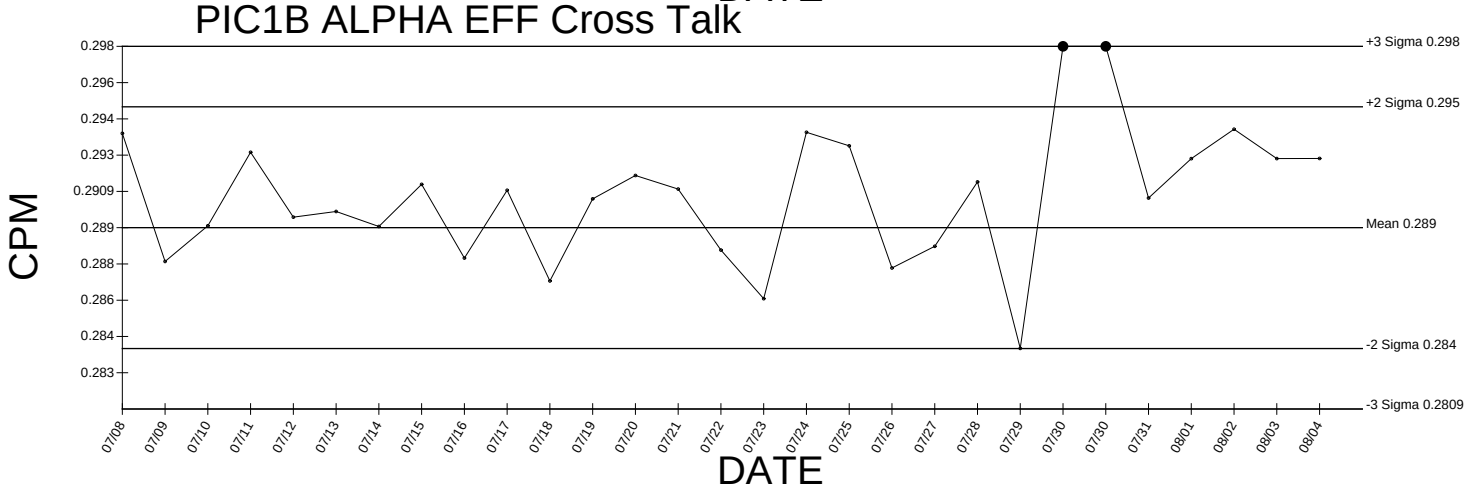

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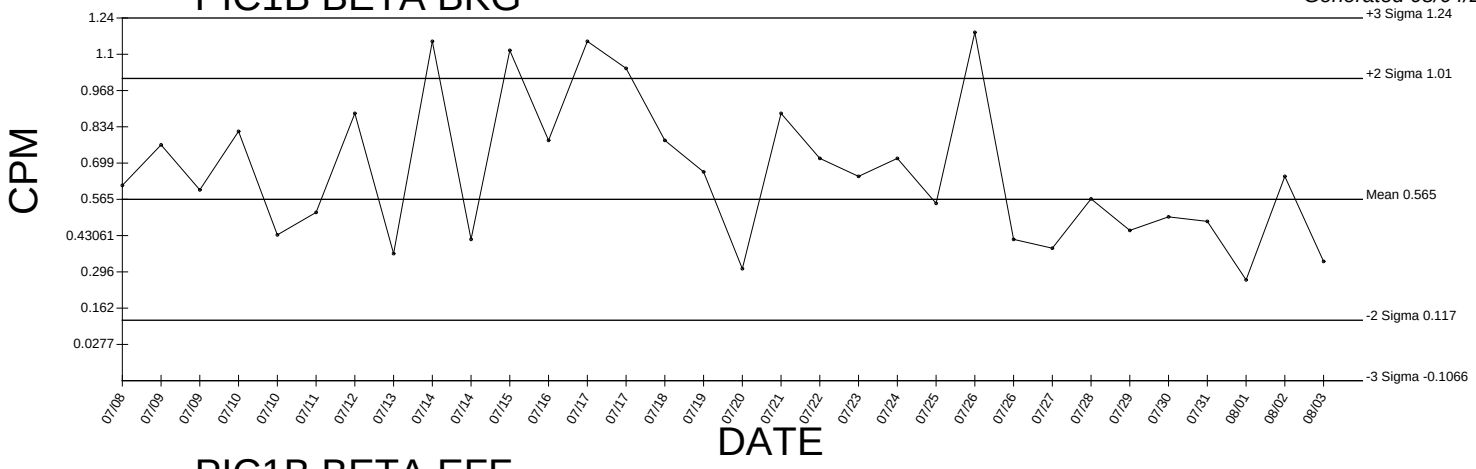

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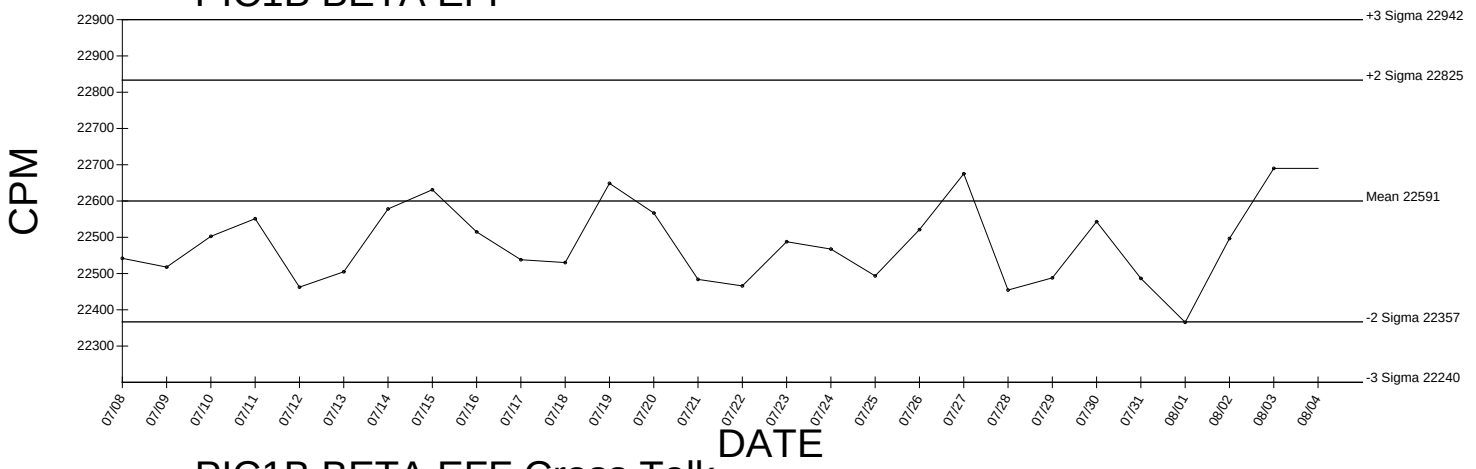
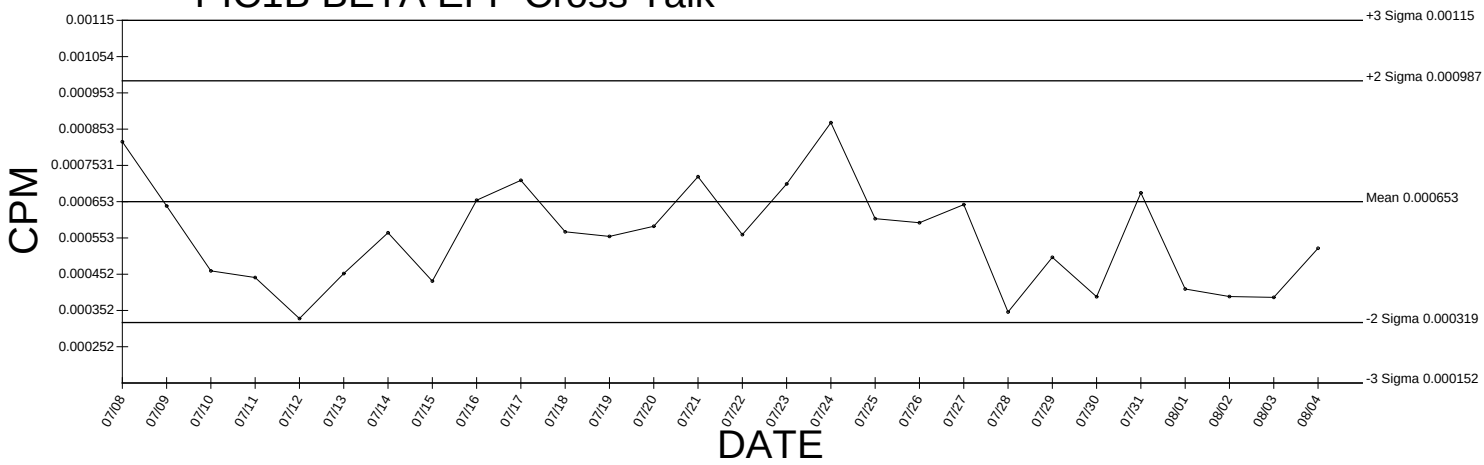


PIC1B BETA EFF Cross Talk



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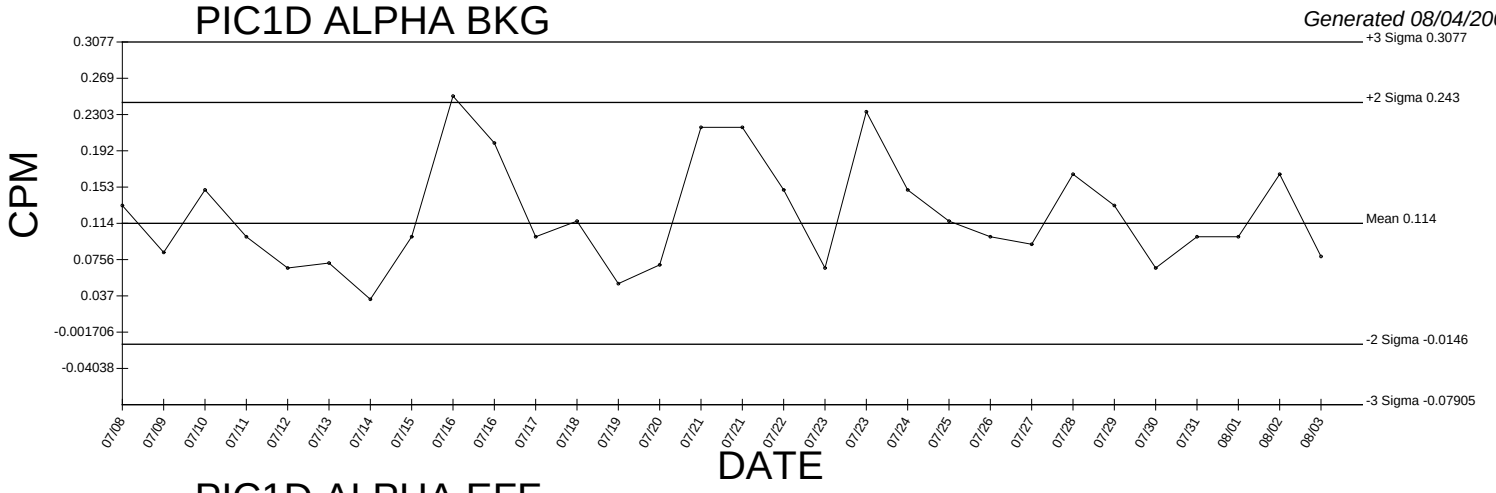

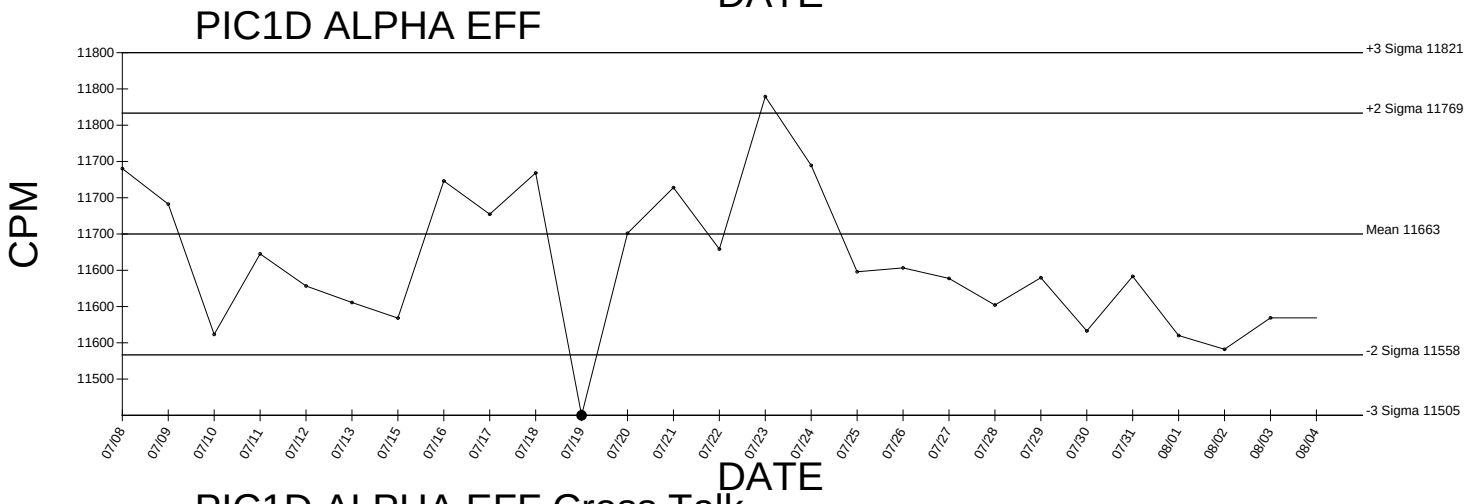

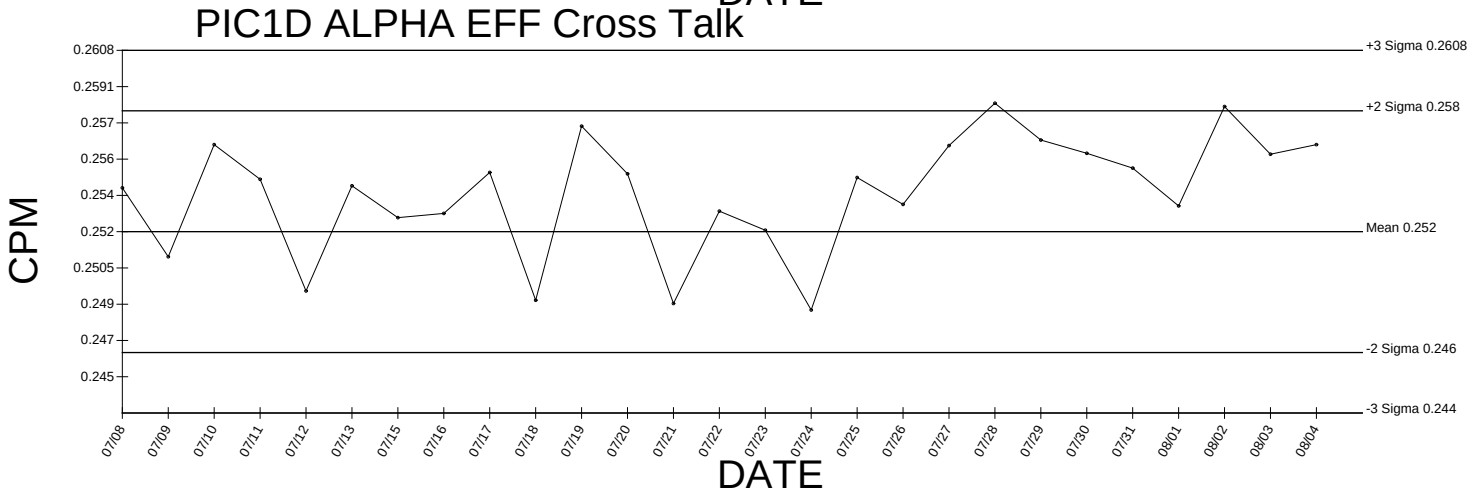

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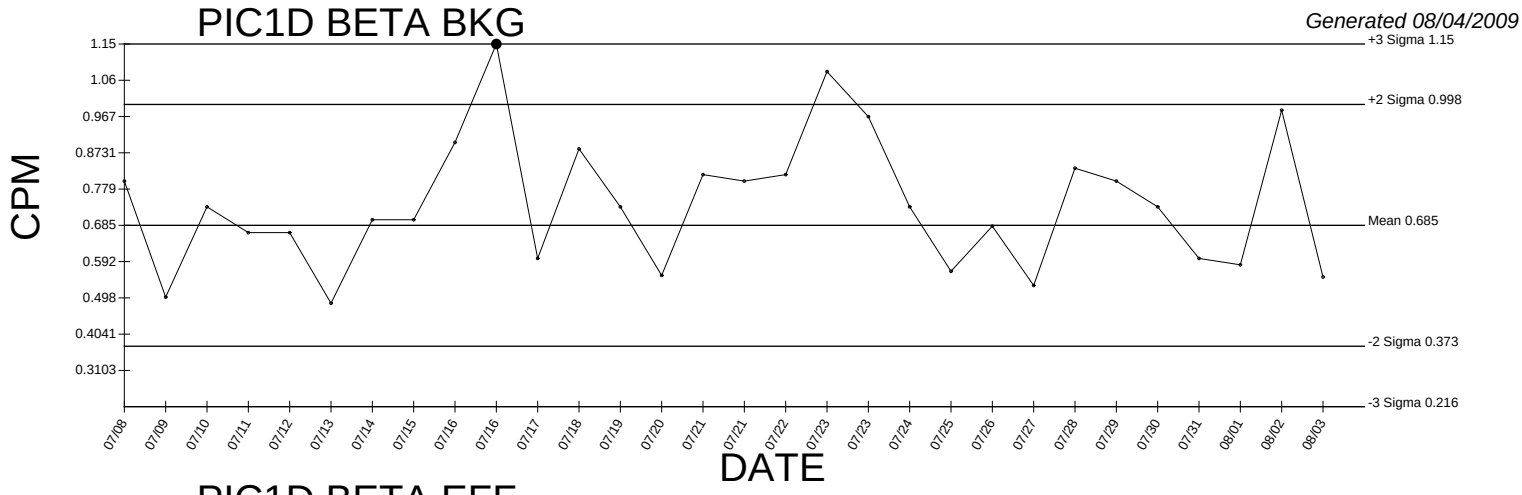
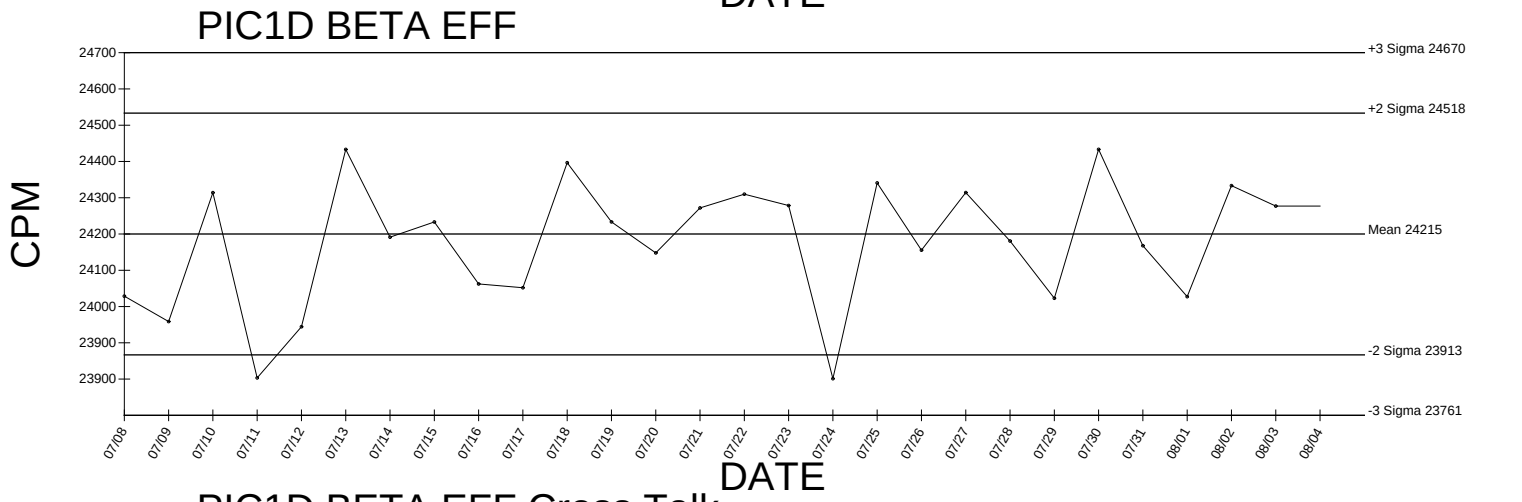
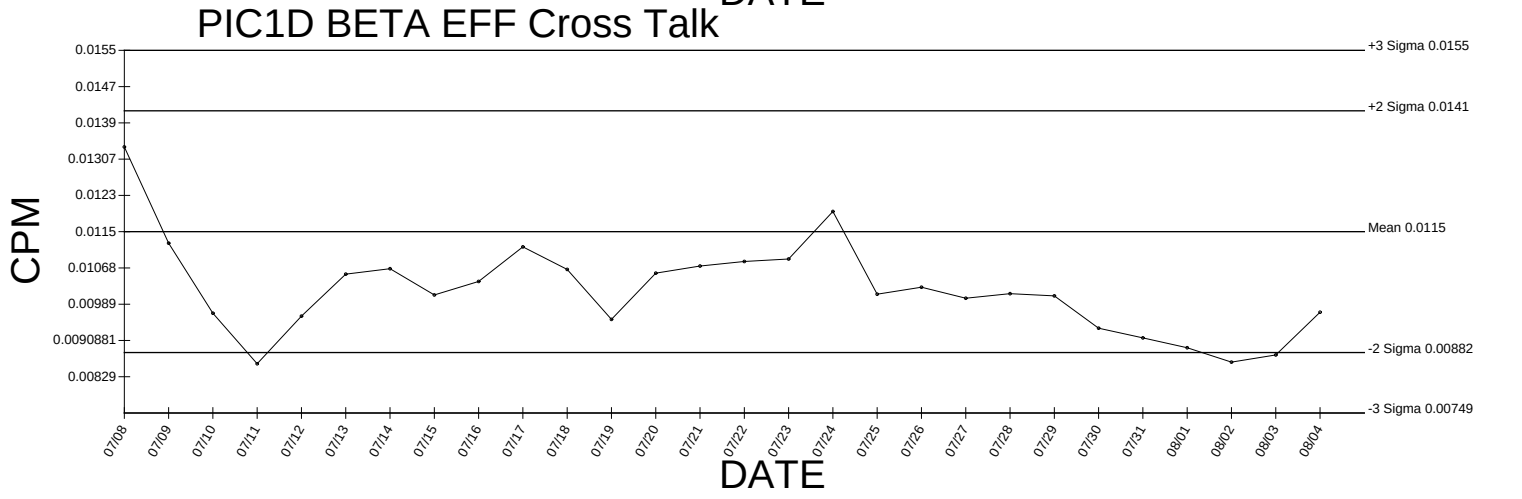
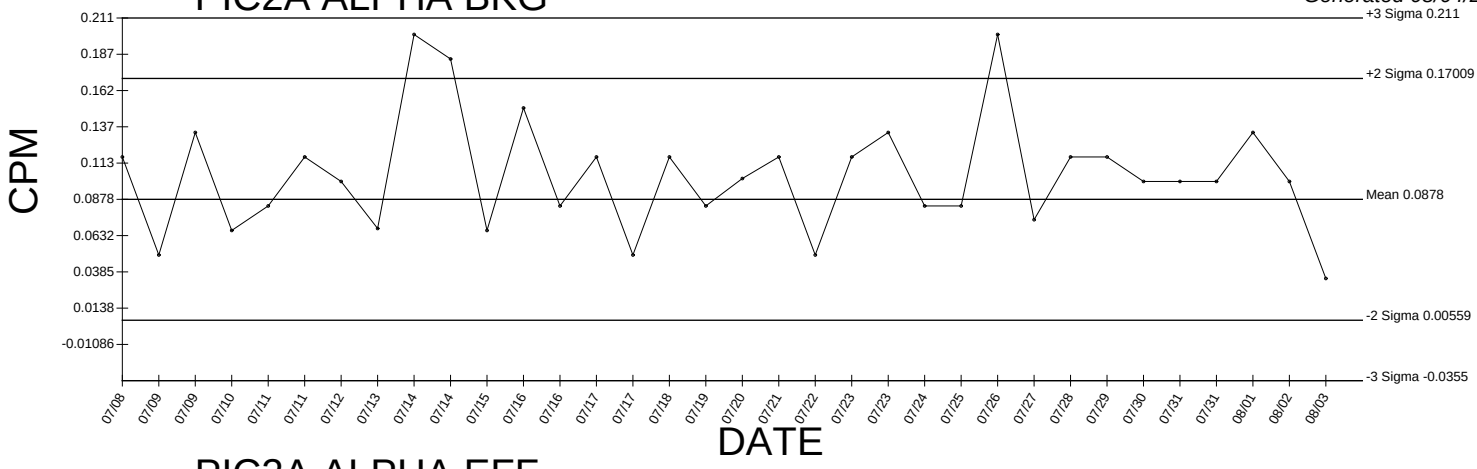




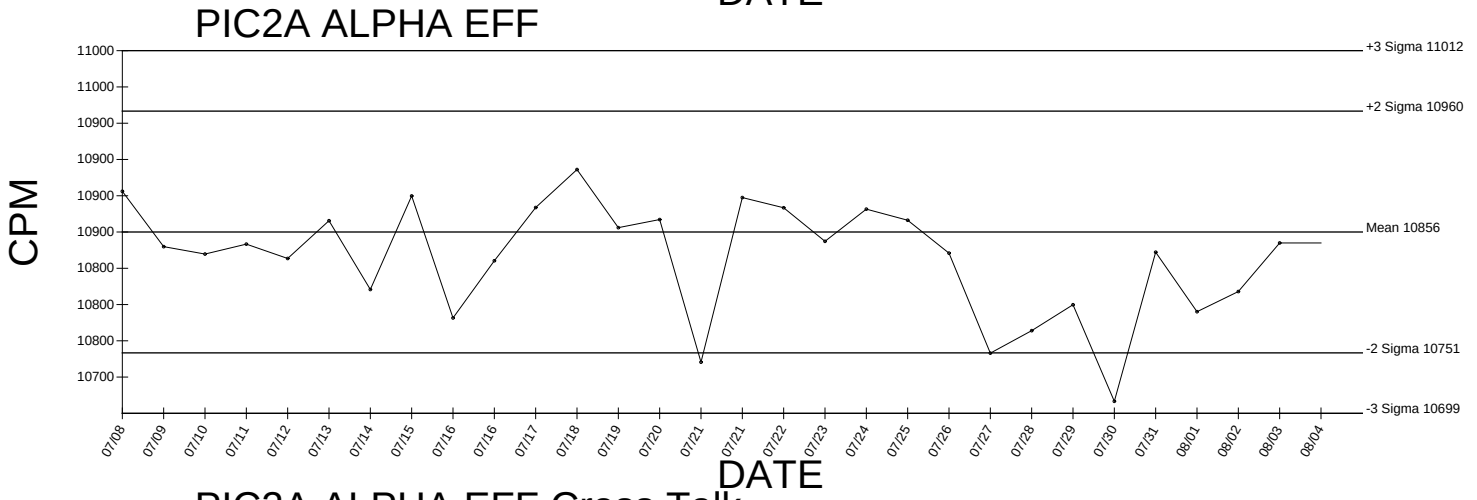


● Denotes Outlier

PIC2A ALPHA BKG



PIC2A ALPHA EFF



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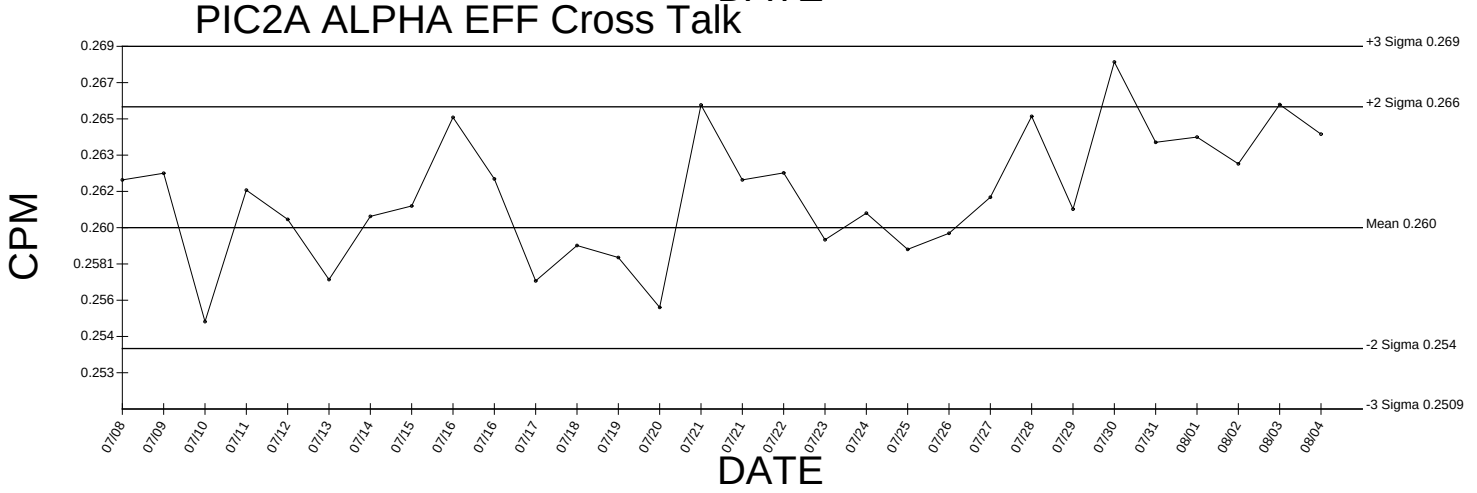
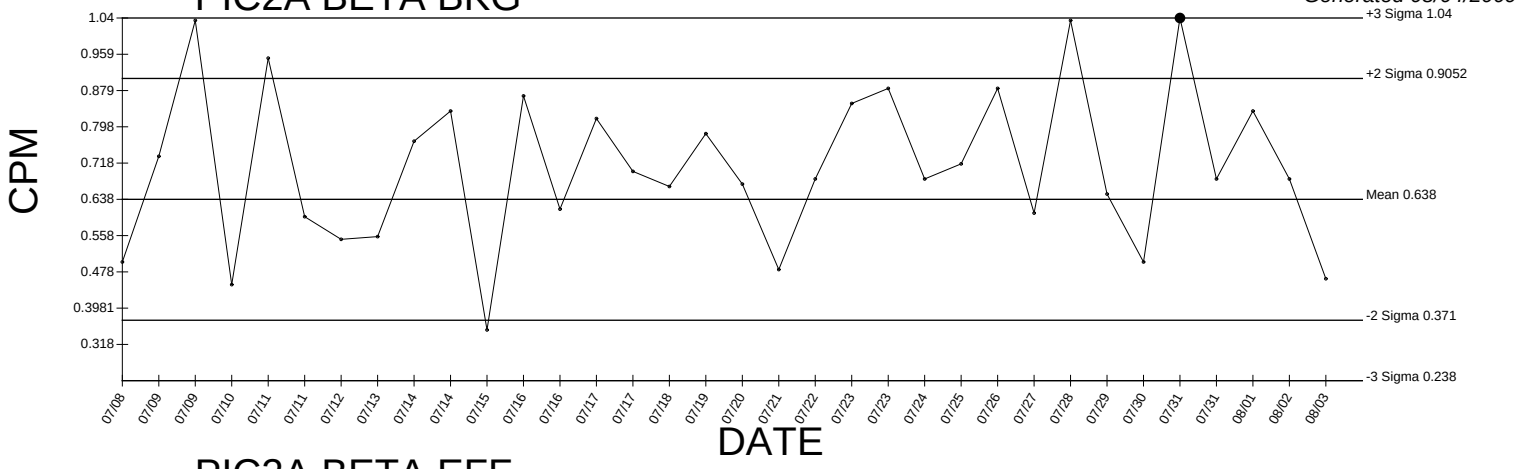


● Denotes Outlier

PIC2A BETA BKG



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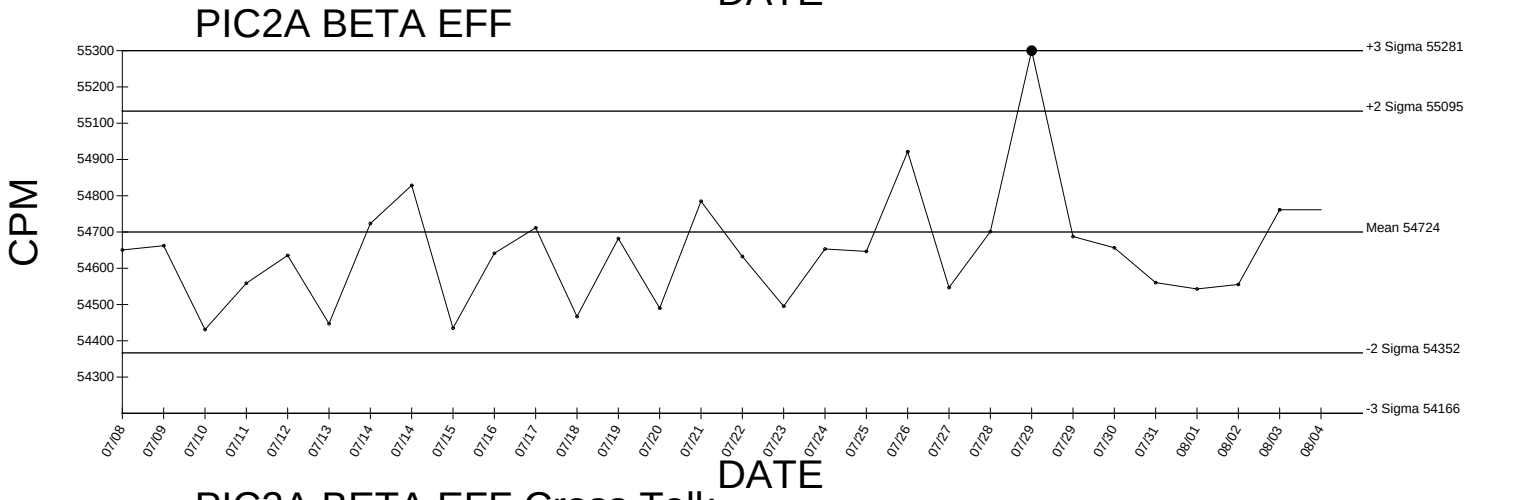

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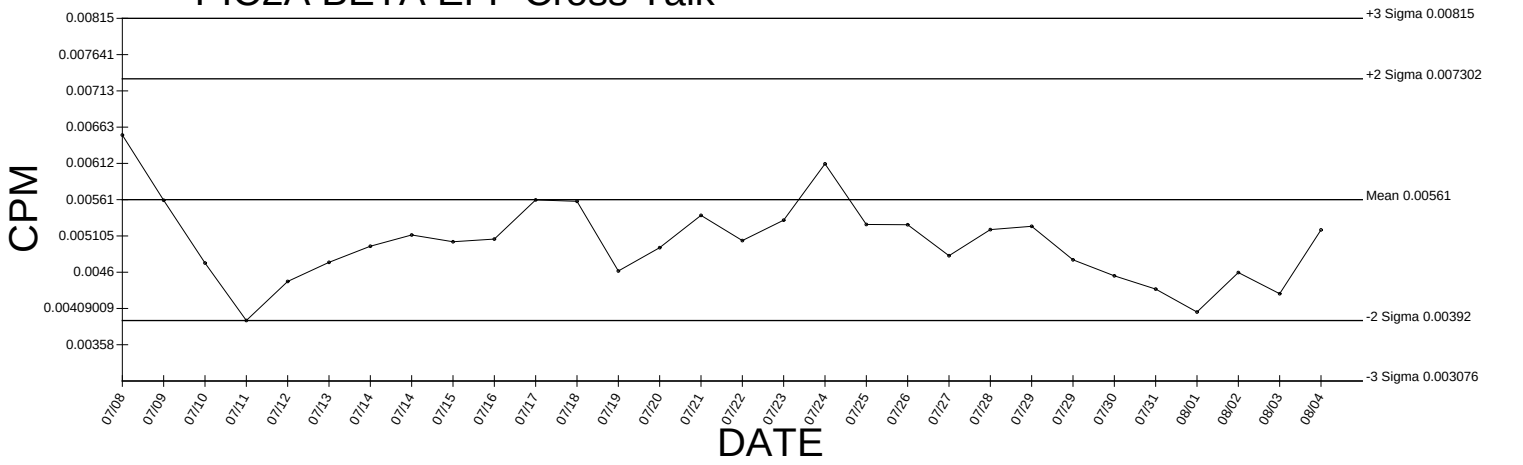

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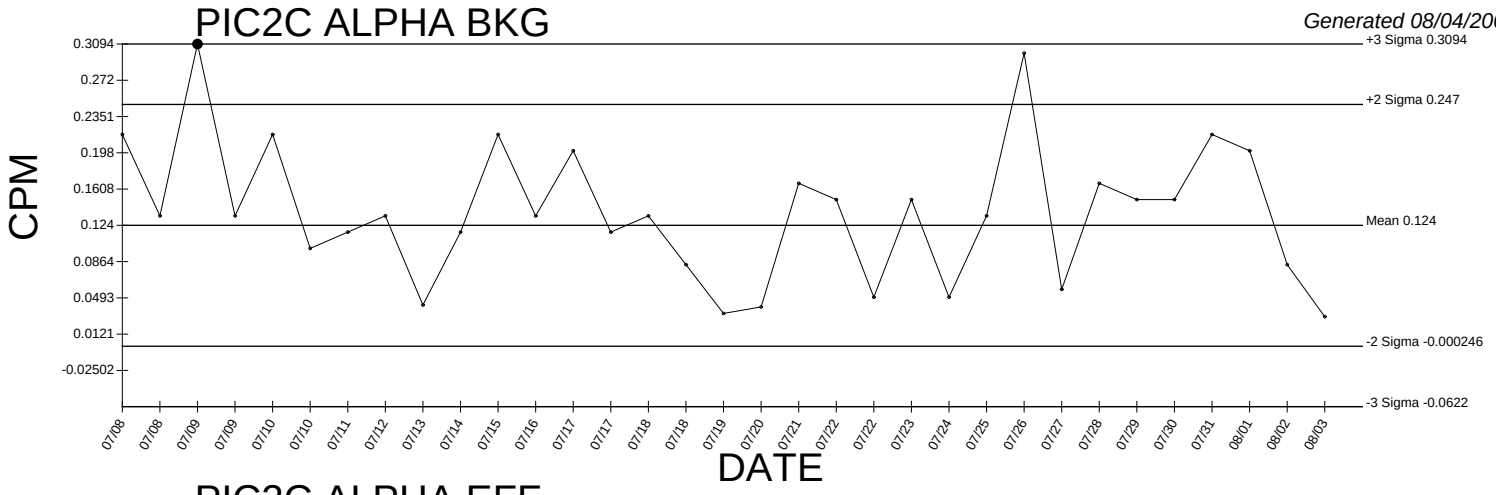

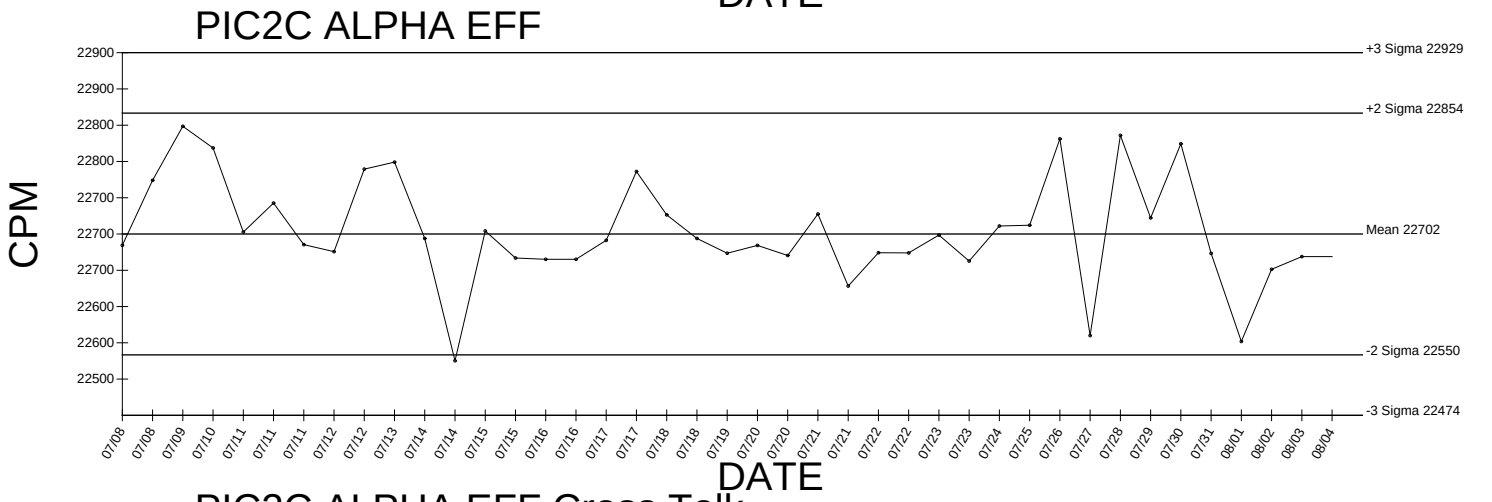

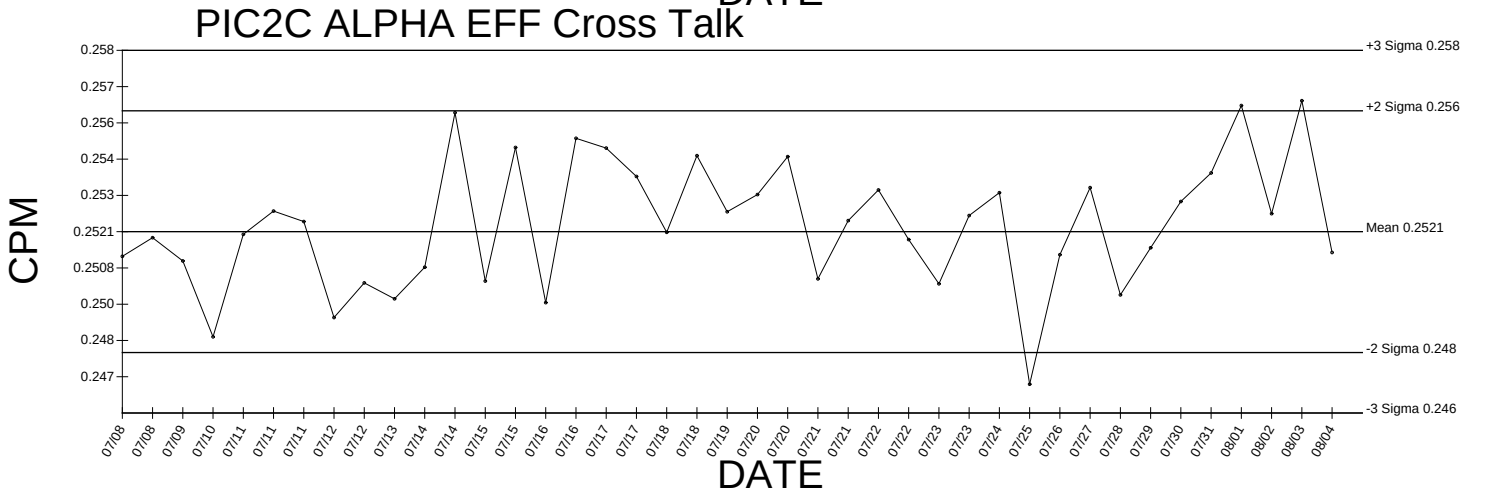

● Denotes Outlier

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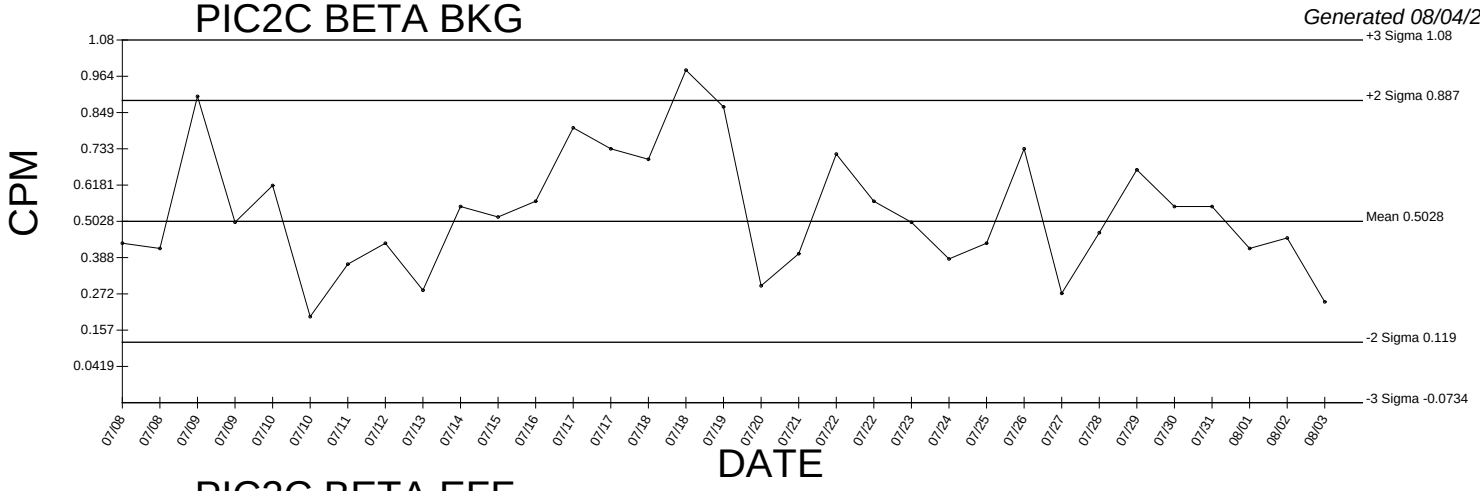

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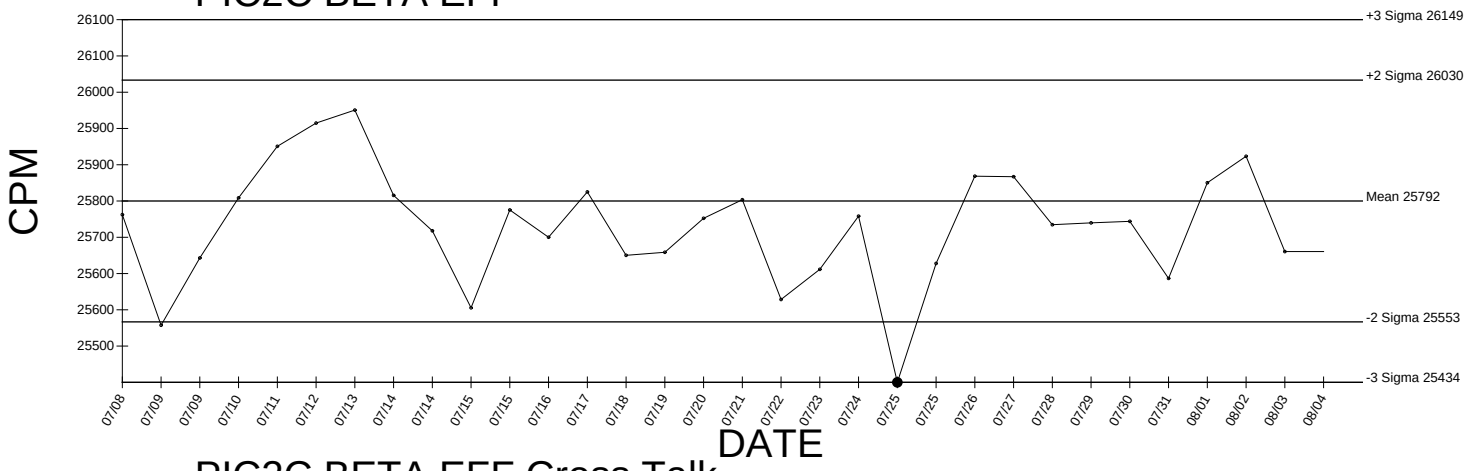
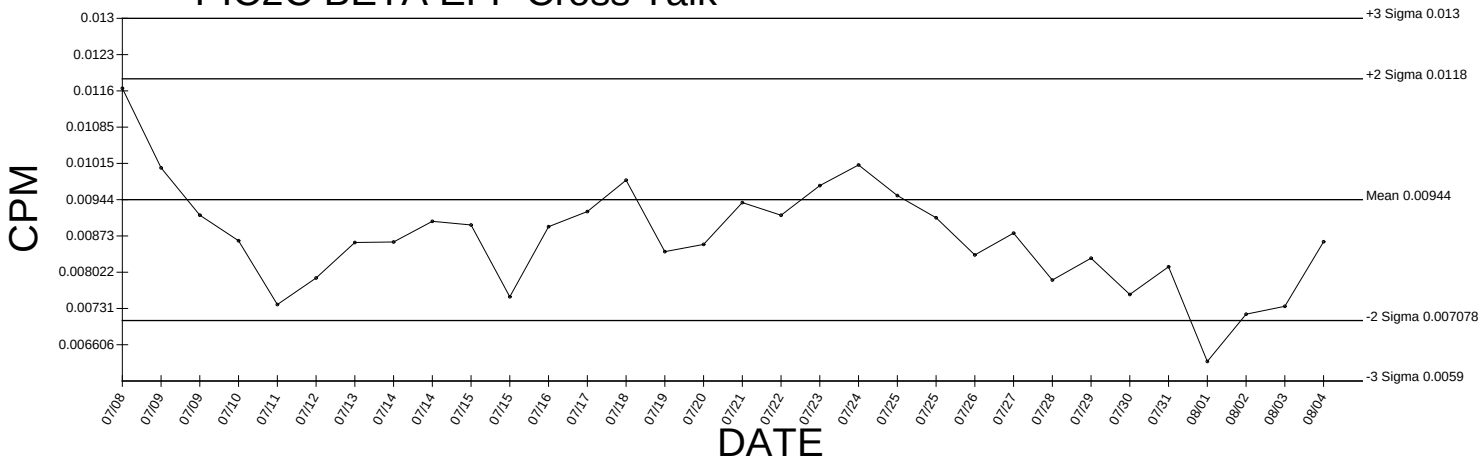


PIC2C BETA EFF Cross Talk



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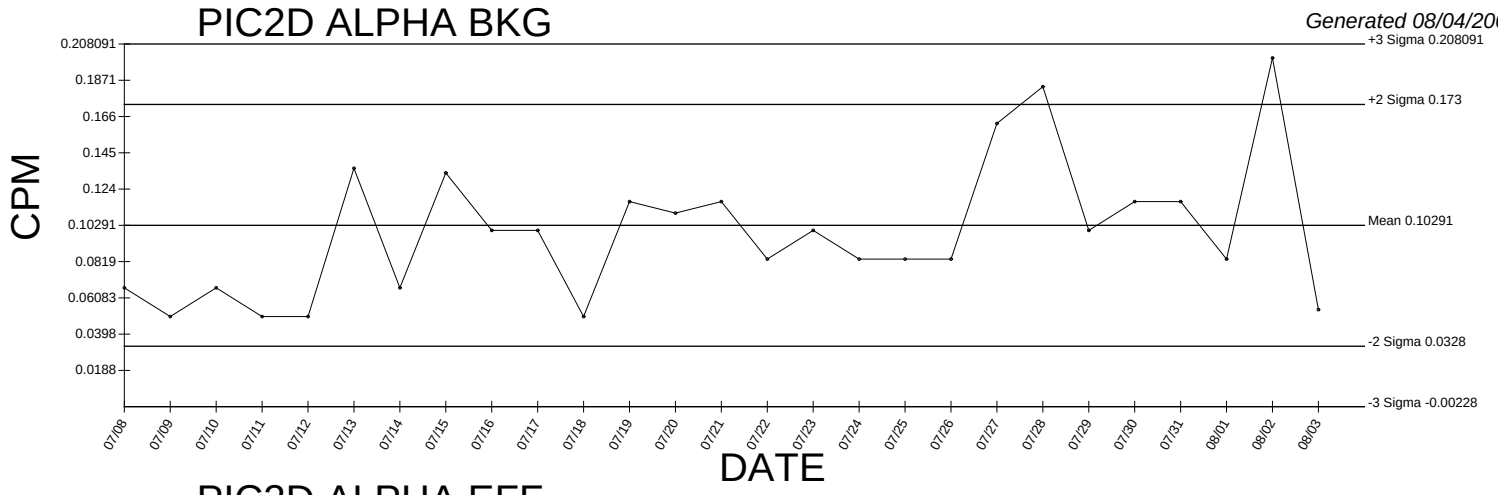

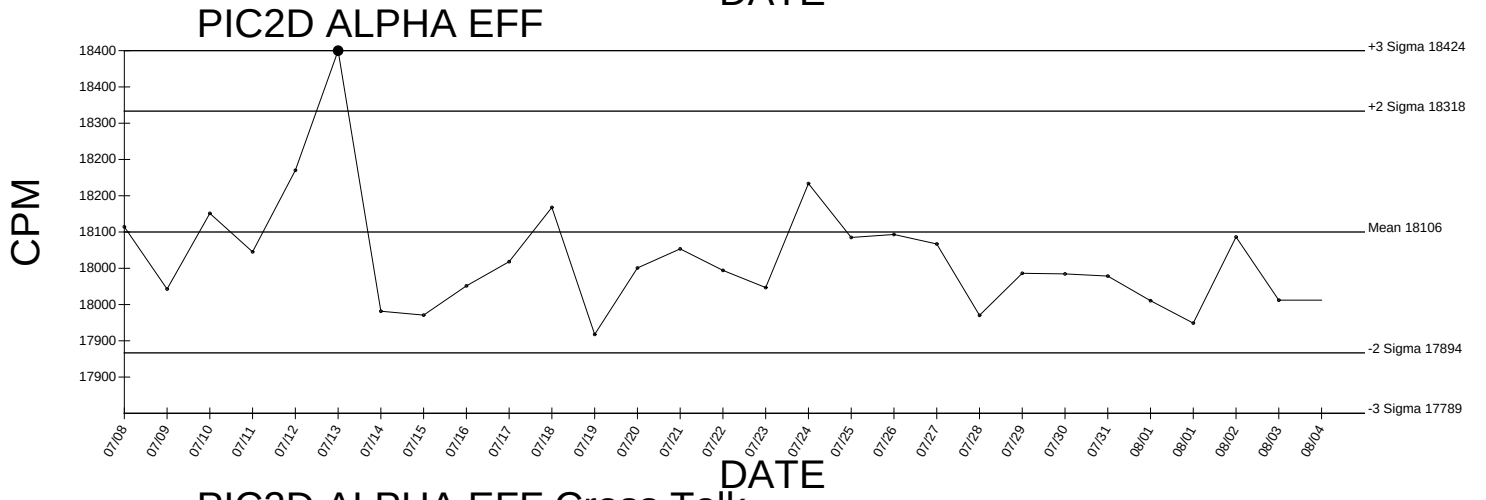

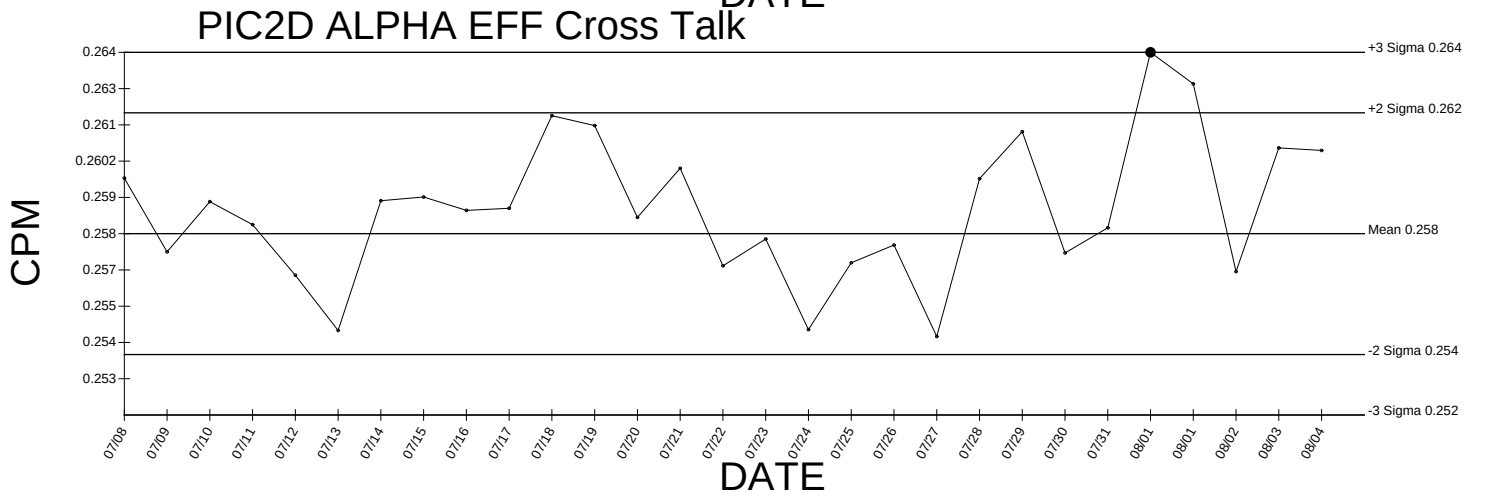

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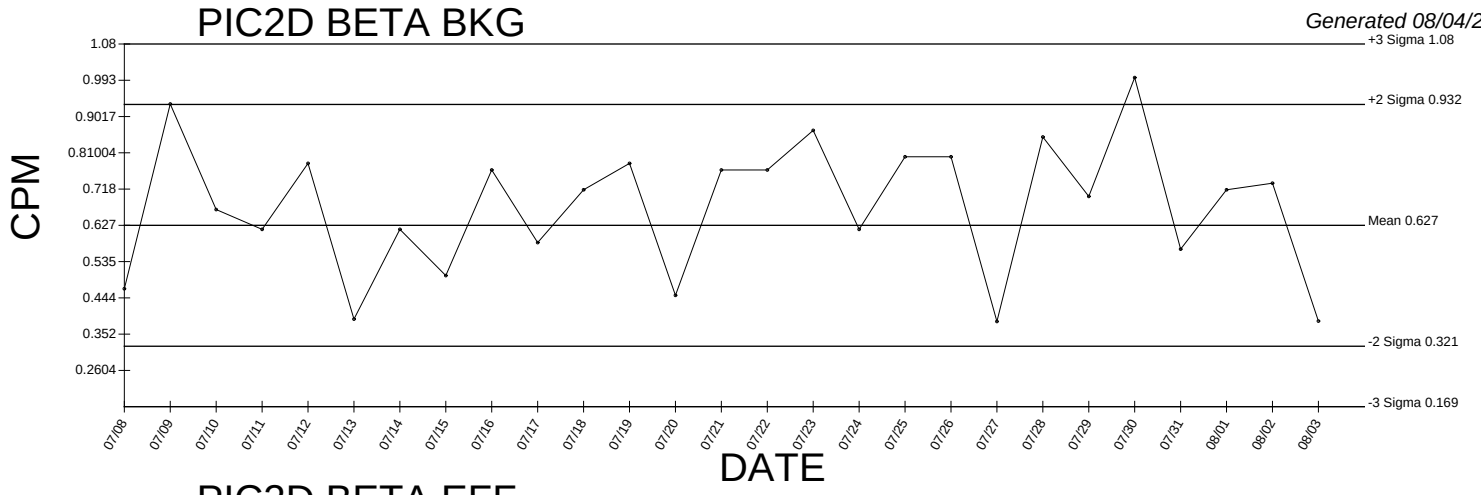

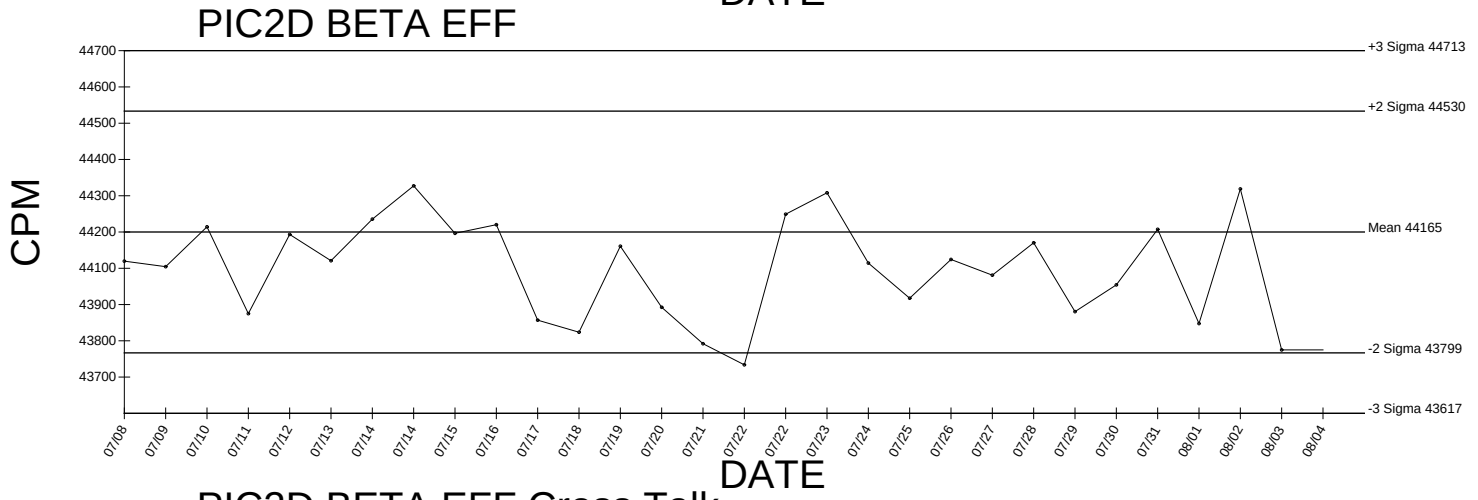

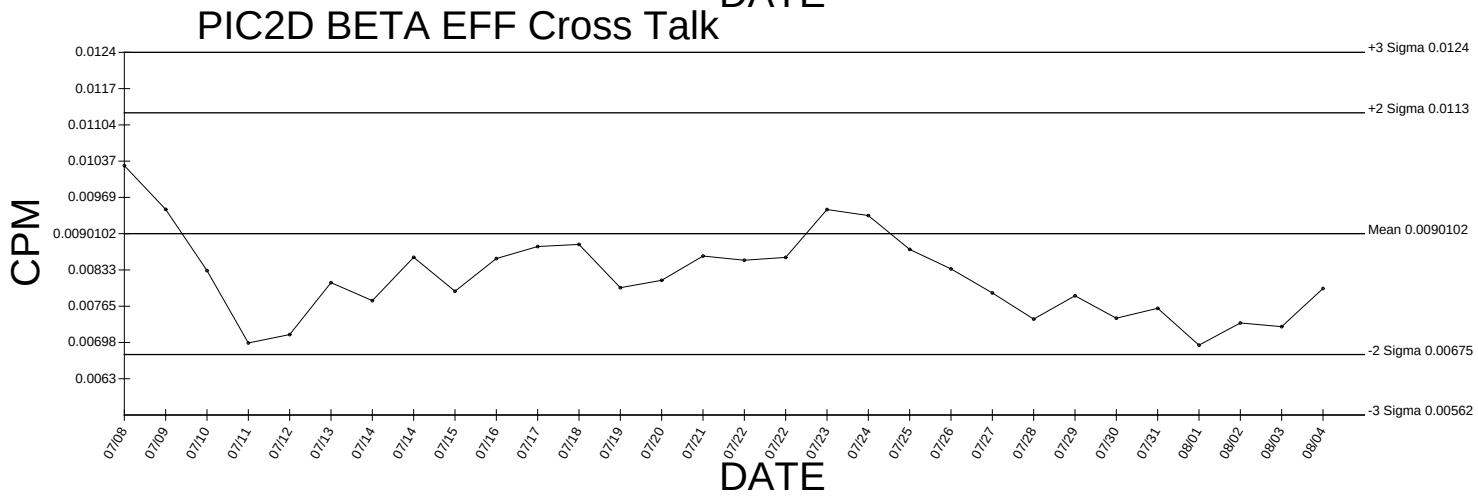

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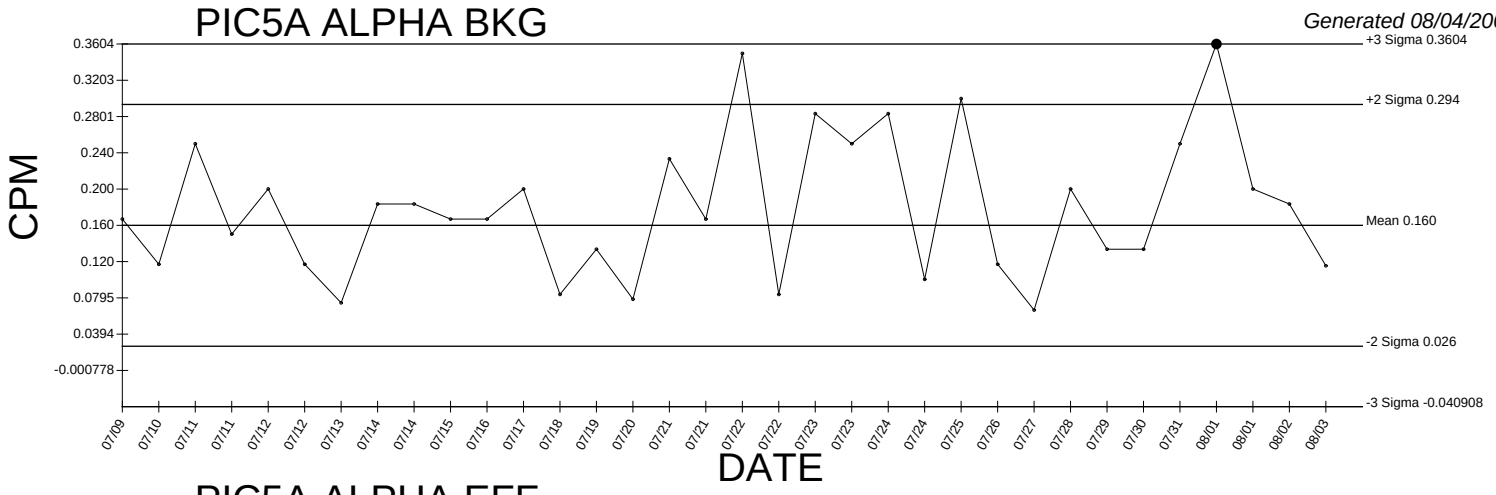

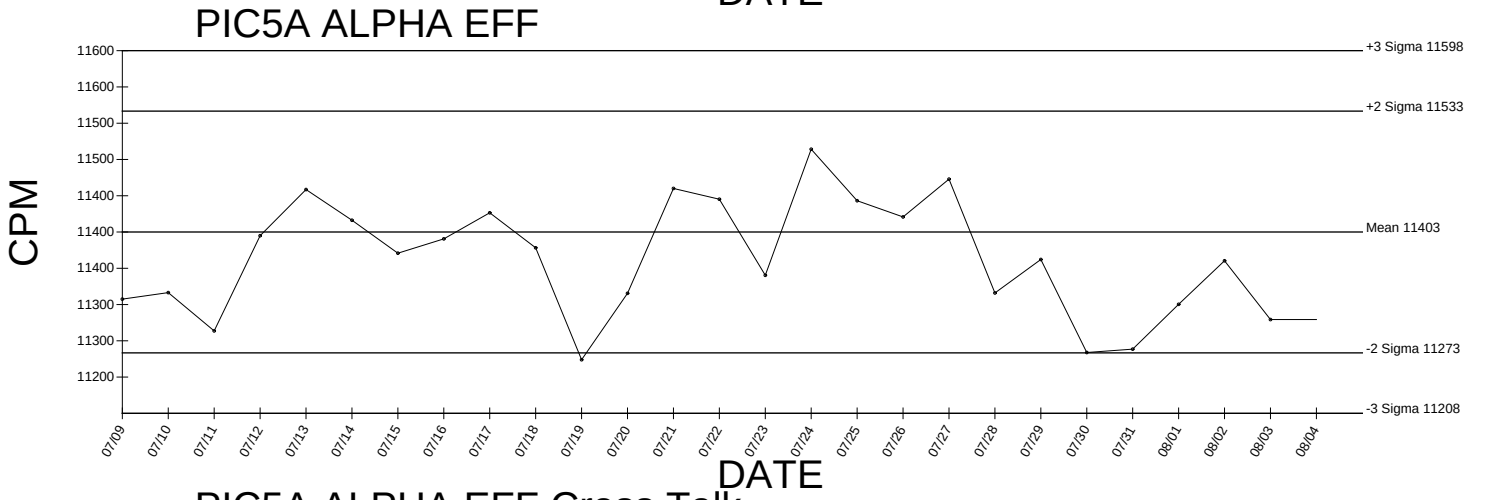

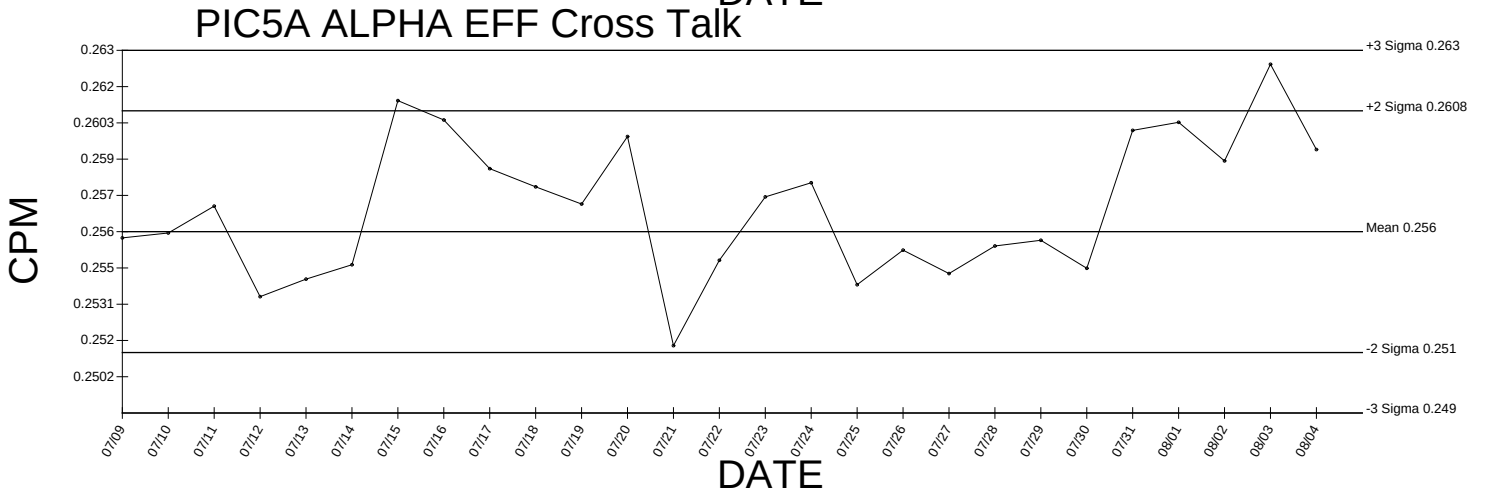

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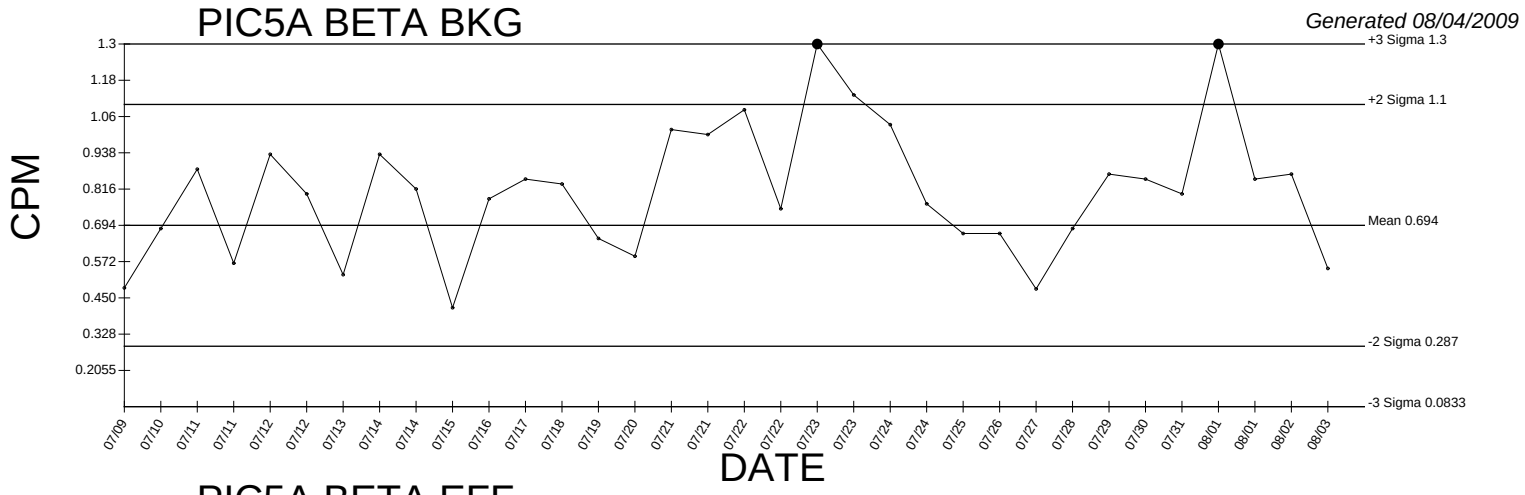

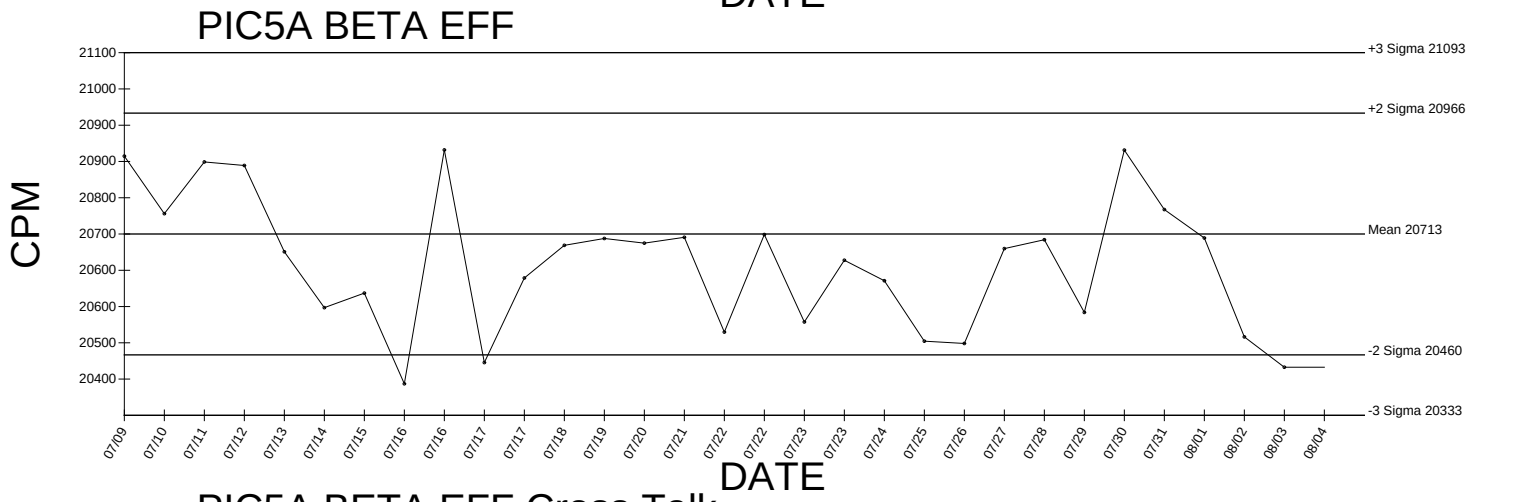

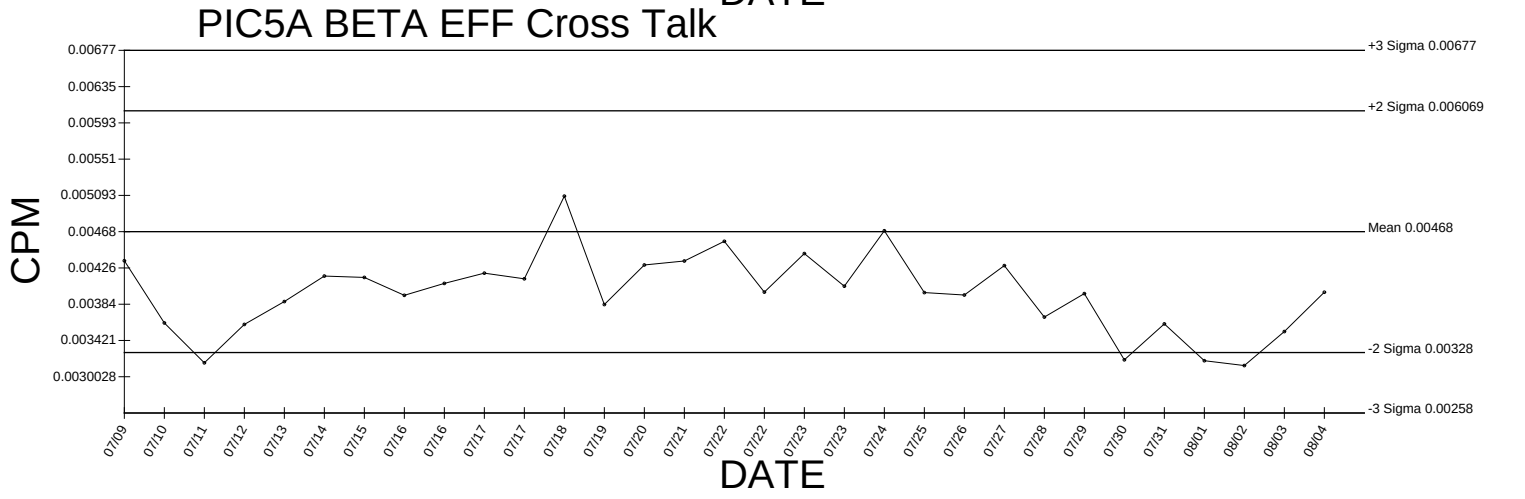

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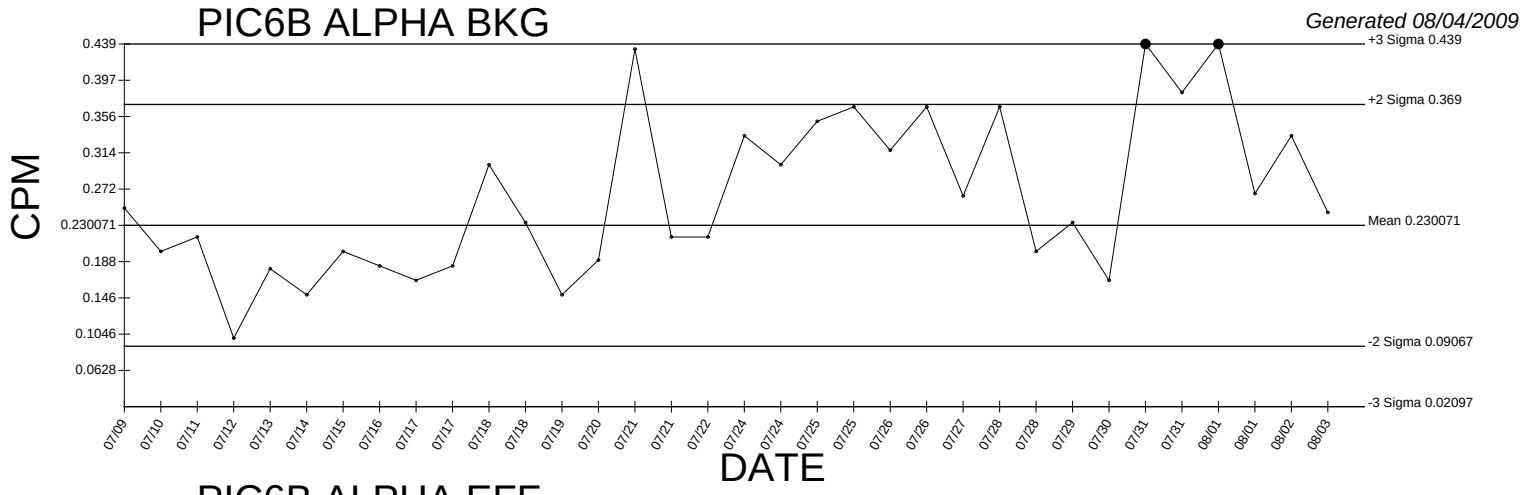
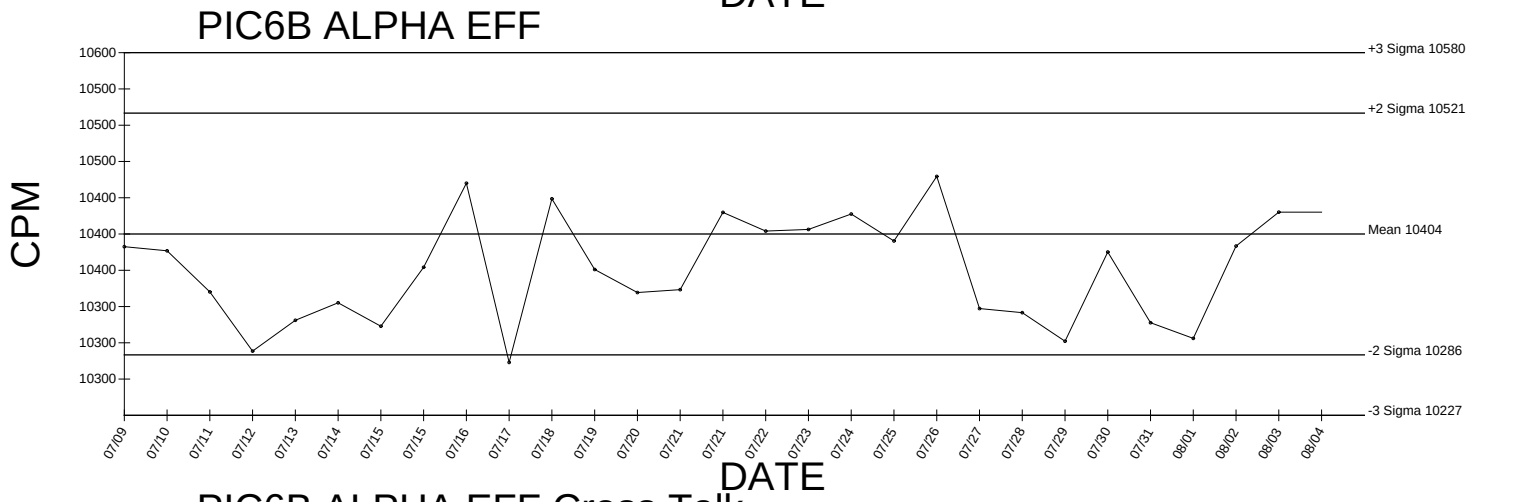
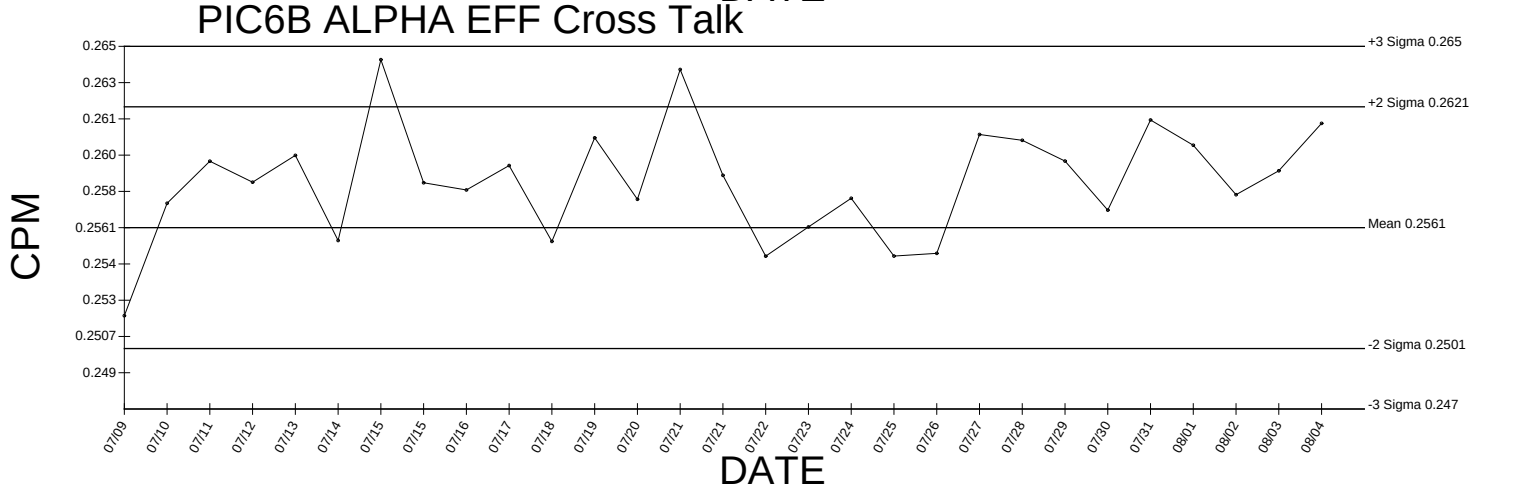
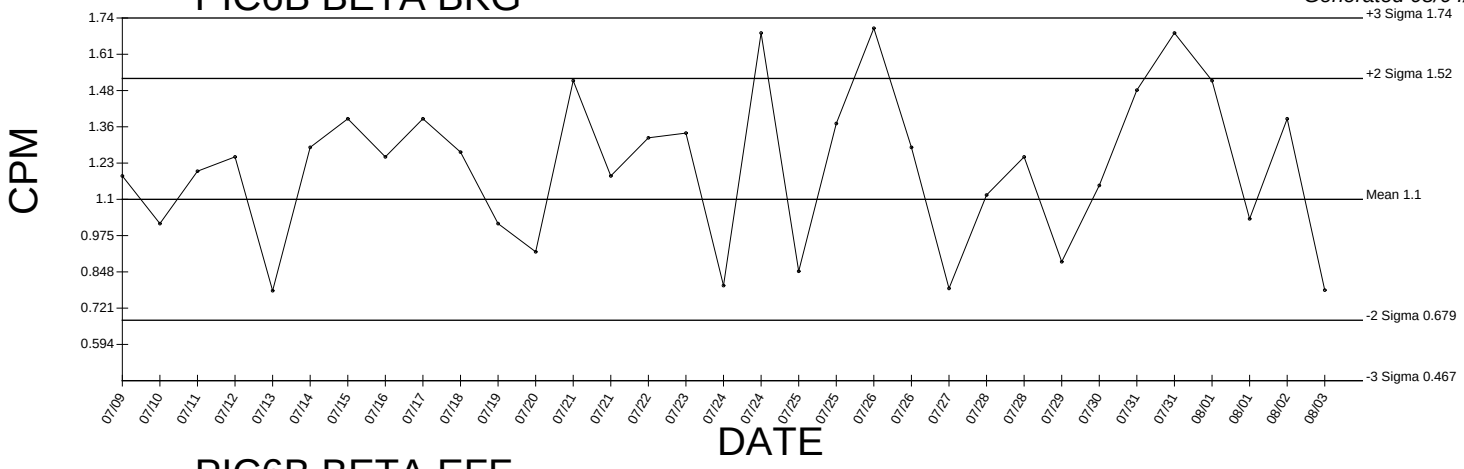




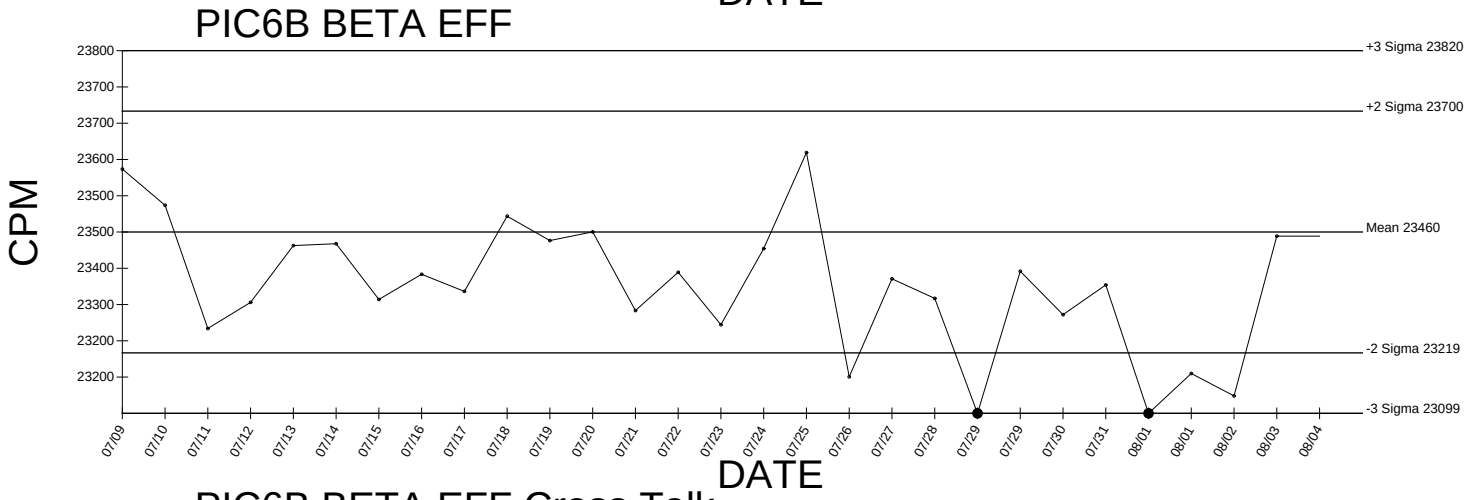


● Denotes Outlier

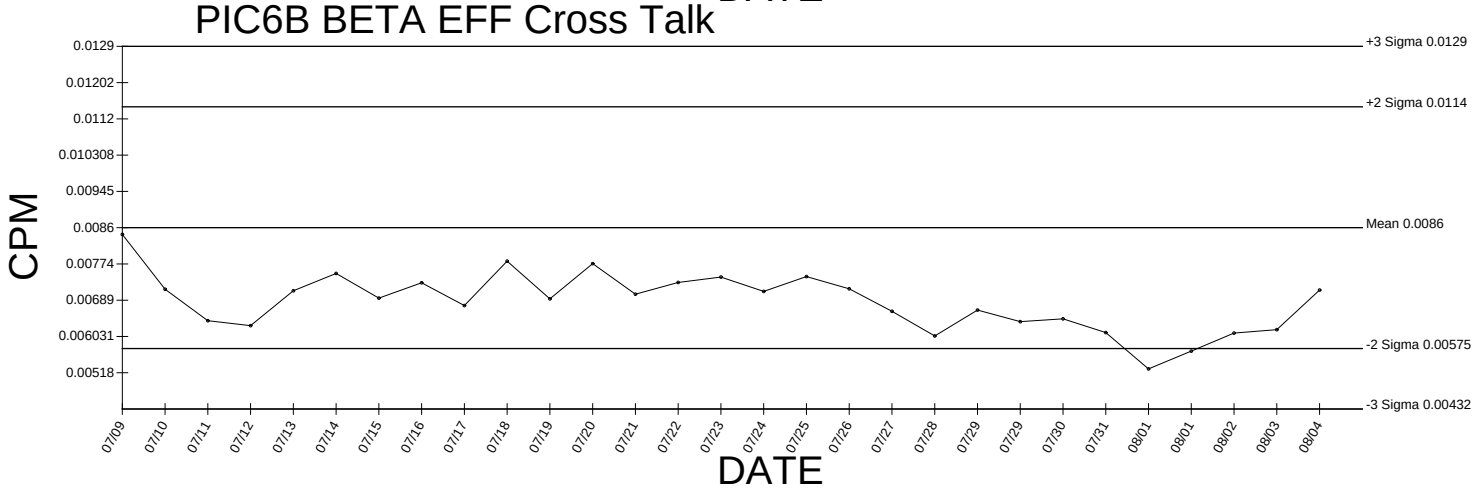
PIC6B BETA BKG



PIC6B BETA EFF



PIC6B BETA EFF Cross Talk



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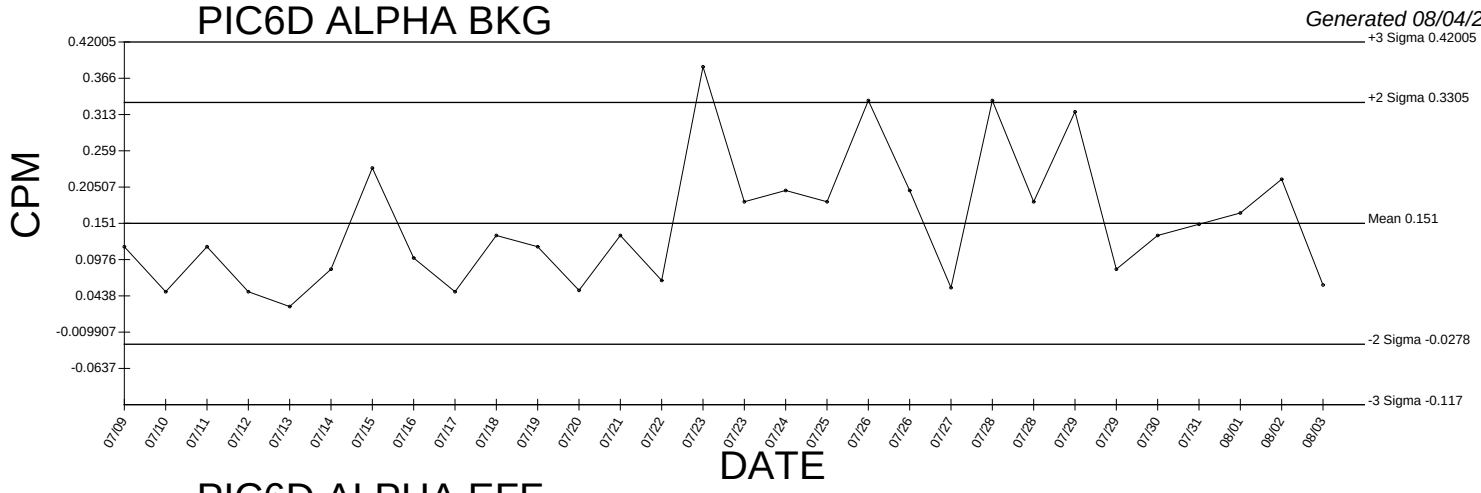

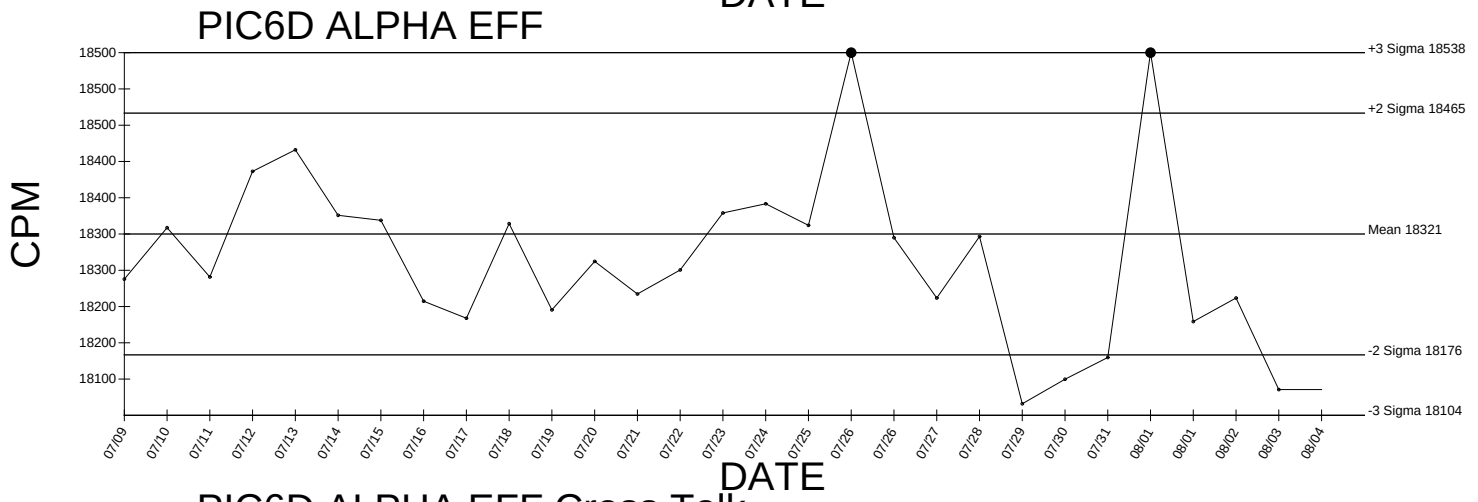

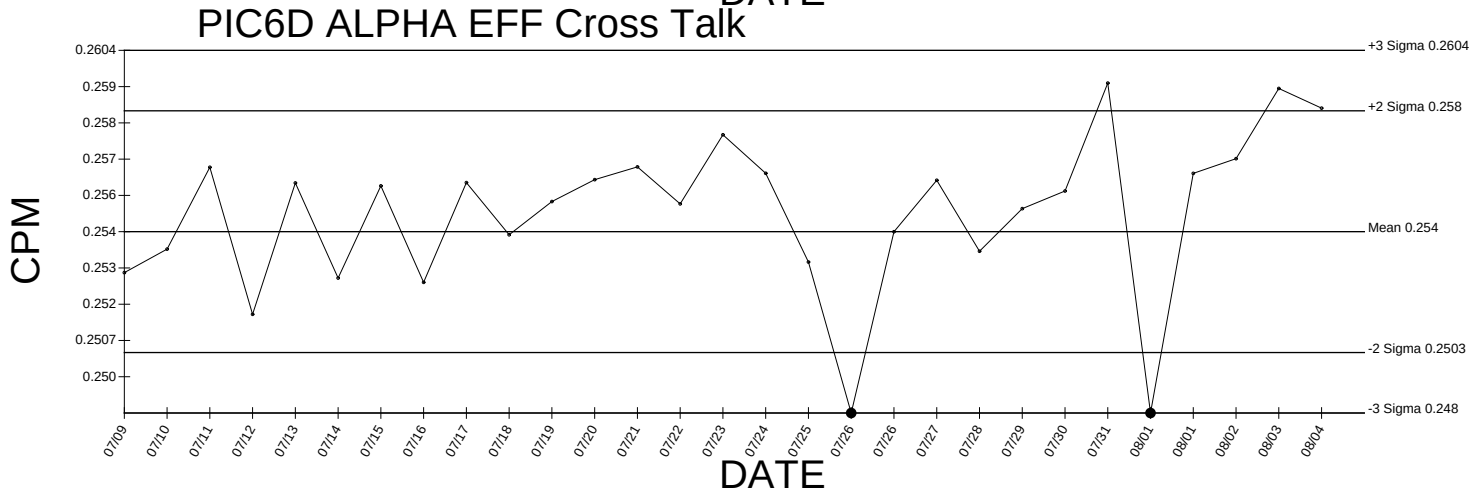

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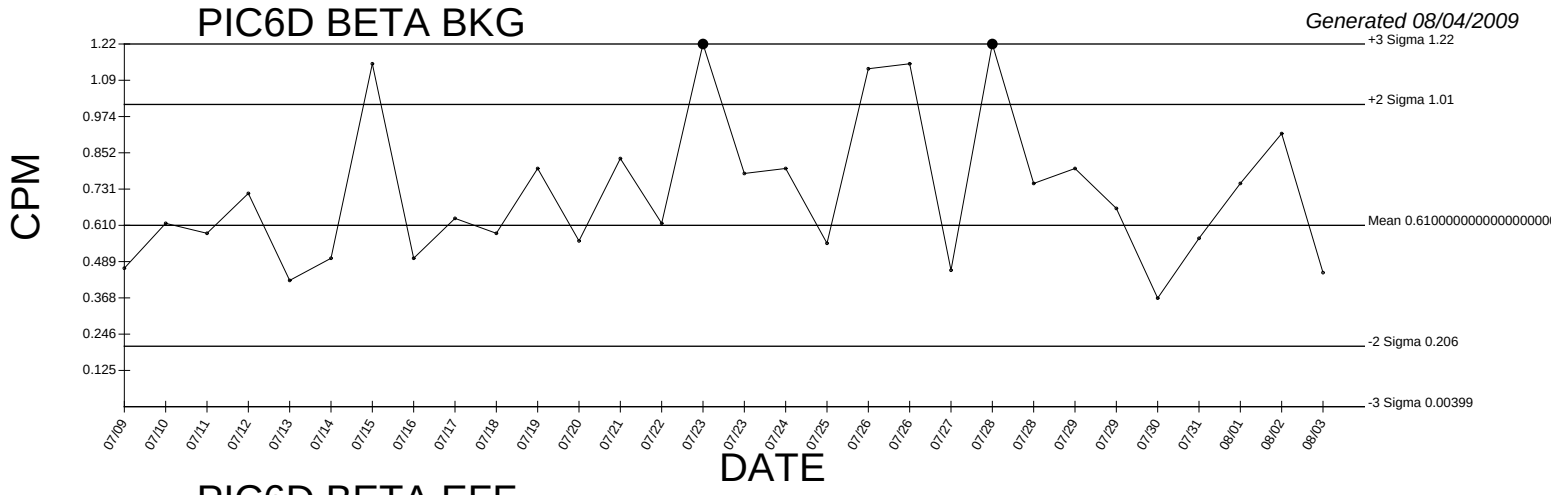

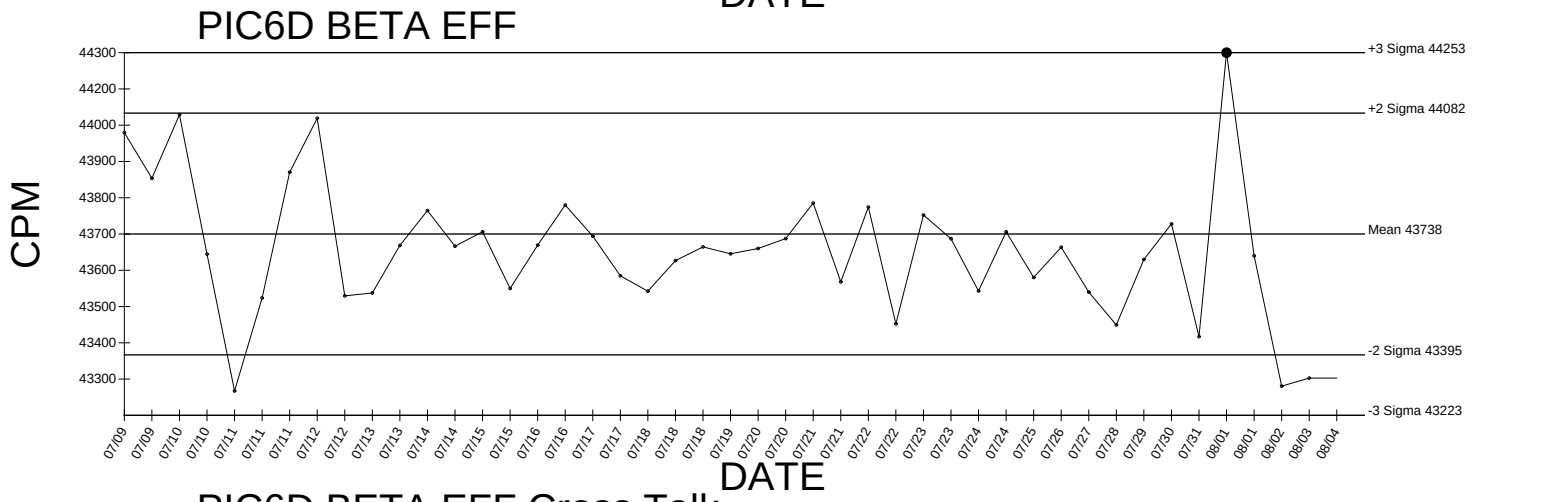

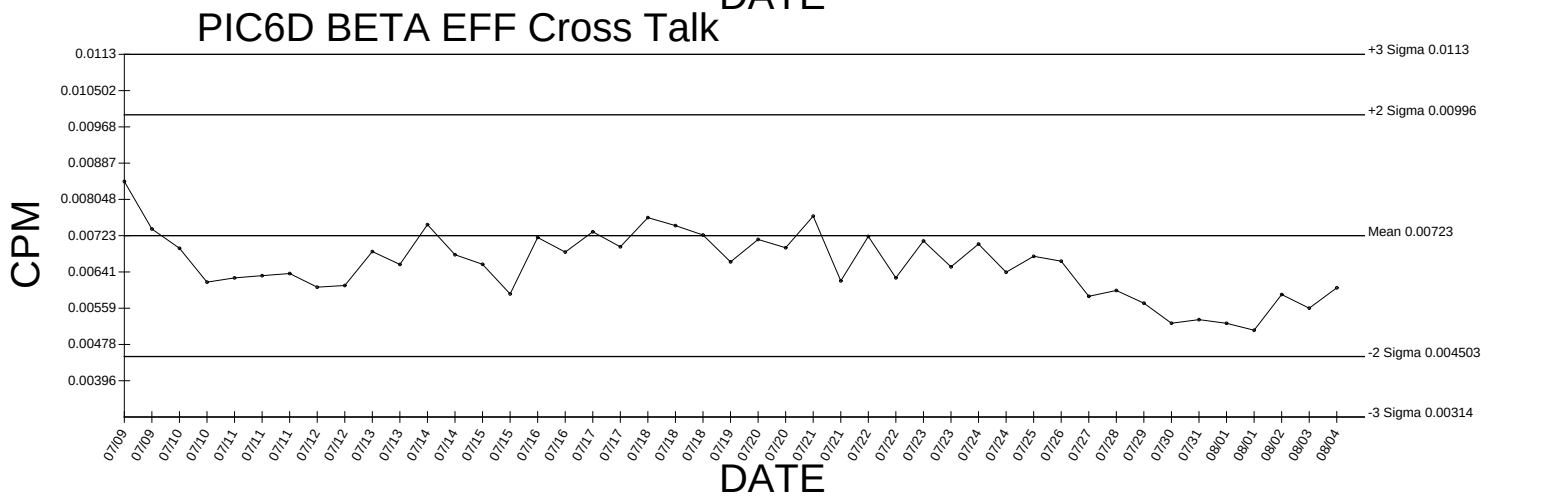

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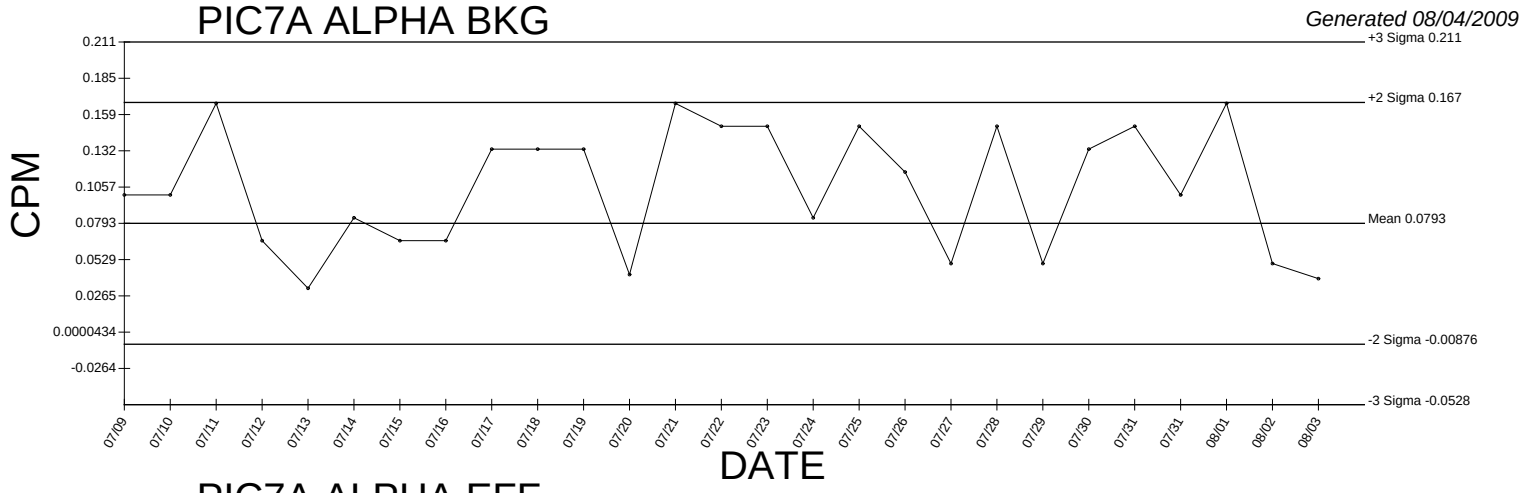

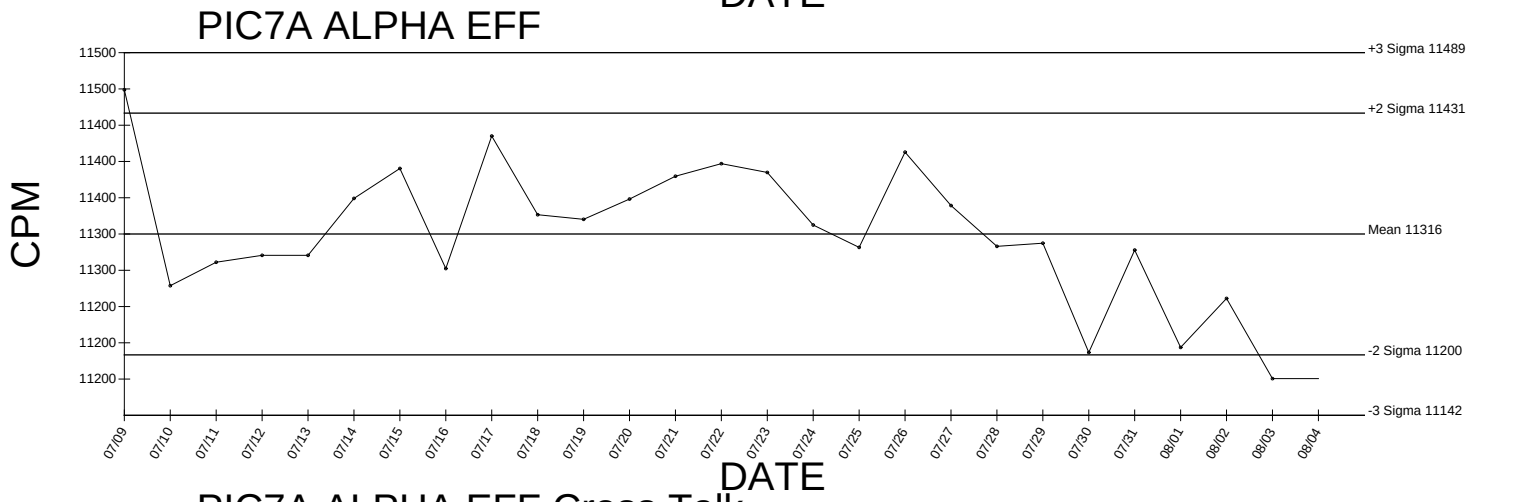

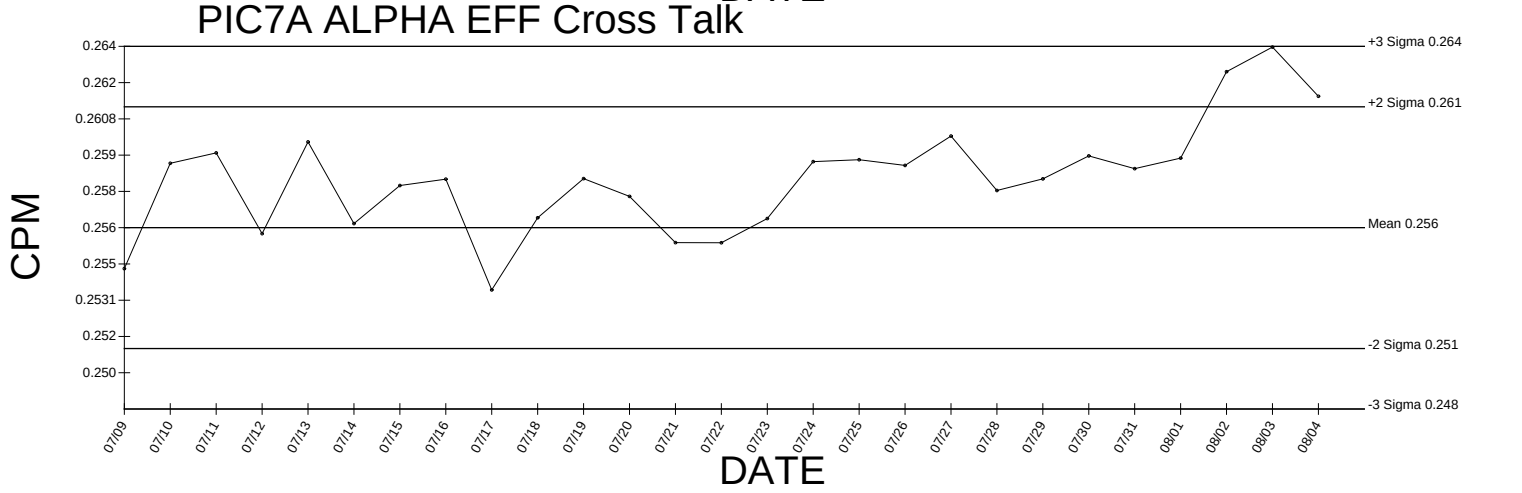

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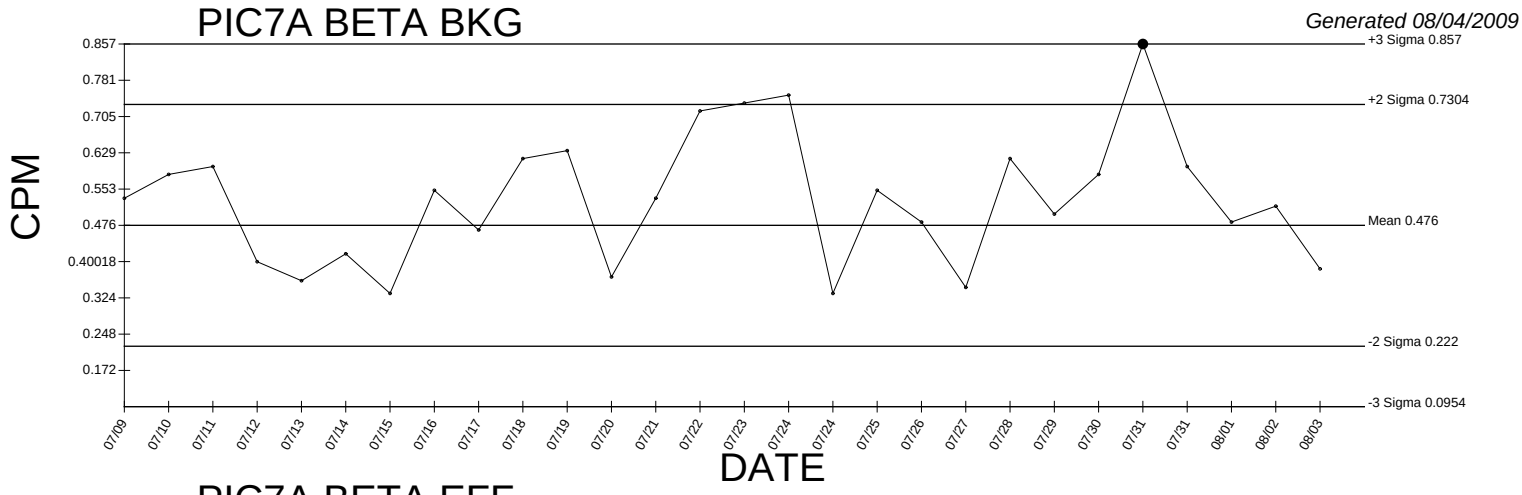

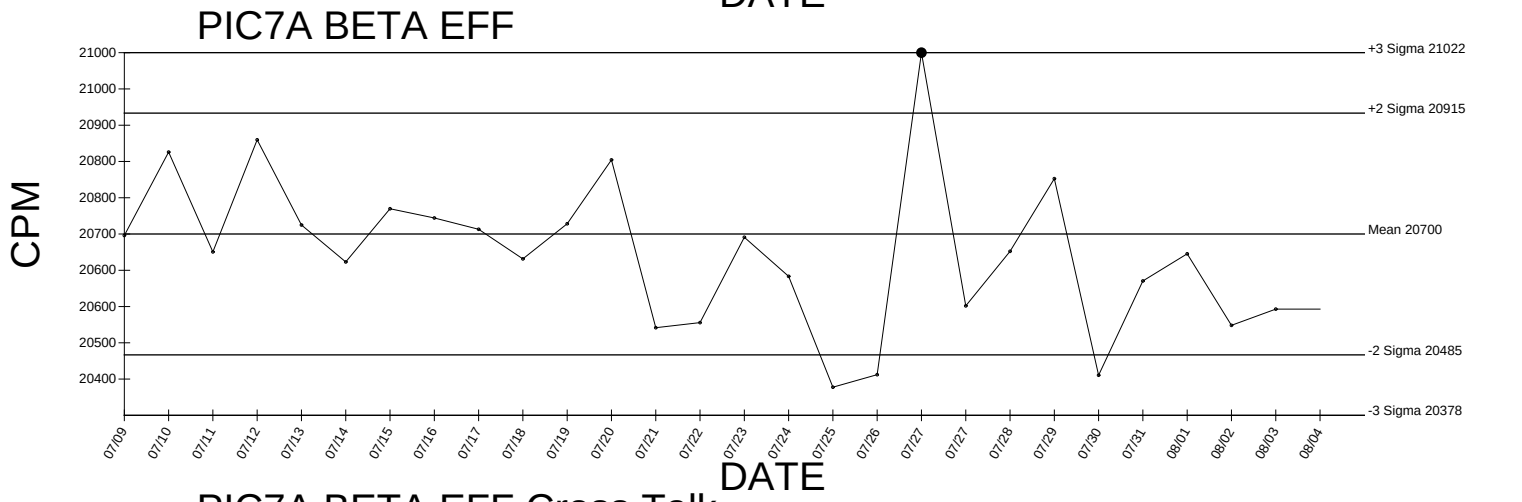

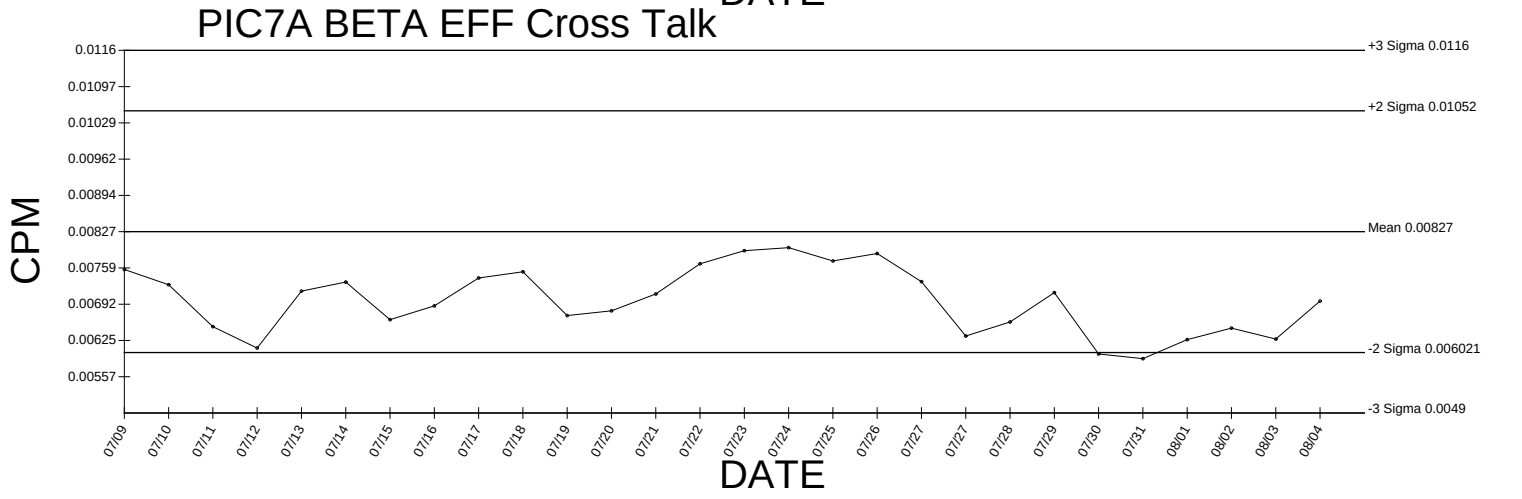

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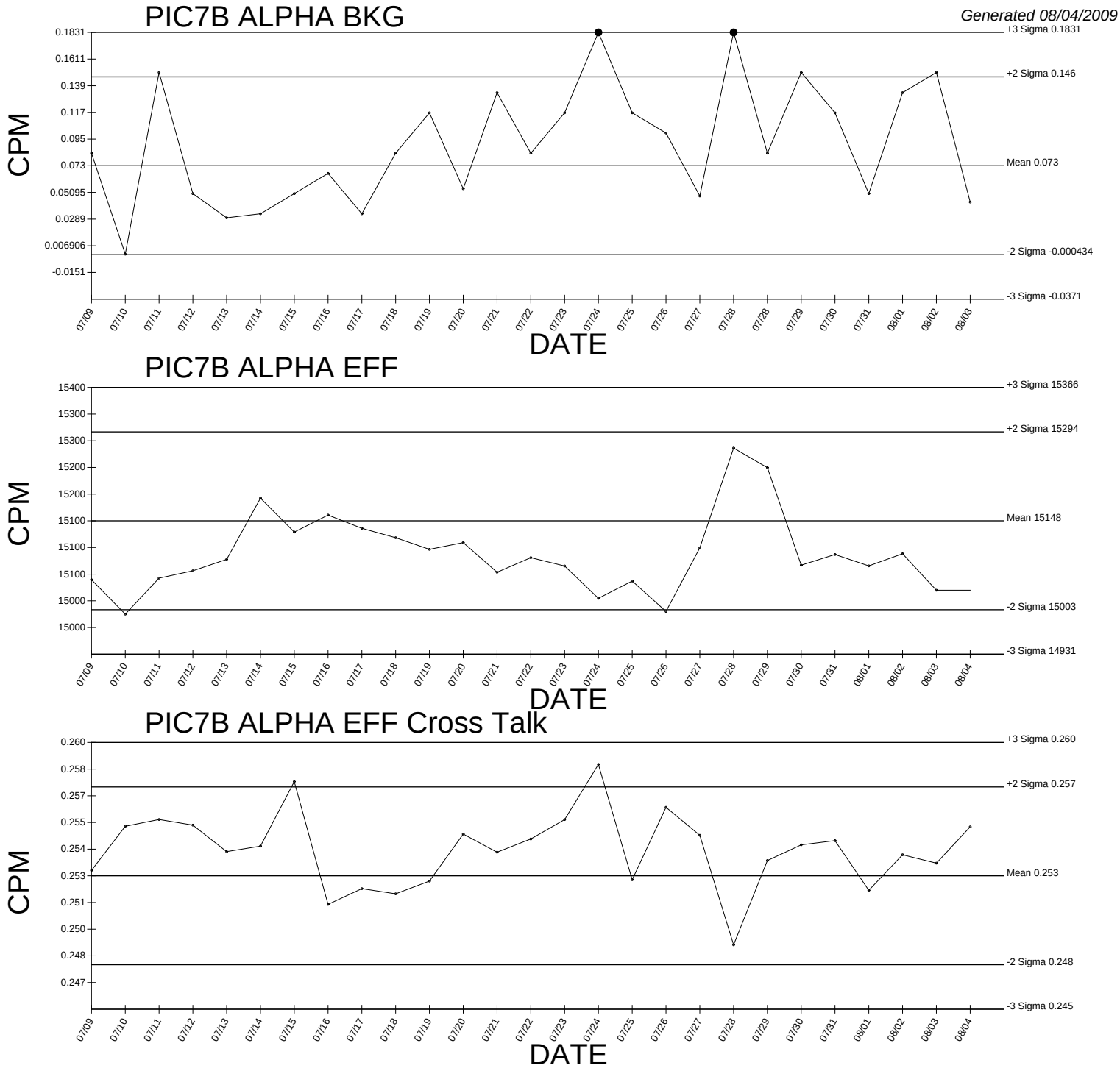
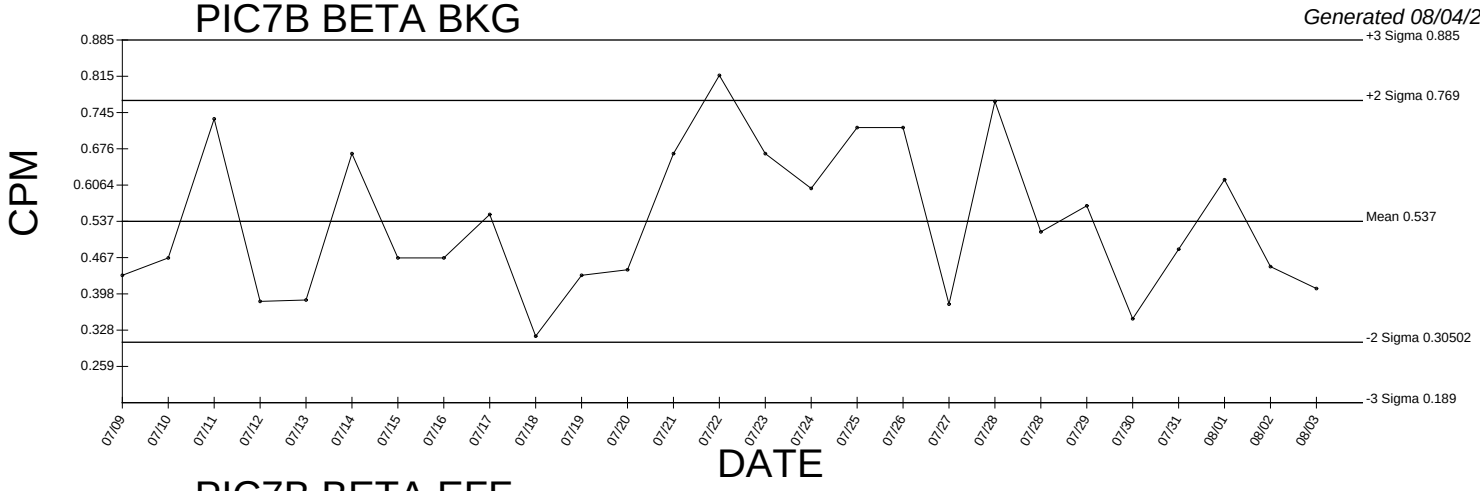
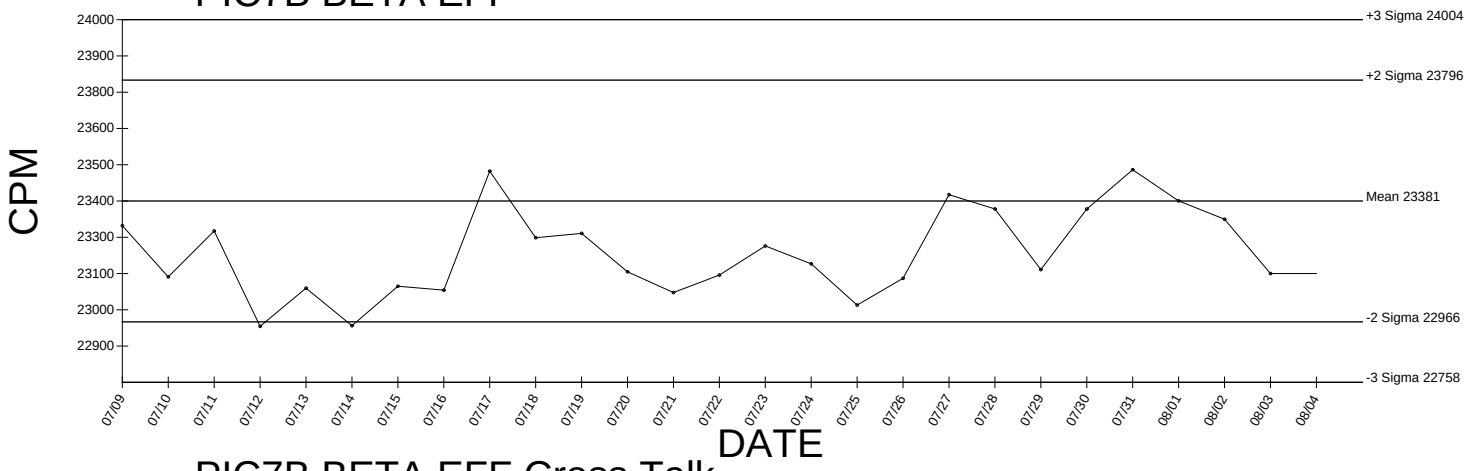


● Denotes Outlier

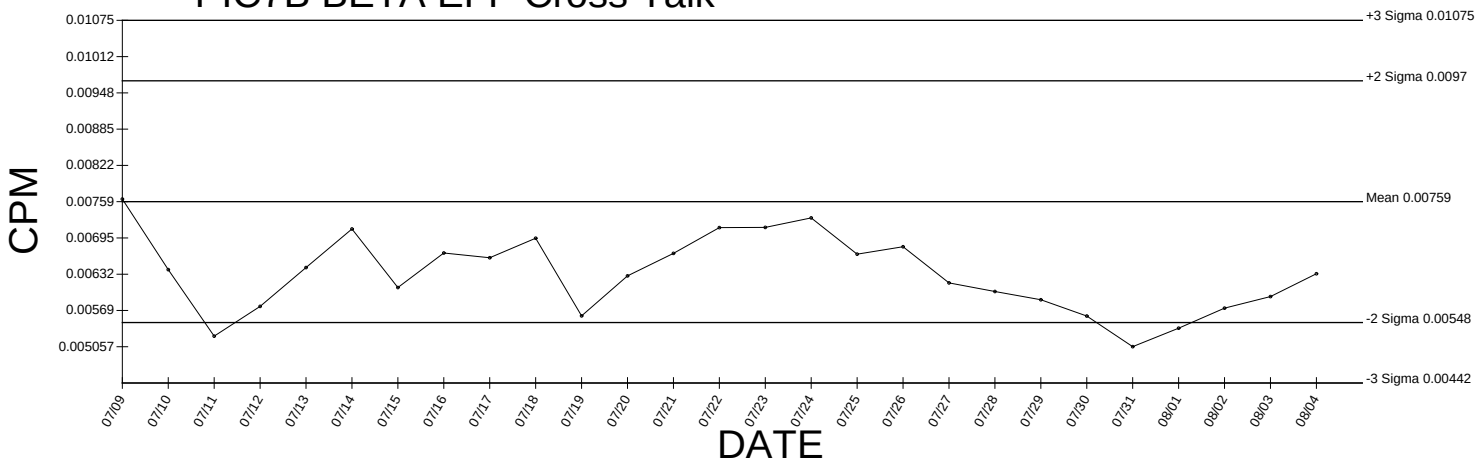
PIC7B BETA BKG



PIC7B BETA EFF



PIC7B BETA EFF Cross Talk



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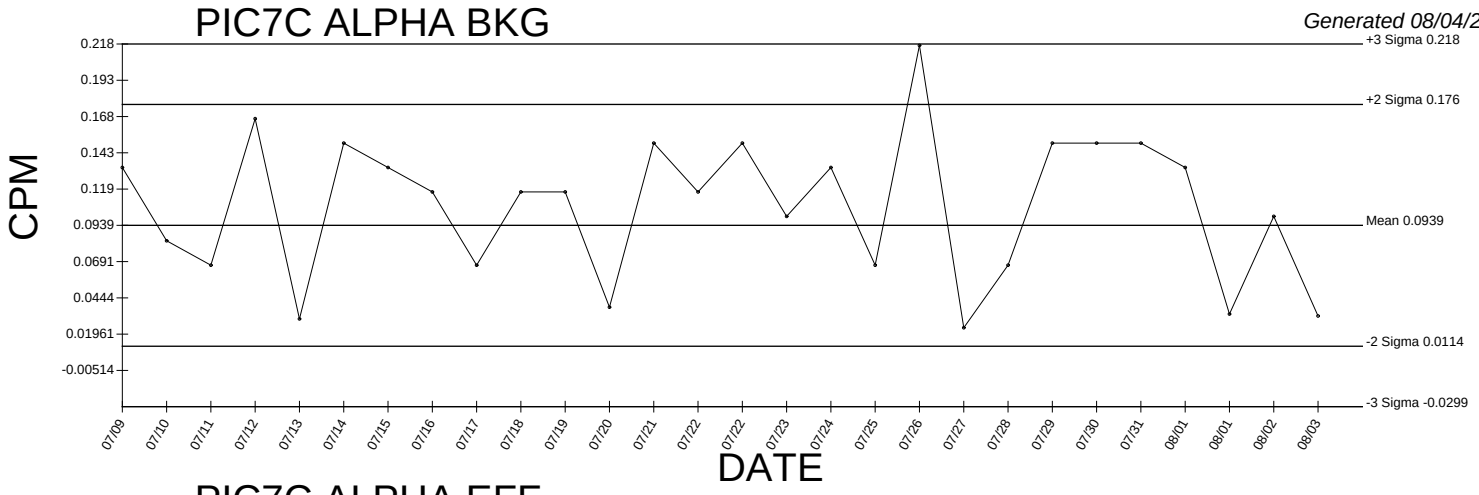

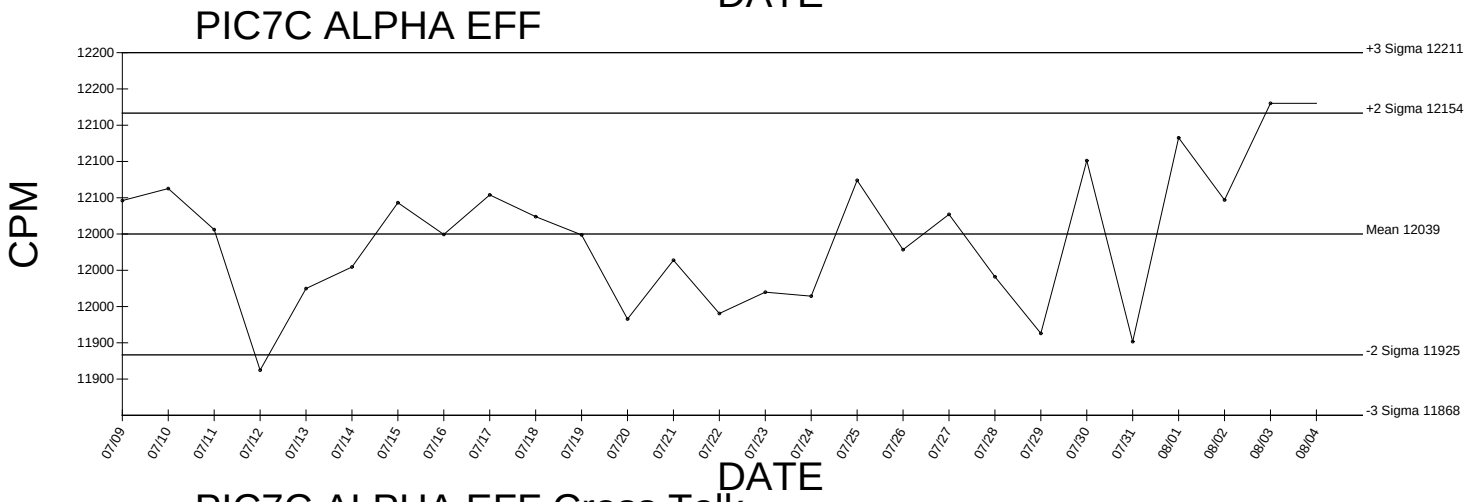

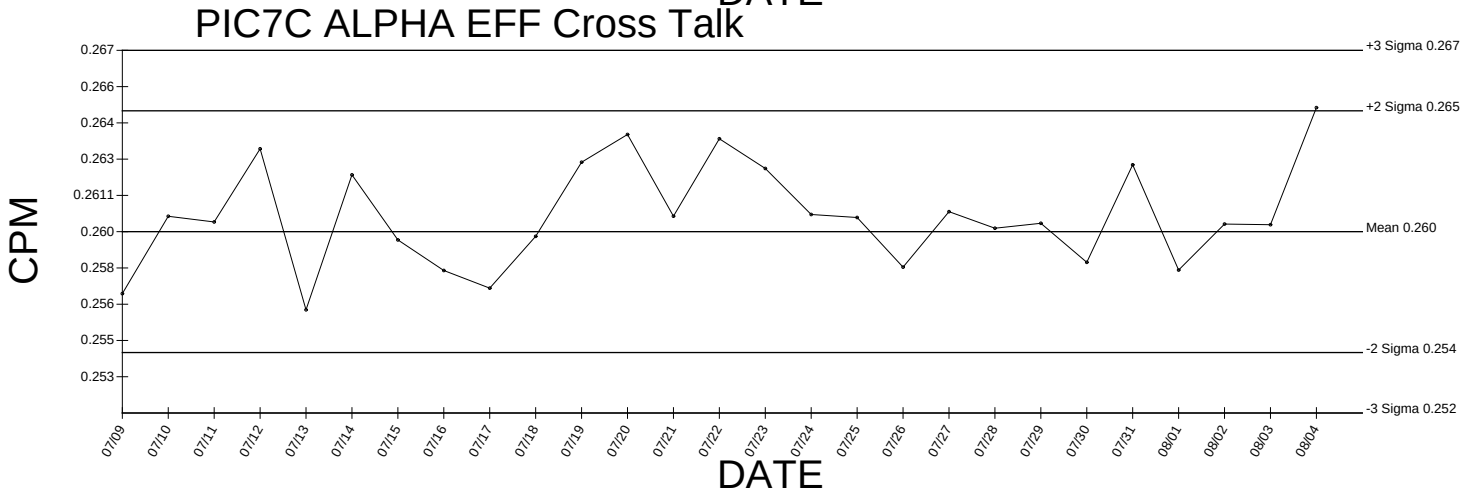

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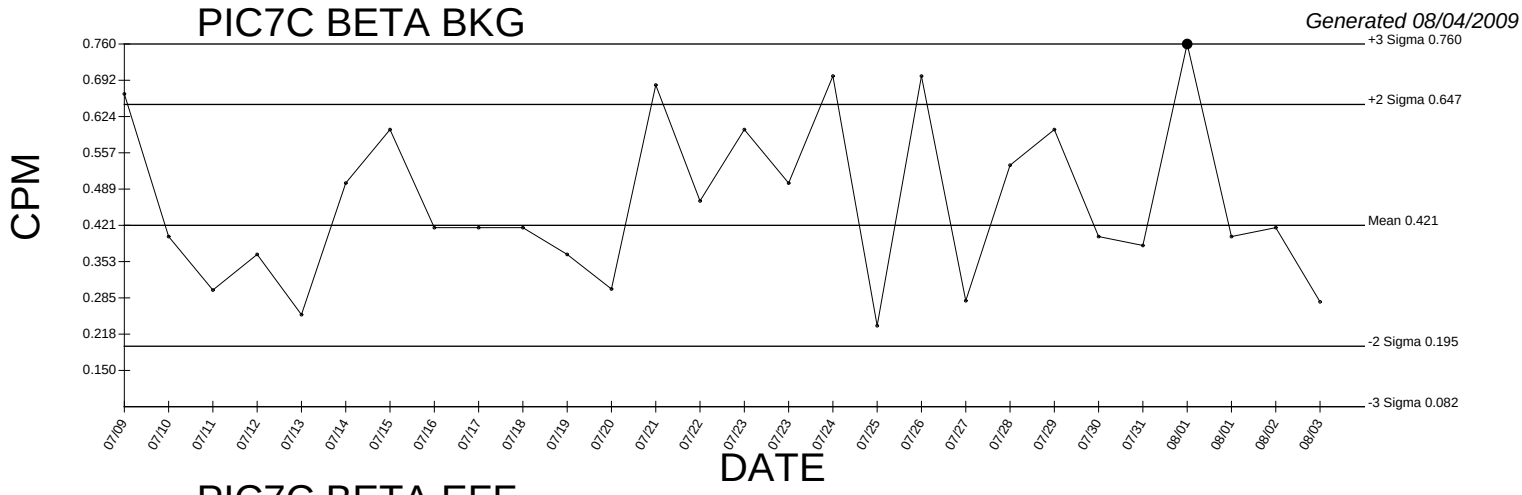

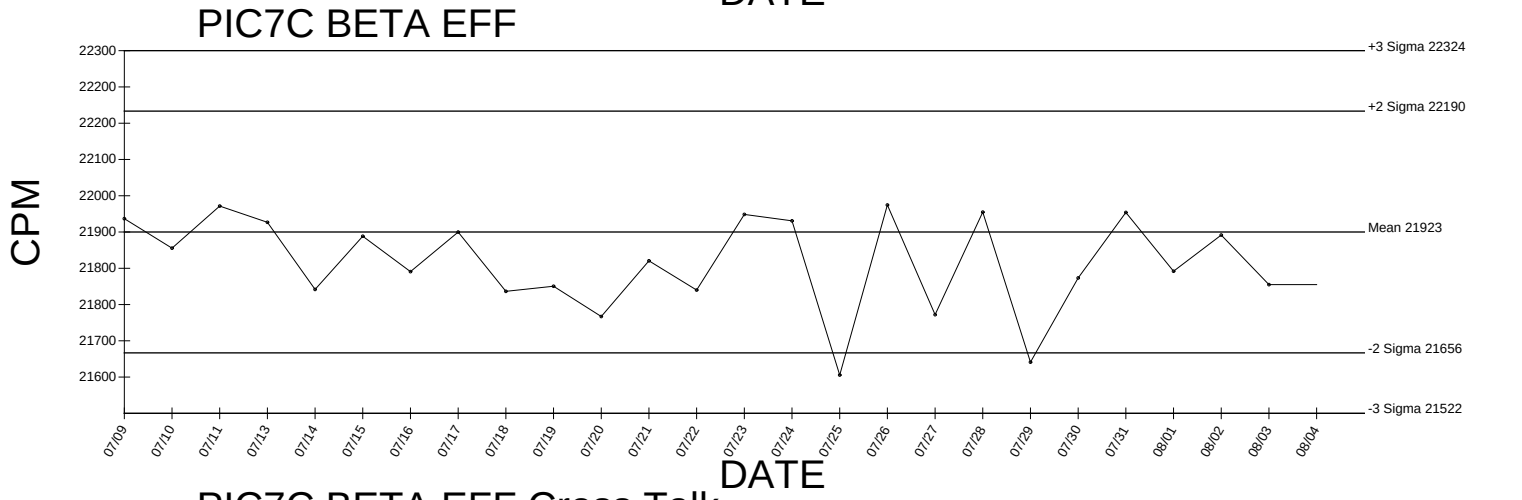

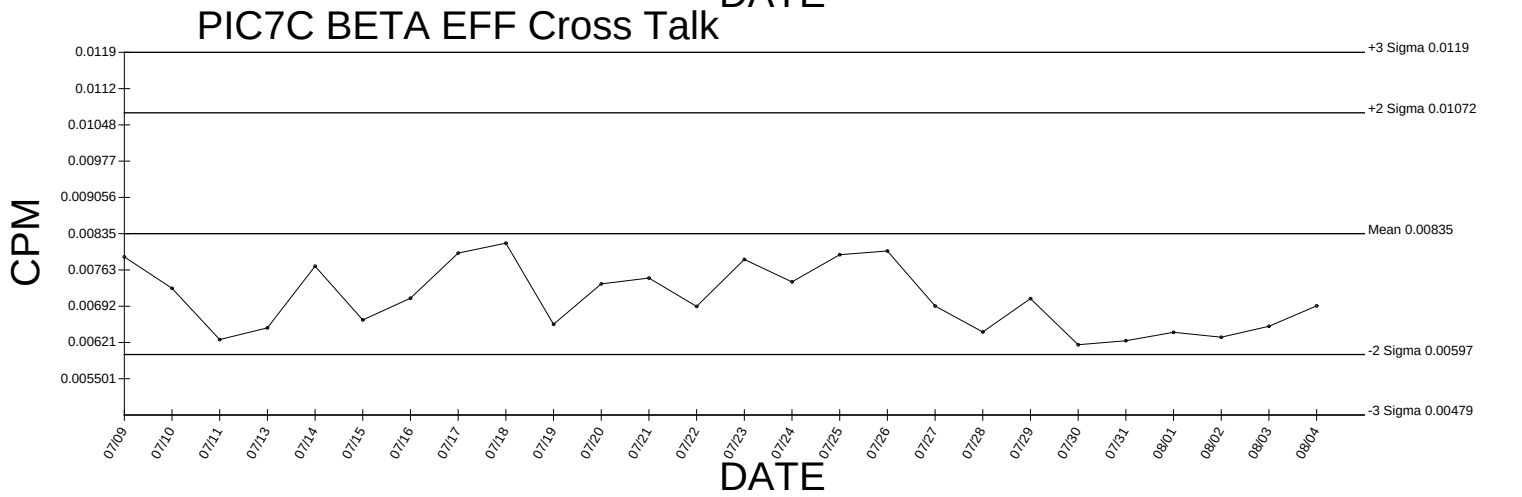

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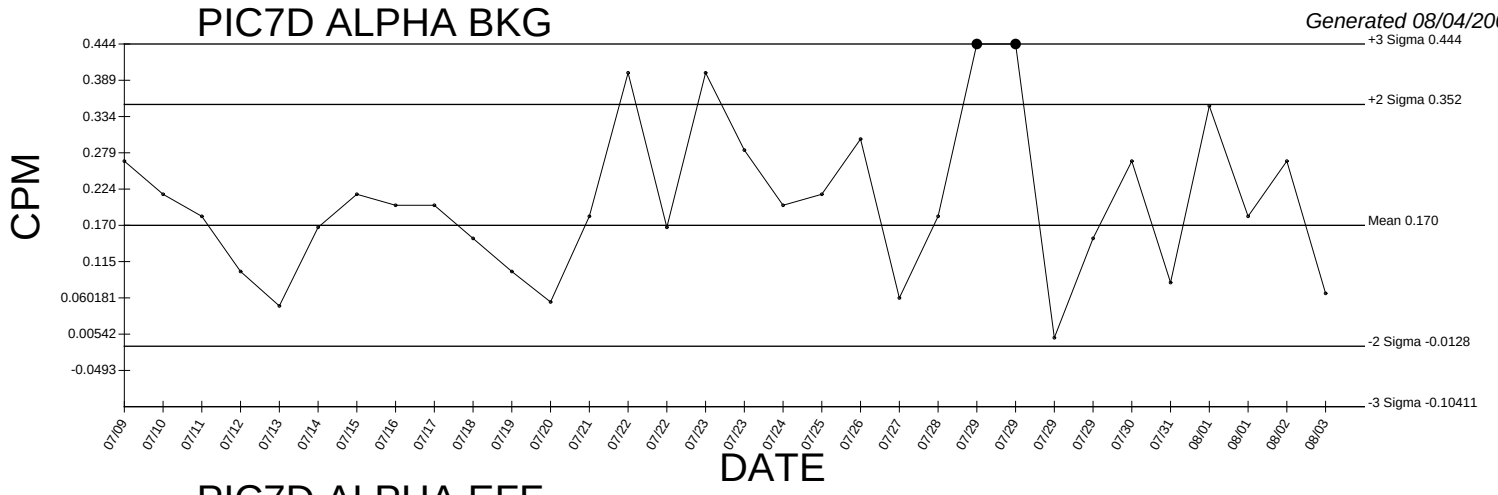

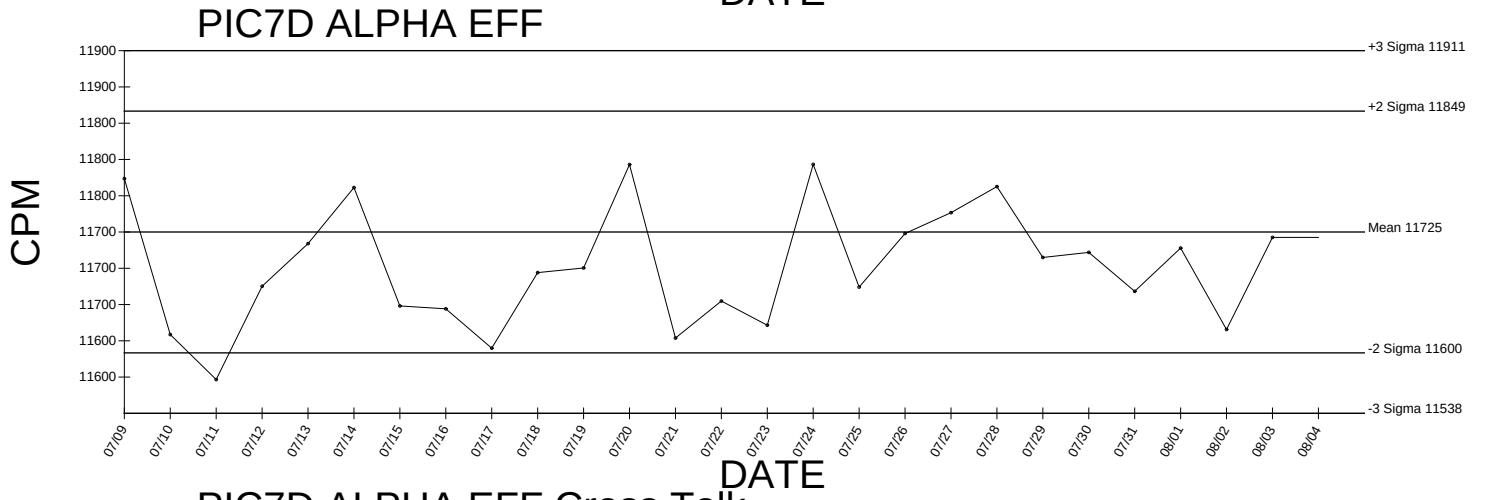

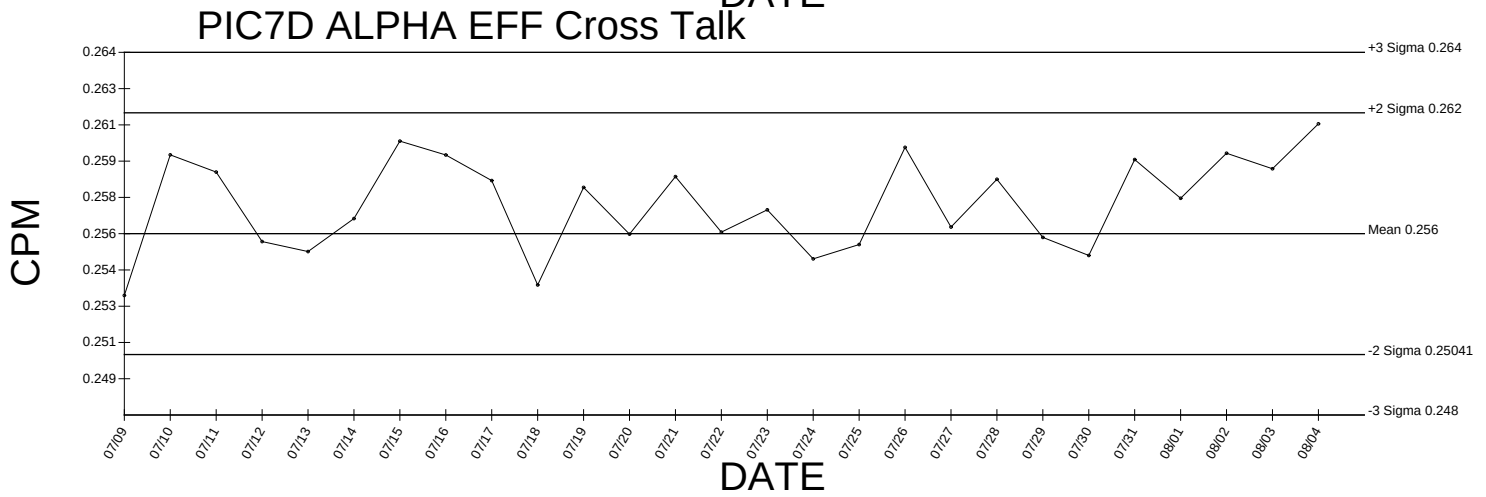

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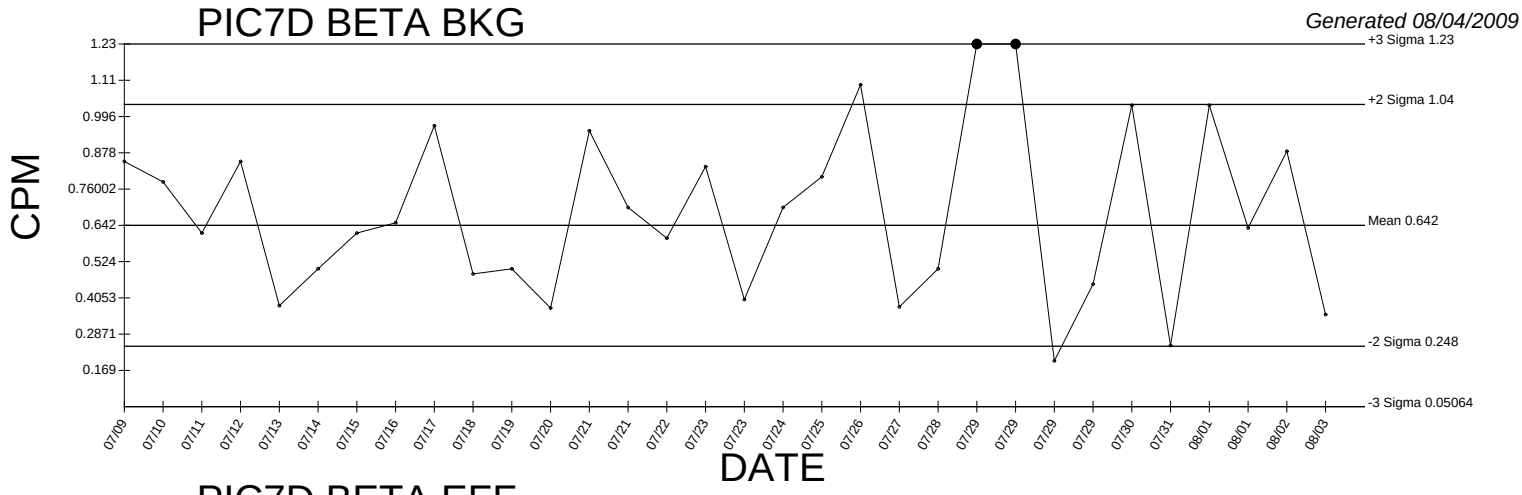

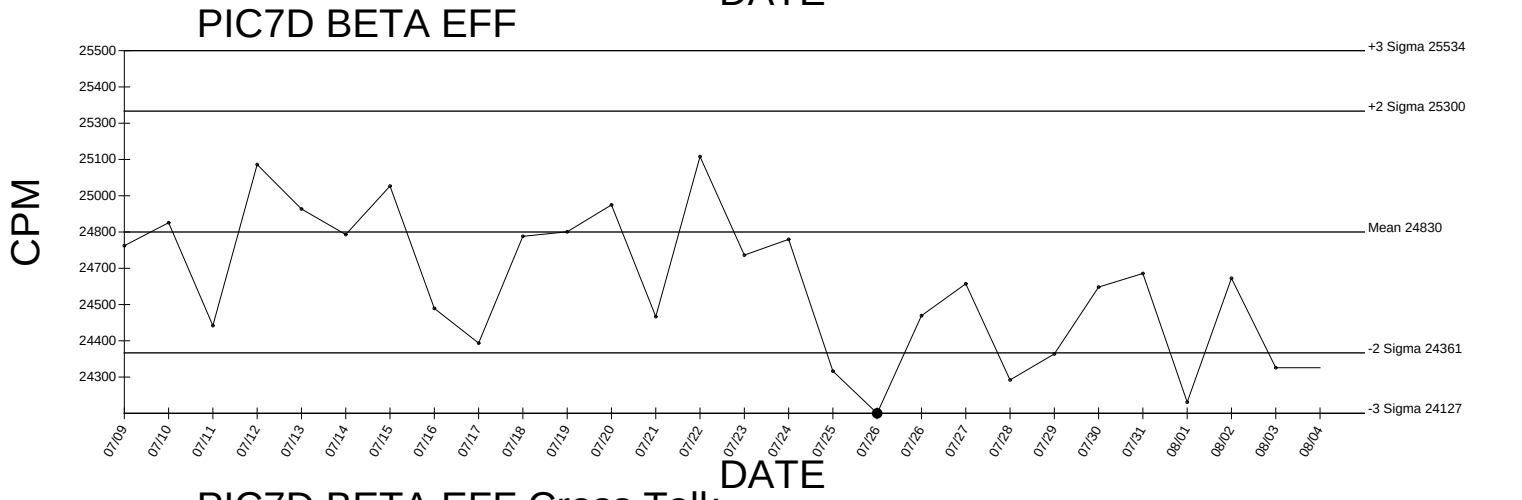

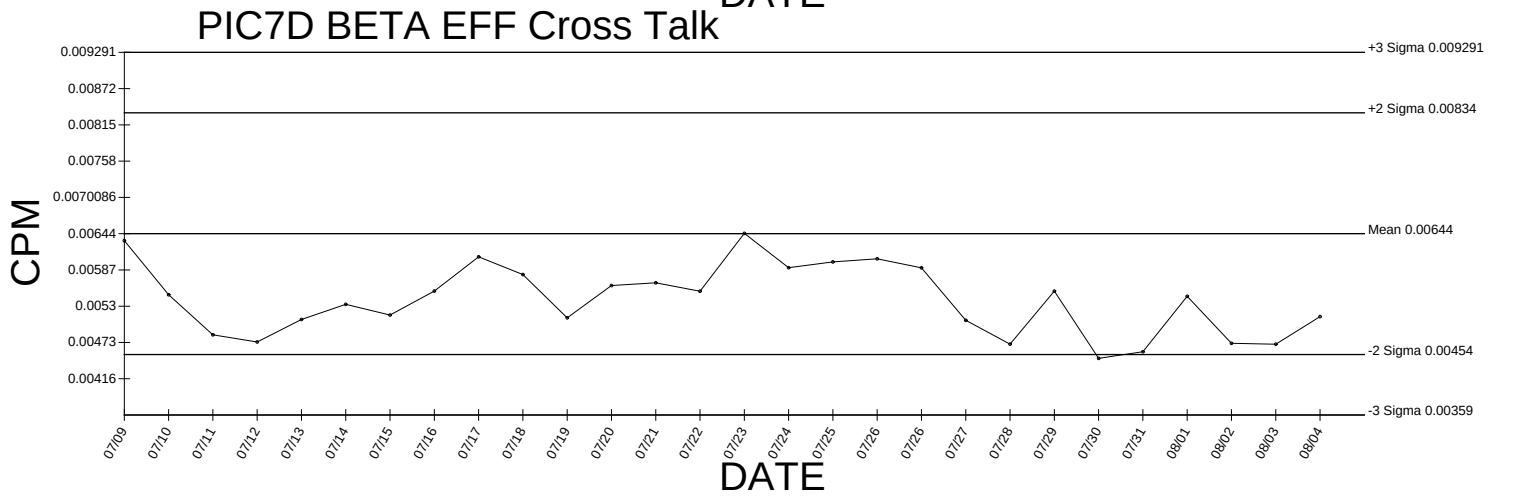

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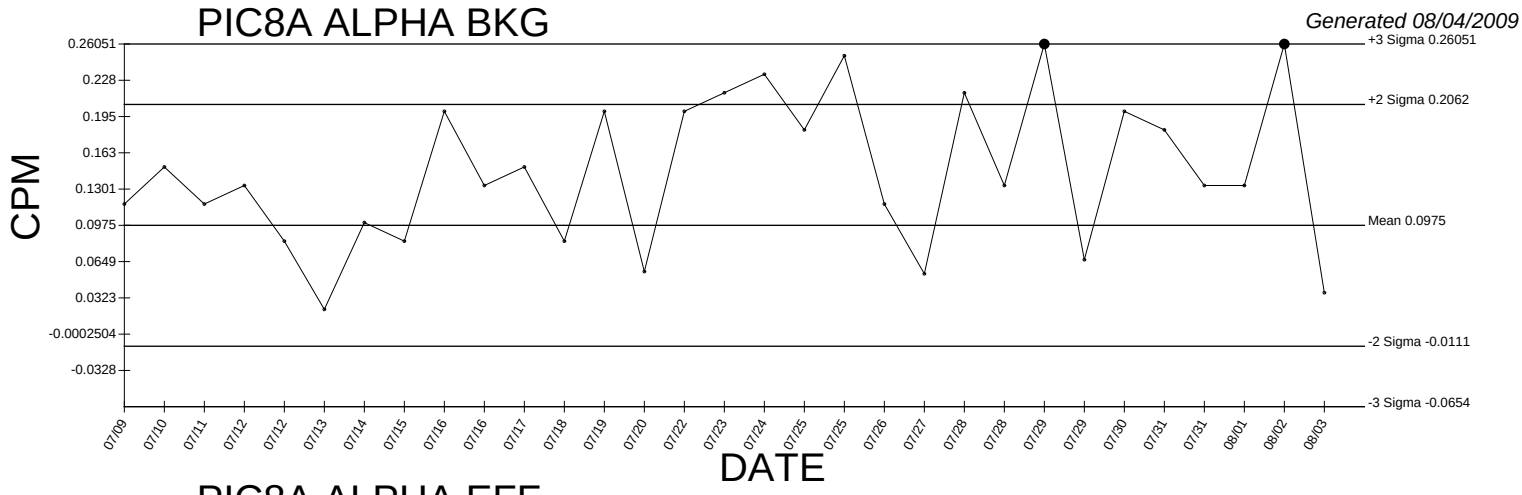
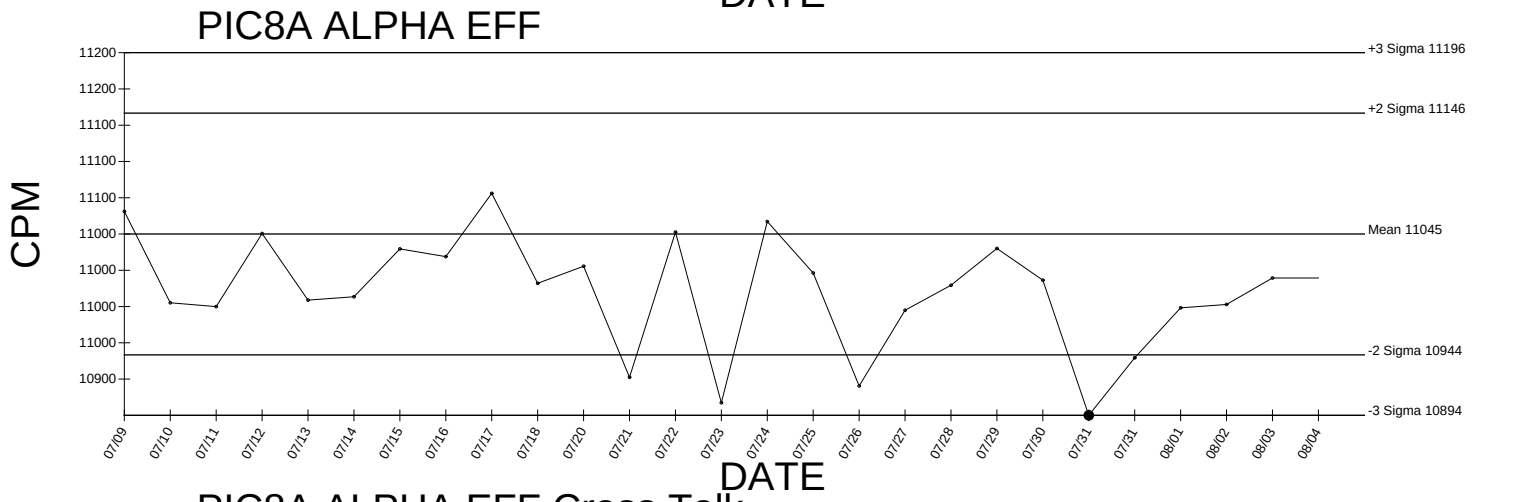
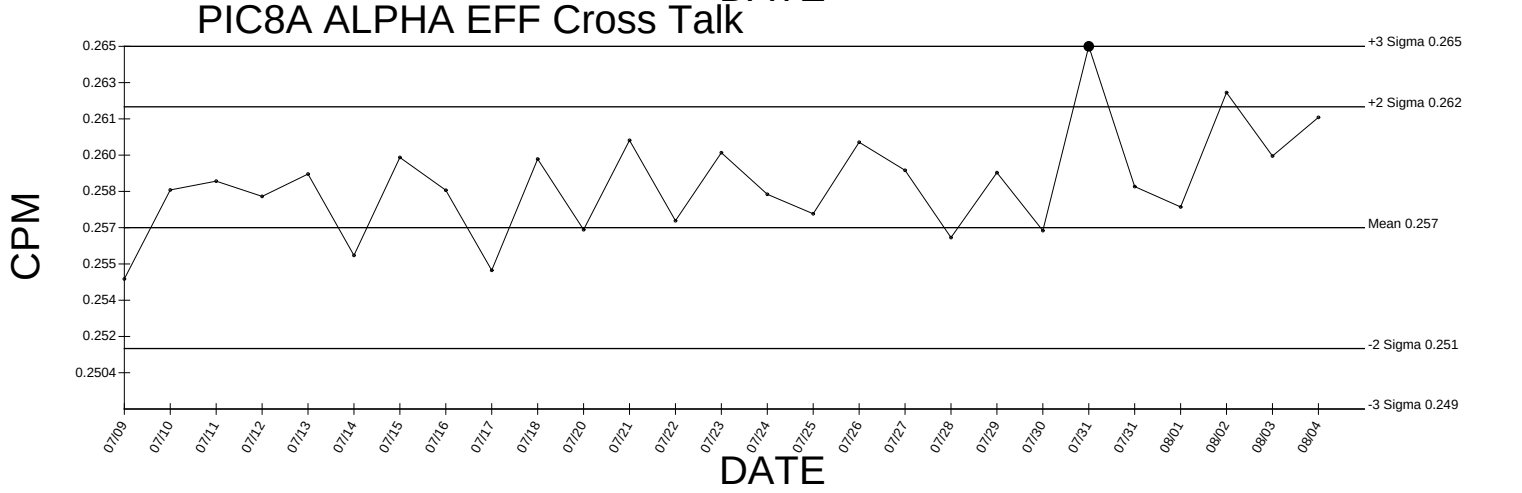
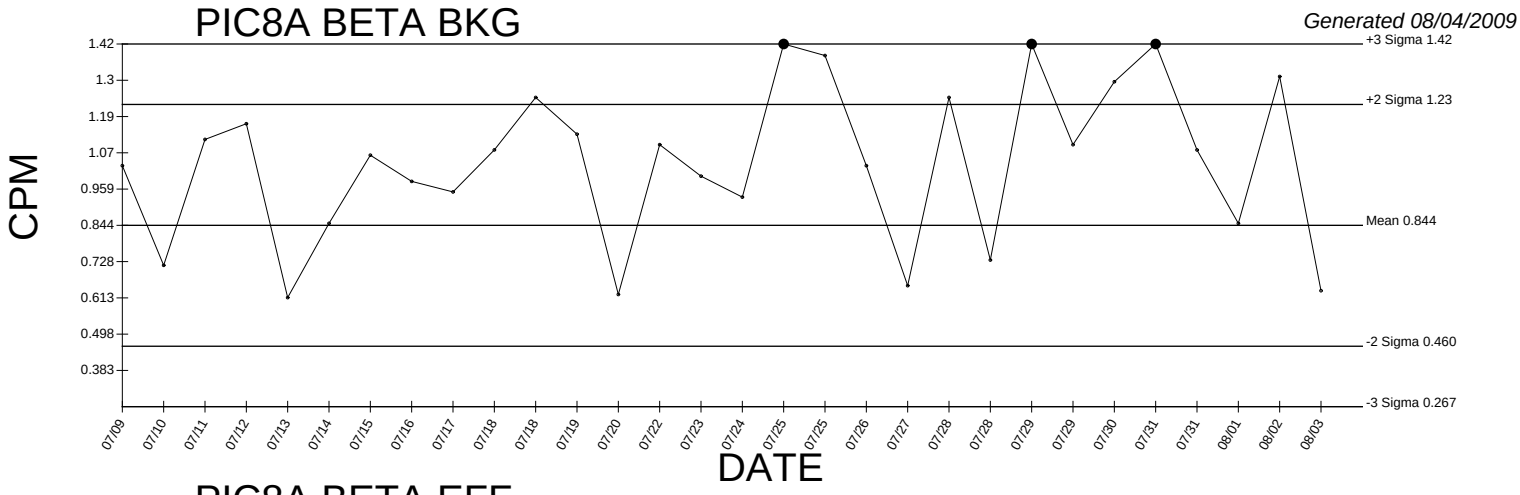
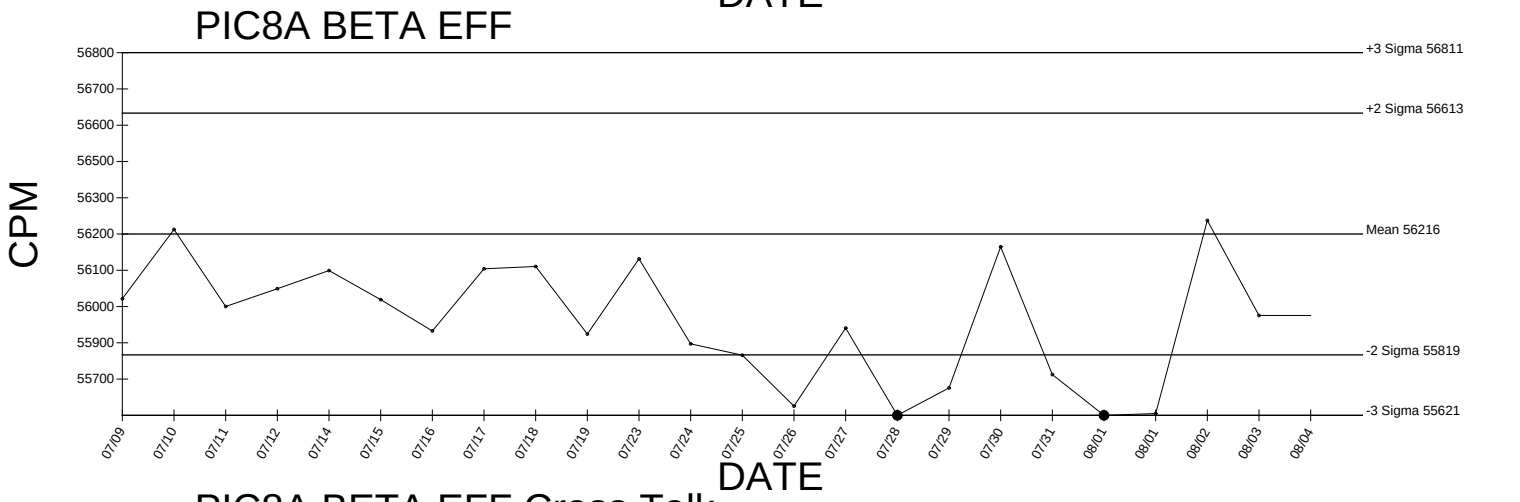


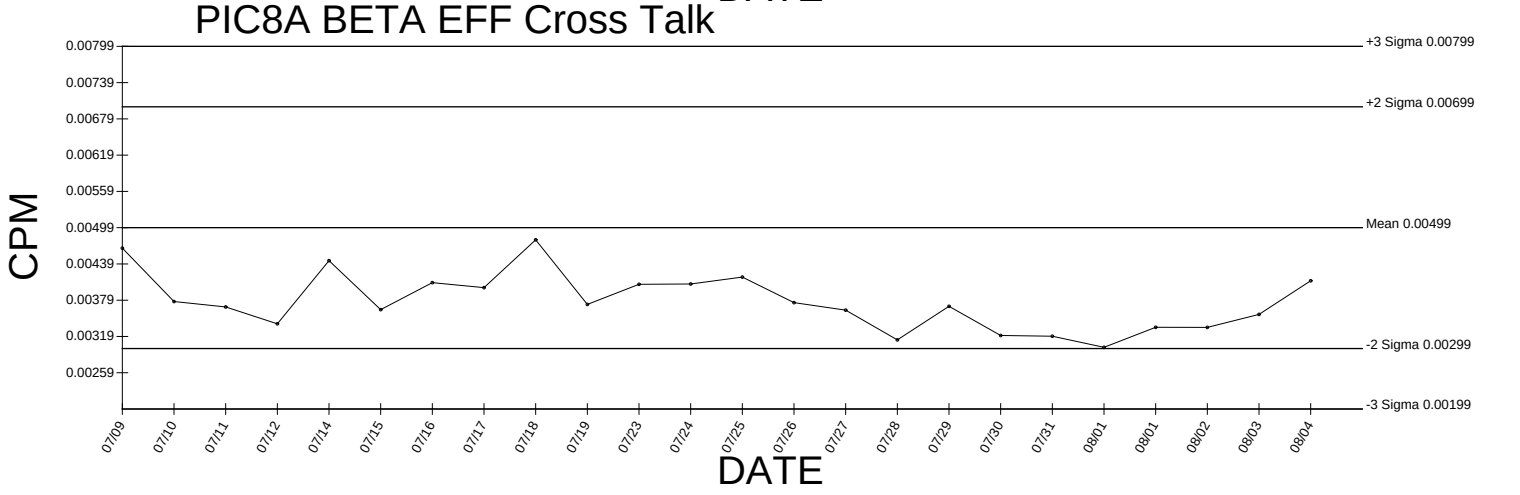




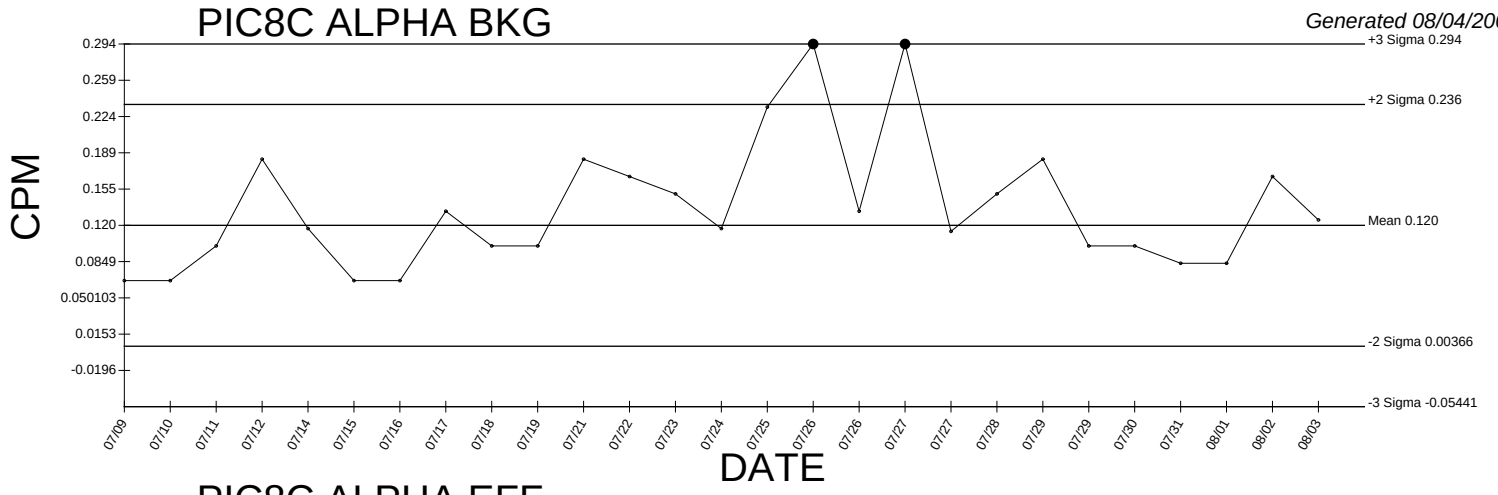
● Denotes Outlier

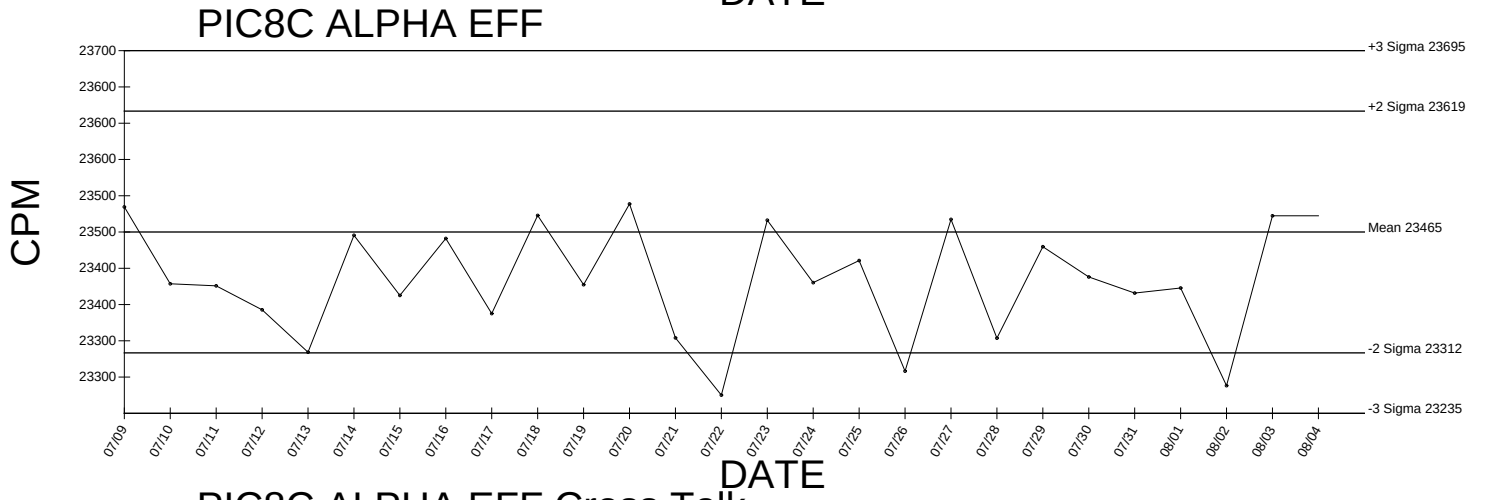


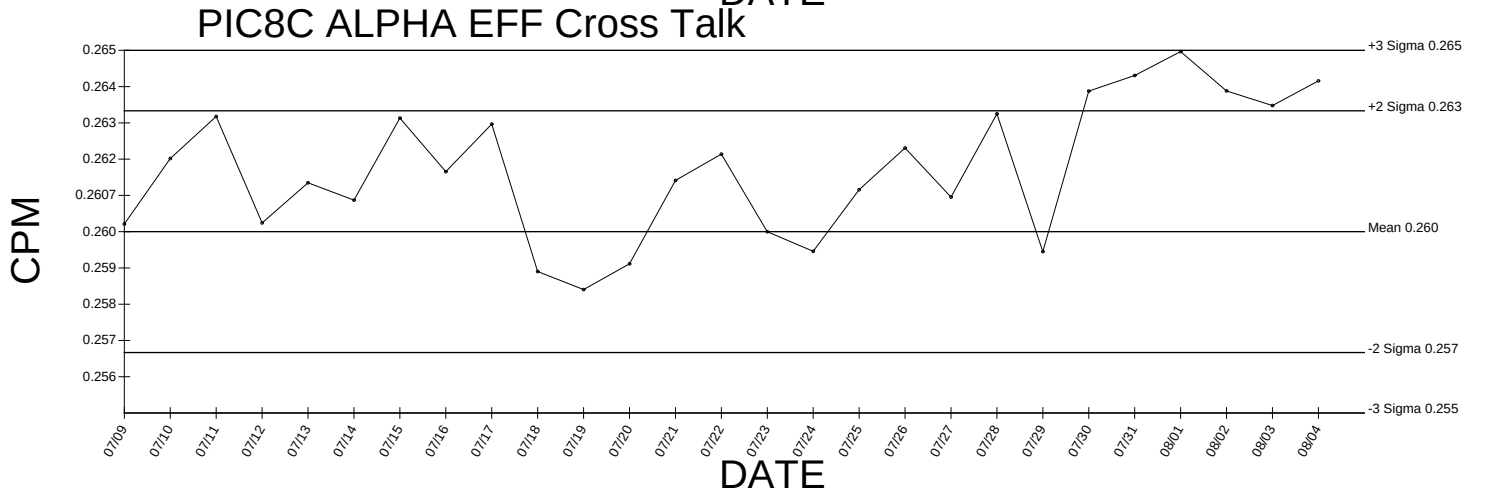




● Denotes Outlier

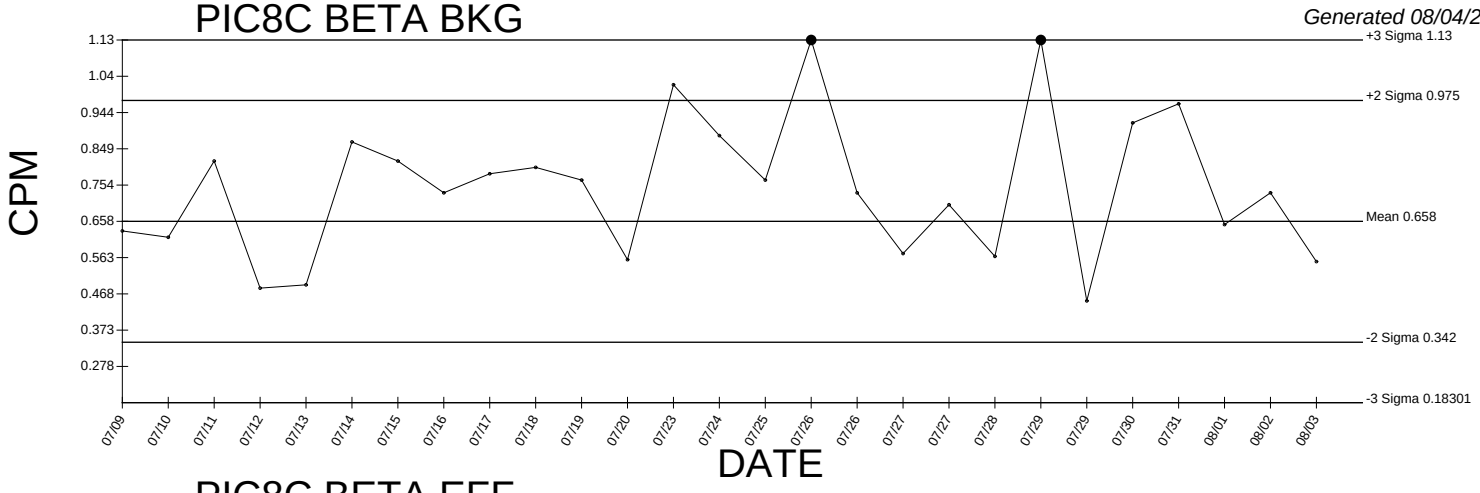




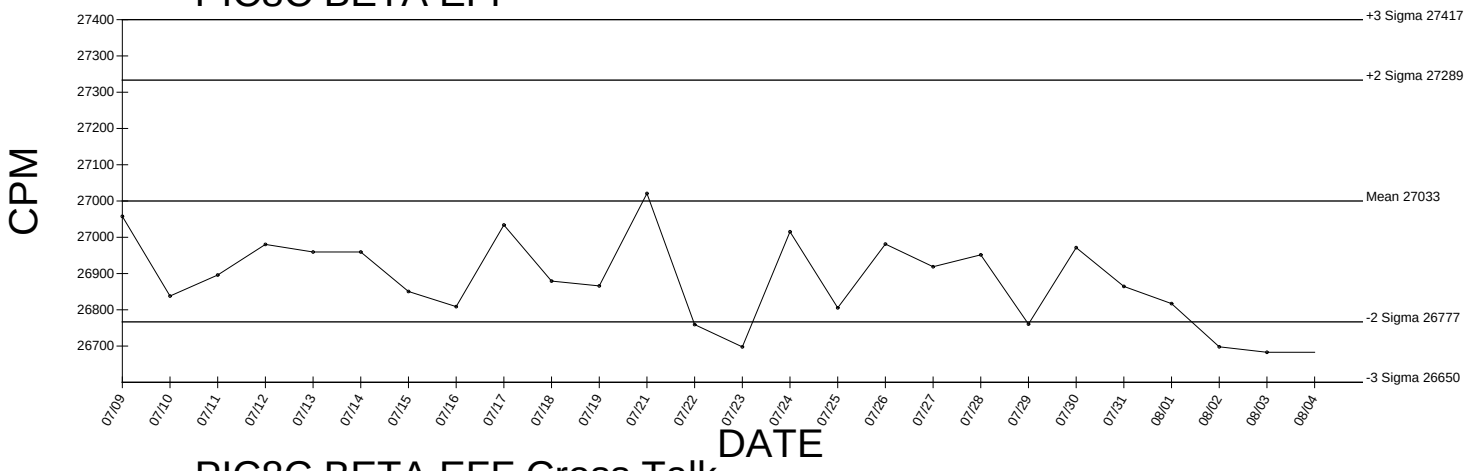


● Denotes Outlier

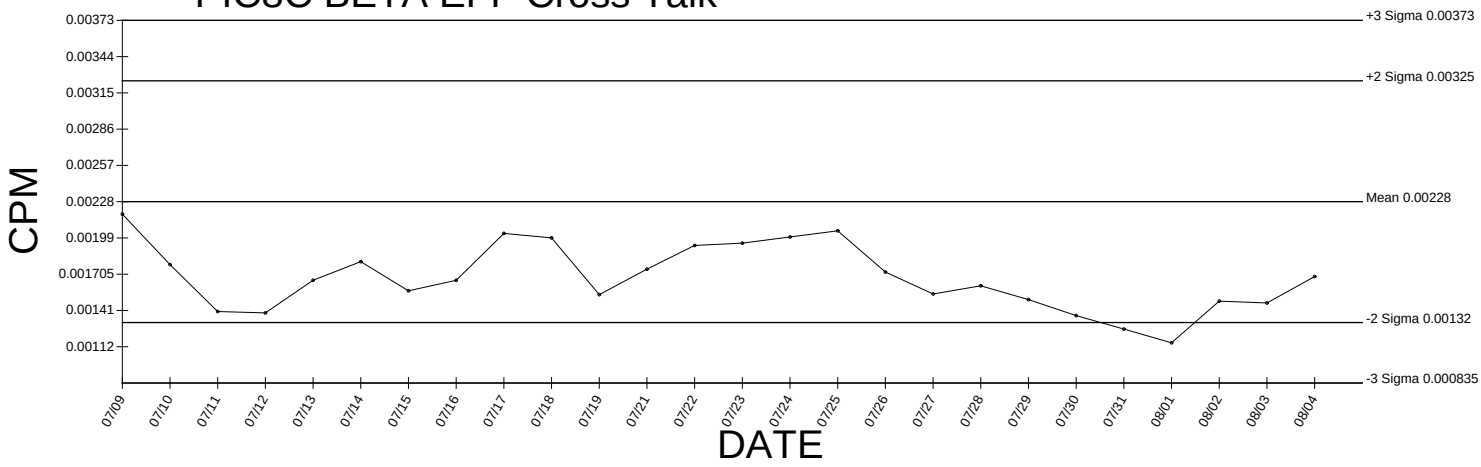
PIC8C BETA BKG



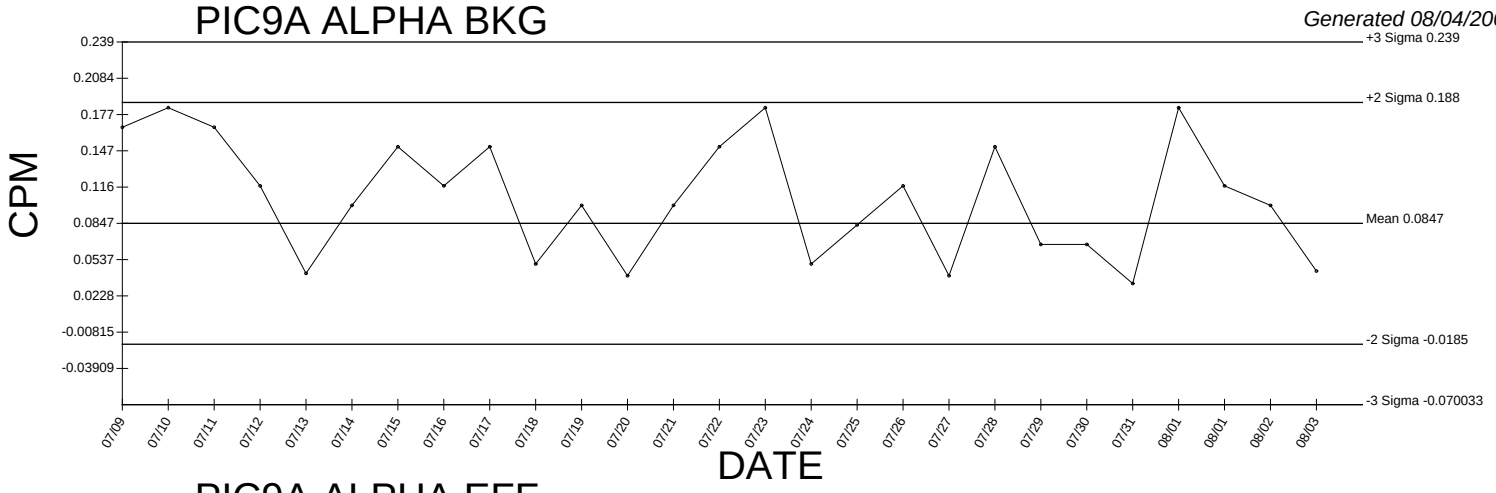
PIC8C BETA EFF

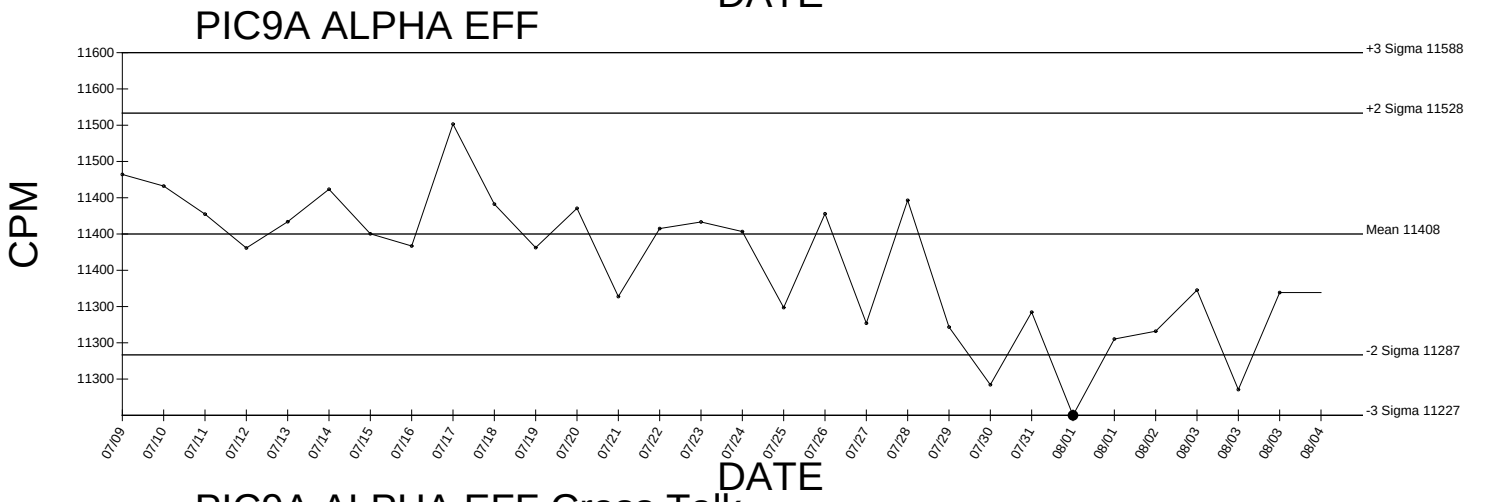


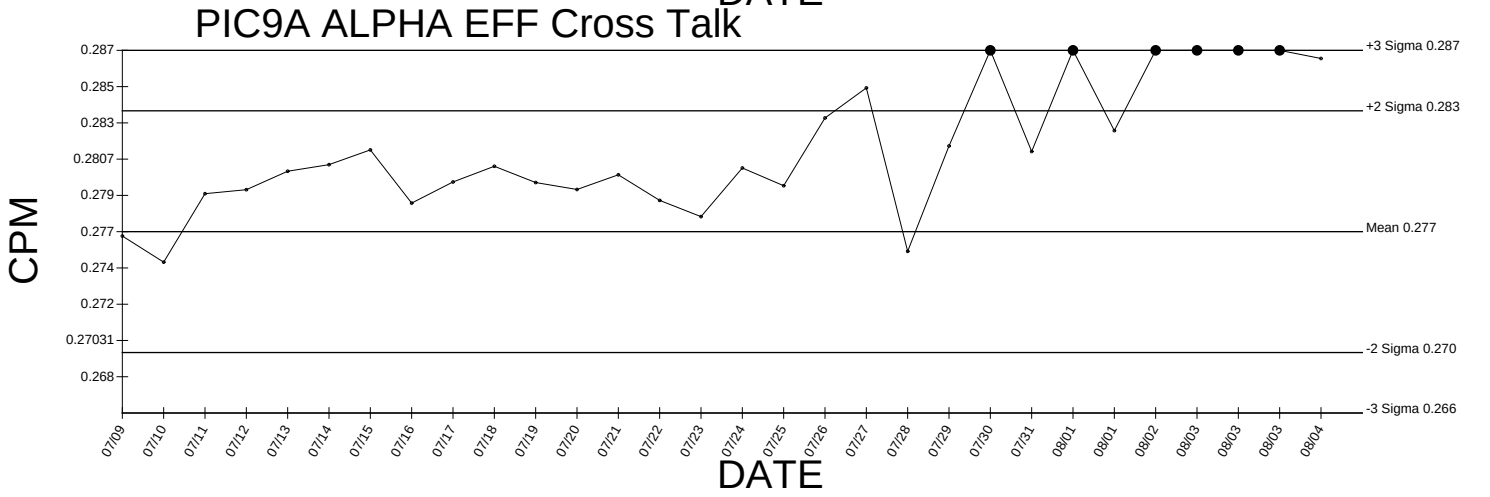
PIC8C BETA EFF Cross Talk



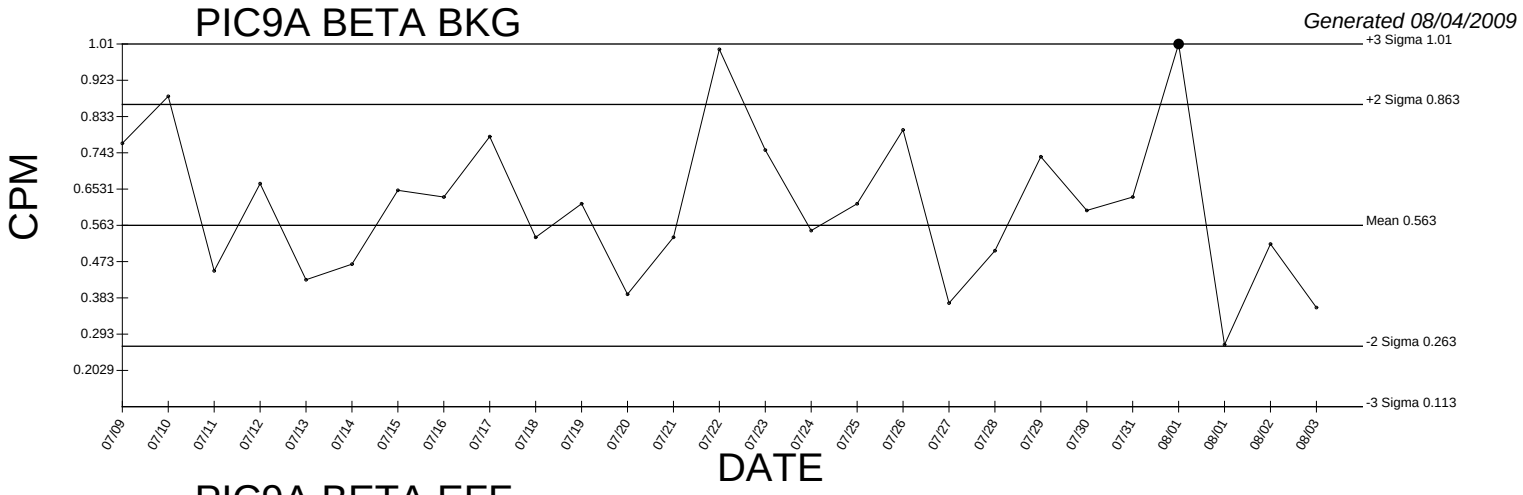
● Denotes Outlier

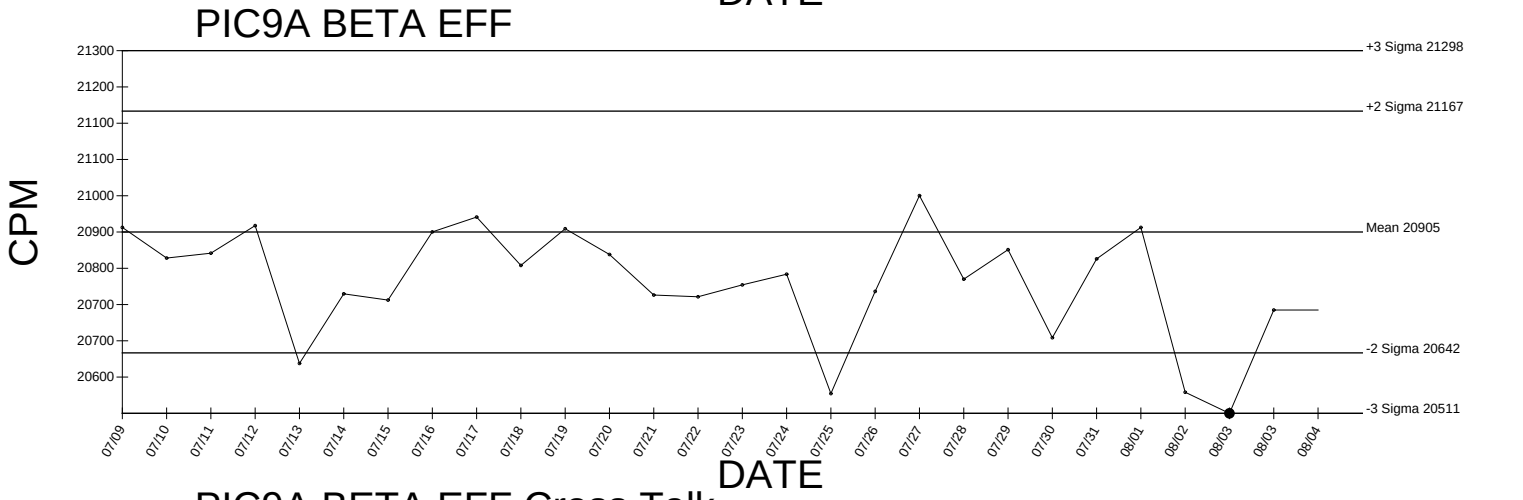


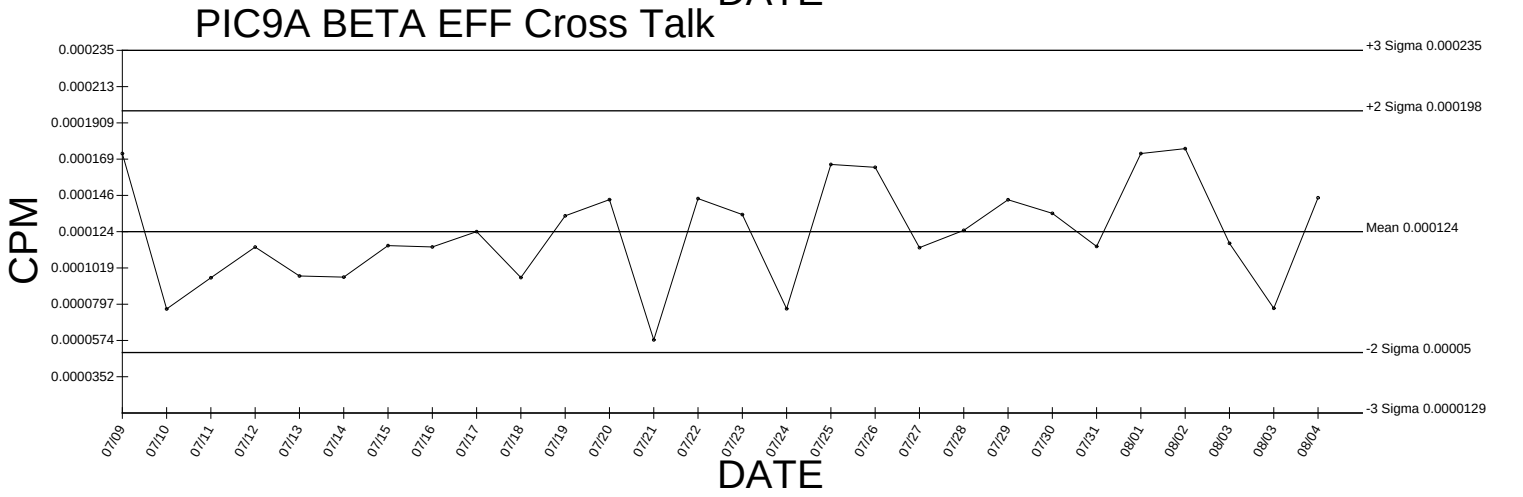




● Denotes Outlier







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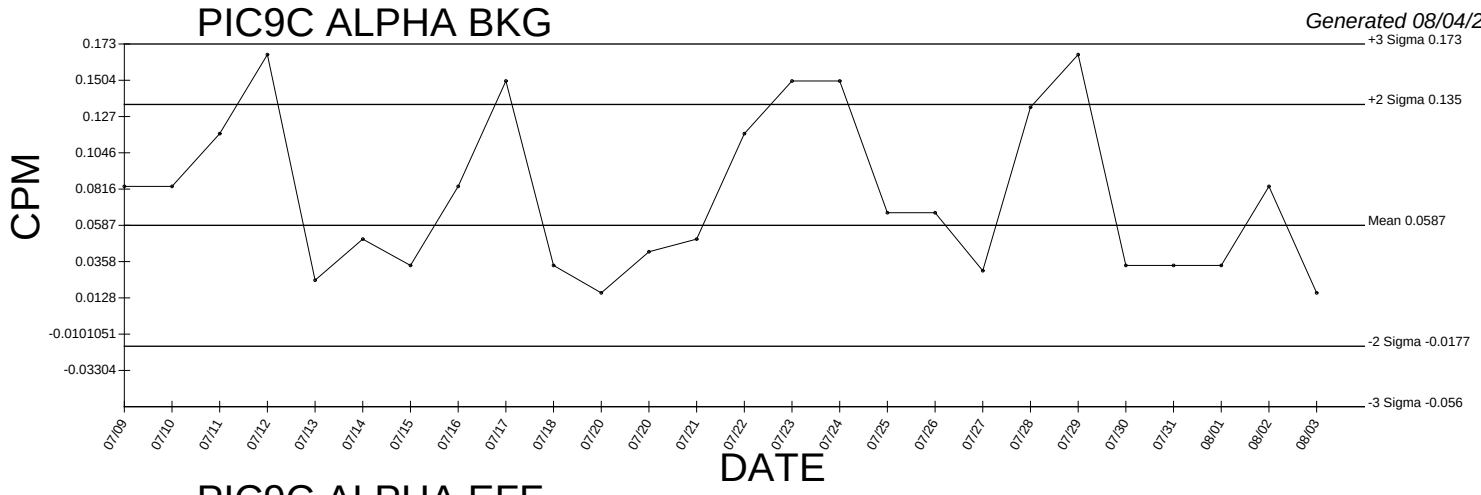

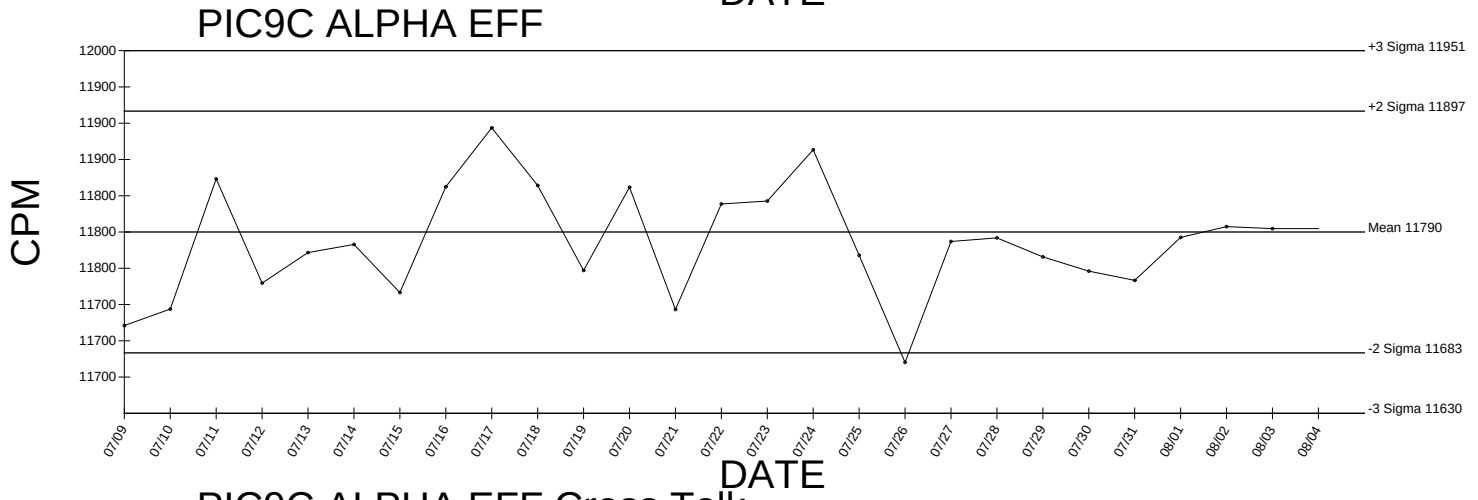

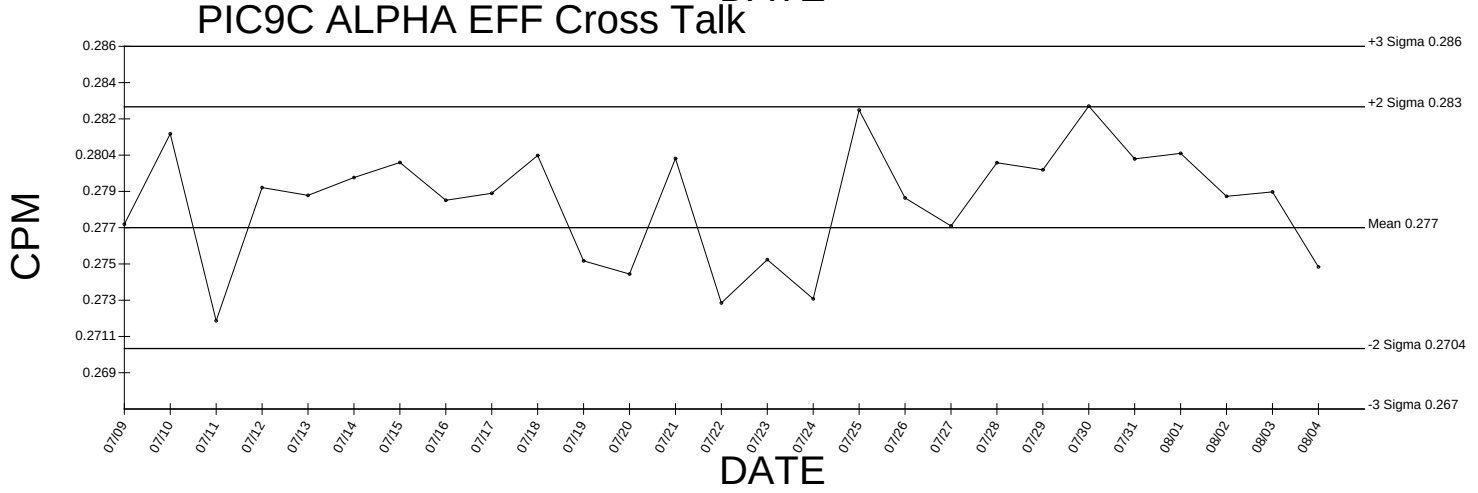

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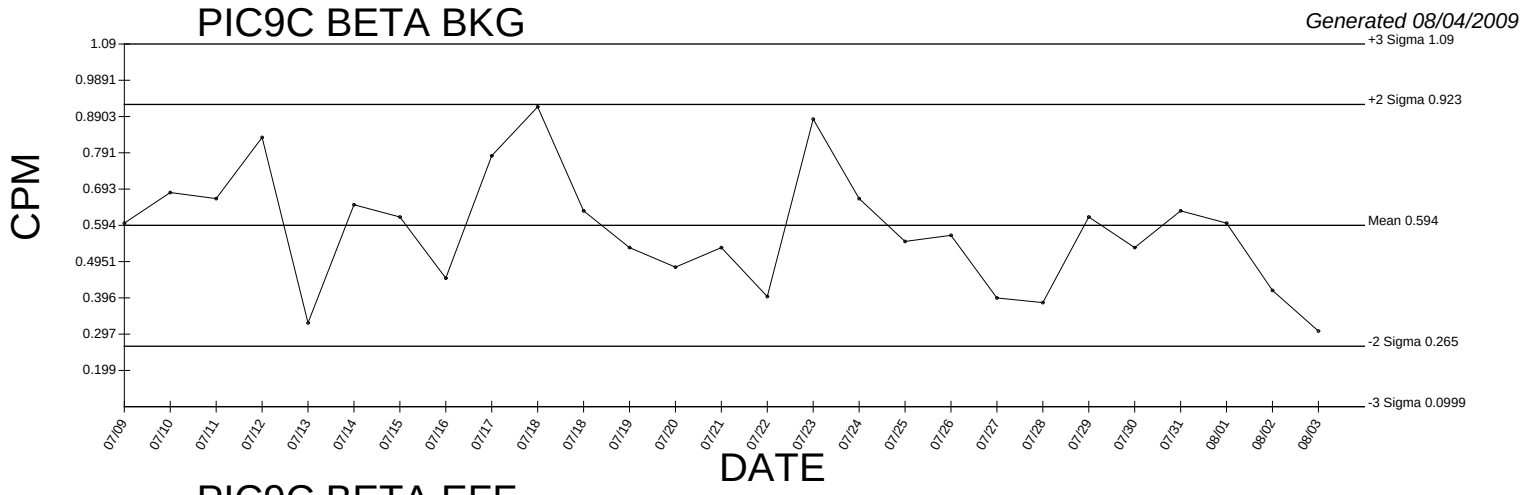
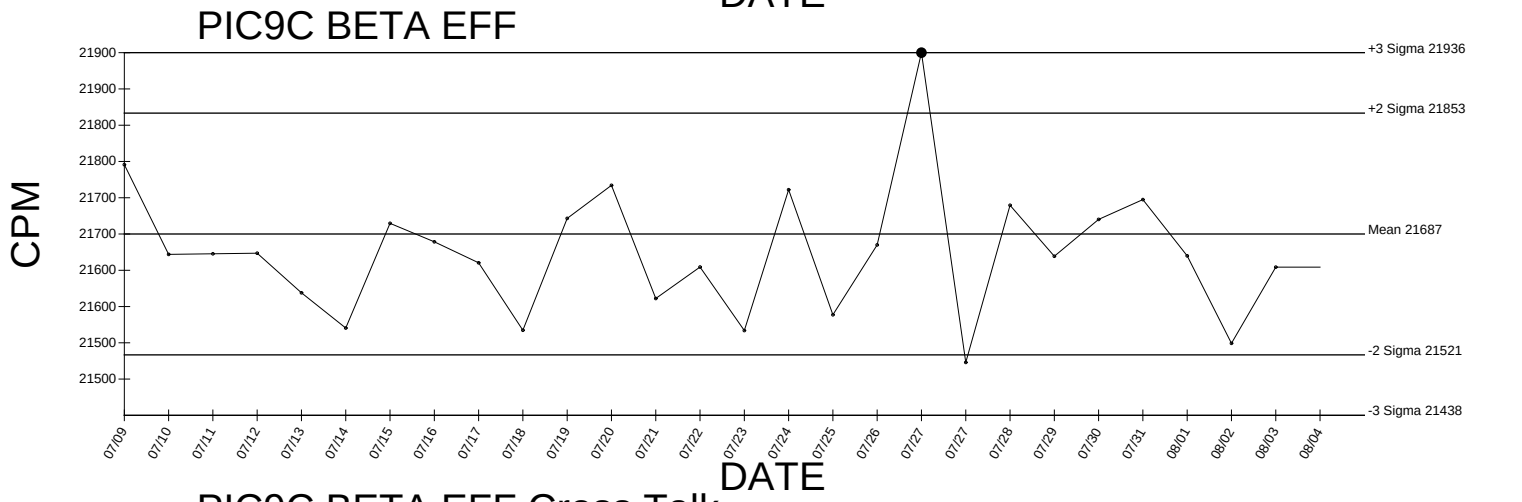
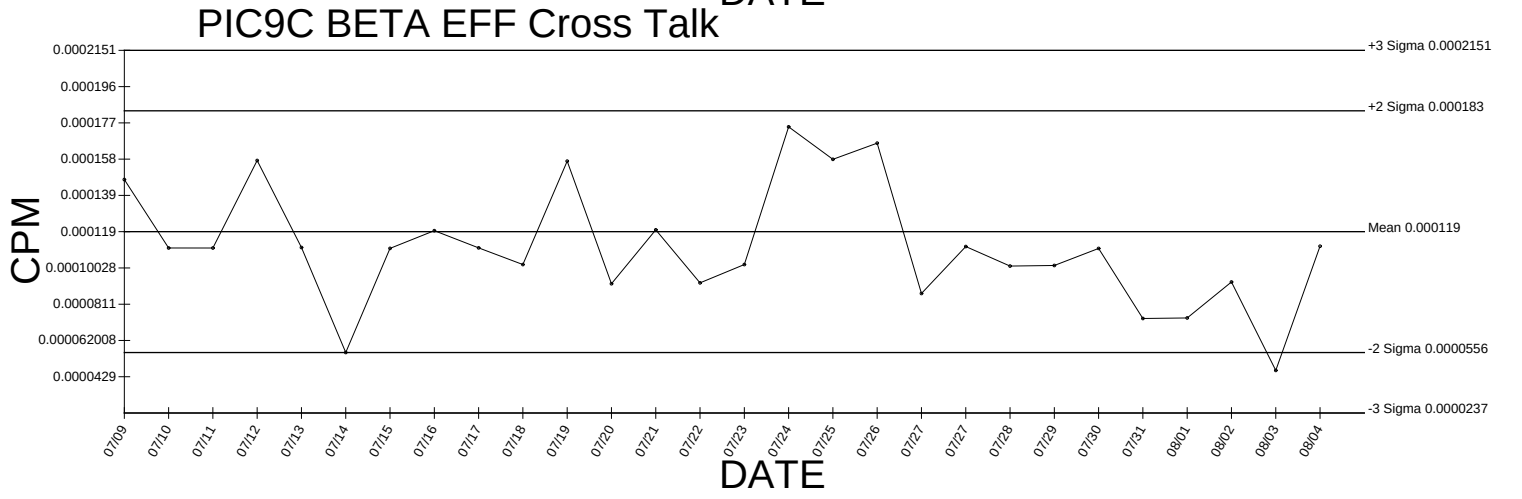
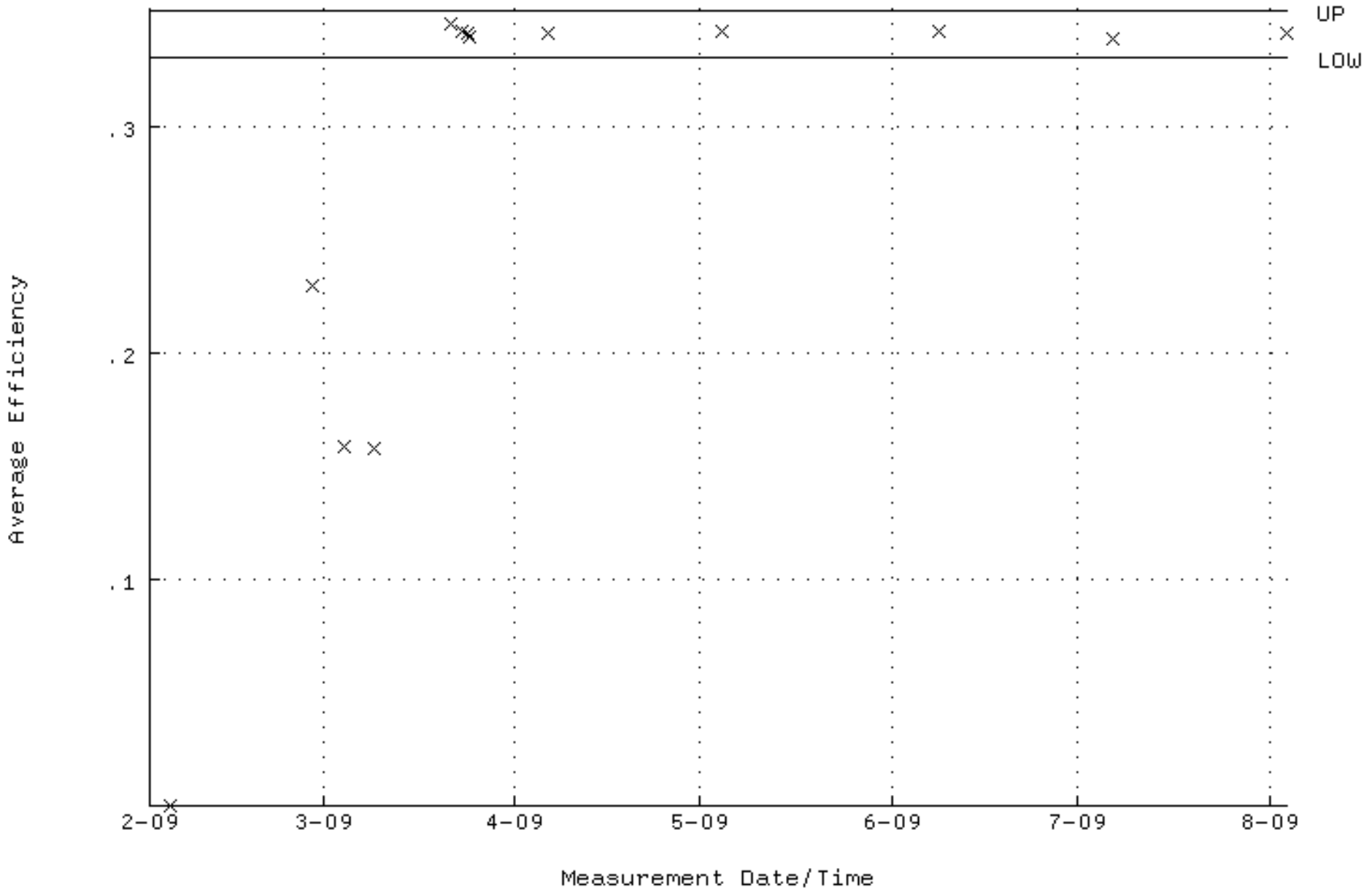




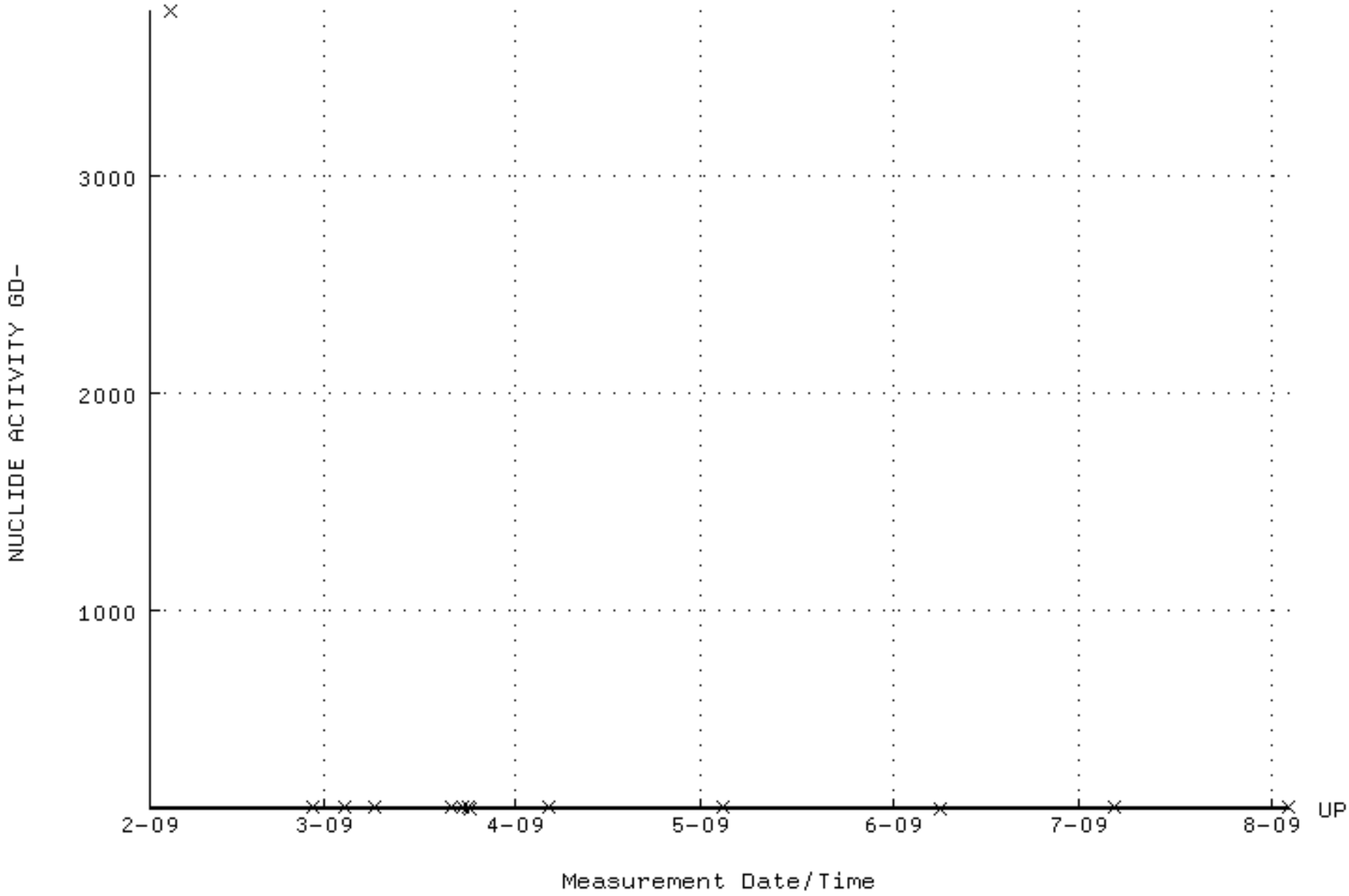


● Denotes Outlier

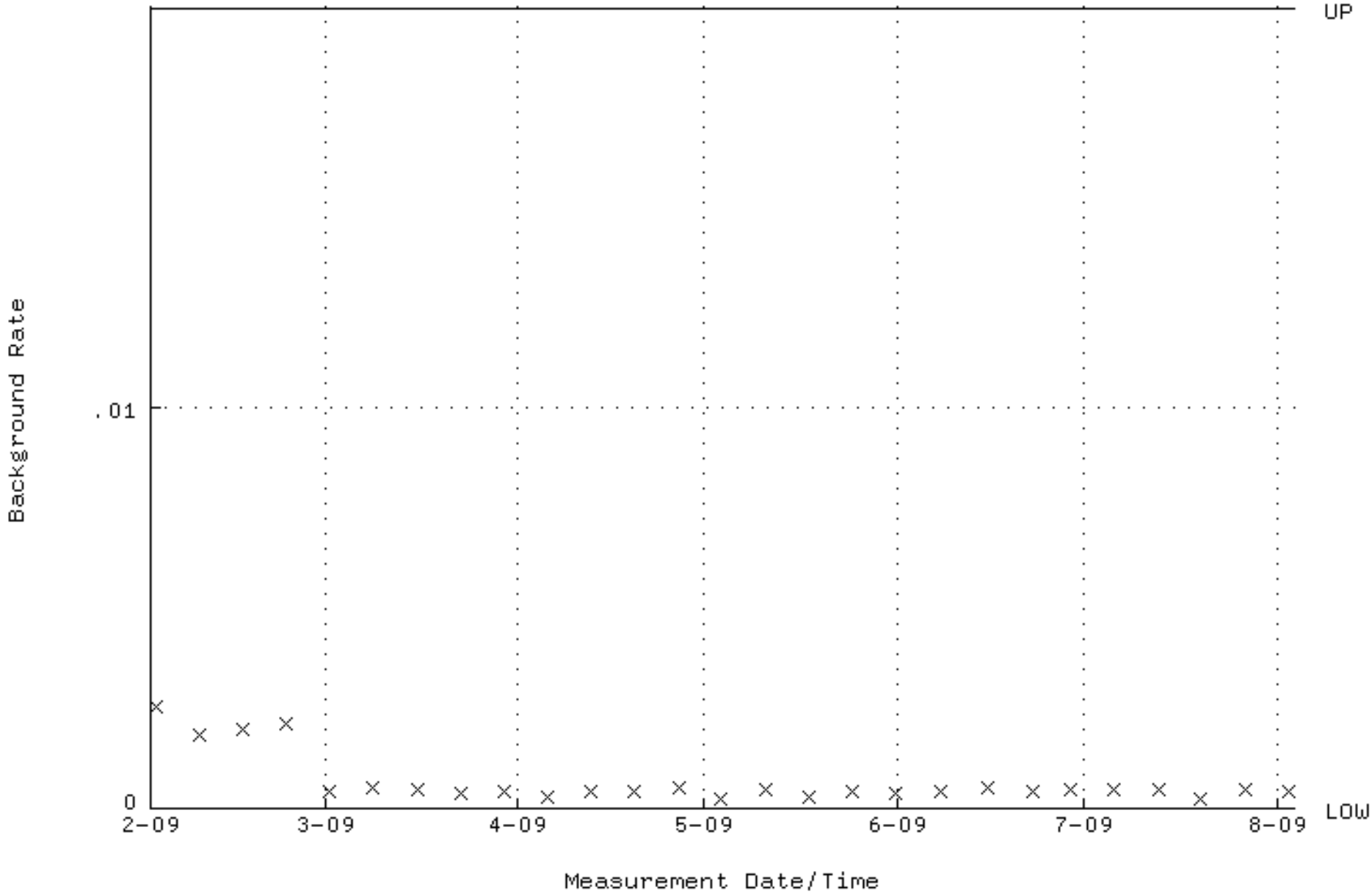
QA filename : DKA100:[ENV_ALPHA.QA.W]W013.QAF;2
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.331676 through 0.351676



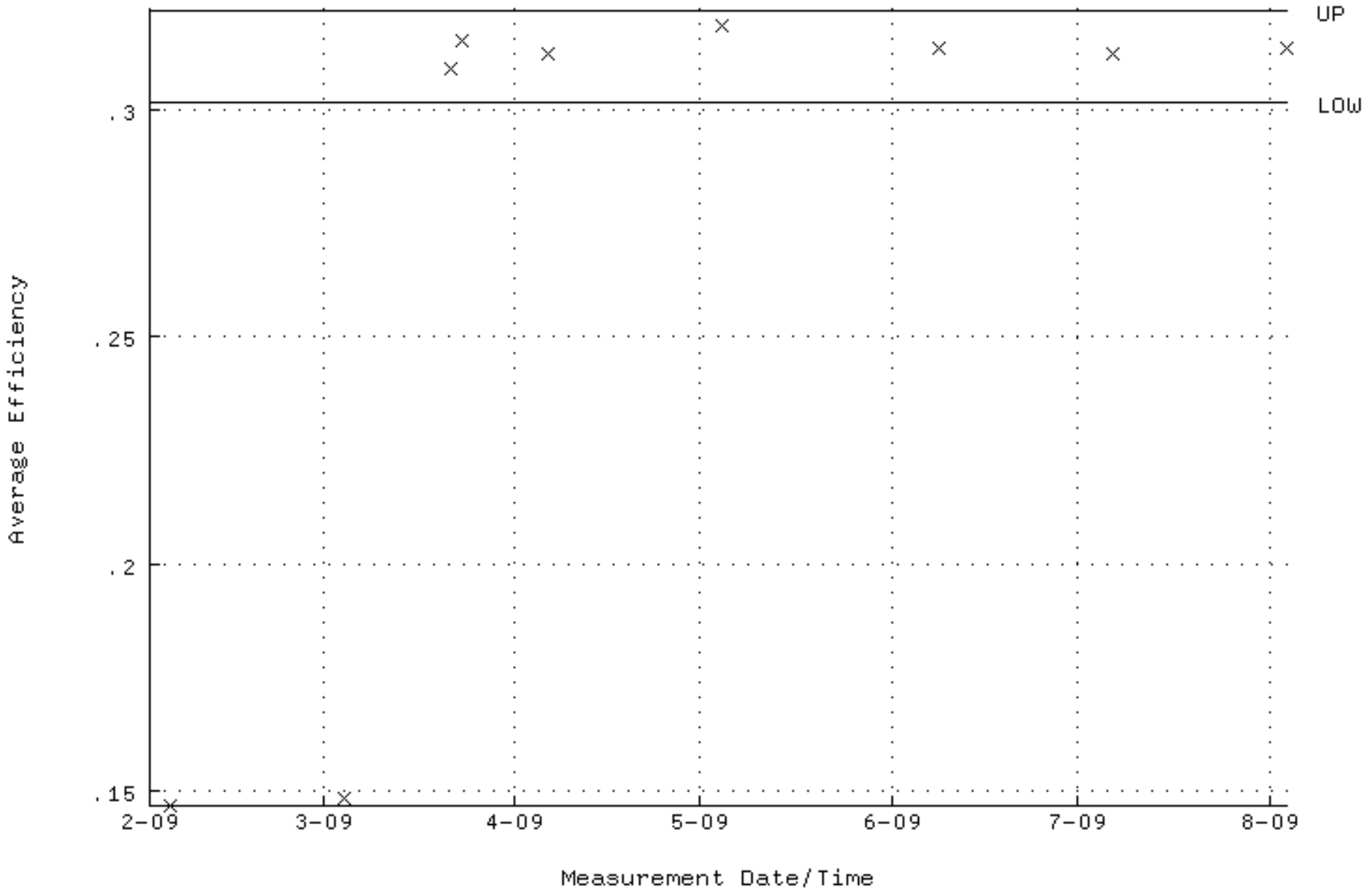
QA filename : DKA100:[ENV_ALPHA.QA.W]W013.QAF;2
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 87.7736 through 97.0130



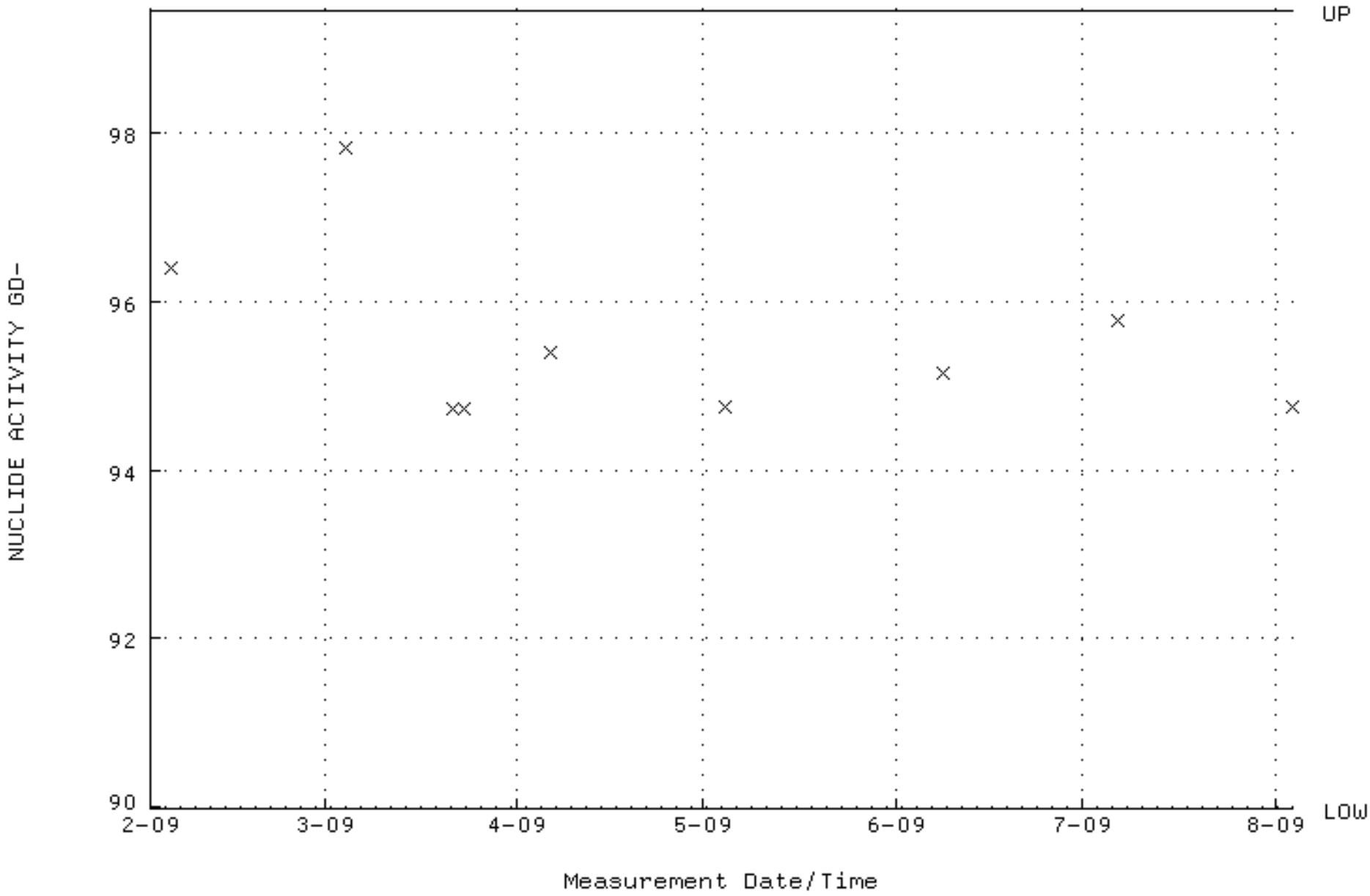
QA filename : DKA100:[ENV_ALPHA.QA.B]B013.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:04:48 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



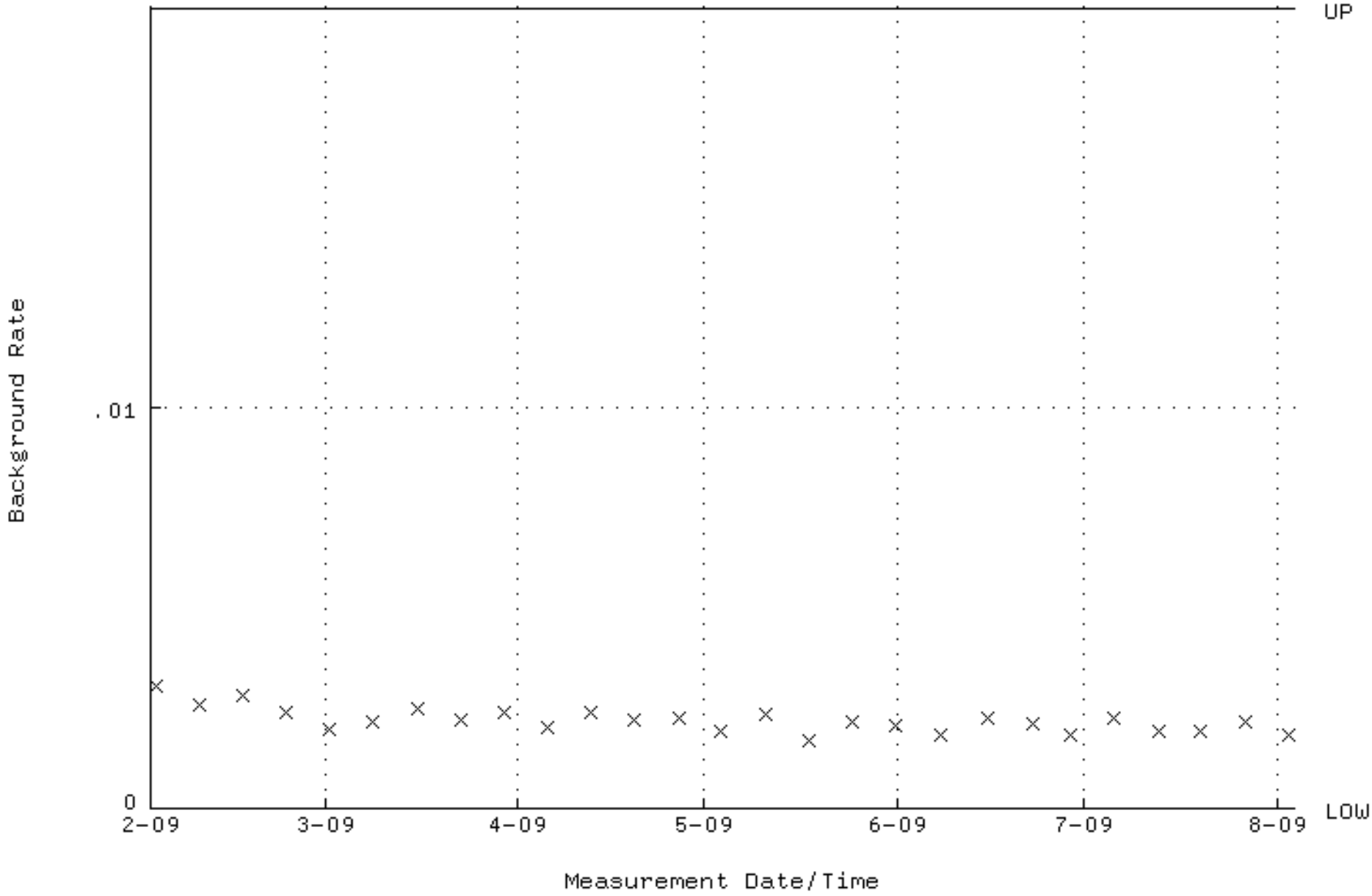
QA filename : DKA100:[ENV_ALPHA.QA.W]W014.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.301834 through 0.321834



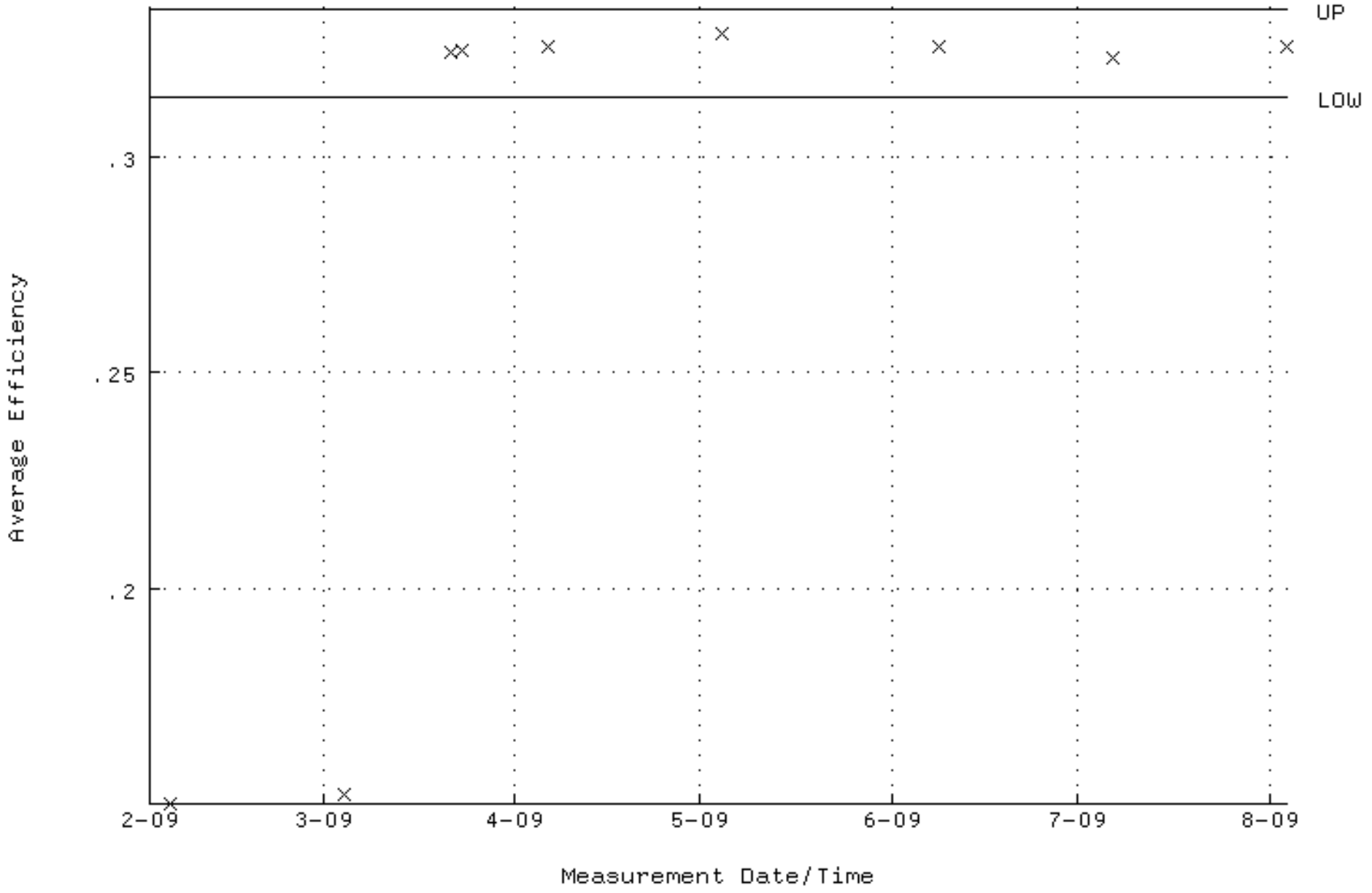
QA filename : DKA100:[ENV_ALPHA.QA.W]W014.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 89.9790 through 99.4504



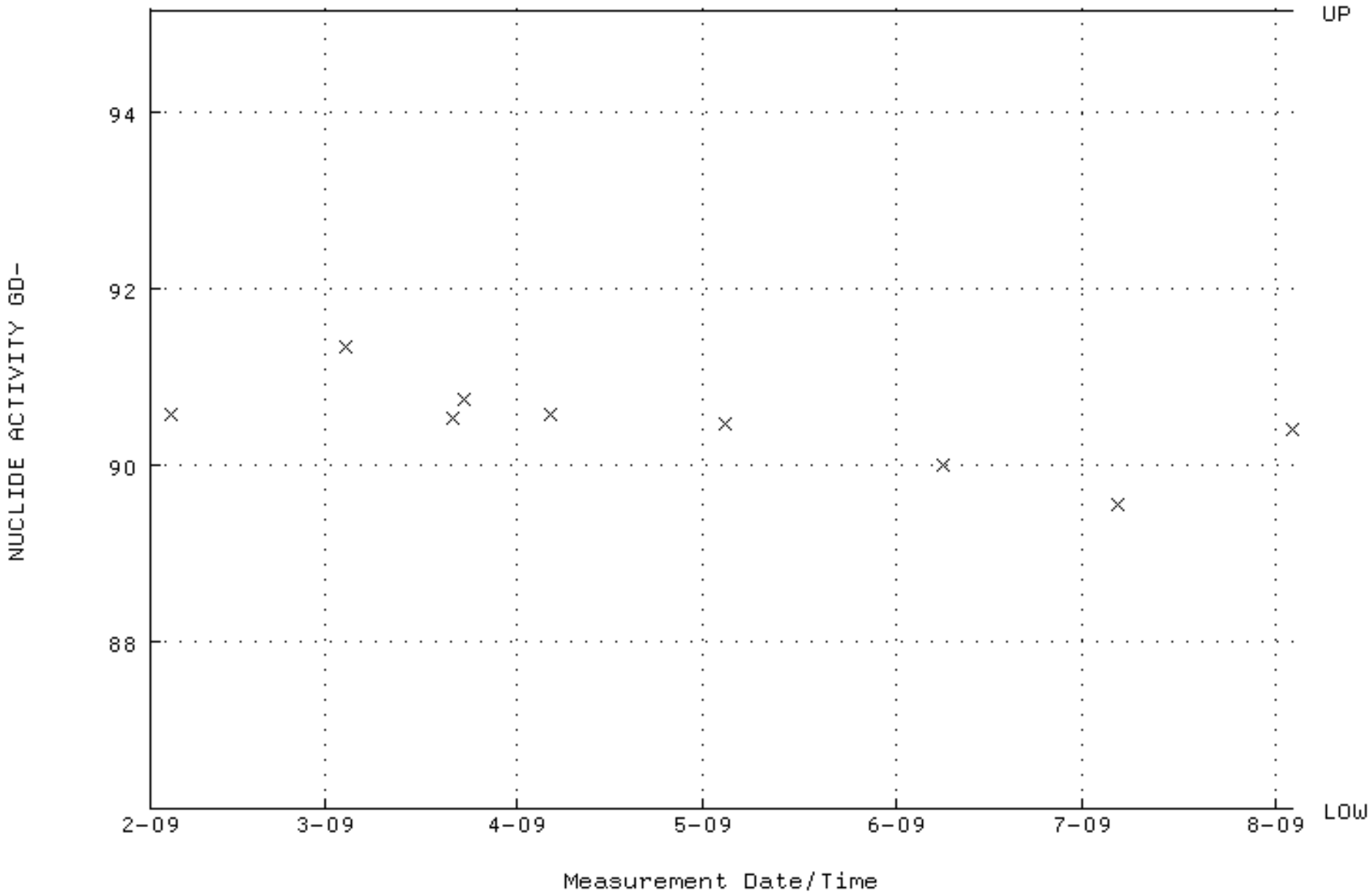
QA filename : DKA100:[ENV_ALPHA.QA.B]B014.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:04:48 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



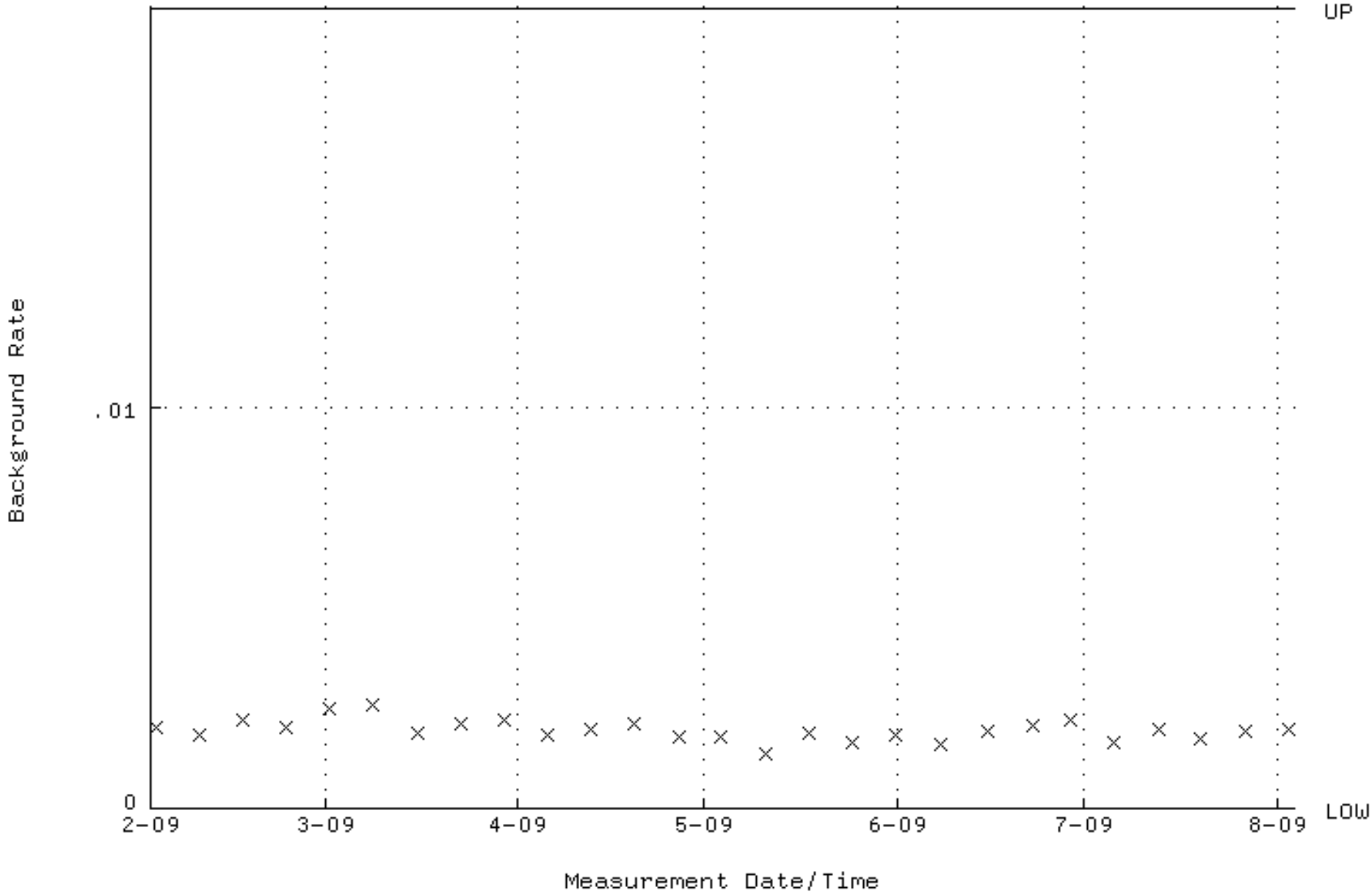
QA filename : DKA100:[ENV_ALPHA.QA.W]W015.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.314211 through 0.334211



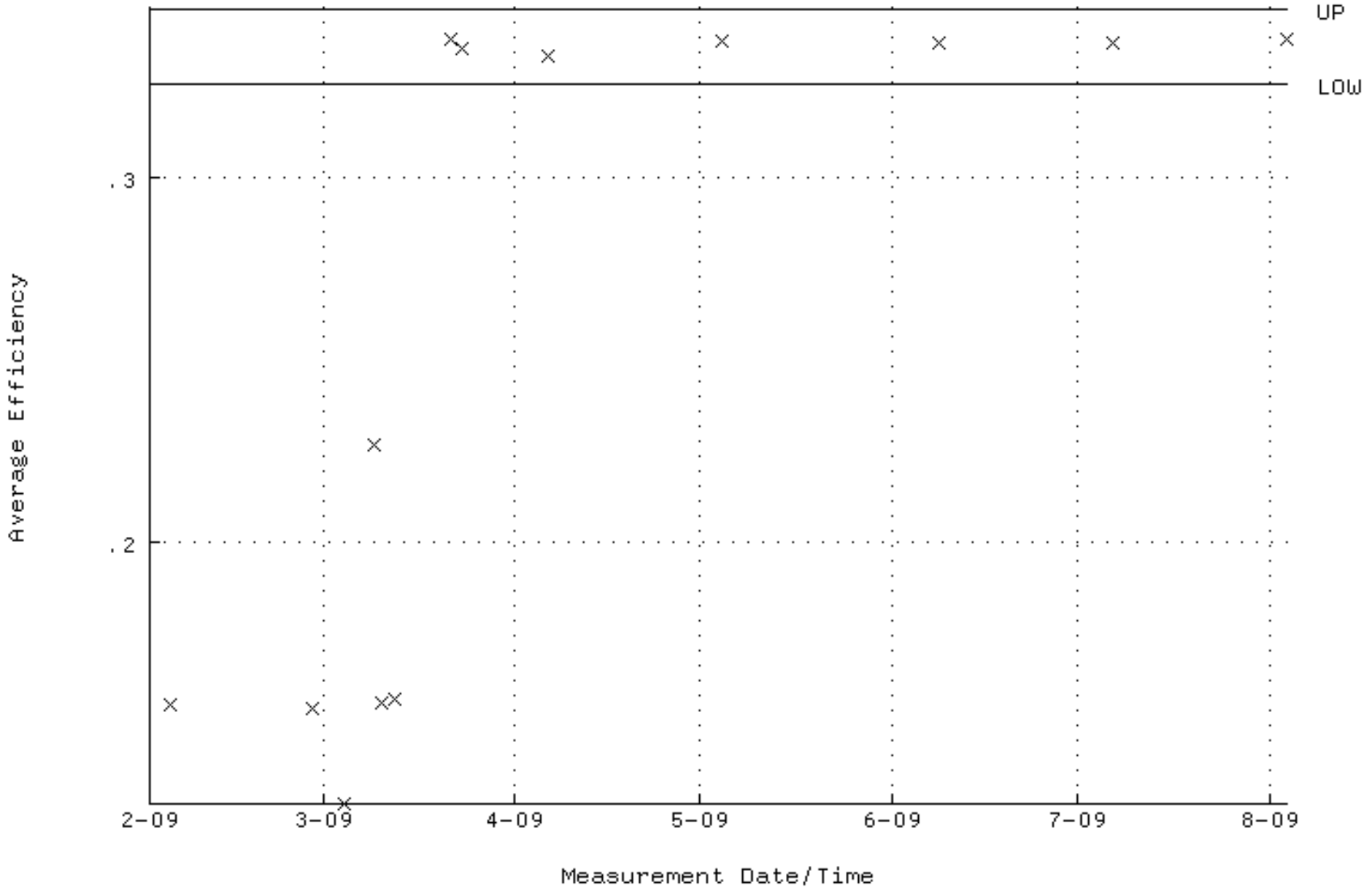
QA filename : DKA100:[ENV_ALPHA.QA.W]W015.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 86.0931 through 95.1555



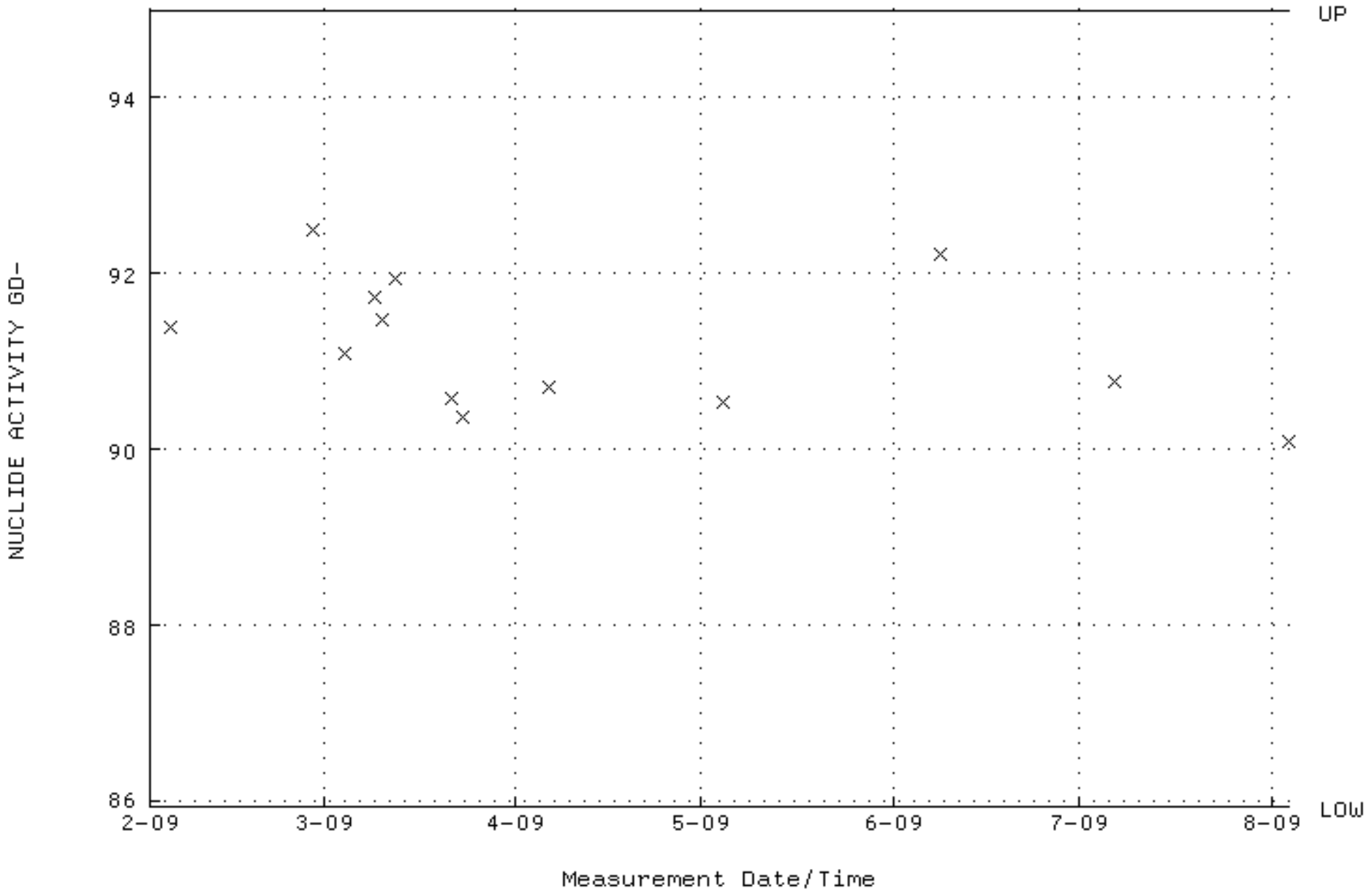
QA filename : DKA100:[ENV_ALPHA.QA.B]B015.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:04:48 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



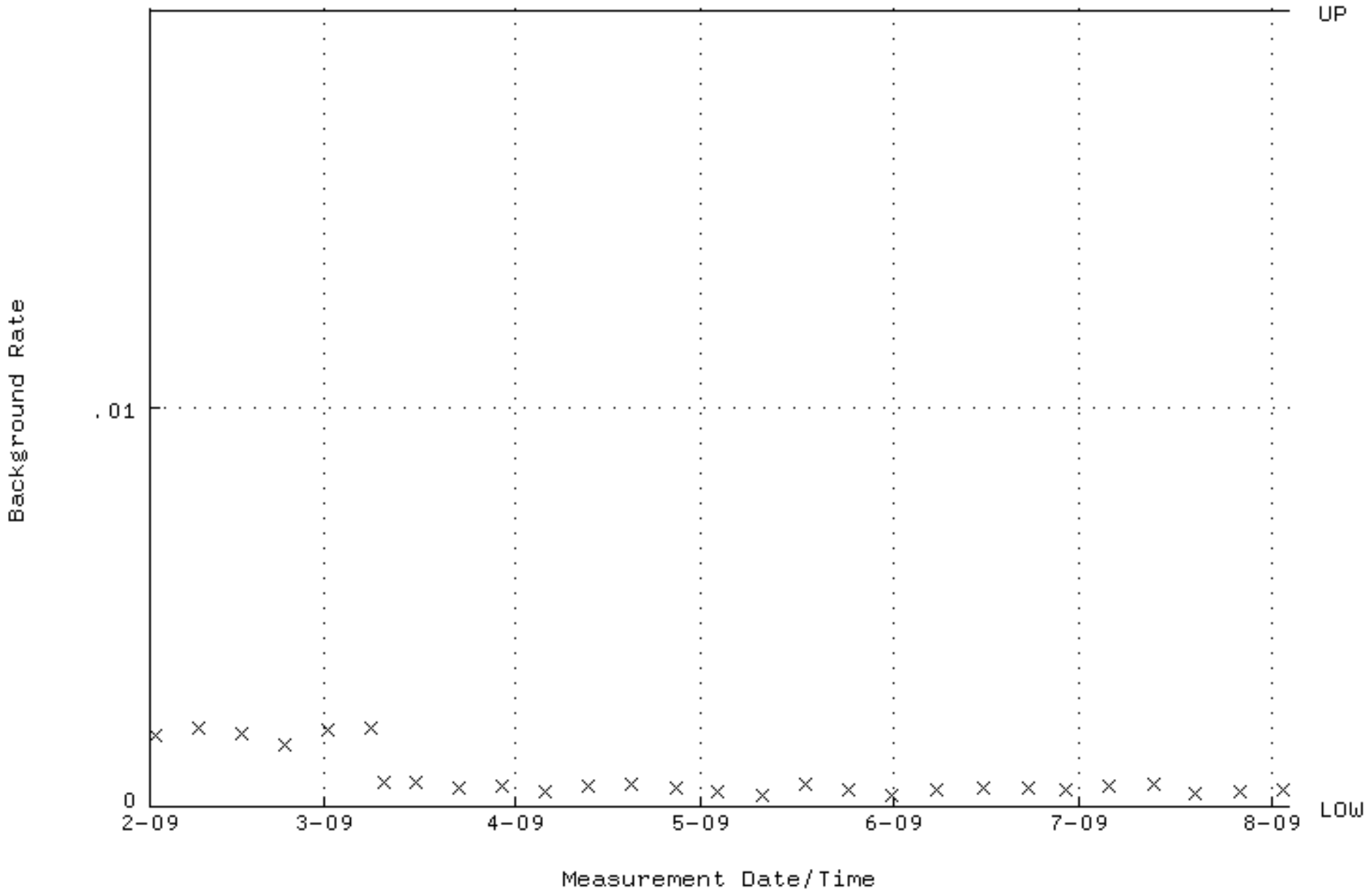
QA filename : DKA100:[ENV_ALPHA.QA.W]W016.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.326058 through 0.346058



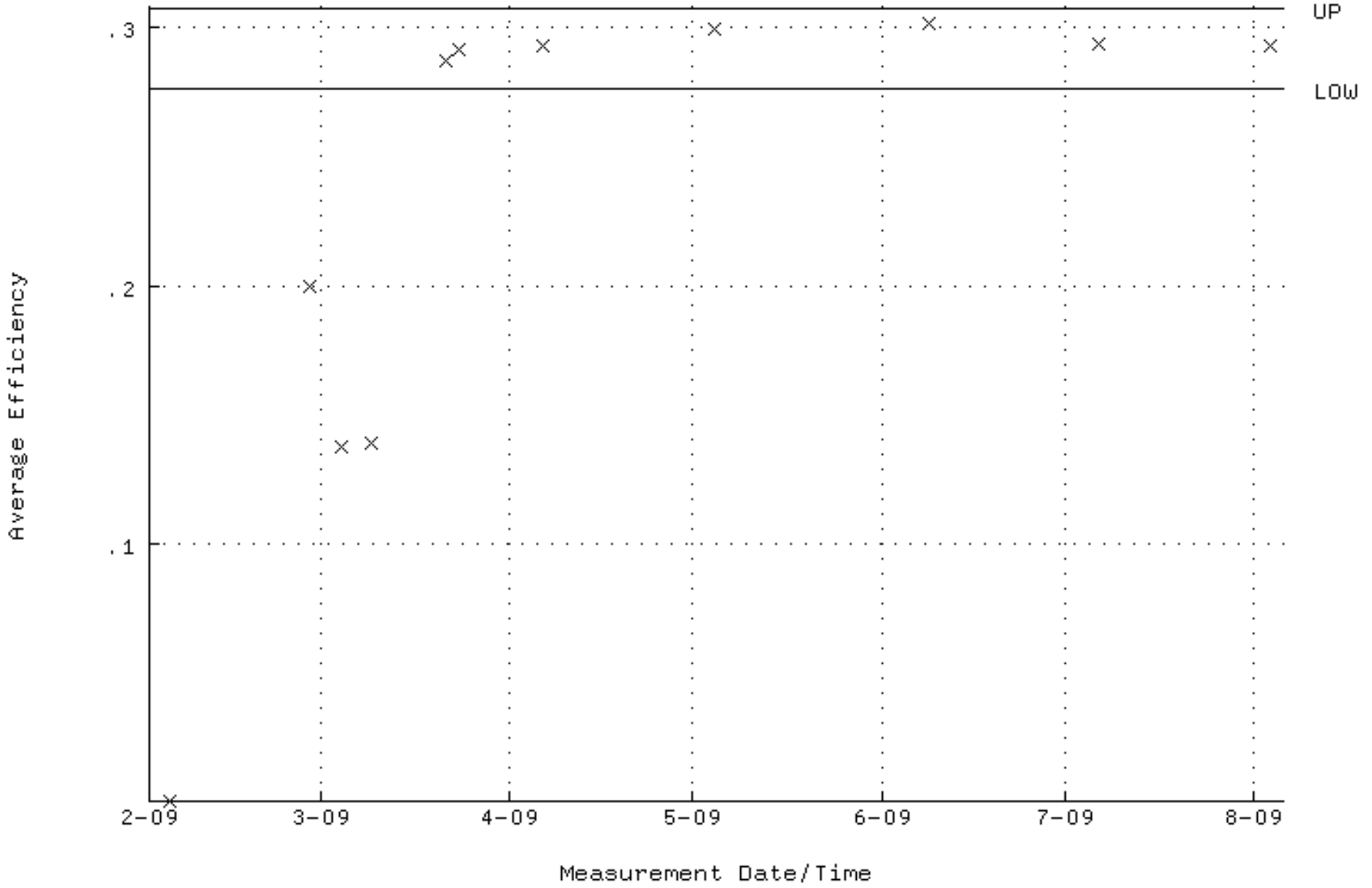
QA filename : DKA100:[ENV_ALPHA.QA.W]W016.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 85.9280 through 94.9730



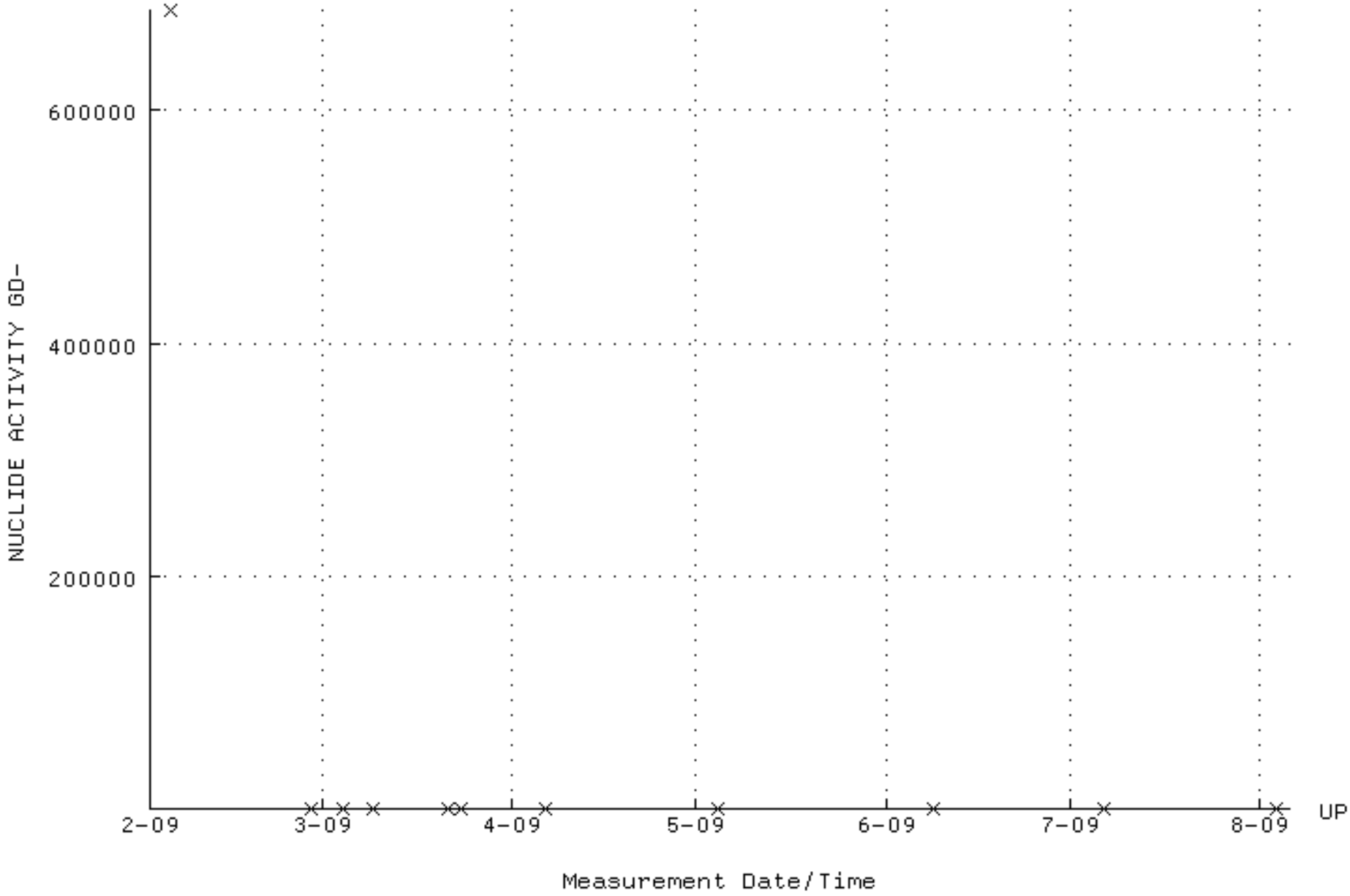
QA filename : DKA100:[ENV_ALPHA.QA.B]B016.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:04:48 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



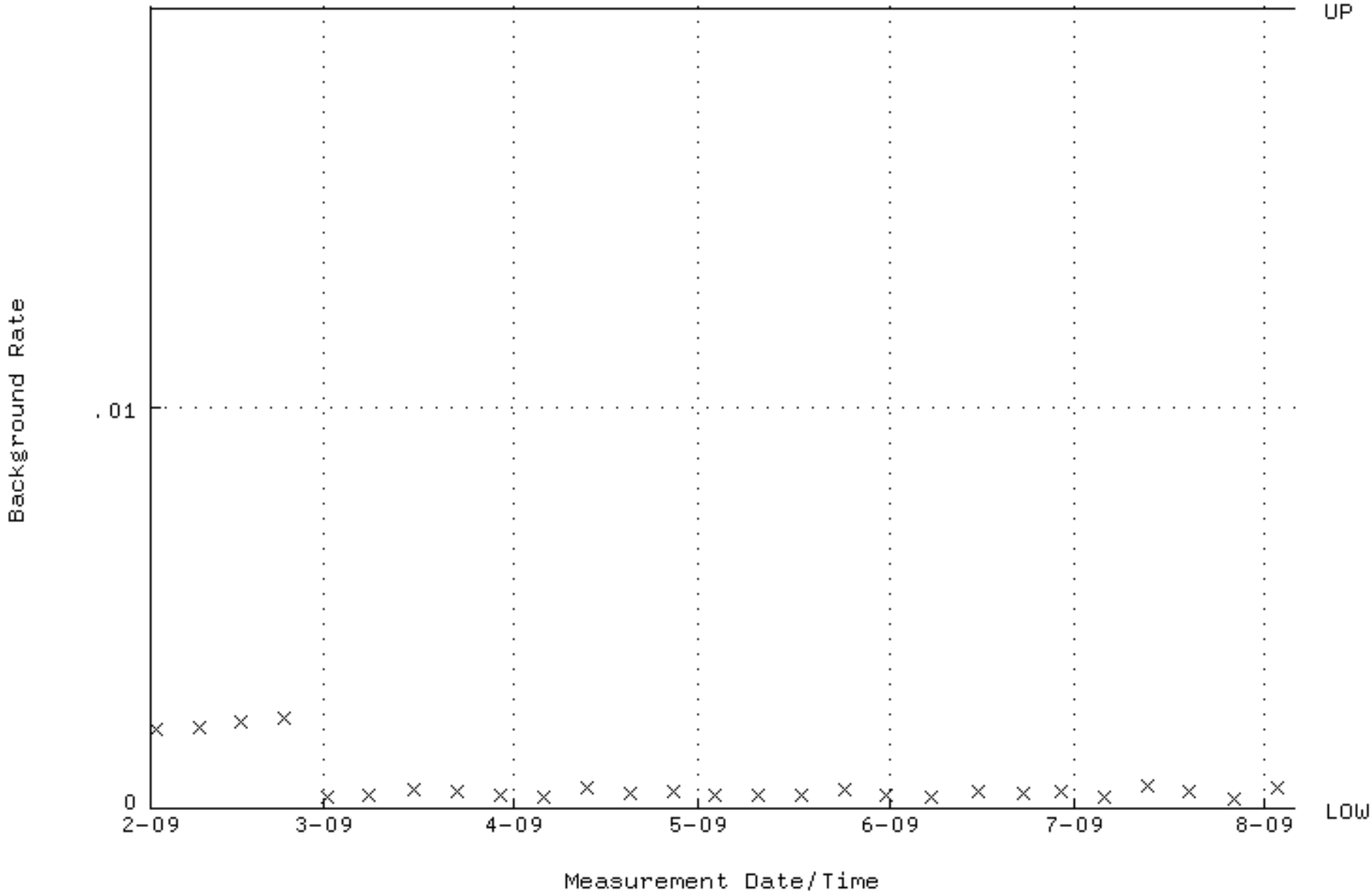
QA filename : DKA100:[ENV_ALPHA.QA.W]W017.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:54 through 5-AUG-2009 12:00:00
Lower/Upper Lmts: 0.276771 through 0.307557



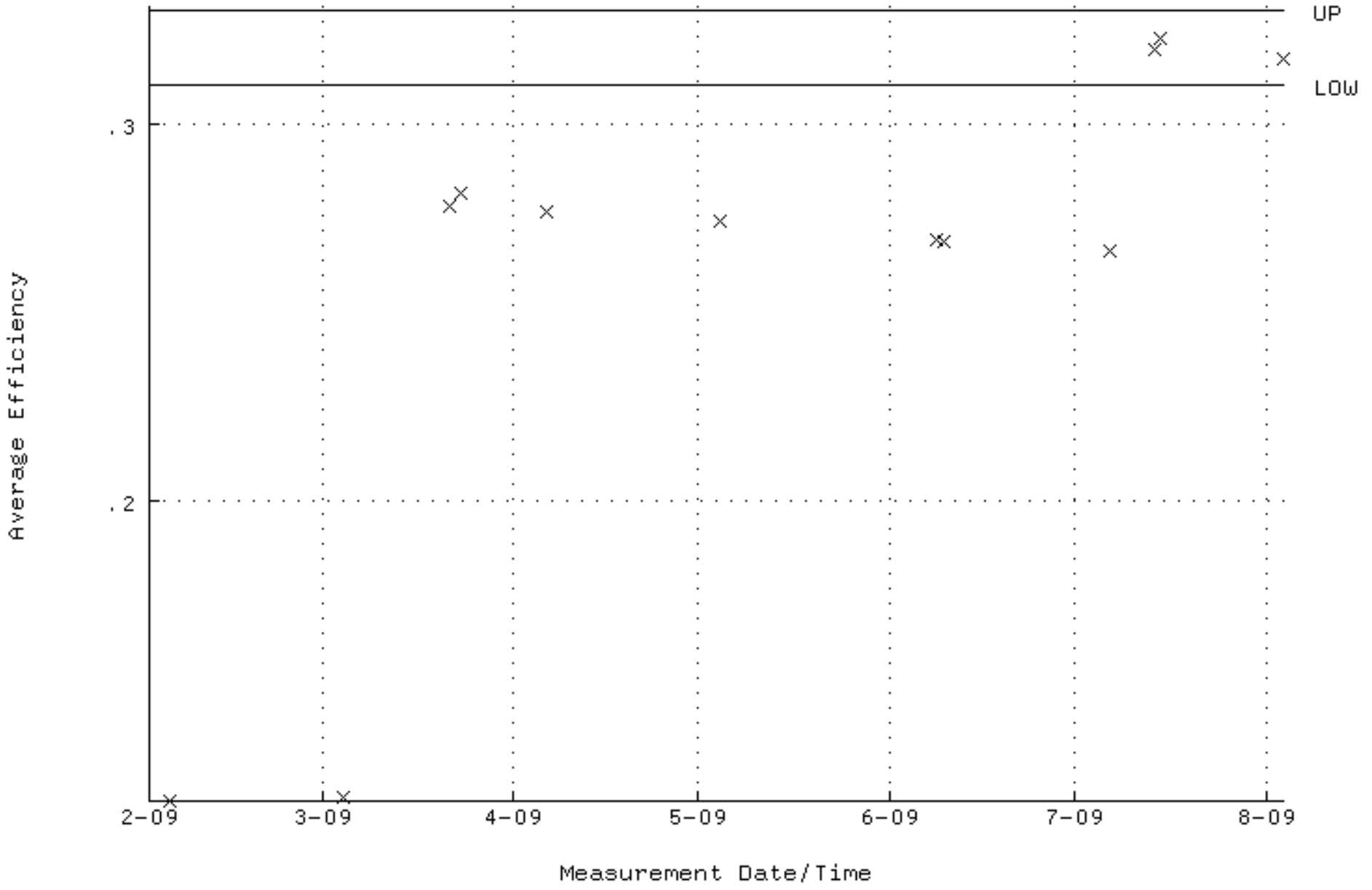
QA filename : DKA100:[ENV_ALPHA.QA.W]W017.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:54 through 5-AUG-2009 12:00:00
Lower/Upper Lmts: 90.6063 through 97.0149



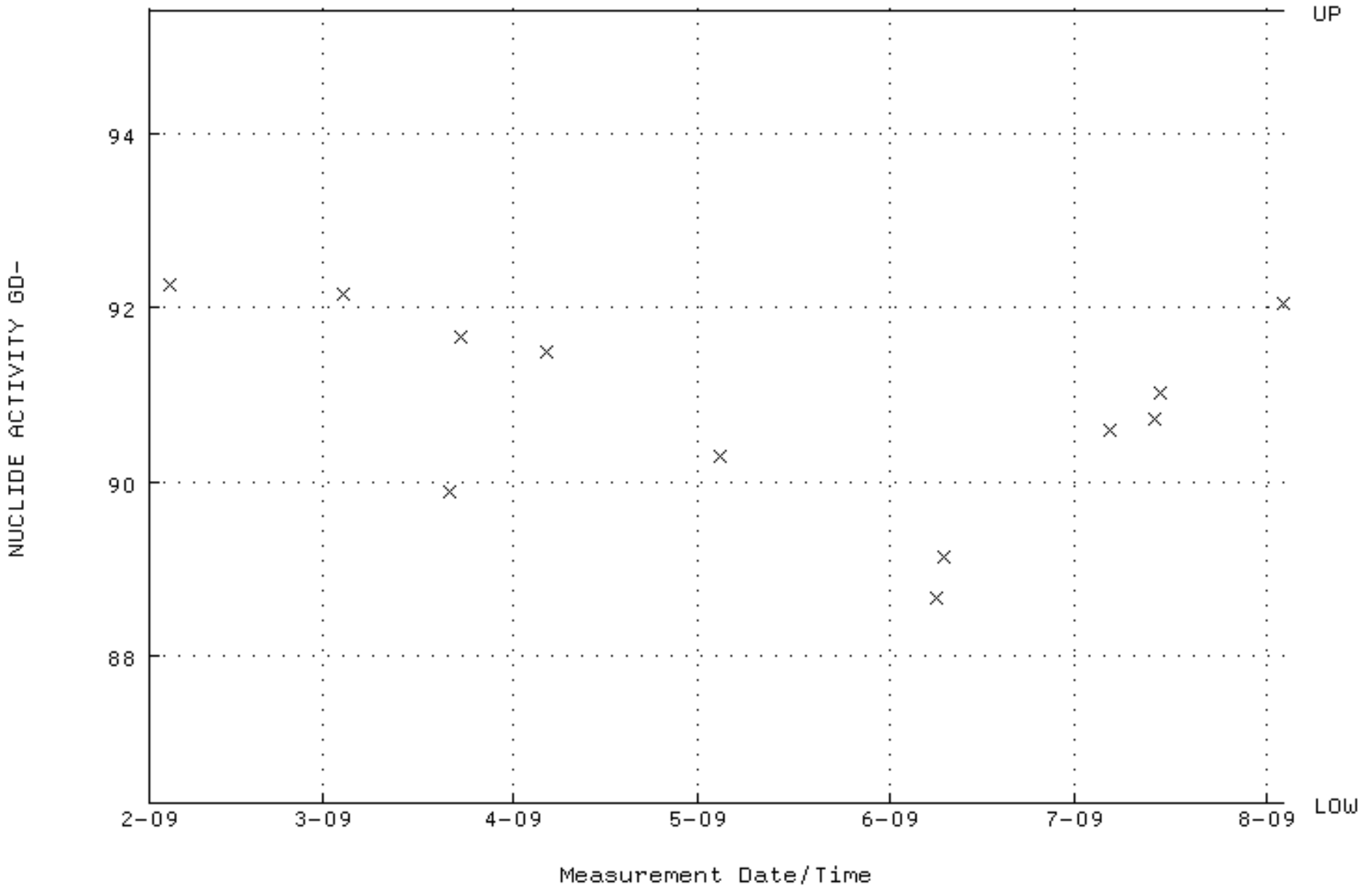
QA filename : DKA100:[ENV_ALPHA.QA.B]B017.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:04:48 through 5-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



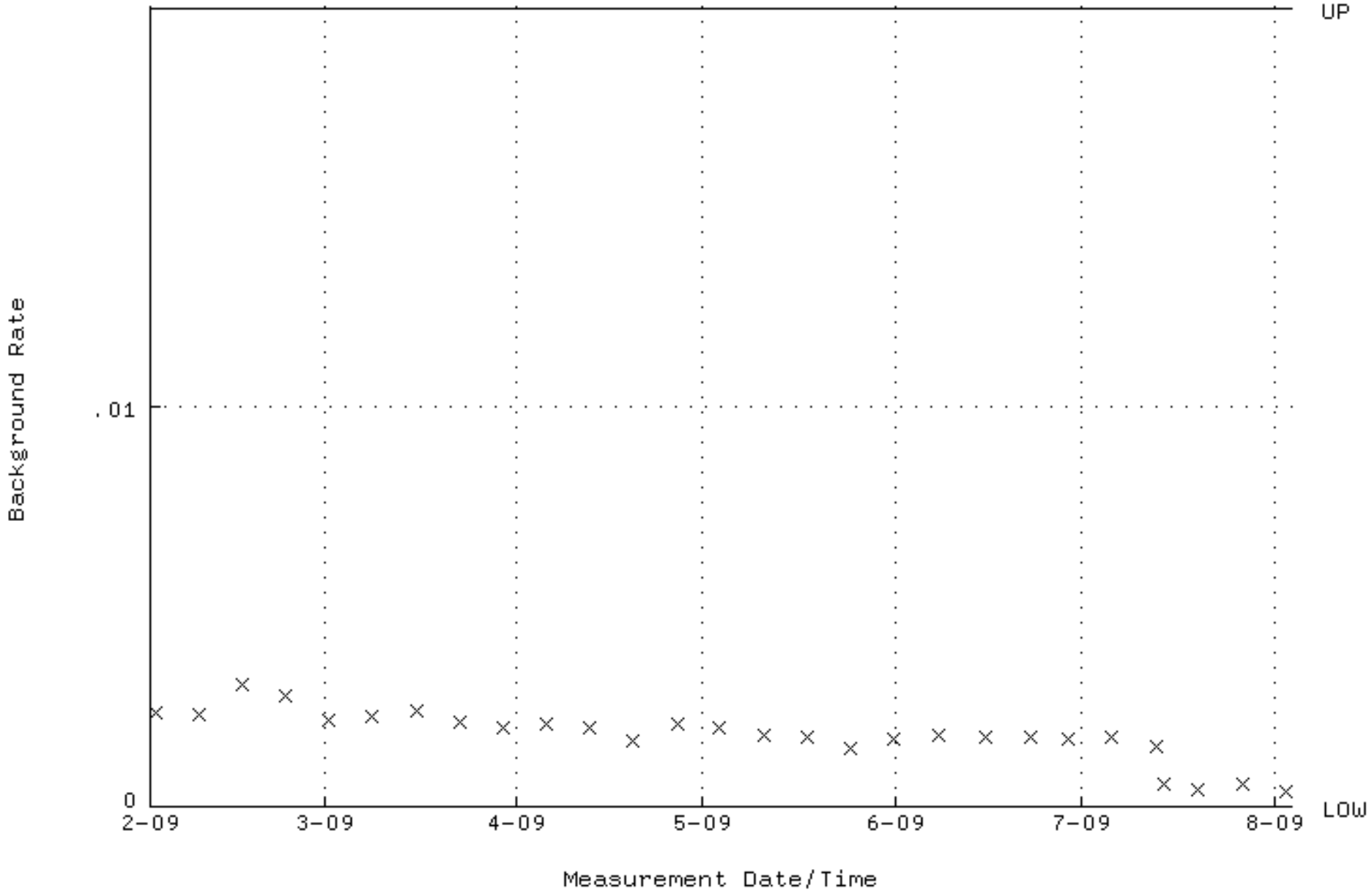
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.310950 through 0.330950



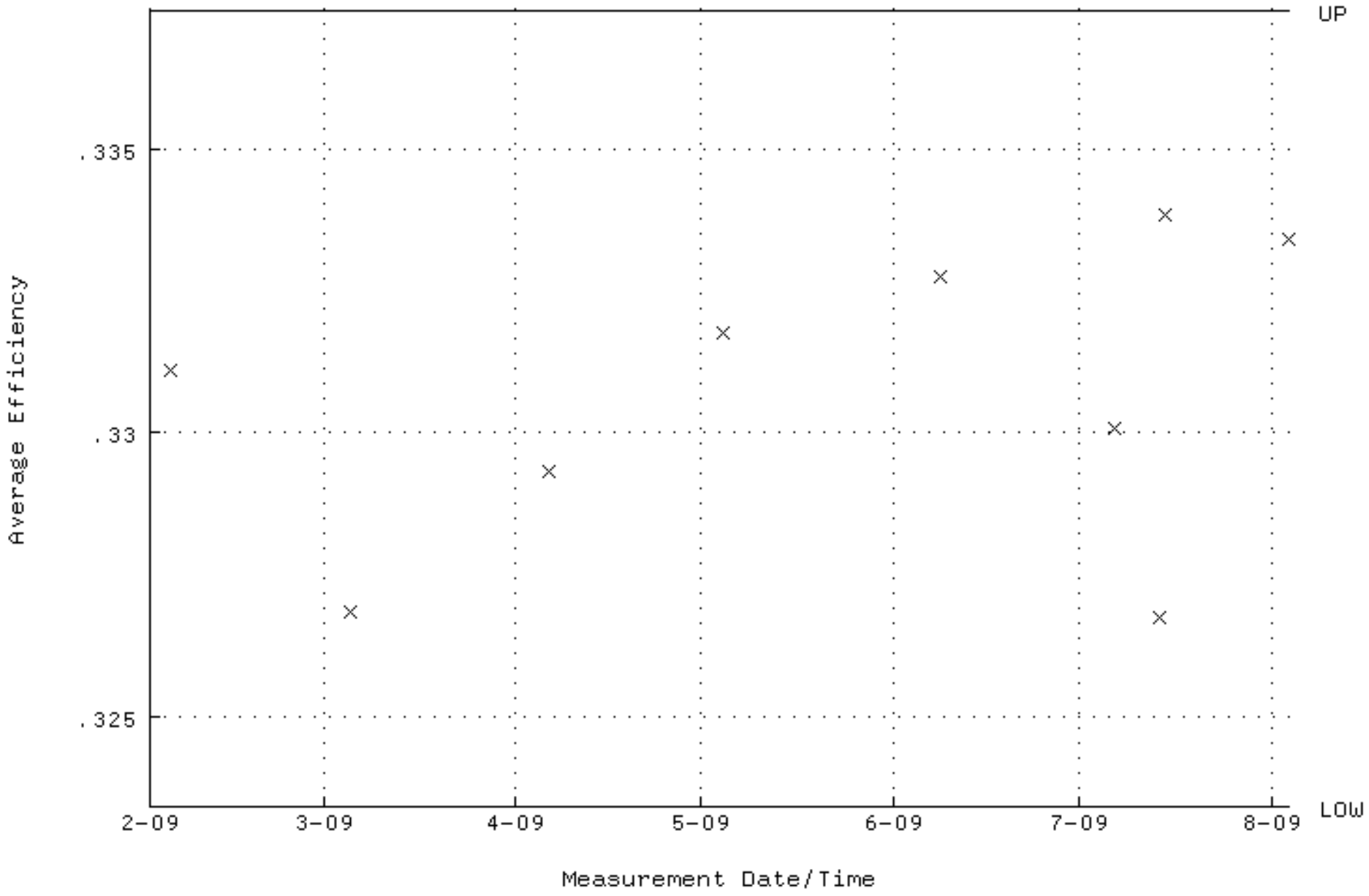
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 86.3167 through 95.4027



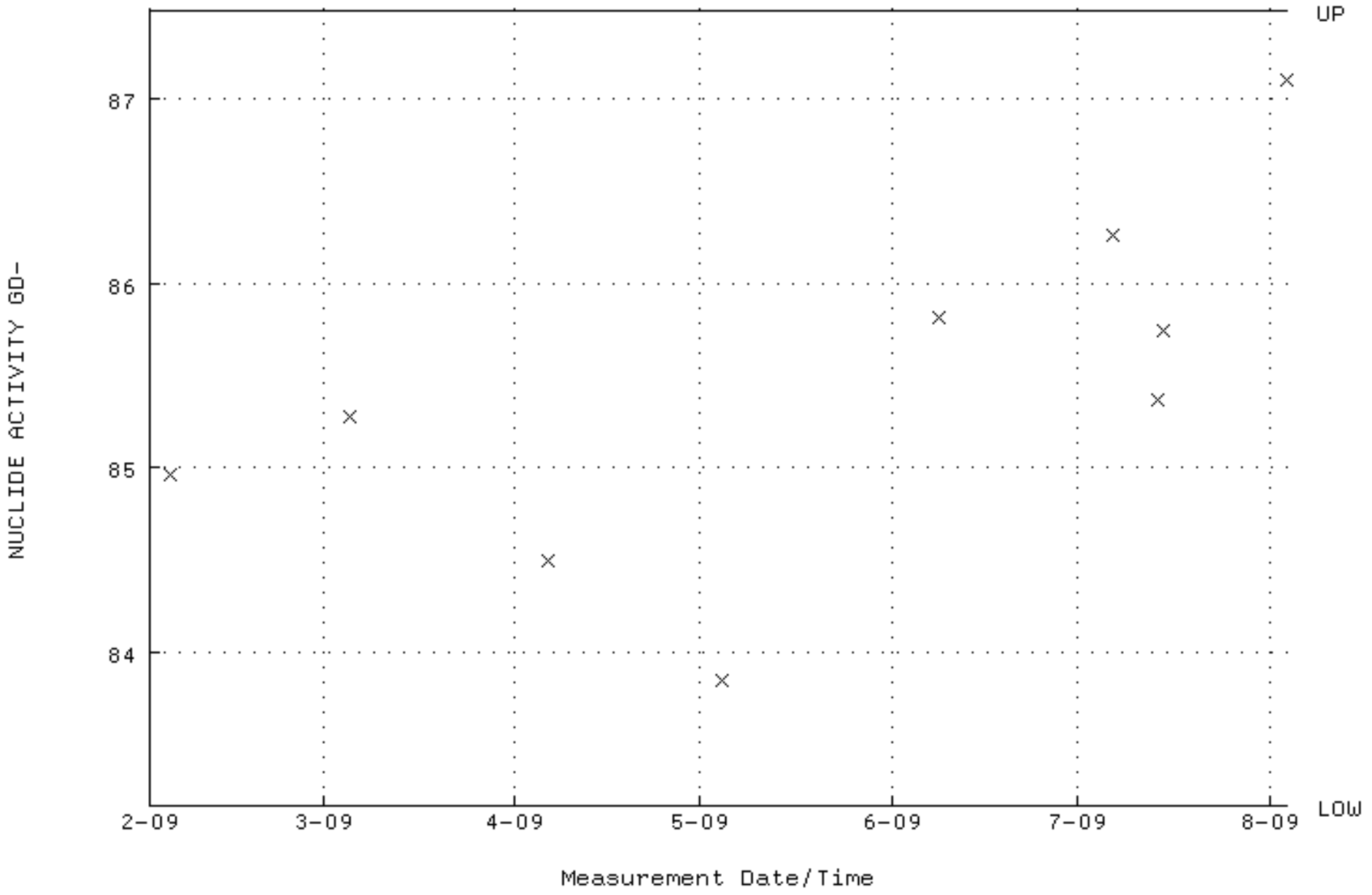
QA filename : DKA100:[ENV_ALPHA.QA.B]B018.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:04:48 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



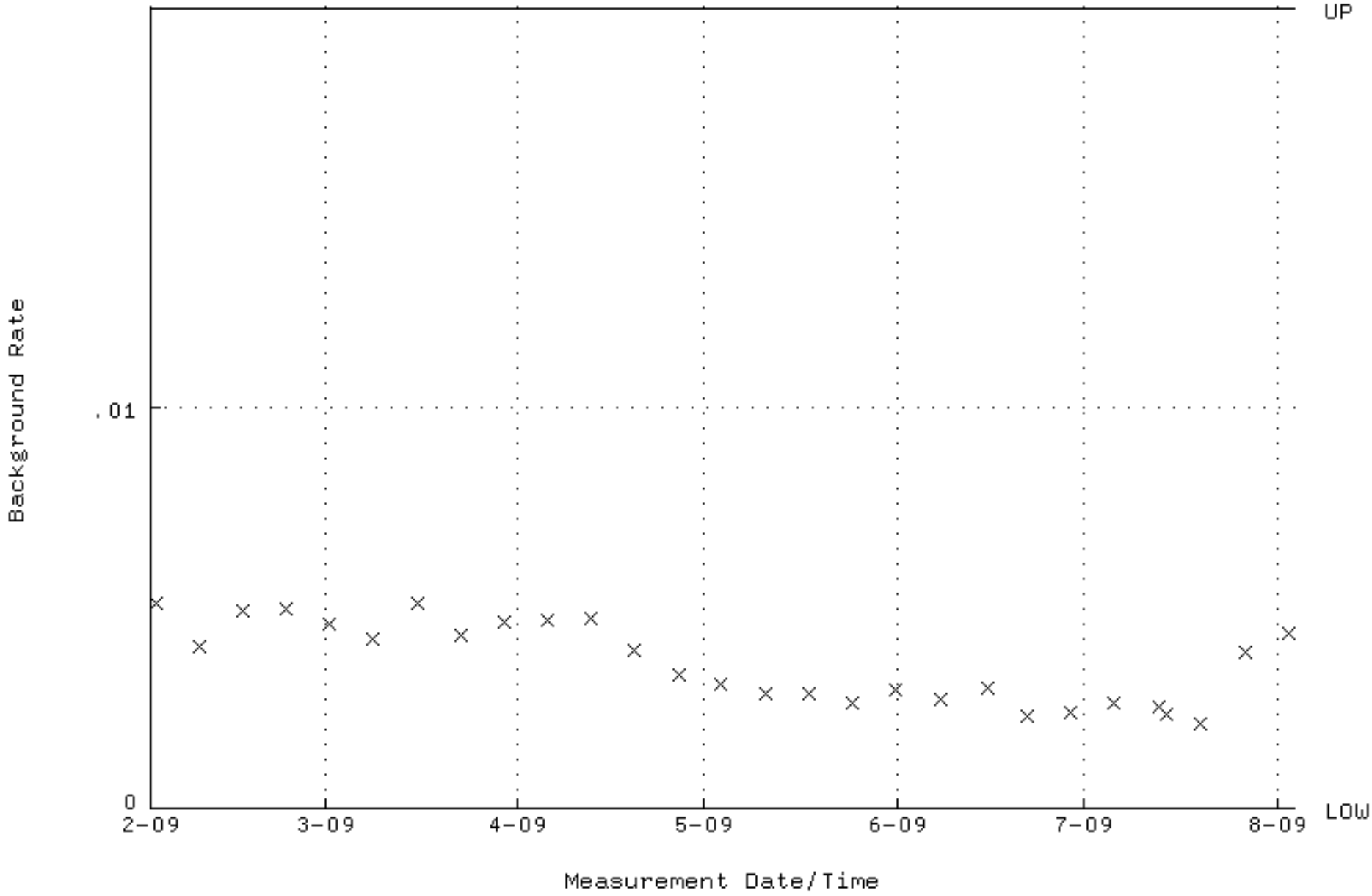
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:57 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.323399 through 0.337447



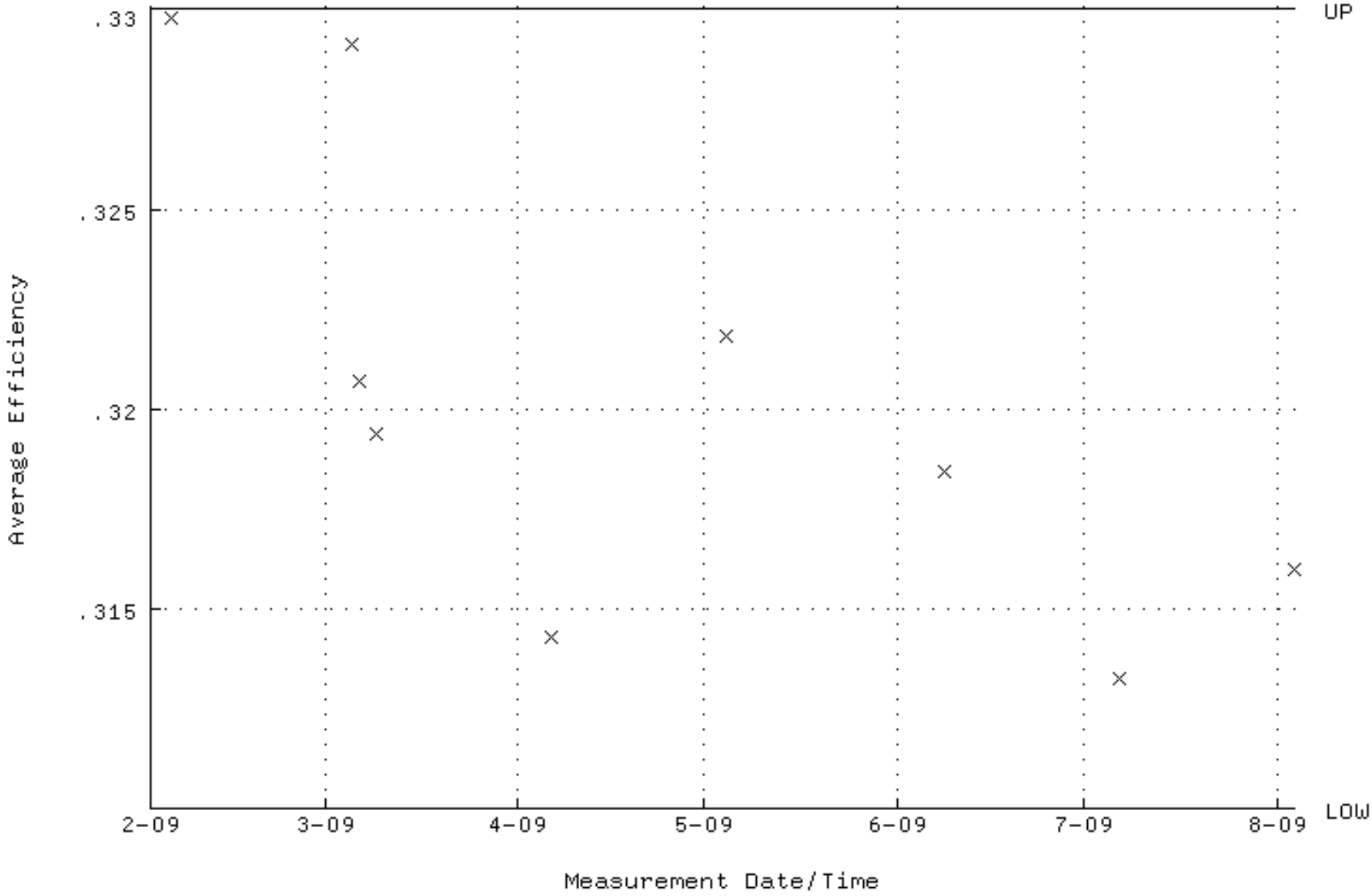
QA filename : DKA100:[ENV_ALPHA.QA.W]W031.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:57 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 83.1638 through 87.4767



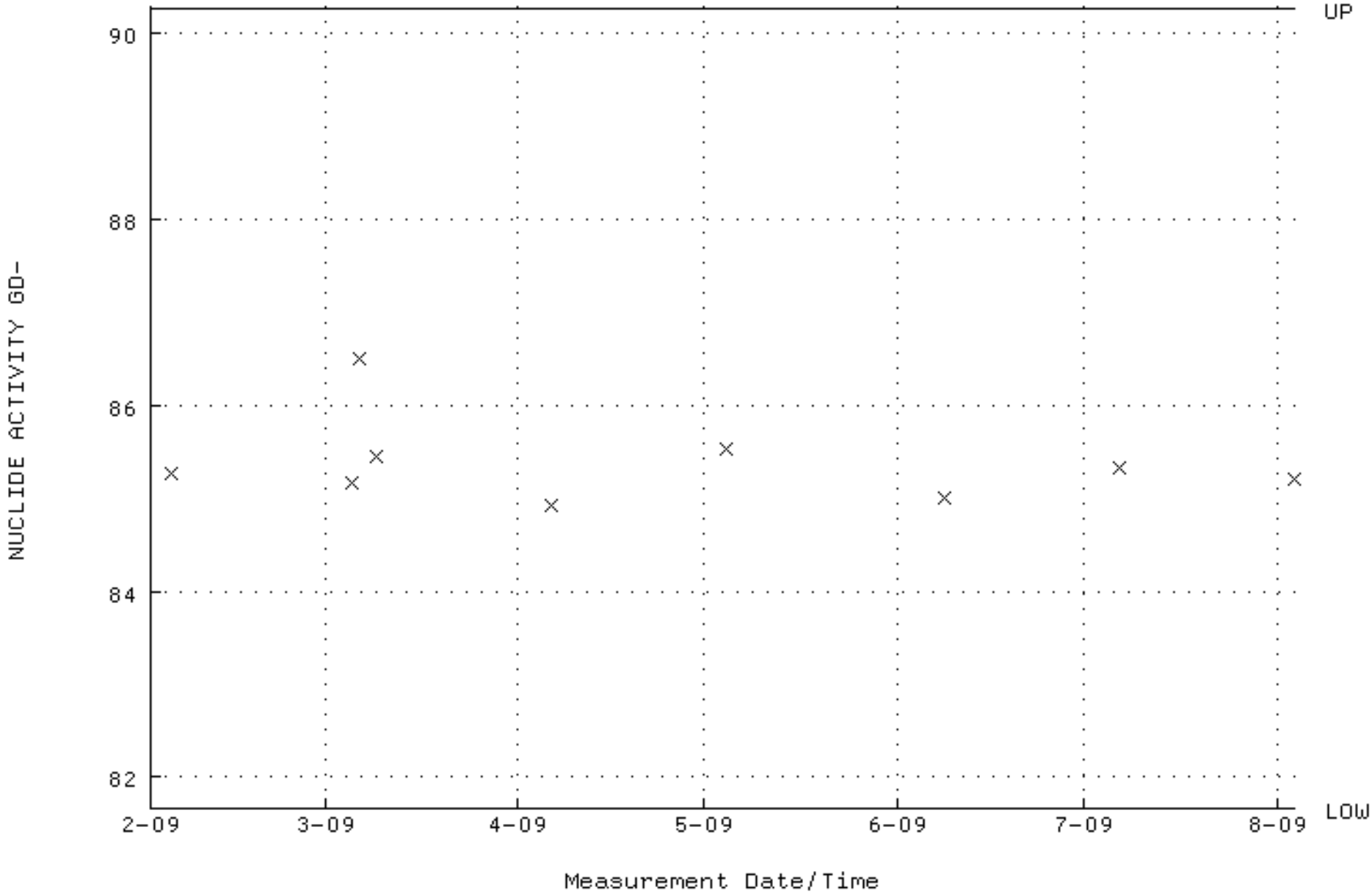
QA filename : DKA100:[ENV_ALPHA.QA.B]B031.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:00 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



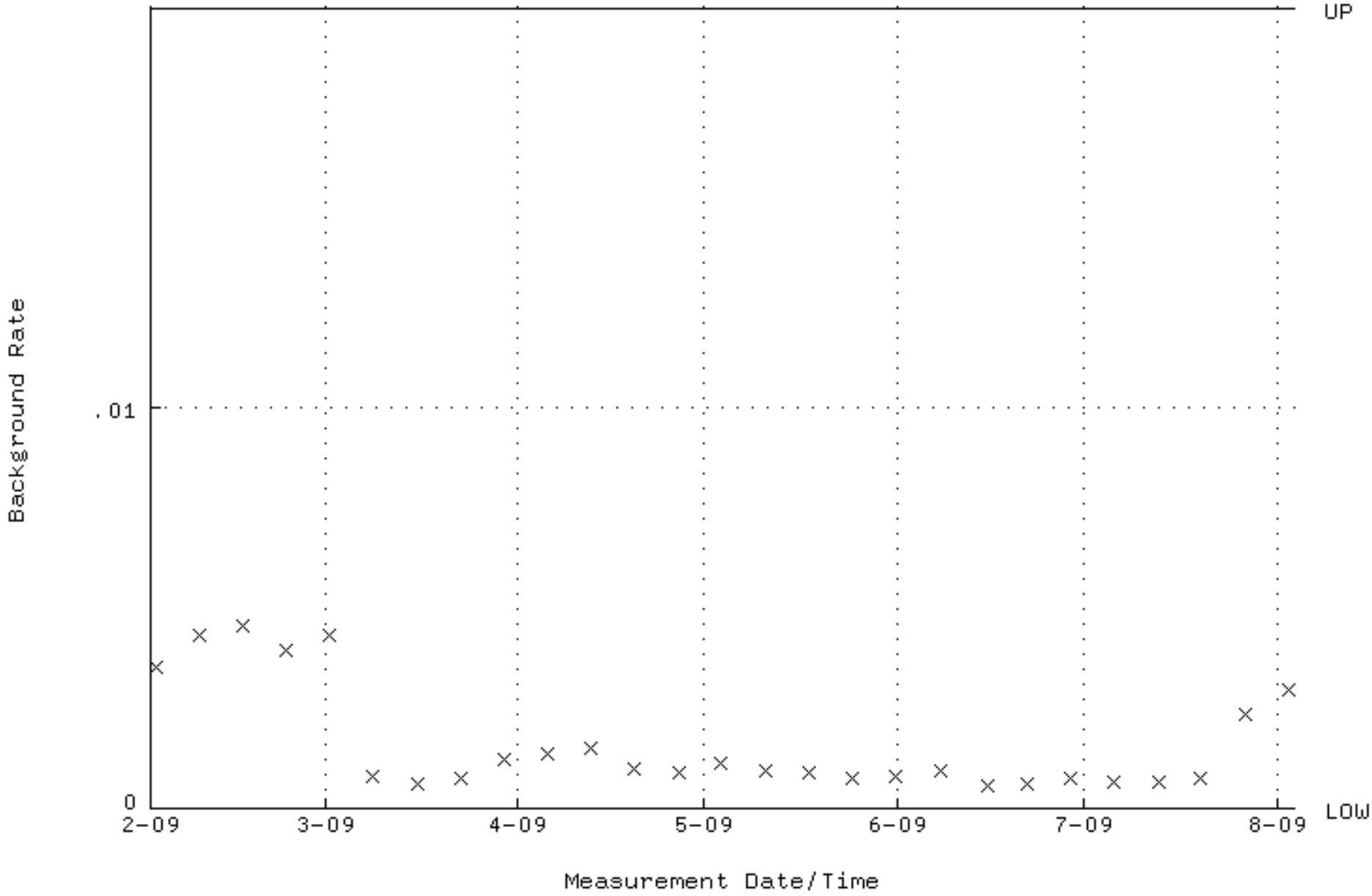
QA filename : DKA100:[ENV_ALPHA.QA.W]W033.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:57 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.310023 through 0.330023



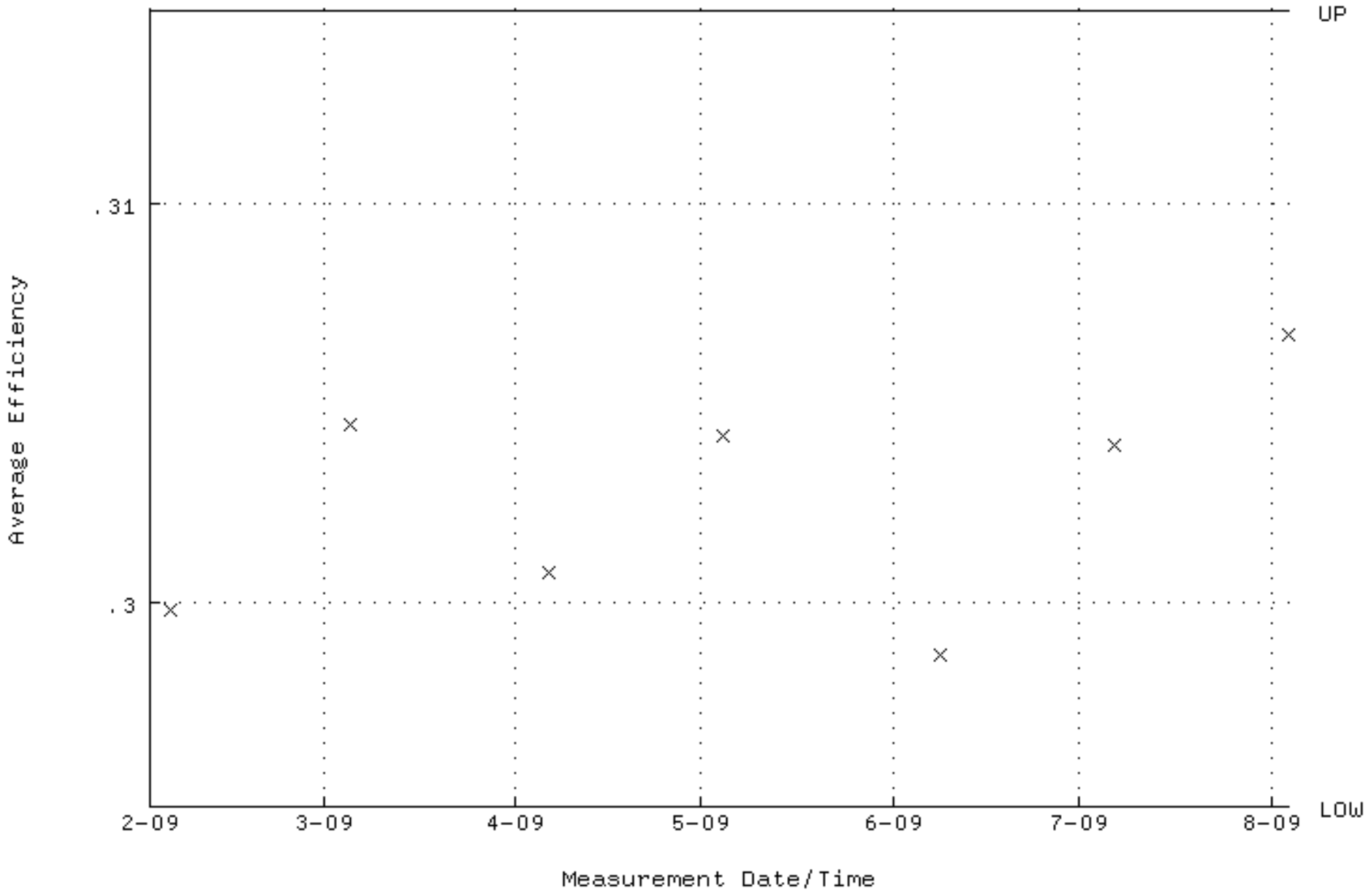
QA filename : DKA100:[ENV_ALPHA.QA.W]W033.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:57 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 81.6649 through 90.2613



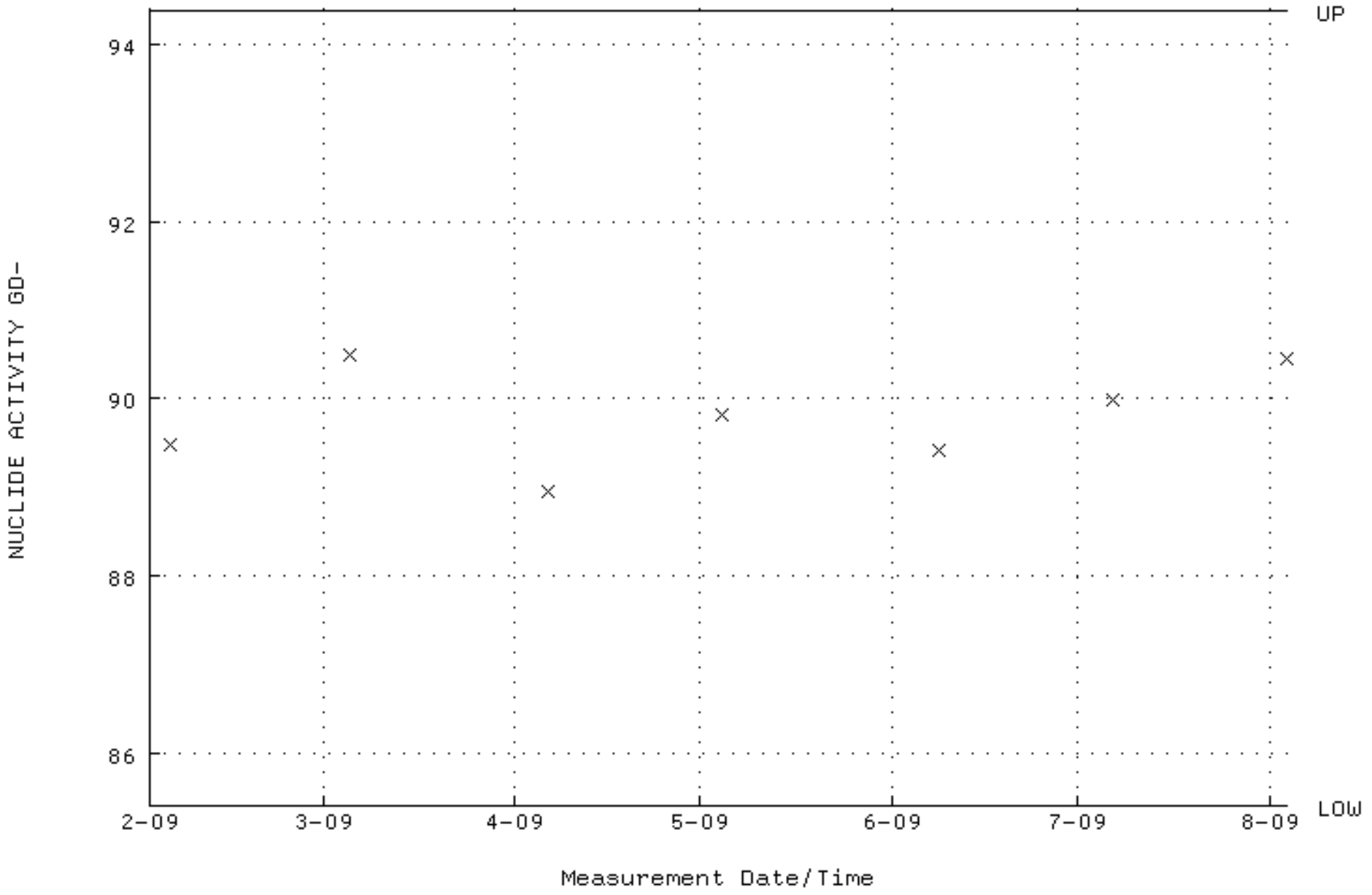
QA filename : DKA100:[ENV_ALPHA.QA.B]B033.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:00 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



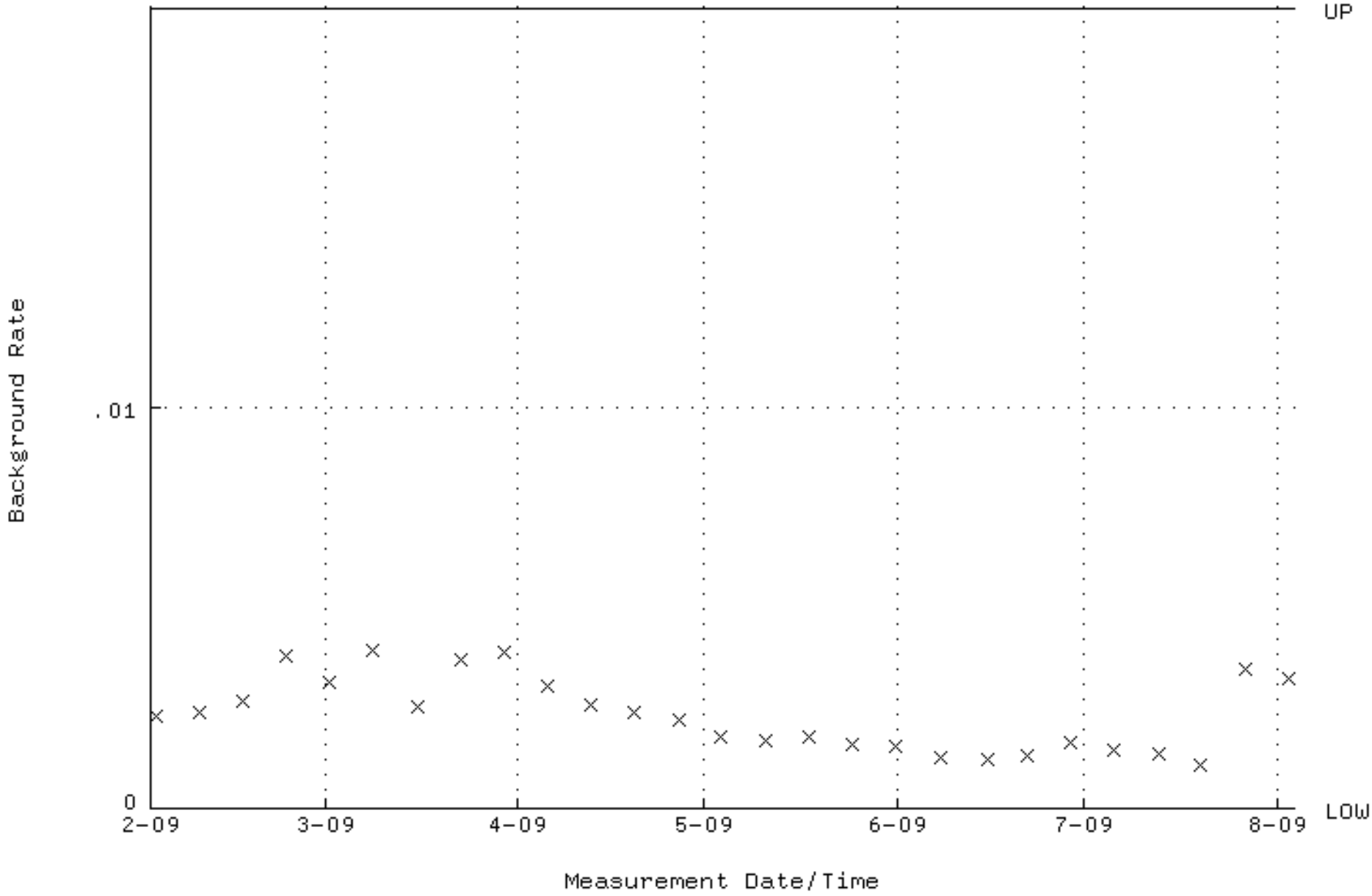
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:57 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.294859 through 0.314859



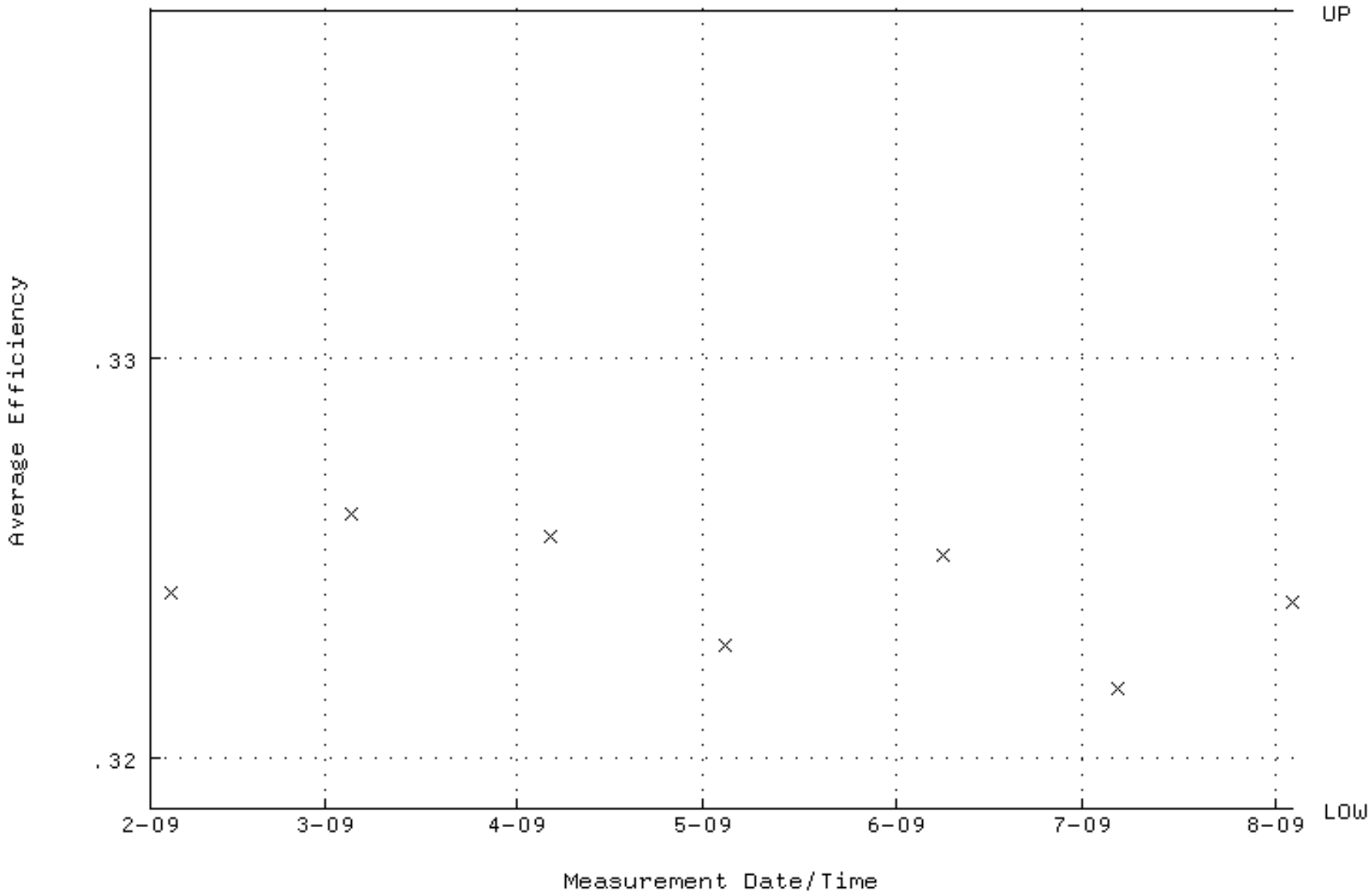
QA filename : DKA100:[ENV_ALPHA.QA.W]W035.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:57 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 85.3984 through 94.3878



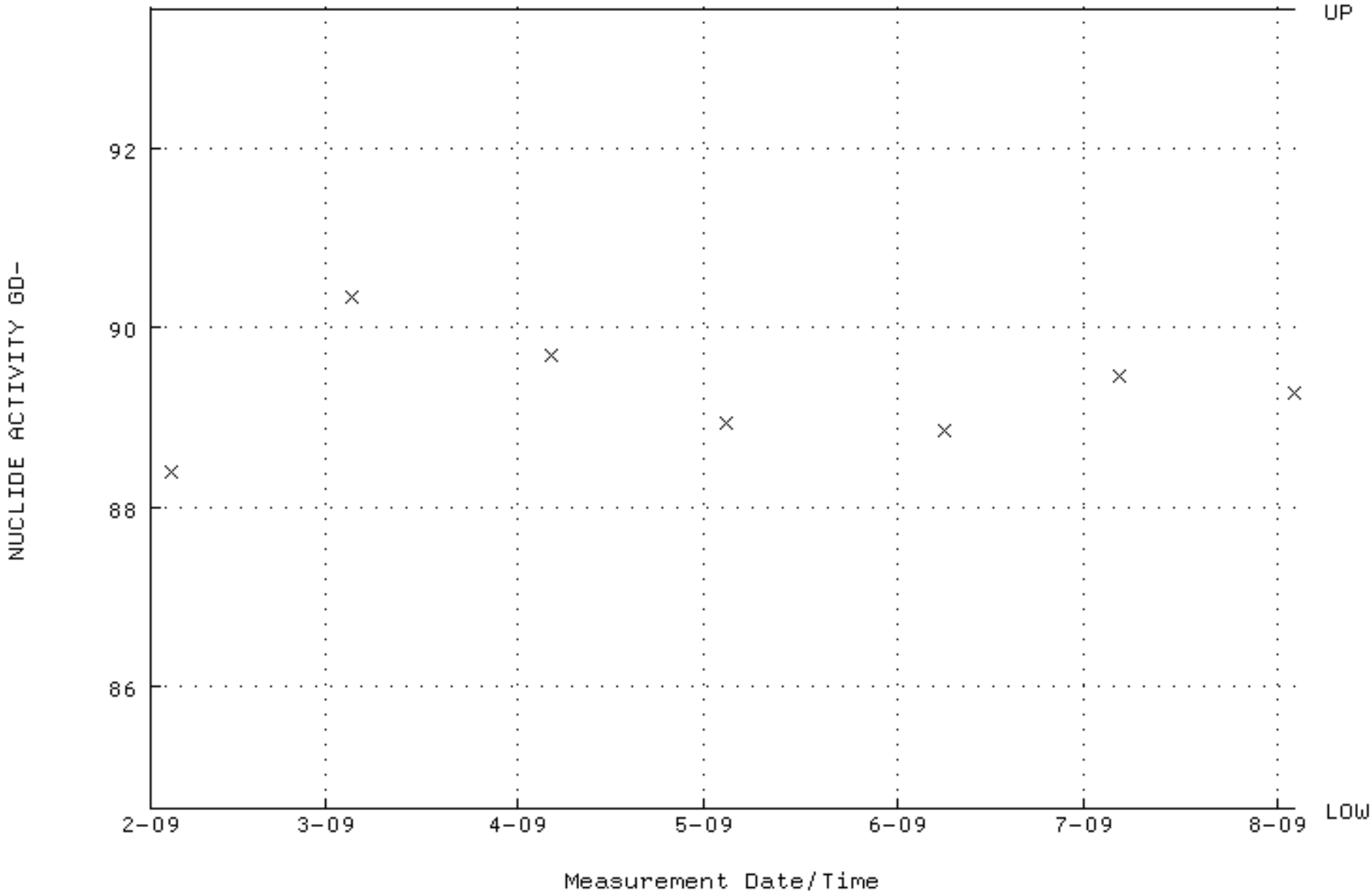
QA filename : DKA100:[ENV_ALPHA.QA.B]B035.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:00 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



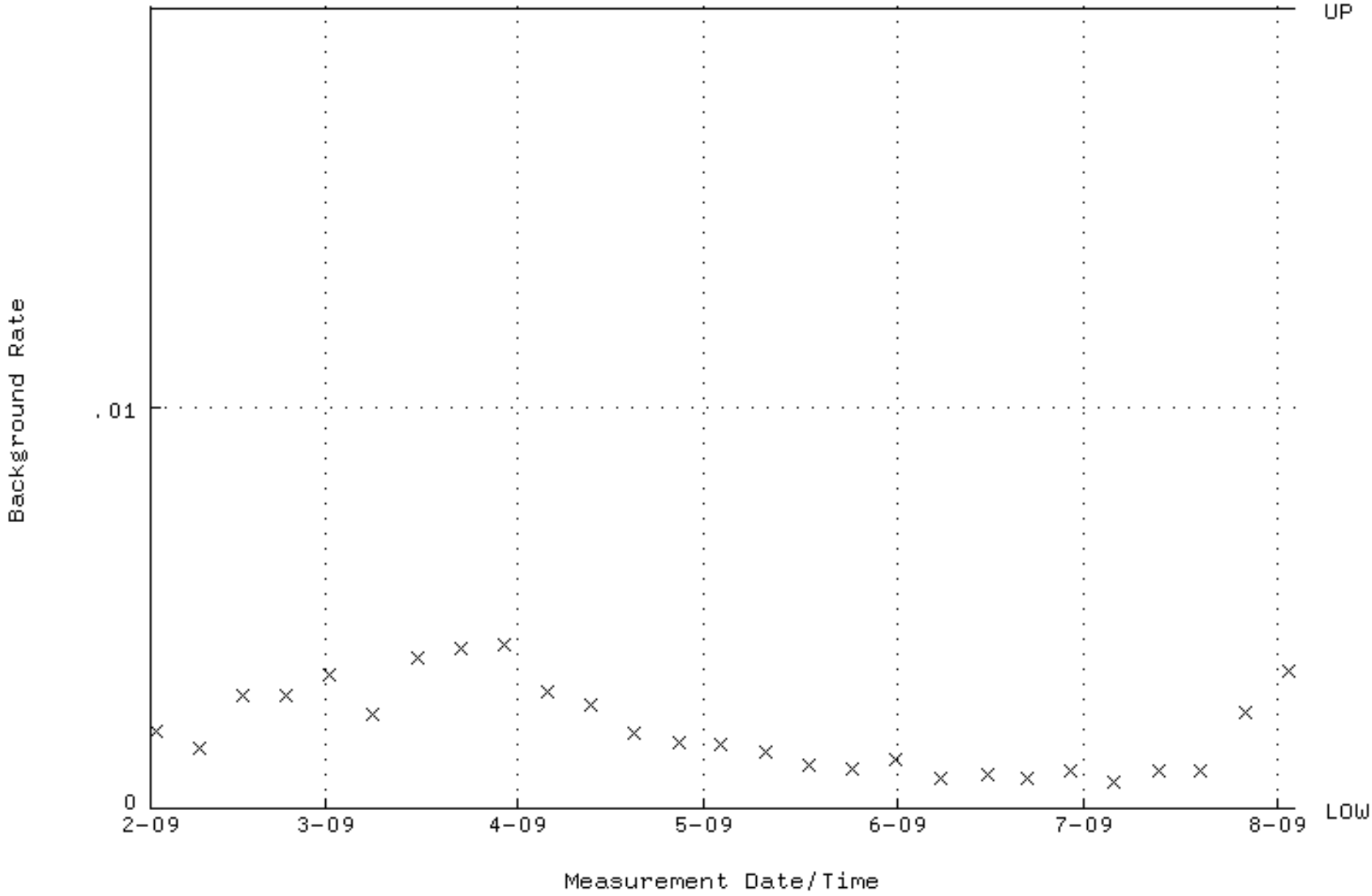
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;2
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-FEB-2009 07:05:57 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.318717 through 0.338717



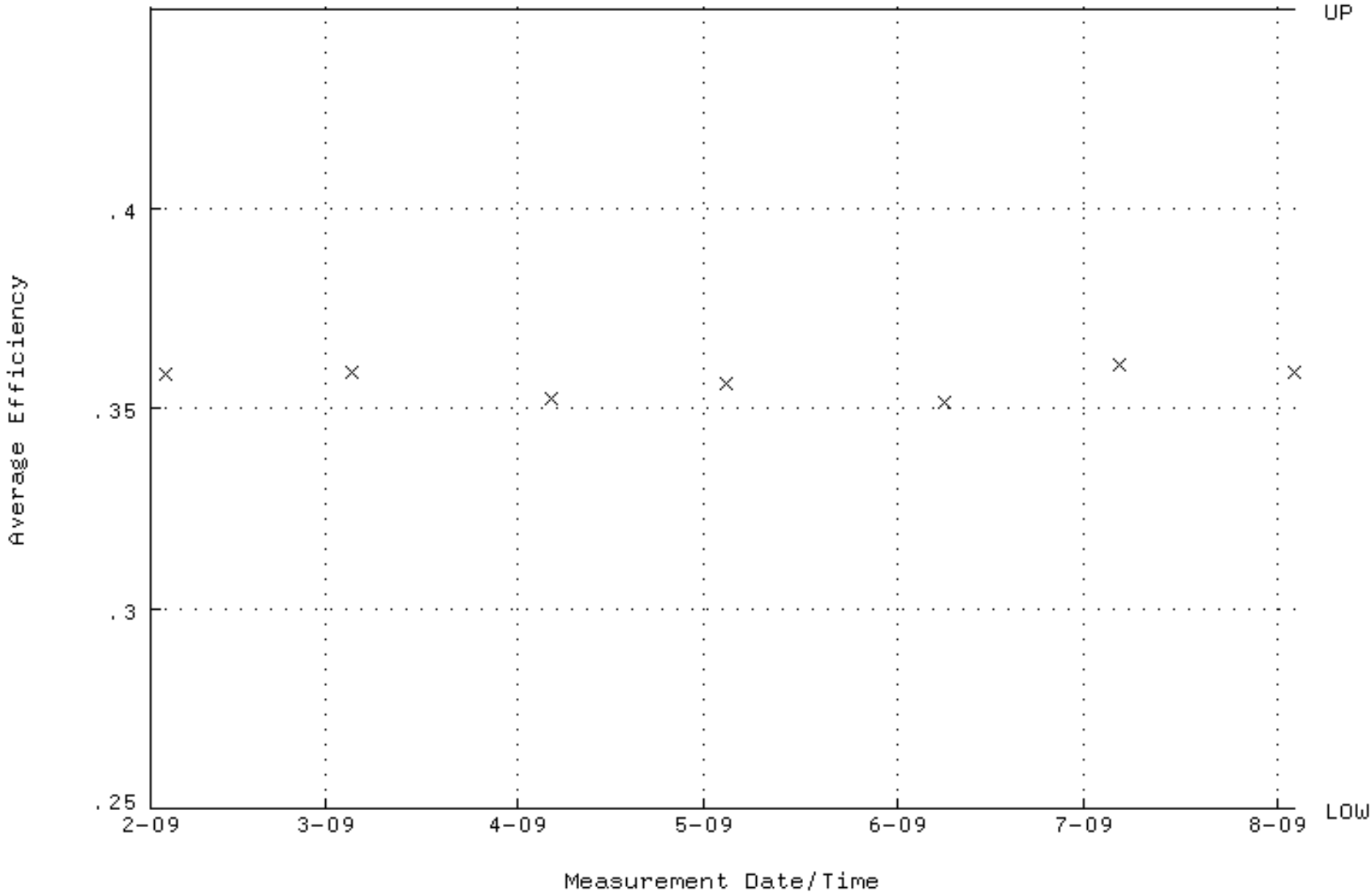
QA filename : DKA100:[ENV_ALPHA.QA.W]W036.QAF;2
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-FEB-2009 07:05:57 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 84.6422 through 93.5518



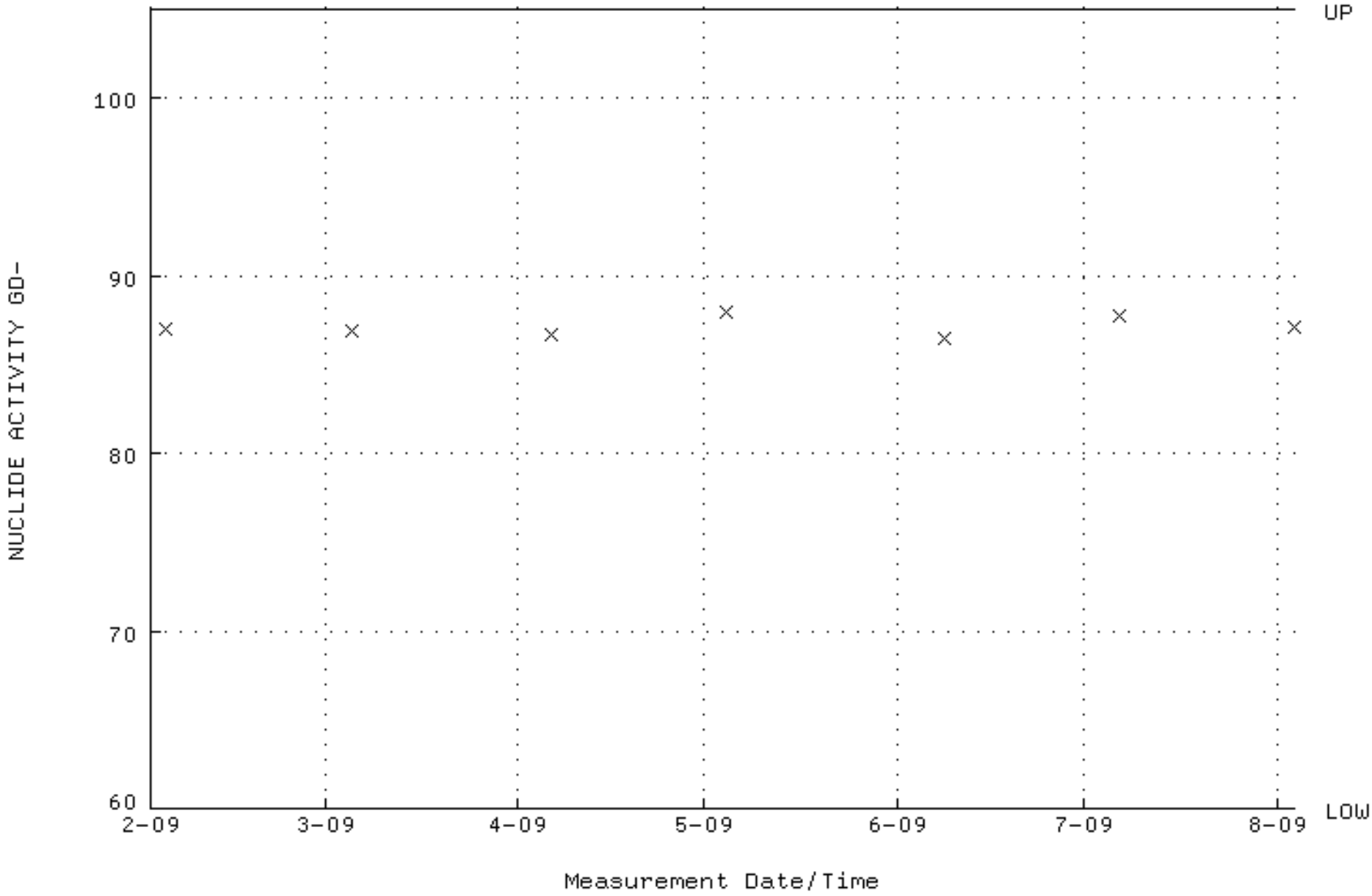
QA filename : DKA100:[ENV_ALPHA.QA.B]B036.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:00 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



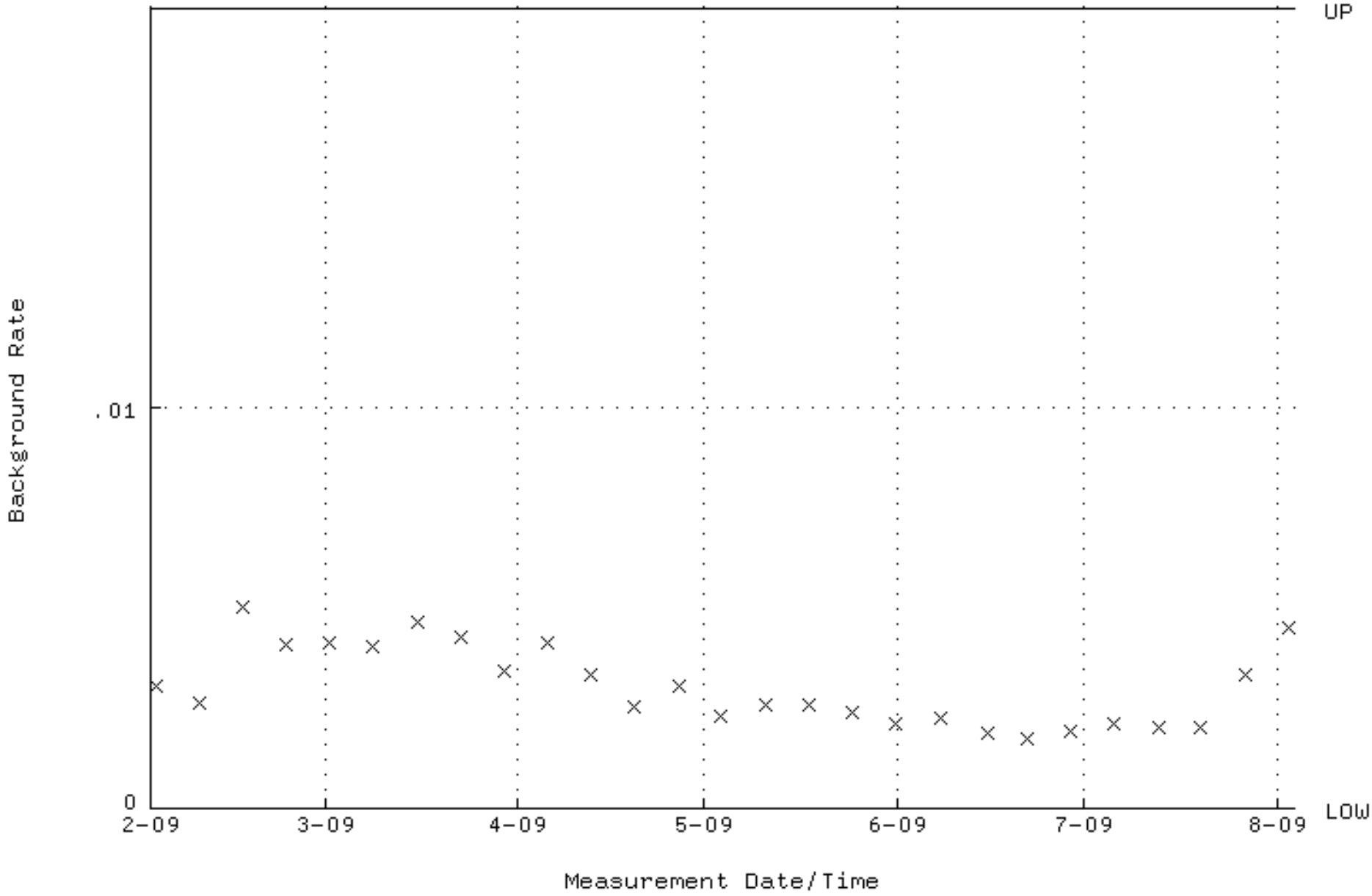
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:02 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



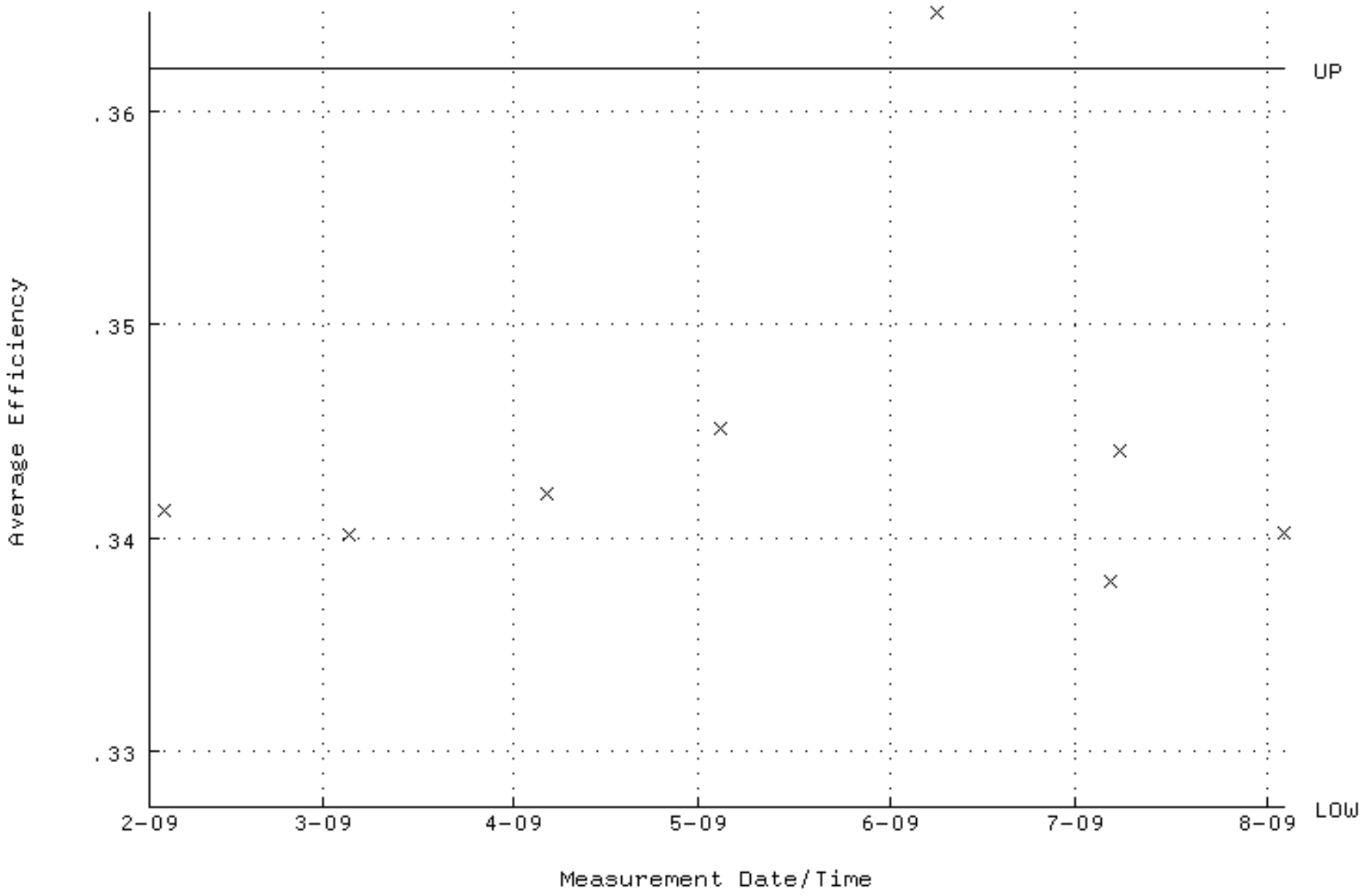
QA filename : DKA100:[ENV_ALPHA.QA.W]W037.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:02 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



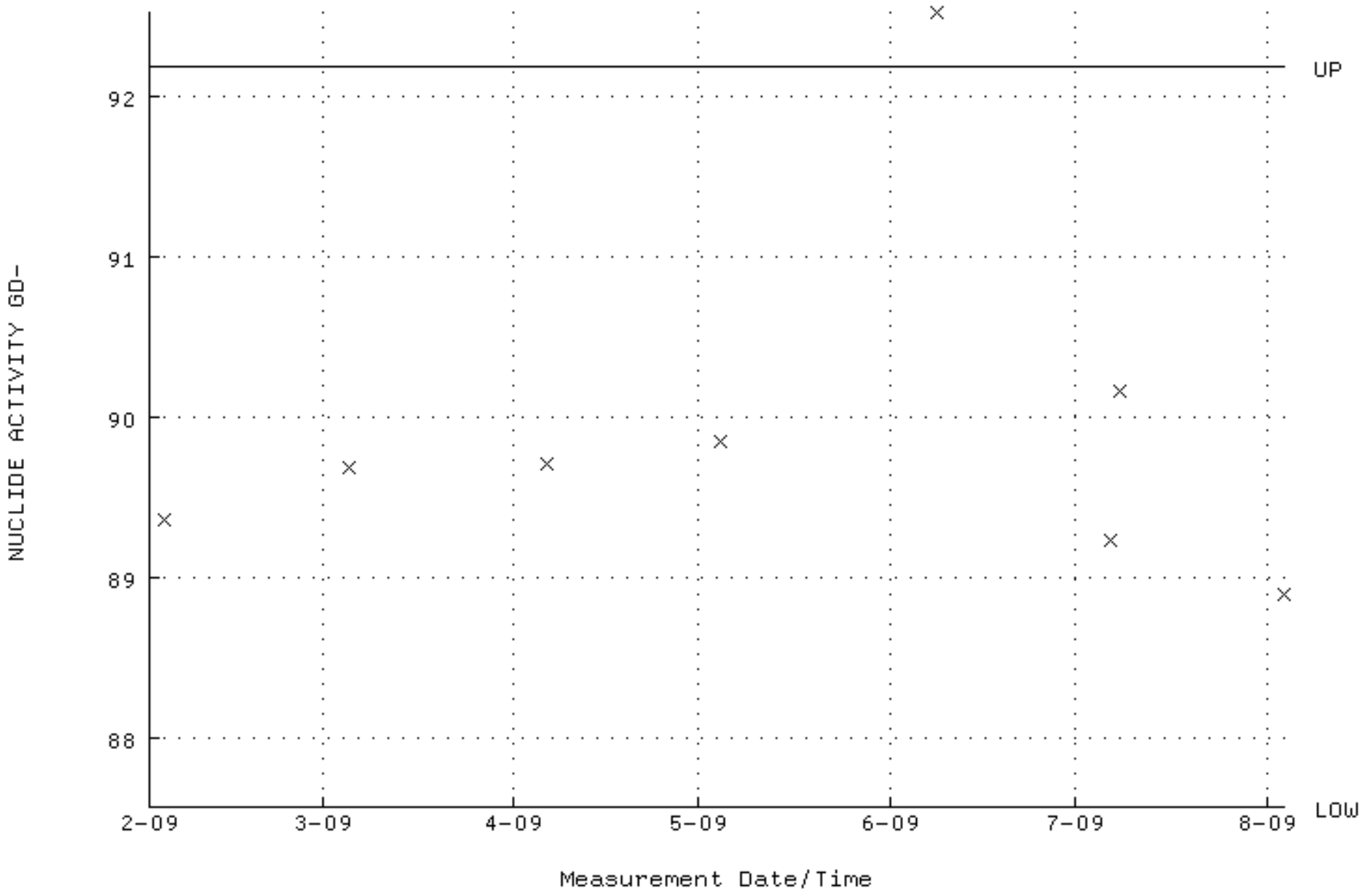
QA filename : DKA100:[ENV_ALPHA.QA.B]B037.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:03 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



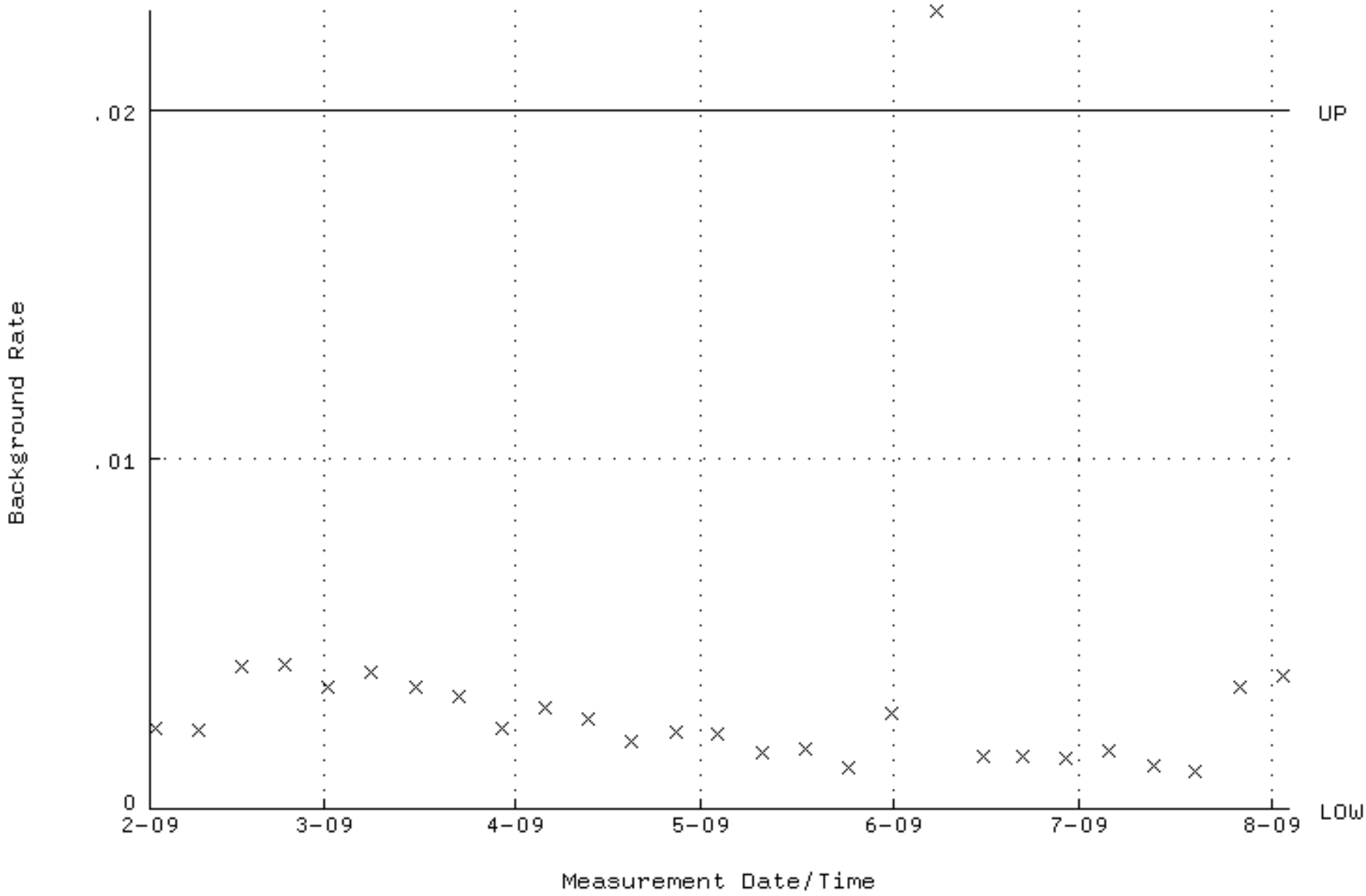
QA filename : DKA100:[ENV_ALPHA.QA.W]W038.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:02 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.327380 through 0.362086



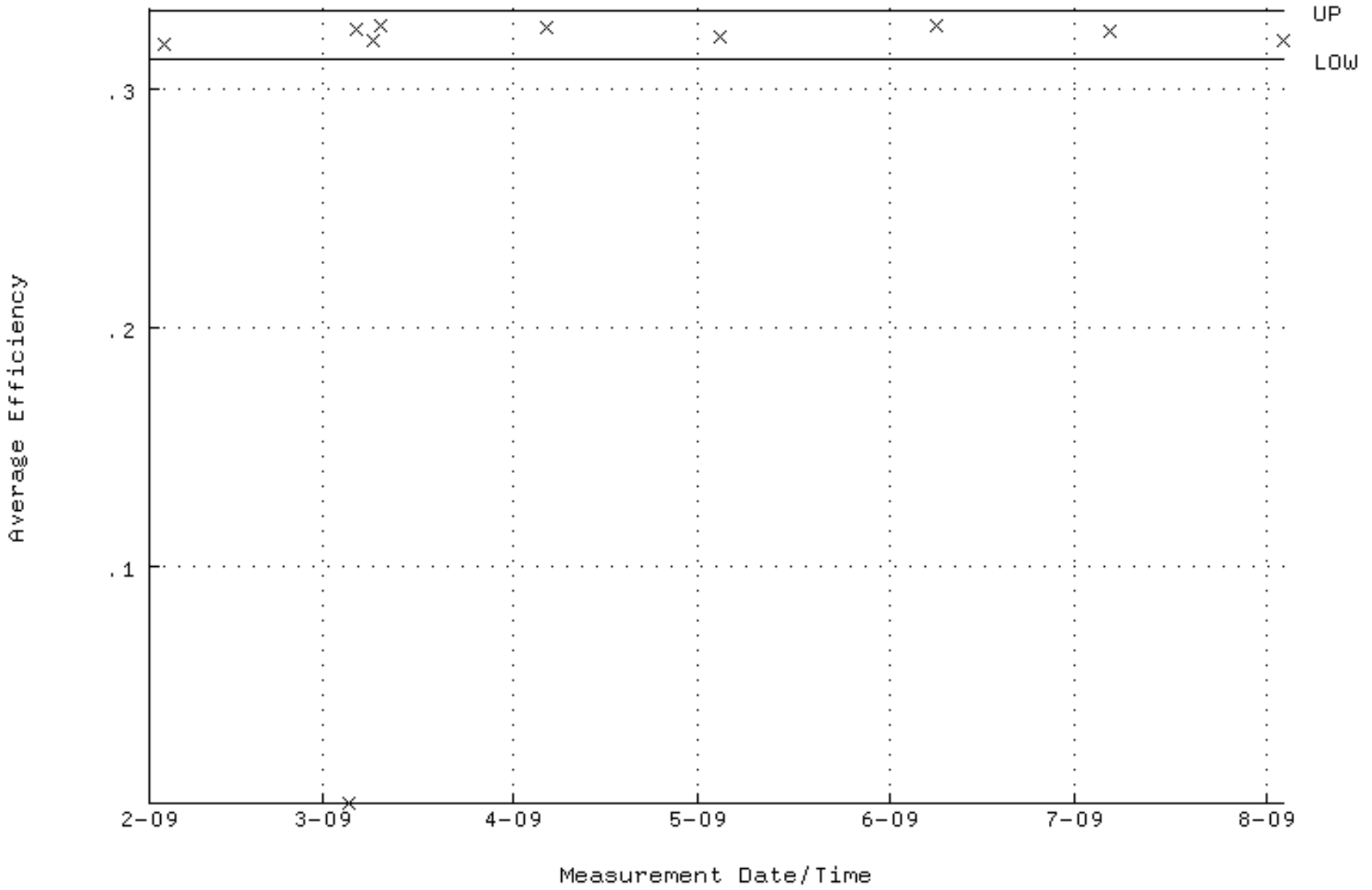
QA filename : DKA100:[ENV_ALPHA.QA.W]W038.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:02 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 87.5715 through 92.1899



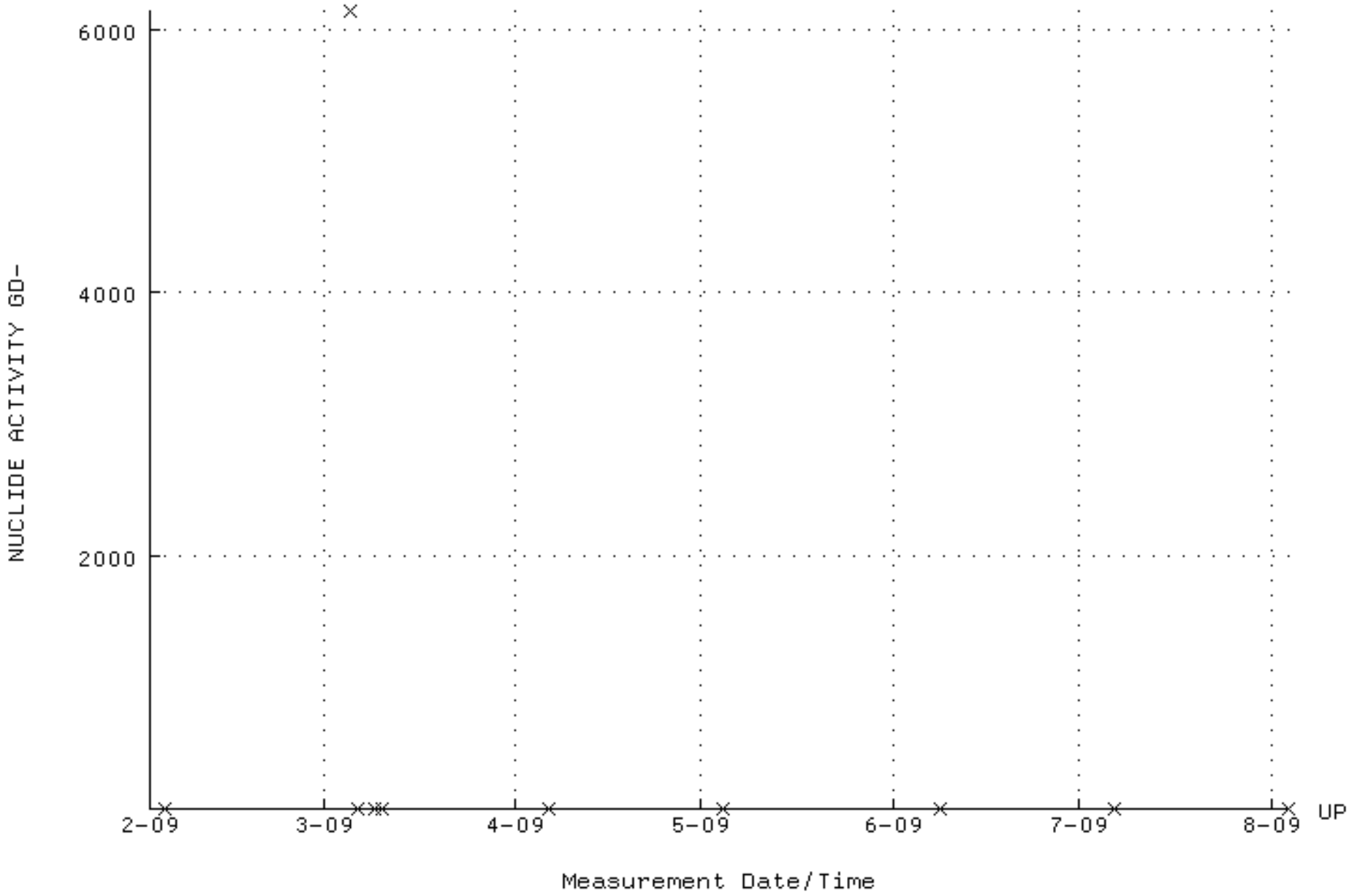
QA filename : DKA100:[ENV_ALPHA.QA.B]B038.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:03 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



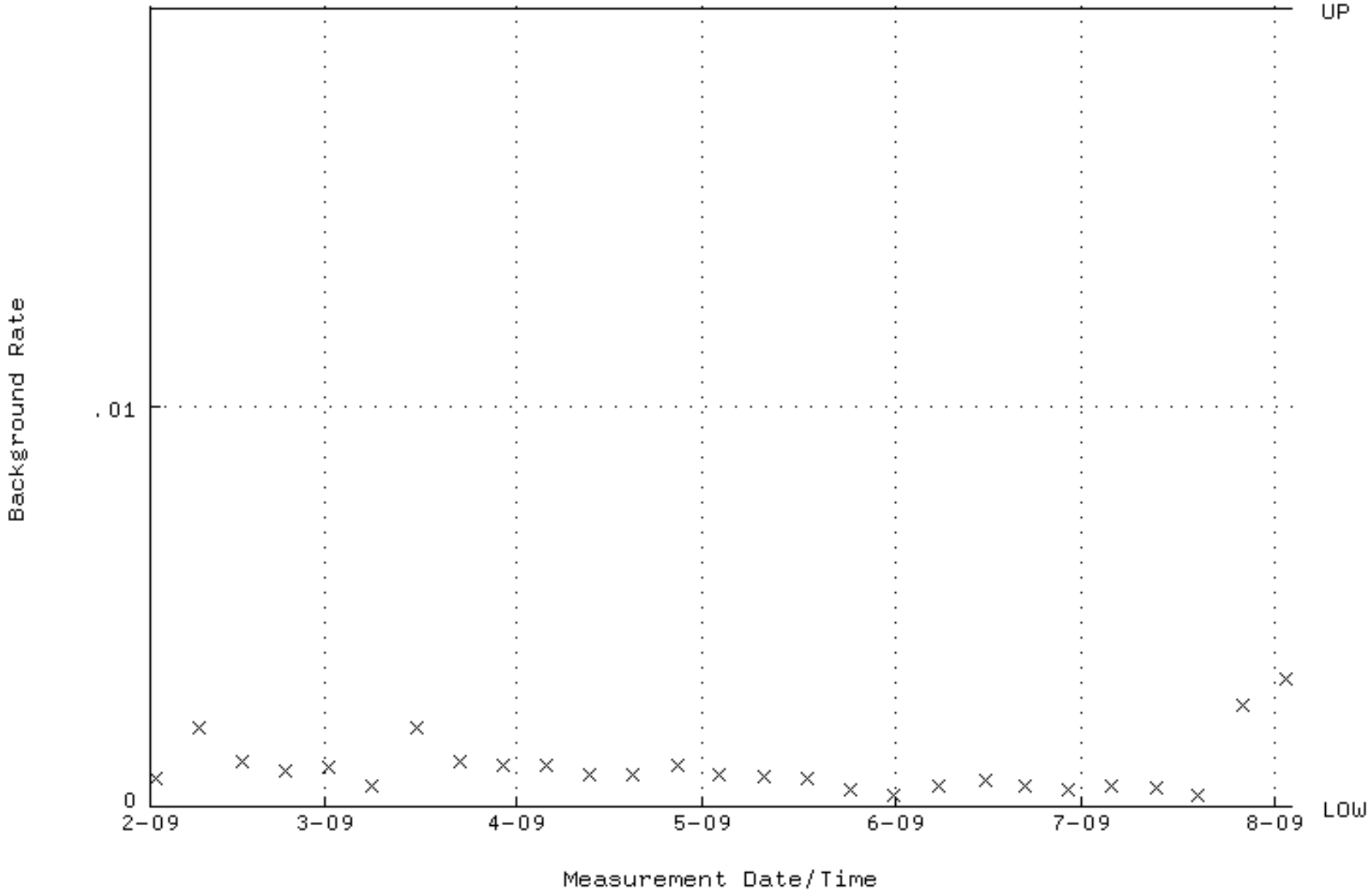
QA filename : DKA100:[ENV_ALPHA.QA.W]W040.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:02 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.313016 through 0.333016



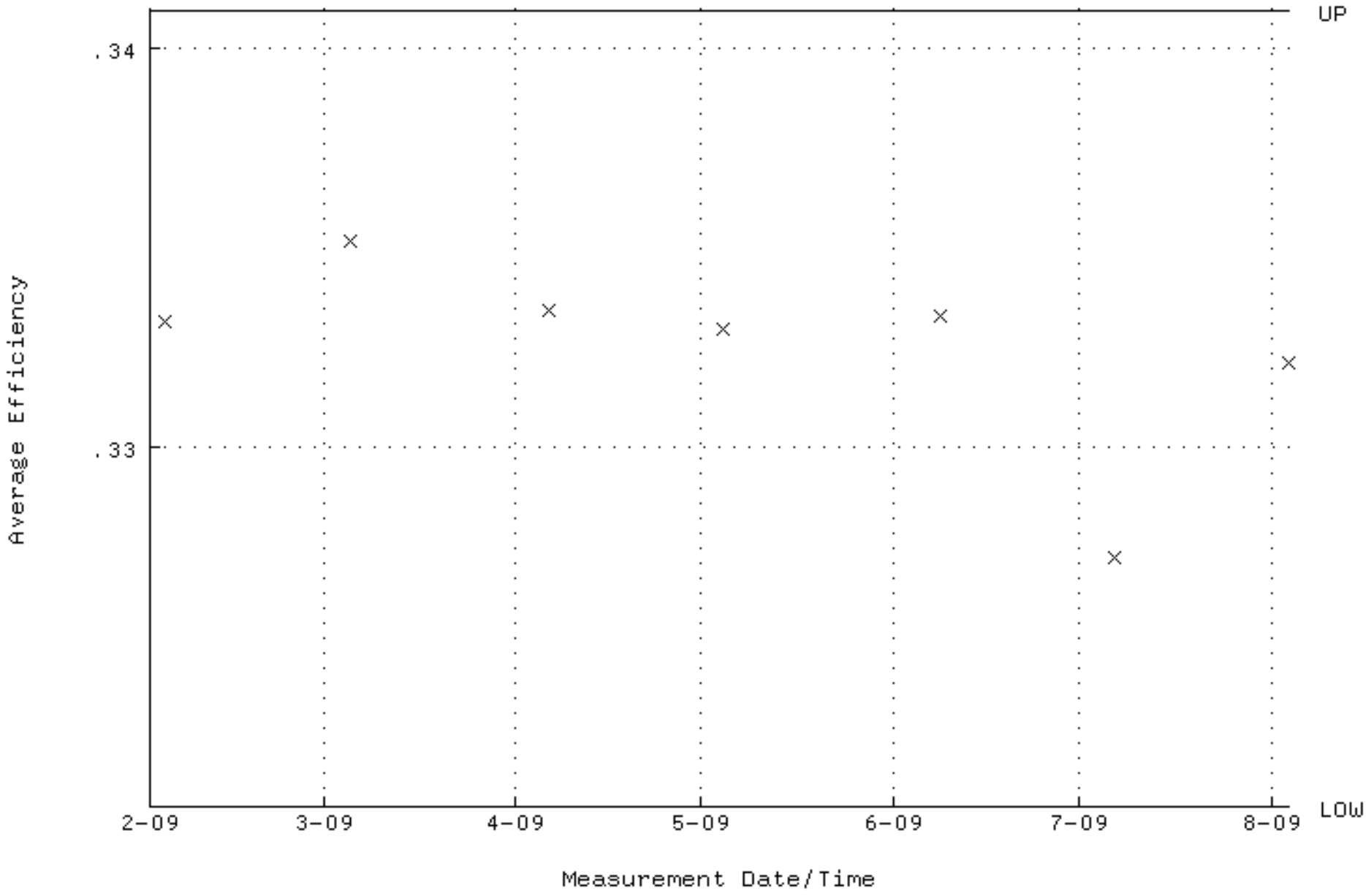
QA filename : DKA100:[ENV_ALPHA.QA.W]W040.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:02 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 82.8065 through 91.5229



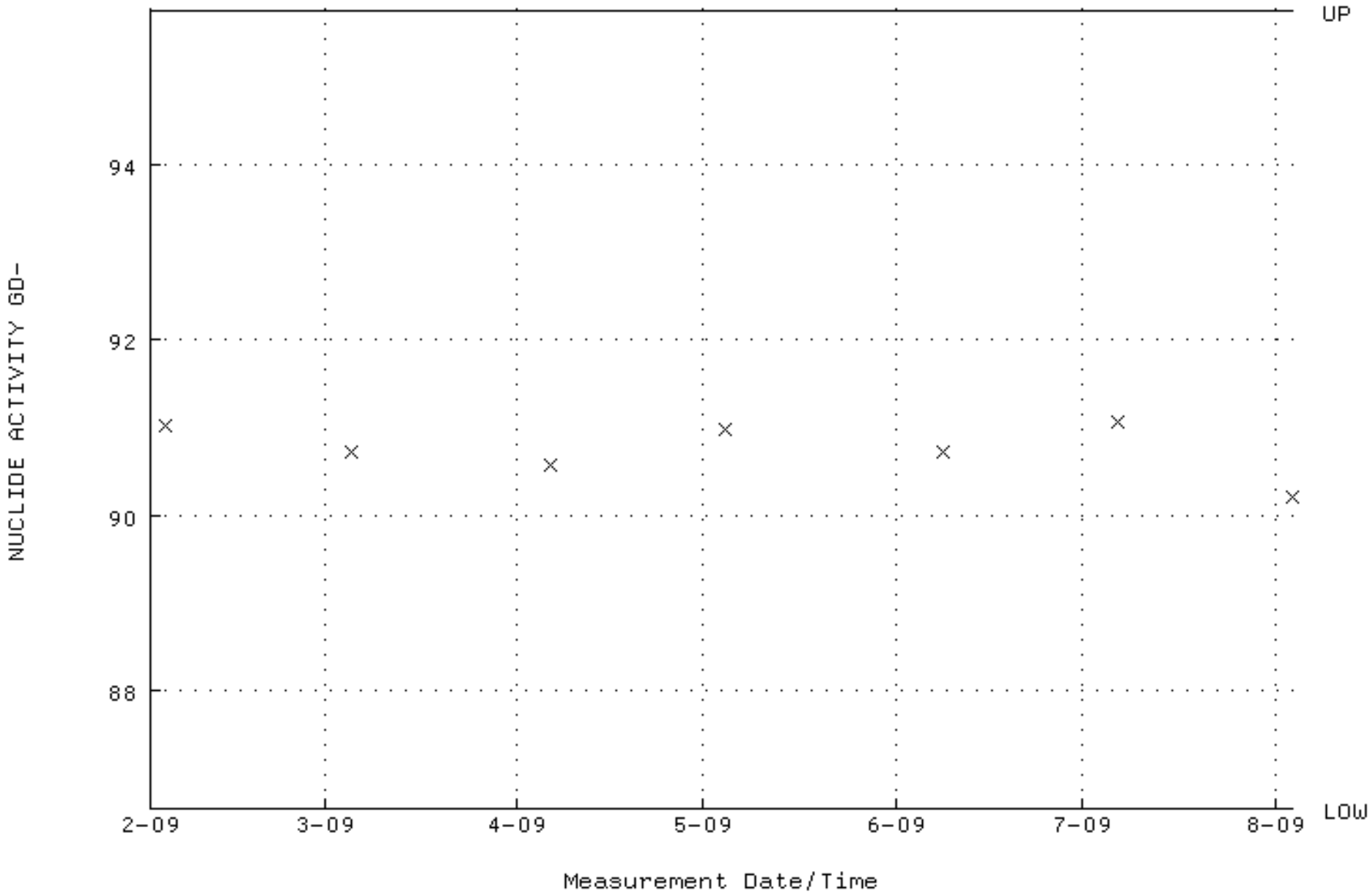
QA filename : DKA100:[ENV_ALPHA.QA.B]B040.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:03 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



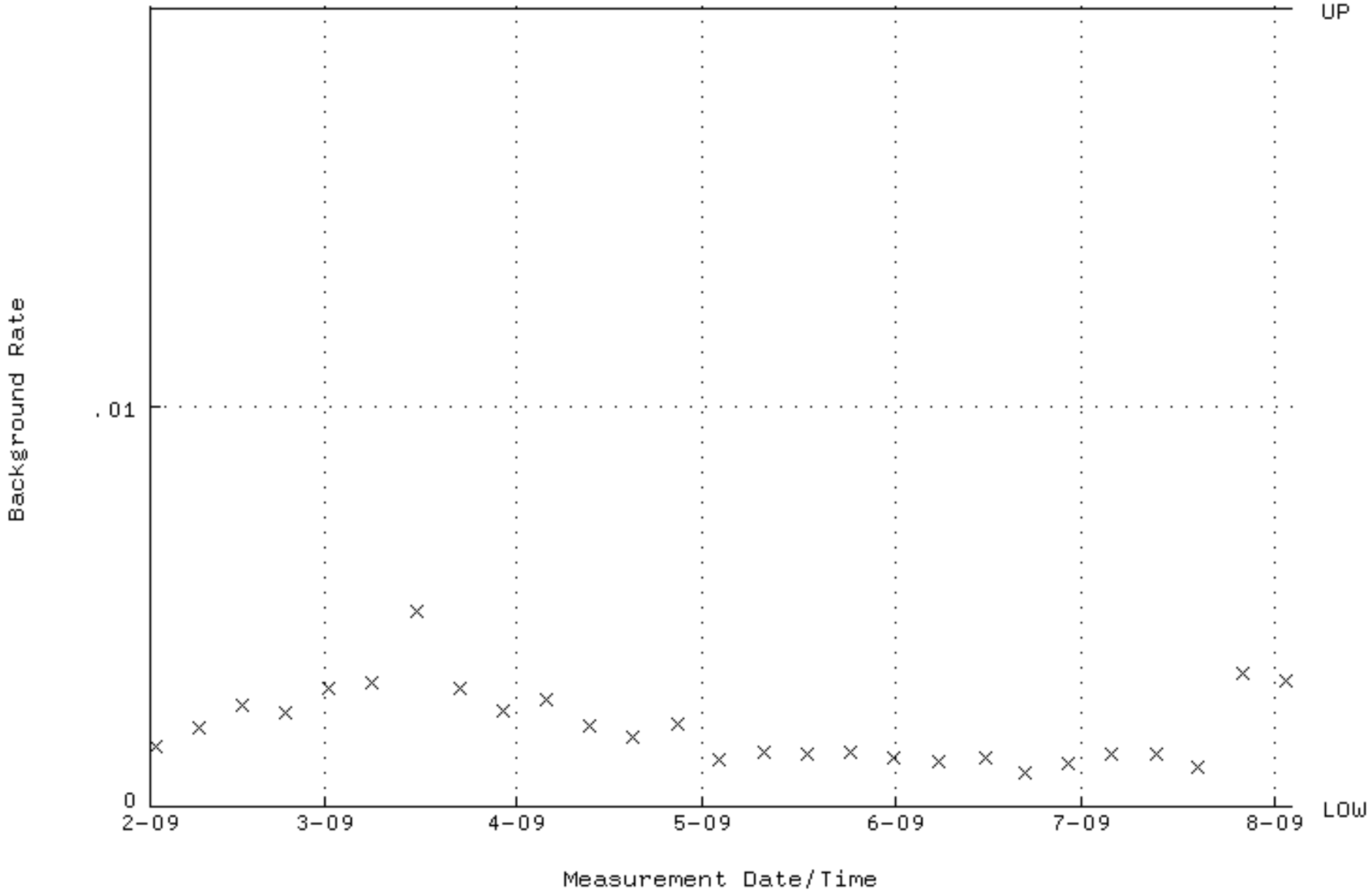
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:02 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.320943 through 0.340943



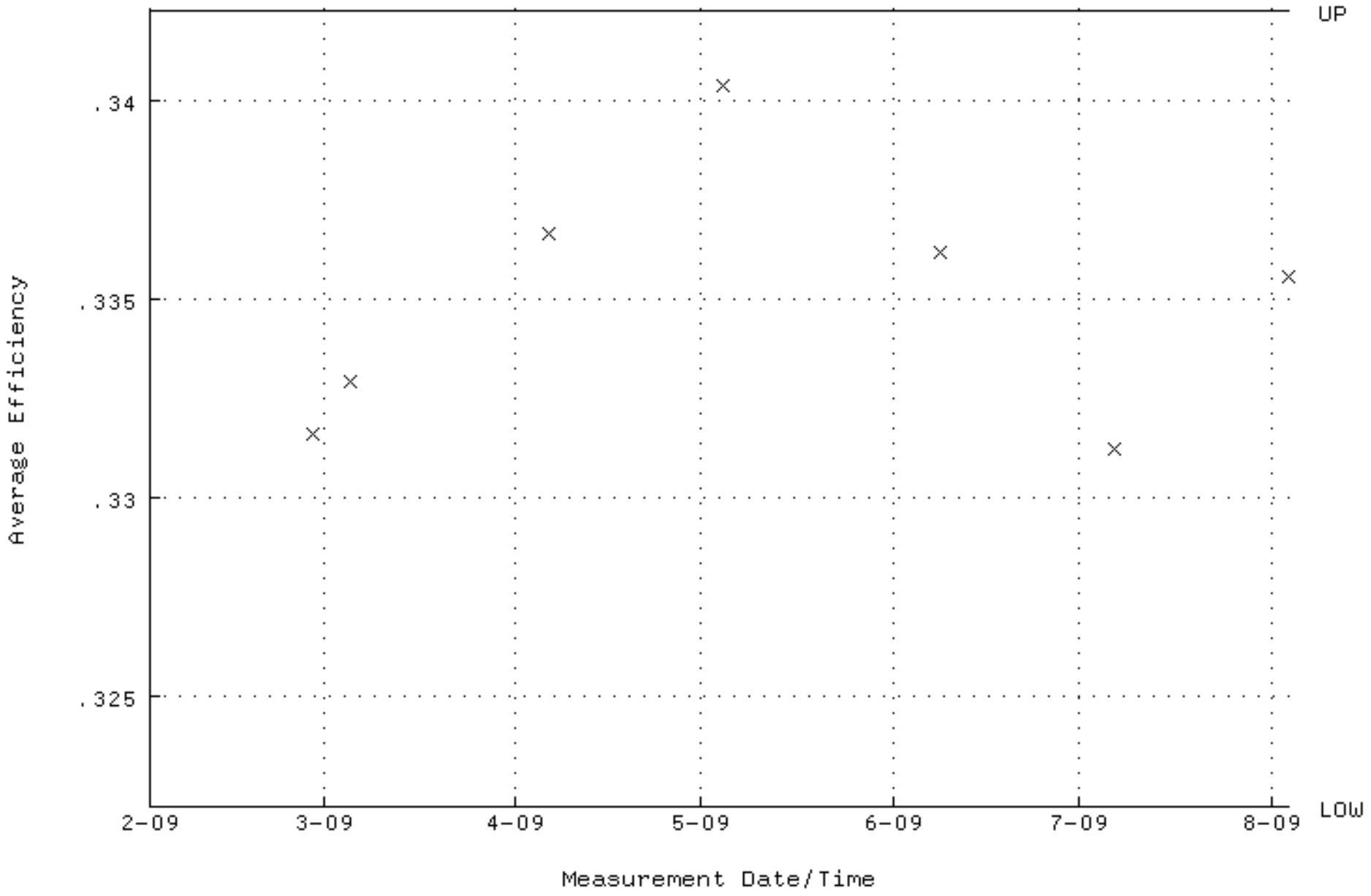
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:02 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 86.6435 through 95.7639



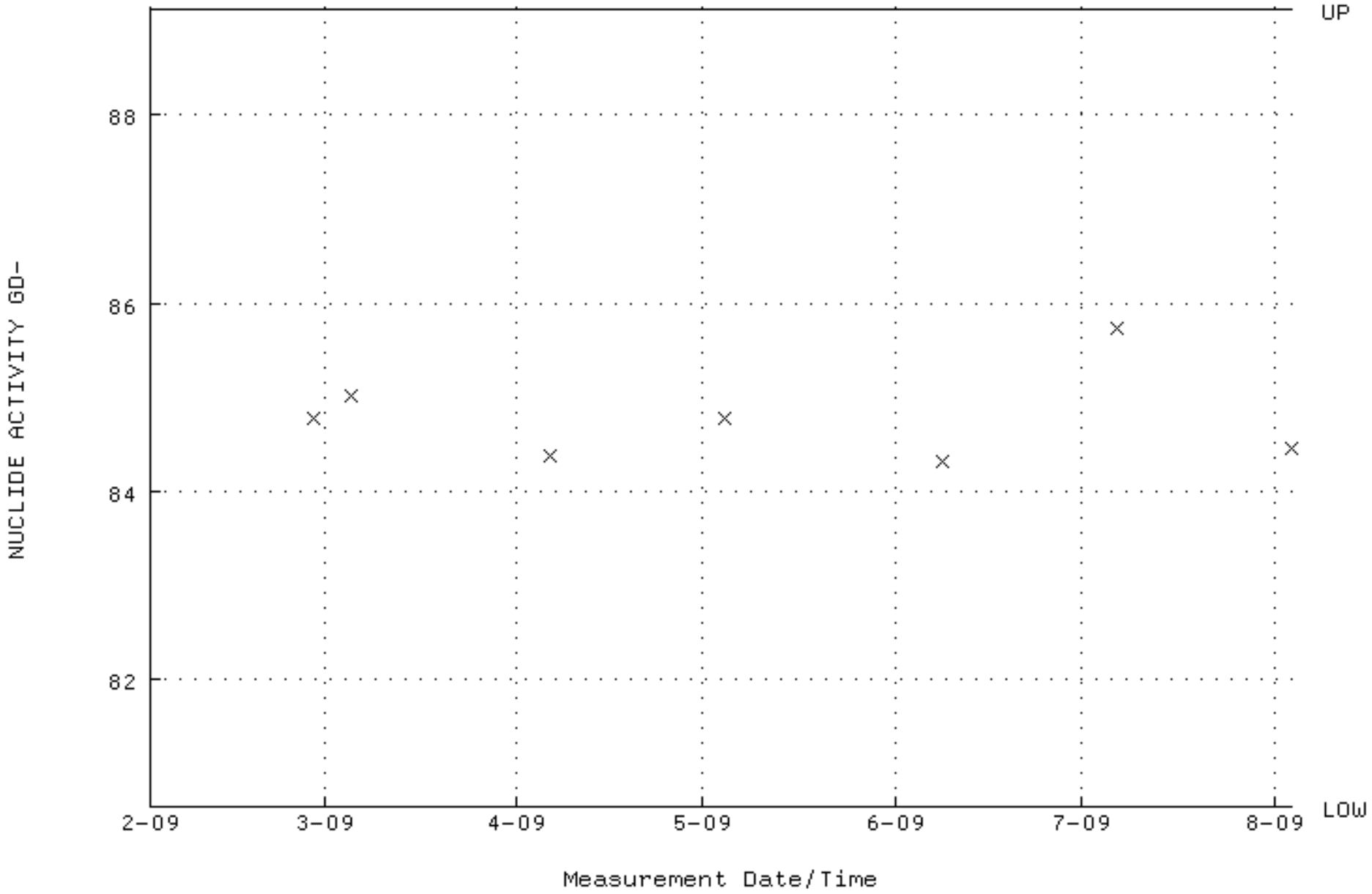
QA filename : DKA100:[ENV_ALPHA.QA.B]B041.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:03 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



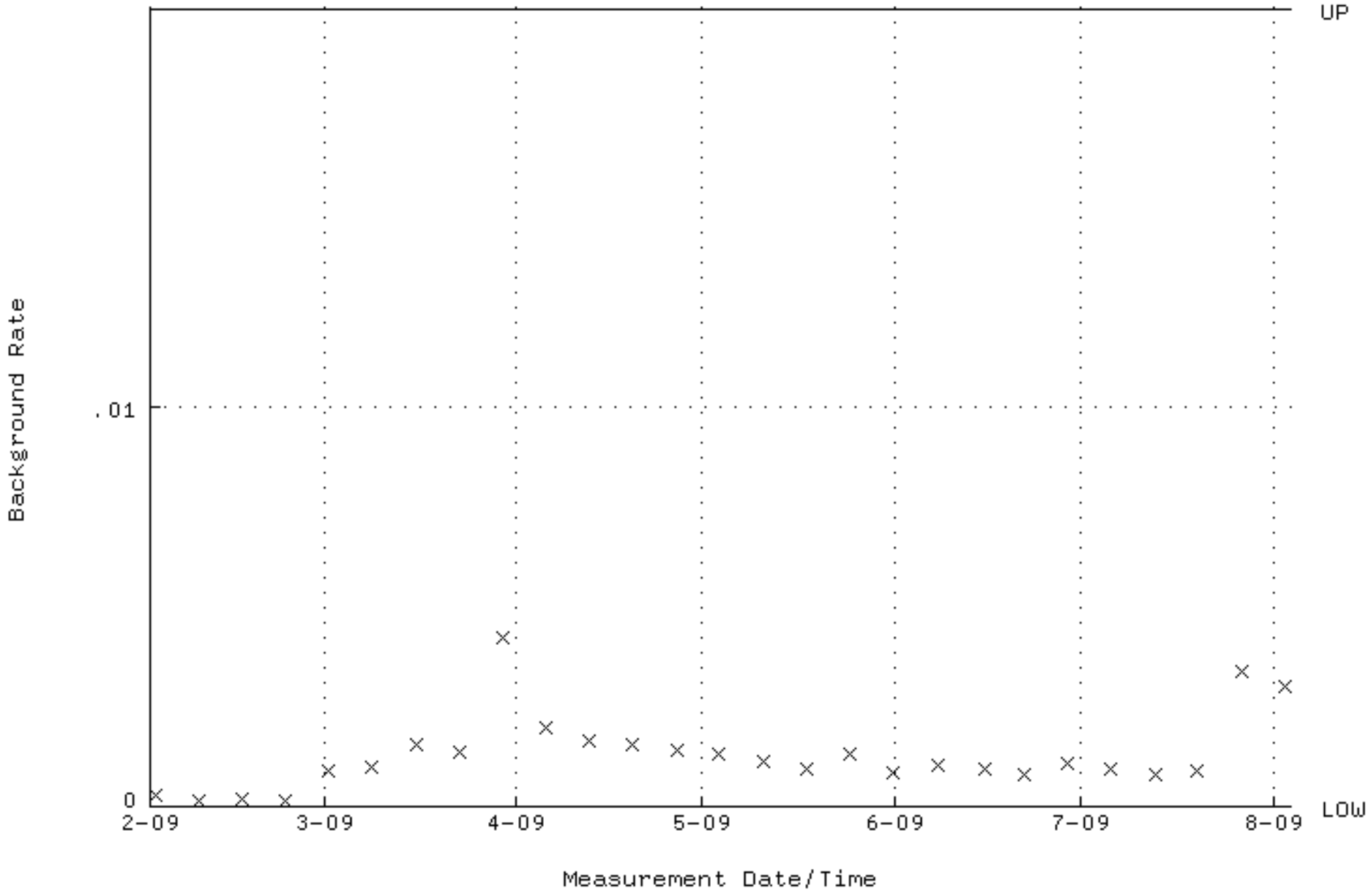
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-FEB-2009 07:22:38 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.322243 through 0.342243



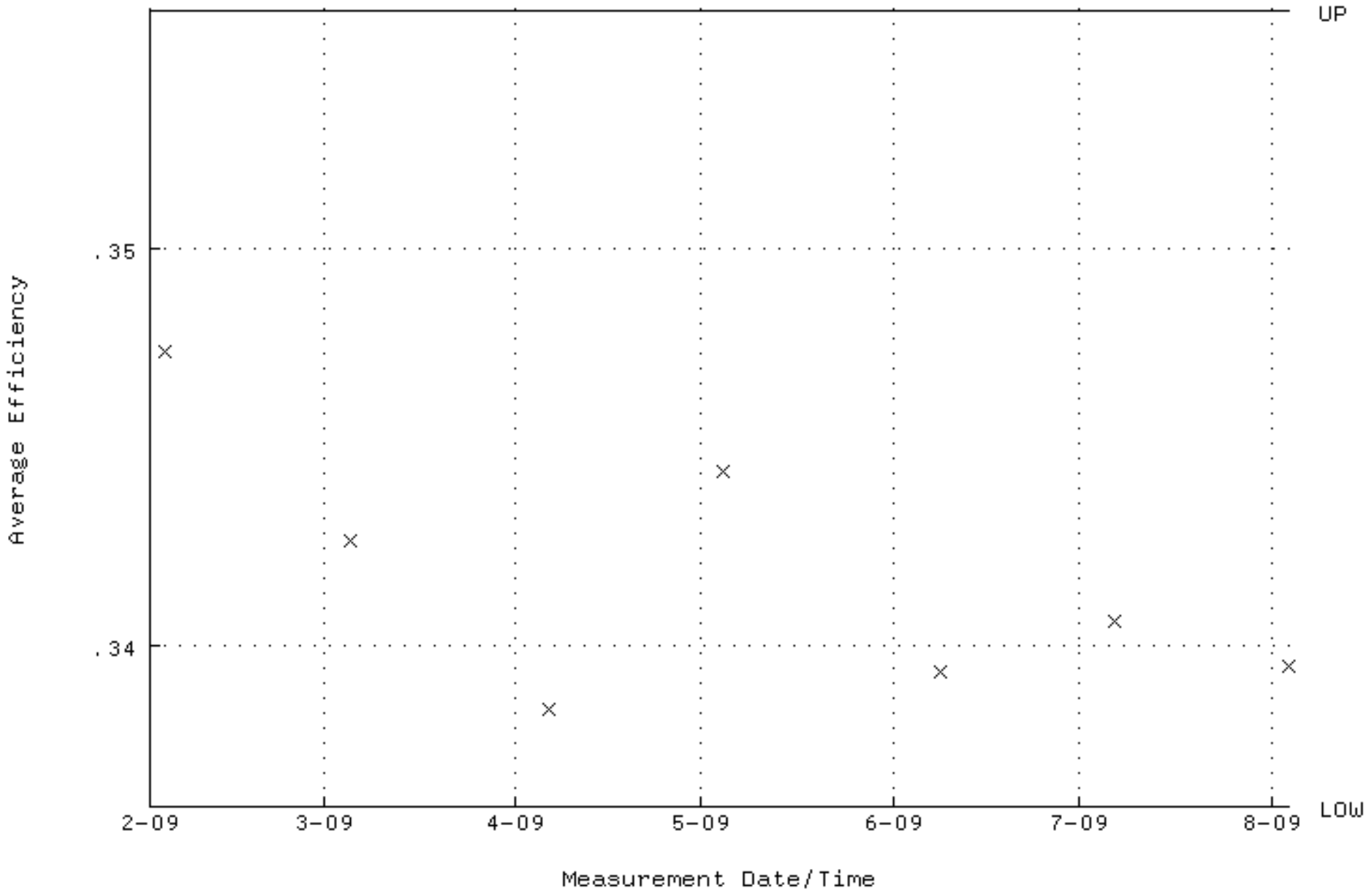
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-FEB-2009 07:22:38 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 80.6389 through 89.1273



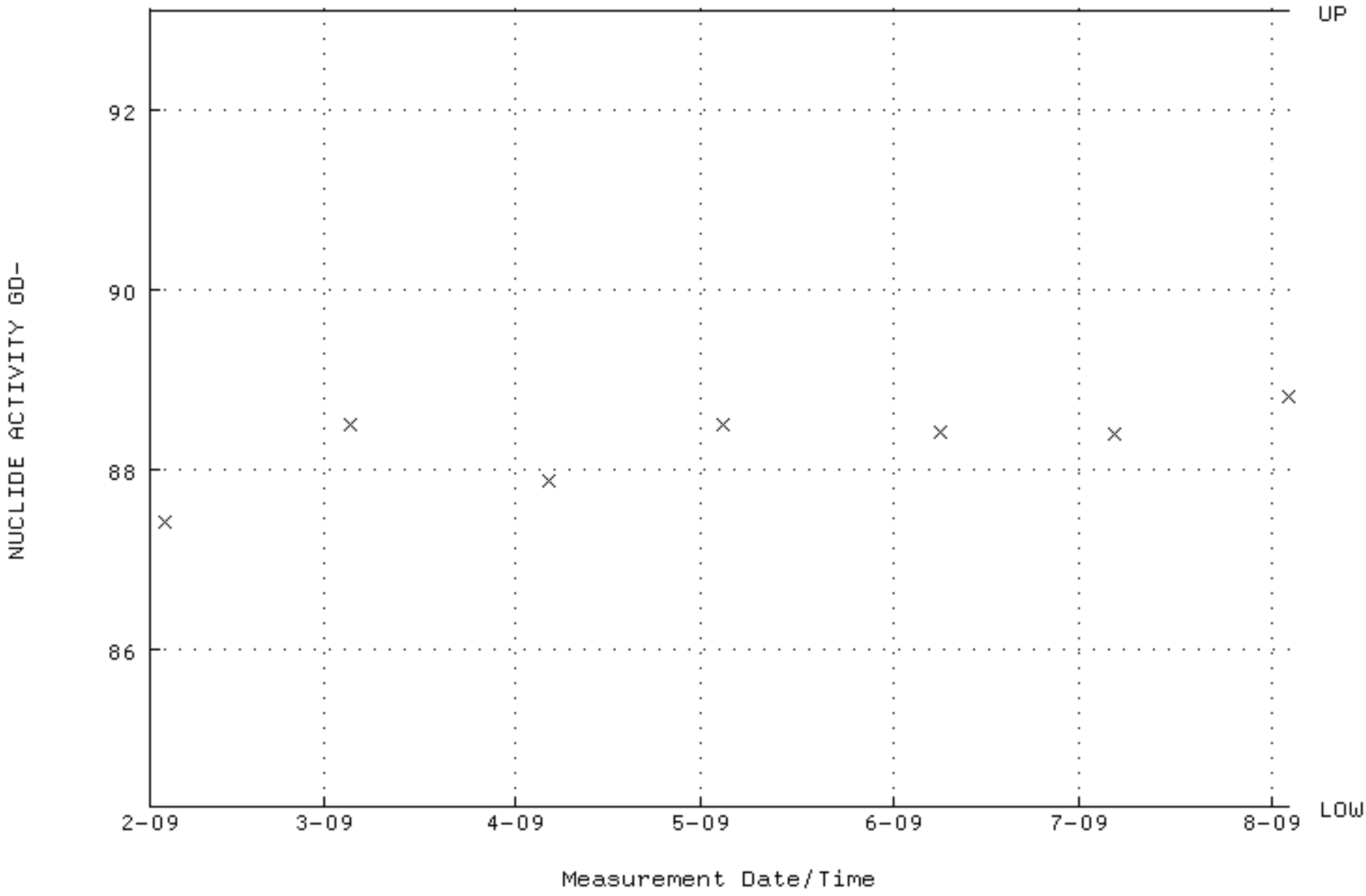
QA filename : DKA100:[ENV_ALPHA.QA.B]B042.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:03 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



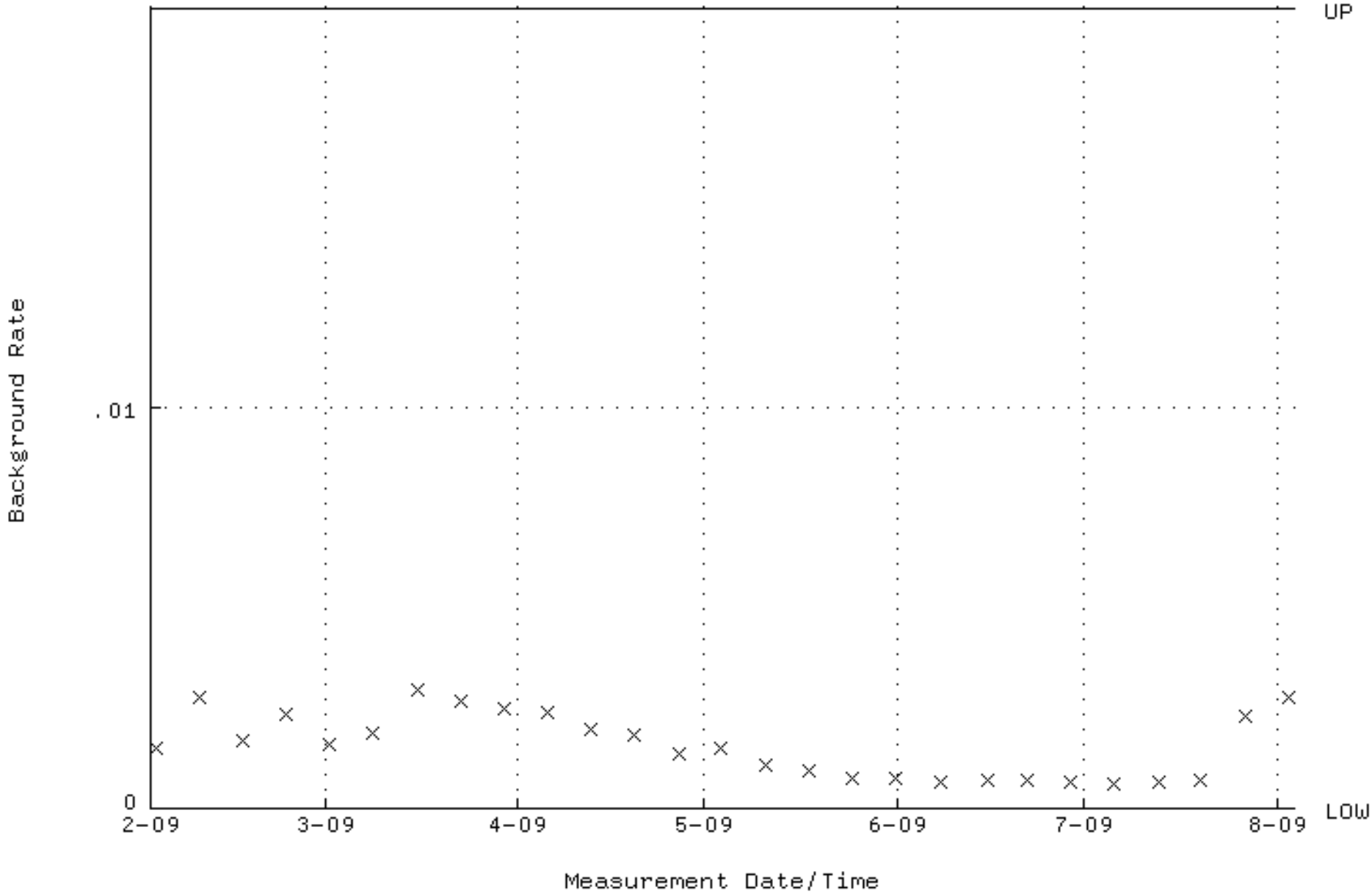
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.335973 through 0.355973



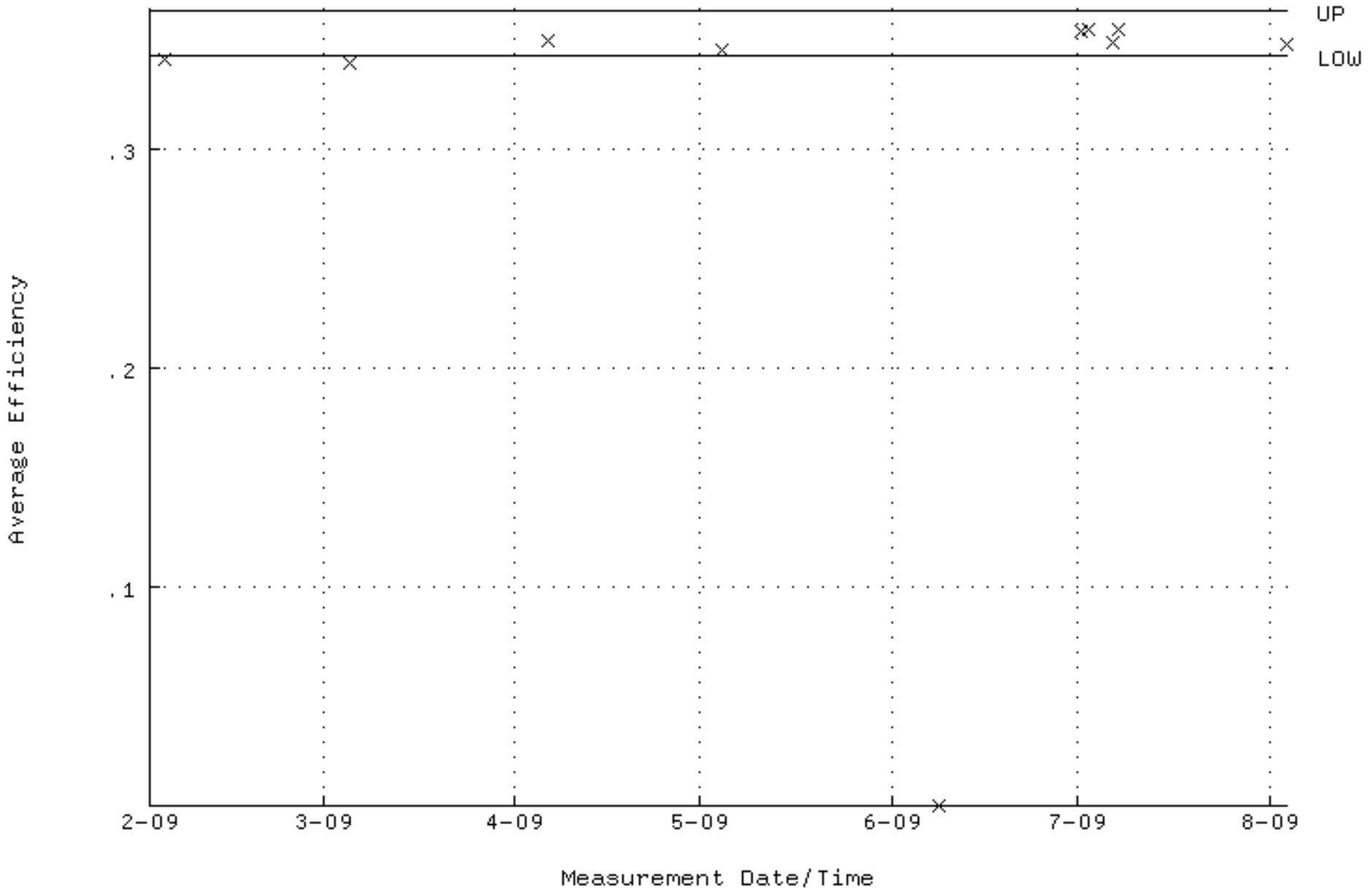
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 84.2440 through 93.1118



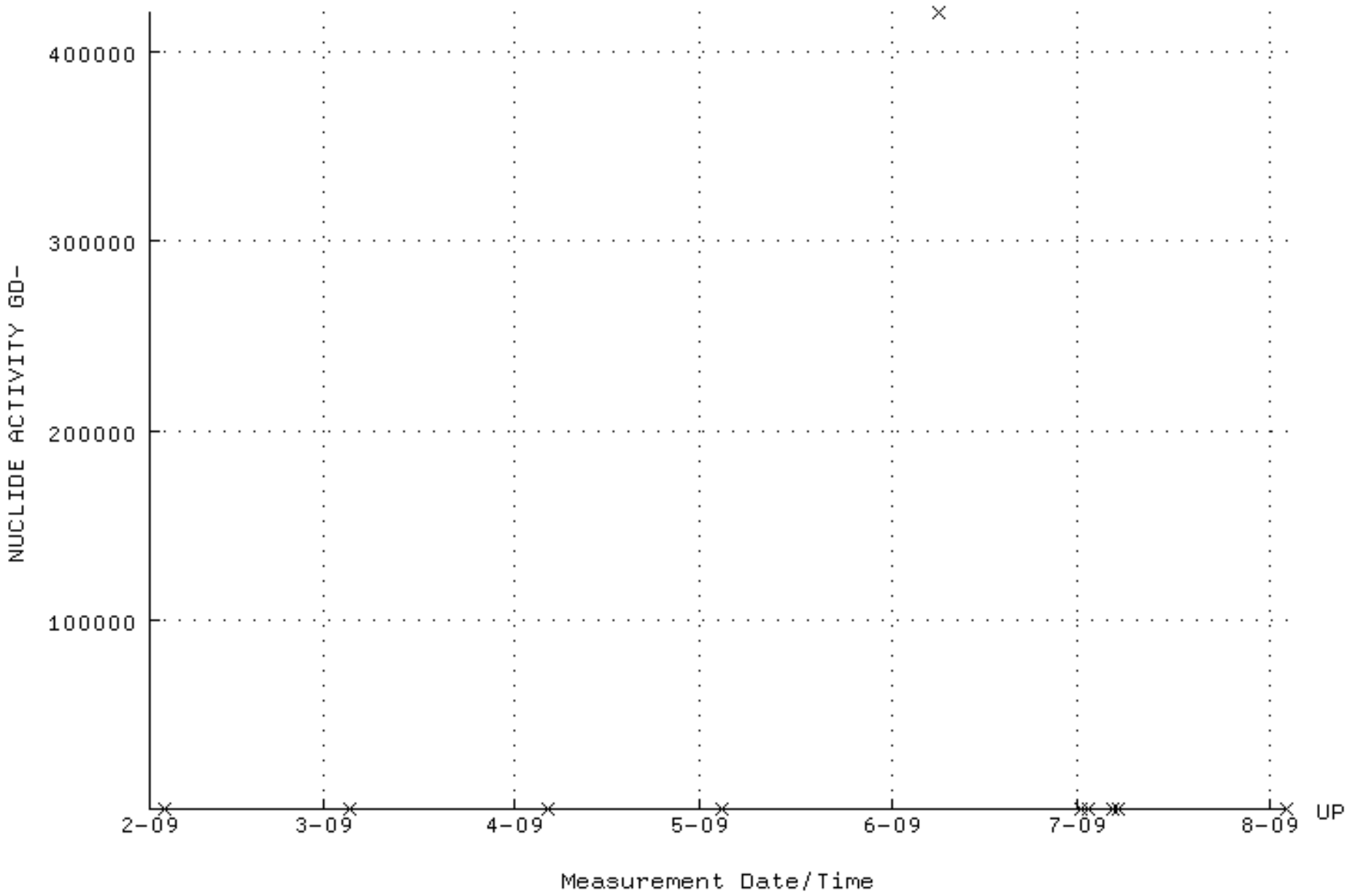
QA filename : DKA100:[ENV_ALPHA.QA.B]B043.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:04 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



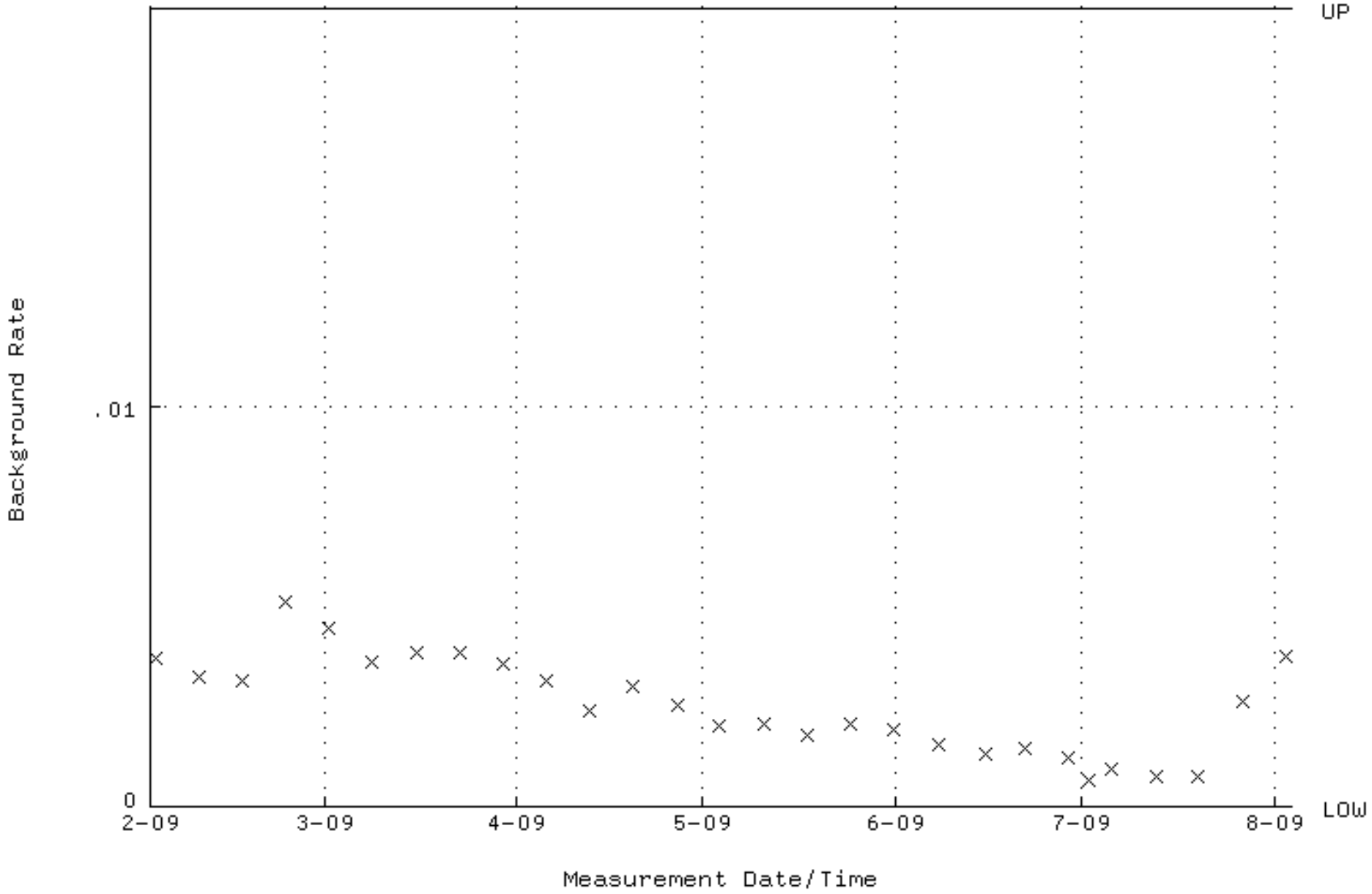
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.343380 through 0.363380



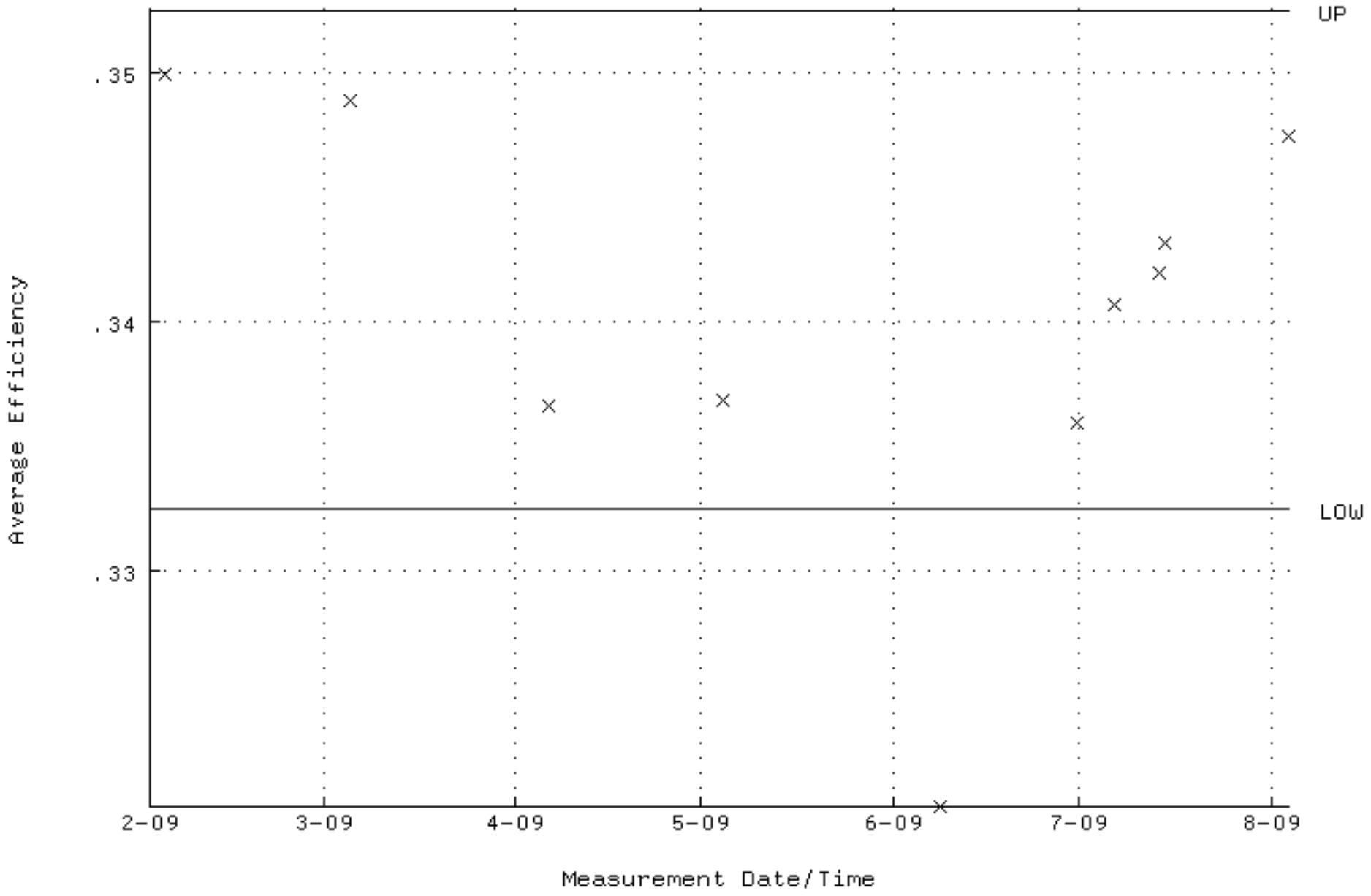
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 83.4041 through 92.1835



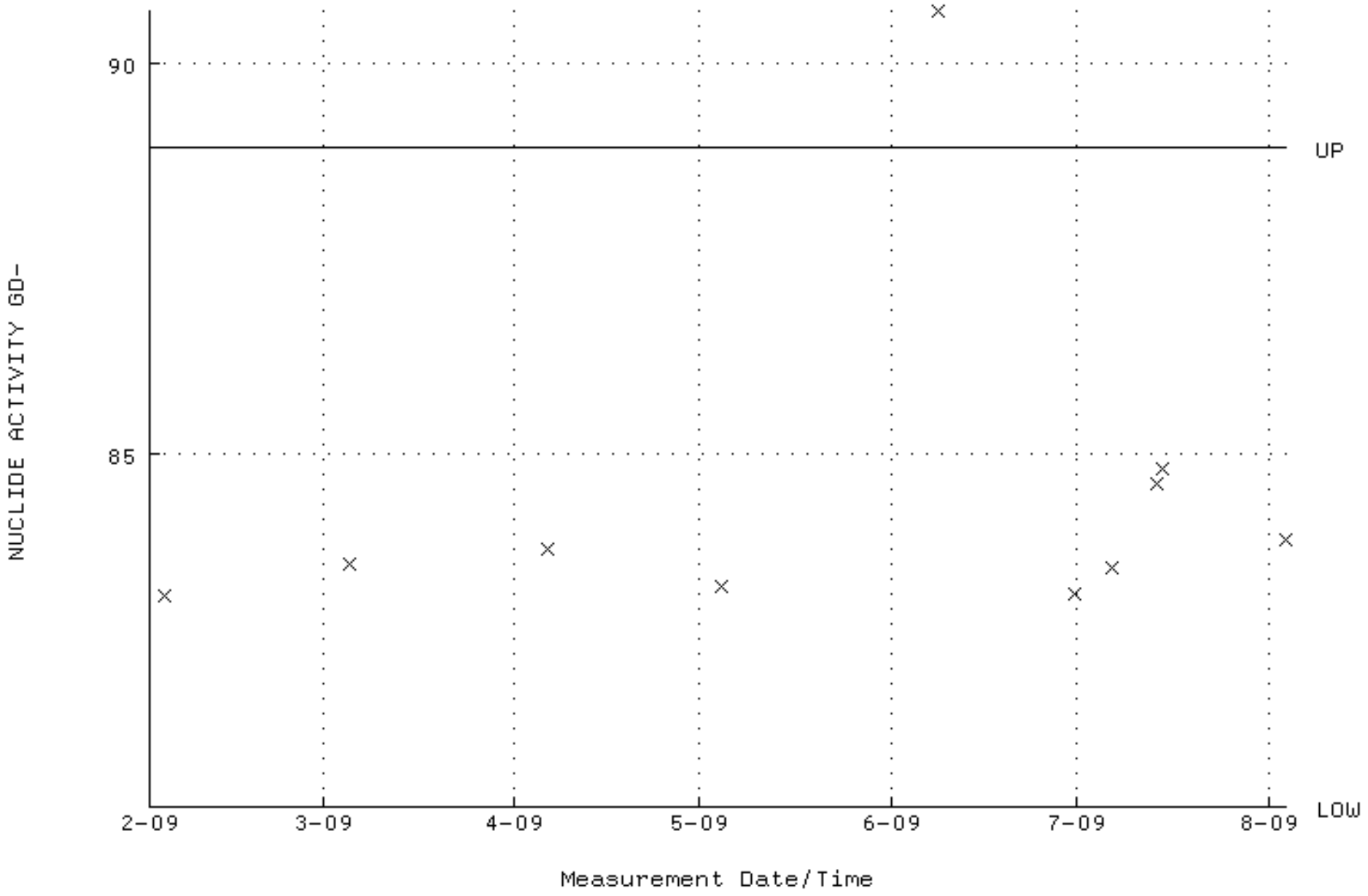
QA filename : DKA100:[ENV_ALPHA.QA.B]B044.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:04 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



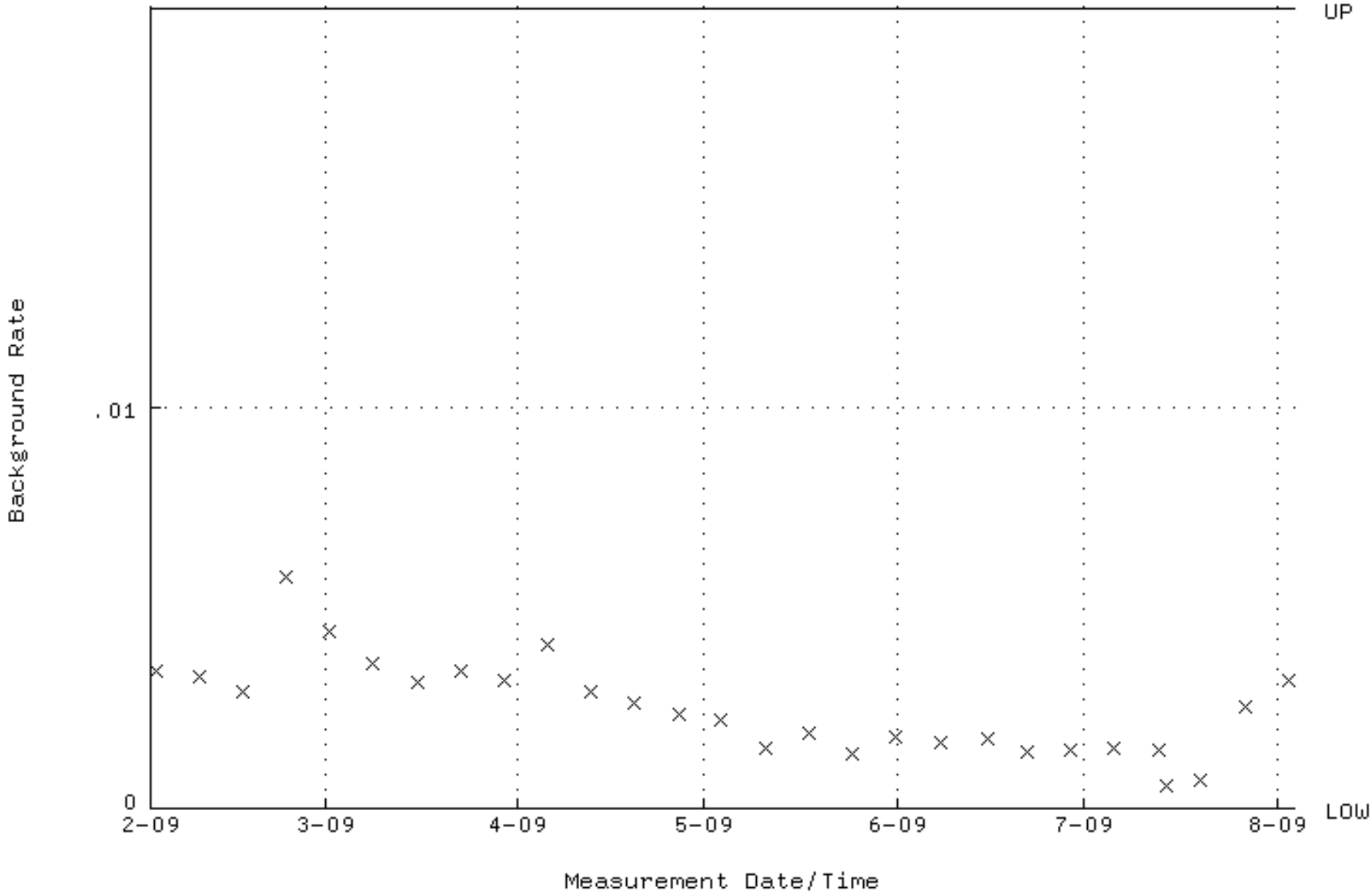
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.332472 through 0.352472



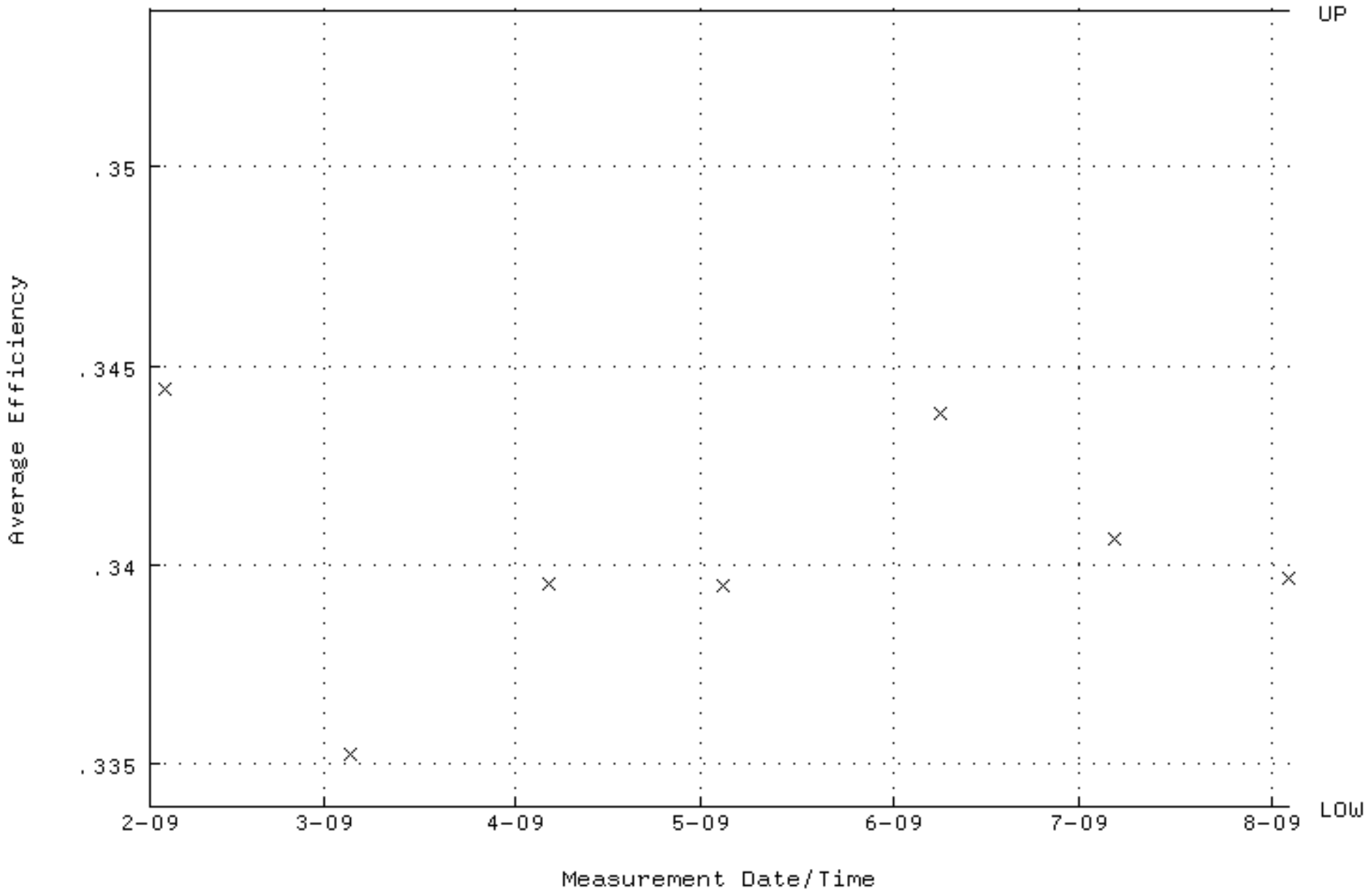
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 80.4622 through 88.9320



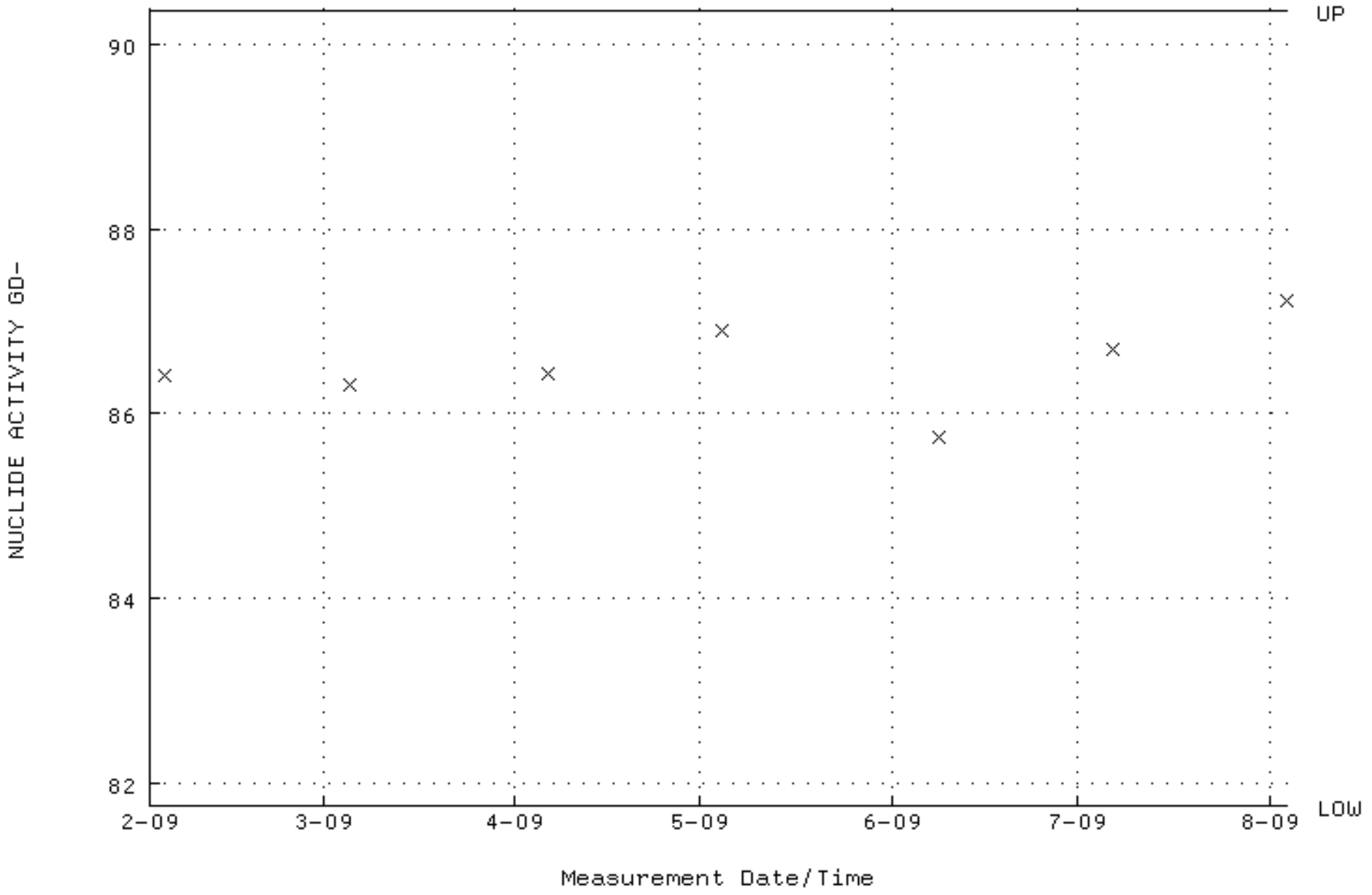
QA filename : DKA100:[ENV_ALPHA.QA.B]B045.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:04 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



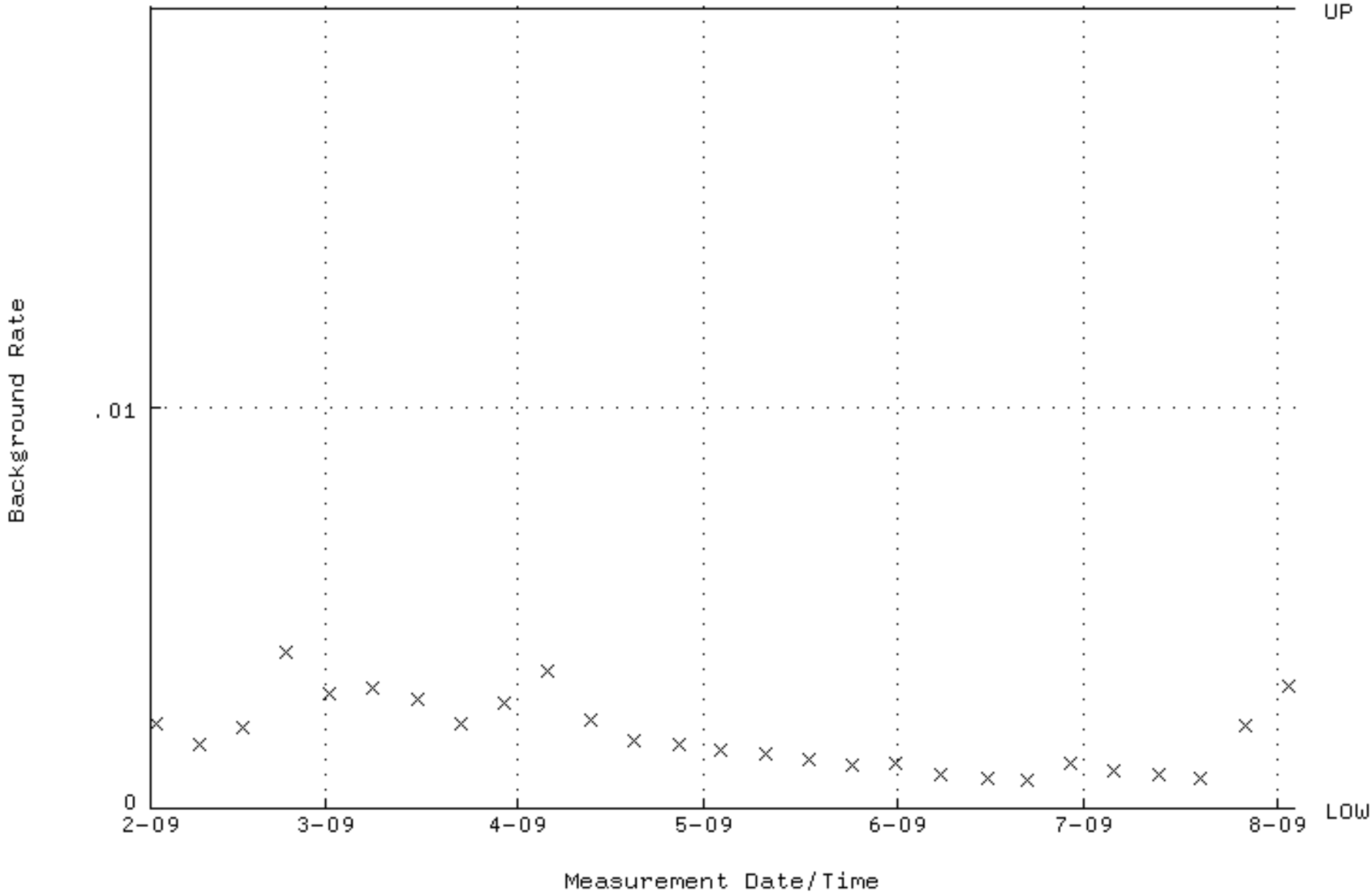
QA filename : DKA100:[ENV_ALPHA.QA.W]W046.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.333927 through 0.353927



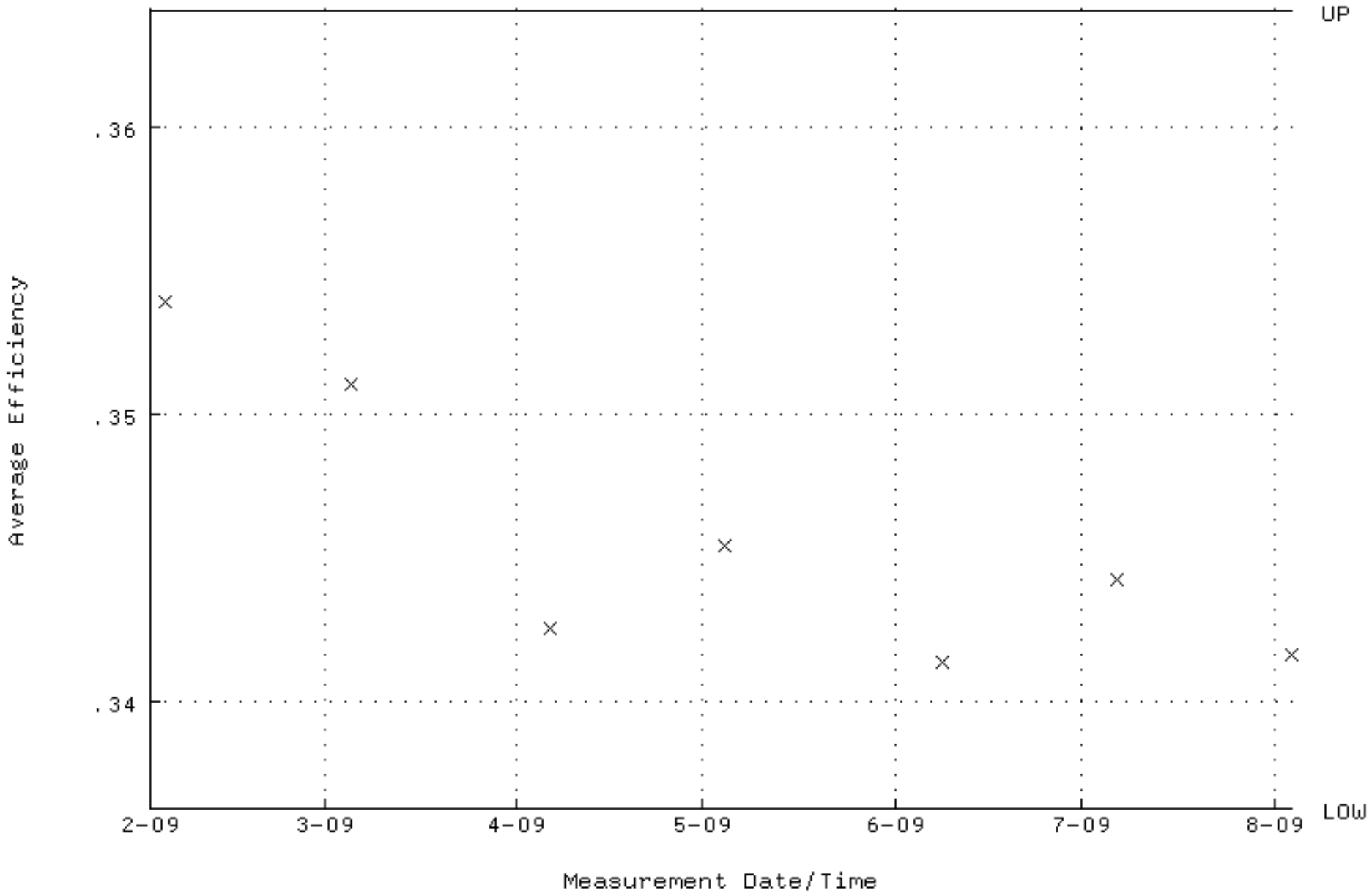
QA filename : DKA100:[ENV_ALPHA.QA.W]W046.QAF;4
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 81.7568 through 90.3628



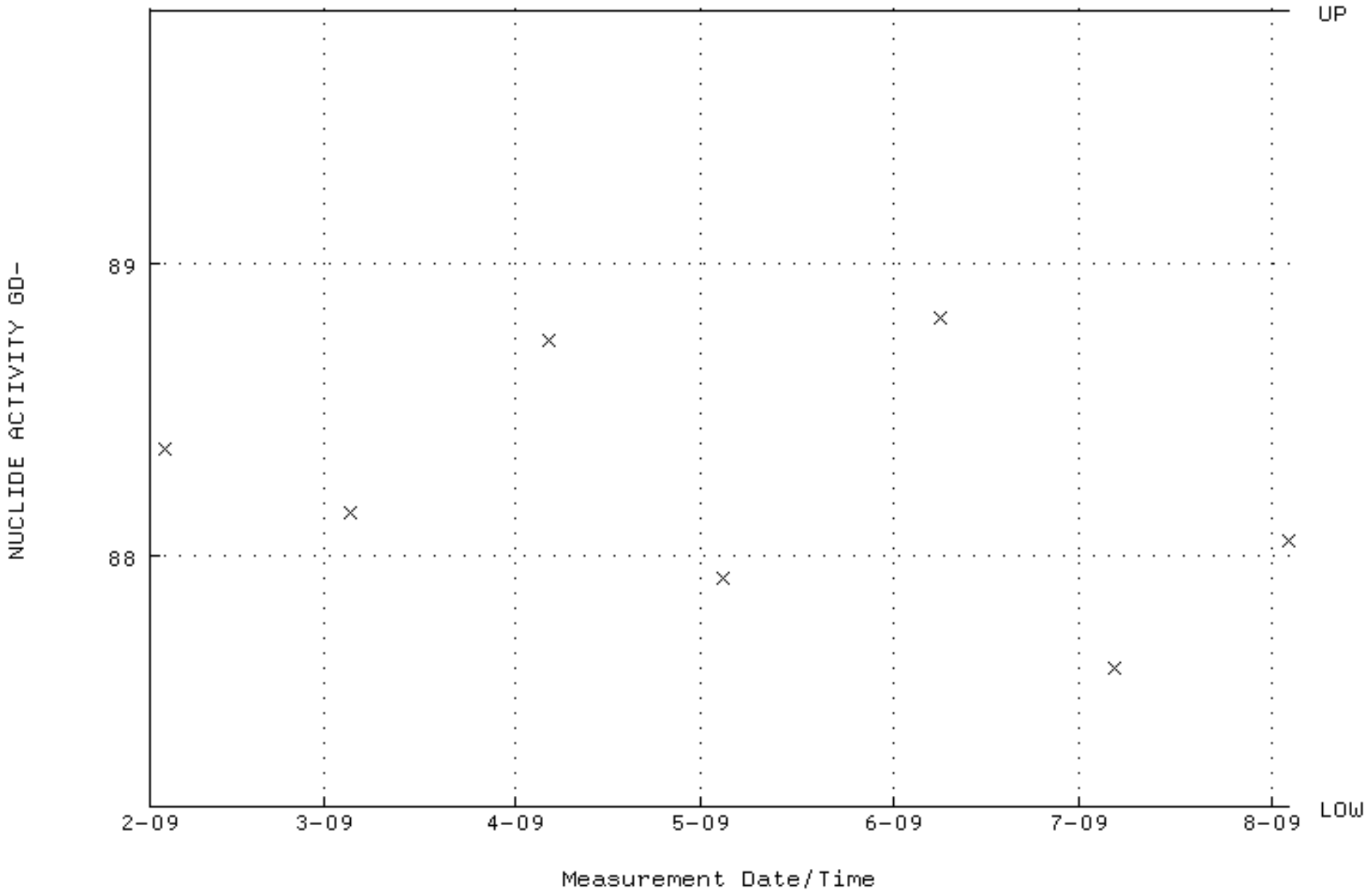
QA filename : DKA100:[ENV_ALPHA.QA.B]B046.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:04 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



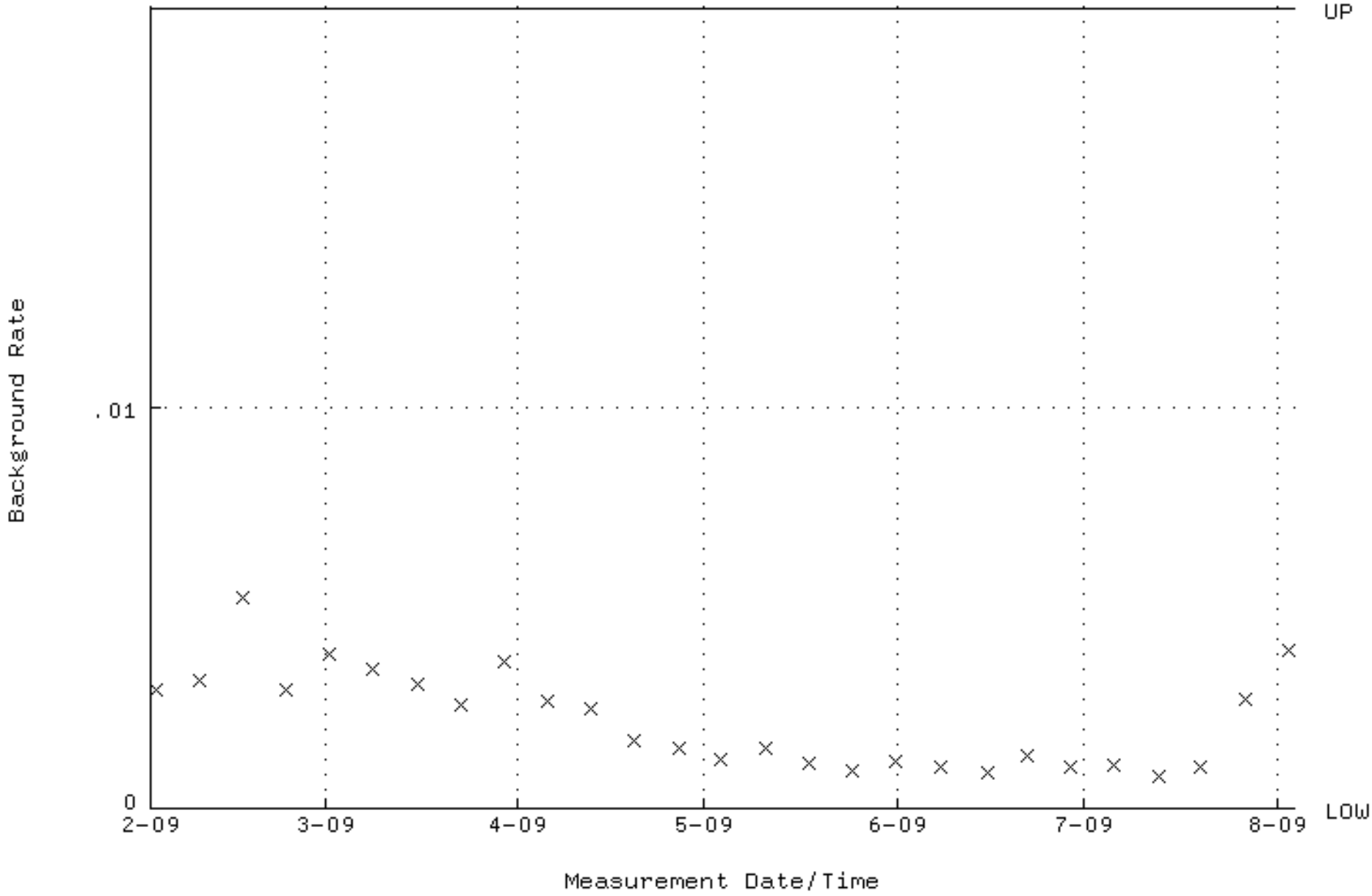
QA filename : DKA100:[ENV_ALPHA.QA.W]W047.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.336276 through 0.364038



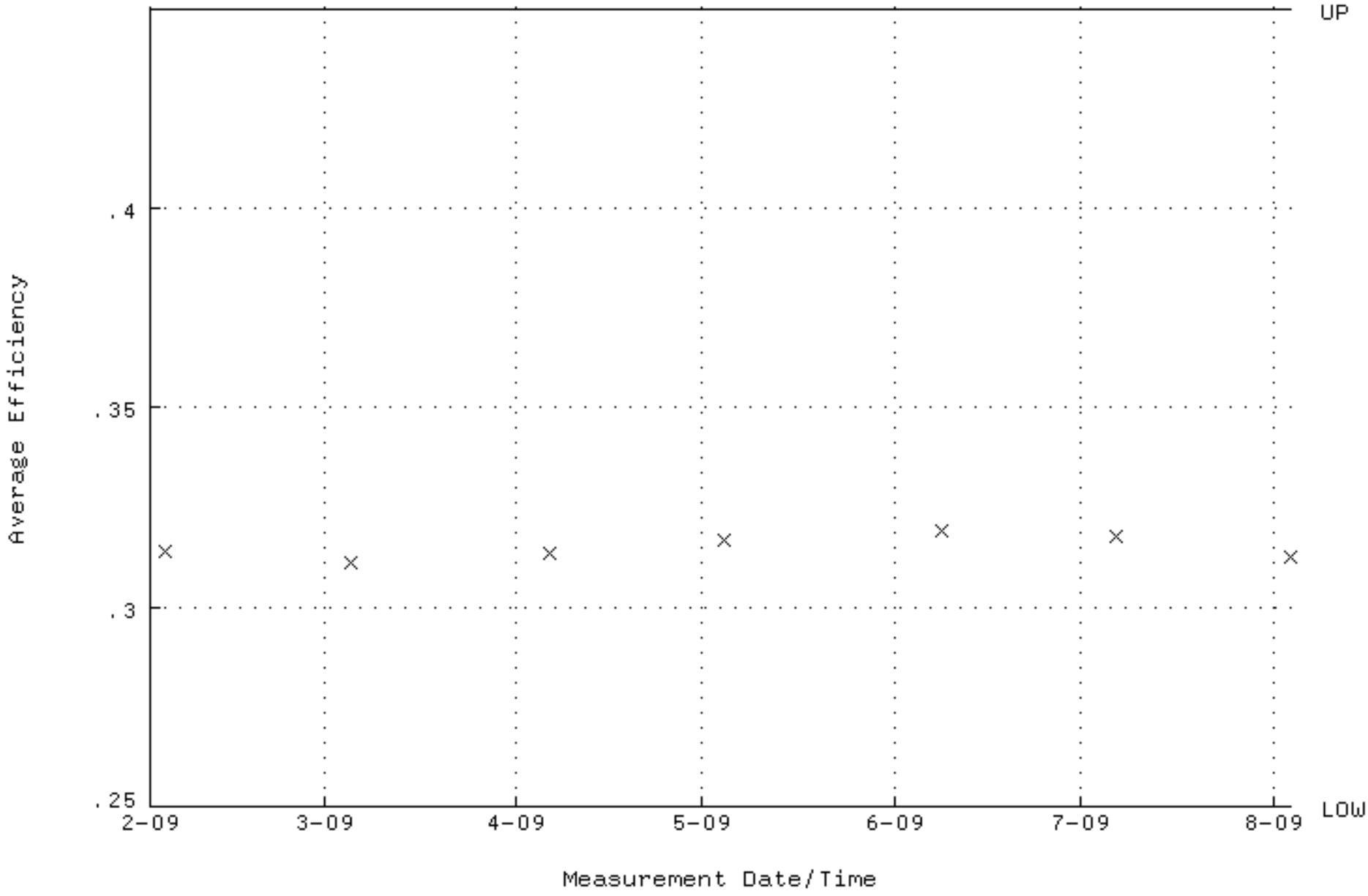
QA filename : DKA100:[ENV_ALPHA.QA.W]W047.QAF;5
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 87.1403 through 89.8631



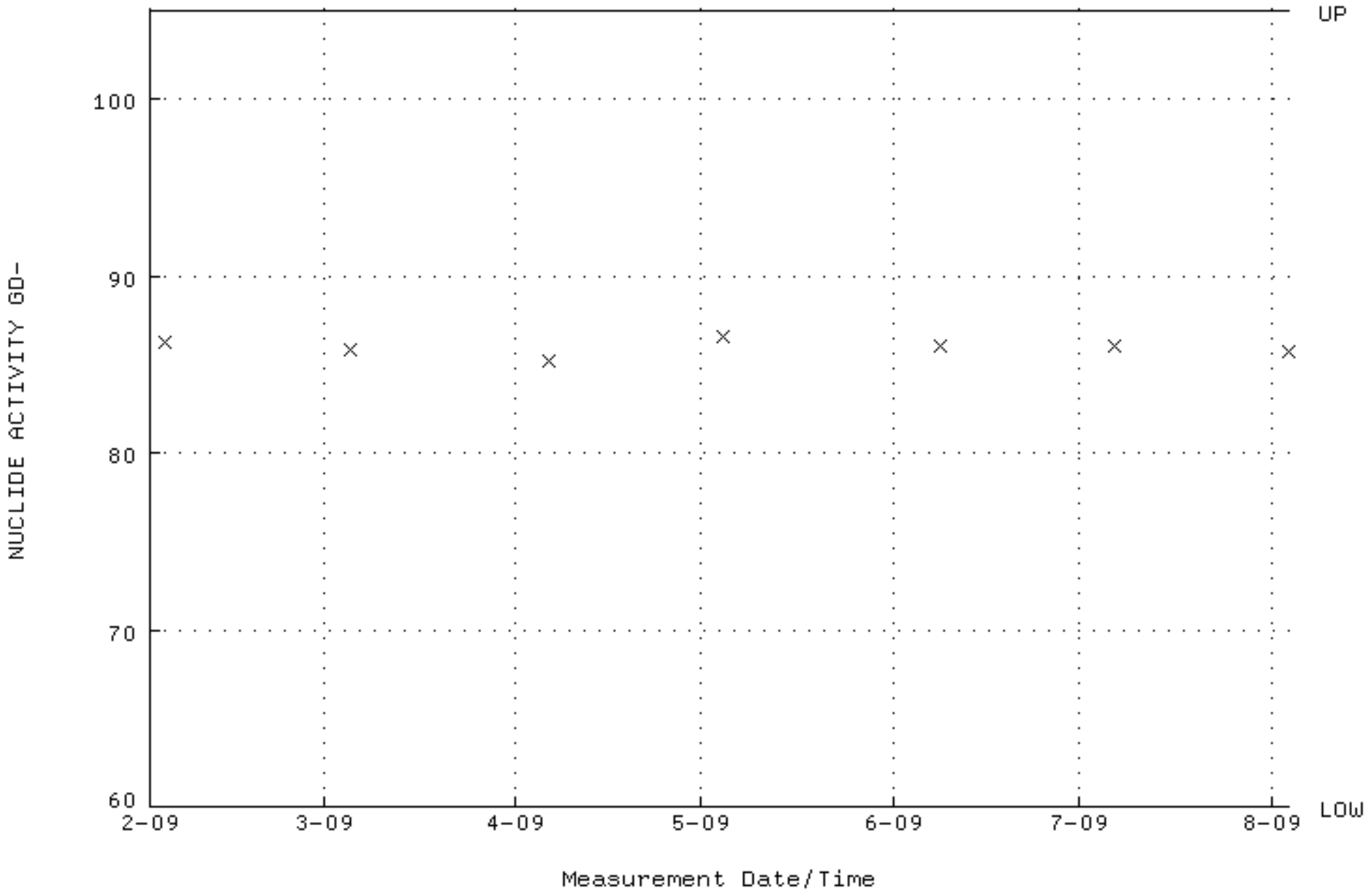
QA filename : DKA100:[ENV_ALPHA.QA.B]B047.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:04 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



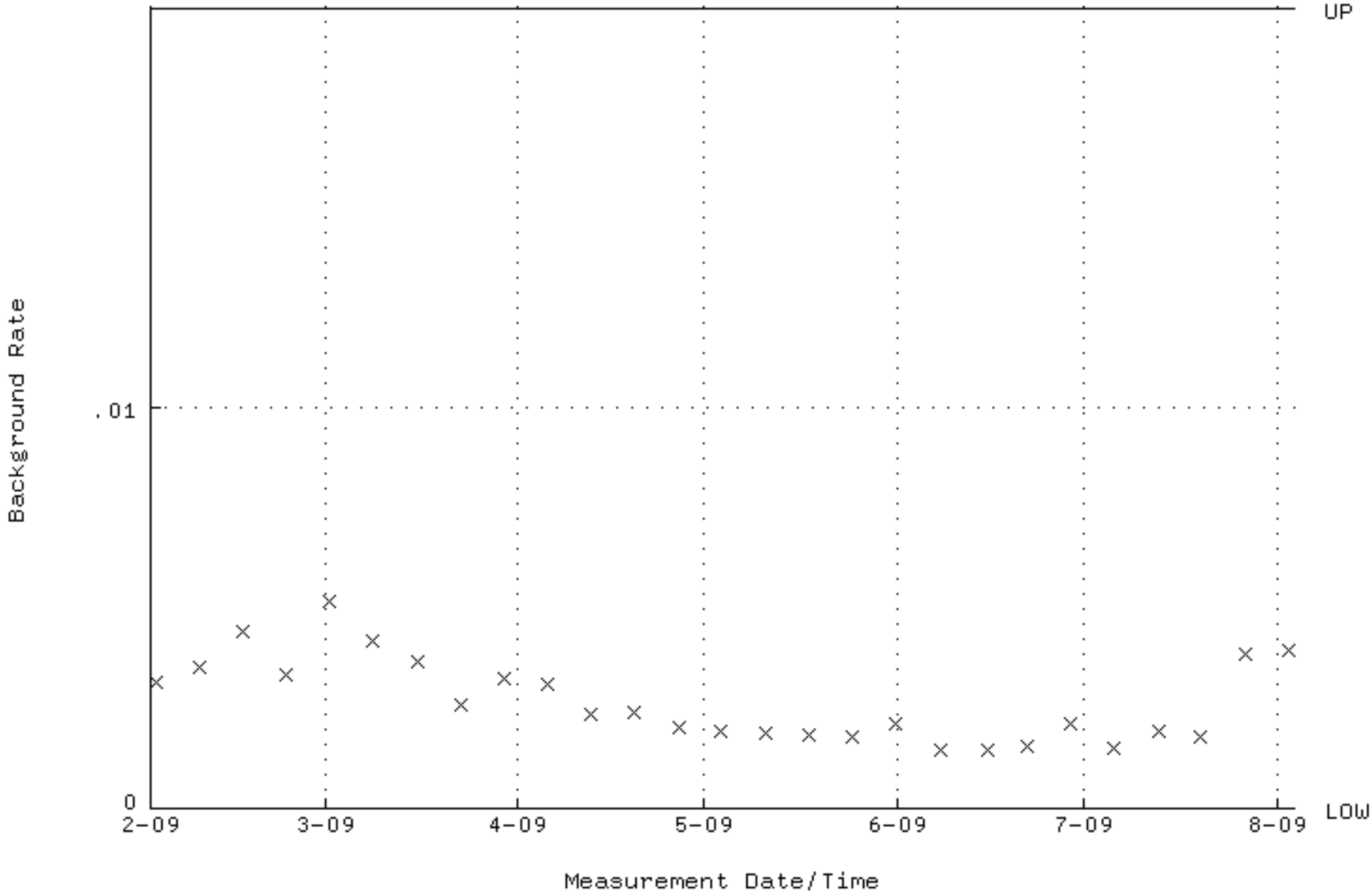
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.250000 through 0.450000



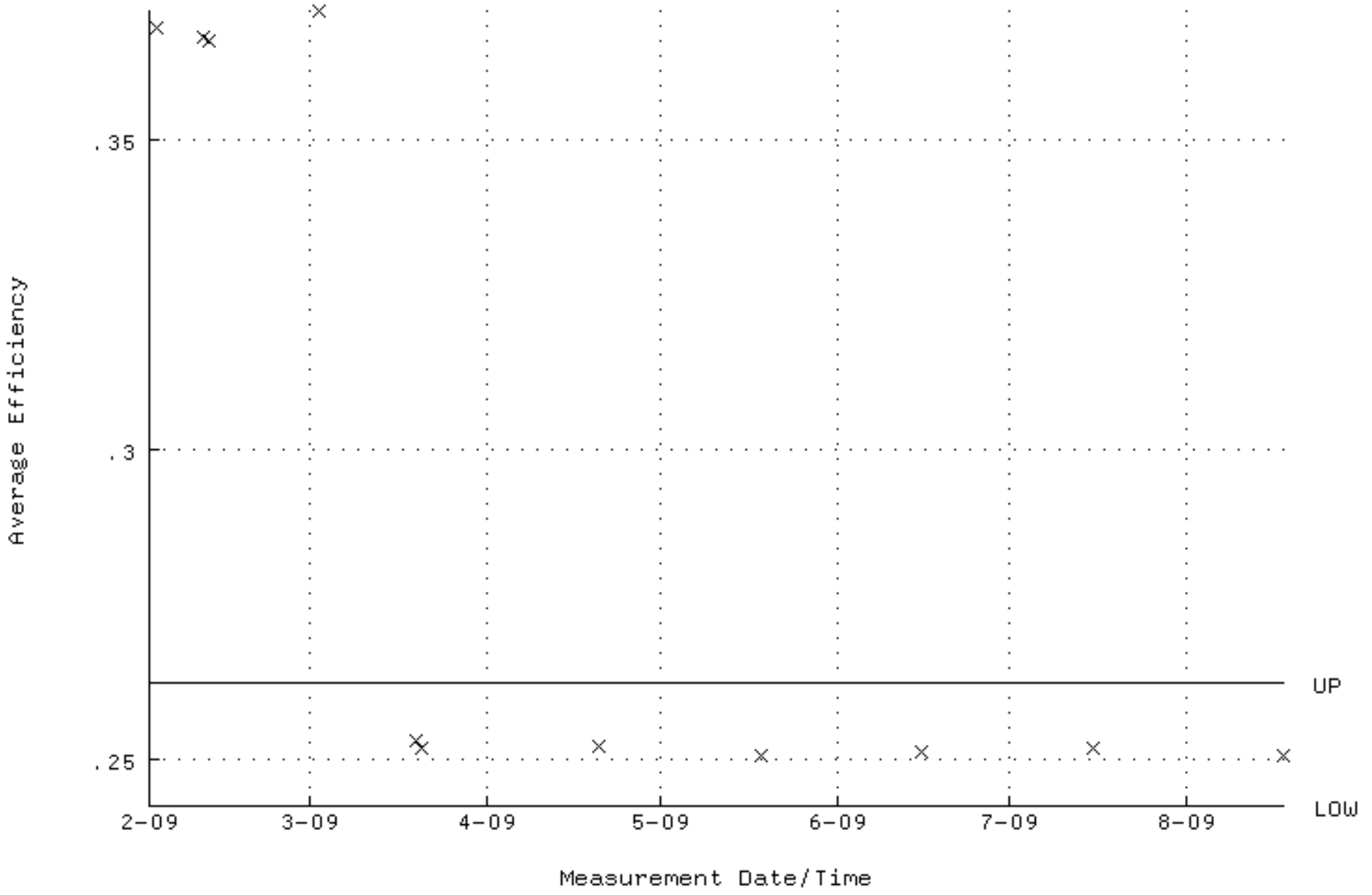
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 12:12:05 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 60.0000 through 105.000



QA filename : DKA100:[ENV_ALPHA.QA.B]B048.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 20:05:04 through 3-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

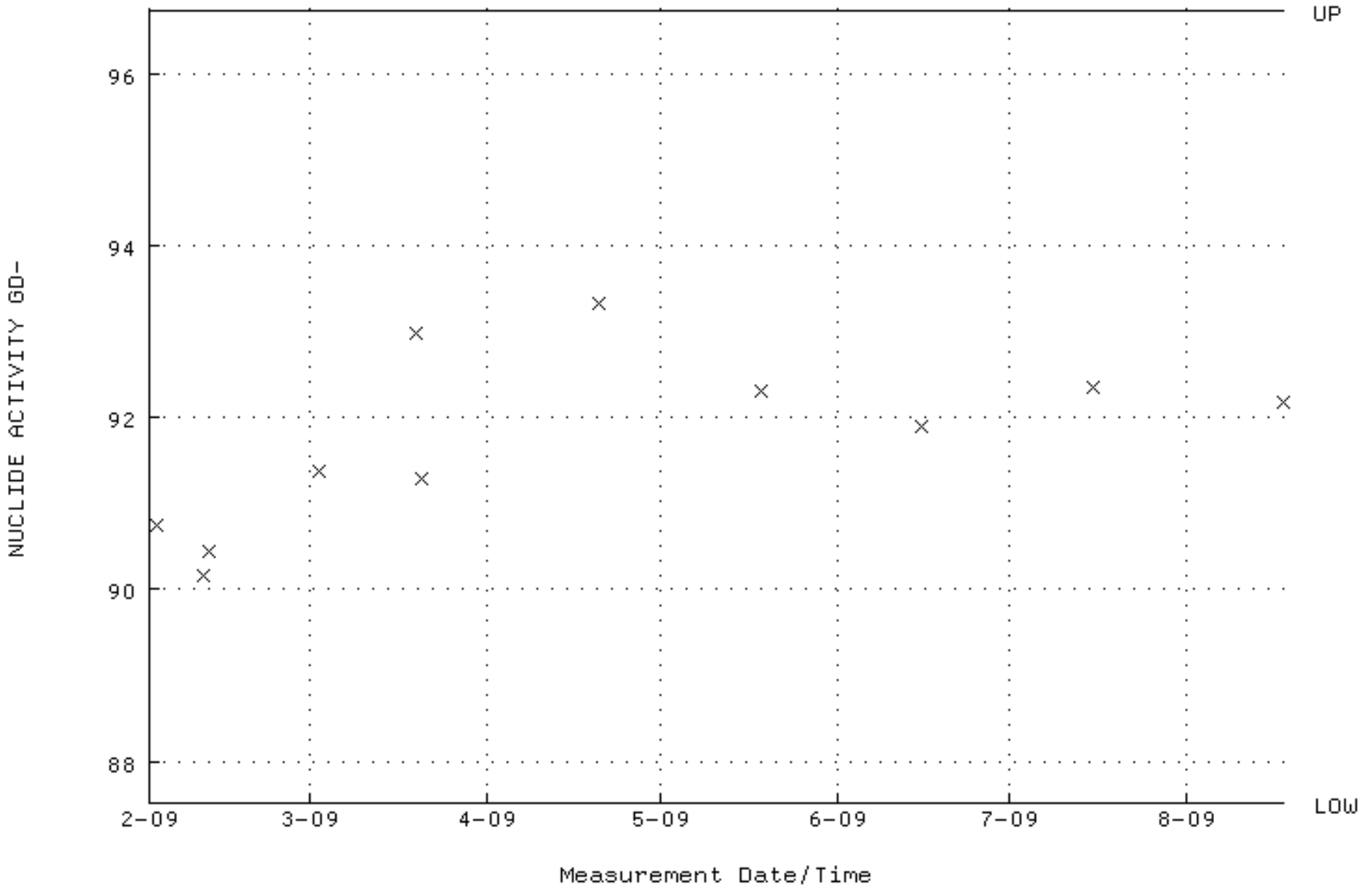


QA filename : DKA100:[ENV_ALPHA.QA.W]W113.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-FEB-2009 10:31:03 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.242598 through 0.262598

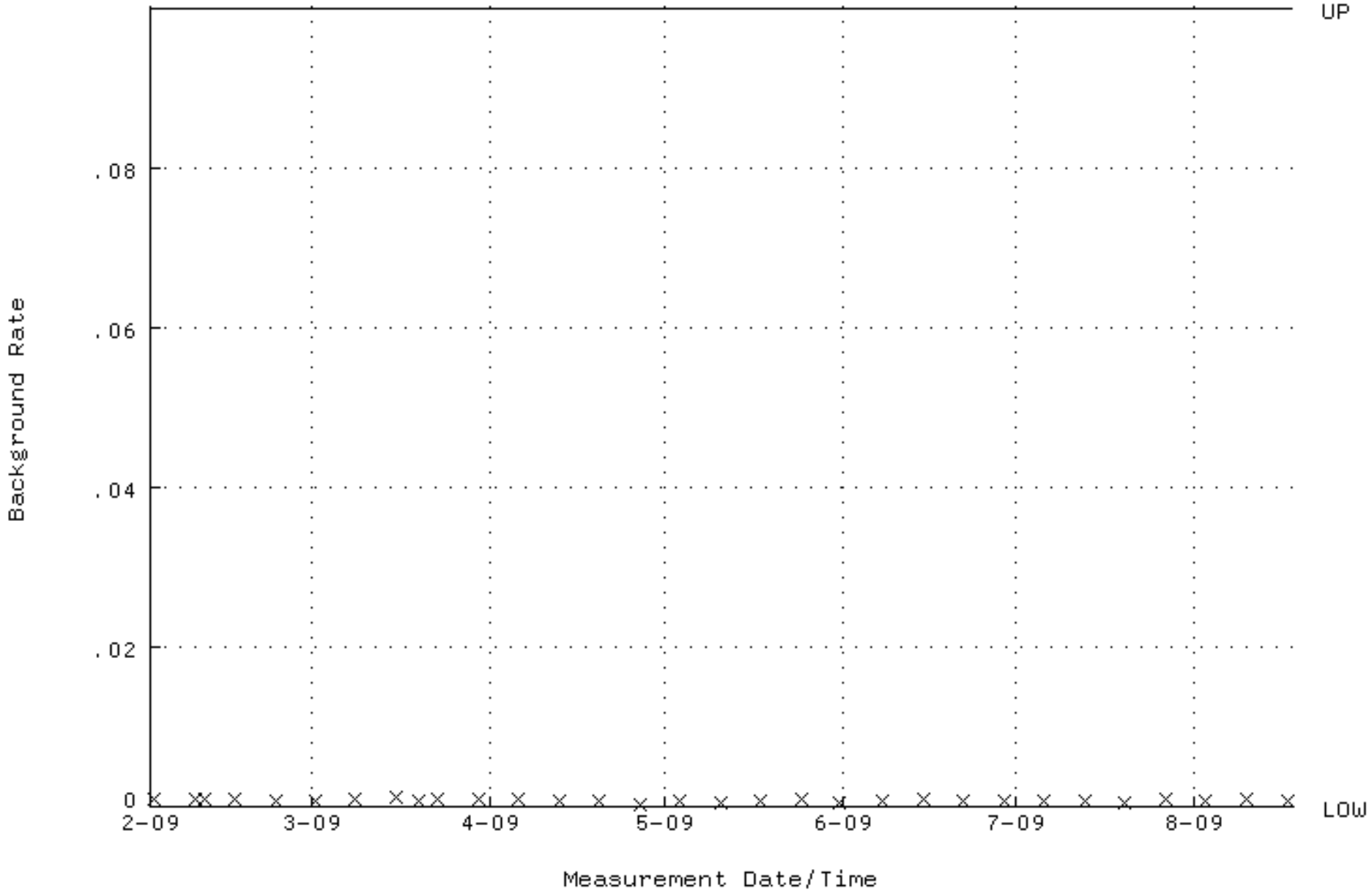


888

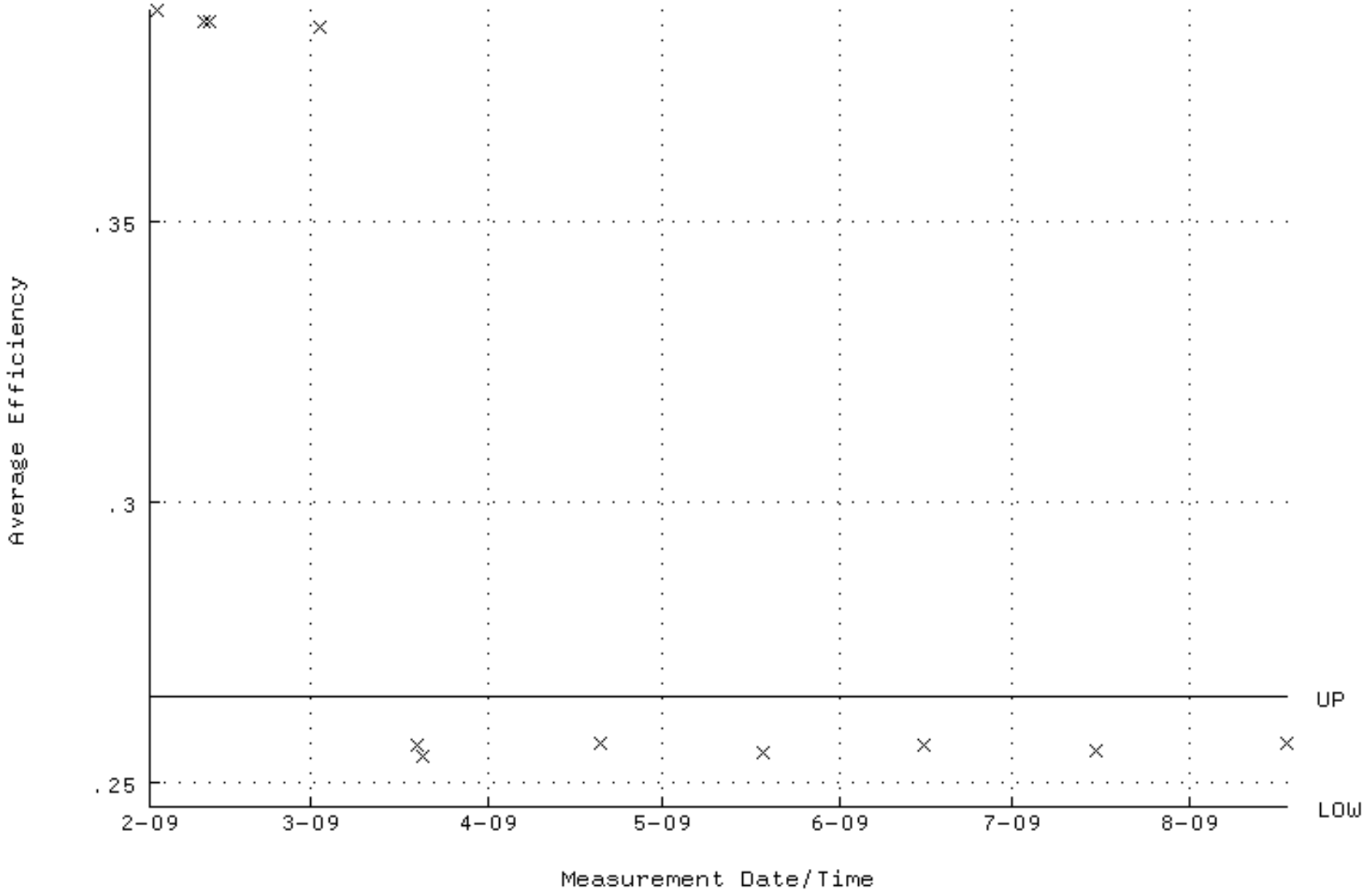
QA filename : DKA100:[ENV_ALPHA.QA.W]W113.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-FEB-2009 10:31:03 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 87.5172 through 96.7296



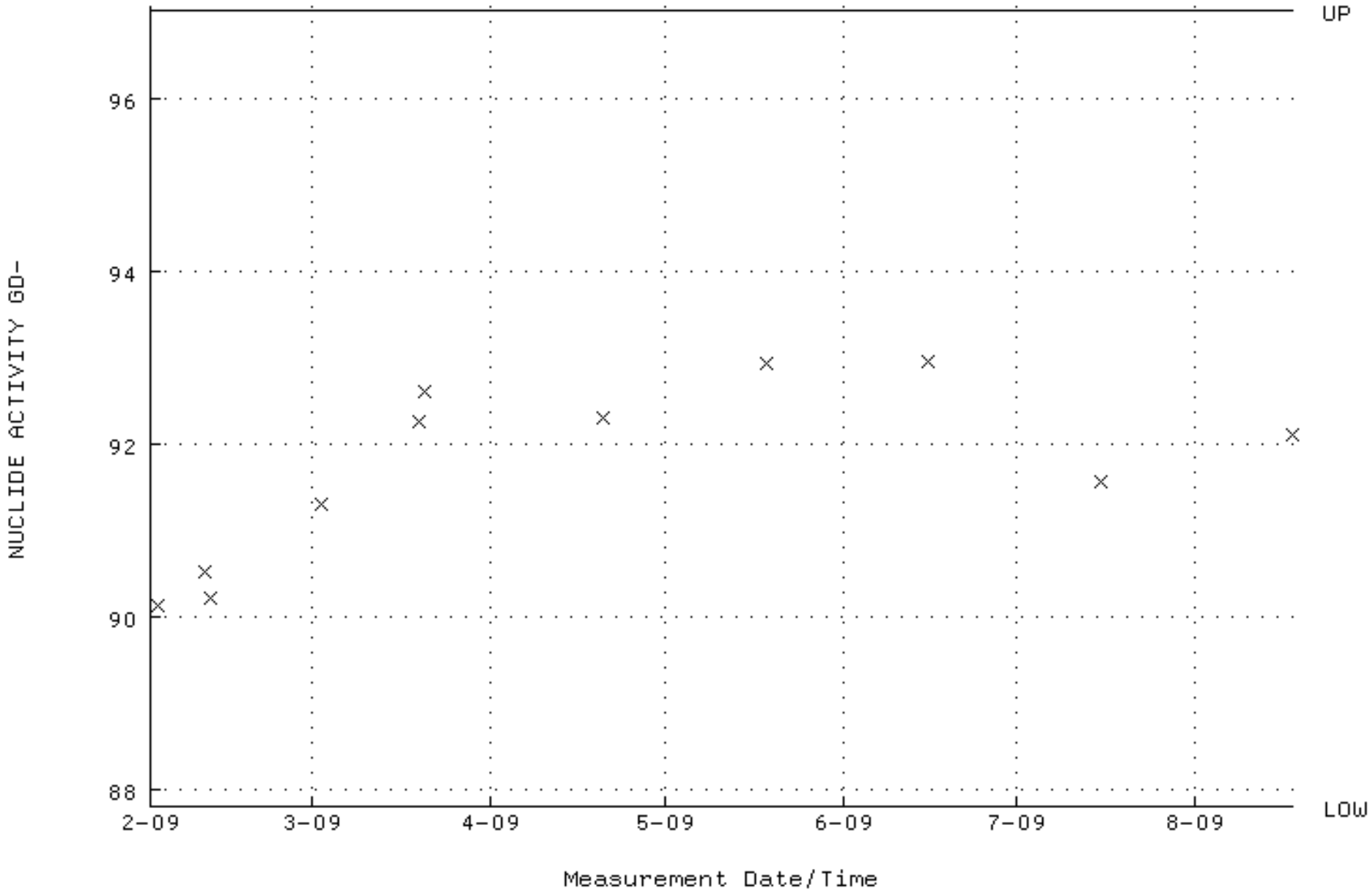
QA filename : DKA100:[ENV_ALPHA.QA.B]B113.QAF;2
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 17:00:15 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



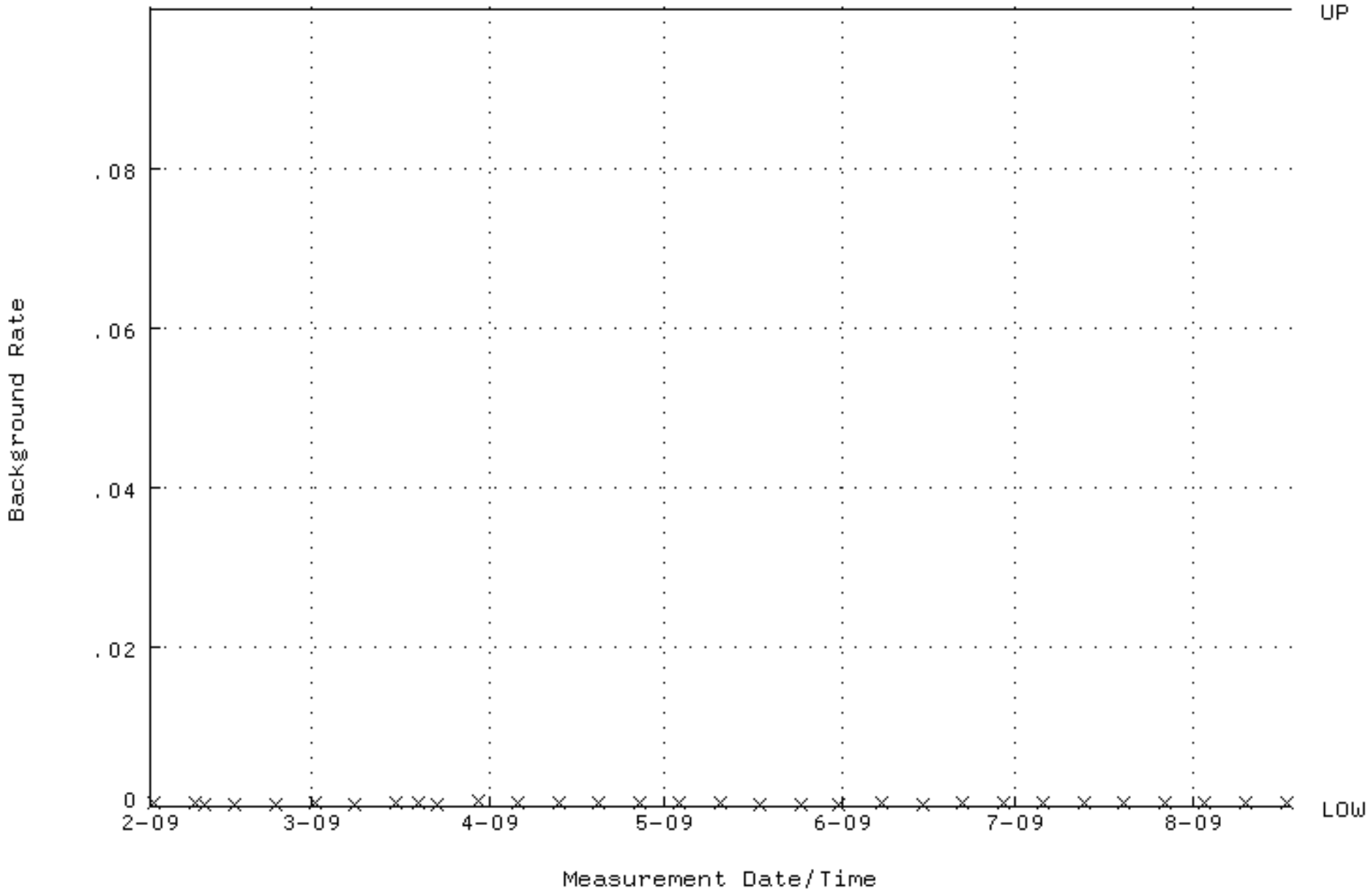
QA filename : DKA100:[ENV_ALPHA.QA.W]W114.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-FEB-2009 10:31:11 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.245499 through 0.265499



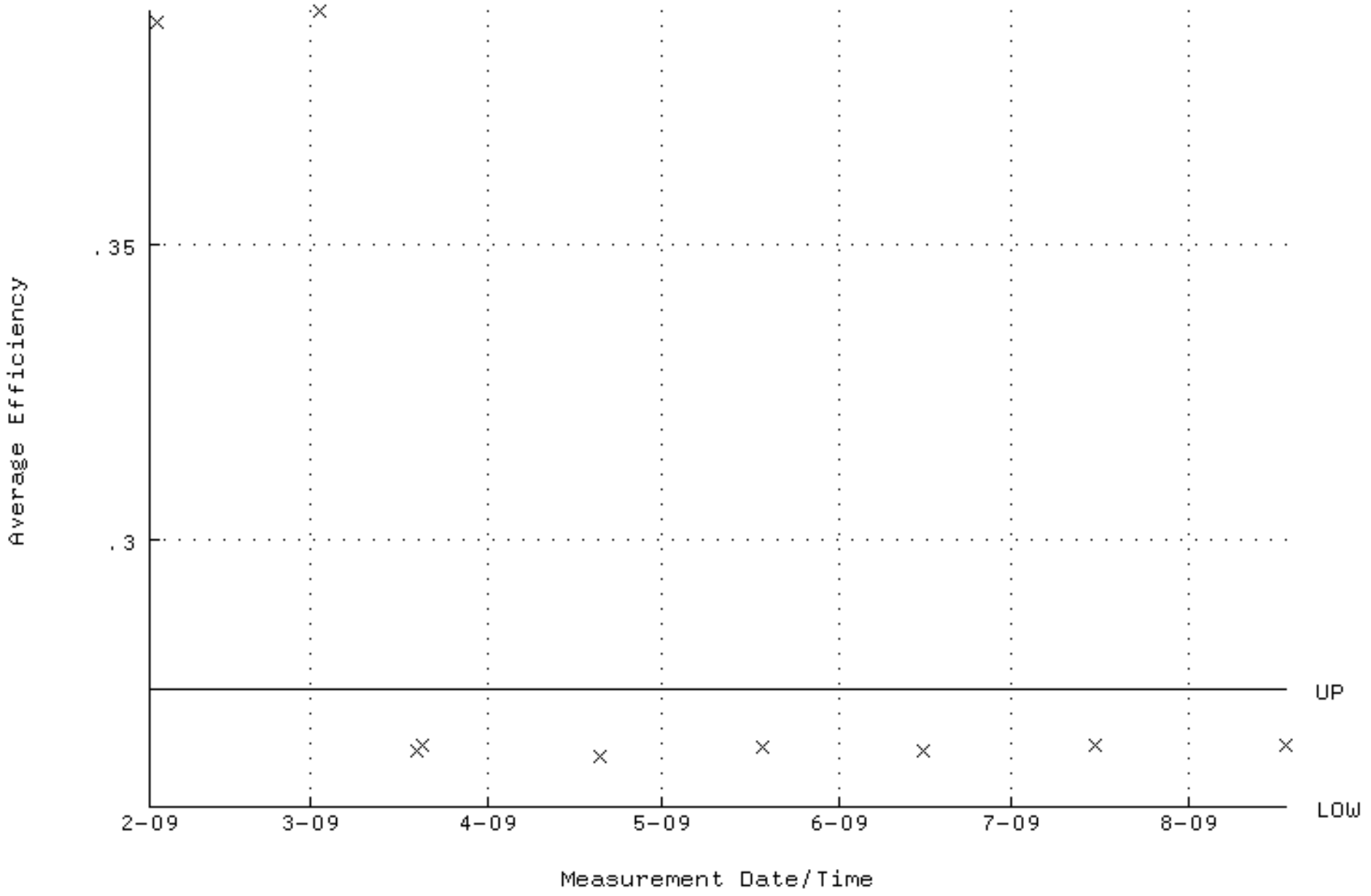
QA filename : DKA100:[ENV_ALPHA.QA.W]W114.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-FEB-2009 10:31:11 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 87.8108 through 97.0540



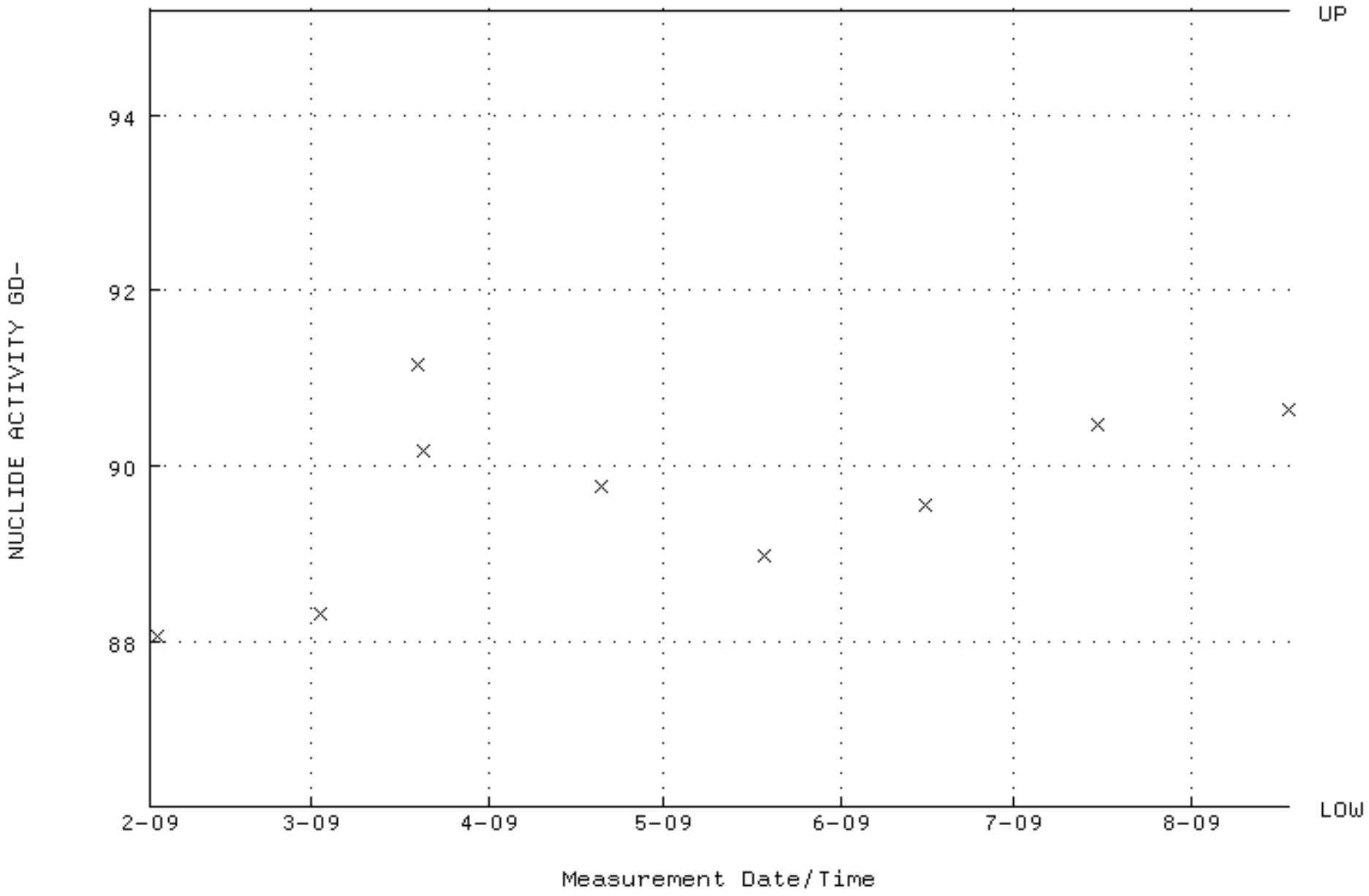
QA filename : DKA100:[ENV_ALPHA.QA.B]B114.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 17:00:32 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



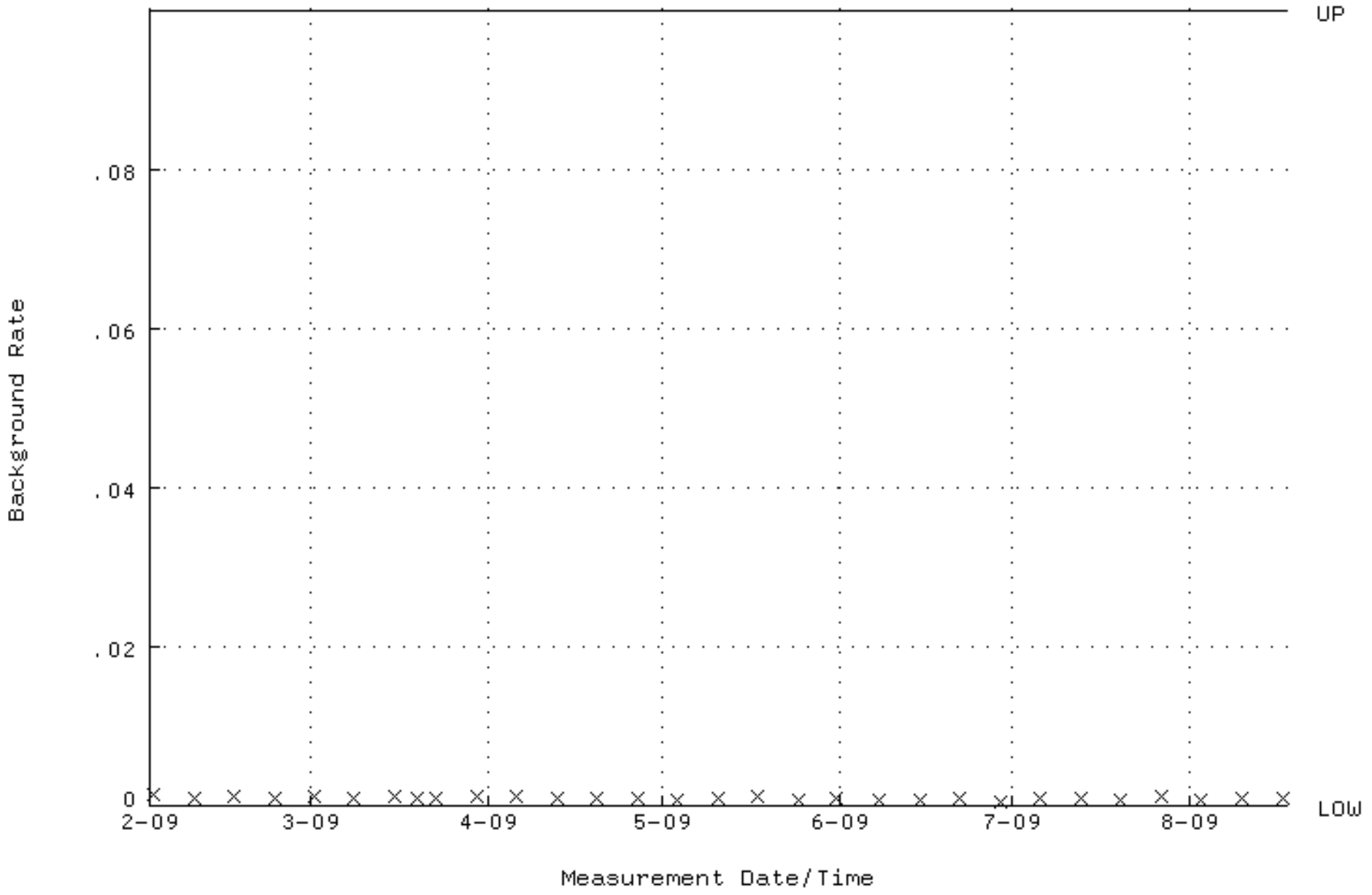
QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-FEB-2009 10:31:18 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.255018 through 0.275018



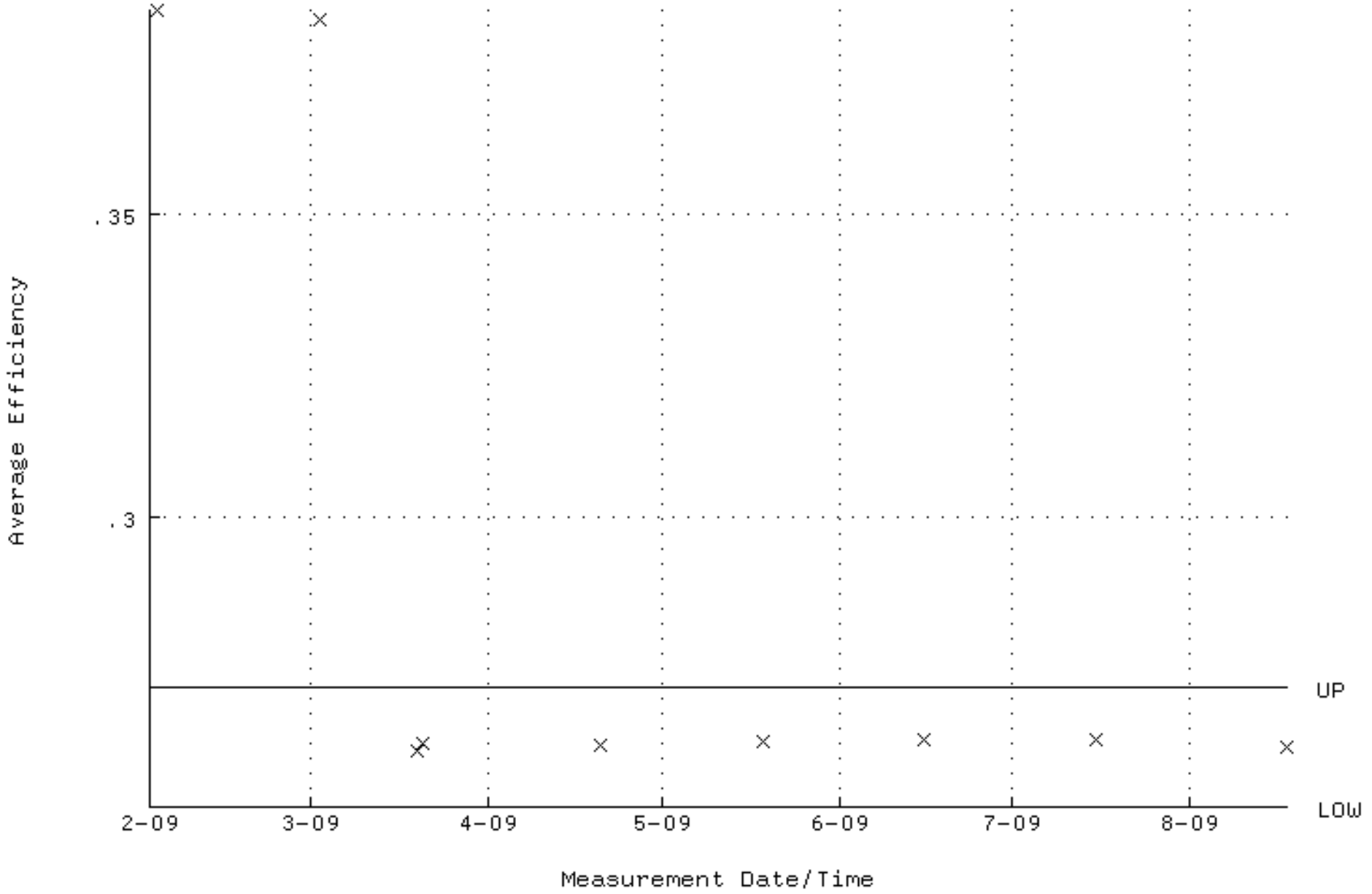
QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-FEB-2009 10:31:18 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 86.1212 through 95.1866



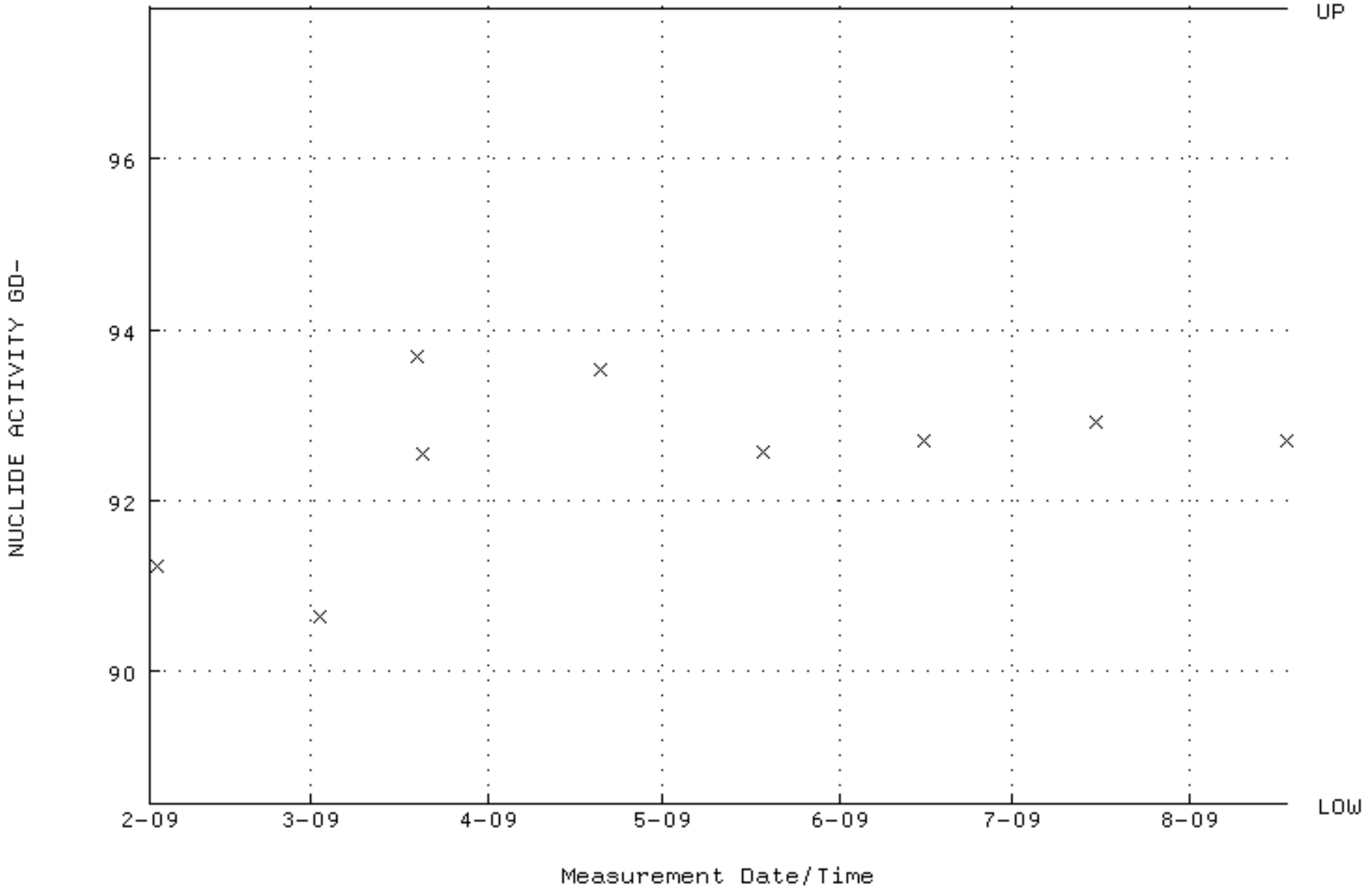
QA filename : DKA100:[ENV_ALPHA.QA.B]B115.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 17:00:46 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



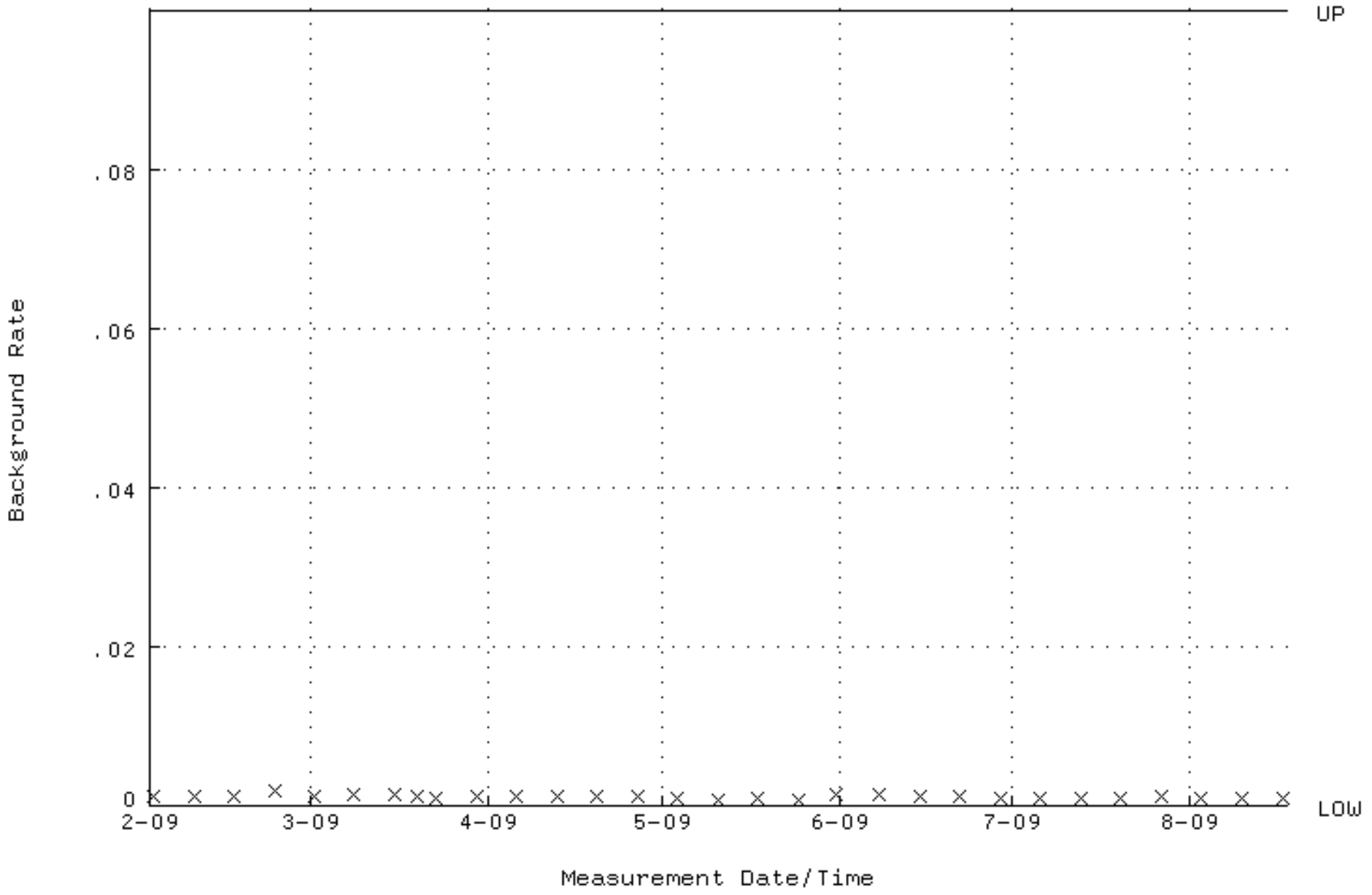
QA filename : DKA100:[ENV_ALPHA.QA.W]W116.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-FEB-2009 10:31:25 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.251950 through 0.271950



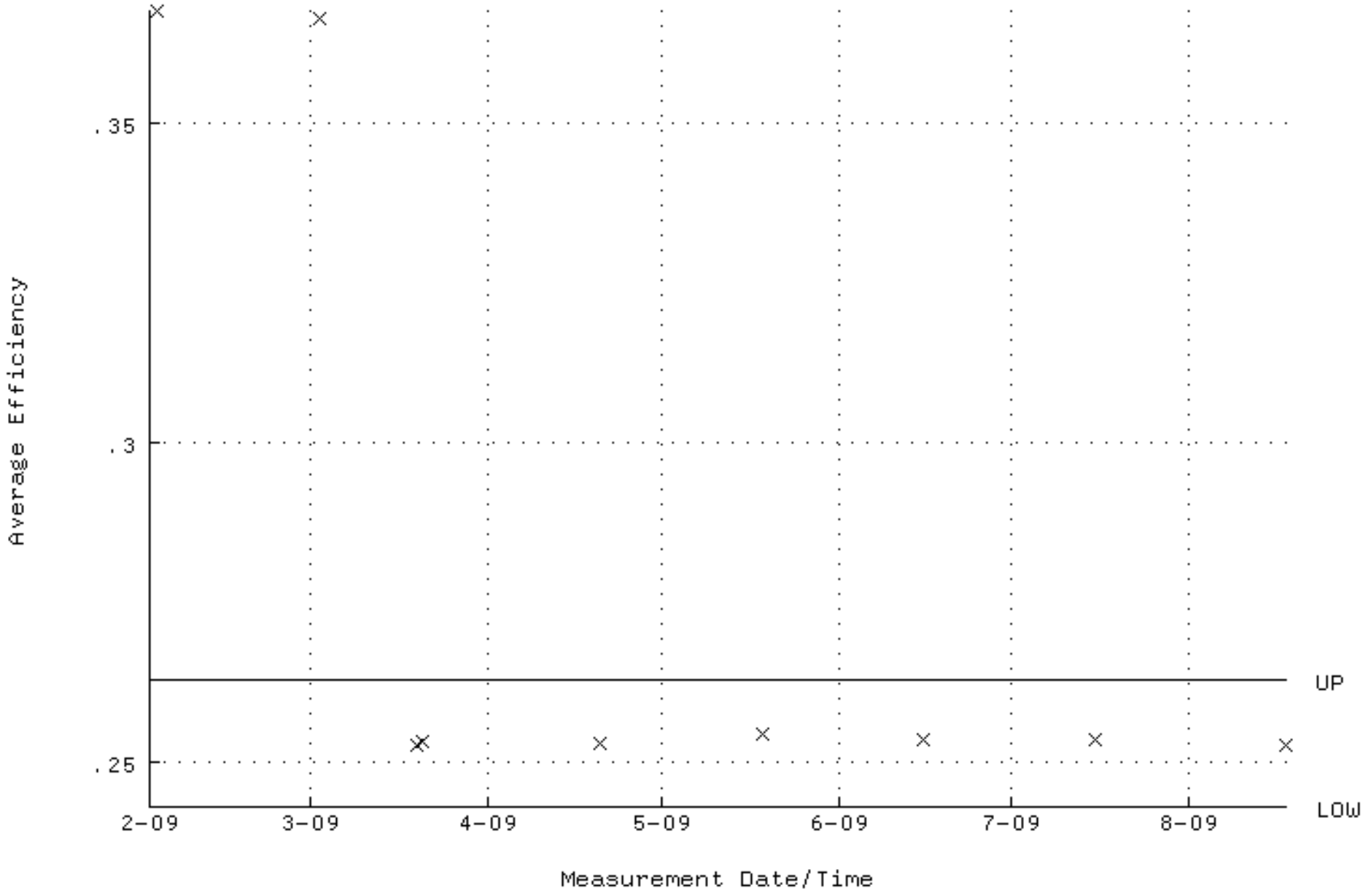
QA filename : DKA100:[ENV_ALPHA.QA.W]W116.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-FEB-2009 10:31:25 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 88.4515 through 97.7621



QA filename : DKA100:[ENV_ALPHA.QA.B]B116.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 17:01:01 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000

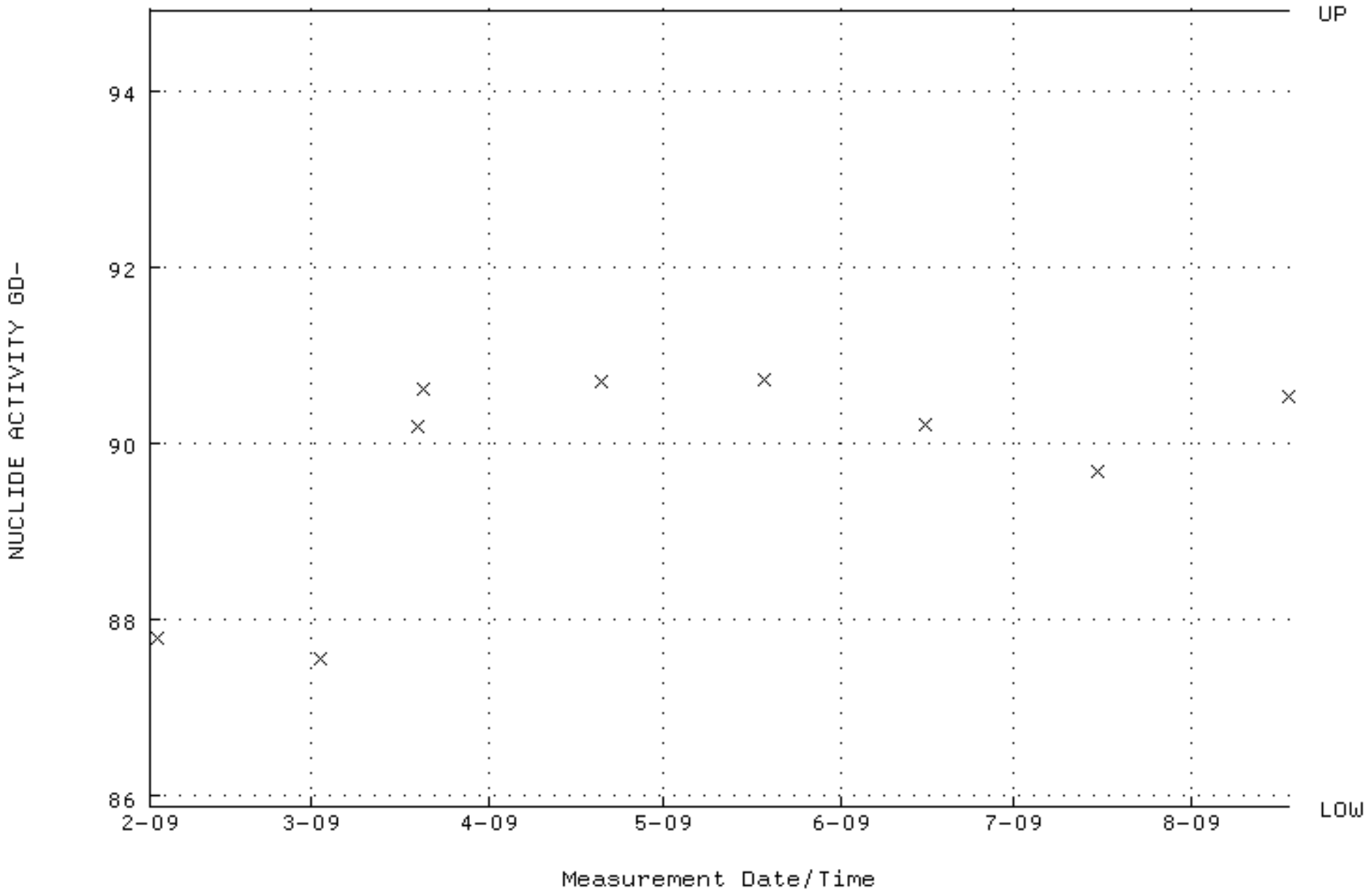


QA filename : DKA100:[ENV_ALPHA.QA.W]W117.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-FEB-2009 10:31:33 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.242940 through 0.262940



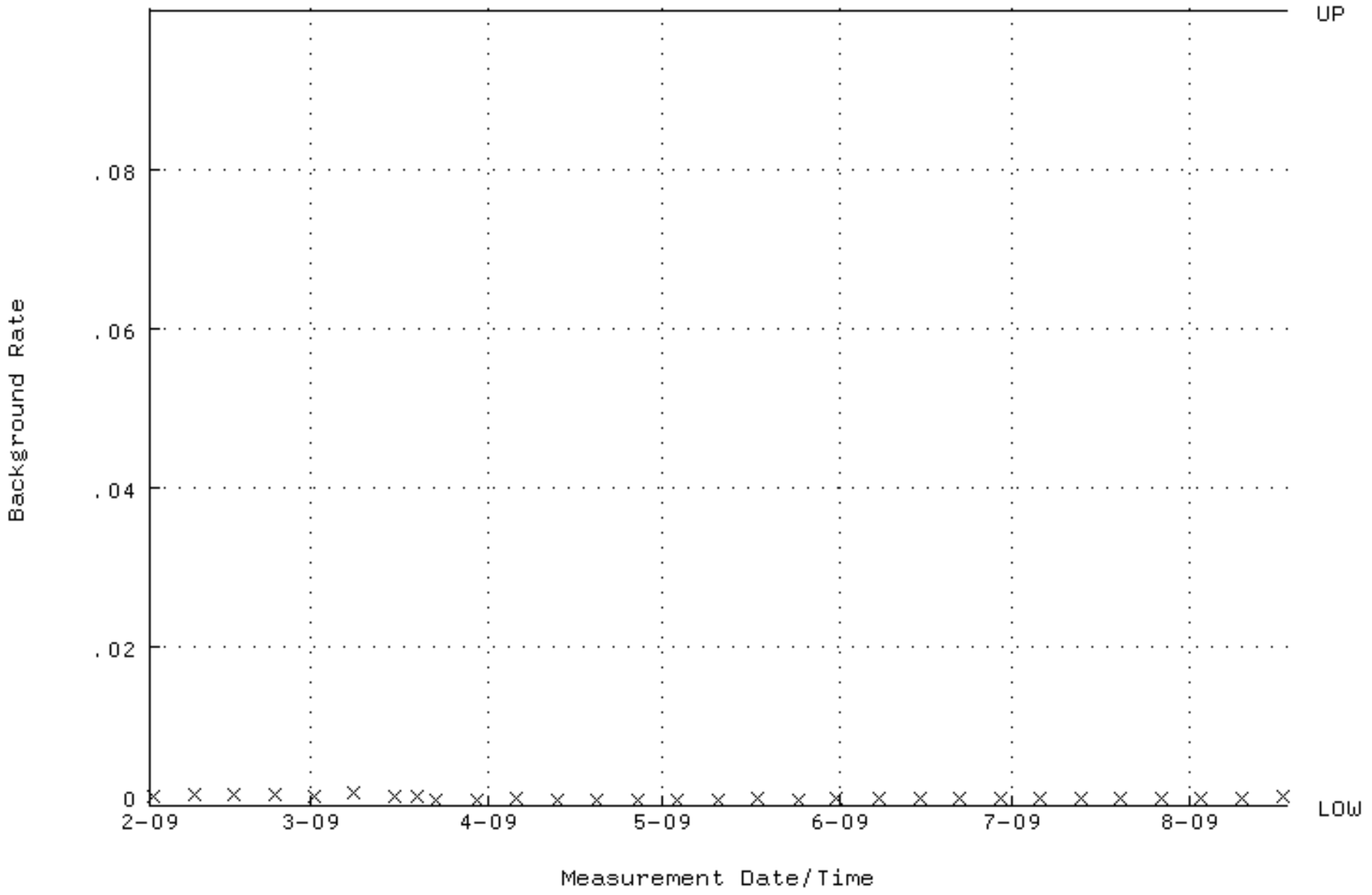
006

QA filename : DKA100:[ENV_ALPHA.QA.W]W117.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-FEB-2009 10:31:33 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 85.8693 through 94.9081

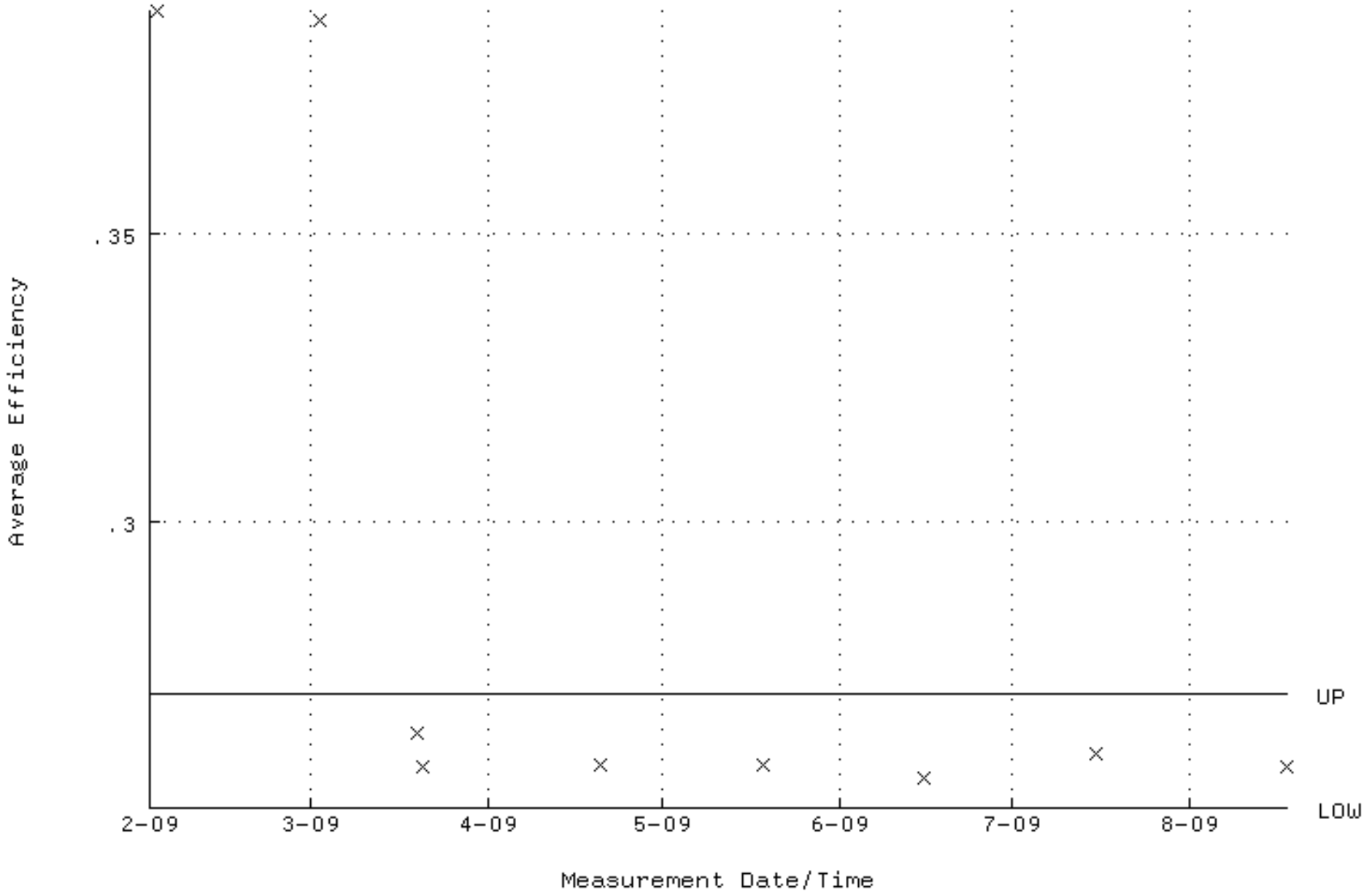


901

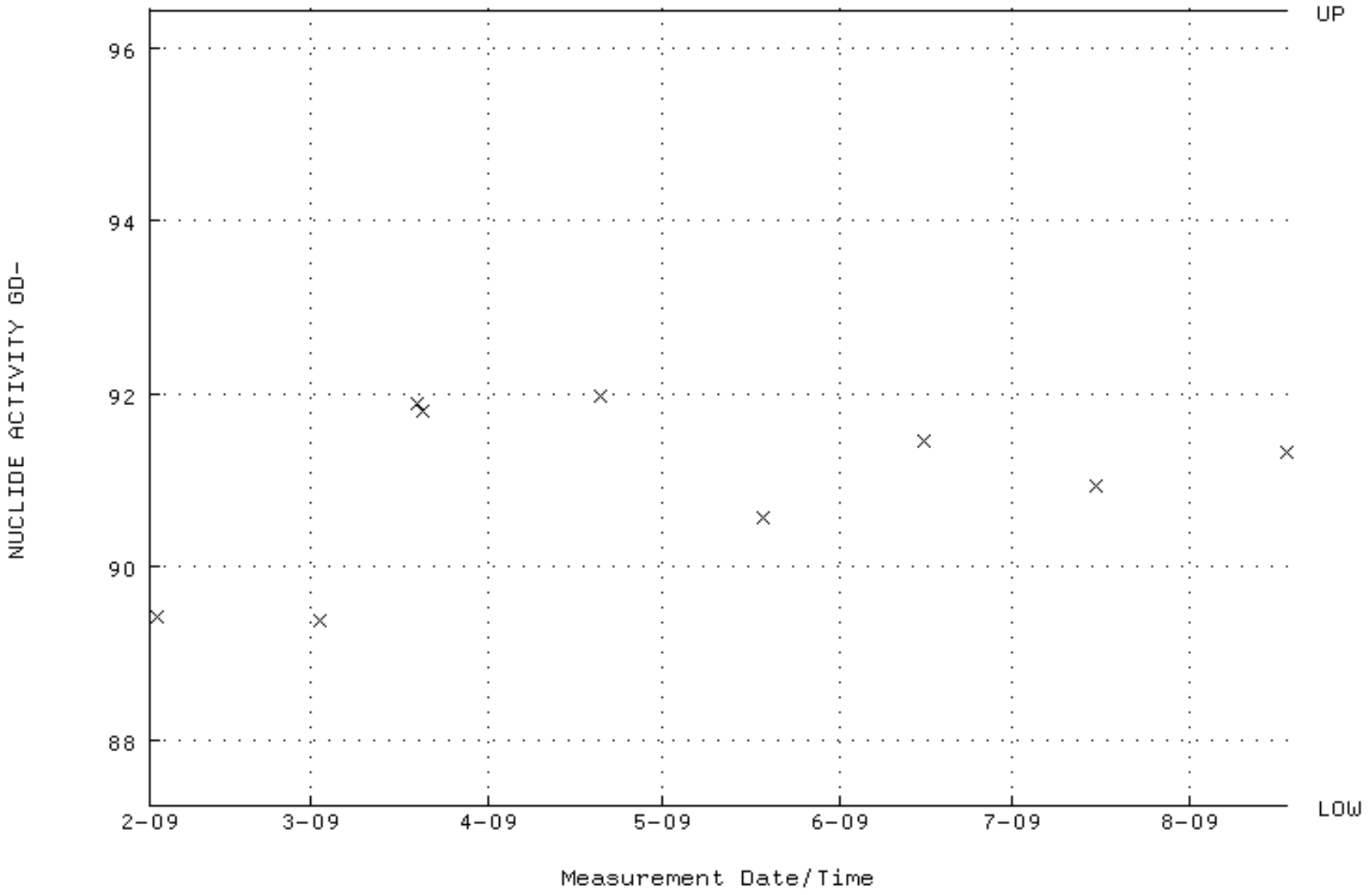
QA filename : DKA100:[ENV_ALPHA.QA.B]B117.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 17:01:17 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



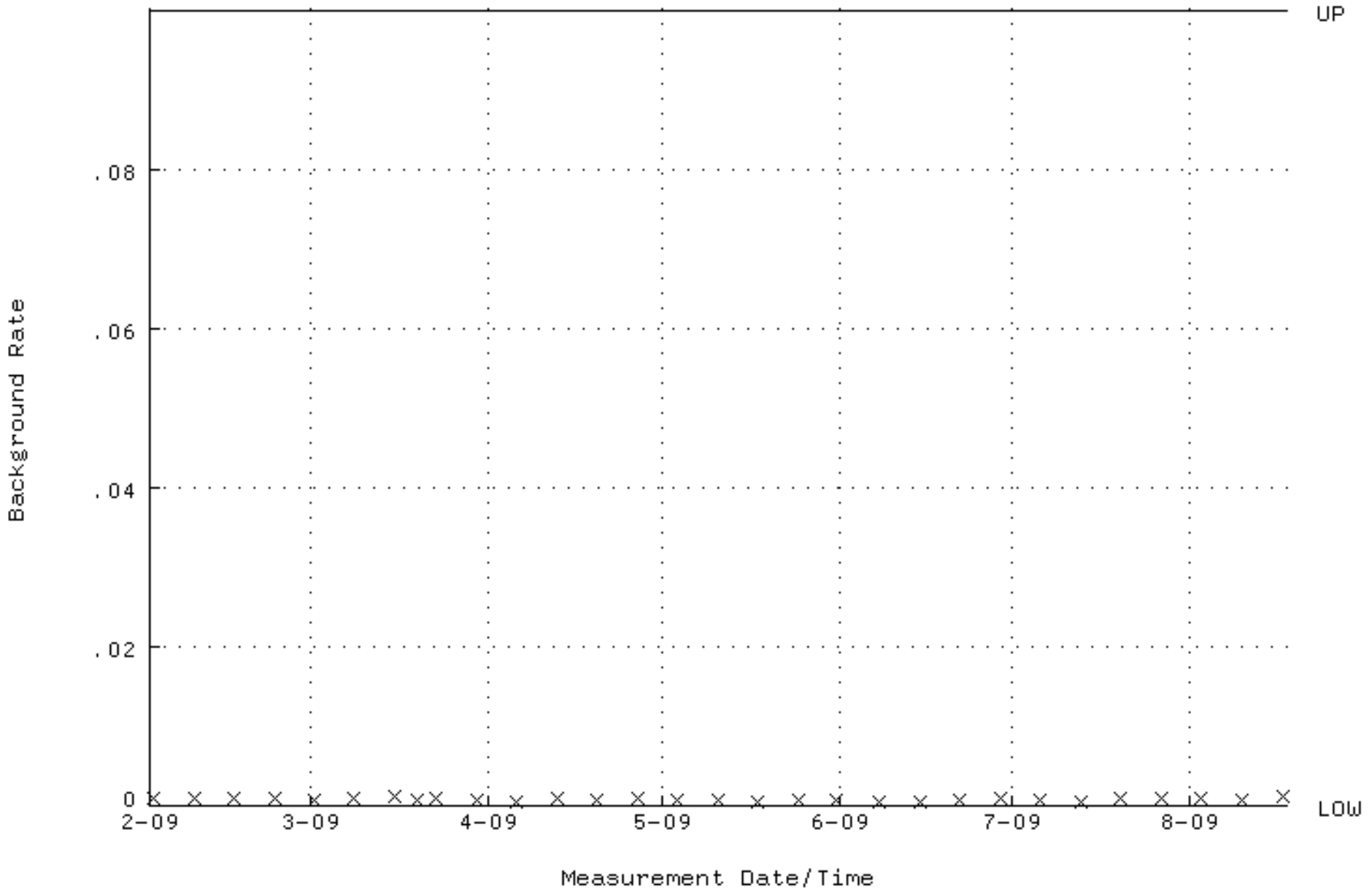
QA filename : DKA100:[ENV_ALPHA.QA.W]W118.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-FEB-2009 10:31:40 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.250490 through 0.270490



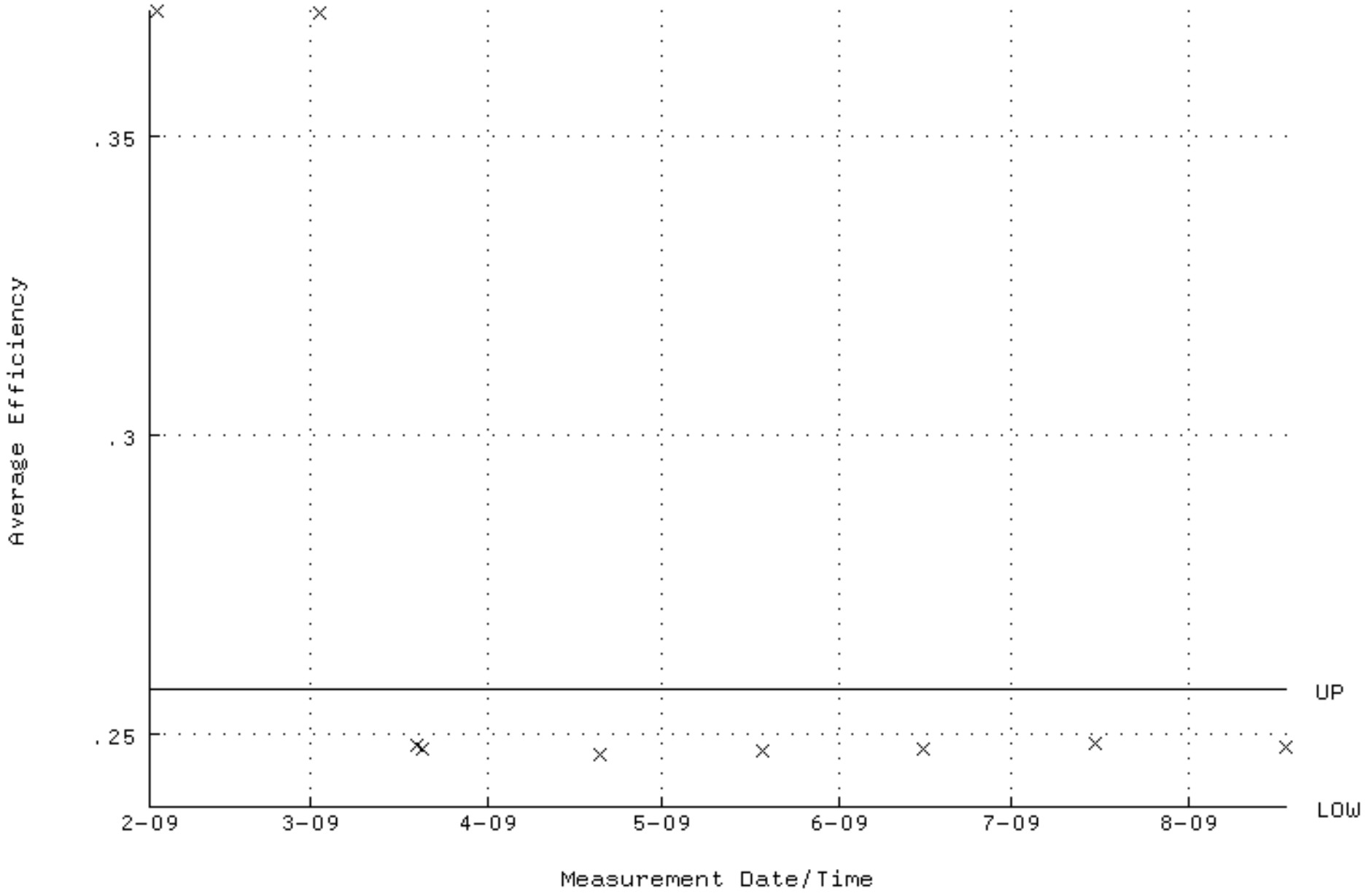
QA filename : DKA100:[ENV_ALPHA.QA.W]W118.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-FEB-2009 10:31:40 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 87.2440 through 96.4276



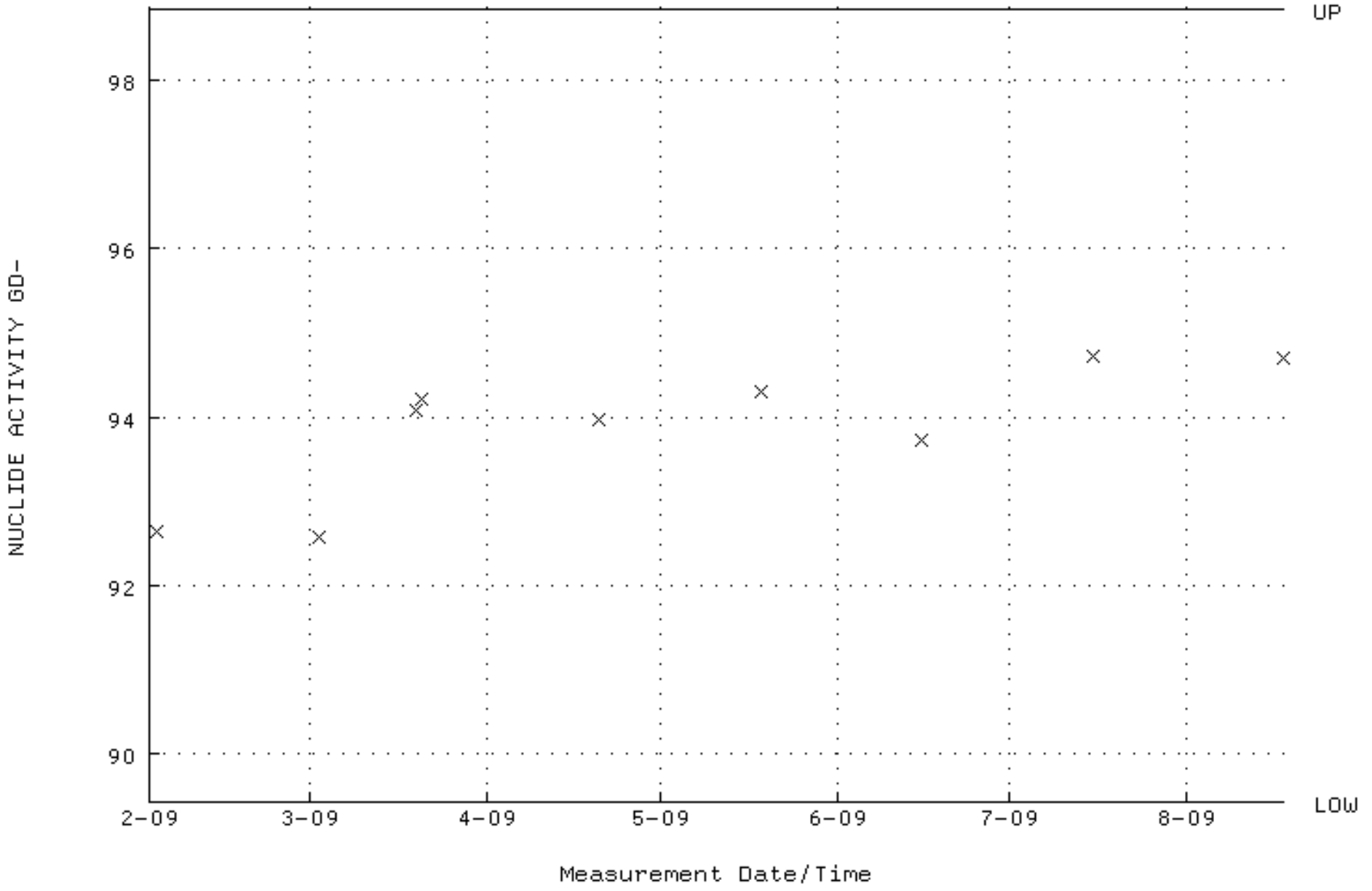
QA filename : DKA100:[ENV_ALPHA.QA.B]B118.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 17:01:36 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



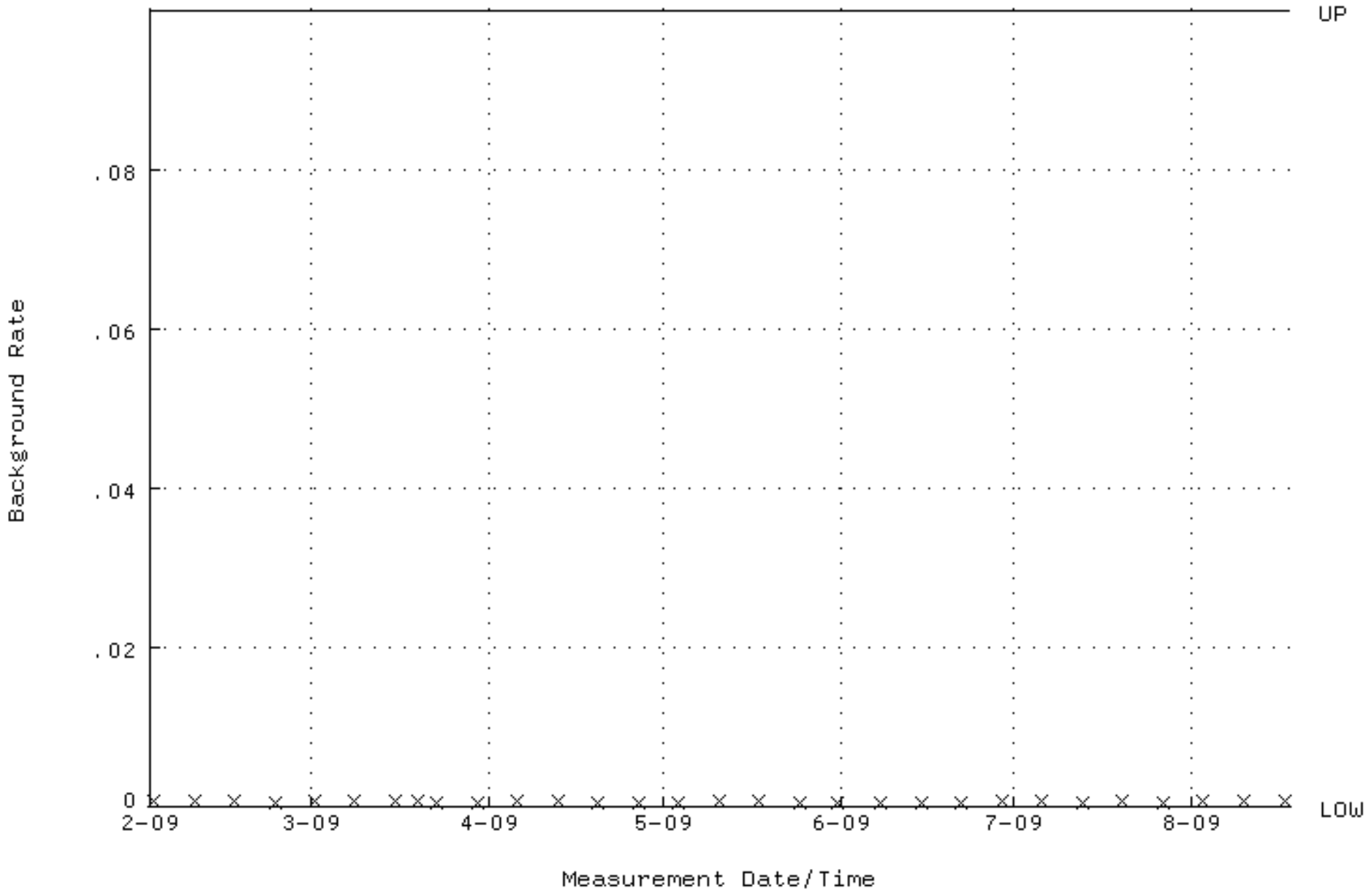
QA filename : DKA100:[ENV_ALPHA.QA.W]W121.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-FEB-2009 10:32:01 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.237686 through 0.257686



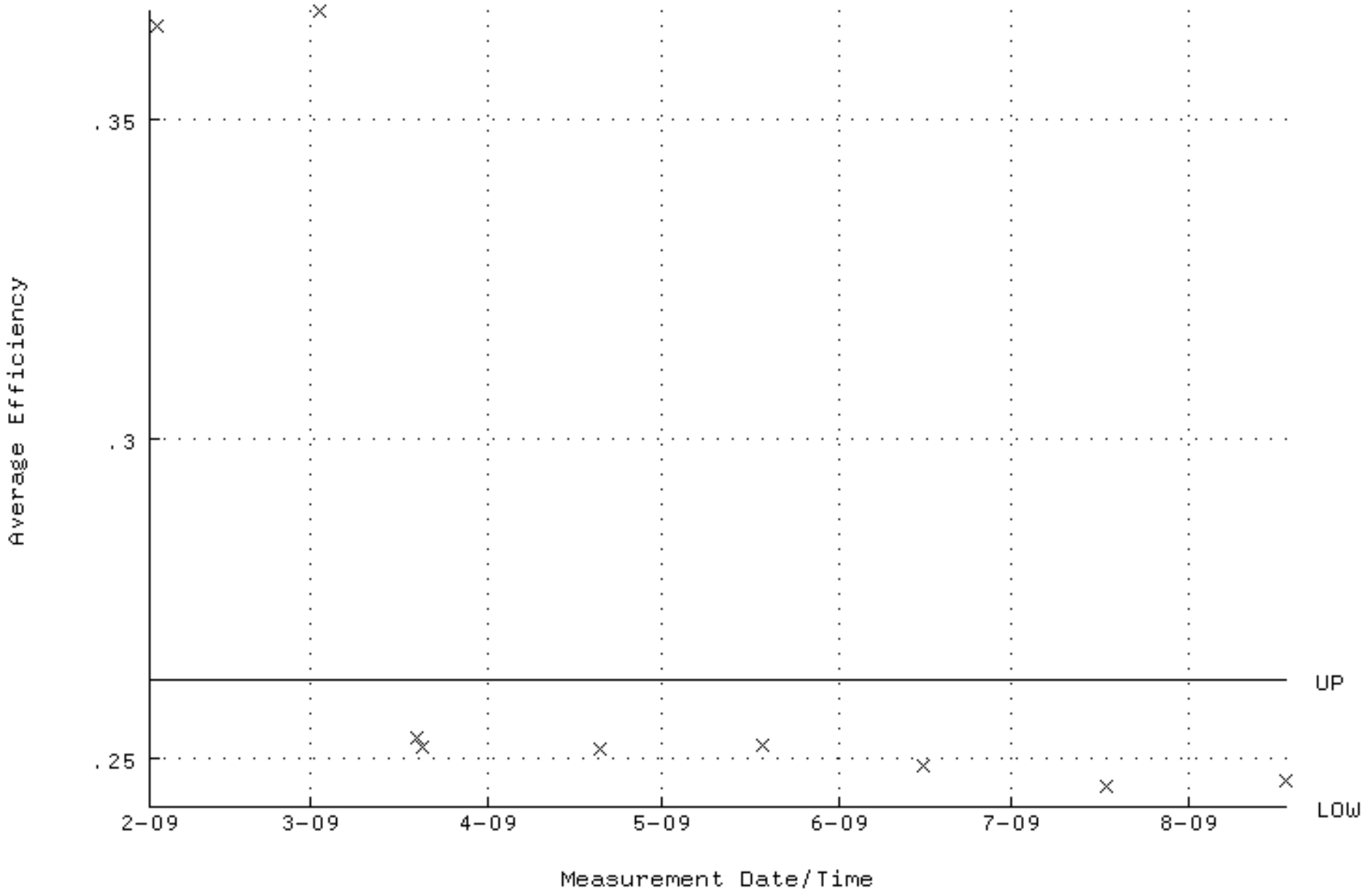
QA filename : DKA100:[ENV_ALPHA.QA.W]W121.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-FEB-2009 10:32:01 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 89.4263 through 98.8395



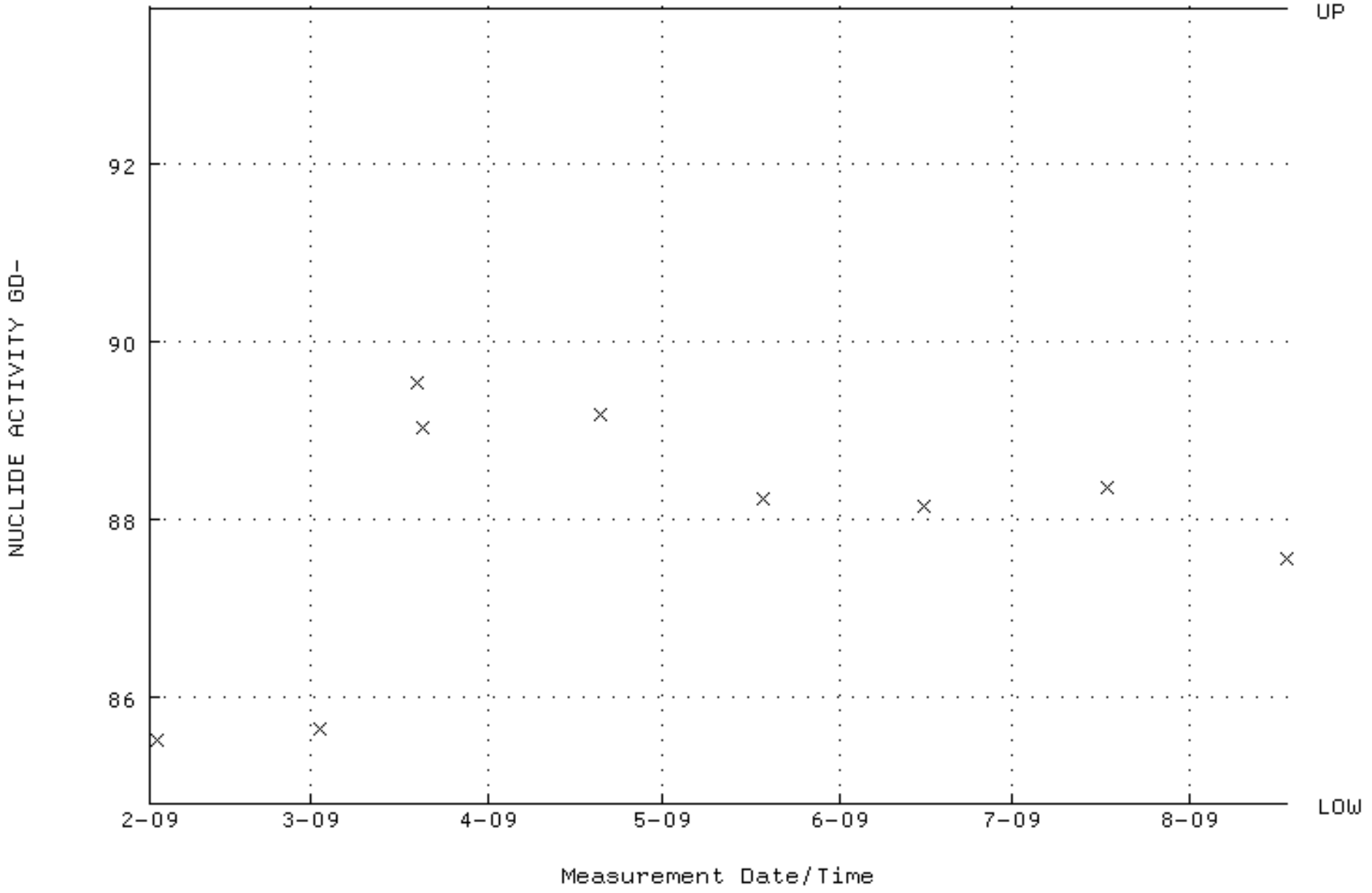
QA filename : DKA100:[ENV_ALPHA.QA.B]B121.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 17:02:23 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



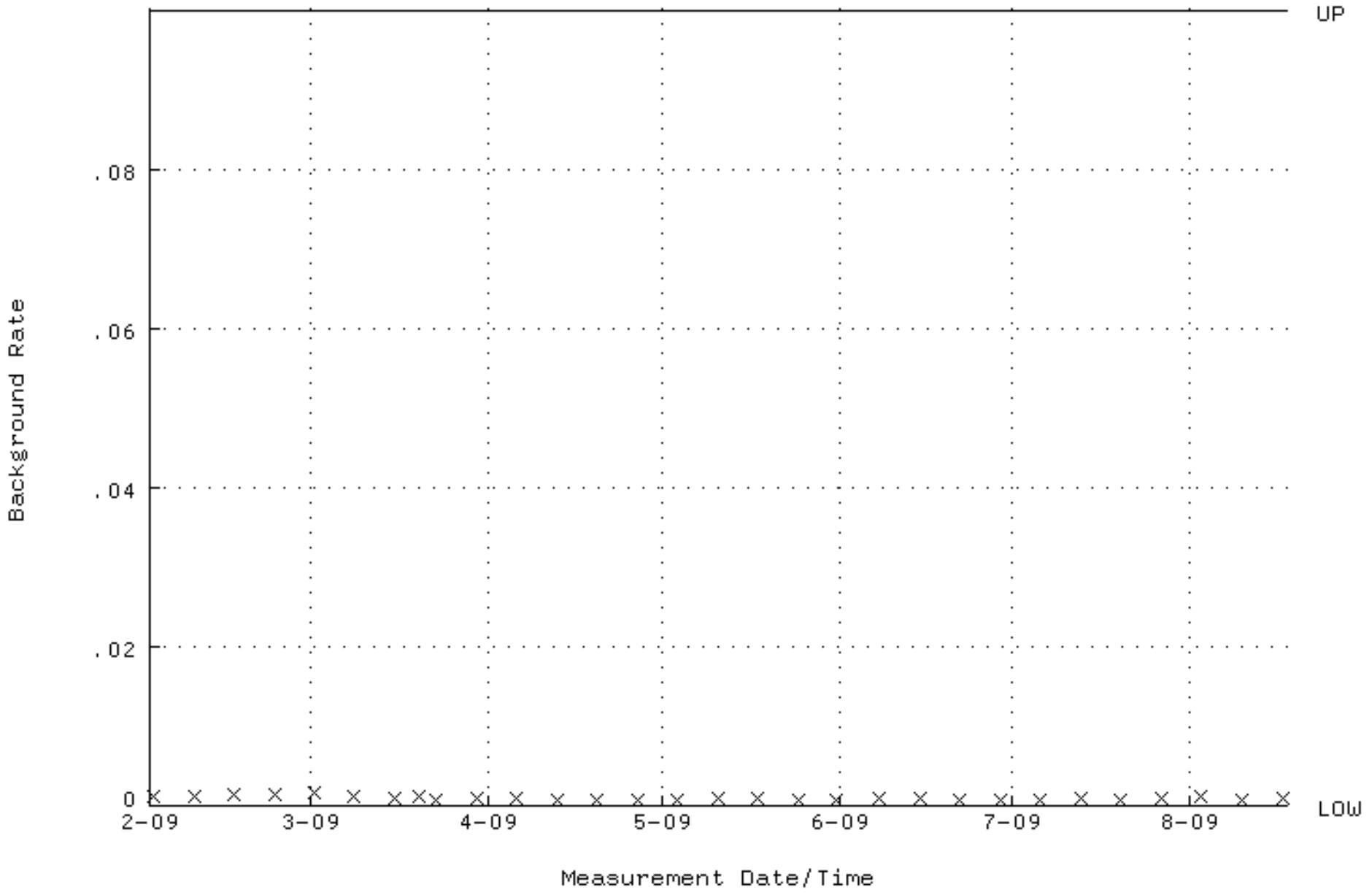
QA filename : DKA100:[ENV_ALPHA.QA.W]W149.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 2-FEB-2009 10:35:17 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.242495 through 0.262495



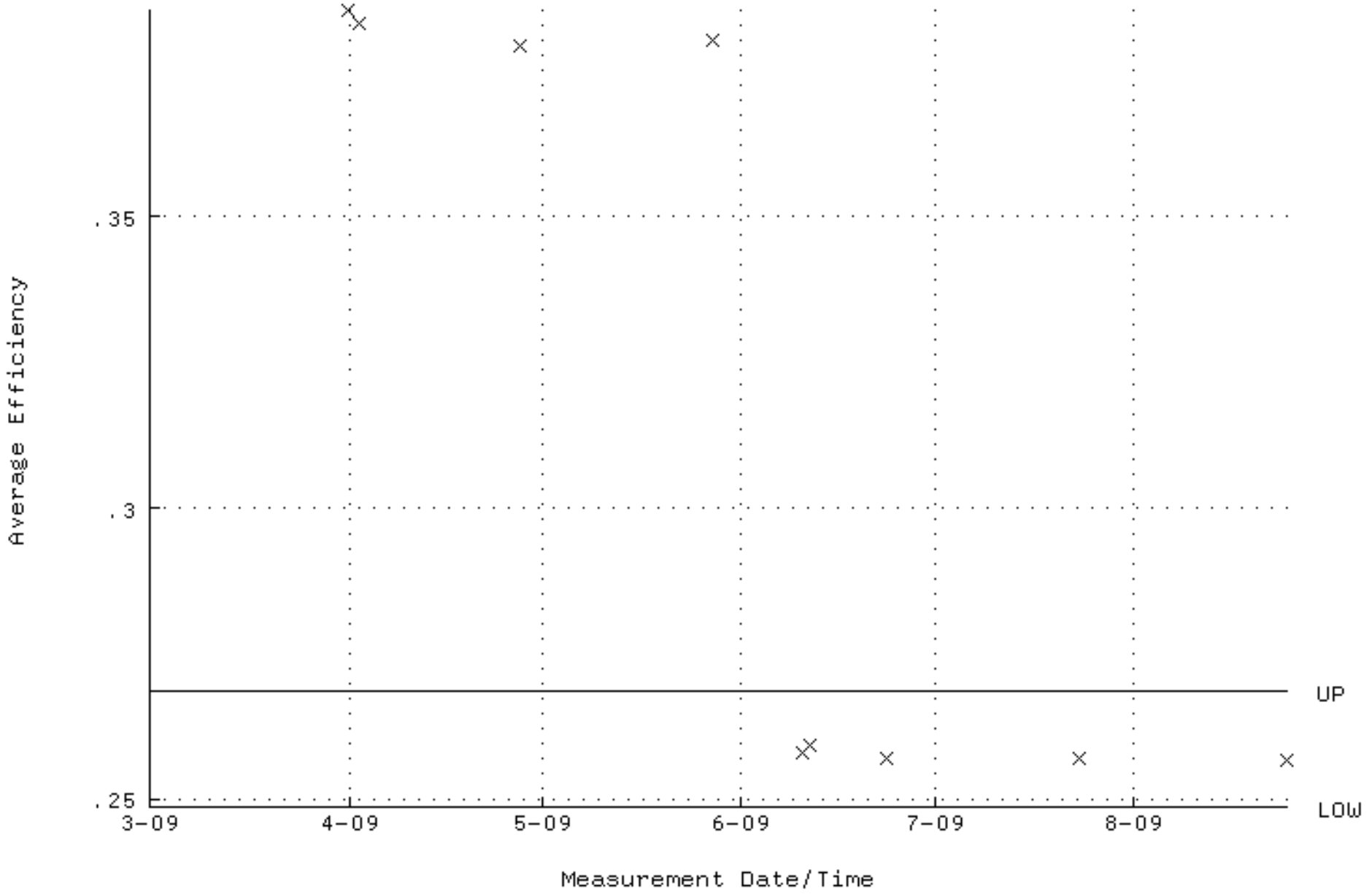
QA filename : DKA100:[ENV_ALPHA.QA.W]W149.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-FEB-2009 10:35:17 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 84.8126 through 93.7402



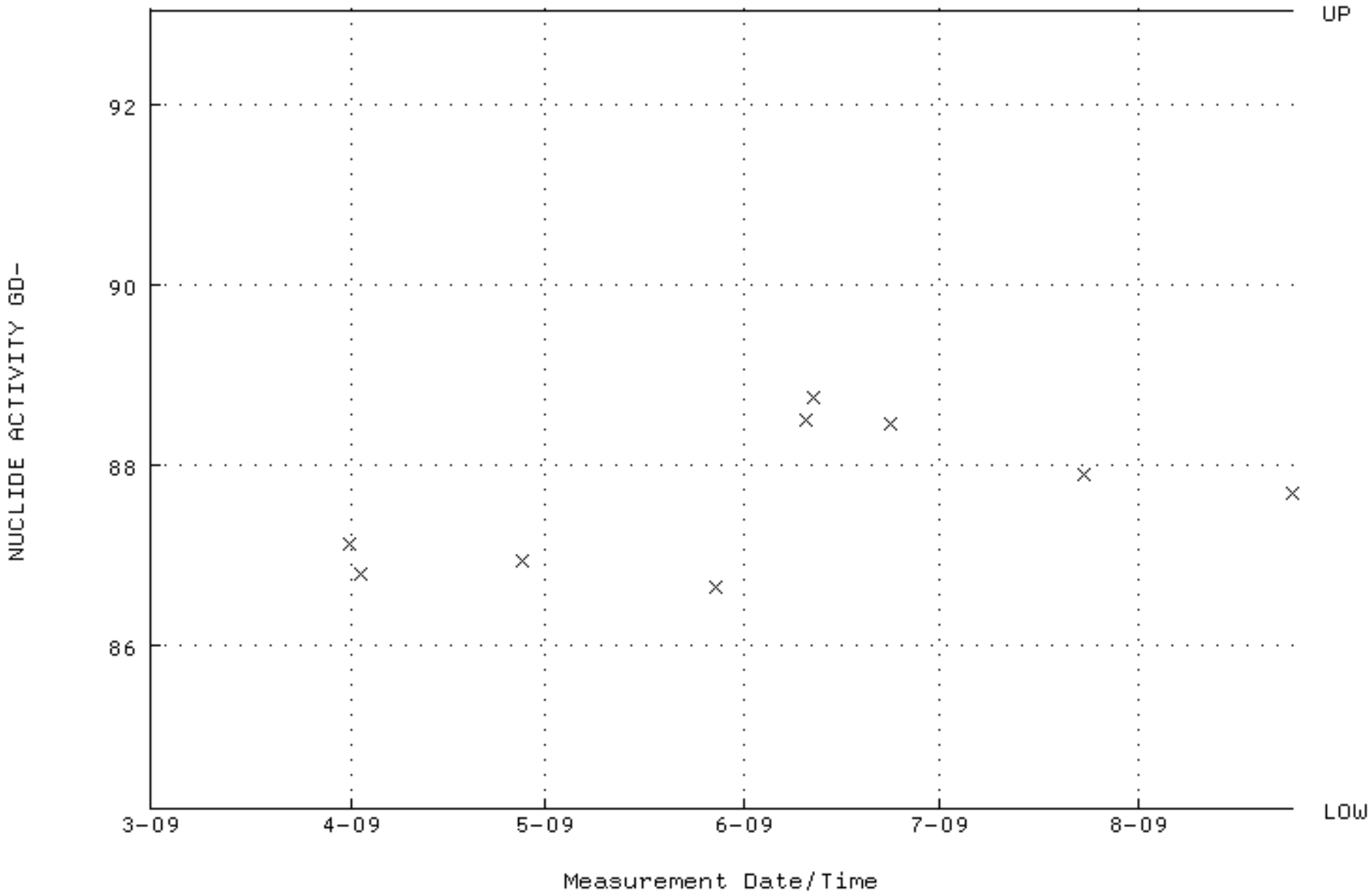
QA filename : DKA100:[ENV_ALPHA.QA.B]B149.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-FEB-2009 17:09:07 through 17-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



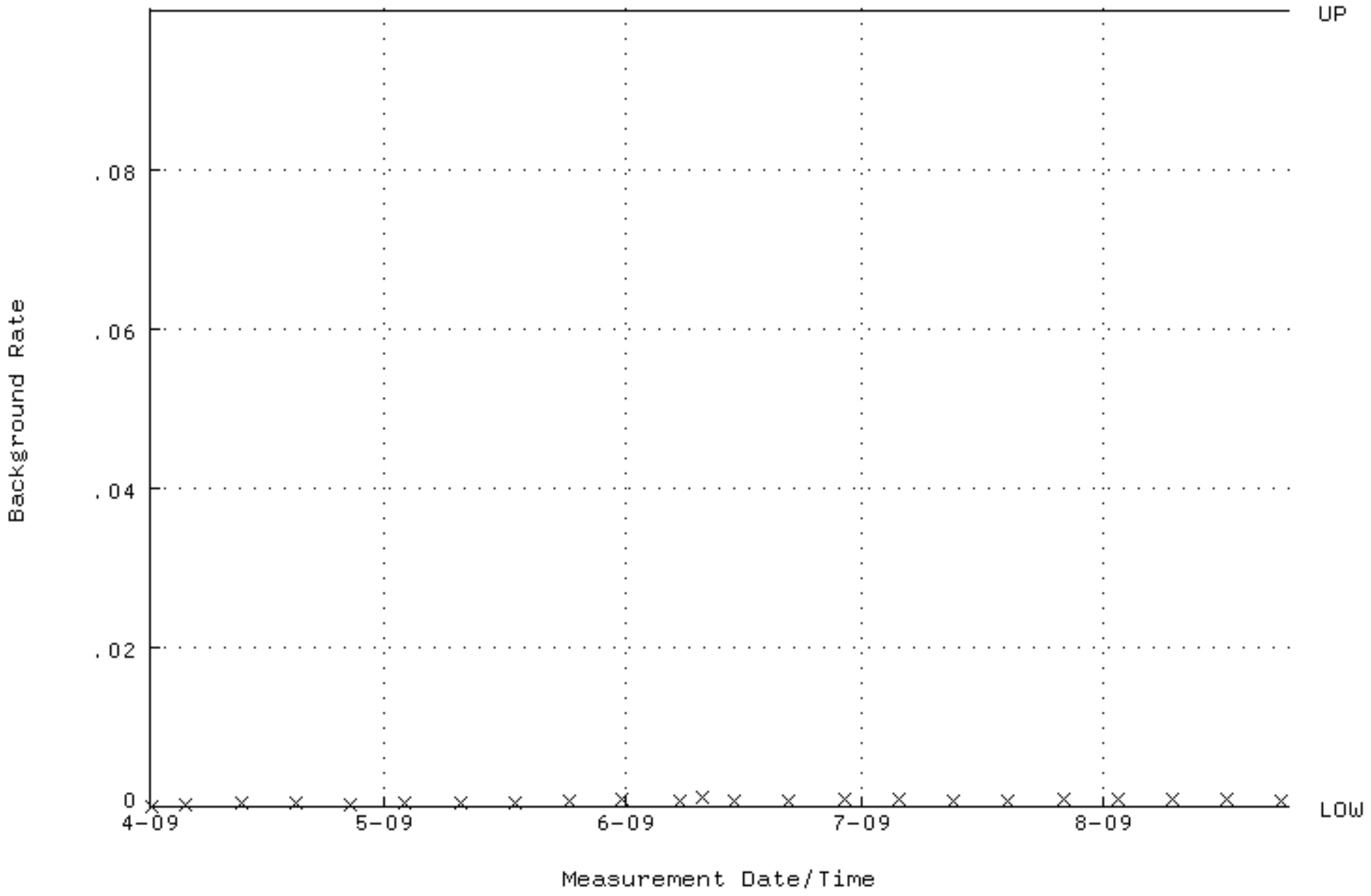
QA filename : DKA100:[ENV_ALPHA.QA.W]W197.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 31-MAR-2009 15:03:56 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 0.248572 through 0.268572



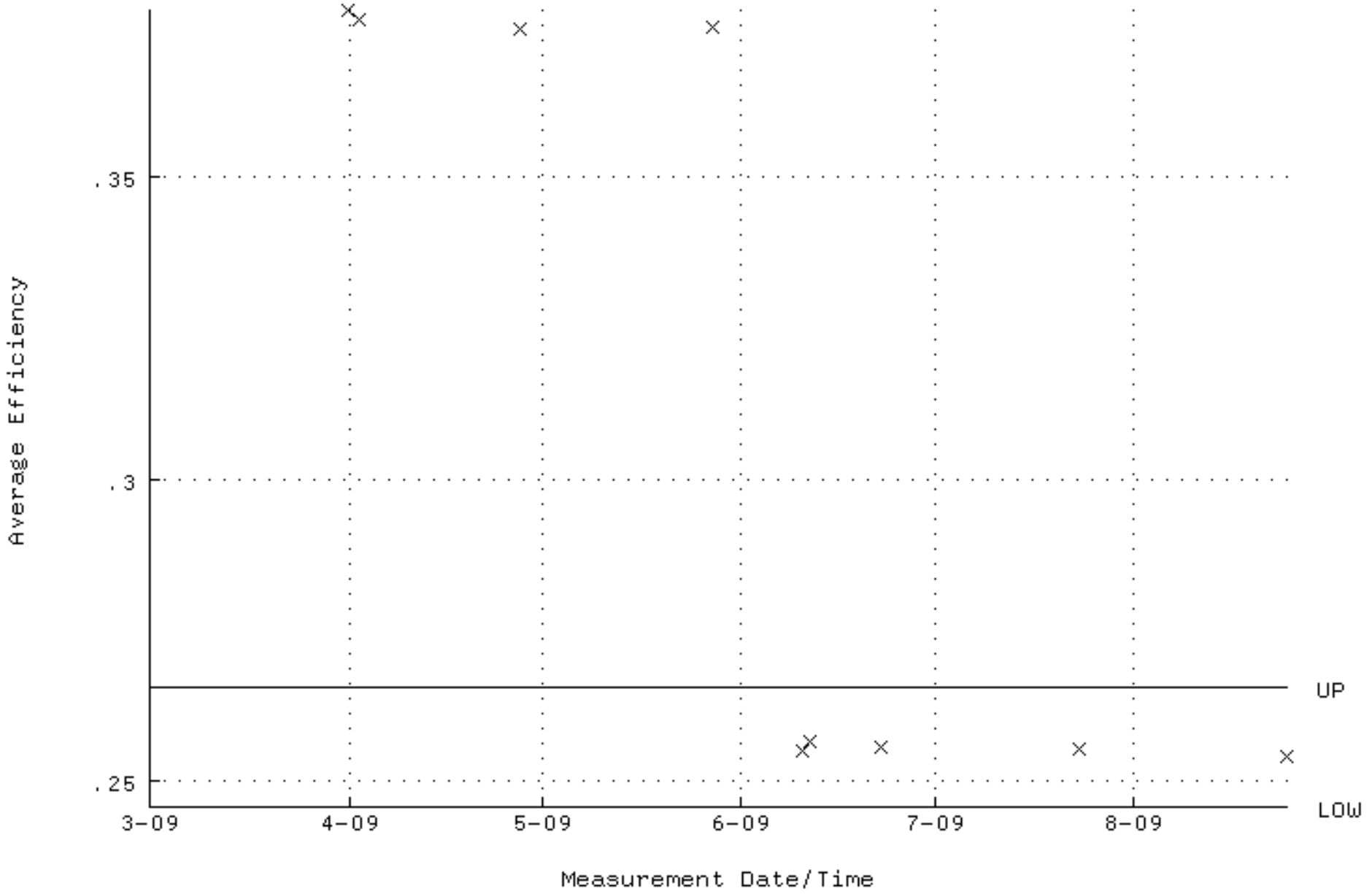
QA filename : DKA100:[ENV_ALPHA.QA.W]W197.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 31-MAR-2009 15:03:56 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 84.1772 through 93.0380



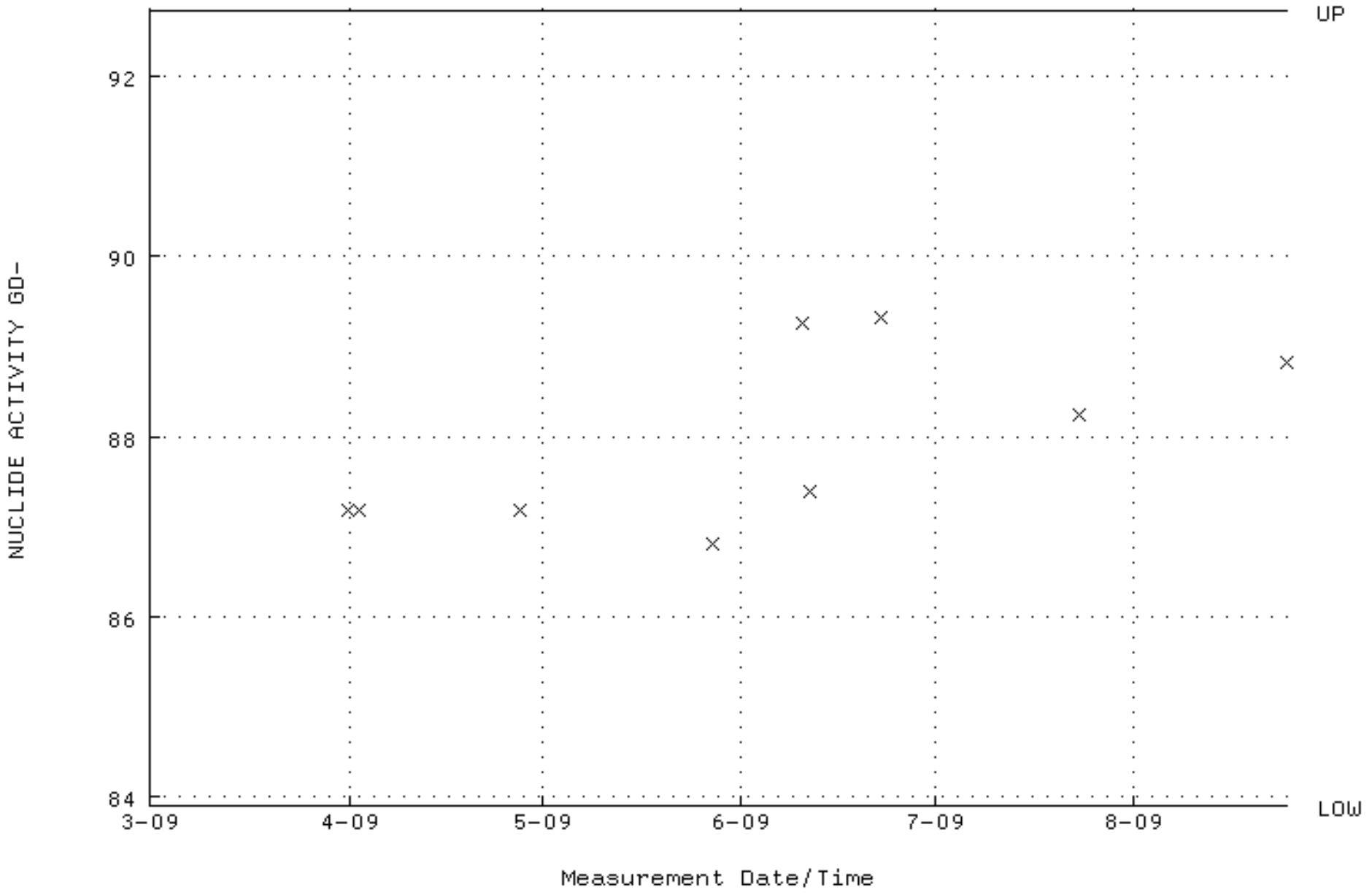
QA filename : DKA100:[ENV_ALPHA.QA.B]B197.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-APR-2009 08:02:18 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



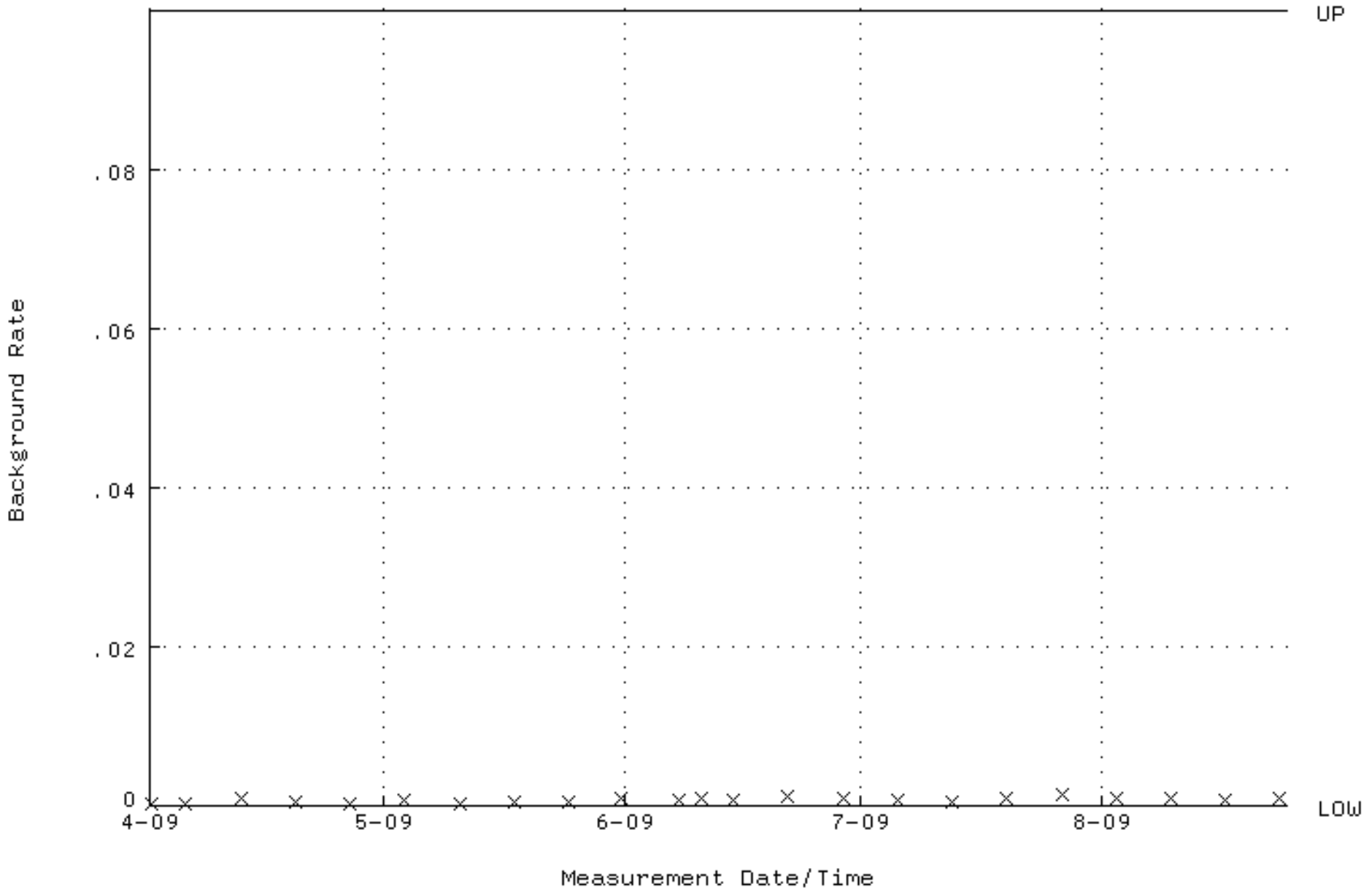
QA filename : DKA100:[ENV_ALPHA.QA.W]W198.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 31-MAR-2009 15:06:01 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 0.245817 through 0.265817



QA filename : DKA100:[ENV_ALPHA.QA.W]W198.QAF;1
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 31-MAR-2009 15:06:01 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 83.8978 through 92.7292



QA filename : DKA100:[ENV_ALPHA.QA.B]B198.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 1-APR-2009 08:02:23 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



RUNLOGS

Instrument Run Log

Instrument Type: GFPC **Batch ID: 888878**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1201890245	MB	MXS2	PIC8A	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201890246	DUP	MXS2	PIC8C	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201890247	MS	MXS2	PIC9A	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201890248	LCS	MXS2	PIC9C	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580001	SAMPLE	MXS2	PIC1A	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580002	SAMPLE	MXS2	PIC1B	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580003	SAMPLE	MXS2	PIC1D	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580004	SAMPLE	MXS2	PIC2A	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580005	SAMPLE	MXS2	PIC2C	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580006	SAMPLE	MXS2	PIC2D	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580007	SAMPLE	MXS2	PIC5A	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580008	SAMPLE	MXS2	PIC6B	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580009	SAMPLE	MXS2	PIC6D	04-AUG-09 19:20	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580010	SAMPLE	MXS2	PIC7A	04-AUG-09 19:21	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580011	SAMPLE	MXS2	PIC7B	04-AUG-09 19:21	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580012	SAMPLE	MXS2	PIC7C	04-AUG-09 19:21	DONE	CeF on 25mm Filter	02-JUL-09 00:00
233580013	SAMPLE	MXS2	PIC7D	04-AUG-09 19:21	DONE	CeF on 25mm Filter	02-JUL-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 891145**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
233580001	SAMPLE	JXD2	1013	08-AUG-09 16:19	DONE		
233580002	SAMPLE	JXD2	1014	08-AUG-09 16:19	DONE		
233580003	SAMPLE	JXD2	1015	08-AUG-09 16:19	DONE		
233580004	SAMPLE	JXD2	1016	08-AUG-09 16:19	DONE		
233580005	SAMPLE	JXD2	1017	08-AUG-09 16:19	DONE		
233580006	SAMPLE	JXD2	1018	08-AUG-09 16:19	DONE		
233580007	SAMPLE	JXD2	1020	08-AUG-09 16:19	DUSE		
233580008	SAMPLE	JXD2	1021	08-AUG-09 16:19	DUSE		
233580009	SAMPLE	JXD2	1022	08-AUG-09 16:19	DUSE		
233580010	SAMPLE	JXD2	1023	08-AUG-09 16:19	DUSE		
233580011	SAMPLE	JXD2	1024	08-AUG-09 16:19	DUSE		
233580013	SAMPLE	JXD2	1115	10-AUG-09 17:20	DONE		
1201895414	MB	JXD2	1116	10-AUG-09 17:20	DONE		
1201895415	DUP	JXD2	1117	10-AUG-09 17:20	DONE		
1201895416	MS	JXD2	1118	10-AUG-09 17:20	DONE		
1201895417	LCS	JXD2	1121	10-AUG-09 17:20	DONE		
233580001	SAMPLE	JXD2	1007	21-AUG-09 12:07	DUSE		
233580002	SAMPLE	JXD2	1008	21-AUG-09 12:07	DUSE		
233580003	SAMPLE	JXD2	1009	21-AUG-09 12:07	DUSE		
233580004	SAMPLE	JXD2	1010	21-AUG-09 12:07	DUSE		
233580005	SAMPLE	JXD2	1011	21-AUG-09 12:07	DUSE		
233580006	SAMPLE	JXD2	1012	21-AUG-09 12:07	DUSE		
233580012	SAMPLE	JXD2	1024	21-AUG-09 12:07	DUSE		
233580013	SAMPLE	JXD2	1118	21-AUG-09 15:14	DUSE		
1201895414	MB	JXD2	1121	21-AUG-09 15:14	DUSE		
1201895415	DUP	JXD2	1122	21-AUG-09 15:14	DUSE		
1201895416	MS	JXD2	1123	21-AUG-09 15:14	DUSE		
1201895417	LCS	JXD2	1124	21-AUG-09 15:14	DUSE		
233580012	SAMPLE	JXD2	1149	23-AUG-09 14:50	DONE		
233580007	SAMPLE	JXD2	1113	24-AUG-09 16:32	DONE		
233580008	SAMPLE	JXD2	1114	24-AUG-09 16:32	DONE		
233580009	SAMPLE	JXD2	1115	24-AUG-09 16:32	DONE		
233580010	SAMPLE	JXD2	1116	24-AUG-09 16:32	DONE		
233580011	SAMPLE	JXD2	1117	24-AUG-09 16:33	DONE		

Instrument Run Log

Instrument Type: LUCAS CELL DETECTOR **Batch ID: 892562**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
233580001	SAMPLE	KSD1	LUCAS4	20-AUG-09 15:25	DONE	Lucas Cell	02-MAR-09 00:00
233580002	SAMPLE	KSD1	LUCAS5	20-AUG-09 15:25	DONE	Lucas Cell	25-MAR-09 00:00
233580003	SAMPLE	KSD1	LUCAS6	20-AUG-09 15:25	DONE	Lucas Cell	04-AUG-09 00:00
233580004	SAMPLE	KSD1	LUCAS1	20-AUG-09 15:55	DONE	Lucas Cell	29-AUG-08 00:00
233580005	SAMPLE	KSD1	LUCAS2	20-AUG-09 15:55	DONE	Lucas Cell	19-DEC-08 00:00
233580006	SAMPLE	KSD1	LUCAS3	20-AUG-09 15:55	DONE	Lucas Cell	04-FEB-09 00:00
233580007	SAMPLE	KSD1	LUCAS4	20-AUG-09 15:55	DONE	Lucas Cell	02-MAR-09 00:00
233580008	SAMPLE	KSD1	LUCAS5	20-AUG-09 15:55	DONE	Lucas Cell	25-MAR-09 00:00
233580010	SAMPLE	KSD1	LUCAS1	20-AUG-09 16:35	DONE	Lucas Cell	29-AUG-08 00:00
233580012	SAMPLE	KSD1	LUCAS3	20-AUG-09 16:35	DONE	Lucas Cell	04-FEB-09 00:00
233580013	SAMPLE	KSD1	LUCAS4	20-AUG-09 16:35	DONE	Lucas Cell	02-MAR-09 00:00
1201898768	MB	KSD1	LUCAS5	20-AUG-09 16:35	DONE	Lucas Cell	25-MAR-09 00:00
1201898769	DUP	KSD1	LUCAS6	20-AUG-09 16:35	DONE	Lucas Cell	04-AUG-09 00:00
233580009	SAMPLE	KSD1	LUCAS6	20-AUG-09 16:35	DONE	Lucas Cell	04-AUG-09 00:00
1201898770	MS	KSD1	LUCAS1	20-AUG-09 17:20	DONE	Lucas Cell	29-AUG-08 00:00
233580011	SAMPLE	KSD1	LUCAS2	20-AUG-09 17:20	DONE	Lucas Cell	19-DEC-08 00:00
1201898771	LCS	KSD1	LUCAS2	20-AUG-09 18:05	DONE	Lucas Cell	19-DEC-08 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 895930**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
233580001	SAMPLE	JXD2	1031	22-AUG-09 18:13	DONE		
233580002	SAMPLE	JXD2	1032	22-AUG-09 18:13	DUSE		
233580003	SAMPLE	JXD2	1033	22-AUG-09 18:13	DONE		
233580004	SAMPLE	JXD2	1035	22-AUG-09 18:13	DONE		
233580005	SAMPLE	JXD2	1036	22-AUG-09 18:13	DONE		
233580006	SAMPLE	JXD2	1037	22-AUG-09 18:13	DONE		
233580007	SAMPLE	JXD2	1038	22-AUG-09 18:13	DONE		
233580008	SAMPLE	JXD2	1039	22-AUG-09 18:13	DUSE		
233580009	SAMPLE	JXD2	1040	22-AUG-09 18:13	DONE		
233580010	SAMPLE	JXD2	1041	22-AUG-09 18:13	DONE		
233580011	SAMPLE	JXD2	1042	22-AUG-09 18:13	DONE		
233580012	SAMPLE	JXD2	1043	22-AUG-09 18:13	DONE		
233580013	SAMPLE	JXD2	1044	22-AUG-09 18:13	DONE		
1201907211	MB	JXD2	1045	22-AUG-09 18:13	DONE		
1201907212	DUP	JXD2	1046	22-AUG-09 18:13	DONE		
1201907213	MS	JXD2	1047	22-AUG-09 18:13	DONE		
1201907214	LCS	JXD2	1048	22-AUG-09 18:13	DONE		
233580002	SAMPLE	JXD2	1197	24-AUG-09 14:58	DONE		
233580008	SAMPLE	JXD2	1198	24-AUG-09 14:58	DONE		