



August 28, 2009

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

Re: Tronox Henderson
Work Order: 234267

Dear Mr. Hagar:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 29, 2009, July 30, 2009 and July 31, 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 Kent
Project Manager

Chain of Custody: 2027.001.00438, 2027.001.00440, 2027.001.00451, 2027.001.00455, 2027.001.00469,
2027.001.00472 and 2027.001.00474
Enclosures

Tronox LLC
Tronox Henderson
SDG:234267

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Case Narrative

CASE NARRATIVE
for
Tronox LLC
Tronox Henderson
SDG:234267

August 28, 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 29, 2009, July 30, 2009 and July 31, 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 was a discrepancy between the chain of custody and the sample container for the sample listed on the COC as SA73-28B received on COC# 2027.001.00440 on July 30, 2009. The client e-mailed the lab to rename the sample SA73-30B. Per direction of Cindy Arnold, the lab was instructed to make the correction on the original COC and initial and date the correction. Direction from the client was requested to determine which samples FB072909-SO was associated with. Please see attached e-mail responses on both of these issues.

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 31, 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: 234267002, 234267007, 234267009, 234267012, 234267015 and 234267019.. For Ra-226, the lab dup also did not meet the program QA uncertainty requirements. For the Thorium soil analysis the Th-228 result for the method blank was greater than the MDA and did not meet the Tronox QA program required detection limit. The samples were reprepmed as a result with comparable results with the exception of sample 234267019 and the Th-230 result for the method blank was greater than the MDA and contract required detection limit. The decision was made to report the results from the original analysis as all other Quality Control criteria and Tronox QA program criteria for tracer yield recoveries, uncertainty requirements, and detection limits were met. 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: 234267006, 234267008, 234267010, 234267012, 234267015, 234267016, 234267017 and 234267019.. 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: 234267002 and 234267005.. The following samples 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: 234267002, 234267003 and 234267009.. For the Thorium water samples the method blank did not meet the Tronox QA program sample result uncertainty limit of <30% with activity between 2 and 5 times the MDA for Th-230. The LCS did not meet the Tronox QA program sample result uncertainty limit of <30% with activity between 2 and 5 times the MDA for Th-228. Samples were counted the maximum count time to achieve the best possible uncertainties. The LCS did not meet the Tronox QA program tracer yield requirements of 70-120%. With a value of 67.1%, the tracer yield met the GEL standard requirement

and both the LCS and LCS dup met the Th230 recovery requirements. All other samples in the batch met the contract tracer yield requirement. For the Uranium soils, the lab dup also did not meet the program QA uncertainty requirements. Please refer to the attached e-mails for further discussion of QA issues.

Sample Identification

The laboratory received the following samples:

<u>Laboratory ID</u>	<u>Client ID</u>
234267001	RSAM7-28B
234267002	SA179-0.5B
234267003	SA179-10B
234267004	SA179-29B
234267005	RSAU4-0.5B
234267006	RSAU4-10B
234267007	RSAU4-20B
234267008	RSAU4-25B
234267009	RSAU4-40B
234267010	RSAU4-50B
234267011	RSAU4-56B
234267012	RSAL6-0.5B
234267013	RSAL6-10B
234267014	RSAL6-28B
234267015	SA73-0.5B
234267016	SA73-10B
234267017	SA73-30B
234267018	FB072909-SO
234267019	SA49-10B
234267020	SA49-20B

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**



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. 2027.001.00438
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:		Required Project Information:		Required Invoice Information:		TAT: Standard 30 day		X		Rush		Mark One	
Lab Name:	GEL Laboratories, LLC	Site ID #:	TRONOX LLC, HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	City/State:	Henderson, NV	Phone #:	(949) 260-9293	QC level Required:	Standard	Special EPA Stage 4	Mark one
Address:	2040 Savage Road	Project #:	2027.001	Address:	PO Box 55	City/State:	Henderson, NV	Phone #:	(949) 260-9293	Reimbursement project?	X	Non-reimbursement project?	
Lab PM:	Edith M. Kent	Site Address:	660 W. Lake Mead Drive	City/State:	Henderson, NV	City/State:	Henderson, NV	Phone #:	(949) 375-7004	Reimbursement project?	X	Non-reimbursement project?	
Phone/Fax:	(643) 556-8171	City:	Henderson	State:	NV	Site PM Name:	Derrick Willis	Send EDD to:	frank.hagar@ngem.com	CC Hardcopy report to:	PDF Electronic Version Only	MA MCP Cert?	
Lab PM email:	emk@gel.com	Phone/Fax:	(949) 375-7004	Site PM Email:	derrick.willis@ngem.com	Matrix Code:		Sample Date:		Sample Time:		CT RCP Cert?	
Applicable Lab Quote #:		Matrix Code:		Sample Date:		Sample Time:		Sample Date:		Sample Time:		Temp in OC	
ITEM #	1	SA179-0.5B	MATRIX: WATER	7-28-09	0758	1	N	7-28-09	0758	1	X	250 ml Plastic jar	
	2	SA179-0.5BMS	MATRIX: DRINKING WATER	7-28-09	0758	1	N	7-28-09	0758	1	X	250 ml Plastic jar	
	3	SA179-0.5BMSD	MATRIX: SURFACE WATER	7-28-09	0758	1	N	7-28-09	0758	1	X	250 ml Plastic jar	
	4	SA179-10B	MATRIX: WASTE WATER	7-28-09	0837	1	N	7-28-09	0837	1	X	250 ml Plastic jar	
	5	SA179-29B	MATRIX: WASTE WATER	7-28-09	0921	1	N	7-28-09	0921	1	X	250 ml Plastic jar	
	6												
	7												
	8												
	9												
	10												
	11												
	12												
	13												

Additional Comments/Special Instructions:
FULL DIGESTION SPECIFICATION
Radionuclides* includes Thorium (isotopic) and Uranium (isotopic)
 by EML HASL 300 modified(alpha spectroscopy)

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: *Patricia Ferringer*
 DATE: 7-28-09
 TIME: 1700
 ACCEPTED BY / AFFILIATION: *Mike Kadar Gel*
 DATE: 7-29-09
 TIME: 0840

SHIPPING METHOD: (mark as appropriate)
 UPS COURIER FEDEX
 SIGNATURE OF SAMPLER: *Patricia Ferringer*
 DATE SIGNED: 7-28
 TIME: 1352

Requested Analyses: EPA821 Radium-226, EPA821 Radium-228, Radon/Lead

Comments/Lab Sample I.D.



SAMPLE RECEIPT & REVIEW FORM

Client: <u>KEPP/NORTHGATE</u>		SDG/ARCO/Work Order: <u>2342671</u>	
Received By: <u>MF</u>		Date Received: <u>7-29-09</u>	
Suspected Hazard Information		Yes	No
COC/Samples marked as radioactive?			<input checked="" type="checkbox"/>
Classified Radioactive II or III by RSO?			<input checked="" type="checkbox"/>
COC/Samples marked containing PCBs?			<input checked="" type="checkbox"/>
Shipped as a DOT Hazardous?			<input checked="" type="checkbox"/>
Samples identified as Foreign Soil?			<input checked="" type="checkbox"/>

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		<input checked="" type="checkbox"/>		ice bags blue ice dry ice <u>none</u> other (describe) <u>22c</u>
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4	Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7	Are Encore containers present?			<input checked="" type="checkbox"/>	(if yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	<input checked="" type="checkbox"/>			id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			

Comments:

Fx 7968 1391 8210

PM (or PMA) review: Initials MS Date 7-29-09

2342071



1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 266-9293

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

COC No. 2027.001.00474
Page: 1 of 2
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)956-8171 Lab PM email: emk@gel.com		Required Project Information: Site ID #: TRONOX LLC, HENDERSON Project #: 2027.001 Site Address: 660 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 85 City/State: Henderson, NV 89009 Phone #: (949)266-9293 Reimbursement project? <input checked="" type="checkbox"/> Non-reimbursement project? <input type="checkbox"/> Send EDD to: frank.hagar@ngem.com CC Hardcopy report to: PDF Electronic Version Only CC Hardcopy report to: see additional comments below		TAT: Standard 30 day <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Mark One If Rush, Date due QC level Required: Standard Special EPA Stage 4 Mark one NJ Reduced Deliverable Package? MA MCP Cert? <input type="checkbox"/> CT RCP Cert? <input type="checkbox"/> Mark One				
ITEM #	SAMPLE ID	Character per box. (A-Z, 0-9 / , /)	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives	Requested Analyses	Comments/Lab Sample I.D.
1	RSAU4-0.5B	One	G	7/29/2009	7:14	1	N	Unpreserved	X X X	250 ml Plastic jar
2	RSAU4-10B		G	7/29/2009	7:44	1	N	H2SO4	X X X	250 ml Plastic jar
3	RSAU4-20B		G	7/29/2009	8:14	1	N	HCl	X X X	250 ml Plastic jar
4	RSAU4-25B		G	7/29/2009	8:45	1	N	HNO3	X X X	250 ml Plastic jar
5	RSAU4-40B		G	7/29/2009	9:20	1	N	H2SO4	X X X	250 ml Plastic jar
6	RSAU4-50B		G	7/29/2009	10:15	1	N	HCl	X X X	250 ml Plastic jar
7	RSAU4-56B		G	7/29/2009	10:45	1	N	HNO3	X X X	250 ml Plastic jar
8										
9										
10										
11										
12										
13										
Additional Comments/Special Instructions: FULL DIGESTION SPECIFICATION Radionuclides* Includes Thorium (isotopic) and Uranium (isotopic) by EML HASL 300 modified(alpha spectroscopy)										
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										
SHIPPING TO: DANA BROWN, NGEM 29-Jul 16:30 Release: DANA BROWN, NGEM 29-Jul 16:30 Release: Dana Brown						DATE: 7/29/2009 TIME: 16:30 SIGNATURE OF SAMPLER: Dana Brown DATE SIGNED: 7/29/2009				
SHIPPING TO: UPS COURIER FEDEX SIGNATURE OF SAMPLER: Dana Brown DATE SIGNED: 7/29/2009						SAMPLE RECEIPT CONDITIONS Samples on Ice? Y/N Temp in OC? Y/N Trip Blank? Y/N				



Client: <u>Keel/northgate</u>		SDG/ARCO/Work Order: <u>234267!</u>	
Received By: <u>MK</u>		Date Received: <u>7-30-09</u>	
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?		<input checked="" type="checkbox"/>	Maximum Counts Observed*: <u>cpm 20</u>
Classified Radioactive II or III by RSO?		<input checked="" type="checkbox"/>	
COC/Samples marked containing PCBs?		<input checked="" type="checkbox"/>	
Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		<input checked="" type="checkbox"/>	

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

Comments:

FX 7968 1821 7125

PM (or PMA) review: Initials AS Date 7-30-09

2342671.



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. 2027.001.00451

Page: 1 of 2
Cooler # 1 of 5

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

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

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

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / -) Samples IDs MUST BE UNIQUE	Matrix Codes WATER, WASTE, SOIL, etc.	SAMPLE TYPE G=GRAB C=COMP	MATRIX CODE	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	PRESERVATIVES Unpreserved, H2SO4, HNO3, HCl, NaOH, Na2S2O3, Methanol, Other	Requested Analyses EPA 9040 Radium 226, EPA 9040 Radium 228, Radonides	Comments/Lab Sample I.D.
1	RSAL6-0.5B		G	SO	7-29-09	1051	1	N			250 ml Plastic jar
2	RSAL6-10B		G	SO	7-29-09	1115	1	N			250 ml Plastic jar
3	RSAL6-28B		G	SO	7-29-09	1150	1	N			250 ml Plastic jar
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											

Additional Comments/Special Instructions:
 FULL DIGESTION SPECIFICATION
 Radionuclides* includes Thorium (isotopic) and Uranium (isotopic)
 by EML HASL 300 modified(alpha spectroscopy)

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

SHIPPING METHOD: (mark as appropriate)
 UPS COURIER FEDEX
 SIGNATURE OF SAMPLER: [Signature]
 DATE SIGNED: 7-29

SAMPLER NAME AND SIGNATURE:
 Derrick Willis [Signature]
 DATE SIGNED: 7-29

Temp in OC
 Samples on ice?
 Sample intact?
 Trip Blank?

2342671.



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. 2027.001.00440
Page: 1 of 1
Cooler # / of

Required Ship to Lab:		Required Project Information:		Required Invoice Information:		TAT: Standard 30 day		Rush		Mark One	
Lab Name: GEL Laboratories, LLC		Site ID #: TRONOX LLC, HENDERSON		Send Invoice to: Susan Crowley Tronox LLC				<input checked="" type="checkbox"/>			
Address: 2040 Savage Road		Project #: 2027.001		Address: PO Box 55							
Charleston, SC 29407		Site Address: 560 W. Lake Mead Drive		City/State: Henderson, NV 89009		Phone #: (949)260-9293		GC level Required: Standard		Special EPA Stage 4/Mark one	
Lab P/I: Edith M. Kent		City: Henderson		State: NV		Reimbursement project? <input checked="" type="checkbox"/>		Non-reimbursement project? <input type="checkbox"/>		Mark one	
Phone/Fax: (843)556-8171		Site PM Name: Derrick Willis		Send EDD to: frank.hagar@ngem.com		Send EDD to: frank.hagar@ngem.com		MA MCP Cert? <input type="checkbox"/>		CT RCP Cert? <input type="checkbox"/>	
Lab PM email: emk@gel.com		Phone/Fax: 949-375-7004		Site PM Email: derrick.willis@ngem.com		CC Hardcopy report to: PDF Electronic Version Only		Lab Project ID (lab use)			
Applicable Lab Quote #:		Valid Matrix Codes		Matrix		FIELD FILTERED? (Y/N)		Requested Analyses			
		MATRIX: <input type="checkbox"/> SURFACE WATER, <input type="checkbox"/> GROUNDWATER, <input type="checkbox"/> WASTEWATER, <input type="checkbox"/> SOIL, <input type="checkbox"/> SLURRY, <input type="checkbox"/> AIR, <input type="checkbox"/> SEDIMENT, <input type="checkbox"/> BIOMASS, <input type="checkbox"/> SLUDGE, <input type="checkbox"/> FISH, <input type="checkbox"/> PLANT, <input type="checkbox"/> ANIMAL TISSUE, <input type="checkbox"/> AMBIENT AIR, <input type="checkbox"/> SOIL GAS		PRESERVATIVES: <input type="checkbox"/> UNPRESERVED, <input type="checkbox"/> H2SO4, <input type="checkbox"/> HNO3, <input type="checkbox"/> HCl, <input type="checkbox"/> NaOH, <input type="checkbox"/> Na2S2O3, <input type="checkbox"/> Methanol, <input type="checkbox"/> Other		EPA002, Radium-226 EPA003, Radium-228 Radon/Lead		Comments/Lab Sample I.D. 250 ml Plastic jar 250 ml Plastic jar 250 ml Plastic jar			
ITEM #	SAMPLE ID	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	DATE	TIME	DATE	TIME	SAMPLE RECEIPT CONDITIONS	TRIP BLANK?
1	SA73-0.5B	SO G	7-29-09	0844	1	7-29-09	1700	7-30-09	0830	Y/N	Y/N
2	SA73-10B	SO G	7-29-09	0913	1					Y/N	Y/N
3	SA73-28B	SO G	7-29-09	1018	1					Y/N	Y/N
4										Y/N	Y/N
5										Y/N	Y/N
6										Y/N	Y/N
7										Y/N	Y/N
8										Y/N	Y/N
9										Y/N	Y/N
10										Y/N	Y/N
11										Y/N	Y/N
12										Y/N	Y/N
13										Y/N	Y/N

Additional Comments/Special Instructions:
FULL DIGESTION SPECIFICATION
 Radionuclides* Includes Thorium (isotopic) and Uranium (isotopic)
 by EML HASL 300 modified(alpha spectroscopy)

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

SHIPPING METHOD: (mark as appropriate)
 UPS COURIER DATE SIGNED: 7-29 Time: 1502
 SIGNATURE OF SAMPLER: Patrick Ferringer
 DATE SIGNED: 7-29 Time: 1502



Client: <u>KERR/NORTHGATE</u>		SDG/ARCOC/Work Order: <u>2342671</u>	
Received By: <u>AK</u>		Date Received: <u>7-30-09</u>	
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?		<input checked="" type="checkbox"/>	Maximum Counts Observed*: <u>CPM 20</u>
Classified Radioactive II or III by RSO?		<input checked="" type="checkbox"/>	
COC/Samples marked containing PCBs?		<input checked="" type="checkbox"/>	
Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		<input checked="" type="checkbox"/>	

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

Comments: * SA 73 - 28 B - the LABEL ON the CONTAINER HAS the "28" crossed out AND "30" written ABOVE it.
→ SA 73 - ³⁰BB
FX 7968 1832 2377

PM (or PMA) review: Initials LD Date 7-30-09



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. 2027.001.00469
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:		Required Project Information:		Required Invoice Information:		TAT: Standard 30 day		Rush		Mark One							
Lab Name: GEL Laboratories, LLC		Site ID #: TRONOX LLC, HENDERSON		Send Invoice to: Susan Crowley Tronox LLC		TAT: Standard 30 day		X		Mark One							
Address: 2040 Savage Road		Project #: 2027.001		Address: PO Box 55		If Rush, Date due				EPA Stage Mark one							
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 Mark one							
Lab PM: Edith M. Kent		City: Henderson		State: NV		Reimbursement project? X		NJ Reduced Deliverable Package?		CT RCP Cert?							
Phone/Fax: (843)556-8171		Site PM Name: Derrick Willis		Site PM Email: derrick.willis@ngem.com		Send EDD to: frank.hagar@ngem.com		MA MCP Cert?		Mark One							
Lab PM email: emk@gel.com		Phone/Fax: 949-375-7004		CC Hardcopy report to: PDF Electronic Veraton Only		CC Hardcopy report to: see additional comments below		Lab Project ID (lab use)									
Applicable Lab Quote #:		Valid Mark Codes:		Matrix:		Preservatives:		Requested Analyses:		Comments/Lab Sample I.D.							
		One		W WP WATER WG SURFACE WATER WS WASTEWATER WU WASTE SLUDGE WV WASTE WATER WF FRESH WATER SO OIL SPILLAGE SL SOIL SP SPILLAGE AM AMBIENT AIR SIC AIR SOL SOLID		Unpreserved H2SO4 HNO3 HCl Na2S2O3 Methanol Other		EPA 803.1/804.0 EML HASL 300*		2 L Poly Clear/RSA/J6-19B 2 L Poly Clear/RSA/J6-19B							
ITEM #	SAMPLE ID	Character per box. (A-Z, 0-9 / -)	SAMPLE TYPE	MATRIX CODE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Samples on Ice?	Sample Intact?	Trip Blank?
1	FB072909-SO		G	W	7-29-09	1425	1	N	7-29-09	1502	[Signature]	7-29	1502		Y/N	Y/N	Y/N
2	FB072909-SO		G	W	7-29-09	1425	1	N	7-29-09	0835	[Signature]	7-29	0835	88°	Y/N	Y/N	Y/N
3																	
4																	
5																	
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)

Field Blank Associated with Area II
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.armold@ngem.com & frank.hagar@ngem.com

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

PRINT Name of SAMPLER: Doug Davis
SIGNATURE of SAMPLER: [Signature]
DATE SIGNED: 7-29

SAMPLER NAME AND SIGNATURE
[Signature] Patrick Ferringer
DATE SIGNED: 7-29



Client: <u>KEEL/NORTHGATE</u>		SDG/ARCOC/Work Order: <u>2342671-</u>	
Received By: <u>MK</u>		Date Received: <u>7-30-09</u>	
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?		<input checked="" type="checkbox"/>	Maximum Counts Observed*: <u>open 20</u>
Classified Radioactive II or III by RSO?		<input checked="" type="checkbox"/>	
COC/Samples marked containing PCBs?		<input checked="" type="checkbox"/>	
Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	Hazard Class Shipped: _____ UN#: _____
Samples identified as Foreign Soil?		<input checked="" type="checkbox"/>	

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		<input checked="" type="checkbox"/>		Preservation Method: ice bags blue ice dry ice <u>none</u> other (describe) <u>28 c</u>
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4	Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7	Are Encore containers present?			<input checked="" type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	<input checked="" type="checkbox"/>			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			

Comments:

Fx 7978 0555 4043

PM (or PMA) review: Initials YMS Date 7/31/09



SAMPLE RECEIPT & REVIEW FORM

Client: <u>Kepp/Northgate</u>		SDG/ARCOC/Work Order: <u>2342671</u>	
Received By: <u>mk</u>		Date Received: <u>7-31-09</u>	
Suspected Hazard Information		Yes	No
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
COC/Samples marked as radioactive?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Classified Radioactive II or III by RSO?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
COC/Samples marked containing PCBs?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Samples identified as Foreign Soil?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.

Maximum Counts Observed*: cpm 20

Hazard Class Shipped: UN#:

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?		<input checked="" type="checkbox"/>		ice bags blue ice dry ice <u>none</u> other (describe) <u>23c</u>
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4	Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7	Are Encore containers present?			<input checked="" type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	<input checked="" type="checkbox"/>			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			

Comments:

FX 7978 0955 6729

PM (or PMA) review: Initials CS Date 7-31-09

Subject: Important - Sample ID Change 7/29/09

From: "Vivian Willis" <vivian.willis@verdant-solutions.com>

Date: Thu, 30 Jul 2009 11:03:08 -0700

To: <emk@gel.com>, <Heather.Shaffer@gel.com>, "Janice Jaeger" <jjaeger@caslab.com>, <Michael.Phillips@testamericainc.com>, <Team.Kent@GEL.com>, <ledrosa@alpha-analytical.com>, <RandyG@alpha-analytical.com>, <Eric.Middleditch@testamericainc.com>

CC: <Cindy.Arnold@ngem.com>, <Frank.Hagar@ngem.com>, <Derrick.Willis@ngem.com>

Due to lithology problems one of yesterdays soil samples was collected at a deeper depth. The COCs were not altered to reflect this change, however, the sample labels should have been corrected

Soil sample SA73-28B, as listed on the COCs (collected on 7/29/09) needs to be renamed SA73-30B.

The COC numbers vary for each lab but include: 2027.001.0443 (Alpha), 2027.001.0442 (TestAmerica), 2027.001.0441 (Columbia), and 2027.001.0440 (GEL).



Vivian Willis
Data Management

Verdant Solutions, Inc.

1000 Bristol Street North, Suite 17-165, Newport Beach, CA 92660

Main: **949.922.9730** | Fax: **949.209.2070** | Email: vivian.willis@verdant-solutions.com

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From: carnold@ngem.com [mailto:carnold@ngem.com]

Sent: Thursday, July 30, 2009 9:34 AM

To: Heather.Shaffer@gel.com; Cindy.Arnold@ngem.com; Frank.Hagar@ngem.com; Derrick.Willis@ngem.com; vivian.willis@verdant-solutions.com

Cc: emk@gel.com

Subject: VIVIAN => RE: COC#2027.001.00451, GEL SDG 234267, Please verify sample ID

Heather, Please include Vivian on your post for delivery issues. Frank is vacationing and working some....and Vivian may be able to assist on these issues. I've added her e-mail. Cindy

----- Original Message ----- On 7/30/2009 4:20 PM Heather Shaffer wrote:

For sample ID SA73-28B (as listed on the COC) - the label on the container has the "28" crossed out and "30" written on the label above where the "28" was crossed out. Please verify the correct sample ID.

Thanks!

-- Heather Shaffer Project Manager Assistant GEL Laboratories, LLC 2040 Savage Road Char.

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Subject: RE: COC#2027.001.00469, Field Blank received

From: "Vivian Willis" <vivian.willis@verdant-solutions.com>

Date: Thu, 30 Jul 2009 10:38:14 -0700

To: "Heather Shaffer" <Heather.Shaffer@gel.com>, "Cindy Arnold" <Cindy.Arnold@ngem.com>, "Frank Hagar" <Frank.Hagar@ngem.com>, "Derrick Willis" <Derrick.Willis@ngem.com>

CC: "Edie Kent" <emk@gel.com>

Heather,

The "-SO" at the end of the sample ID indicates that it is a soil sample. Please place the field blank in the same SDG as the soil samples it came with, SA73 and RSAL6. The associated COCs numbers are 2027.001.00451 and 2027.001.00440.

Thank You!



Vivian Willis

Data Management

Verdant Solutions, Inc.

1000 Bristol Street North, Suite 17-165, Newport Beach, CA 92660

Main: **949.922.9730** | Fax: **949.209.2070** | Email: vivian.willis@verdant-solutions.com

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From: Heather Shaffer [mailto:Heather.Shaffer@gel.com]

Sent: Thursday, July 30, 2009 9:46 AM

To: Cindy Arnold; Frank Hagar; Derrick Willis

Cc: Edie Kent; vivian.willis@verdant-solutions.com

Subject: COC#2027.001.00469, Field Blank received

We received FB072909-SO under COC 2027.001.00469. I do not see anywhere on the chain of custody that notes if this is to be associated with a soil sample ID; it only says "Field Blank Associated with Area II". Could someone please verify if this sample needs to be reported under a soil SDG or water SDG?

Thanks!

--

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

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Subject: GEL Closed SDG 234267

From: Heather Shaffer <Heather.Shaffer@gel.com>

Date: Fri, 31 Jul 2009 11:48:48 -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 234267. 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

pm_sample_query.show_group-4.xls	Content-Type: application/msexcel Content-Encoding: base64
---	---

Subject: SDG 234267 QC Issues - Alpha Spec Th, Alpha Spec U, Ra-226

From: Edie Kent <emk@gel.com>

Date: Fri, 28 Aug 2009 17:15:22 -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:

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 and were counted for the maximum possible count time: SA179-0.5B (234267002), RSAU4-20B (234267007), RSAU4-40B (234267009), RSAL6-0.5B (234267012), SA73-0.5B (234267015), SA49-10B (234267019), and the lab dup.

Soil Thorium Issues:

The Th-228 result for the method blank was greater than the MDA and did not meet the Tronox QA program required detection limit. The samples were reprep'd as a result. The results from the reanalysis were comparable to the original samples results with the exception of sample 234267019 which exhibited poor resolution on the reanalysis. For the reanalysis, the Th-230 result for the method blank was greater than the MDA and did not meet the Tronox QA program required detection limit. Both sets of data were evaluated by the laboratory and the decision was made to report the results from the original analysis as all other Quality Control criteria and Tronox QA program criteria for tracer yield recoveries, uncertainty requirements, and detection limits were met.

Water Thorium Issues:

The method blank did not meet the Tronox QA program sample result uncertainty limit of <30% with activity between 2 and 5 times the MDA for Th-230. The LCS did not meet the Tronox QA program sample result uncertainty limit of <30% with activity between 2 and 5 times the MDA for Th-228. Samples were counted the maximum count time to achieve the best possible uncertainties.

The LCS did not meet the Tronox QA program tracer yield requirements of 70-120%. With a value of 67.1%, the tracer yield met the GEL standard requirement and both the LCS and LCS dup met the Th230 recovery requirements. All other samples in the batch met the contract tracer yield requirement.

***Soil 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: RSAU4-10B (234267006), RSAU4-25B (234267008), RSAU4-50B (234267010), RSAL6-0.5B (234267012), SA73-0.5B (234267015), SA73-10B (234267016), SA73-30B (234267017), SA49-10B (234267019), and the lab dup.

The following samples do not meet the Tronox QA program sample result uncertainty limit of <30% with activity greater than 5 times the MDA for U235/236 and were counted for the maximum possible count time: SA179-0.5B (234267002), SA179-10B (234267003), RSAU4-40B (234267009).

The following samples did not meet the Tronox QA program tracer yield requirements of 70-120% due to matrix: SA179-0.5B (234267002), RSAU4-0.5B (234267005). However, the samples did meet the GEL standard requirements with values of 60.0 and 121% respectively. The blank and LCS met the contract yield recovery requirements.

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 28 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 234267**

Method/Analysis Information

Product: Alphaspec Th, Solid
Analytical Method: DOE EML HASL-300, Th-01-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 892899
Prep Batch Number: 889936

Sample ID	Client ID
234267001	RSAM7-28B
234267002	SA179-0.5B
234267003	SA179-10B
234267004	SA179-29B
234267005	RSAU4-0.5B
234267006	RSAU4-10B
234267007	RSAU4-20B
234267008	RSAU4-25B
234267009	RSAU4-40B
234267010	RSAU4-50B
234267011	RSAU4-56B
234267012	RSAL6-0.5B
234267013	RSAL6-10B
234267014	RSAL6-28B
234267015	SA73-0.5B
234267016	SA73-10B
234267017	SA73-30B
234267019	SA49-10B
234267020	SA49-20B
1201899547	Method Blank (MB)
1201899548	234267002(SA179-0.5B) Sample Duplicate (DUP)
1201899549	234267002(SA179-0.5B) Matrix Spike (MS)
1201899550	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" 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 volumes in this batch.

Designated QC

The following sample was used for QC: 234267002 (SA179-0.5B).

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

The Method Blank 1201899547 (MB) was recounted due to a high Th-228 blank result. Reporting original count. Samples were reprepared due to the high Th-228 blank result. The reanalysis had a Th-230 blank result greater than the MDA and detection limit. After evaluating both sets of data, reporting results from the original analysis. Refer to NCR.

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 727630 was generated due to Method Blank contamination. 1. The Th-228 result for the Method Blank 1201899547 is greater than the MDA and the detection limit. 1. Samples were reprepared due to the high Th-228 blank result. The reanalysis has comparable sample results to the original analysis, with the exception of sample 234267019 which exhibits poor resolution on the reanalysis. The reanalysis has a Th-230 blank result greater than the MDA and detection limit. After evaluating both sets of data, reporting results from the original analysis in which all other Quality Control Criteria, client tracer yield recoveries, uncertainty requirements, and detection limits are met. Group leader consulted and Project Manager notified.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and the duplicate, 1201899548 (SA179-0.5B) and 234267002 (SA179-0.5B), did not meet the relative percent difference requirement for Th-230, however they do meet the relative error ratio requirement with a value of 1.94.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: Alphaspec Th, Liquid
 Analytical Method: DOE EML HASL-300, Th-01-RC Modified
 Analytical Batch Number: 897494

Sample ID	Client ID
234267018	FB072909-SO
1201911149	Method Blank (MB)
1201911150	Laboratory Control Sample (LCS)
1201911151	Laboratory Control Sample Duplicate (LCSD)

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

A laboratory control sample and a laboratory control sample duplicate, 1201911150 (LCS) and 1201911151 (LCSD), were run with the batch instead of a sample duplicate due to limited sample volume.

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

Samples were reprepared due to low carrier/tracer yield. Samples were reprepared due to high recovery.

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 727516 was generated due to Failed Recovery for Surrogate or Tracer and Other. 1. The laboratory control sample duplicate, 1201909631, tracer yield is slightly below the client requirement of 70 - 120%. 2. Sample 1201911149 has Thorium-230 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity. Sample 1201911150 has Thorium-228 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity. 1. With a value of 67.1%, the tracer yield meets the GEL standard requirement and both the LCS and LCSD meet the Th230 recovery requirements. All other samples meet the client's tracer yield requirement. Group leader consulted, project manager notified. Reporting results. 2. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties. PM notified, reporting results.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The Th230 blank result is greater than the MDC but less than the detection limit.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: Alphaspec U, Solid
Analytical Method: DOE EML HASL-300, U-02-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 892901
Prep Batch Number: 889936

Sample ID	Client ID
234267001	RSAM7-28B
234267002	SA179-0.5B
234267003	SA179-10B
234267004	SA179-29B
234267005	RSAU4-0.5B
234267006	RSAU4-10B
234267007	RSAU4-20B
234267008	RSAU4-25B
234267009	RSAU4-40B
234267010	RSAU4-50B
234267011	RSAU4-56B
234267012	RSAL6-0.5B
234267013	RSAL6-10B
234267014	RSAL6-28B
234267015	SA73-0.5B
234267016	SA73-10B
234267017	SA73-30B
234267019	SA49-10B
234267020	SA49-20B
1201899551	Method Blank (MB)
1201899552	234267002(SA179-0.5B) Sample Duplicate (DUP)
1201899553	234267002(SA179-0.5B) Matrix Spike (MS)
1201899554	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" 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 volume in this batch.

Designated QC

The following sample was used for QC: 234267002 (SA179-0.5B).

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 234267002 (SA179-0.5B) was recounted due to low carrier/tracer yield. Samples 234267005 (RSAU4-0.5B), 234267009 (RSAU4-40B) and 234267016 (SA73-10B) were recounted due to high carrier/tracer yield.

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 726292 was generated due to Failed Recovery for Surrogate or Tracer and Other. 1. Samples 234267002, 234267003 and 234267009 have Uranium-235/236 activity greater than five times the MDA and uncertainty greater than 30% of that activity. Samples 234267006, 234267008, 234267010, 234267012, 234267015, 234267016, 234267017, 234267019 and 1201899552 have Uranium-235/236 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity. 2. Samples 234267002 and 234237005 do not meet the KERR tracer yield requirement of 70 - 120%, however they do meet the GEL standard requirements with values of 60.0 and 121%, respectively. 1. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties. PM notified, reporting results. 2. The method blank and laboratory control sample do meet the KERR tracer yield requirements. PM notified, reporting results.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and the duplicate, 1201899552 (SA179-0.5B) and 234267002 (SA179-0.5B), did not meet the relative percent difference requirement for U233/234, U235 or U238, however they do meet the relative error ratio requirement with values of 2.12, 0.707 and 2.75, respectively.

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: 892925

Sample ID	Client ID
234267018	FB072909-SO
1201899628	Method Blank (MB)
1201899629	Laboratory Control Sample (LCS)
1201899630	Laboratory Control Sample Duplicate (LCSD)

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 volume in this batch.

Designated QC

A laboratory duplicate was not run with the analytical batch since it was designated by the client as a field QC. A laboratory control sample duplicate 1201899630 (LCSD) was analyzed for precision.

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. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Gas Flow Radium 228
Analytical Method:	EPA 904.0/SW846 9320 Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	891149
Prep Batch Number:	889936

Sample ID	Client ID
234267001	RSAM7-28B
234267002	SA179-0.5B
234267003	SA179-10B
234267004	SA179-29B
234267005	RSAU4-0.5B
234267006	RSAU4-10B
234267007	RSAU4-20B
234267008	RSAU4-25B
234267009	RSAU4-40B
234267010	RSAU4-50B
234267011	RSAU4-56B
234267012	RSAL6-0.5B
234267013	RSAL6-10B
234267014	RSAL6-28B
234267015	SA73-0.5B
234267016	SA73-10B
234267017	SA73-30B
234267019	SA49-10B
234267020	SA49-20B
1201895425	Method Blank (MB)
1201895426	234267002(SA179-0.5B) Sample Duplicate (DUP)
1201895427	234267002(SA179-0.5B) Matrix Spike (MS)
1201895428	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" 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: 234267002 (SA179-0.5B).

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 1201895426 (SA179-0.5B), 234267003 (SA179-10B), 234267007 (RSAU4-20B), 234267012 (RSAL6-0.5B), 234267013 (RSAL6-10B), 234267014 (RSAL6-28B), 234267015 (SA73-0.5B), 234267016 (SA73-10B), 234267017 (SA73-30B) and 234267019 (SA49-10B) recounted due to activity being between 2 to 5 times MDA and uncertainty being greater than 30% of the activity. Samples counted max count time. Samples 234267013 (RSAL6-10B) and 234267014 (RSAL6-28B) were re-eluted due to high MDAs.

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

The blank result 1201895425 (MB) is greater than the MDC but less than the detection limit. Sample 1201895426 (SA179-0.5B) and 234267013 (RSAL6-10B) activity is between 2 to 5 times MDA and the uncertainty is greater than 30% of the activity. Sample counted max count time.

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:	891394

Sample ID	Client ID
234267018	FB072909-SO
1201896008	Method Blank (MB)
1201896009	Laboratory Control Sample (LCS)
1201896010	Laboratory Control Sample Duplicate (LCSD)

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

A laboratory duplicate was not run with the analytical batch since it was designated by the client as a field QC. A laboratory control sample duplicate 1201896010 (LCSD) was analyzed for precision.

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 reprecipitated and recounted due to high blank activity.

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: 892760

Sample ID	Client ID
234267018	FB072909-SO
1201899206	Method Blank (MB)
1201899207	Laboratory Control Sample (LCS)
1201899208	Laboratory Control Sample Duplicate (LCSD)

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

A laboratory duplicate was not run with the analytical batch since it was designated by the client as a field QC. A laboratory control sample duplicate 1201899208 (LCSD) was analyzed for precision.

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. 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, solid
Analytical Method:	EPA 903.1 Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	893450
Prep Batch Number:	889936

Sample ID	Client ID
234267001	RSAM7-28B
234267002	SA179-0.5B
234267003	SA179-10B
234267004	SA179-29B
234267005	RSAU4-0.5B
234267006	RSAU4-10B
234267007	RSAU4-20B
234267008	RSAU4-25B
234267009	RSAU4-40B
234267010	RSAU4-50B
234267011	RSAU4-56B
234267012	RSAL6-0.5B
234267013	RSAL6-10B
234267014	RSAL6-28B
234267015	SA73-0.5B
234267016	SA73-10B
234267017	SA73-30B
234267019	SA49-10B
234267020	SA49-20B
1201900978	Method Blank (MB)
1201900979	234267002(SA179-0.5B) Sample Duplicate (DUP)
1201900980	234267002(SA179-0.5B) Matrix Spike (MS)
1201900981	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" 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: 234267002 (SA179-0.5B).

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

Sample 1201900981 (LCS) was recounted due to high recovery.

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 726872 was generated due to Other. 1. Samples 234267002, 234267007, 234267009, 234267012, 234267015, 234267019, and 1201900979 have activity between 2 and 5 times the MDA. Uncertainty is greater than 30 percent and samples 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: _____  8/28/09

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 26-AUG-09	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process
Instrument Type: ALPHA SPECTROMETER	Test / Method: DOE EML HASL-300, U-02-RC Modified	Matrix Type: Solid	Client Code: KERR
Batch ID: 892901	Sample Numbers: See Below		

Potentially affected work order(s)(SDG): 234267

Application Issues:

Failed Recovery for Surrogate or Tracer

Other

Specification and Requirements Nonconformance Description:	NRG Disposition:
<p>1. Samples 234267002, 234267003 and 234267009 have Uranium-235/236 activity greater than five times the MDA and uncertainty greater than 30% of that activity. Samples 234267006, 234267008, 234267010, 234267012, 234267015, 234267016, 234267017, 234267019 and 1201899552 have Uranium-235/236 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity.</p> <p>2. Samples 234267002 and 234237005 do not meet the KERR tracer yield requirement of 70 - 120%, however they do meet the GEL standard requirements with values of 60.0 and 121%, respectively.</p>	<p>1. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties. PM notified, reporting results.</p> <p>2. The method blank and laboratory control sample do meet the KERR tracer yield requirements. PM notified, reporting results.</p>

Originator's Name:

Joseph Moulden 26-AUG-09

Data Validator/Group Leader:

Eric Brimstin 26-AUG-09

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 27-AUG-09	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process
Instrument Type: LSC	Test / Method: EPA 903.1 Modified	Matrix Type: Solid	Client Code: KERR
Batch ID: 893450	Sample Numbers: See Below		
Potentially affected work order(s)(SDG): 234267			
Application Issues: Other			
Specification and Requirements Nonconformance Description:		NRG Disposition:	
1. Samples 234267002, 234267007, 234267009, 234267012, 234267015, 234267019, and 1201900979 have activity between 2 and 5 times the MDA. Uncertainty is greater than 30 percent and samples counted the maximum count time.		1. Reporting results	

Originator's Name:
Takesha Mungo 27-AUG-09

Data Validator/Group Leader:
Lesley Anderson 27-AUG-09

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 28-AUG-09	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process
Instrument Type: ALPHA SPECTROMETER	Test / Method: DOE EML HASL-300, Th-01-RC Modified	Matrix Type: Liquid	Client Code: KERR
Batch ID: 897494	Sample Numbers: See below		

Potentially affected work order(s)(SDG): 234267,234414

Application Issues:

Failed Recovery for Surrogate or Tracer

Other

Specification and Requirements Nonconformance Description:	NRG Disposition:
<p>1. The laboratory control sample duplicate, 1201909631, tracer yield is slightly below the client requirement of 70 - 120%.</p> <p>2. Sample 1201911149 has Thorium-230 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity. Sample 1201911150 has Thorium-228 activity between two and five times the MDA and uncertainty greater than 30% of that respective activity.</p>	<p>1. With a value of 67.1%, the tracer yield meets the GEL standard requirement and both the LCS and LCSD meet the Th230 recovery requirements. All other samples meet the client's tracer yield requirement. Group leader consulted, project manager notified. Reporting results.</p> <p>2. Samples were all counted the maximum count time of 1000 minutes to achieve the best possible uncertainties. PM notified, reporting results.</p>

Originator's Name:

Joseph Moulden 28-AUG-09

Data Validator/Group Leader:

Joseph Moulden

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 28-AUG-09	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process
Instrument Type: ALPHA SPECTROMETER	Test / Method: DOE EML HASL-300, Th-01-RC Modified	Matrix Type: Solid	Client Code: KERR
Batch ID: 892899	Sample Numbers: See Below		
Potentially affected work order(s)(SDG): 234267			
Application Issues: Method Blank contamination			
Specification and Requirements Nonconformance Description:		NRG Disposition:	
1. The Th-228 result for the Method Blank 1201899547 is greater than the MDA and the detection limit.		1. Samples were reprepared due to the high Th-228 blank result. The reanalysis has comparable sample results to the original analysis, with the exception of sample 234267019 which exhibits poor resolution on the reanalysis. The reanalysis has a Th-230 blank result greater than the MDA and detection limit. After evaluating both sets of data, reporting results from the original analysis in which all other Quality Control Criteria, client tracer yield recoveries, uncertainty requirements, and detection limits are met. Group leader consulted and Project Manager notified.	

Originator's Name:
Jessica Downey 28-AUG-09

Data Validator/Group Leader:
Scott Moreland 28-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: 234267 GEL Work Order: 234267

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 28, 2009

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

Client Sample ID: RSAM7-28B	Project: KERRHenderson
Sample ID: 234267001	Client ID: KERR003
Matrix: SO	
Collect Date: 28-JUL-09 12:55	
Receive Date: 29-JUL-09	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.03	+/-0.196	0.102	0.050	pCi/g		KXM	08/19/09	1229	892899	1
											4	
Thorium-230		8.38	+/-0.544	0.0276	0.050	pCi/g						
Thorium-232		1.03	+/-0.192	0.0703	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		9.21	+/-0.383	0.0317	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.440	+/-0.0941	0.0392	0.040	pCi/g						
Uranium-238		7.59	+/-0.348	0.0458	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.47	+/-0.394	0.449	0.500	pCi/g		JXC5	08/12/09	1402	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		2.98	+/-0.448	0.260	0.500	pCi/g		KSD1	08/26/09	1250	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			75.2	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			86.9	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			79.1	(25%-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 28, 2009

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

Client Sample ID:	SA179-0.5B	Project:	KERRHenderson
Sample ID:	234267002	Client ID:	KERR003
Matrix:	SO		
Collect Date:	28-JUL-09 07:58		
Receive Date:	29-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		2.06	+/-0.268	0.0273	0.050	pCi/g		KXM	08/19/09	1229	892899	1
											4	
Thorium-230		0.936	+/-0.184	0.0871	0.050	pCi/g						
Thorium-232		1.85	+/-0.258	0.101	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.22	+/-0.144	0.0416	0.040	pCi/g		KXM	08/25/09	1407	892901	2
											4	
Uranium-235/236		0.0805	+/-0.0407	0.0161	0.040	pCi/g						
Uranium-238		1.22	+/-0.144	0.0416	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		0.785	+/-0.342	0.432	0.500	pCi/g		JXC5	08/12/09	1432	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.492	+/-0.162	0.144	0.500	pCi/g		KSD1	08/26/09	1250	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			78.5	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			60.0	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			91.7	(25%-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 28, 2009

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

Client Sample ID:	SA179-10B	Project:	KERRHenderson
Sample ID:	234267003	Client ID:	KERR003
Matrix:	SO		
Collect Date:	28-JUL-09 08:37		
Receive Date:	29-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.11	+/-0.211	0.149	0.050	pCi/g		KXM	08/19/09	1229	892899	1
											4	
Thorium-230		4.47	+/-0.400	0.102	0.050	pCi/g						
Thorium-232		1.26	+/-0.218	0.113	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		3.98	+/-0.226	0.0407	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.172	+/-0.0531	0.0313	0.040	pCi/g						
Uranium-238		3.42	+/-0.209	0.0317	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		2.10	+/-0.410	0.551	0.500	pCi/g		JXC5	08/12/09	1924	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		2.39	+/-0.348	0.168	0.500	pCi/g		KSD1	08/26/09	1250	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			72.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			107	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			84.3	(25%-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 28, 2009

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

Client Sample ID:	SA179-29B	Project:	KERRHenderson
Sample ID:	234267004	Client ID:	KERR003
Matrix:	SO		
Collect Date:	28-JUL-09 09:21		
Receive Date:	29-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.28	+/-0.201	0.0874	0.050	pCi/g		KXM	08/19/09	1229	892899	1
											4	
Thorium-230		1.71	+/-0.230	0.0756	0.050	pCi/g						
Thorium-232		1.28	+/-0.197	0.0237	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.41	+/-0.130	0.034	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.0456	+/-0.0279	0.0291	0.040	pCi/g						
Uranium-238		1.28	+/-0.124	0.0295	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		0.823	+/-0.334	0.453	0.500	pCi/g		JXC5	08/12/09	1425	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.08	+/-0.267	0.221	0.500	pCi/g		KSD1	08/26/09	1250	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			87.1	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			117	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			85.6	(25%-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 28, 2009

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

Client Sample ID:	RSAU4-0.5B	Project:	KERRHenderson
Sample ID:	234267005	Client ID:	KERR003
Matrix:	SO		
Collect Date:	29-JUL-09 07:14		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		2.02	+/-0.248	0.102	0.050	pCi/g		KXM	08/19/09	1229	892899	1
											4	
Thorium-230		1.15	+/-0.185	0.0583	0.050	pCi/g						
Thorium-232		1.55	+/-0.216	0.0843	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.768	+/-0.0844	0.029	0.040	pCi/g		KXM	08/25/09	1407	892901	2
											4	
Uranium-235/236		0.0524	+/-0.0268	0.0279	0.040	pCi/g						
Uranium-238		0.829	+/-0.0876	0.029	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.39	+/-0.388	0.445	0.500	pCi/g		JXC5	08/12/09	1425	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.926	+/-0.273	0.224	0.500	pCi/g		KSD1	08/26/09	1250	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			92.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			121	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			87.4	(25%-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 28, 2009

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

Client Sample ID:	RSAU4-10B	Project:	KERRHenderson
Sample ID:	234267006	Client ID:	KERR003
Matrix:	SO		
Collect Date:	29-JUL-09 07:44		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.70	+/-0.232	0.134	0.050	pCi/g		KXM	08/19/09	1229	892899	1
											4	
Thorium-230		1.49	+/-0.211	0.0835	0.050	pCi/g						
Thorium-232		1.16	+/-0.193	0.122	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.30	+/-0.124	0.037	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.0669	+/-0.0326	0.0285	0.040	pCi/g						
Uranium-238		1.09	+/-0.112	0.00902	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.27	+/-0.378	0.480	0.500	pCi/g		JXC5	08/12/09	1432	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.994	+/-0.221	0.132	0.500	pCi/g		KSD1	08/26/09	1250	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			92.9	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			115	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			93.5	(25%-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 28, 2009

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

Client Sample ID:	RSAU4-20B	Project:	KERRHenderson
Sample ID:	234267007	Client ID:	KERR003
Matrix:	SO		
Collect Date:	29-JUL-09 08:14		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.68	+/-0.237	0.124	0.050	pCi/g		KXM	08/19/09	1229	892899	1
											4	
Thorium-230		1.89	+/-0.243	0.0243	0.050	pCi/g						
Thorium-232		1.82	+/-0.241	0.0897	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.60	+/-0.143	0.0401	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.0524	+/-0.0326	0.0386	0.040	pCi/g						
Uranium-238		1.35	+/-0.131	0.025	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.78	+/-0.361	0.491	0.500	pCi/g		JXC5	08/12/09	1925	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.792	+/-0.254	0.243	0.500	pCi/g		KSD1	08/26/09	1320	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			87.2	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			105	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			95.1	(25%-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 28, 2009

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

Client Sample ID:	RSAU4-25B	Project:	KERRHenderson
Sample ID:	234267008	Client ID:	KERR003
Matrix:	SO		
Collect Date:	29-JUL-09 08:45		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.26	+/-0.205	0.149	0.050	pCi/g		KXM	08/19/09	1618	892899	1
											4	
Thorium-230		3.87	+/-0.335	0.0719	0.050	pCi/g						
Thorium-232		1.48	+/-0.209	0.0719	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		3.21	+/-0.204	0.067	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.134	+/-0.0471	0.0311	0.040	pCi/g						
Uranium-238		3.21	+/-0.202	0.0315	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.49	+/-0.408	0.467	0.500	pCi/g		JXC5	08/12/09	1419	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.89	+/-0.324	0.192	0.500	pCi/g		KSD1	08/26/09	1320	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			90.4	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			107	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			82.6	(25%-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 28, 2009

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

Client Sample ID: RSAU4-40B	Project: KERRHenderson
Sample ID: 234267009	Client ID: KERR003
Matrix: SO	
Collect Date: 29-JUL-09 09:20	
Receive Date: 30-JUL-09	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.50	+/-0.209	0.127	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		2.20	+/-0.242	0.0658	0.050	pCi/g						
Thorium-232		1.51	+/-0.202	0.076	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		2.05	+/-0.132	0.017	0.040	pCi/g		KXM	08/25/09	1407	892901	2
											4	
Uranium-235/236		0.110	+/-0.0341	0.00825	0.040	pCi/g						
Uranium-238		2.02	+/-0.132	0.0246	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		0.910	+/-0.376	0.485	0.500	pCi/g		JXC5	08/12/09	1402	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.769	+/-0.231	0.226	0.500	pCi/g		KSD1	08/26/09	1320	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			99.1	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			118	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			74.2	(25%-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 28, 2009

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

Client Sample ID: RSAU4-50B	Project: KERRHenderson
Sample ID: 234267010	Client ID: KERR003
Matrix: SO	
Collect Date: 29-JUL-09 10:15	
Receive Date: 30-JUL-09	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.61	+/-0.213	0.111	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		2.27	+/-0.247	0.076	0.050	pCi/g						
Thorium-232		1.52	+/-0.201	0.0526	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		2.84	+/-0.196	0.0527	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.136	+/-0.0501	0.0408	0.040	pCi/g						
Uranium-238		2.55	+/-0.184	0.0264	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		0.635	+/-0.314	0.448	0.500	pCi/g		JXC5	08/12/09	1441	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.36	+/-0.271	0.199	0.500	pCi/g		KSD1	08/26/09	1320	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			100	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			105	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			94.1	(25%-125%)

GEL LABORATORIES LLC

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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 28, 2009

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

Client Sample ID:	RSAU4-56B	Project:	KERRHenderson
Sample ID:	234267011	Client ID:	KERR003
Matrix:	SO		
Collect Date:	29-JUL-09 10:45		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.28	+/-0.211	0.147	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		2.52	+/-0.277	0.0238	0.050	pCi/g						
Thorium-232		1.13	+/-0.191	0.0977	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.785	+/-0.101	0.0437	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236	U	0.0242	+/-0.025	0.0386	0.040	pCi/g						
Uranium-238		0.792	+/-0.100	0.0312	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.59	+/-0.421	0.428	0.500	pCi/g		JXC5	08/12/09	1455	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.25	+/-0.237	0.123	0.500	pCi/g		KSD1	08/26/09	1320	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			86.7	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			107	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			88.6	(25%-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 28, 2009

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

Client Sample ID:	RSAL6-0.5B	Project:	KERRHenderson
Sample ID:	234267012	Client ID:	KERR003
Matrix:	SO		
Collect Date:	29-JUL-09 10:51		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.99	+/-0.273	0.168	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		1.16	+/-0.201	0.0841	0.050	pCi/g						
Thorium-232		1.92	+/-0.256	0.0671	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.52	+/-0.116	0.0176	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.088	+/-0.0339	0.0314	0.040	pCi/g						
Uranium-238		1.21	+/-0.104	0.022	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.05	+/-0.525	0.851	0.500	pCi/g		JXC5	08/12/09	1925	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.511	+/-0.178	0.180	0.500	pCi/g		KSD1	08/26/09	1320	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			76.2	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			103	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			87.9	(25%-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 28, 2009

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

Client Sample ID:	RSAL6-10B	Project:	KERRHenderson
Sample ID:	234267013	Client ID:	KERR003
Matrix:	SO		
Collect Date:	29-JUL-09 11:15		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.70	+/-0.272	0.199	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		1.45	+/-0.237	0.108	0.050	pCi/g						
Thorium-232		1.64	+/-0.251	0.0932	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		2.02	+/-0.133	0.0217	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.120	+/-0.0359	0.00839	0.040	pCi/g						
Uranium-238		2.22	+/-0.140	0.0278	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.05	+/-0.361	0.435	0.500	pCi/g		JXC5	08/14/09	0959	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.970	+/-0.234	0.164	0.500	pCi/g		KSD1	08/26/09	1355	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			71.4	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			106	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			84.2	(25%-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 28, 2009

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

Client Sample ID: RSAL6-28B	Project: KERRHenderson
Sample ID: 234267014	Client ID: KERR003
Matrix: SO	
Collect Date: 29-JUL-09 11:50	
Receive Date: 30-JUL-09	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.29	+/-0.211	0.119	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		3.60	+/-0.339	0.0248	0.050	pCi/g						
Thorium-232		1.13	+/-0.190	0.0248	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		3.00	+/-0.158	0.0435	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.182	+/-0.0429	0.0079	0.040	pCi/g						
Uranium-238		2.85	+/-0.153	0.0262	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		0.644	+/-0.299	0.405	0.500	pCi/g		JXC5	08/14/09	1000	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.28	+/-0.239	0.107	0.500	pCi/g		KSD1	08/26/09	1355	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			80.1	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			106	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			90.5	(25%-125%)

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

Report Date: August 28, 2009

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

Client Sample ID:	SA73-0.5B	Project:	KERRHenderson
Sample ID:	234267015	Client ID:	KERR003
Matrix:	SO		
Collect Date:	29-JUL-09 08:44		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		2.21	+/-0.299	0.135	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		1.38	+/-0.239	0.135	0.050	pCi/g						
Thorium-232		2.00	+/-0.279	0.0769	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.896	+/-0.091	0.0314	0.040	pCi/g		KXM	08/19/09	2120	892901	2
											4	
Uranium-235/236		0.0696	+/-0.029	0.0222	0.040	pCi/g						
Uranium-238		0.912	+/-0.0918	0.0314	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		0.870	+/-0.446	0.718	0.500	pCi/g		JXC5	08/12/09	1925	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.573	+/-0.180	0.163	0.500	pCi/g		KSD1	08/26/09	1355	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			71.0	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			97.8	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			86.6	(25%-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 28, 2009

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

Client Sample ID:	SA73-10B	Project:	KERRHenderson
Sample ID:	234267016	Client ID:	KERR003
Matrix:	SO		
Collect Date:	29-JUL-09 09:13		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.47	+/-0.217	0.106	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		1.38	+/-0.208	0.0874	0.050	pCi/g						
Thorium-232		1.42	+/-0.209	0.0605	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.998	+/-0.095	0.0257	0.040	pCi/g		KXM	08/25/09	1407	892901	2
											4	
Uranium-235/236		0.0574	+/-0.0264	0.022	0.040	pCi/g						
Uranium-238		0.885	+/-0.0898	0.0286	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.58	+/-0.293	0.373	0.500	pCi/g		JXC5	08/12/09	1928	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.726	+/-0.210	0.195	0.500	pCi/g		KSD1	08/26/09	1355	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			86.7	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			120	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			101	(25%-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 28, 2009

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

Client Sample ID: SA73-30B
Sample ID: 234267017
Matrix: SO
Collect Date: 29-JUL-09 10:18
Receive Date: 30-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												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.46	+/-0.227	0.173	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		2.05	+/-0.250	0.0861	0.050	pCi/g						
Thorium-232		1.36	+/-0.203	0.0596	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.72	+/-0.119	0.0235	0.040	pCi/g		KXM	08/19/09	2121	892901	2
											4	
Uranium-235/236		0.100	+/-0.0342	0.0291	0.040	pCi/g						
Uranium-238		1.82	+/-0.122	0.0163	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		2.86	+/-0.607	0.897	0.500	pCi/g		JXC5	08/12/09	1929	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		2.73	+/-0.417	0.125	0.500	pCi/g		KSD1	08/26/09	1355	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			87.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			106	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			84.6	(25%-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 28, 2009

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

Client Sample ID:	FB072909-SO	Project:	KERRHenderson
Sample ID:	234267018	Client ID:	KERR003
Matrix:	W		
Collect Date:	29-JUL-09 14:25		
Receive Date:	30-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Liquid "As Received"</i>												
Thorium-228		0.0321	+/-0.022	0.0307	0.030	pCi/L		JXD2	08/27/09	0805	897494	1
Thorium-230	U	-5.46E-10	+/-0.00897	0.0219	0.030	pCi/L						
Thorium-232	U	0.00687	+/-0.0135	0.0253	0.030	pCi/L						
<i>Alphaspec U, Liquid "As Received"</i>												
Uranium-233/234	U	0.00671	+/-0.00956	0.0167	0.030	pCi/L		JXD2	08/15/09	1748	892925	2
Uranium-235/236	U	0.00	+/-0.00843	0.0206	0.030	pCi/L						
Uranium-238	U	0.0104	+/-0.0108	0.0167	0.030	pCi/L						
Rad Gas Flow Proportional Counting												
<i>GFPC, Ra228, Liquid "As Received"</i>												
Radium-228	U	0.954	+/-1.09	1.83	3.00	pCi/L		MXS2	08/12/09	1007	891394	3
Rad Radium-226												
<i>Lucas Cell, Ra226, liquid "As Received"</i>												
Radium-226	U	0.258	+/-0.310	0.521	1.00	pCi/L		KSD1	08/22/09	1330	892760	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"			72.4	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			94.9	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			77.8	(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 28, 2009

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

Client Sample ID:	SA49-10B	Project:	KERRHenderson
Sample ID:	234267019	Client ID:	KERR003
Matrix:	SO		
Collect Date:	30-JUL-09 11:15		
Receive Date:	31-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		1.43	+/-0.215	0.143	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		1.20	+/-0.188	0.0714	0.050	pCi/g						
Thorium-232		1.36	+/-0.199	0.057	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.04	+/-0.0924	0.0203	0.040	pCi/g		KXM	08/19/09	2121	892901	2
											4	
Uranium-235/236		0.0784	+/-0.0299	0.025	0.040	pCi/g						
Uranium-238		0.933	+/-0.088	0.0284	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.23	+/-0.343	0.487	0.500	pCi/g		JXC5	08/12/09	1929	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.637	+/-0.196	0.194	0.500	pCi/g		KSD1	08/26/09	1355	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			90.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			109	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			84.1	(25%-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 28, 2009

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

Client Sample ID:	SA49-20B	Project:	KERRHenderson
Sample ID:	234267020	Client ID:	KERR003
Matrix:	SO		
Collect Date:	30-JUL-09 11:36		
Receive Date:	31-JUL-09		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid "Dry Weight Corrected"</i>												
Thorium-228		2.21	+/-0.264	0.113	0.050	pCi/g		KXM	08/19/09	1619	892899	1
											4	
Thorium-230		2.34	+/-0.266	0.0599	0.050	pCi/g						
Thorium-232		1.69	+/-0.227	0.0599	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.92	+/-0.126	0.0308	0.040	pCi/g		KXM	08/19/09	2121	892901	2
											4	
Uranium-235/236		0.129	+/-0.0384	0.0292	0.040	pCi/g						
Uranium-238		1.91	+/-0.126	0.0286	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		0.521	+/-0.327	0.473	0.500	pCi/g		JXC5	08/12/09	1402	891149	3
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.61	+/-0.358	0.285	0.500	pCi/g		KSD1	08/26/09	1425	893450	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	07/31/09	1435	889936

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, Solid "Dry Weight Corrected"			85.7	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			106	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			76.3	(25%-125%)

QUALITY CONTROL DATA

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QC Summary

Report Date: August 28, 2009
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Northgate Environmental Management, Inc.
1100 Quail St., Suite 102
Newport Beach, California

Contact: Mr. Frank Hagar

Workorder: 234267

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	892899										
QC1201899548	234267002	DUP									
Thorium-228		2.06		1.98	pCi/g	4.10		(0% - 20%)	KXM4	08/19/09	16:19
		+/-0.268		+/-0.261							
Thorium-230		0.936		1.22	pCi/g	26.4*		(0% - 20%)			
		+/-0.184		+/-0.202							
Thorium-232		1.85		1.68	pCi/g	10.1		(0% - 20%)			
		+/-0.258		+/-0.234							
QC1201899550	LCS										
Thorium-228			U	0.00816	pCi/g					08/19/09	16:19
				+/-0.0799							
Thorium-230	8.26			9.11	pCi/g		110	(75%-125%)			
				+/-0.535							
Thorium-232			U	-0.00814	pCi/g			(75%-125%)			
				+/-0.0276							
QC1201899547	MB										
Thorium-228				0.122	pCi/g					08/19/09	16:19
				+/-0.0796							
Thorium-230			U	0.00811	pCi/g						
				+/-0.0159							
Thorium-232			U	0.00811	pCi/g						
				+/-0.0355							
QC1201899549	234267002	MS									
Thorium-228		2.06		2.14	pCi/g					08/19/09	16:19
		+/-0.268		+/-0.273							
Thorium-230	8.26	0.936		10.1	pCi/g		111	(75%-125%)			
		+/-0.184		+/-0.581							
Thorium-232		1.85		1.68	pCi/g			(75%-125%)			
		+/-0.258		+/-0.240							
Batch	892901										
QC1201899552	234267002	DUP									
Uranium-233/234		1.22		0.930	pCi/g	27.0*		(0% - 20%)	KXM4	08/19/09	21:21
		+/-0.144		+/-0.0878							
Uranium-235/236		0.0805		0.0624	pCi/g	25.3		(0% - 100%)			
		+/-0.0407		+/-0.026							
Uranium-238		1.22		0.852	pCi/g	35.5*		(0% - 20%)			
		+/-0.144		+/-0.0836							
QC1201899554	LCS										
Uranium-233/234				5.33	pCi/g					08/19/09	21:21
				+/-0.211							
Uranium-235/236				0.333	pCi/g						
				+/-0.0586							
Uranium-238	4.84			5.63	pCi/g		116	(75%-125%)			

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QC Summary

Workorder: 234267

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	892901										
QC1201899551	MB			+/-0.217							
Uranium-233/234			U	-0.0223	pCi/g				KXM4	08/19/09	21:21
				+/-0.0165							
Uranium-235/236			U	0.00528	pCi/g						
				+/-0.0104							
Uranium-238			U	-0.00214	pCi/g						
				+/-0.0111							
QC1201899553	234267002	MS									
Uranium-233/234				1.22	5.29	pCi/g				08/19/09	21:21
				+/-0.144	+/-0.212						
Uranium-235/236				0.0805	0.370	pCi/g					
				+/-0.0407	+/-0.0626						
Uranium-238	4.94			1.22	5.77	pCi/g	92.1	(75%-125%)			
				+/-0.144	+/-0.222						
Batch	892925										
QC1201899629	LCS										
Uranium-233/234				3.15	3.15	pCi/L			JXD2	08/15/09	17:48
				+/-0.172							
Uranium-235/236				0.132	0.132	pCi/L					
				+/-0.0407							
Uranium-238	3.15			3.20	3.20	pCi/L	102	(75%-125%)			
				+/-0.173							
QC1201899630	LCSD										
Uranium-233/234				2.84	2.84	pCi/L	10.4			08/15/09	17:48
				+/-0.148							
Uranium-235/236				0.146	0.146	pCi/L	10.0				
				+/-0.0372							
Uranium-238	3.15			3.03	3.03	pCi/L	5.43	96.2	(0%-20%)		
				+/-0.153							
QC1201899628	MB										
Uranium-233/234			U	0.011	0.011	pCi/L				08/15/09	18:00
				+/-0.0125							
Uranium-235/236			U	0.00617	0.00617	pCi/L					
				+/-0.0107							
Uranium-238			U	0.00666	0.00666	pCi/L					
				+/-0.00799							
Batch	897494										
QC1201911150	LCS										
Thorium-228				0.0264	0.0264	pCi/L			JXD2	08/27/09	08:08
				+/-0.0172							
Thorium-230	2.68			2.99	2.99	pCi/L	112	(75%-125%)			
				+/-0.183							
Thorium-232			U	0.00585	0.00585	pCi/L		(75%-125%)			
				+/-0.0115							

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	897494										
QC1201911151		LCS									
Thorium-228			U	0.0132	pCi/L	66.3			JXD2	08/27/09	08:08
				+/-0.0159							
Thorium-230	2.68			3.09	pCi/L	3.29	115	(0%-20%)			
				+/-0.198							
Thorium-232			U	0.00661	pCi/L	12.2		(0%-20%)			
				+/-0.00916							
QC1201911149		MB									
Thorium-228			U	0.00293	pCi/L					08/27/09	08:08
				+/-0.00994							
Thorium-230				0.0205	pCi/L						
				+/-0.0152							
Thorium-232			U	0.00	pCi/L						
				+/-0.00573							
Rad Gas Flow											
Batch	891149										
QC1201895426	234267002	DUP									
Radium-228				0.785	pCi/g	64.6		(0% - 100%)	JXC5	08/12/09	19:28
				+/-0.342							
QC1201895428	LCS										
Radium-228	7.69			9.09	pCi/g		118	(75%-125%)		08/12/09	15:15
				+/-1.45							
QC1201895425	MB										
Radium-228			U	0.277	pCi/g					08/12/09	14:02
				+/-0.276							
QC1201895427	234267002	MS									
Radium-228	63.6			0.785	pCi/g		119	(75%-125%)		08/12/09	13:04
				+/-0.342							
QC1201895427	234267002	MS									
Radium-228	63.6			0.785	pCi/g		119	(75%-125%)		08/12/09	13:04
				+/-0.342							
Batch	891394										
QC1201896009	LCS										
Radium-228	40.6			39.7	pCi/L		97.9	(75%-125%)	MXS2	08/12/09	10:08
				+/-4.76							
QC1201896010	LCS										
Radium-228	40.6			36.5	pCi/L	8.47	89.9	(0%-20%)		08/12/09	10:08
				+/-4.81							
QC1201896008	MB										
Radium-228			U	0.924	pCi/L					08/12/09	10:08
				+/-1.32							
Rad Ra-226											
Batch	892760										
QC1201899207	LCS										
Radium-226	24.2			21.5	pCi/L		88.9	(75%-125%)	KSD1	08/22/09	14:05
				+/-1.63							
QC1201899208	LCS										
Radium-226	24.2			21.9	pCi/L	1.81	90.5	(0%-20%)		08/22/09	15:05
				+/-1.61							
QC1201899206	MB										

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Ra-226											
Batch	892760										
Radium-226			U	0.155	pCi/L					08/22/09	15:05
				+/-0.279							
Batch	893450										
QC1201900979	234267002	DUP									
Radium-226		0.492		0.433	pCi/g	12.7		(0% - 100%)	KSD1	08/26/09	14:25
		+/-0.162		+/-0.176							
QC1201900981	LCS										
Radium-226	11.6			14.0	pCi/g		121	(75%-125%)		08/26/09	17:30
				+/-0.959							
QC1201900978	MB										
Radium-226			U	0.159	pCi/g					08/26/09	14:25
				+/-0.122							
QC1201900980	234267002	MS									
Radium-226	12.0	0.492		13.1	pCi/g		105	(75%-125%)		08/26/09	14:25
		+/-0.162		+/-0.830							

Notes:

The Qualifiers in this report are defined as follows:

- ** 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

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QC Summary

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

URANIUM

Radiochemistry Batch Checklist, Rev 9

Batch# 892901 Product: ✓ Date: 8/26/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)			N/A
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.			Case narrative
Tracer yield is 15-125% . Carrier yield 25-125%.		✓	NCR 726292
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.			N/A
Smears Taken for Radioactive batches.			N/A
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.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stasured.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.	✓		NCR 726292
Batch non-conformances second reviewed and disposition verified to be completed.	✓		NCR 726292
Aliquot Correction completed if required.			N/A
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: JopLM1 - 8/26/09

Secondary Review Performed By: [Signature] 8/26/09

8/17 8/28

KERR

Uranium Que Sheet

11-AUG-09

Batch #: 892901

Analyst: KXM4

First Client Due Date: 28-AUG-09

Internal Due Date: 17-AUG-09

Tracer Isotope: U-232/20-236

Tracer Code: 1283-E

Expiration Date: 1-15-10

Vol: 0.1ml

LCS Isotope: U-238

LCS Code: 1163-G

Expiration Date: 4-16-10

Vol: 0.1ml

Spike Isotope: U-238

Spike Code: 1163-G

Expiration Date: 4-16-10

Vol: 0.1ml

Prep Date: 8-13-09

Initials: KM

Pipet ID: 291058

Balance ID: 50410272

Witness: ADA 8/13/09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g) (1/f)	U Det #
234267001-1	RSAM7-28B	SAMPLE		.04 pCi/g	SOIL	KERR003	28-JUL-09	1	51	0.508	149
234267002-1	SA179-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	28-JUL-09	2	52	0.507	151
234267003-1	SA179-10B	SAMPLE		.04 pCi/g	SOIL	KERR003	28-JUL-09	3	53	0.521	151
234267004-1	SA179-29B	SAMPLE		.04 pCi/g	SOIL	KERR003	28-JUL-09	4	54	0.504	152
234267005-1	RSAU4-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	5	55	0.506	154
234267006-1	RSAU4-10B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	6	56	0.509	155
234267007-1	RSAU4-20B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	7	57	0.504	156
234267008-1	RSAU4-25B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	8	58	0.516	157
234267009-1	RSAU4-40B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	9	59	0.509	158
234267010-1	RSAU4-50B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	10	60	0.506	159
234267011-1	RSAU4-56B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	11	61	0.508	161
234267012-1	RSAL6-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	12	62	0.511	162
234267013-1	RSAL6-10B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	13	63	0.507	163
234267014-1	RSAL6-28B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	14	64	0.520	164
234267015-1	SA73-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	15	65	0.507	165
234267016-1	SA73-10B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	16	66	0.510	166
234267017-1	SA73-30B	SAMPLE		.04 pCi/g	SOIL	KERR003	29-JUL-09	17	67	0.508	167
234267019-1	SA49-10B	SAMPLE		.04 pCi/g	SOIL	KERR003	30-JUL-09	18	68	0.502	168
234267020-1	SA49-20B	SAMPLE		.04 pCi/g	SOIL	KERR003	30-JUL-09	19	69	0.511	169
1201899551-1	MB for batch 892901	MB		.04 pCi/g	SOIL	QC ACCOUNT		20	70	0.521	170
1201899552-1	SA179-0.5B(234267002DUP)	DUP		.04 pCi/g	SOIL	QC ACCOUNT	28-JUL-09	21	71	0.502	171
1201899553-1	SA179-0.5B(234267002MS)	MS		.04 pCi/g	SOIL	QC ACCOUNT	28-JUL-09	22	72	0.510	171
1201899554-1	LCS for batch 892901	LCS		.04 pCi/g	SOIL	QC ACCOUNT		23	73	0.521	172

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

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Data Reviewed By: Sap ML - 8/26/09

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901
SAMPLE DATE : 28-JUL-2009 00:00:00

SAMPLE ID : S0234267001_UU
SAMPLE QTY: 0.508 G

DETECTOR NUMBER :33449
AVERAGE %EFFICIENCY :24.6514
% YIELD : 86.896

COUNT DATE:19-AUG-2009 21:20:19
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.958E+00

LCS/LCSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.958E+00

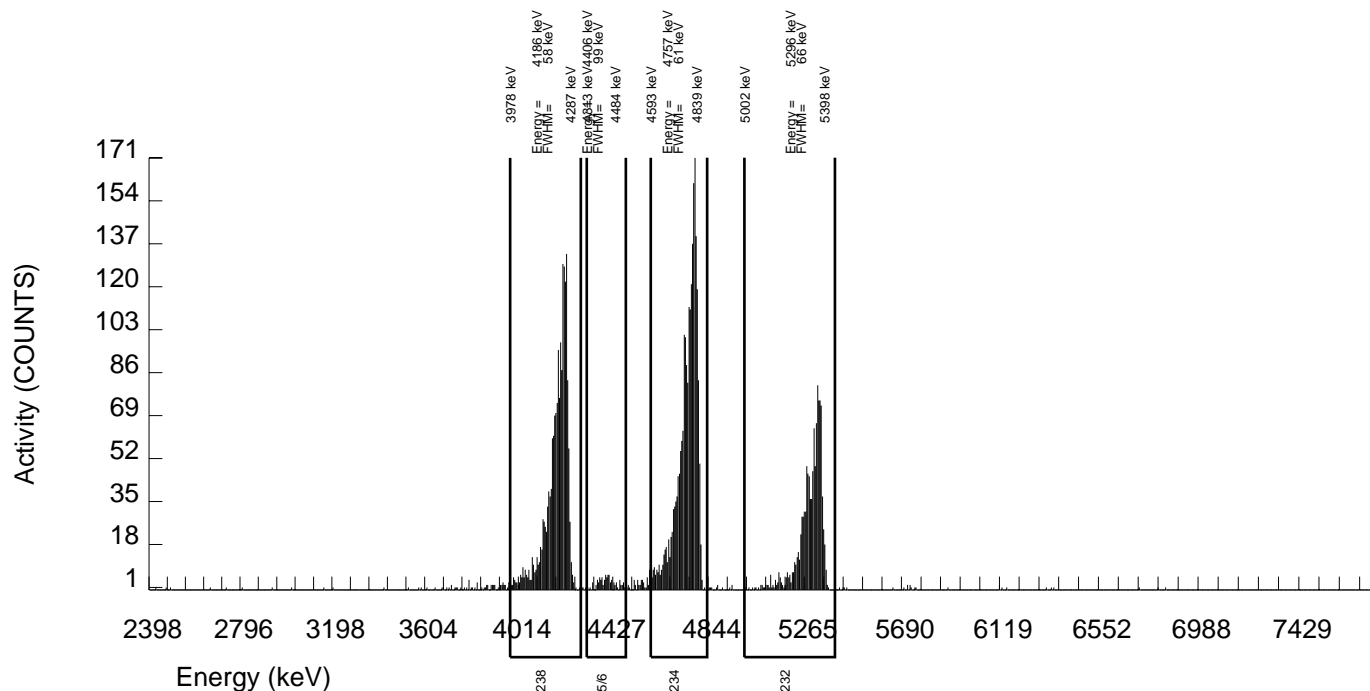
TRACER
ID : 1283-E
ISOTOPE : U232
NOMINAL : 5.26442 dpm
RESULTS : 4.57456 dpm

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/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	2230.000	2225.596	1.000	1.0000	100.0000	9.21E+00	1.33E+00	3.17E-02	9.63E-03	3.83E-01
U232	5302.100	1133.000	1127.000	6.000	2.4495	100.0000	4.67E+00	7.00E-01	5.96E-02	2.36E-02	2.74E-01
U-235	4391.000	87.000	86.000	1.000	1.0000	80.90000	4.40E-01	1.12E-01	3.92E-02	1.19E-02	9.41E-02
U-238	4184.730	1836.000	1833.000	3.000	1.7321	100.0000	7.59E+00	1.10E+00	4.58E-02	1.67E-02	3.48E-01

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



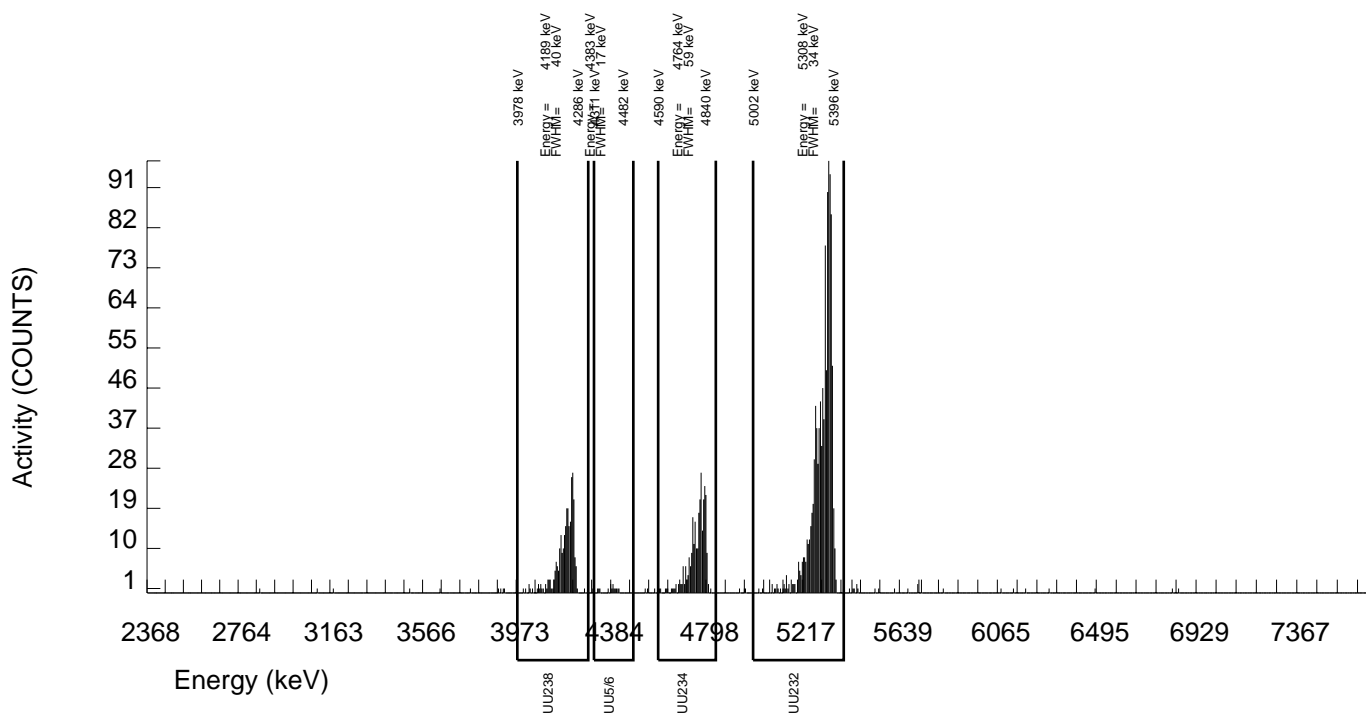
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 28-JUL-2009 00:00:00		SAMPLE ID : S0234267002_UU SAMPLE QTY: 0.507 G	
DETECTOR NUMBER :78790 AVERAGE %EFFICIENCY :34.0969 % YIELD : 60.046		COUNT DATE:25-AUG-2009 14:07:05 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.968E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.968E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26442 dpm RESULTS : 3.16106 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B013.CNF;1039 BKG DATE : 23-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/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	287.000	281.747	2.000	1.4142	100.0000	1.22E+00	2.22E-01	4.16E-02	1.43E-02	1.44E-01
U232	5302.100	1083.000	1077.000	6.000	2.4495	100.0000	4.68E+00	7.06E-01	6.25E-02	2.47E-02	2.81E-01
U-235	4391.000	15.000	15.000	0.000	0.0000	80.90000	8.05E-02	4.22E-02	1.61E-02	0.00E+00	4.07E-02
U-238	4184.730	284.000	282.000	2.000	1.4142	100.0000	1.22E+00	2.22E-01	4.16E-02	1.43E-02	1.44E-01

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



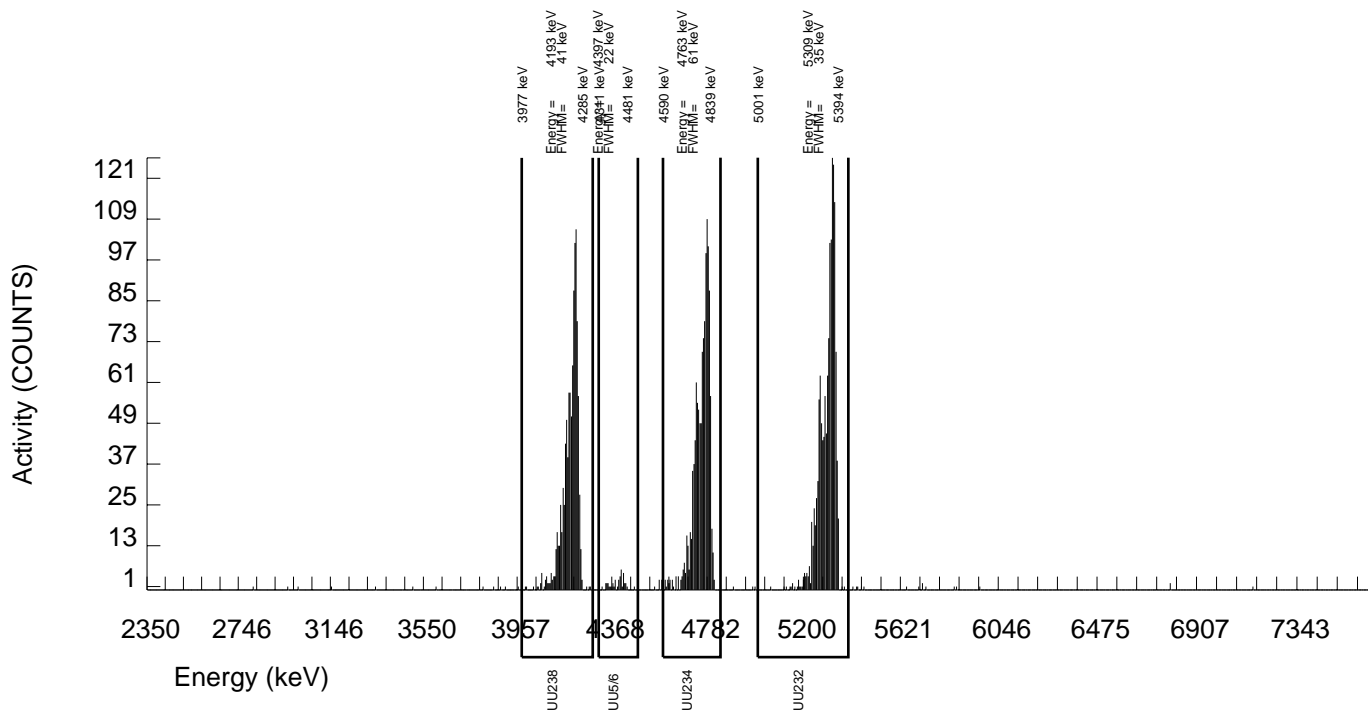
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 28-JUL-2009 00:00:00		SAMPLE ID : S0234267003_UU SAMPLE QTY: 0.521 G	
DETECTOR NUMBER :75556 AVERAGE %EFFICIENCY :24.5018 % YIELD : 106.742		COUNT DATE:19-AUG-2009 21:20:23 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.835E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.835E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26441 dpm RESULTS : 5.61935 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B151.CNF;341 BKG DATE : 16-AUG-2009 EFF FILE : W151.CNF;108 CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	1213.000	1204.844	4.000	2.0000	100.0000	3.98E+00	5.86E-01	4.07E-02	1.54E-02	2.26E-01
U232	5302.100	1379.000	1376.000	3.000	1.7321	100.0000	4.55E+00	6.63E-01	3.66E-02	1.33E-02	2.41E-01
U-235	4391.000	43.000	42.000	1.000	1.0000	80.90000	1.72E-01	5.80E-02	3.13E-02	9.51E-03	5.31E-02
U-238	4184.730	1037.000	1035.000	2.000	1.4142	100.0000	3.42E+00	5.09E-01	3.17E-02	1.09E-02	2.09E-01

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



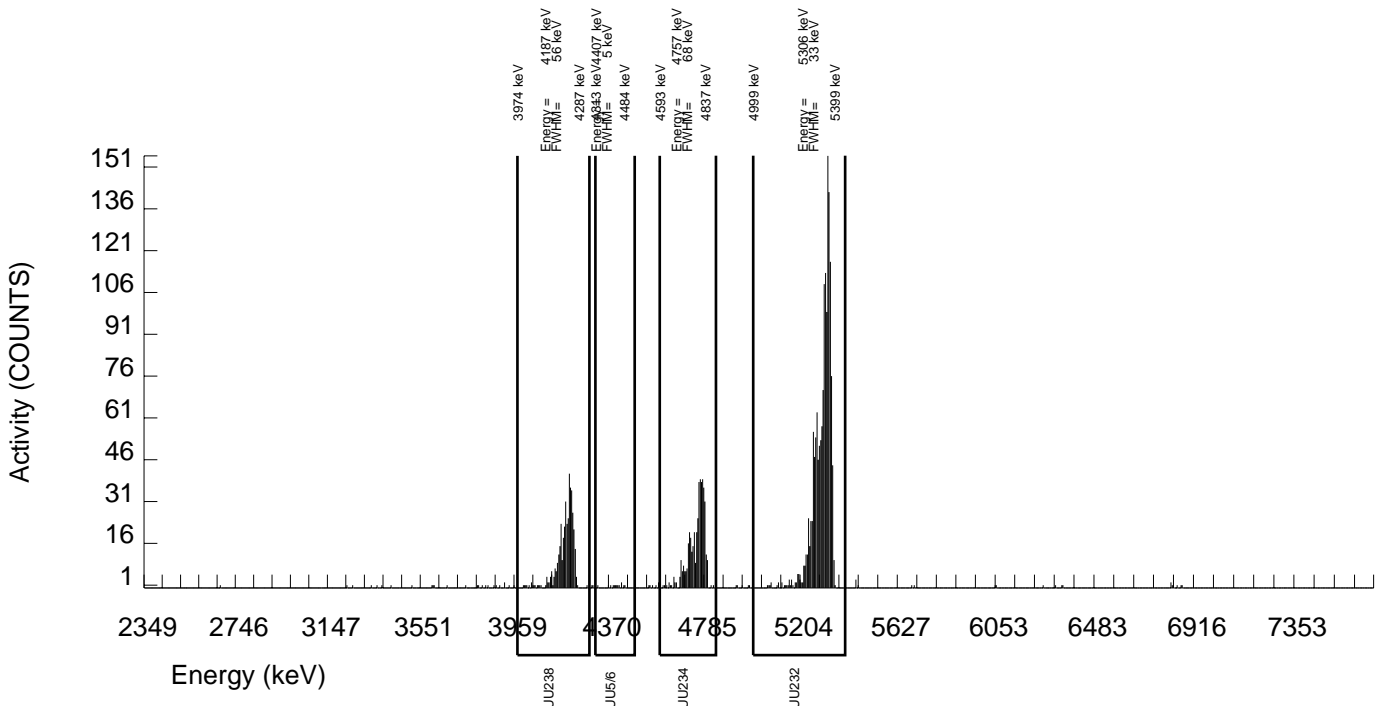
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 28-JUL-2009 00:00:00		SAMPLE ID : S0234267004_UU SAMPLE QTY: 0.504 G	
DETECTOR NUMBER :76222 AVERAGE %EFFICIENCY :24.9016 % YIELD : 116.630		COUNT DATE:19-AUG-2009 21:20:27 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.998E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.998E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26442 dpm RESULTS : 6.13990 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B152.CNF;338 BKG DATE : 16-AUG-2009 EFF FILE : W152.CNF;95 CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	465.000	457.385	3.000	1.7321	100.0000	1.41E+00	2.30E-01	3.40E-02	1.24E-02	1.30E-01
U232	5302.100	1537.000	1528.000	9.000	3.0000	100.0000	4.71E+00	6.77E-01	5.22E-02	2.15E-02	2.37E-01
U-235	4391.000	13.000	12.000	1.000	1.0000	80.90000	4.56E-02	2.86E-02	2.91E-02	8.85E-03	2.79E-02
U-238	4184.730	419.000	417.000	2.000	1.4142	100.0000	1.28E+00	2.13E-01	2.95E-02	1.01E-02	1.24E-01

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



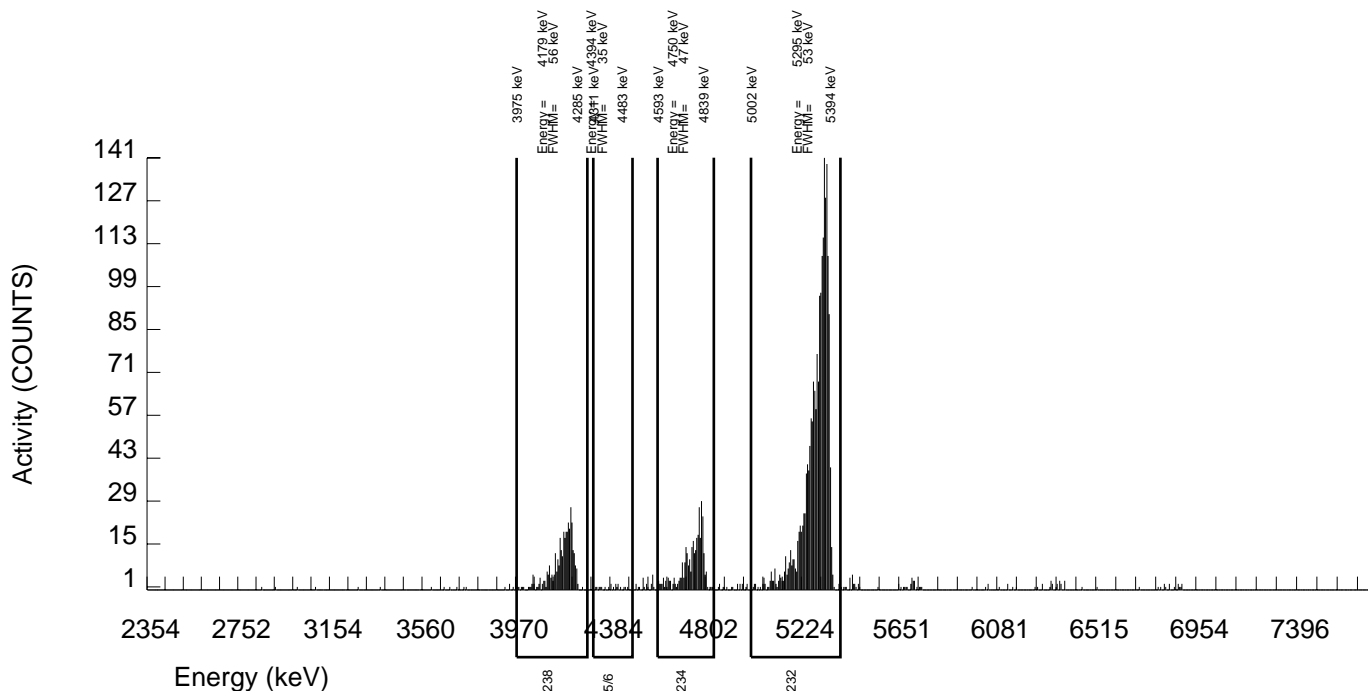
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 29-JUL-2009 00:00:00		SAMPLE ID : S0234267005_UU SAMPLE QTY: 0.506 G	
DETECTOR NUMBER :67616 AVERAGE %EFFICIENCY :31.3062 % YIELD : 120.717		COUNT DATE:25-AUG-2009 14:07:05 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.978E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.978E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26428 dpm RESULTS : 6.35486 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B014.CNF;1040 BKG DATE : 23-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/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	336.000	325.995	4.000	2.0000	100.0000	7.68E-01	1.32E-01	2.90E-02	1.10E-02	8.44E-02
U232	5302.100	1997.000	1988.000	9.000	3.0000	100.0000	4.69E+00	6.54E-01	4.00E-02	1.65E-02	2.07E-01
U-235	4391.000	20.000	18.000	2.000	1.4142	80.90000	5.24E-02	2.77E-02	2.79E-02	9.58E-03	2.68E-02
U-238	4184.730	356.000	352.000	4.000	2.0000	100.0000	8.29E-01	1.40E-01	2.90E-02	1.10E-02	8.76E-02

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



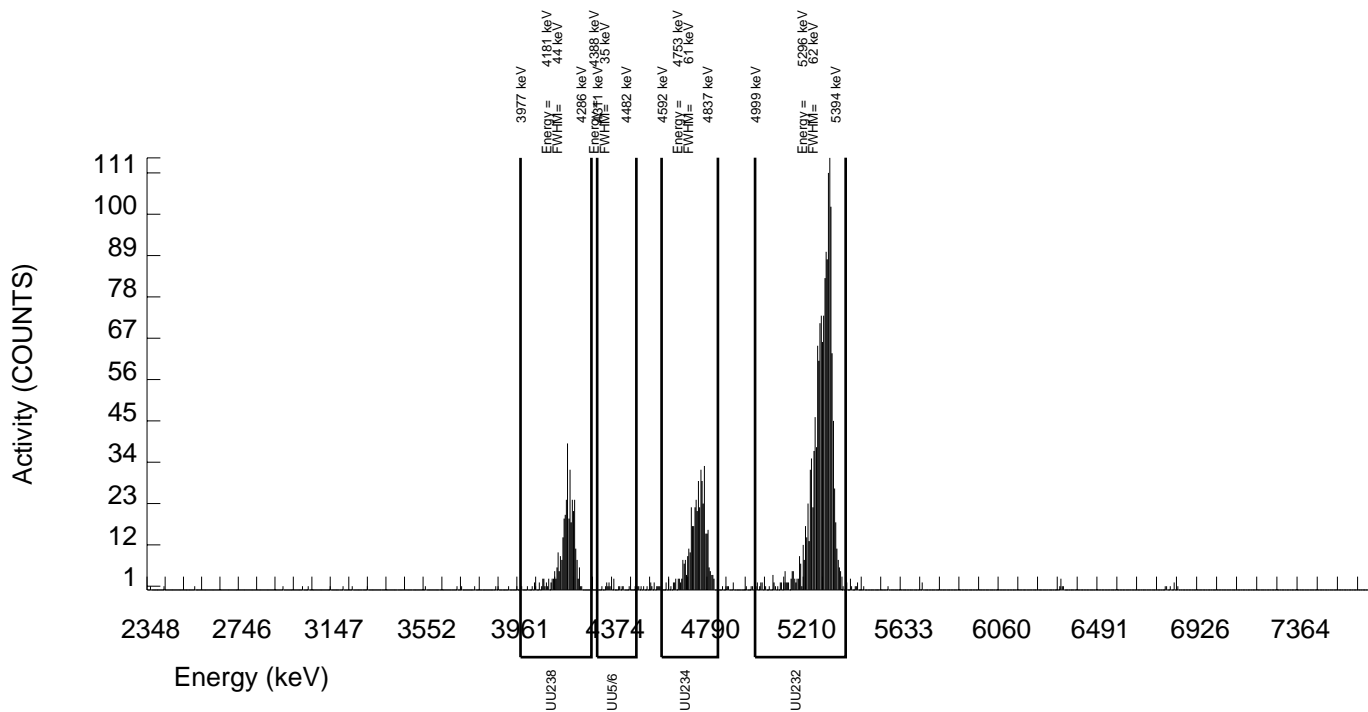
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 29-JUL-2009 00:00:00		SAMPLE ID : S0234267006_UU SAMPLE QTY: 0.509 G	
DETECTOR NUMBER :76224 AVERAGE %EFFICIENCY :25.5940 % YIELD : 114.960		COUNT DATE:19-AUG-2009 21:20:32 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.949E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.949E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26428 dpm RESULTS : 6.05183 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B154.CNF;335 BKG DATE : 16-AUG-2009 EFF FILE : W154.CNF;96 CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	441.000	432.325	4.000	2.0000	100.0000	1.30E+00	2.14E-01	3.70E-02	1.40E-02	1.24E-01
U232	5302.100	1556.000	1548.000	8.000	2.8284	100.0000	4.66E+00	6.69E-01	4.86E-02	1.98E-02	2.33E-01
U-235	4391.000	19.000	18.000	1.000	1.0000	80.90000	6.69E-02	3.38E-02	2.85E-02	8.65E-03	3.26E-02
U-238	4184.730	361.000	361.000	0.000	0.0000	100.0000	1.09E+00	1.84E-01	9.02E-03	0.00E+00	1.12E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901
SAMPLE DATE : 29-JUL-2009 00:00:00

SAMPLE ID : S0234267007_UU
SAMPLE QTY: 0.504 G

DETECTOR NUMBER :75553
AVERAGE %EFFICIENCY :26.0403
% YIELD : 105.253

COUNT DATE:19-AUG-2009 21:20:36
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.998E+00

LCS/LCSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.998E+00

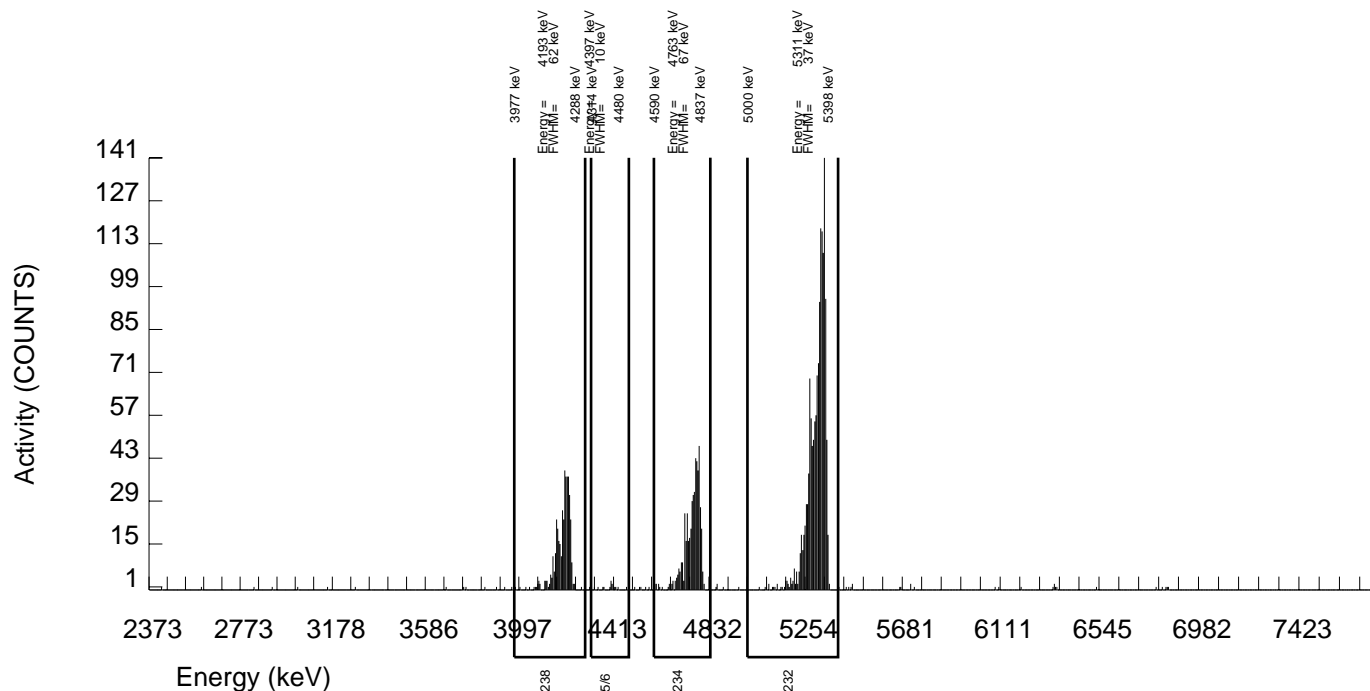
TRACER
ID : 1283-E
ISOTOPE : U232
NOMINAL : 5.26427 dpm
RESULTS : 5.54081 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B155.CNF;342
BKG DATE : 16-AUG-2009
EFF FILE : W155.CNF;105
CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	499.000	490.645	4.000	2.0000	100.0000	1.60E+00	2.59E-01	4.01E-02	1.52E-02	1.43E-01
U232	5302.100	1451.000	1442.000	9.000	3.0000	100.0000	4.70E+00	6.82E-01	5.53E-02	2.28E-02	2.44E-01
U-235	4391.000	15.000	13.000	2.000	1.4142	80.90000	5.24E-02	3.33E-02	3.86E-02	1.33E-02	3.26E-02
U-238	4184.730	416.000	415.000	1.000	1.0000	100.0000	1.35E+00	2.25E-01	2.50E-02	7.59E-03	1.31E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901
SAMPLE DATE : 29-JUL-2009 00:00:00

SAMPLE ID : S0234267008_UU
SAMPLE QTY: 0.516 G

DETECTOR NUMBER :75554
AVERAGE %EFFICIENCY :24.7825
% YIELD : 107.297

COUNT DATE:19-AUG-2009 21:20:38
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.882E+00

LCS/LCSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.882E+00

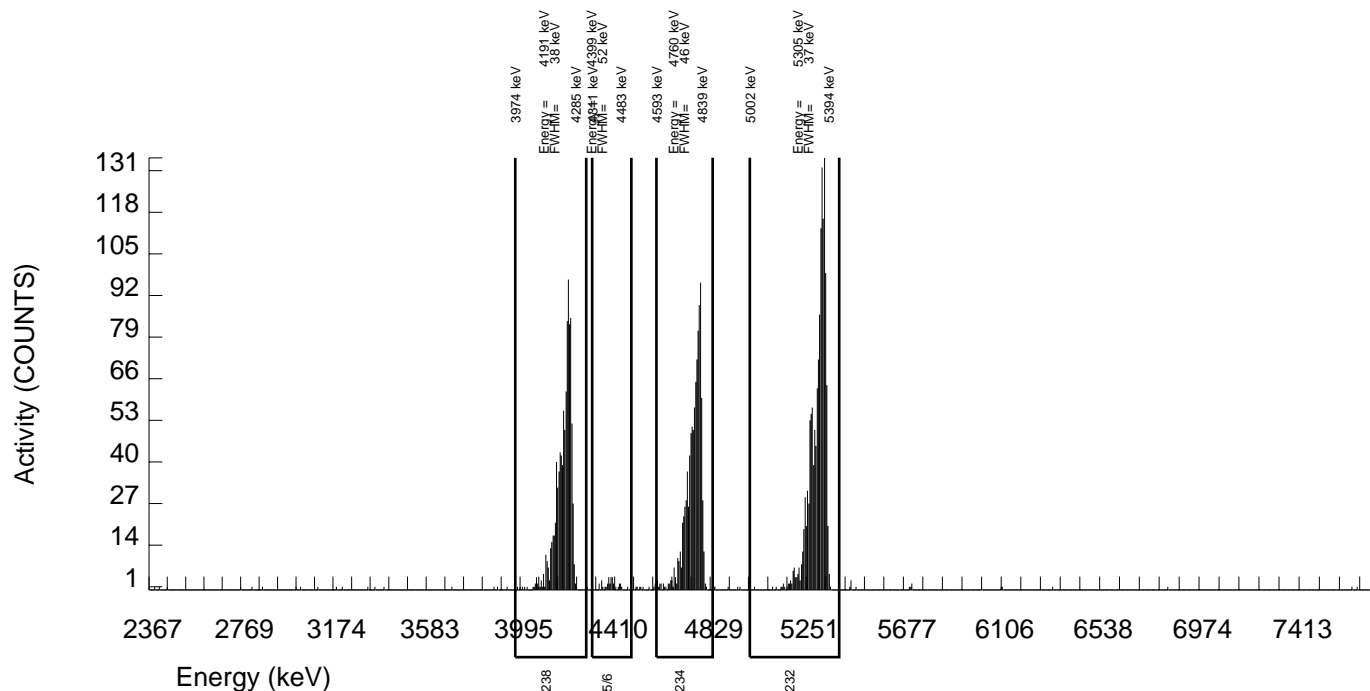
TRACER
ID : 1283-E
ISOTOPE : U232
NOMINAL : 5.26427 dpm
RESULTS : 5.64841 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B156.CNF;343
BKG DATE : 16-AUG-2009
EFF FILE : W156.CNF;109
CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	995.000	976.775	14.000	3.7417	100.0000	3.21E+00	4.80E-01	6.70E-02	2.86E-02	2.04E-01
U232	5302.100	1405.000	1399.000	6.000	2.4495	100.0000	4.60E+00	6.69E-01	4.73E-02	1.87E-02	2.42E-01
U-235	4391.000	34.000	33.000	1.000	1.0000	80.90000	1.34E-01	5.04E-02	3.11E-02	9.44E-03	4.71E-02
U-238	4184.730	980.000	978.000	2.000	1.4142	100.0000	3.21E+00	4.80E-01	3.15E-02	1.08E-02	2.02E-01

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



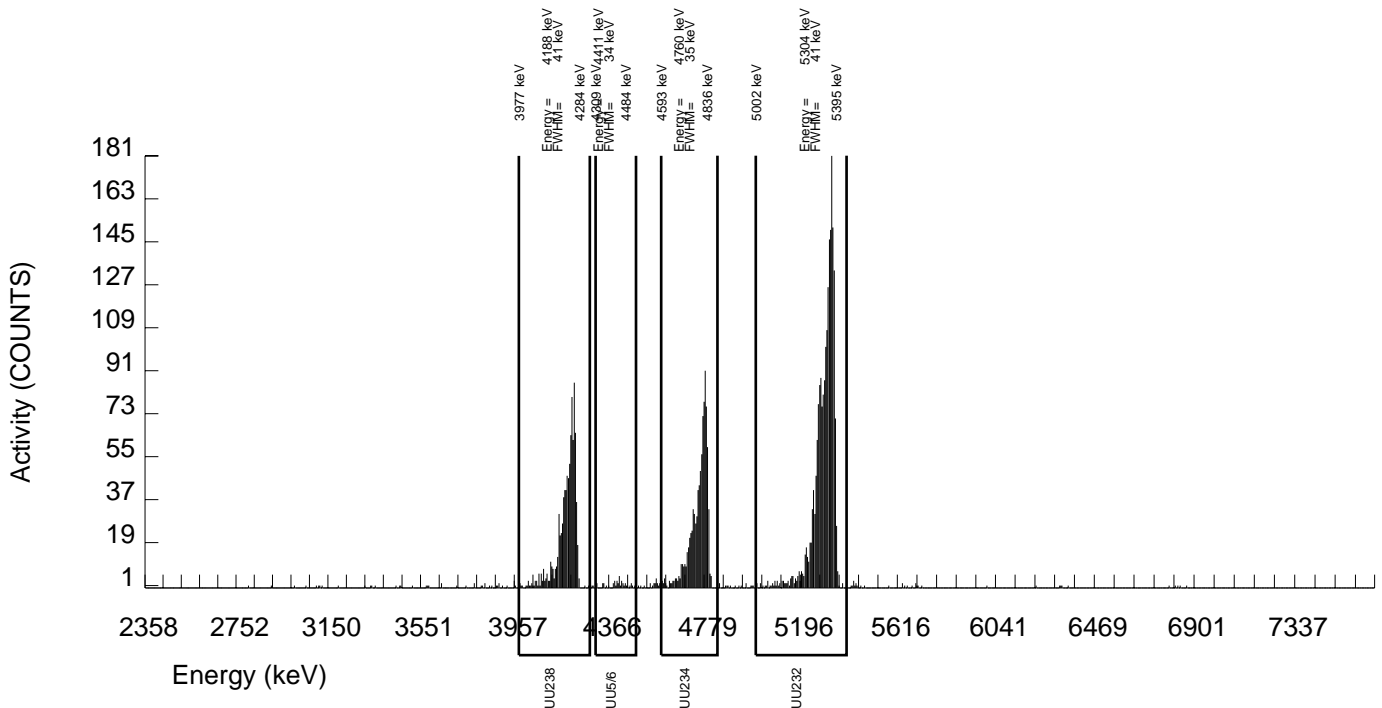
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 29-JUL-2009 00:00:00		SAMPLE ID : S0234267009_UU SAMPLE QTY: 0.509 G	
DETECTOR NUMBER :78774 AVERAGE %EFFICIENCY :33.7280 % YIELD : 117.911		COUNT DATE:25-AUG-2009 14:07:05 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.949E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.949E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26428 dpm RESULTS : 6.20714 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B016.CNF;1035 BKG DATE : 23-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/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	927.000	919.681	1.000	1.0000	100.0000	2.05E+00	3.01E-01	1.70E-02	5.18E-03	1.32E-01
U232	5302.100	2101.000	2092.000	9.000	3.0000	100.0000	4.66E+00	6.47E-01	3.78E-02	1.55E-02	2.00E-01
U-235	4391.000	40.000	40.000	0.000	0.0000	80.90000	1.10E-01	3.71E-02	8.25E-03	0.00E+00	3.41E-02
U-238	4184.730	912.000	909.000	3.000	1.7321	100.0000	2.02E+00	2.98E-01	2.46E-02	8.97E-03	1.32E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901
SAMPLE DATE : 29-JUL-2009 00:00:00

SAMPLE ID : S0234267010_UU
SAMPLE QTY: 0.506 G

DETECTOR NUMBER :33451
AVERAGE %EFFICIENCY :24.7083
% YIELD : 104.619

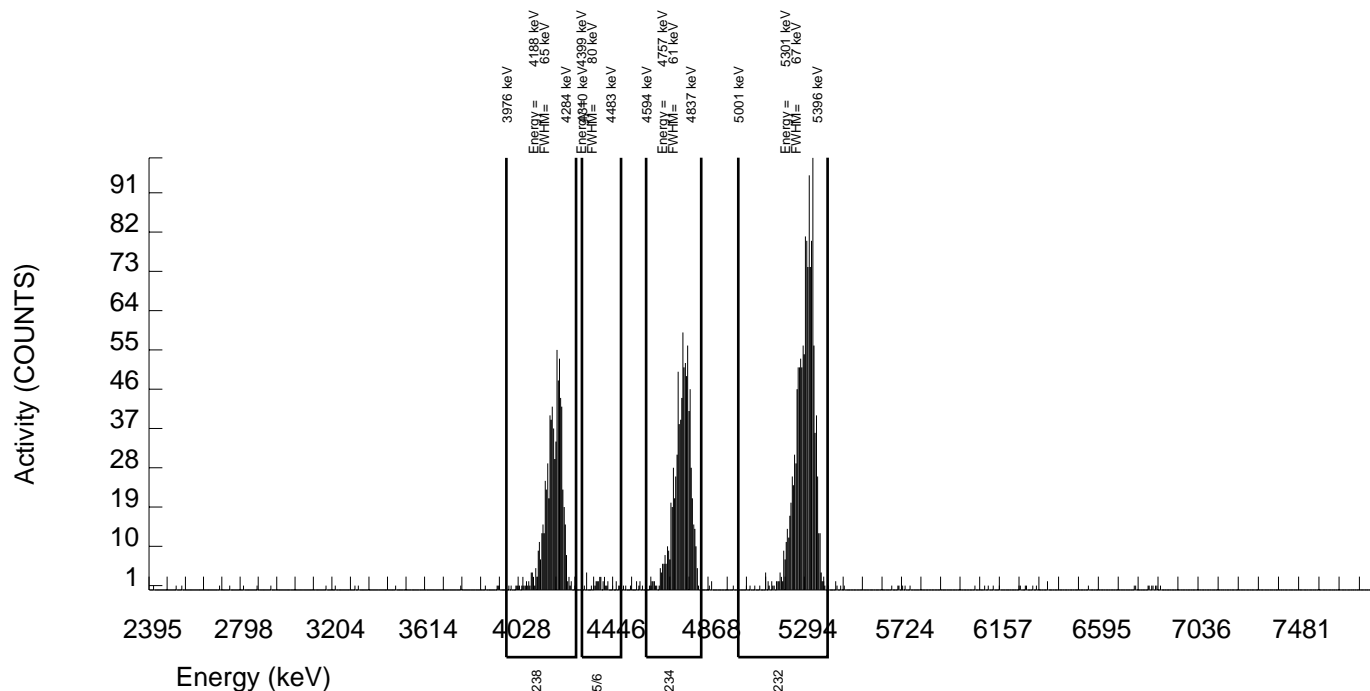
COUNT DATE:19-AUG-2009 21:20:44
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.978E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.978E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26427 dpm RESULTS : 5.50745 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B158.CNF;344 BKG DATE : 16-AUG-2009 EFF FILE : W158.CNF;102 CAL DATE : 17-AUG-2009
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	836.000	824.893	7.000	2.6458	100.0000	2.84E+00	4.33E-01	5.27E-02	2.12E-02	1.96E-01
U232	5302.100	1368.000	1360.000	8.000	2.8284	100.0000	4.69E+00	6.85E-01	5.57E-02	2.27E-02	2.51E-01
U-235	4391.000	34.000	32.000	2.000	1.4142	80.90000	1.36E-01	5.34E-02	4.08E-02	1.40E-02	5.01E-02
U-238	4184.730	742.000	741.000	1.000	1.0000	100.0000	2.55E+00	3.93E-01	2.64E-02	8.01E-03	1.84E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901
SAMPLE DATE : 29-JUL-2009 00:00:00

SAMPLE ID : S0234267011_UU
SAMPLE QTY: 0.508 G

DETECTOR NUMBER :76225
AVERAGE %EFFICIENCY :25.3619
% YIELD : 107.244

COUNT DATE:19-AUG-2009 21:20:47
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.958E+00

LCS/LCSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.958E+00

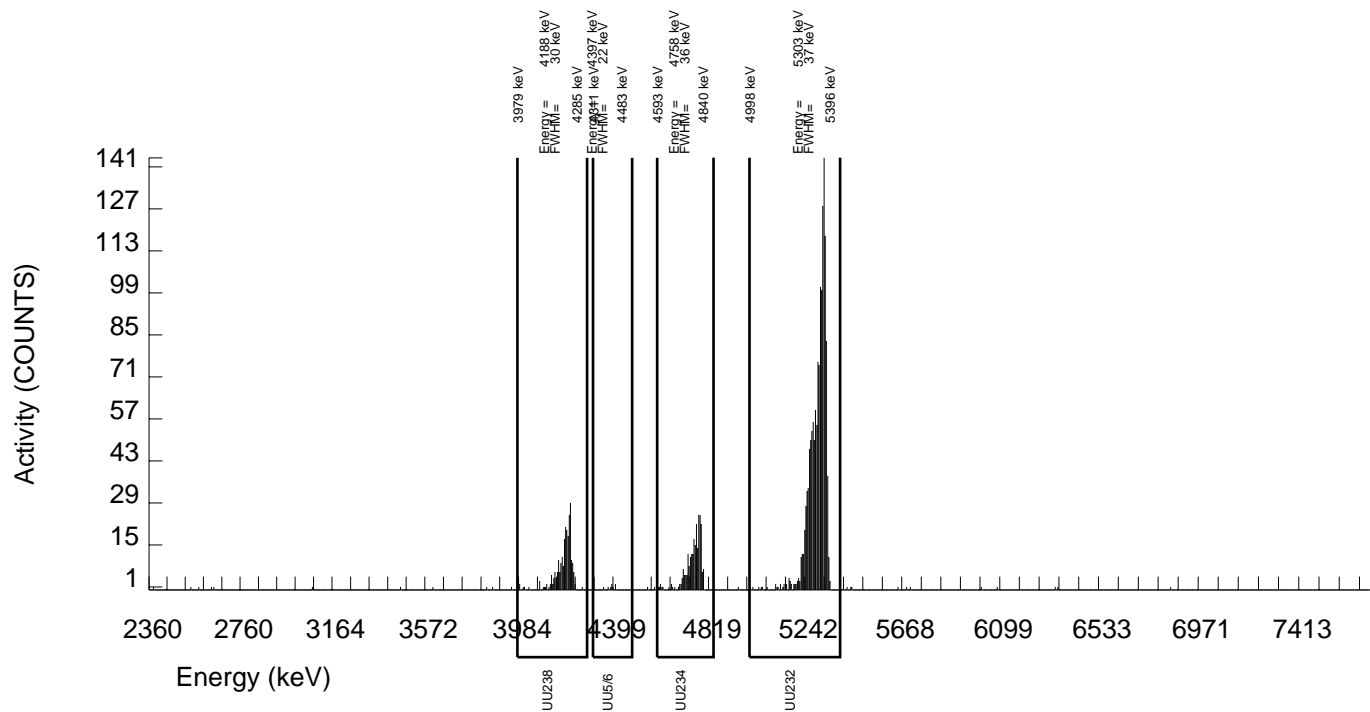
TRACER
ID : 1283-E
ISOTOPE : U232
NOMINAL : 5.26428 dpm
RESULTS : 5.64563 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B159.CNF;317
BKG DATE : 16-AUG-2009
EFF FILE : W159.CNF;94
CAL DATE : 17-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	250.000	240.678	5.000	2.2361	100.0000	7.85E-01	1.47E-01	4.37E-02	1.70E-02	1.01E-01
U232	5302.100	1440.000	1431.000	9.000	3.0000	100.0000	4.67E+00	6.78E-01	5.53E-02	2.28E-02	2.43E-01
U-235	4391.000	8.000	6.000	2.000	1.4142	80.90000	2.42E-02	2.52E-02	3.86E-02	1.33E-02	2.50E-02
U-238	4184.730	245.000	243.000	2.000	1.4142	100.0000	7.92E-01	1.47E-01	3.12E-02	1.07E-02	1.00E-01

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



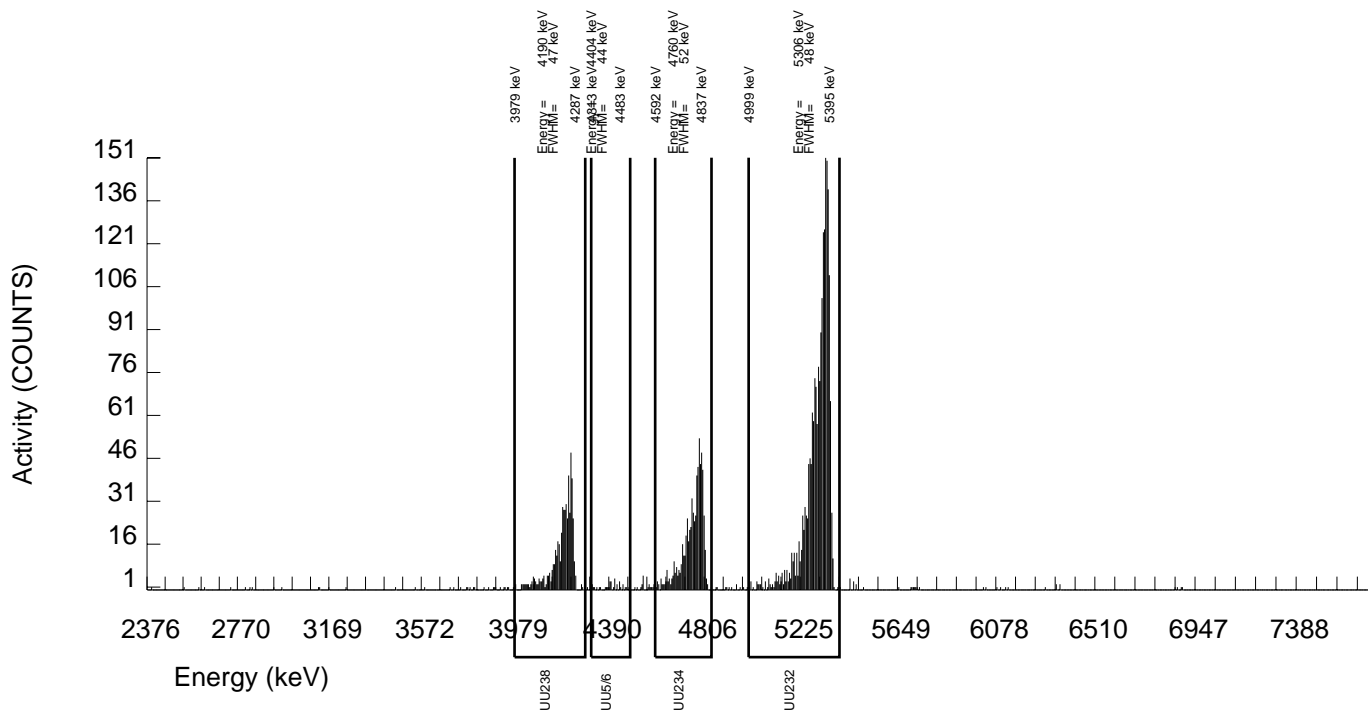
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 29-JUL-2009 00:00:00		SAMPLE ID : S0234267012_UU SAMPLE QTY: 0.511 G	
DETECTOR NUMBER :70321 AVERAGE %EFFICIENCY :37.2449 % YIELD : 103.035		COUNT DATE:19-AUG-2009 21:20:49 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.929E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.929E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26428 dpm RESULTS : 5.42405 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B161.CNF;115 BKG DATE : 16-AUG-2009 EFF FILE : W161.CNF;40 CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	667.000	659.902	1.000	1.0000	100.0000	1.52E+00	2.31E-01	1.76E-02	5.34E-03	1.16E-01
U232	5302.100	2027.000	2019.000	8.000	2.8284	100.0000	4.64E+00	6.46E-01	3.71E-02	1.51E-02	2.03E-01
U-235	4391.000	34.000	31.000	3.000	1.7321	80.90000	8.80E-02	3.58E-02	3.14E-02	1.14E-02	3.39E-02
U-238	4184.730	529.000	527.000	2.000	1.4142	100.0000	1.21E+00	1.91E-01	2.20E-02	7.56E-03	1.04E-01

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



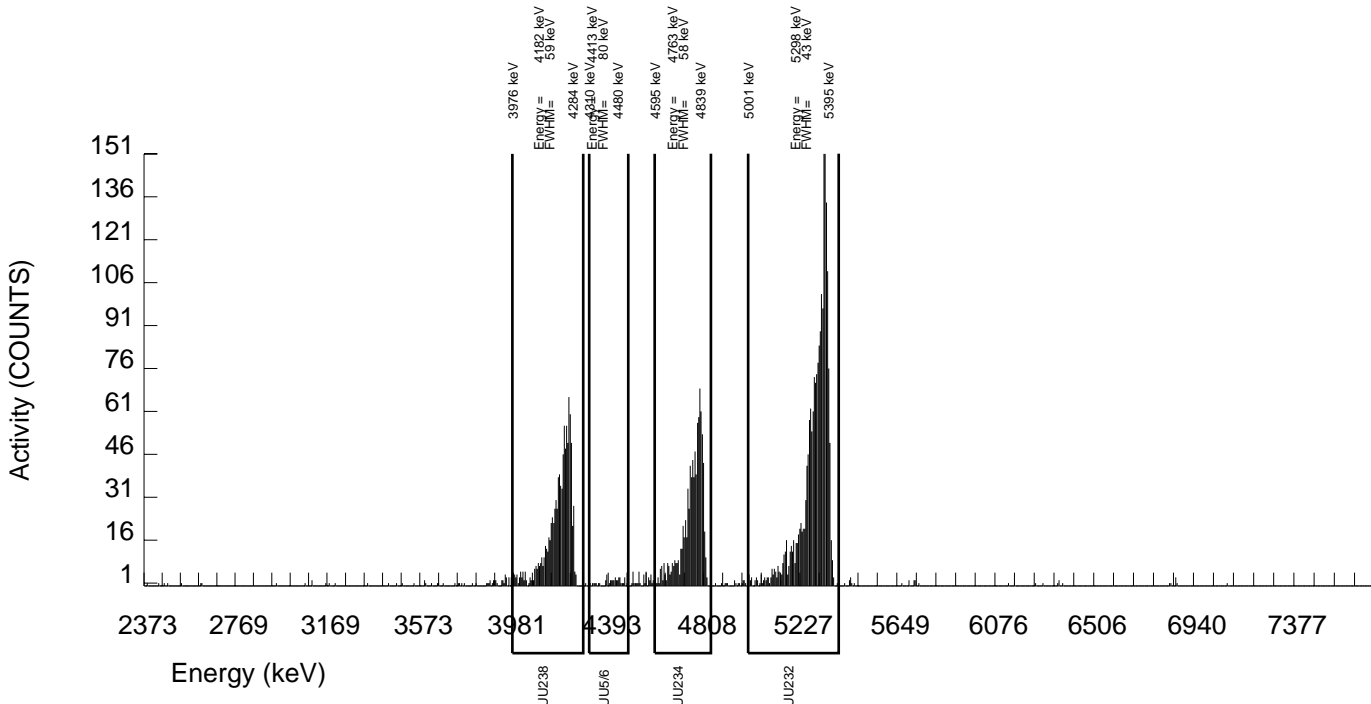
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 29-JUL-2009 00:00:00		SAMPLE ID : S0234267013_UU SAMPLE QTY: 0.507 G	
DETECTOR NUMBER :70323 AVERAGE %EFFICIENCY :37.1124 % YIELD : 105.861		COUNT DATE:19-AUG-2009 21:20:52 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.968E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.968E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26427 dpm RESULTS : 5.57283 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B162.CNF;117 BKG DATE : 16-AUG-2009 EFF FILE : W162.CNF;49 CAL DATE : 4-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	902.000	893.757	2.000	1.4142	100.0000	2.02E+00	2.98E-01	2.17E-02	7.44E-03	1.33E-01
U232	5302.100	2074.000	2067.000	7.000	2.6458	100.0000	4.68E+00	6.50E-01	3.46E-02	1.39E-02	2.02E-01
U-235	4391.000	43.000	43.000	0.000	0.0000	80.90000	1.20E-01	3.93E-02	8.39E-03	0.00E+00	3.59E-02
U-238	4184.730	987.000	983.000	4.000	2.0000	100.0000	2.22E+00	3.25E-01	2.78E-02	1.05E-02	1.40E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901
SAMPLE DATE : 29-JUL-2009 00:00:00

SAMPLE ID : S0234267014_UU
SAMPLE QTY: 0.520 G

DETECTOR NUMBER :70324
AVERAGE %EFFICIENCY :38.2450
% YIELD : 106.305

COUNT DATE:19-AUG-2009 21:20:53
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.844E+00

LCS/LCSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 4.844E+00

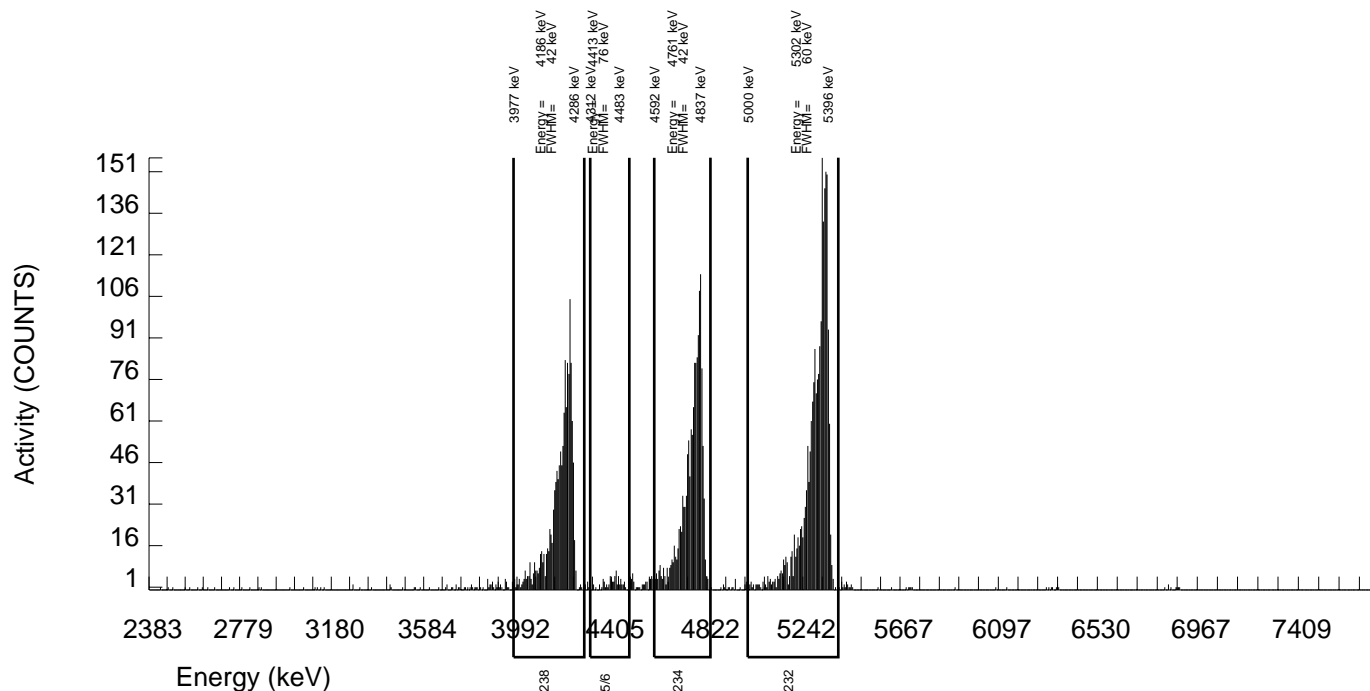
TRACER
ID : 1283-E
ISOTOPE : U232
NOMINAL : 5.26428 dpm
RESULTS : 5.59617 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B163.CNF;115
BKG DATE : 16-AUG-2009
EFF FILE : W163.CNF;37
CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	1430.000	1409.540	14.000	3.7417	100.0000	3.00E+00	4.26E-01	4.35E-02	1.85E-02	1.58E-01
U232	5302.100	2165.000	2139.000	26.000	5.0990	100.0000	4.56E+00	6.32E-01	5.70E-02	2.53E-02	1.96E-01
U-235	4391.000	69.000	69.000	0.000	0.0000	80.90000	1.82E-01	4.91E-02	7.90E-03	0.00E+00	4.29E-02
U-238	4184.730	1340.000	1336.000	4.000	2.0000	100.0000	2.85E+00	4.05E-01	2.62E-02	9.91E-03	1.53E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901
SAMPLE DATE : 29-JUL-2009 00:00:00

SAMPLE ID : S0234267015_UU
SAMPLE QTY: 0.507 G

DETECTOR NUMBER :70325
AVERAGE %EFFICIENCY :38.7145
% YIELD : 97.847

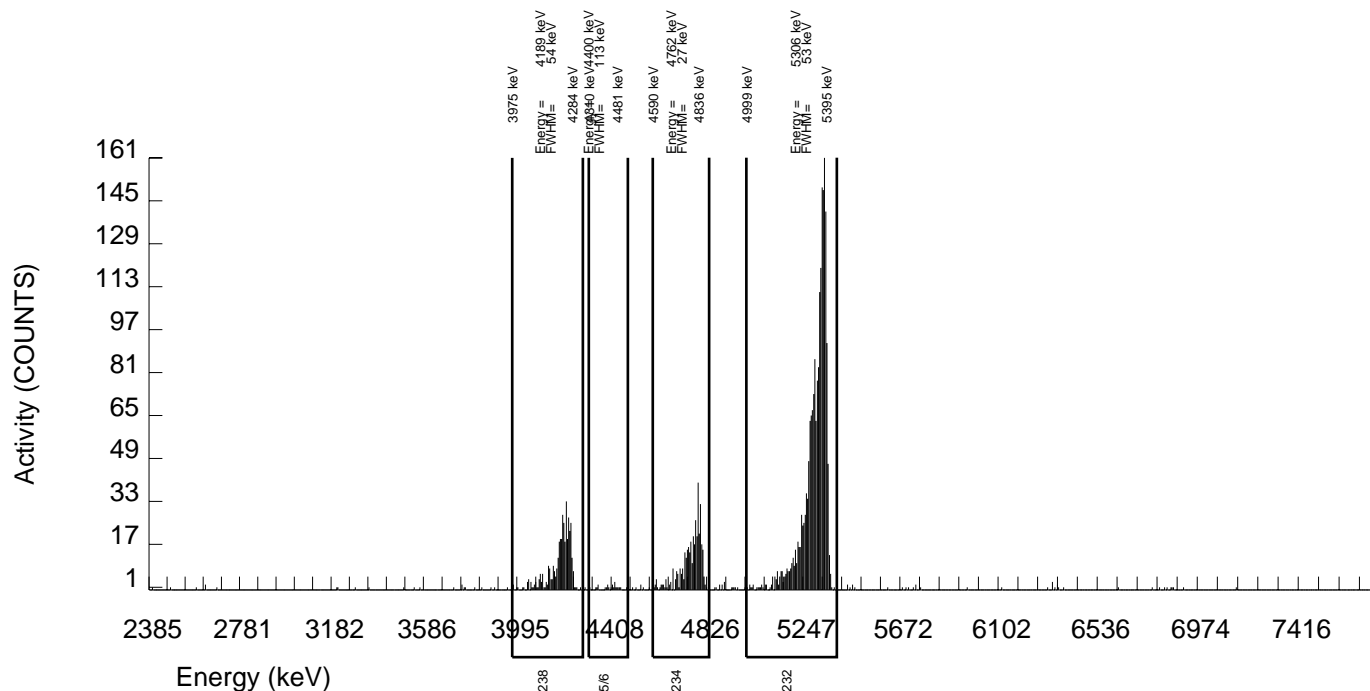
COUNT DATE:19-AUG-2009 21:20:57
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.968E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.968E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26428 dpm RESULTS : 5.15095 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B164.CNF;115 BKG DATE : 16-AUG-2009 EFF FILE : W164.CNF;37 CAL DATE : 23-JUL-2009
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	393.000	381.981	5.000	2.2361	100.0000	8.96E-01	1.49E-01	3.14E-02	1.22E-02	9.10E-02
U232	5302.100	2009.000	1993.000	16.000	4.0000	100.0000	4.68E+00	6.52E-01	5.07E-02	2.18E-02	2.07E-01
U-235	4391.000	25.000	24.000	1.000	1.0000	80.90000	6.96E-02	3.04E-02	2.22E-02	6.74E-03	2.90E-02
U-238	4184.730	394.000	389.000	5.000	2.2361	100.0000	9.12E-01	1.52E-01	3.14E-02	1.22E-02	9.18E-02

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



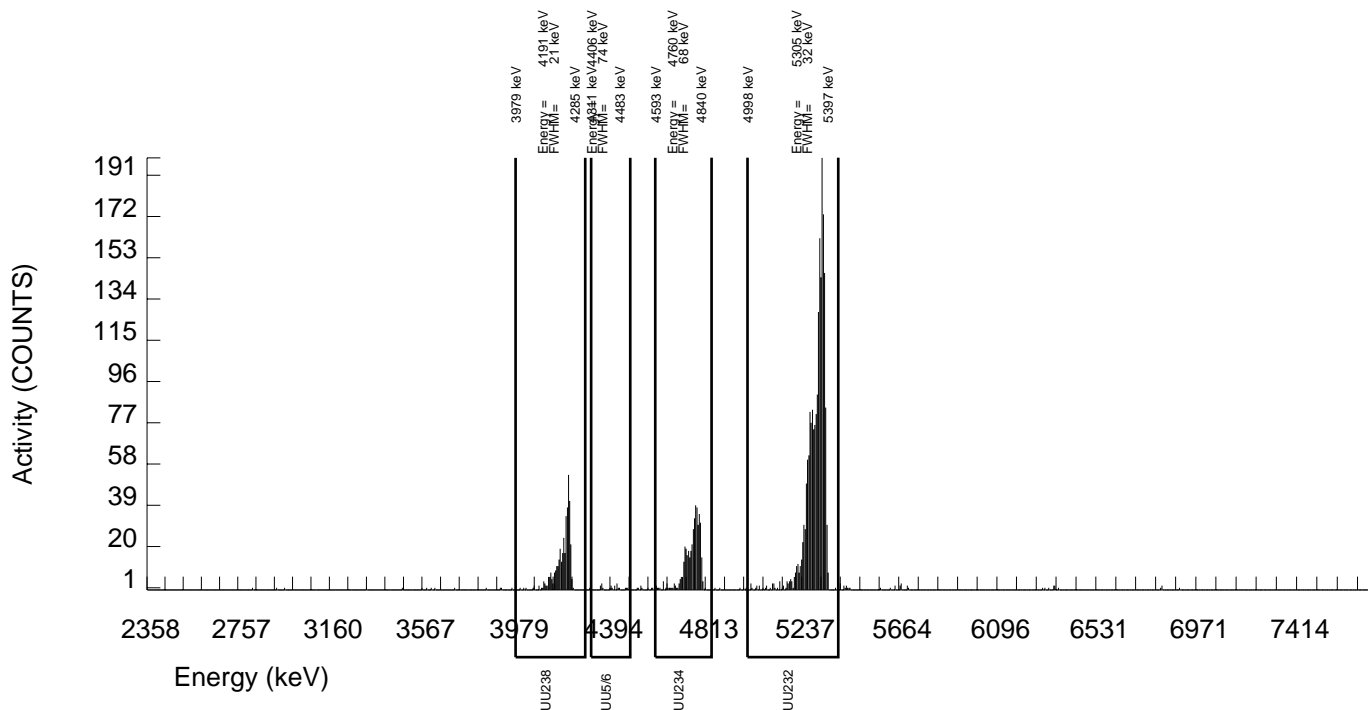
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 29-JUL-2009 00:00:00		SAMPLE ID : S0234267016_UU SAMPLE QTY: 0.510 G	
DETECTOR NUMBER :78782 AVERAGE %EFFICIENCY :31.7210 % YIELD : 119.917		COUNT DATE:25-AUG-2009 14:07:05 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.939E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.939E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26428 dpm RESULTS : 6.31278 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B018.CNF;1034 BKG DATE : 23-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/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	439.000	429.956	3.000	1.7321	100.0000	9.98E-01	1.63E-01	2.57E-02	9.36E-03	9.50E-02
U232	5302.100	2011.000	2001.000	10.000	3.1623	100.0000	4.65E+00	6.49E-01	4.12E-02	1.71E-02	2.05E-01
U-235	4391.000	21.000	20.000	1.000	1.0000	80.90000	5.74E-02	2.75E-02	2.20E-02	6.68E-03	2.64E-02
U-238	4184.730	385.000	381.000	4.000	2.0000	100.0000	8.85E-01	1.48E-01	2.86E-02	1.08E-02	8.98E-02

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901
SAMPLE DATE : 29-JUL-2009 00:00:00

SAMPLE ID : S0234267017_UU
SAMPLE QTY: 0.508 G

DETECTOR NUMBER :74545
AVERAGE %EFFICIENCY :39.2509
% YIELD : 106.147

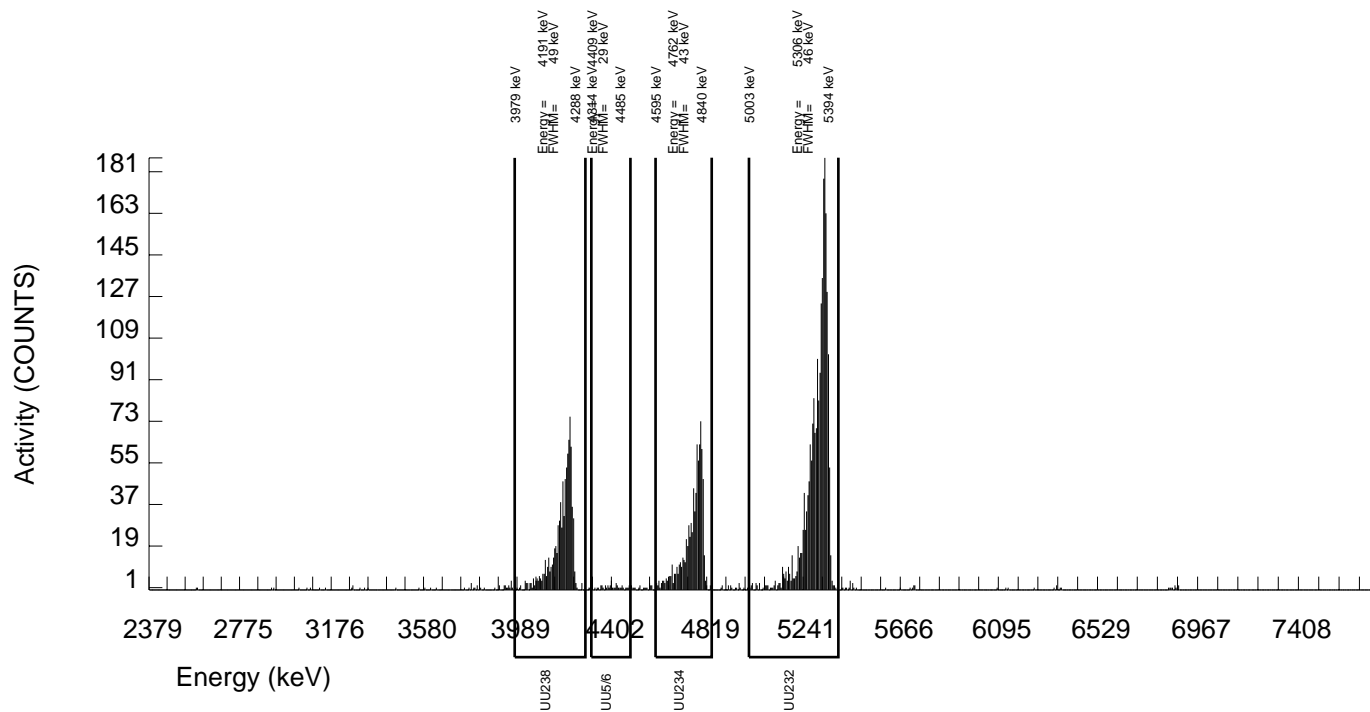
COUNT DATE:19-AUG-2009 21:21:01
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_UU.N
ID : 1163-G	ID : 1163-G	ID : 1283-E	BKG FILE : B166.CNF;116
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG DATE : 16-AUG-2009
PCI/G : 4.958E+00	PCI/G : 4.958E+00	NOMINAL : 5.26428 dpm	EFF FILE : W166.CNF;37
		RESULTS : 5.58785 dpm	CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	820.000	810.380	3.000	1.7321	100.0000	1.72E+00	2.56E-01	2.35E-02	8.58E-03	1.19E-01
U232	5302.100	2200.000	2192.000	8.000	2.8284	100.0000	4.67E+00	6.45E-01	3.44E-02	1.40E-02	1.96E-01
U-235	4391.000	41.000	38.000	3.000	1.7321	80.90000	1.00E-01	3.66E-02	2.91E-02	1.06E-02	3.42E-02
U-238	4184.730	855.000	854.000	1.000	1.0000	100.0000	1.82E+00	2.68E-01	1.63E-02	4.95E-03	1.22E-01

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



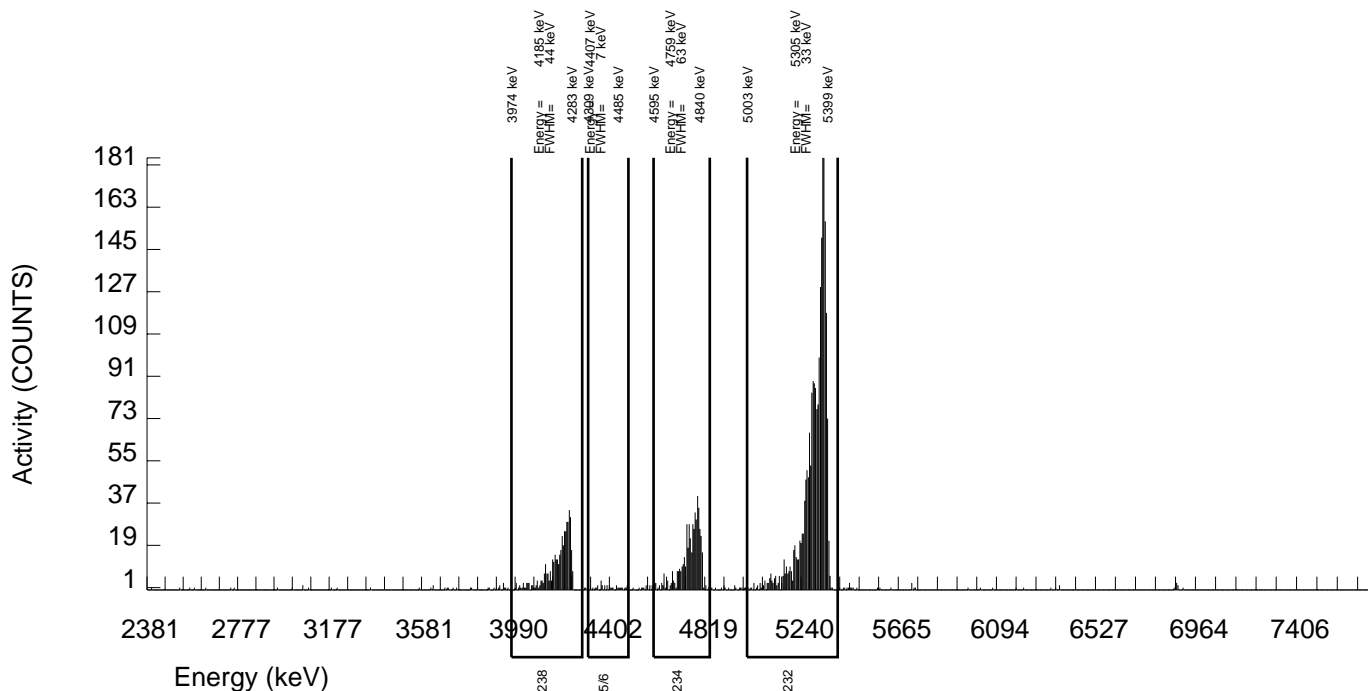
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 30-JUL-2009 00:00:00		SAMPLE ID : S0234267019_UU SAMPLE QTY: 0.502 G	
DETECTOR NUMBER :72546 AVERAGE %EFFICIENCY :38.8816 % YIELD : 109.110		COUNT DATE:19-AUG-2009 21:21:04 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.018E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.018E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26413 dpm RESULTS : 5.74372 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B167.CNF;116 BKG DATE : 16-AUG-2009 EFF FILE : W167.CNF;37 CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	502.000	493.259	2.000	1.4142	100.0000	1.04E+00	1.65E-01	2.03E-02	6.96E-03	9.24E-02
U232	5302.100	2241.000	2232.000	9.000	3.0000	100.0000	4.72E+00	6.51E-01	3.59E-02	1.48E-02	1.97E-01
U-235	4391.000	32.000	30.000	2.000	1.4142	80.90000	7.84E-02	3.16E-02	2.50E-02	8.60E-03	2.99E-02
U-238	4184.730	446.000	441.000	5.000	2.2361	100.0000	9.33E-01	1.51E-01	2.84E-02	1.10E-02	8.80E-02

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



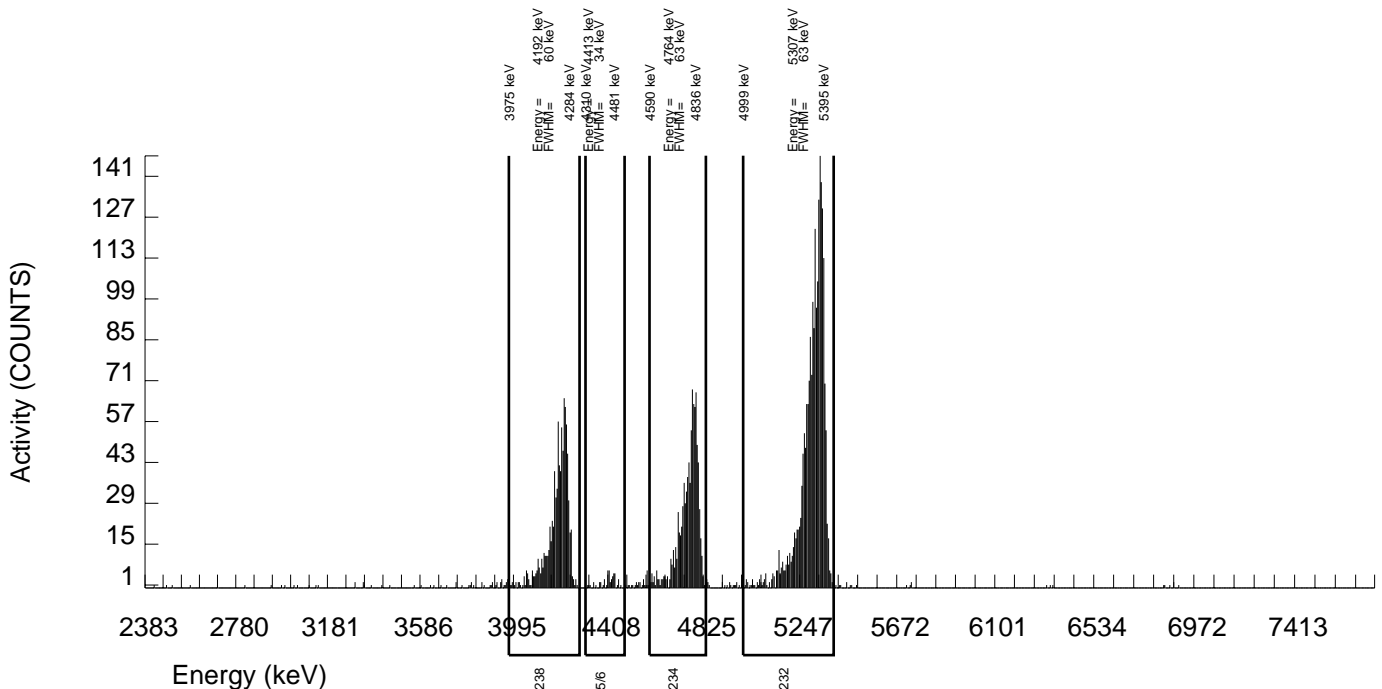
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 30-JUL-2009 00:00:00		SAMPLE ID : S0234267020_UU SAMPLE QTY: 0.511 G	
DETECTOR NUMBER :72547 AVERAGE %EFFICIENCY :38.9917 % YIELD : 105.829		COUNT DATE:19-AUG-2009 21:21:06 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.929E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.929E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26413 dpm RESULTS : 5.57096 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B168.CNF;116 BKG DATE : 16-AUG-2009 EFF FILE : W168.CNF;37 CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	910.000	897.443	6.000	2.4495	100.0000	1.92E+00	2.82E-01	3.08E-02	1.22E-02	1.26E-01
U232	5302.100	2190.000	2171.000	19.000	4.3589	100.0000	4.64E+00	6.42E-01	4.98E-02	2.17E-02	1.97E-01
U-235	4391.000	52.000	49.000	3.000	1.7321	80.90000	1.29E-01	4.20E-02	2.92E-02	1.06E-02	3.84E-02
U-238	4184.730	897.000	892.000	5.000	2.2361	100.0000	1.91E+00	2.81E-01	2.86E-02	1.11E-02	1.26E-01

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



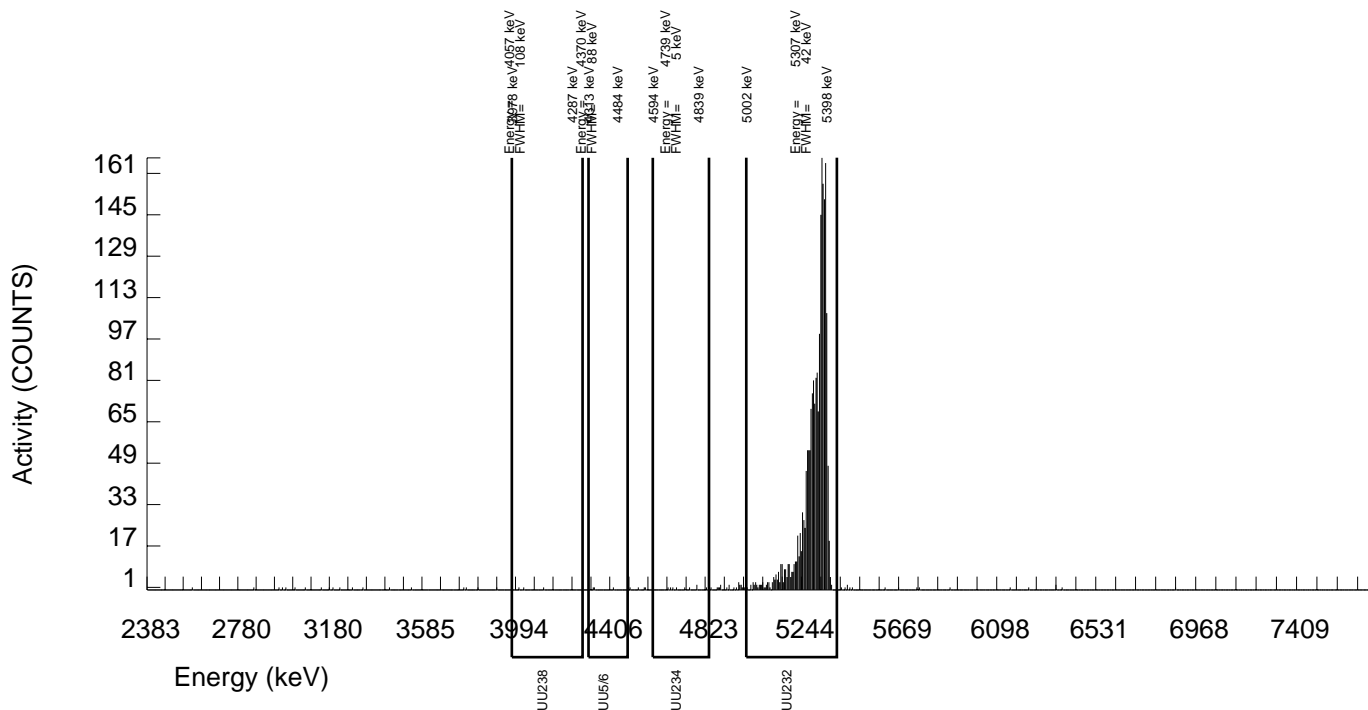
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 13-AUG-2009 00:00:00		SAMPLE ID : S1201899551_UU SAMPLE QTY: 0.521 G	
DETECTOR NUMBER :72548 AVERAGE %EFFICIENCY :37.7690 % YIELD : 107.141		COUNT DATE:19-AUG-2009 21:21:09 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.835E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.835E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26220 dpm RESULTS : 5.63798 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B169.CNF;118 BKG DATE : 16-AUG-2009 EFF FILE : W169.CNF;47 CAL DATE : 4-AUG-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	9.000	-10.430	13.000	3.6056	100.0000	-2.23E-02	1.65E-02	4.23E-02	1.79E-02	1.65E-02
U232	5302.100	2143.000	2129.000	14.000	3.7417	100.0000	4.55E+00	6.30E-01	4.36E-02	1.86E-02	1.95E-01
U-235	4391.000	3.000	2.000	1.000	1.0000	80.90000	5.28E-03	1.04E-02	2.02E-02	6.14E-03	1.04E-02
U-238	4184.730	3.000	-1.000	4.000	2.0000	100.0000	-2.14E-03	1.11E-02	2.63E-02	9.94E-03	1.11E-02

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901
SAMPLE DATE : 28-JUL-2009 00:00:00

SAMPLE ID : S1201899552_UU
SAMPLE QTY: 0.502 G

DETECTOR NUMBER :72549
AVERAGE %EFFICIENCY :36.7801
% YIELD : 116.016

COUNT DATE:19-AUG-2009 21:21:11
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 5.018E+00

LCS/LCSD
ID : 1163-G
ISOTOPE : U-238
PCI/G : 5.018E+00

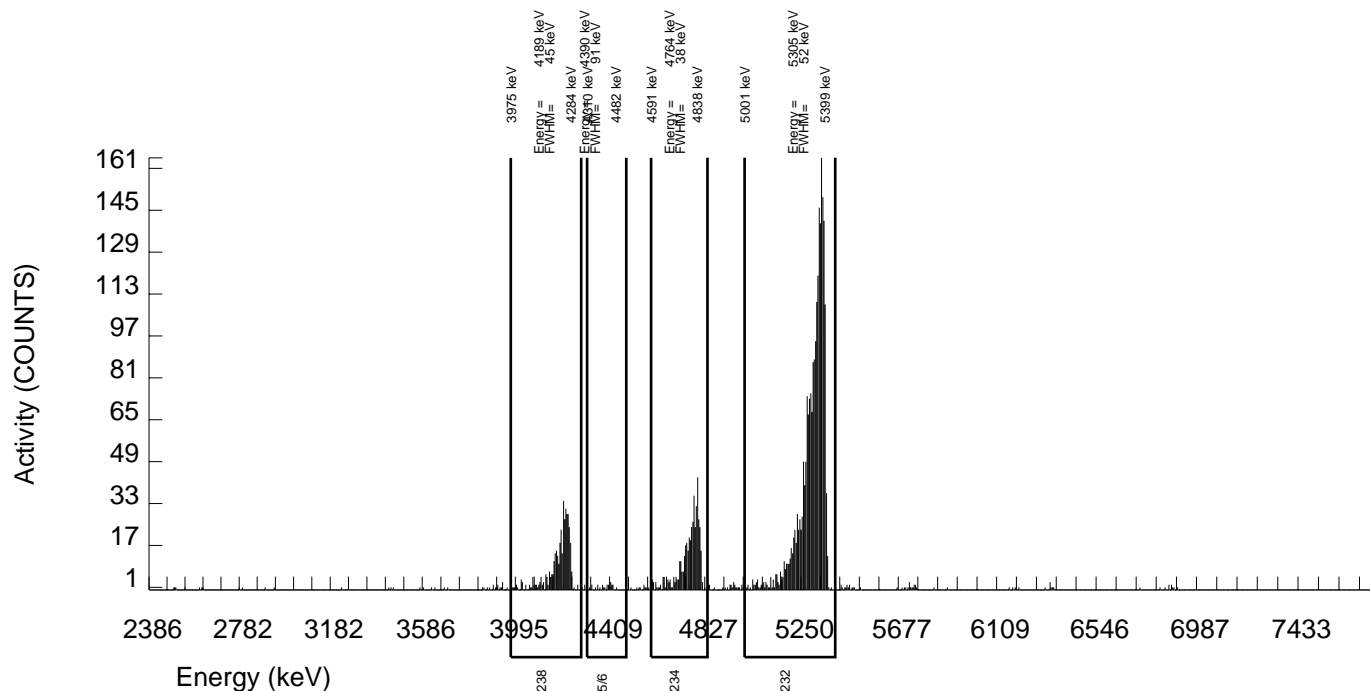
TRACER
ID : 1283-E
ISOTOPE : U232
NOMINAL : 5.26442 dpm
RESULTS : 6.10758 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B170.CNF;116
BKG DATE : 16-AUG-2009
EFF FILE : W170.CNF;37
CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	455.000	442.220	6.000	2.4495	100.0000	9.30E-01	1.51E-01	3.03E-02	1.20E-02	8.78E-02
U232	5302.100	2262.000	2245.000	17.000	4.1231	100.0000	4.72E+00	6.51E-01	4.67E-02	2.02E-02	1.97E-01
U-235	4391.000	25.000	24.000	1.000	1.0000	80.90000	6.24E-02	2.72E-02	1.99E-02	6.05E-03	2.60E-02
U-238	4184.730	408.000	405.000	3.000	1.7321	100.0000	8.52E-01	1.40E-01	2.33E-02	8.47E-03	8.36E-02

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



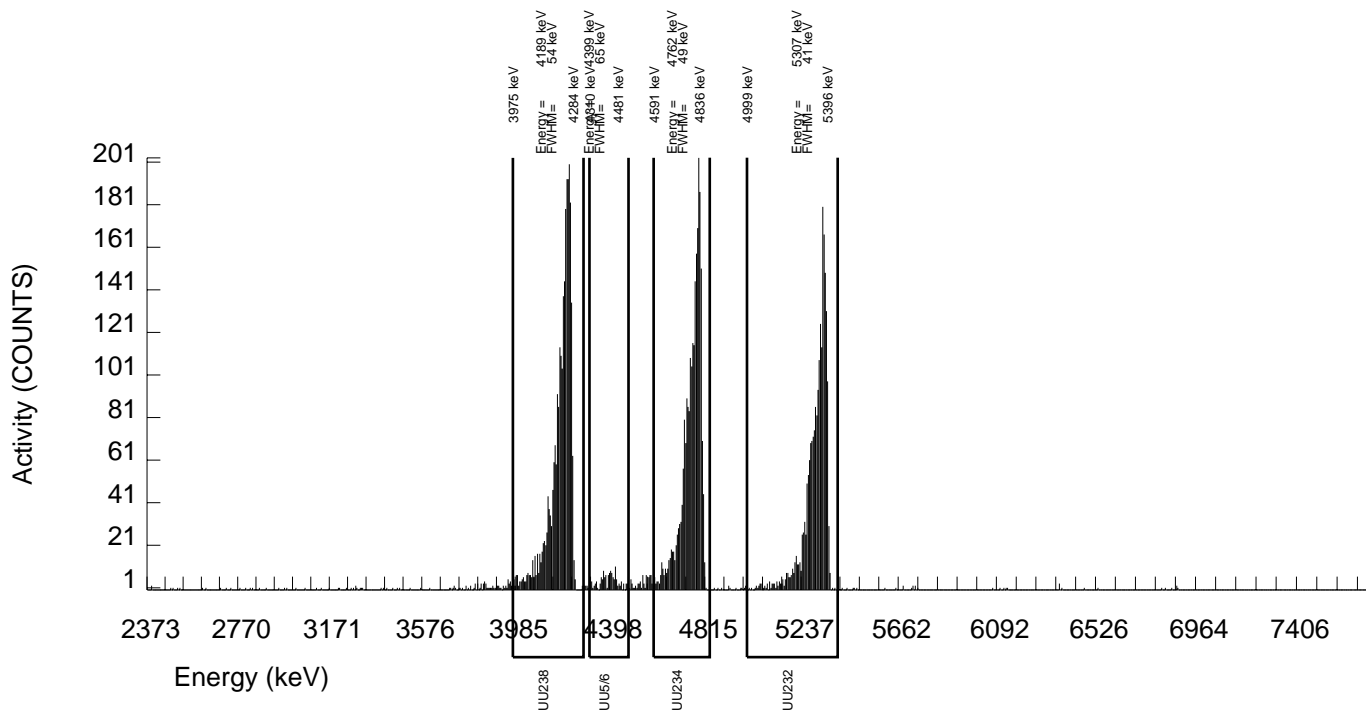
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 28-JUL-2009 00:00:00		SAMPLE ID : S1201899553_UU SAMPLE QTY: 0.510 G	
DETECTOR NUMBER :78260 AVERAGE %EFFICIENCY :38.3792 % YIELD : 104.645		COUNT DATE:19-AUG-2009 21:21:13 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.939E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.939E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26442 dpm RESULTS : 5.50897 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B171.CNF;122 BKG DATE : 16-AUG-2009 EFF FILE : W171.CNF;54 CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	2422.000	2407.618	8.000	2.8284	100.0000	5.29E+00	7.30E-01	3.55E-02	1.45E-02	2.12E-01
U232	5302.100	2130.000	2113.000	17.000	4.1231	100.0000	4.65E+00	6.45E-01	4.88E-02	2.11E-02	2.00E-01
U-235	4391.000	137.000	136.000	1.000	1.0000	80.90000	3.70E-01	7.93E-02	2.08E-02	6.32E-03	6.26E-02
U-238	4184.730	2636.000	2625.000	11.000	3.3166	100.0000	5.77E+00	7.93E-01	4.05E-02	1.70E-02	2.22E-01

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



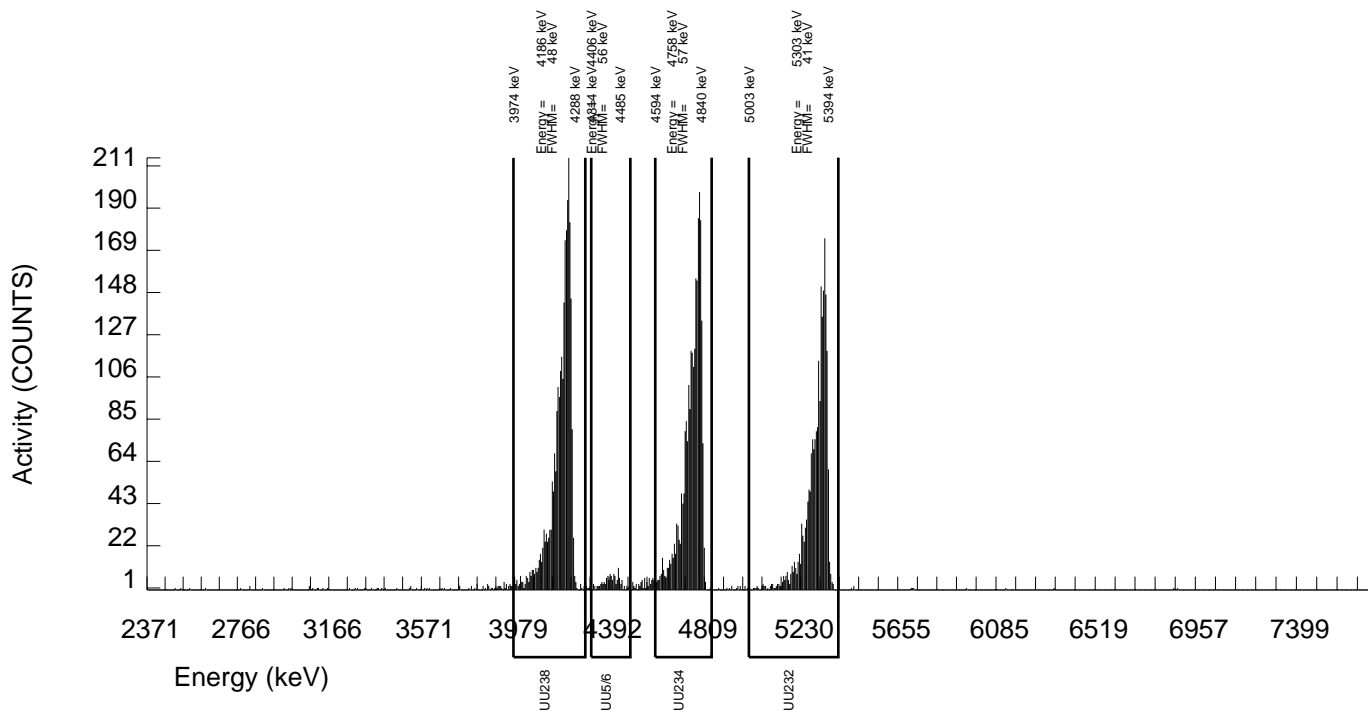
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892901 SAMPLE DATE : 13-AUG-2009 00:00:00		SAMPLE ID : S1201899554_UU SAMPLE QTY: 0.521 G	
DETECTOR NUMBER :78772 AVERAGE %EFFICIENCY :38.2284 % YIELD : 104.163		COUNT DATE:19-AUG-2009 21:21:14 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.835E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.835E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26220 dpm RESULTS : 5.48127 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B172.CNF;120 BKG DATE : 16-AUG-2009 EFF FILE : W172.CNF;47 CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
U-3/4	4763.020	2462.000	2452.673	3.000	1.7321	100.0000	5.33E+00	7.33E-01	2.40E-02	8.75E-03	2.11E-01
U232	5302.100	2103.000	2095.000	8.000	2.8284	100.0000	4.55E+00	6.31E-01	3.51E-02	1.43E-02	1.96E-01
U-235	4391.000	124.000	124.000	0.000	0.0000	80.90000	3.33E-01	7.32E-02	8.05E-03	0.00E+00	5.86E-02
U-238	4184.730	2597.000	2592.000	5.000	2.2361	100.0000	5.63E+00	7.73E-01	2.91E-02	1.13E-02	2.17E-01

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



Radiochemistry Batch Checklist, Rev 9

Batch# 892925 Product: u Date: 8/20/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)			N/A
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.			N/A
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.			N/A
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stated.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.			N/A
Batch non-conformances second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: E. [Signature] 8/20/09

Secondary Review Performed By: [Signature] 8/20/09

KERR

8/15 - 8/26

Uranium Que Sheet

11-AUG-09

Batch #: 892925 Analyst: JXD2 First Client Due Date: 26-AUG-09 Internal Due Date: 15-AUG-09
 Tracer Isotope: U-235 (U-235) Tracer Code: 1283-E Expiration Date: 01/15/10 Vol: 0.1
 LCS Isotope: U-238 LCS Code: 1162-G Expiration Date: 04/15/10 Vol: 0.1
 Spike Isotope: U-238 Spike Code: _____ Expiration Date: _____ Vol: _____
 Prep Date: 08/12/09 Initials: JXD Pipet ID: 277-058 Balance ID: 16350207 Witness: 8/12/09 CMM

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/μl)	U Det #
234120018-1	EB072709-SO	SAMPLE		.03 pCi/L	WATER	KERR003	27-JUL-09	1	1	0.800	9
234267018-1	FB072909-SO	SAMPLE		.03 pCi/L	WATER	KERR003	29-JUL-09	2	2	0.800	13
234414019-1	EB073109-SO	SAMPLE		.03 pCi/L	WATER	KERR003	31-JUL-09	3	3	0.800	15
234414020-1	EB080309-SO	SAMPLE		.03 pCi/L	WATER	KERR003	03-AUG-09	4	4	0.800	16
234414021-1	FB080309-SO	SAMPLE		.03 pCi/L	WATER	KERR003	03-AUG-09	5	5	0.800	161
1201899628-1	MB for batch 892925	MB		.03 pCi/L	WATER	QC ACCOUNT	27-JUL-09 12-Aug-09	6	6	0.800	162
1201899629-1	LCS for batch 892925	LCS		.03 pCi/L	WATER	QC ACCOUNT	27-JUL-09 12-Aug-09	7	7	0.800	17
1201899630-1	LCS for batch 892925	LCS		.03 pCi/L	WATER	QC ACCOUNT	27-JUL-09 12-Aug-09	8	8	0.800	18

Choose SOP used: GL-RAD-A-011
 GL-RAD-A-036
 GL-RAD-A-045
 GL-RAD-A-043

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: [Signature] 8/20/09
[Signature] 8/21/09

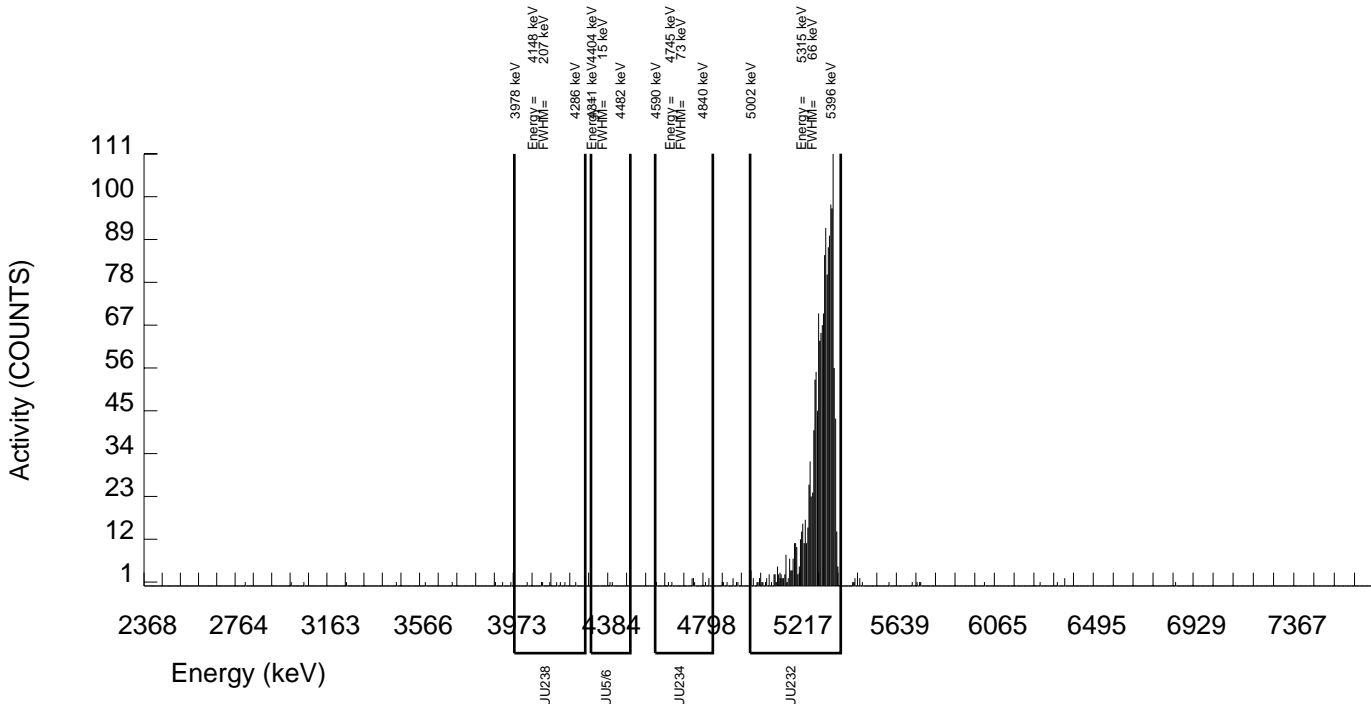
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892925 SAMPLE DATE : 29-JUL-2009 00:00:00		SAMPLE ID : S0234267018_UU SAMPLE QTY: 0.800 L	
DETECTOR NUMBER :78790 AVERAGE %EFFICIENCY :34.0969 % YIELD : 94.922		COUNT DATE:15-AUG-2009 17:48:40 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26428 dpm RESULTS : 4.99697 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B013.CNF;1034 BKG DATE : 9-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	11.000	3.857	2.000	1.4142	100.0000	6.71E-03	9.60E-03	1.67E-02	5.72E-03	9.56E-03
U232	5302.100	1707.000	1703.000	4.000	2.0000	100.0000	2.96E+00	4.19E-01	2.14E-02	8.10E-03	1.41E-01
U-235	4391.000	2.000	0.000	2.000	1.4142	80.90000	0.00E+00	8.43E-03	2.06E-02	7.07E-03	8.43E-03
U-238	4184.730	8.000	6.000	2.000	1.4142	100.0000	1.04E-02	1.09E-02	1.67E-02	5.72E-03	1.08E-02

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



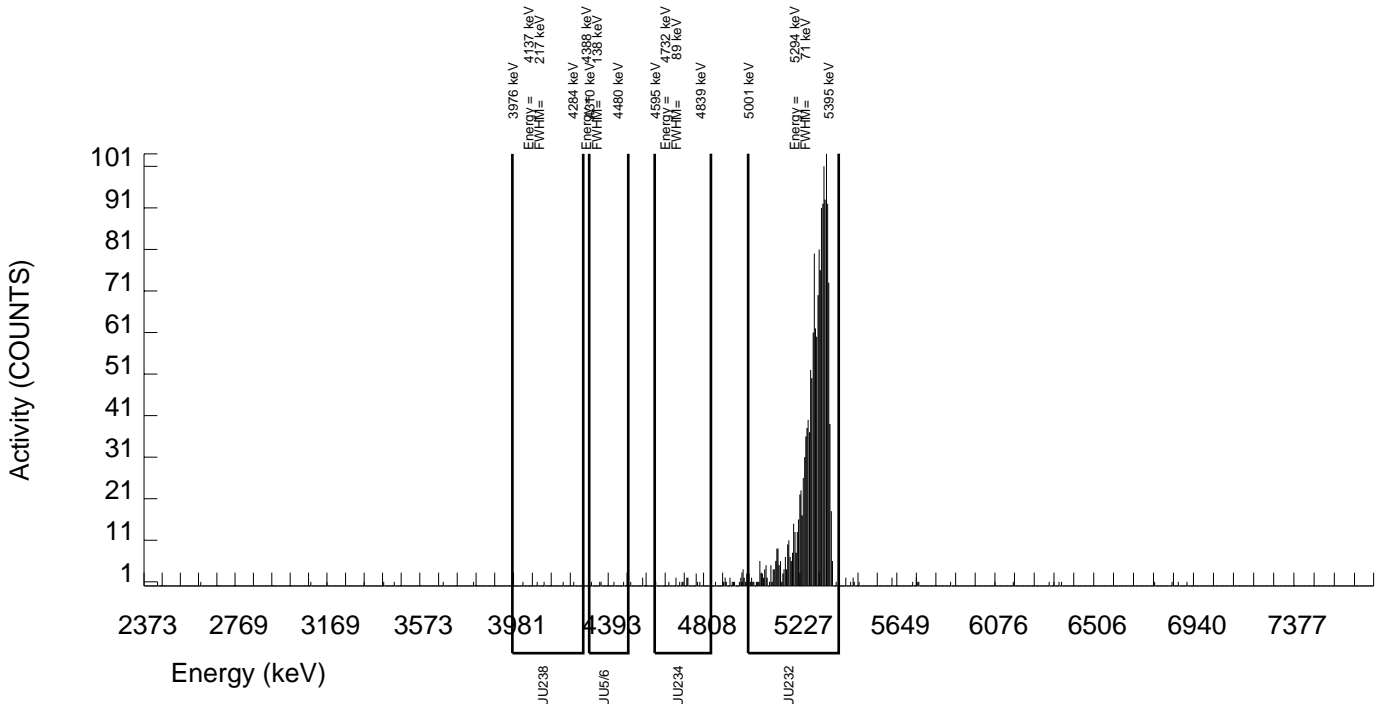
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892925 SAMPLE DATE : 12-AUG-2009 00:00:00		SAMPLE ID : S1201899628_UU SAMPLE QTY: 0.800 L	
DETECTOR NUMBER :70323 AVERAGE %EFFICIENCY :37.1124 % YIELD : 91.153		COUNT DATE:15-AUG-2009 18:00:06 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :JXD2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26234 dpm RESULTS : 4.79676 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B162.CNF;115 BKG DATE : 9-AUG-2009 EFF FILE : W162.CNF;49 CAL DATE : 4-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	16.000	6.625	4.000	2.0000	100.0000	1.10E-02	1.26E-02	2.05E-02	7.74E-03	1.25E-02
U232	5302.100	1787.000	1780.000	7.000	2.6458	100.0000	2.96E+00	4.16E-01	2.55E-02	1.02E-02	1.38E-01
U-235	4391.000	5.000	3.000	2.000	1.4142	80.90000	6.17E-03	1.07E-02	1.97E-02	6.77E-03	1.07E-02
U-238	4184.730	5.000	4.000	1.000	1.0000	100.0000	6.66E-03	8.04E-03	1.27E-02	3.87E-03	7.99E-03

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892925
SAMPLE DATE : 12-AUG-2009 00:00:00

SAMPLE ID : S1201899629_UU
SAMPLE QTY: 0.800 L

DETECTOR NUMBER :78791
AVERAGE %EFFICIENCY :29.2091
% YIELD : 79.445

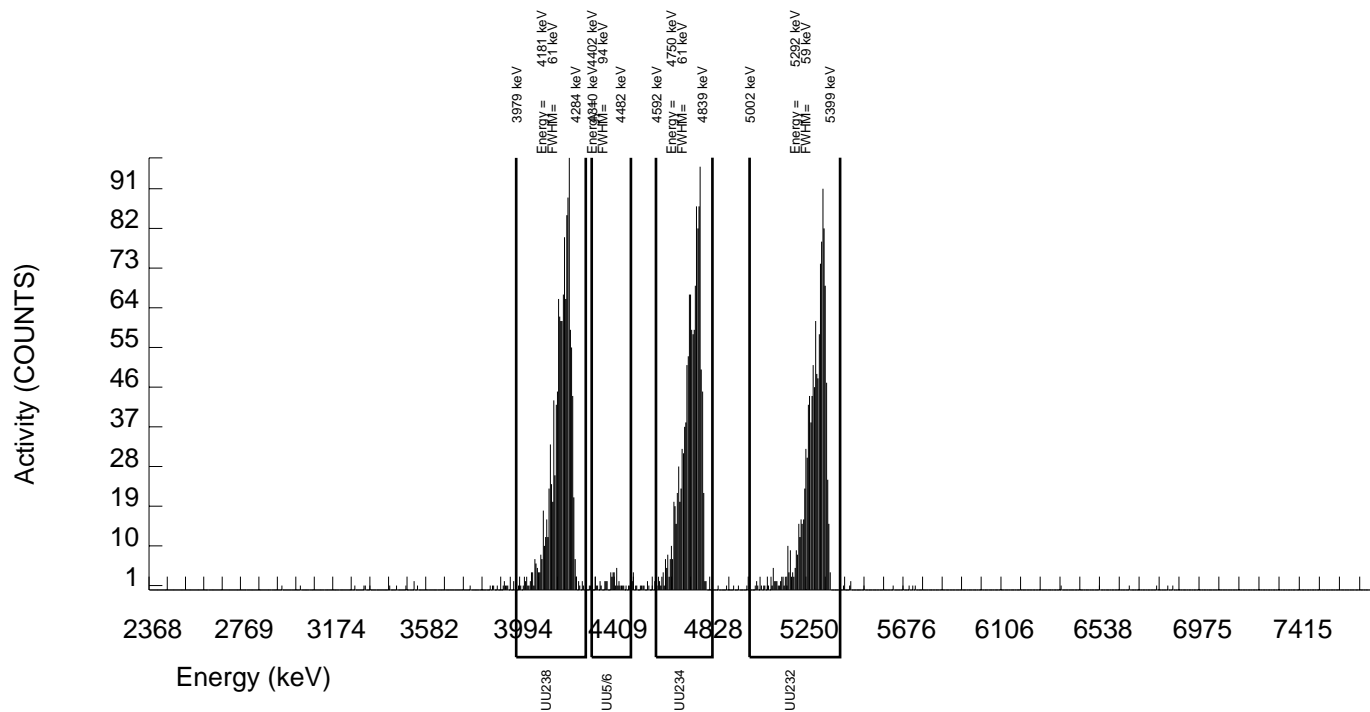
COUNT DATE:15-AUG-2009 17:48:40
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/L : 3.149E+00	TRACER ID : 1283-E ISOTOPE : U232 NOMINAL : 5.26234 dpm RESULTS : 4.18065 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B017.CNF;1877 BKG DATE : 9-AUG-2009 EFF FILE : W017.CNF;1249 CAL DATE : 3-AUG-2009
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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	1308.000	1298.313	6.000	2.4495	100.0000	3.15E+00	4.63E-01	3.49E-02	1.38E-02	1.72E-01
U232	5302.100	1223.000	1221.000	2.000	1.4142	100.0000	2.96E+00	4.37E-01	2.32E-02	7.98E-03	1.66E-01
U-235	4391.000	46.000	44.000	2.000	1.4142	80.90000	1.32E-01	4.45E-02	2.87E-02	9.87E-03	4.07E-02
U-238	4184.730	1320.000	1317.000	3.000	1.7321	100.0000	3.20E+00	4.69E-01	2.68E-02	9.78E-03	1.73E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892925
SAMPLE DATE : 12-AUG-2009 00:00:00

SAMPLE ID : S1201899630_UU
SAMPLE QTY: 0.800 L

DETECTOR NUMBER :78782
AVERAGE %EFFICIENCY :31.7210
% YIELD : 88.731

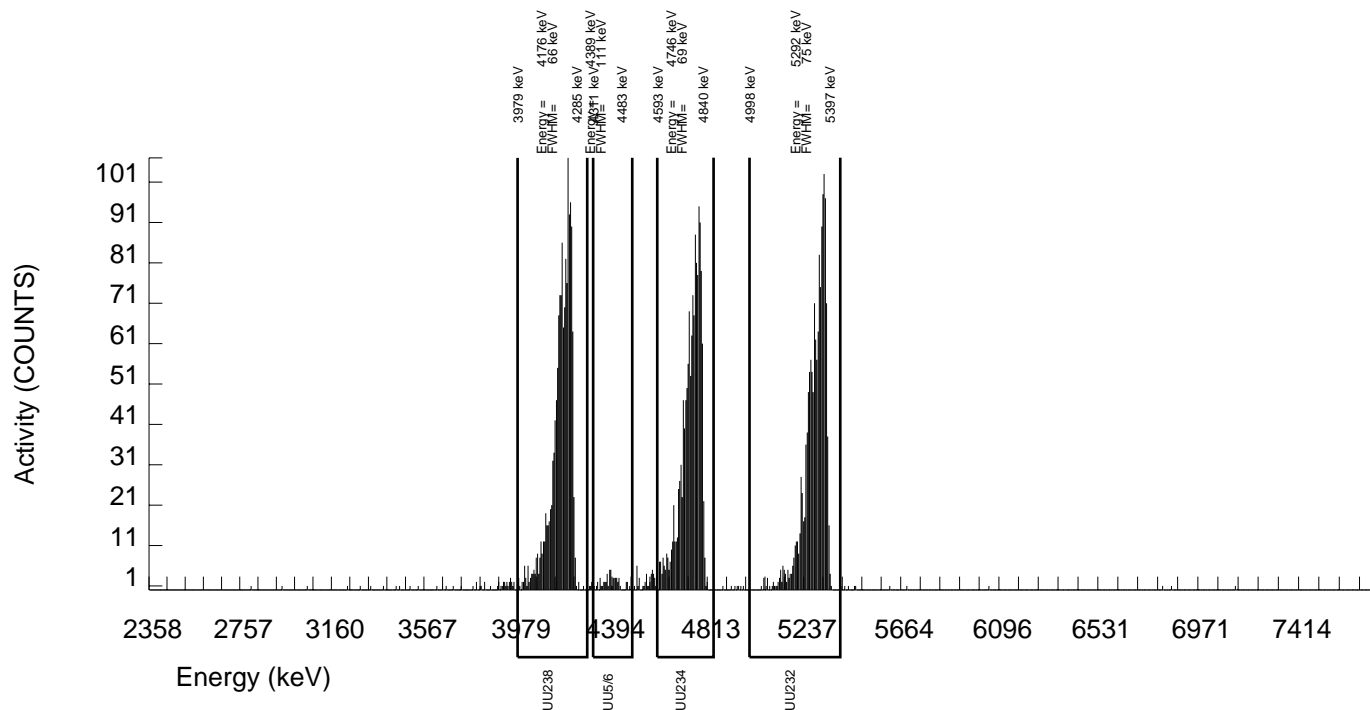
COUNT DATE:15-AUG-2009 17:48:40
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD	LCS/LCSD	TRACER	LIB FILE : ENV_ALPHA_UU.N
ID : 1163-G	ID : 1163-G	ID : 1283-E	BKG FILE : B018.CNF;1029
ISOTOPE : U-238	ISOTOPE : U-238	ISOTOPE : U232	BKG DATE : 9-AUG-2009
PCI/L : 3.149E+00	PCI/L : 3.149E+00	NOMINAL : 5.26234 dpm	EFF FILE : W018.CNF;293
		RESULTS : 4.66934 dpm	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	1428.000	1418.528	5.000	2.2361	100.0000	2.84E+00	4.09E-01	2.68E-02	1.04E-02	1.48E-01
U232	5302.100	1487.000	1481.000	6.000	2.4495	100.0000	2.96E+00	4.26E-01	2.88E-02	1.14E-02	1.52E-01
U-235	4391.000	59.000	59.000	0.000	0.0000	80.90000	1.46E-01	4.21E-02	7.42E-03	0.00E+00	3.72E-02
U-238	4184.730	1518.000	1513.000	5.000	2.2361	100.0000	3.03E+00	4.34E-01	2.68E-02	1.04E-02	1.53E-01

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



THORIUM

Radiochemistry Batch Checklist, Rev 9

Batch# 892899

Product: Th

Date: 8/28/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)			N/A
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 REF acceptance criteria.	/		CASE NARRATIVE
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)		/	NCR# 727630
Sample was run within hold time.	/		
Sample was correctly preserved if required.	/		
Smears Taken for Radioactive batches.			N/A
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.			N/A
Aux data is correct.			N/A
Client Special requirements page has been checked.	/		
Raw Data and/ or spectrum are included and properly stated.	/		
QC data entered into QC database and batch is in REVW	/		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	/		
Batch non-conformances completed, if applicable.	/		NCR# 727630
Batch non-conformances second reviewed and disposition verified to be completed.	/		NCR# 727630
Aliquot Correction completed if required.			N/A
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: _____

[Signature] 8/28/09

Secondary Review Performed By: _____

[Signature] 8/28/09

8/28/09
KGR

Thorium (Ac-227 Tracer) Que Sheet

11-AUG-09

Batch #: 892899 Analyst: KXM4 First Client Due Date: 28-AUG-09 Internal Due Date: 17-AUG-09
 Tracer Isotope: Ac-227 Tracer Code: A2796-3 Expiration Date: 4-13-10 Ac-227 Separation Date/Time: 8-18-09/10:15
 LCS Isotope: Th-230 LCS Code: A2796-3 Expiration Date: 4-13-10 Vol: 0.1ml
 Spike Isotope: Th-230 Spike Code: A2796-3 Expiration Date: 4-13-10 Vol: 0.1ml
 Prep Date: 8-13-09 Initials: LM Pipet ID: 2971058 Balance ID: 5041072 Witness: MDA 8/13/09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet (g) / Dry (g)	Th Det #
234267001-1	RSAM7-28B	SAMPLE		.05 pCi/g	SOIL	KERR003	28-JUL-09	1	31	0.254	197
234267002-1	SA179-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	28-JUL-09	2	32	0.251	199
234267003-1	SA179-10B	SAMPLE		.05 pCi/g	SOIL	KERR003	28-JUL-09	3	33	0.251	200
234267004-1	SA179-29B	SAMPLE		.05 pCi/g	SOIL	KERR003	28-JUL-09	4	34	0.255	203
234267005-1	RSAU4-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	5	35	0.254	204
234267006-1	RSAU4-10B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	6	36	0.251	207
234267007-1	RSAU4-20B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	7	37	0.252	208
234267008-1	RSAU4-25B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	8	38	0.253	173
234267009-1	RSAU4-40B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	9	39	0.259	174
234267010-1	RSAU4-50B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	10	40	0.257	175
234267011-1	RSAL6-50B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	11	41	0.252	176
234267012-1	RSAL6-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	12	42	0.251	177
234267013-1	RSAL6-10B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	13	43	0.253	178
234267014-1	RSAL6-28B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	14	44	0.256	179
234267015-1	SA73-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	15	45	0.252	180
234267016-1	SA73-10B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	16	46	0.258	181
234267017-1	SA73-30B	SAMPLE		.05 pCi/g	SOIL	KERR003	29-JUL-09	17	47	0.257	182
234267019-1	SA49-10B	SAMPLE		.05 pCi/g	SOIL	KERR003	30-JUL-09	18	48	0.254	183
234267020-1	SA49-20B	SAMPLE		.05 pCi/g	SOIL	KERR003	30-JUL-09	19	49	0.259	184
1201899547-1	MB for batch 892899	MB		.05 pCi/g	SOIL	QC ACCOUNT	28-JUL-09	20	50	0.259	185
1201899548-1	SA179-0.5B(234267002DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	28-JUL-09	21	51	0.253	186
1201899549-1	SA179-0.5B(234267002MS)	MS		.05 pCi/g	SOIL	QC ACCOUNT	28-JUL-09	22	52	0.259	187
1201899550-1	LCS for batch 892899	LCS		.05 pCi/g	SOIL	QC ACCOUNT	28-JUL-09	23	53	0.259	188

Choose SOP Used: GL-RAD-A-038
 GL-RAD-A-045
 GL-RAD-A-043
 GL-RAD-A-032
 Solid Sample Dissolution by: LEACH OR DIGESTION
 Data Reviewed By: [Signature] 8/25/09
 Circle One

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267001_TH
SAMPLE QTY: 0.254 G

DETECTOR NUMBER :78894
AVERAGE %EFFICIENCY :25.6823
% YIELD : 75.164

COUNT DATE:19-AUG-2009 12:29:01
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.426E+00

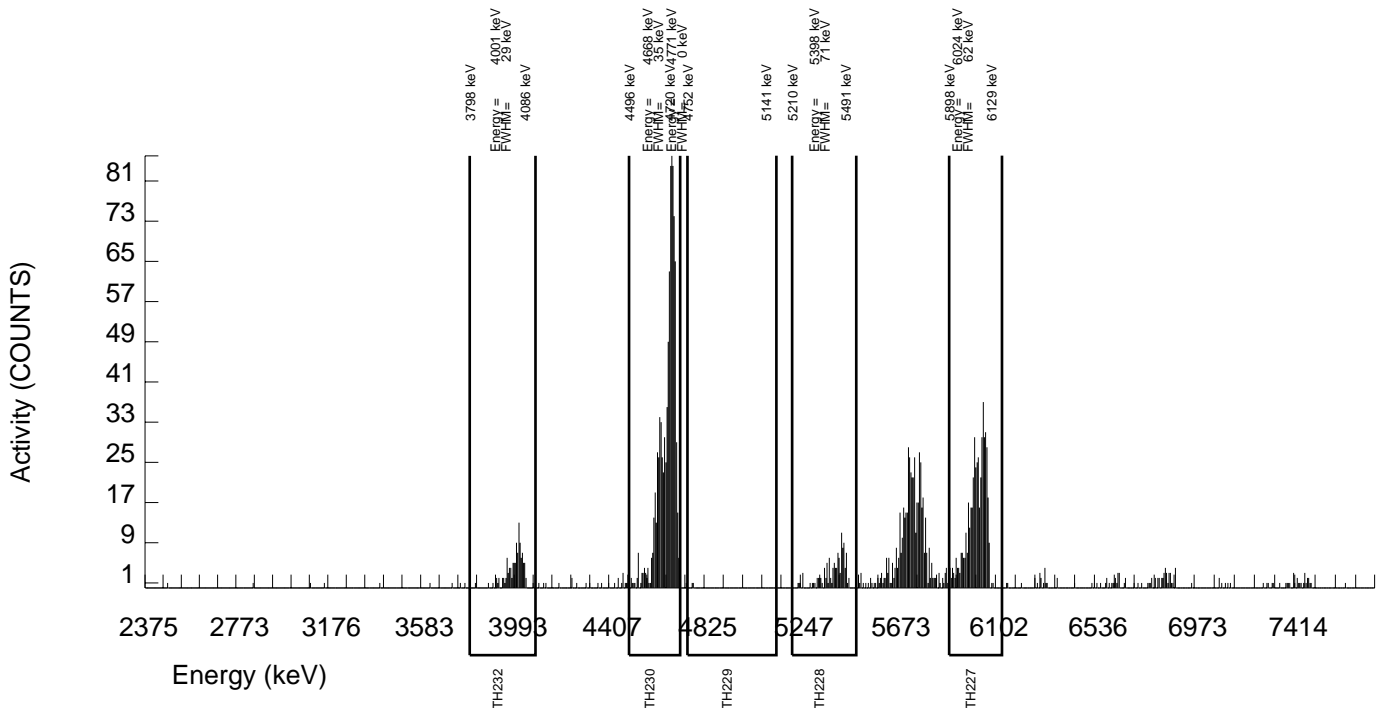
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.426E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 2.94298 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B197.CNF;45
BKG DATE : 16-AUG-2009
EFF FILE : W197.CNF;34
CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	491.000	488.000	3.000	1.7321	68.10000	6.94E+00	7.45E-01	1.57E-01	5.73E-02	6.20E-01
TH-228	5363.000	115.000	112.000	3.000	1.7321	99.94000	1.03E+00	2.05E-01	1.02E-01	3.71E-02	1.96E-01
TH229	4900.000	3.000	0.000	3.000	1.7321	99.52000	0.00E+00	4.43E-02	1.02E-01	3.72E-02	4.43E-02
TH-230	4625.000	912.000	912.000	0.000	0.0000	100.0000	8.38E+00	7.38E-01	2.76E-02	0.00E+00	5.44E-01
TH-232	3972.000	113.000	112.000	1.000	1.0000	100.0000	1.03E+00	2.02E-01	7.03E-02	2.14E-02	1.92E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267002_TH
SAMPLE QTY: 0.251 G

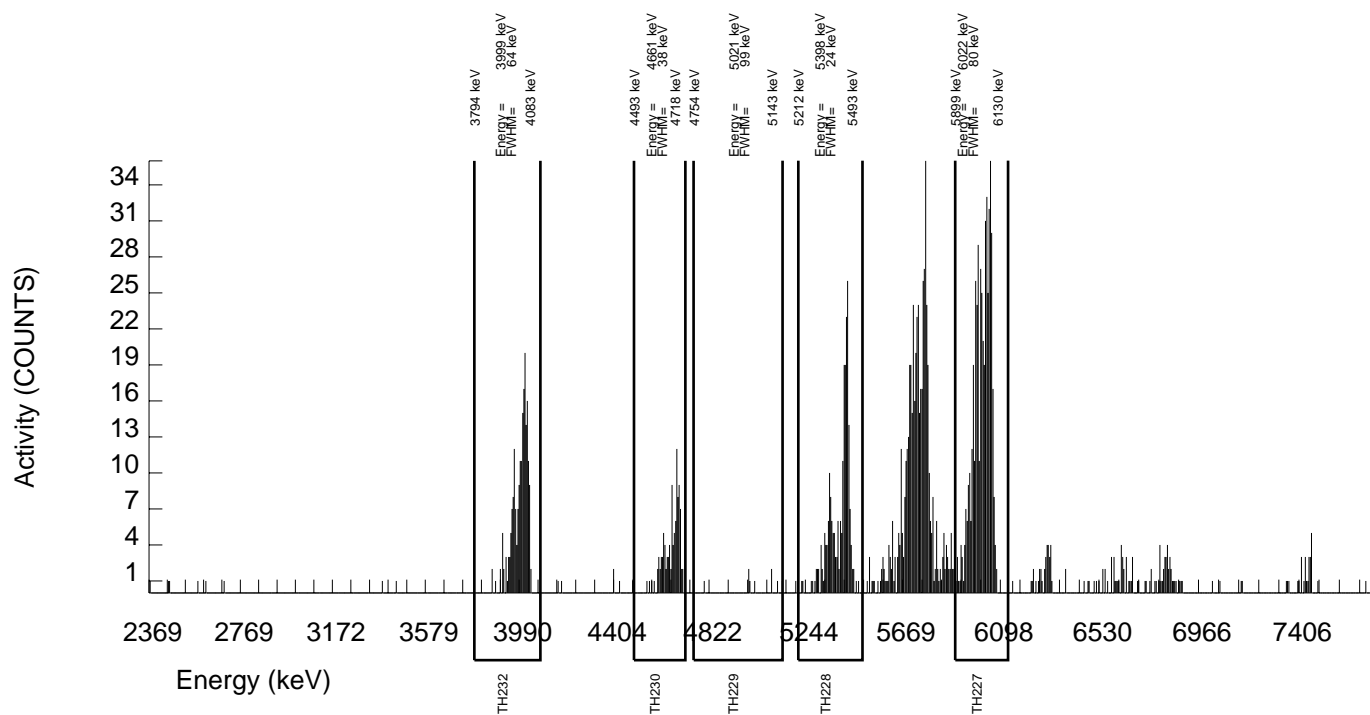
DETECTOR NUMBER :78896
AVERAGE %EFFICIENCY :25.1297
% YIELD : 78.548

COUNT DATE:19-AUG-2009 12:29:06
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD ID : A2796-J ISOTOPE : TH-230 PCI/G : 8.527E+00	LCS/LCSD ID : A2796-J ISOTOPE : TH-230 PCI/G : 8.527E+00	TRACER ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91541 dpm RESULTS : 3.07550 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B199.CNF;45 BKG DATE : 16-AUG-2009 EFF FILE : W199.CNF;32 CAL DATE : 23-JUL-2009
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	502.000	499.000	3.000	1.7321	68.10000	7.03E+00	7.49E-01	1.56E-01	5.67E-02	6.20E-01
TH-228	5363.000	226.000	226.000	0.000	0.0000	99.94000	2.06E+00	2.95E-01	2.73E-02	0.00E+00	2.68E-01
TH229	4900.000	8.000	8.000	0.000	0.0000	99.52000	7.31E-02	5.08E-02	2.74E-02	0.00E+00	5.06E-02
TH-230	4625.000	105.000	103.000	2.000	1.4142	100.0000	9.36E-01	1.93E-01	8.71E-02	2.99E-02	1.84E-01
TH-232	3972.000	207.000	204.000	3.000	1.7321	100.0000	1.85E+00	2.81E-01	1.01E-01	3.66E-02	2.58E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267003_TH
SAMPLE QTY: 0.251 G

DETECTOR NUMBER :78900
AVERAGE %EFFICIENCY :26.7253
% YIELD : 72.823

COUNT DATE:19-AUG-2009 12:29:09
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.527E+00

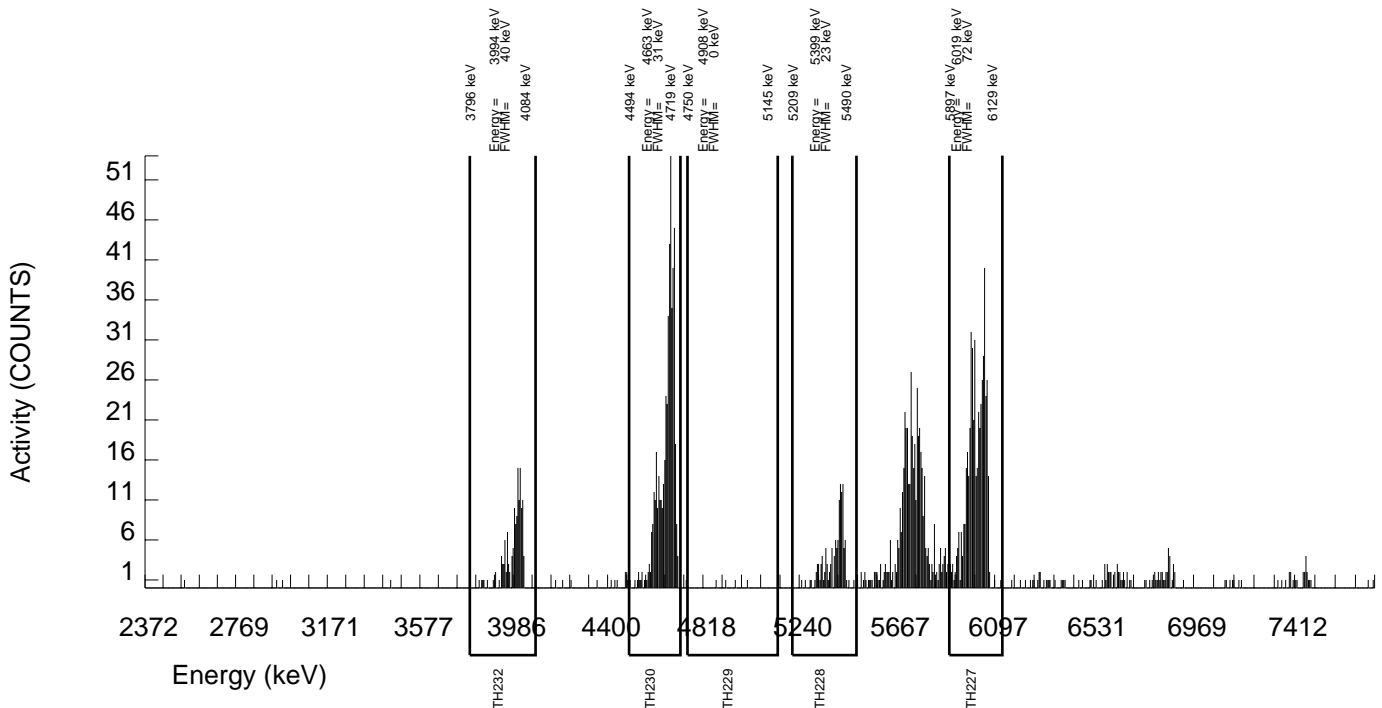
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.527E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 2.85132 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B200.CNF;45
BKG DATE : 16-AUG-2009
EFF FILE : W200.CNF;32
CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	497.000	492.000	5.000	2.2361	68.10000	7.03E+00	7.54E-01	1.91E-01	7.43E-02	6.27E-01
TH-228	5363.000	128.000	120.000	8.000	2.8284	99.94000	1.11E+00	2.21E-01	1.49E-01	6.08E-02	2.11E-01
TH229	4900.000	5.000	-3.000	8.000	2.8284	99.52000	-2.78E-02	6.55E-02	1.50E-01	6.10E-02	6.55E-02
TH-230	4625.000	488.000	485.000	3.000	1.7321	100.0000	4.47E+00	4.81E-01	1.02E-01	3.72E-02	4.00E-01
TH-232	3972.000	141.000	137.000	4.000	2.0000	100.0000	1.26E+00	2.30E-01	1.13E-01	4.29E-02	2.18E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267004_TH
SAMPLE QTY: 0.255 G

DETECTOR NUMBER :78905
AVERAGE %EFFICIENCY :25.6941
% YIELD : 87.139

COUNT DATE:19-AUG-2009 12:29:18
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.393E+00

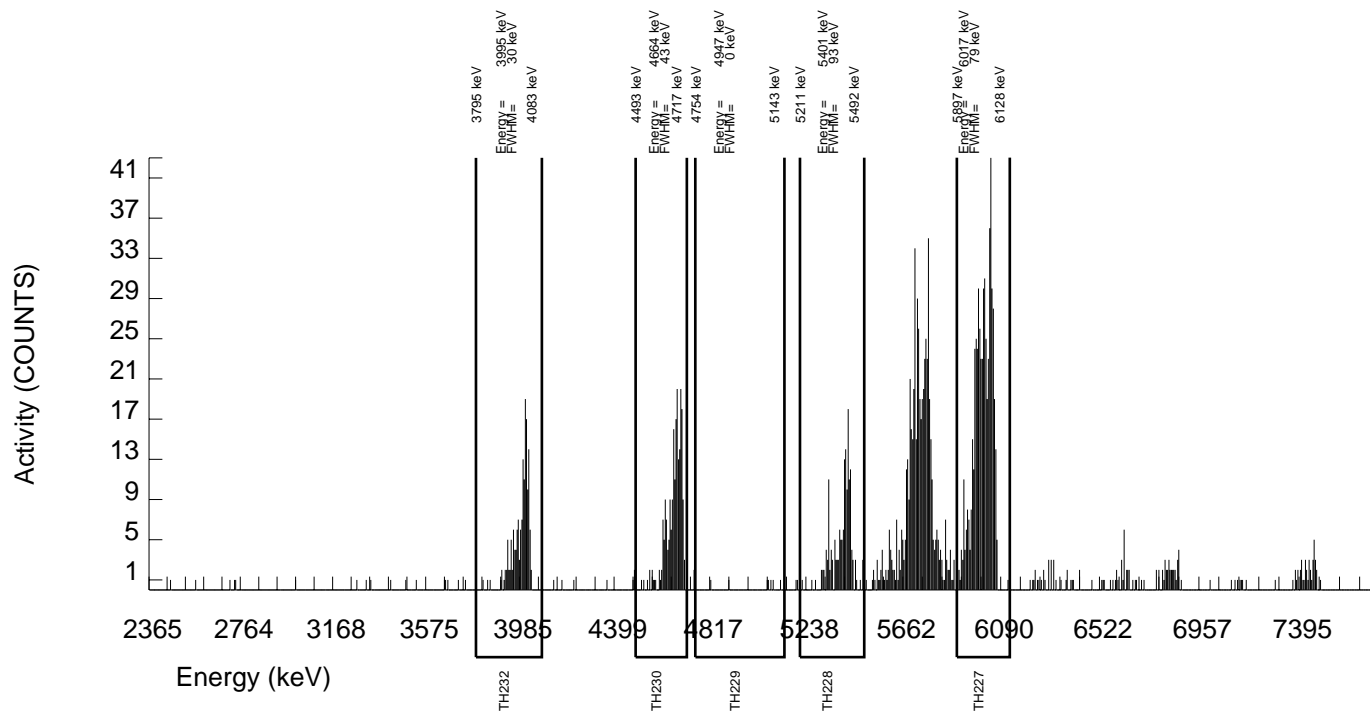
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.393E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.41183 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B203.CNF;45
BKG DATE : 16-AUG-2009
EFF FILE : W203.CNF;32
CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	566.000	566.000	0.000	0.0000	68.10000	6.92E+00	7.03E-01	3.67E-02	0.00E+00	5.70E-01
TH-228	5363.000	165.000	162.000	3.000	1.7321	99.94000	1.28E+00	2.15E-01	8.74E-02	3.19E-02	2.01E-01
TH229	4900.000	10.000	5.000	5.000	2.2361	99.52000	3.96E-02	6.02E-02	1.06E-01	4.12E-02	6.02E-02
TH-230	4625.000	219.000	217.000	2.000	1.4142	100.0000	1.71E+00	2.51E-01	7.56E-02	2.60E-02	2.30E-01
TH-232	3972.000	162.000	162.000	0.000	0.0000	100.0000	1.28E+00	2.11E-01	2.37E-02	0.00E+00	1.97E-01



GEL Laboratories LLC
 ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
 SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267005_TH
 SAMPLE QTY: 0.254 G

DETECTOR NUMBER :78907
 AVERAGE %EFFICIENCY :25.0649
 % YIELD : 92.798

COUNT DATE:19-AUG-2009 12:29:22
 ELAPSED LIVE TIME(SEC): 60000.00
 ANALYST :KXM4

MS/MSD
 ID : A2796-J
 ISOTOPE : TH-230
 PCI/G : 8.426E+00

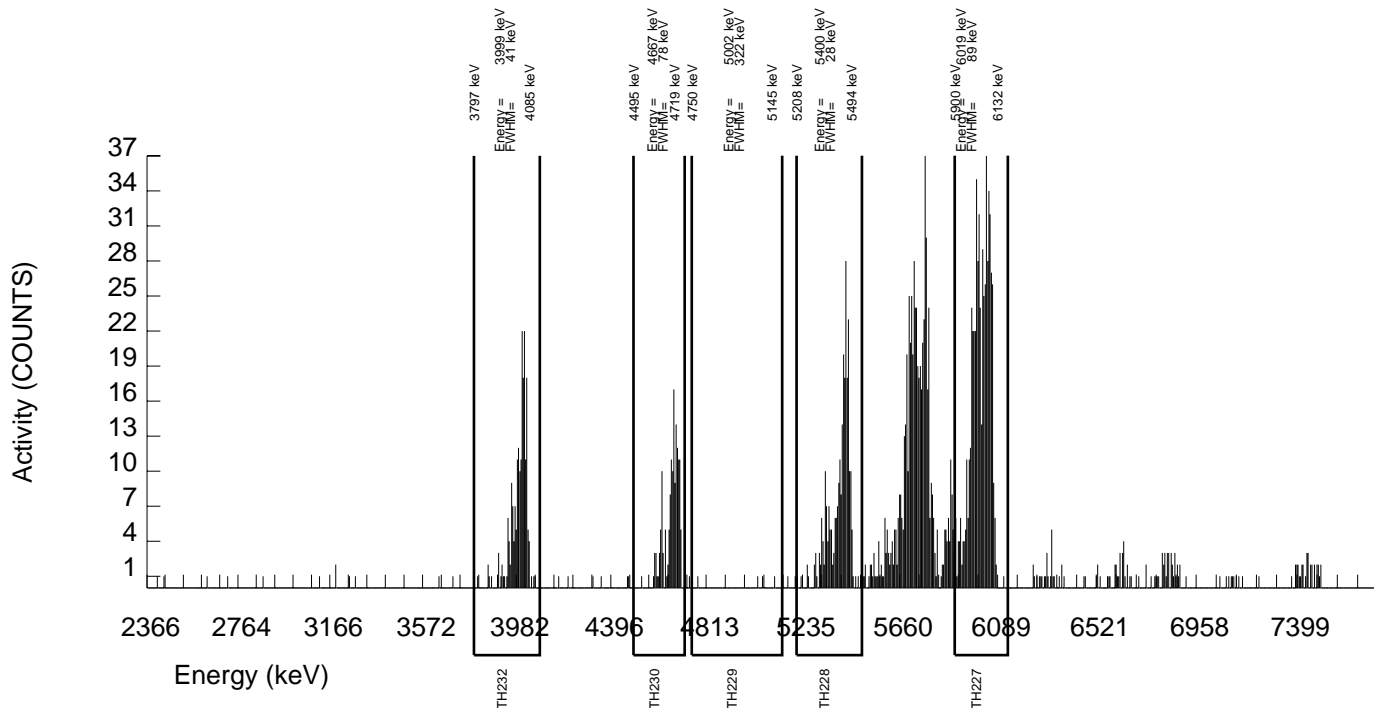
LCS/LCSD
 ID : A2796-J
 ISOTOPE : TH-230
 PCI/G : 8.426E+00

TRACER
 ID : 0387-B-102
 ISOTOPE : AC227
 NOMINAL : 3.91541 dpm
 RESULTS : 3.63344 dpm

LIB FILE : ENV_ALPHA_TH.N
 BKG FILE : B204.CNF;45
 BKG DATE : 16-AUG-2009
 EFF FILE : W204.CNF;32
 CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	589.000	588.000	1.000	1.0000	68.10000	6.94E+00	6.98E-01	9.04E-02	2.75E-02	5.62E-01
TH-228	5363.000	270.000	265.000	5.000	2.2361	99.94000	2.02E+00	2.76E-01	1.02E-01	3.97E-02	2.48E-01
TH229	4900.000	4.000	-3.000	7.000	2.6458	99.52000	-2.30E-02	4.98E-02	1.17E-01	4.72E-02	4.98E-02
TH-230	4625.000	152.000	151.000	1.000	1.0000	100.0000	1.15E+00	1.97E-01	5.83E-02	1.77E-02	1.85E-01
TH-232	3972.000	206.000	203.000	3.000	1.7321	100.0000	1.55E+00	2.35E-01	8.43E-02	3.07E-02	2.16E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267006_TH
SAMPLE QTY: 0.251 G

DETECTOR NUMBER :78910
AVERAGE %EFFICIENCY :25.5856
% YIELD : 92.920

COUNT DATE:19-AUG-2009 12:29:32
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.527E+00

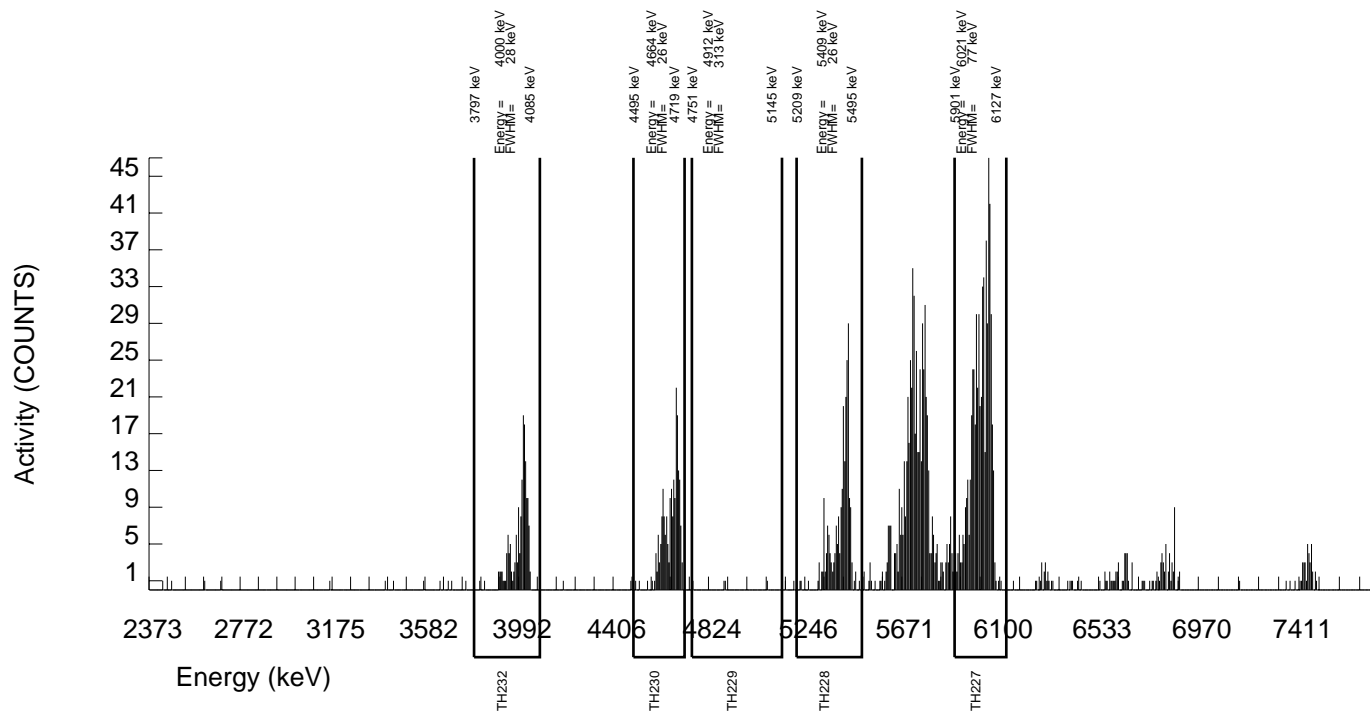
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.527E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.63821 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B207.CNF;45
BKG DATE : 16-AUG-2009
EFF FILE : W207.CNF;32
CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	601.000	601.000	0.000	0.0000	68.10000	7.03E+00	7.01E-01	3.51E-02	0.00E+00	5.62E-01
TH-228	5363.000	235.000	225.000	10.000	3.1623	99.94000	1.70E+00	2.53E-01	1.34E-01	5.56E-02	2.32E-01
TH229	4900.000	4.000	-8.000	12.000	3.4641	99.52000	-6.07E-02	5.95E-02	1.45E-01	6.11E-02	5.95E-02
TH-230	4625.000	201.000	198.000	3.000	1.7321	100.0000	1.49E+00	2.29E-01	8.35E-02	3.04E-02	2.11E-01
TH-232	3972.000	162.000	154.000	8.000	2.8284	100.0000	1.16E+00	2.05E-01	1.22E-01	4.97E-02	1.93E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267007_TH
SAMPLE QTY: 0.252 G

DETECTOR NUMBER :78911
AVERAGE %EFFICIENCY :25.2767
% YIELD : 87.170

COUNT DATE:19-AUG-2009 12:29:36
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.493E+00

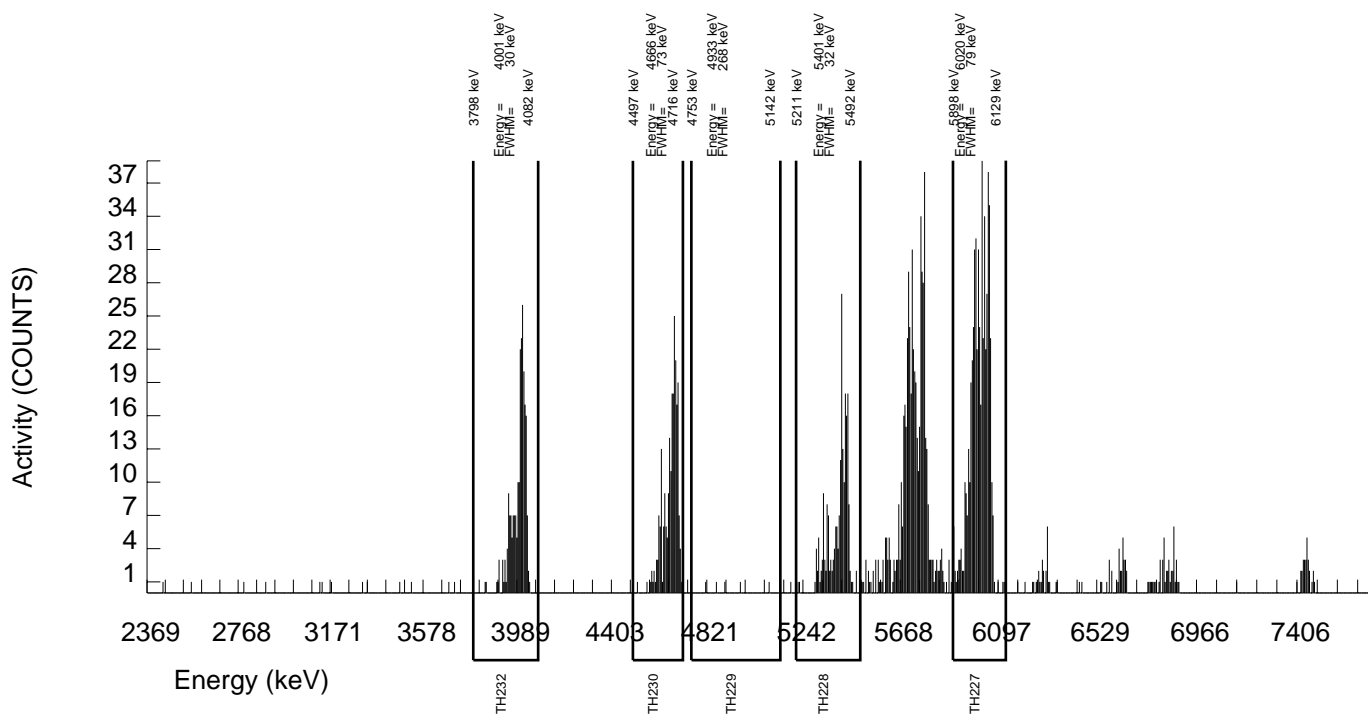
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.493E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.41306 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B208.CNF;45
BKG DATE : 16-AUG-2009
EFF FILE : W208.CNF;32
CAL DATE : 23-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	561.000	557.000	4.000	2.0000	68.10000	7.00E+00	7.19E-01	1.55E-01	5.85E-02	5.85E-01
TH-228	5363.000	214.000	207.000	7.000	2.6458	99.94000	1.68E+00	2.57E-01	1.24E-01	5.00E-02	2.37E-01
TH229	4900.000	5.000	1.000	4.000	2.0000	99.52000	8.15E-03	4.79E-02	1.00E-01	3.79E-02	4.79E-02
TH-230	4625.000	233.000	233.000	0.000	0.0000	100.0000	1.89E+00	2.68E-01	2.43E-02	0.00E+00	2.43E-01
TH-232	3972.000	227.000	224.000	3.000	1.7321	100.0000	1.82E+00	2.64E-01	8.97E-02	3.27E-02	2.41E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267008_TH
SAMPLE QTY: 0.253 G

DETECTOR NUMBER :74431
AVERAGE %EFFICIENCY :26.2319
% YIELD : 90.408

COUNT DATE:19-AUG-2009 16:18:58
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.459E+00

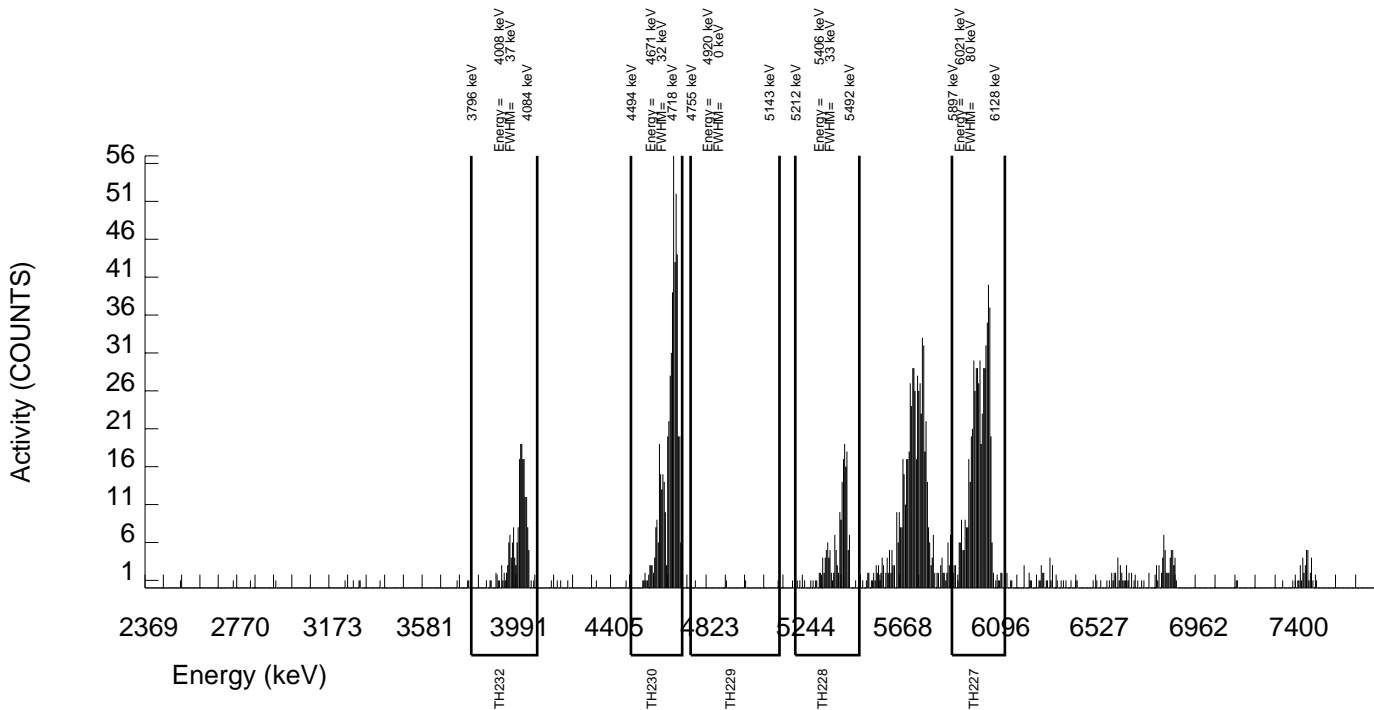
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.459E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.53986 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B173.CNF;117
BKG DATE : 16-AUG-2009
EFF FILE : W173.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	598.000	596.000	2.000	1.4142	68.10000	6.97E+00	6.98E-01	1.12E-01	3.85E-02	5.62E-01
TH-228	5363.000	180.000	167.000	13.000	3.6056	99.94000	1.26E+00	2.18E-01	1.49E-01	6.31E-02	2.05E-01
TH229	4900.000	5.000	0.000	5.000	2.2361	99.52000	0.00E+00	4.68E-02	1.01E-01	3.92E-02	4.68E-02
TH-230	4625.000	517.000	515.000	2.000	1.4142	100.0000	3.87E+00	4.07E-01	7.19E-02	2.47E-02	3.35E-01
TH-232	3972.000	199.000	197.000	2.000	1.4142	100.0000	1.48E+00	2.26E-01	7.19E-02	2.47E-02	2.09E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267009_TH
SAMPLE QTY: 0.259 G

DETECTOR NUMBER :74432
AVERAGE %EFFICIENCY :25.5394
% YIELD : 99.092

COUNT DATE:19-AUG-2009 16:19:00
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

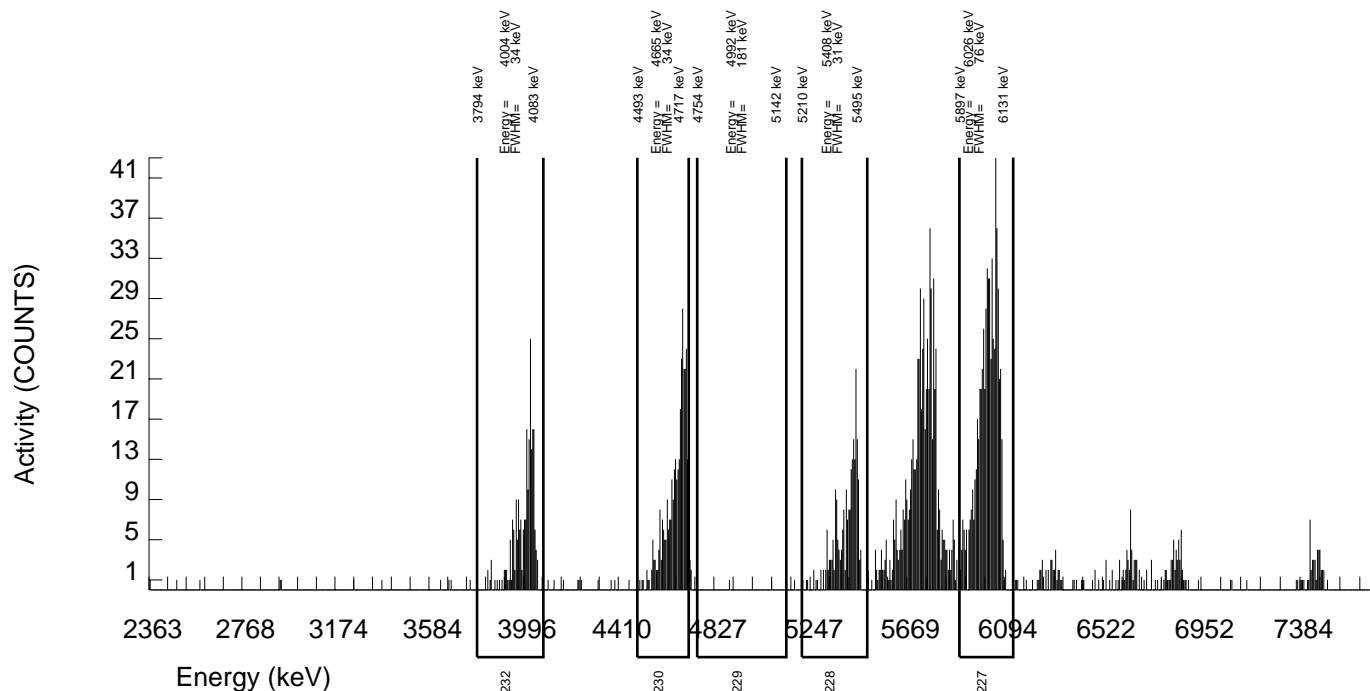
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.87986 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B174.CNF;117
BKG DATE : 16-AUG-2009
EFF FILE : W174.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	636.000	636.000	0.000	0.0000	68.10000	6.81E+00	6.66E-01	3.21E-02	0.00E+00	5.29E-01
TH-228	5363.000	229.000	218.000	11.000	3.3166	99.94000	1.50E+00	2.27E-01	1.27E-01	5.31E-02	2.09E-01
TH229	4900.000	2.000	-1.000	3.000	1.7321	99.52000	-6.91E-03	3.03E-02	7.64E-02	2.78E-02	3.03E-02
TH-230	4625.000	322.000	320.000	2.000	1.4142	100.0000	2.20E+00	2.75E-01	6.58E-02	2.26E-02	2.42E-01
TH-232	3972.000	222.000	219.000	3.000	1.7321	100.0000	1.51E+00	2.21E-01	7.60E-02	2.77E-02	2.02E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267010_TH
SAMPLE QTY: 0.257 G

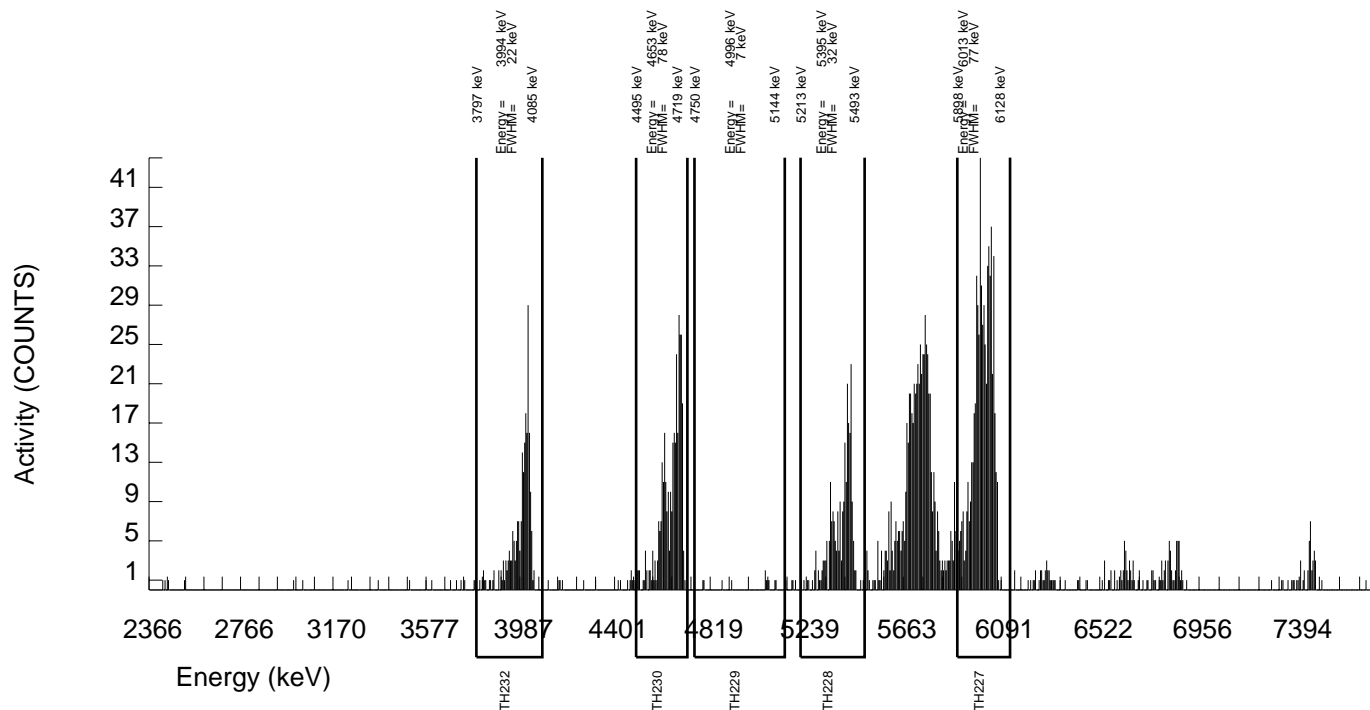
DETECTOR NUMBER :74433
AVERAGE %EFFICIENCY :25.3924
% YIELD : 100.450

COUNT DATE:19-AUG-2009 16:19:03
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD ID : A2796-J ISOTOPE : TH-230 PCI/G : 8.328E+00	LCS/LCSD ID : A2796-J ISOTOPE : TH-230 PCI/G : 8.328E+00	TRACER ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91541 dpm RESULTS : 3.93302 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B175.CNF;117 BKG DATE : 16-AUG-2009 EFF FILE : W175.CNF;35 CAL DATE : 22-JUL-2009
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	644.000	641.000	3.000	1.7321	68.10000	6.86E+00	6.71E-01	1.18E-01	4.31E-02	5.34E-01
TH-228	5363.000	242.000	234.000	8.000	2.8284	99.94000	1.61E+00	2.34E-01	1.11E-01	4.53E-02	2.13E-01
TH229	4900.000	11.000	4.000	7.000	2.6458	99.52000	2.76E-02	5.74E-02	1.06E-01	4.25E-02	5.74E-02
TH-230	4625.000	334.000	331.000	3.000	1.7321	100.0000	2.27E+00	2.82E-01	7.60E-02	2.77E-02	2.47E-01
TH-232	3972.000	222.000	221.000	1.000	1.0000	100.0000	1.52E+00	2.20E-01	5.26E-02	1.60E-02	2.01E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267011_TH
SAMPLE QTY: 0.252 G

DETECTOR NUMBER :74434
AVERAGE %EFFICIENCY :25.9651
% YIELD : 86.740

COUNT DATE:19-AUG-2009 16:19:05
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.493E+00

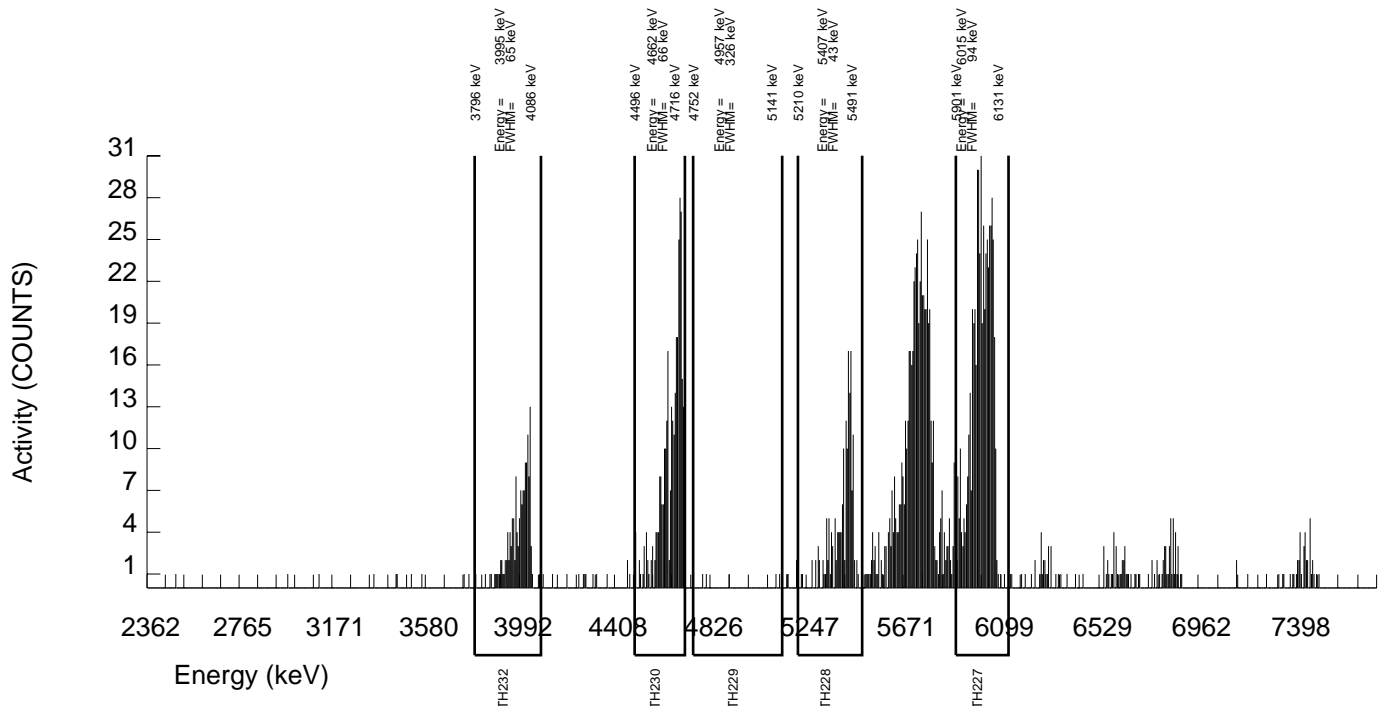
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.493E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.39622 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B176.CNF;117
BKG DATE : 16-AUG-2009
EFF FILE : W176.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	568.000	566.000	2.000	1.4142	68.10000	7.00E+00	7.13E-01	1.18E-01	4.07E-02	5.79E-01
TH-228	5363.000	172.000	161.000	11.000	3.3166	99.94000	1.28E+00	2.24E-01	1.47E-01	6.14E-02	2.11E-01
TH229	4900.000	5.000	1.000	4.000	2.0000	99.52000	7.97E-03	4.69E-02	9.81E-02	3.71E-02	4.69E-02
TH-230	4625.000	317.000	317.000	0.000	0.0000	100.0000	2.52E+00	3.15E-01	2.38E-02	0.00E+00	2.77E-01
TH-232	3972.000	146.000	142.000	4.000	2.0000	100.0000	1.13E+00	2.02E-01	9.77E-02	3.69E-02	1.91E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267012_TH
SAMPLE QTY: 0.251 G

DETECTOR NUMBER :74435
AVERAGE %EFFICIENCY :26.8586
% YIELD : 76.151

COUNT DATE:19-AUG-2009 16:19:09
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.527E+00

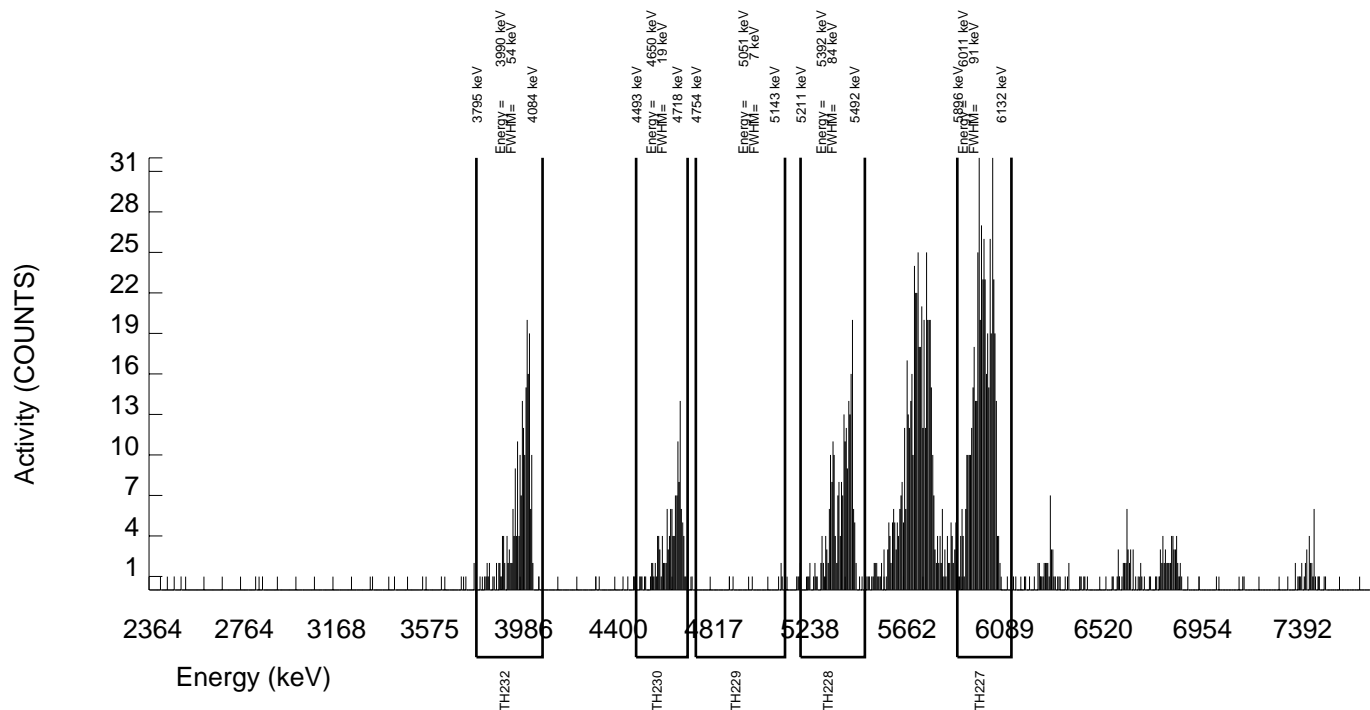
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.527E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 2.98161 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B177.CNF;117
BKG DATE : 16-AUG-2009
EFF FILE : W177.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	517.000	514.000	3.000	1.7321	68.10000	7.03E+00	7.41E-01	1.51E-01	5.51E-02	6.11E-01
TH-228	5363.000	238.000	226.000	12.000	3.4641	99.94000	1.99E+00	2.97E-01	1.68E-01	7.09E-02	2.73E-01
TH229	4900.000	7.000	4.000	3.000	1.7321	99.52000	3.53E-02	5.47E-02	9.75E-02	3.55E-02	5.46E-02
TH-230	4625.000	134.000	132.000	2.000	1.4142	100.0000	1.16E+00	2.12E-01	8.41E-02	2.89E-02	2.01E-01
TH-232	3972.000	220.000	219.000	1.000	1.0000	100.0000	1.92E+00	2.80E-01	6.71E-02	2.04E-02	2.56E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267013_TH
SAMPLE QTY: 0.253 G

DETECTOR NUMBER :74436
AVERAGE %EFFICIENCY :25.6373
% YIELD : 71.397

COUNT DATE:19-AUG-2009 16:19:11
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.459E+00

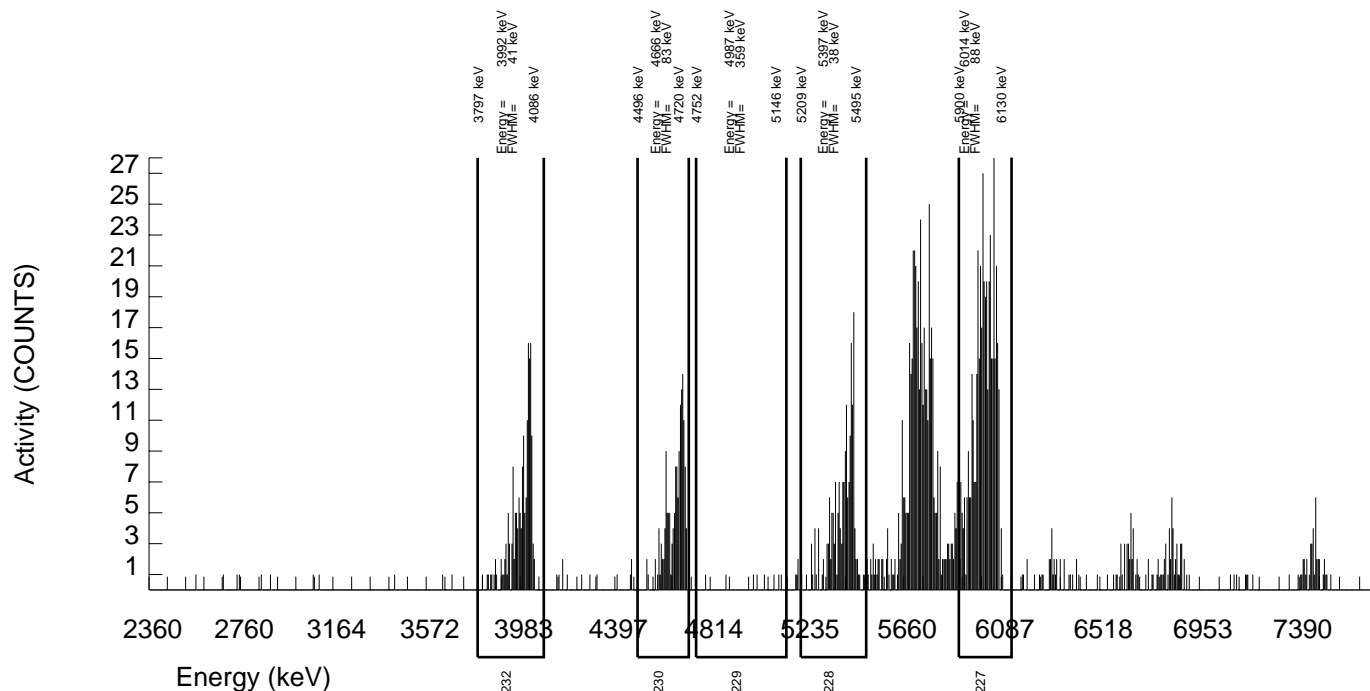
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.459E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 2.79548 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B178.CNF;117
BKG DATE : 16-AUG-2009
EFF FILE : W178.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	462.000	460.000	2.000	1.4142	68.10000	6.97E+00	7.63E-01	1.45E-01	4.99E-02	6.40E-01
TH-228	5363.000	188.000	174.000	14.000	3.7417	99.94000	1.70E+00	2.90E-01	1.99E-01	8.49E-02	2.72E-01
TH229	4900.000	9.000	3.000	6.000	2.4495	99.52000	2.93E-02	7.42E-02	1.41E-01	5.57E-02	7.42E-02
TH-230	4625.000	152.000	149.000	3.000	1.7321	100.0000	1.45E+00	2.53E-01	1.08E-01	3.92E-02	2.37E-01
TH-232	3972.000	171.000	169.000	2.000	1.4142	100.0000	1.64E+00	2.69E-01	9.32E-02	3.20E-02	2.51E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267014_TH
SAMPLE QTY: 0.256 G

DETECTOR NUMBER :74437
AVERAGE %EFFICIENCY :26.5432
% YIELD : 80.054

COUNT DATE:19-AUG-2009 16:19:15
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.360E+00

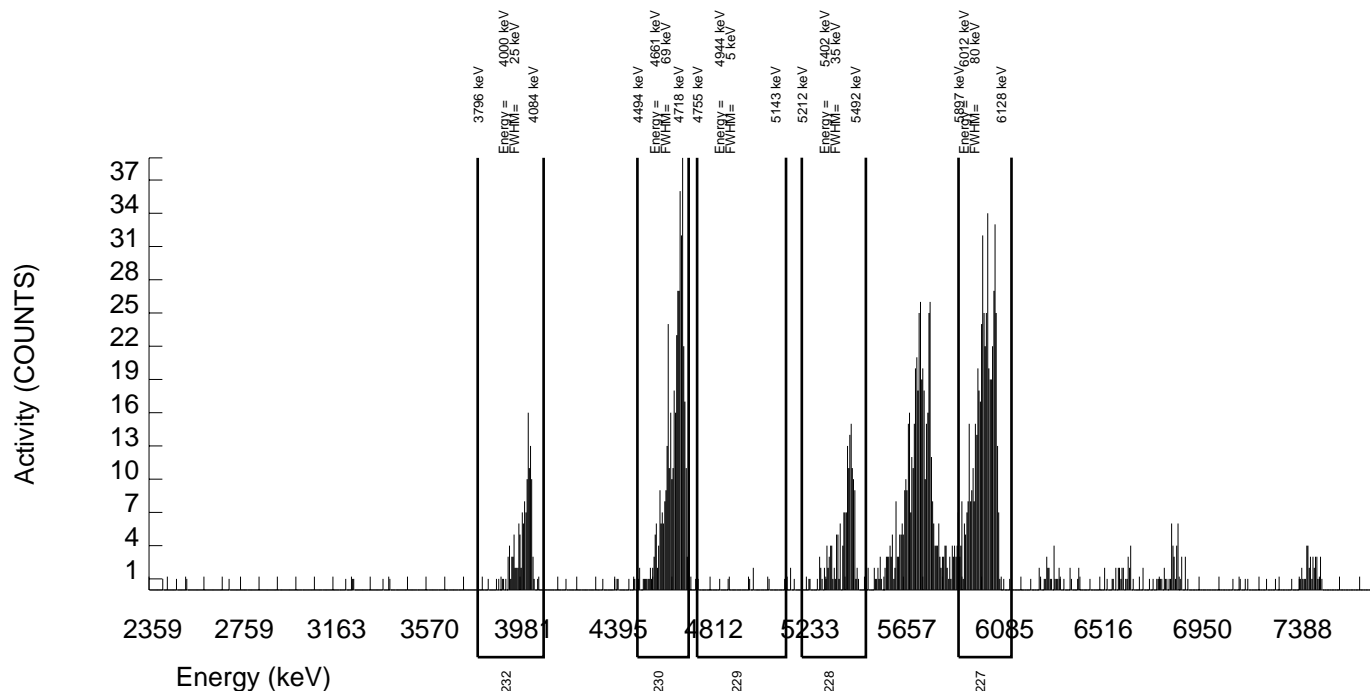
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.360E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.13445 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B179.CNF;117
BKG DATE : 16-AUG-2009
EFF FILE : W179.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	538.000	534.000	4.000	2.0000	68.10000	6.89E+00	7.17E-01	1.59E-01	6.00E-02	5.89E-01
TH-228	5363.000	162.000	156.000	6.000	2.4495	99.94000	1.29E+00	2.24E-01	1.19E-01	4.73E-02	2.11E-01
TH229	4900.000	9.000	6.000	3.000	1.7321	99.52000	4.99E-02	5.66E-02	9.20E-02	3.35E-02	5.65E-02
TH-230	4625.000	435.000	435.000	0.000	0.0000	100.0000	3.60E+00	4.00E-01	2.48E-02	0.00E+00	3.39E-01
TH-232	3972.000	137.000	137.000	0.000	0.0000	100.0000	1.13E+00	2.02E-01	2.48E-02	0.00E+00	1.90E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267015_TH
SAMPLE QTY: 0.252 G

DETECTOR NUMBER :74438
AVERAGE %EFFICIENCY :25.0525
% YIELD : 70.999

COUNT DATE:19-AUG-2009 16:19:18
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.493E+00

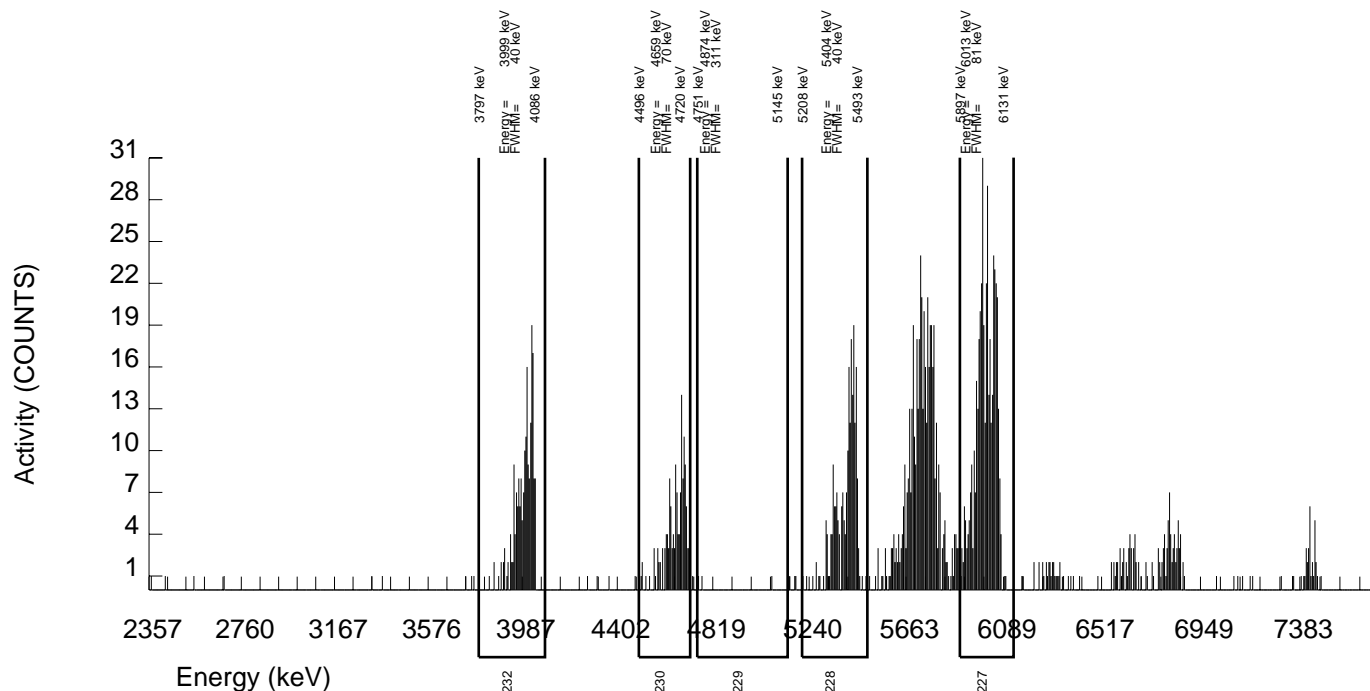
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.493E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 2.77990 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B180.CNF;119
BKG DATE : 16-AUG-2009
EFF FILE : W180.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	449.000	447.000	2.000	1.4142	68.10000	7.00E+00	7.74E-01	1.50E-01	5.15E-02	6.52E-01
TH-228	5363.000	224.000	219.000	5.000	2.2361	99.94000	2.21E+00	3.26E-01	1.35E-01	5.24E-02	2.99E-01
TH229	4900.000	3.000	-1.000	4.000	2.0000	99.52000	-1.01E-02	5.24E-02	1.24E-01	4.70E-02	5.24E-02
TH-230	4625.000	142.000	137.000	5.000	2.2361	100.0000	1.38E+00	2.52E-01	1.35E-01	5.23E-02	2.39E-01
TH-232	3972.000	200.000	199.000	1.000	1.0000	100.0000	2.00E+00	3.04E-01	7.69E-02	2.34E-02	2.79E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267016_TH
SAMPLE QTY: 0.258 G

DETECTOR NUMBER :74439
AVERAGE %EFFICIENCY :25.4854
% YIELD : 86.656

COUNT DATE:19-AUG-2009 16:19:20
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.295E+00

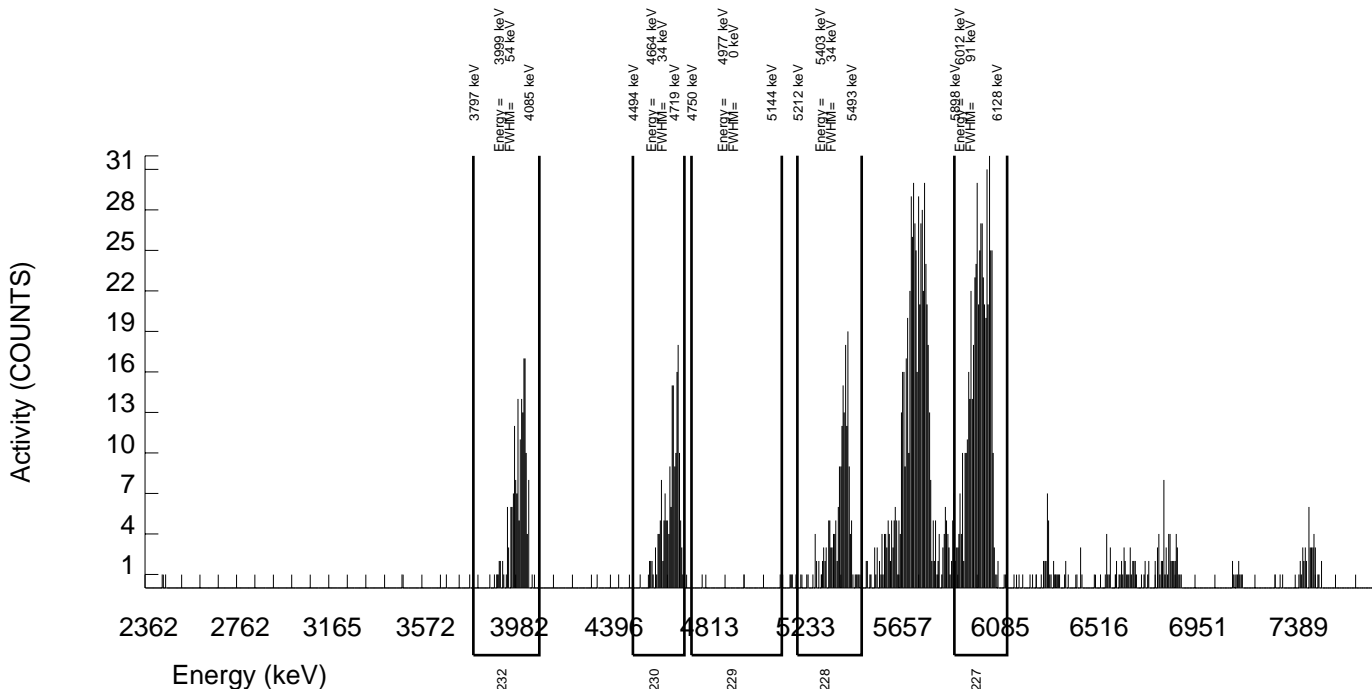
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.295E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.39292 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B181.CNF;117
BKG DATE : 16-AUG-2009
EFF FILE : W181.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	555.000	555.000	0.000	0.0000	68.10000	6.84E+00	6.98E-01	3.70E-02	0.00E+00	5.69E-01
TH-228	5363.000	191.000	186.000	5.000	2.2361	99.94000	1.47E+00	2.34E-01	1.06E-01	4.12E-02	2.17E-01
TH229	4900.000	3.000	-2.000	5.000	2.2361	99.52000	-1.59E-02	4.40E-02	1.06E-01	4.13E-02	4.40E-02
TH-230	4625.000	178.000	175.000	3.000	1.7321	100.0000	1.38E+00	2.24E-01	8.74E-02	3.19E-02	2.08E-01
TH-232	3972.000	181.000	180.000	1.000	1.0000	100.0000	1.42E+00	2.25E-01	6.05E-02	1.84E-02	2.09E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267017_TH
SAMPLE QTY: 0.257 G

DETECTOR NUMBER :74440
AVERAGE %EFFICIENCY :25.7871
% YIELD : 87.340

COUNT DATE:19-AUG-2009 16:19:23
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.328E+00

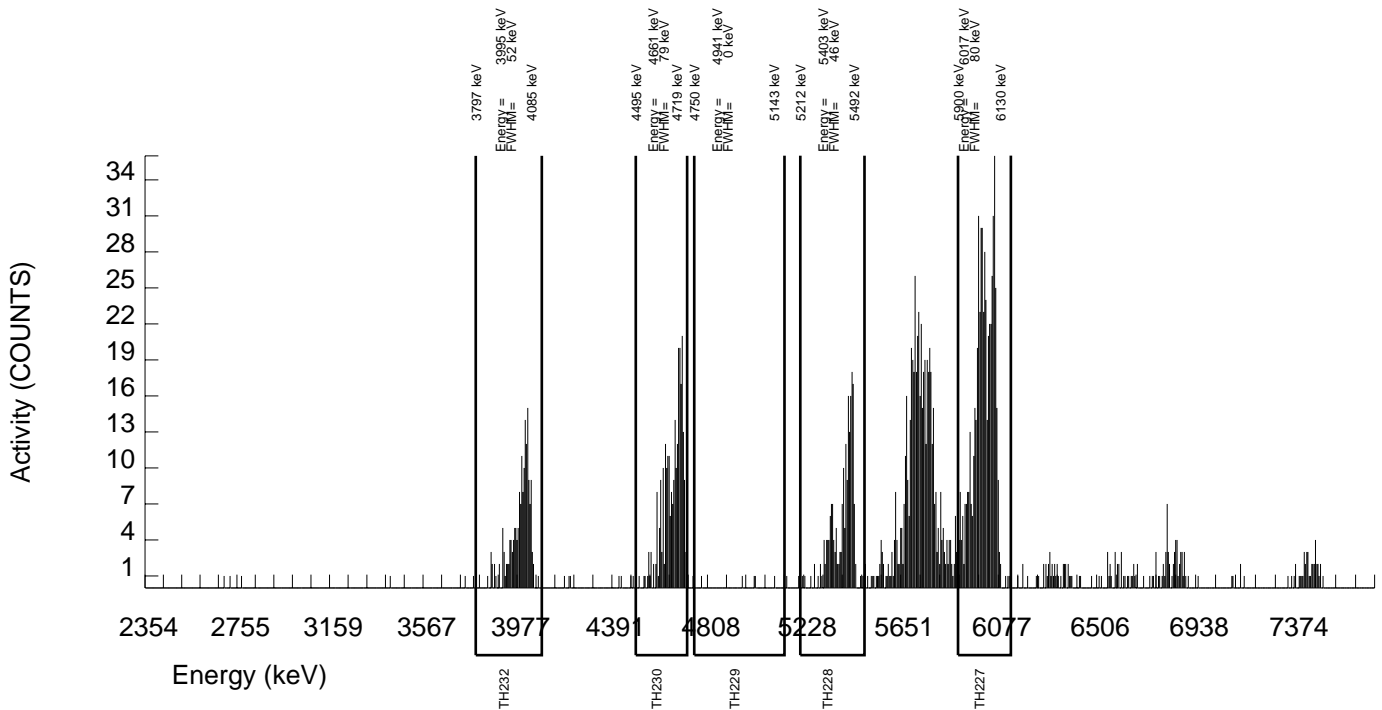
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.328E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.41970 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B182.CNF;117
BKG DATE : 16-AUG-2009
EFF FILE : W182.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	567.000	566.000	1.000	1.0000	68.10000	6.86E+00	6.98E-01	9.28E-02	2.82E-02	5.66E-01
TH-228	5363.000	204.000	187.000	17.000	4.1231	99.94000	1.46E+00	2.43E-01	1.73E-01	7.48E-02	2.27E-01
TH229	4900.000	6.000	4.000	2.000	1.4142	99.52000	3.13E-02	4.34E-02	7.49E-02	2.57E-02	4.34E-02
TH-230	4625.000	266.000	263.000	3.000	1.7321	100.0000	2.05E+00	2.78E-01	8.61E-02	3.14E-02	2.50E-01
TH-232	3972.000	176.000	175.000	1.000	1.0000	100.0000	1.36E+00	2.18E-01	5.96E-02	1.81E-02	2.03E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267019_TH
SAMPLE QTY: 0.254 G

DETECTOR NUMBER :74441
AVERAGE %EFFICIENCY :26.3659
% YIELD : 90.252

COUNT DATE:19-AUG-2009 16:19:25
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.426E+00

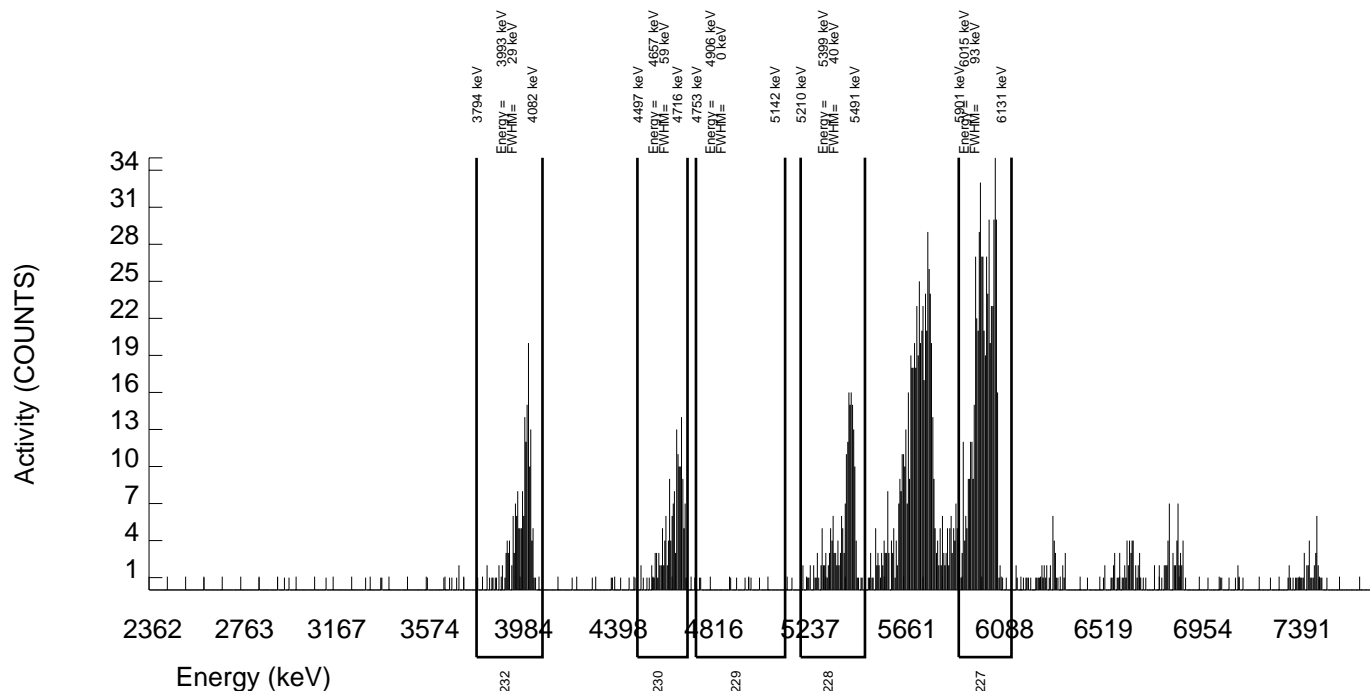
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.426E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.53373 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B183.CNF;117
BKG DATE : 16-AUG-2009
EFF FILE : W183.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	599.000	598.000	1.000	1.0000	68.10000	6.94E+00	6.94E-01	8.89E-02	2.70E-02	5.57E-01
TH-228	5363.000	204.000	192.000	12.000	3.4641	99.94000	1.43E+00	2.31E-01	1.43E-01	6.02E-02	2.15E-01
TH229	4900.000	9.000	5.000	4.000	2.0000	99.52000	3.74E-02	5.30E-02	9.22E-02	3.48E-02	5.29E-02
TH-230	4625.000	163.000	161.000	2.000	1.4142	100.0000	1.20E+00	2.01E-01	7.14E-02	2.45E-02	1.88E-01
TH-232	3972.000	184.000	183.000	1.000	1.0000	100.0000	1.36E+00	2.15E-01	5.70E-02	1.73E-02	1.99E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S0234267020_TH
SAMPLE QTY: 0.259 G

DETECTOR NUMBER :74442
AVERAGE %EFFICIENCY :25.8992
% YIELD : 85.733

COUNT DATE:19-AUG-2009 16:19:28
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

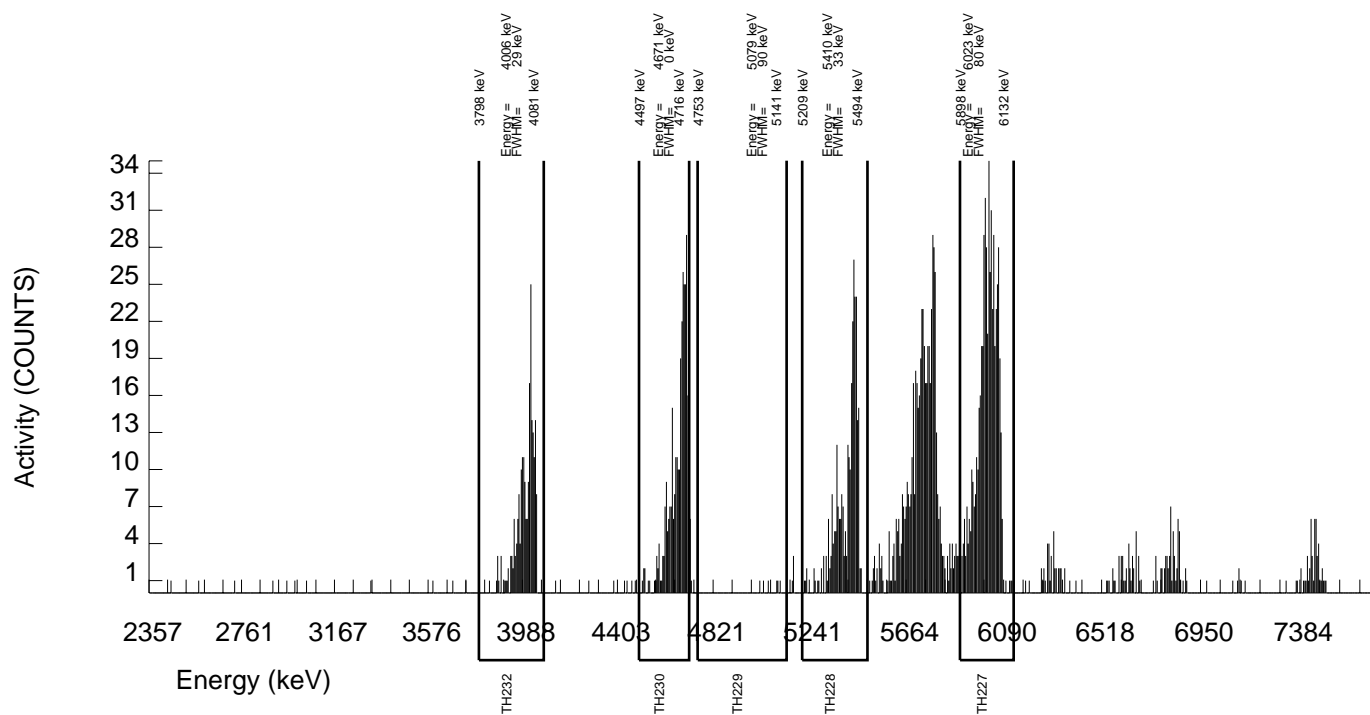
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.35679 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B184.CNF;119
BKG DATE : 16-AUG-2009
EFF FILE : W184.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	561.000	558.000	3.000	1.7321	68.10000	6.81E+00	6.97E-01	1.35E-01	4.92E-02	5.68E-01
TH-228	5363.000	288.000	282.000	6.000	2.4495	99.94000	2.21E+00	2.95E-01	1.13E-01	4.47E-02	2.64E-01
TH229	4900.000	6.000	1.000	5.000	2.2361	99.52000	7.87E-03	5.12E-02	1.05E-01	4.09E-02	5.12E-02
TH-230	4625.000	300.000	299.000	1.000	1.0000	100.0000	2.34E+00	3.00E-01	5.99E-02	1.82E-02	2.66E-01
TH-232	3972.000	217.000	216.000	1.000	1.0000	100.0000	1.69E+00	2.48E-01	5.99E-02	1.82E-02	2.27E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S1201899547_TH
SAMPLE QTY: 0.259 G

DETECTOR NUMBER :68615
AVERAGE %EFFICIENCY :25.6564
% YIELD : 83.597

COUNT DATE:19-AUG-2009 16:19:30
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

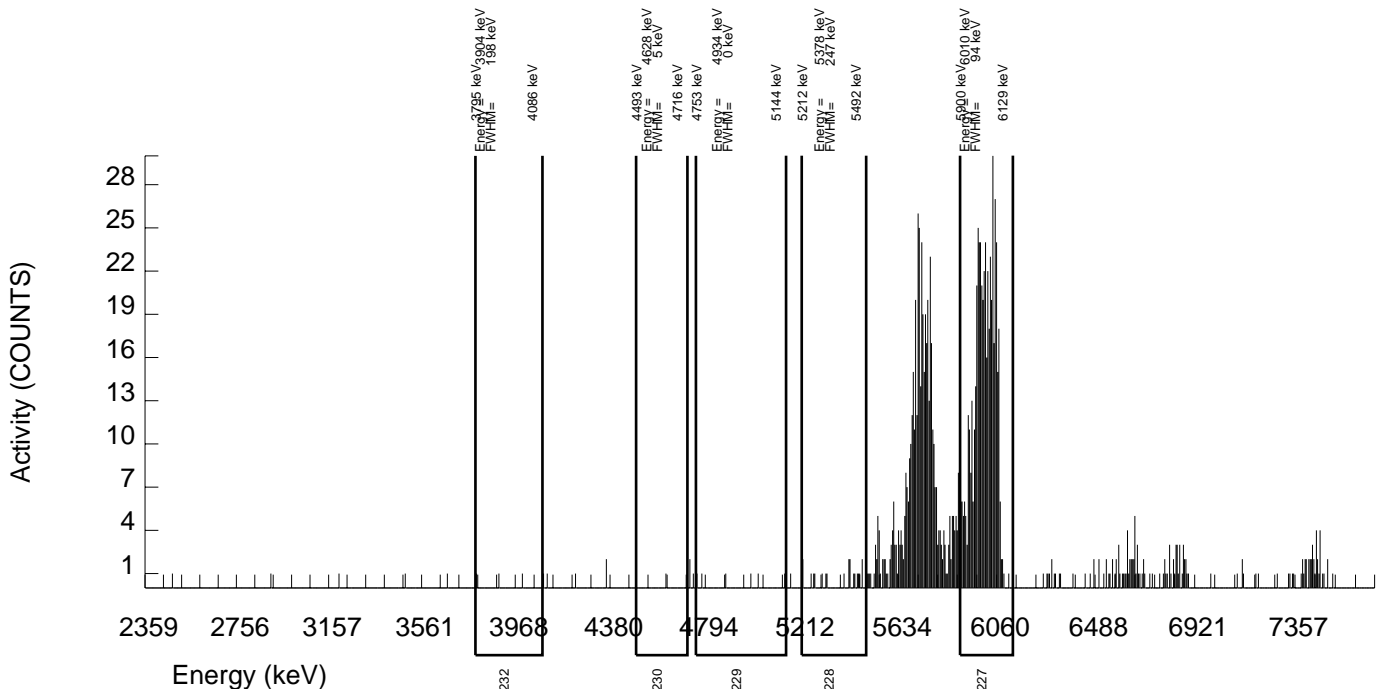
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.27317 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B185.CNF;99
BKG DATE : 16-AUG-2009
EFF FILE : W185.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	542.000	539.000	3.000	1.7321	68.10000	6.81E+00	7.05E-01	1.40E-01	5.09E-02	5.78E-01
TH-228	5363.000	20.000	15.000	5.000	2.2361	99.94000	1.22E-01	8.00E-02	1.09E-01	4.23E-02	7.96E-02
TH229	4900.000	6.000	2.000	4.000	2.0000	99.52000	1.63E-02	5.05E-02	1.00E-01	3.79E-02	5.05E-02
TH-230	4625.000	1.000	1.000	0.000	0.0000	100.0000	8.11E-03	1.59E-02	2.43E-02	0.00E+00	1.59E-02
TH-232	3972.000	3.000	1.000	2.000	1.4142	100.0000	8.11E-03	3.55E-02	7.77E-02	2.67E-02	3.55E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S1201899548_TH
SAMPLE QTY: 0.253 G

DETECTOR NUMBER :68616
AVERAGE %EFFICIENCY :25.3097
% YIELD : 83.485

COUNT DATE:19-AUG-2009 16:19:33
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.459E+00

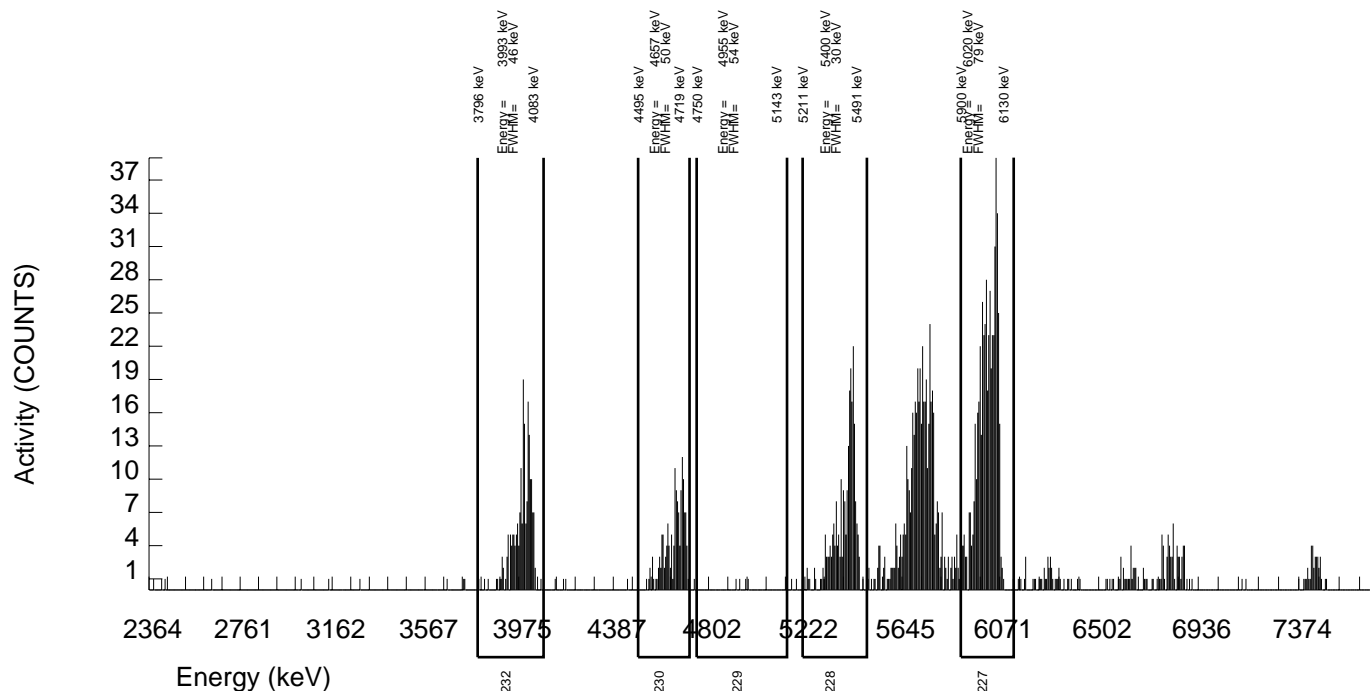
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.459E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.26876 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B186.CNF;99
BKG DATE : 16-AUG-2009
EFF FILE : W186.CNF;36
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	533.000	531.000	2.000	1.4142	68.10000	6.97E+00	7.26E-01	1.26E-01	4.32E-02	5.95E-01
TH-228	5363.000	241.000	234.000	7.000	2.6458	99.94000	1.98E+00	2.86E-01	1.29E-01	5.20E-02	2.61E-01
TH229	4900.000	4.000	1.000	3.000	1.7321	99.52000	8.47E-03	4.39E-02	9.36E-02	3.41E-02	4.39E-02
TH-230	4625.000	147.000	145.000	2.000	1.4142	100.0000	1.22E+00	2.14E-01	8.07E-02	2.77E-02	2.02E-01
TH-232	3972.000	200.000	199.000	1.000	1.0000	100.0000	1.68E+00	2.55E-01	6.45E-02	1.96E-02	2.34E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S1201899549_TH
SAMPLE QTY: 0.259 G

DETECTOR NUMBER :68620
AVERAGE %EFFICIENCY :25.0189
% YIELD : 80.320

COUNT DATE:19-AUG-2009 16:19:35
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

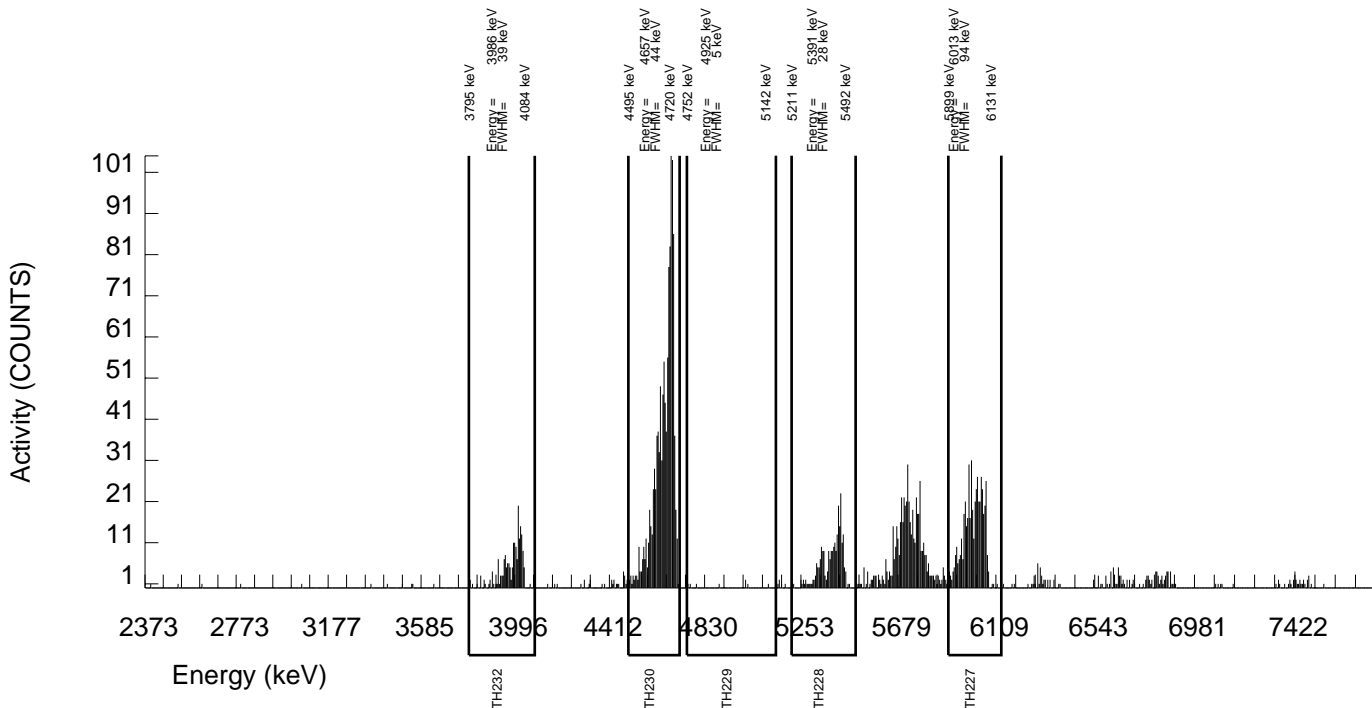
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.14485 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B187.CNF;99
BKG DATE : 16-AUG-2009
EFF FILE : W187.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	508.000	505.000	3.000	1.7321	68.10000	6.81E+00	7.34E-01	1.49E-01	5.43E-02	5.97E-01
TH-228	5363.000	252.000	247.000	5.000	2.2361	99.94000	2.14E+00	3.04E-01	1.16E-01	4.51E-02	2.73E-01
TH229	4900.000	8.000	3.000	5.000	2.2361	99.52000	2.61E-02	6.15E-02	1.17E-01	4.52E-02	6.15E-02
TH-230	4625.000	1171.000	1170.000	1.000	1.0000	100.0000	1.01E+01	8.59E-01	6.62E-02	2.01E-02	5.81E-01
TH-232	3972.000	197.000	194.000	3.000	1.7321	100.0000	1.68E+00	2.62E-01	9.57E-02	3.49E-02	2.40E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 892899
SAMPLE DATE : 18-AUG-2009 10:15:00

SAMPLE ID : S1201899550_TH
SAMPLE QTY: 0.259 G

DETECTOR NUMBER :68621
AVERAGE %EFFICIENCY :26.0109
% YIELD : 82.152

COUNT DATE:19-AUG-2009 16:19:38
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

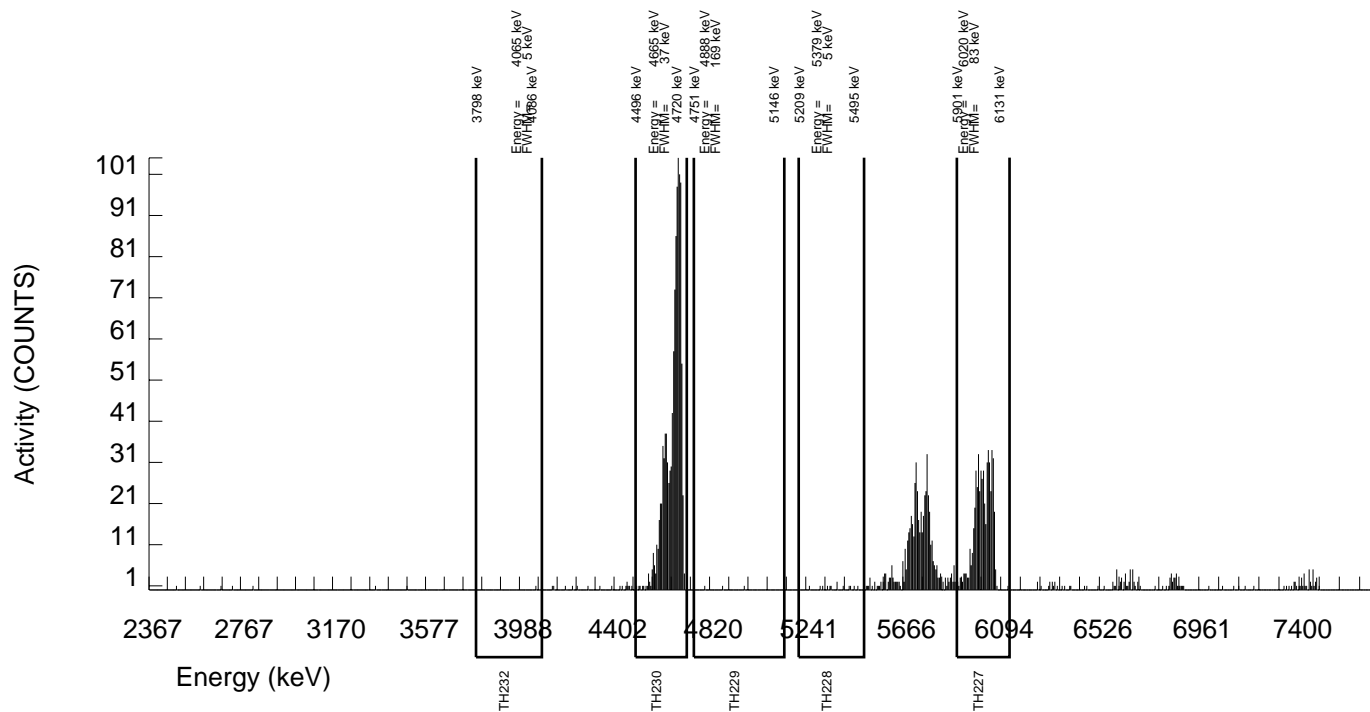
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91541 dpm
RESULTS : 3.21659 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B188.CNF;99
BKG DATE : 16-AUG-2009
EFF FILE : W188.CNF;36
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1.96-SIGMA	MDA pCi/G	Lc pCi/G	UNC pCi/G
AC-227	6038.010	540.000	537.000	3.000	1.7321	68.10000	6.81E+00	7.06E-01	1.40E-01	5.11E-02	5.79E-01
TH-228	5363.000	13.000	1.000	12.000	3.4641	99.94000	8.16E-03	7.99E-02	1.56E-01	6.57E-02	7.99E-02
TH229	4900.000	3.000	-1.000	4.000	2.0000	99.52000	-8.18E-03	4.24E-02	1.01E-01	3.81E-02	4.24E-02
TH-230	4625.000	1122.000	1119.000	3.000	1.7321	100.0000	9.11E+00	7.61E-01	9.00E-02	3.28E-02	5.35E-01
TH-232	3972.000	1.000	-1.000	2.000	1.4142	100.0000	-8.14E-03	2.76E-02	7.80E-02	2.68E-02	2.76E-02



Radiochemistry Batch Checklist, Rev 9

Batch# 897494 Product: Th Date: 8/28/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)			N/A
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%.		✓	NCR 727516
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		Case narrative
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			N/A
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.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stated.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.	✓		NCR 727516
Batch non-conformances second reviewed and disposition verified to be completed.	✓		NCR 727516
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By:

Jag LML 8/28/09
DW On 8/28/09

Secondary Review Performed By:

8/22 8/28

KERR

Thorium (Ac-227 Tracer) Que Sheet

26-AUG-09

Batch #: 897494 Analyst: JXD2 First Client Due Date: 28-AUG-09 Internal Due Date: 22-AUG-09
 Tracer Isotope: Ac-227 Tracer Code: 0387-β-102 Expiration Date: 02/23/10 Vol: 0.1 Ac-227 Separation Date/Time: 08/26/09 20:02
 LCS Isotope: Th-230 LCS Code: A2796-J Expiration Date: 04/15/10 Vol: 0.1
 Spike Isotope: Th-230 Spike Code: _____ Expiration Date: _____ Vol: _____
 Prep Date: 08/26/09 Initials: JXD Pipet ID: PA71058 Balance ID: LG250202 Witness: MO. S/20/09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/DF)	Th Det #
234267018-3	FB072909-SO	SAMPLE		.03 pCi/L	WATER	KERR003	29-JUL-09	1	1	0.800	27
234414019-3	EB073109-SO	SAMPLE		.03 pCi/L	WATER	KERR003	31-JUL-09	2	2	0.300	36
234414020-3	EB080309-SO	SAMPLE		.03 pCi/L	WATER	KERR003	03-AUG-09	3	3	0.800	43
234414021-3	FB080309-SO	SAMPLE		.03 pCi/L	WATER	KERR003	03-AUG-09	4	4	0.300	197
1201911149-1	MB for batch 897494	MB		.03 pCi/L	WATER	QC ACCOUNT	29-JUL-09	5	5	0.300	198
1201911150-1	LCS for batch 897494	LCS		.03 pCi/L	WATER	QC ACCOUNT	29-JUL-09	6	6	0.300	205
1201911151-1	LCS for batch 897494	LCS		.03 pCi/L	WATER	QC ACCOUNT	29-JUL-09	7	7	0.800	206

134

Choose SOP Used: GL-RAD-A-038
 GL-RAD-A-045
 GL-RAD-A-043
 GL-RAD-A-032
 Solid Sample Dissolution by: LEACH OR DIGESTION Data Reviewed By: Jap LML - 8/28/09
Circle One

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 897494
SAMPLE DATE : 26-AUG-2009 20:02:00

SAMPLE ID : S0234267018_TH
SAMPLE QTY: 0.800 L

DETECTOR NUMBER :42484
AVERAGE %EFFICIENCY :33.9669
% YIELD : 72.404

COUNT DATE:27-AUG-2009 08:05:28
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 2.675E+00

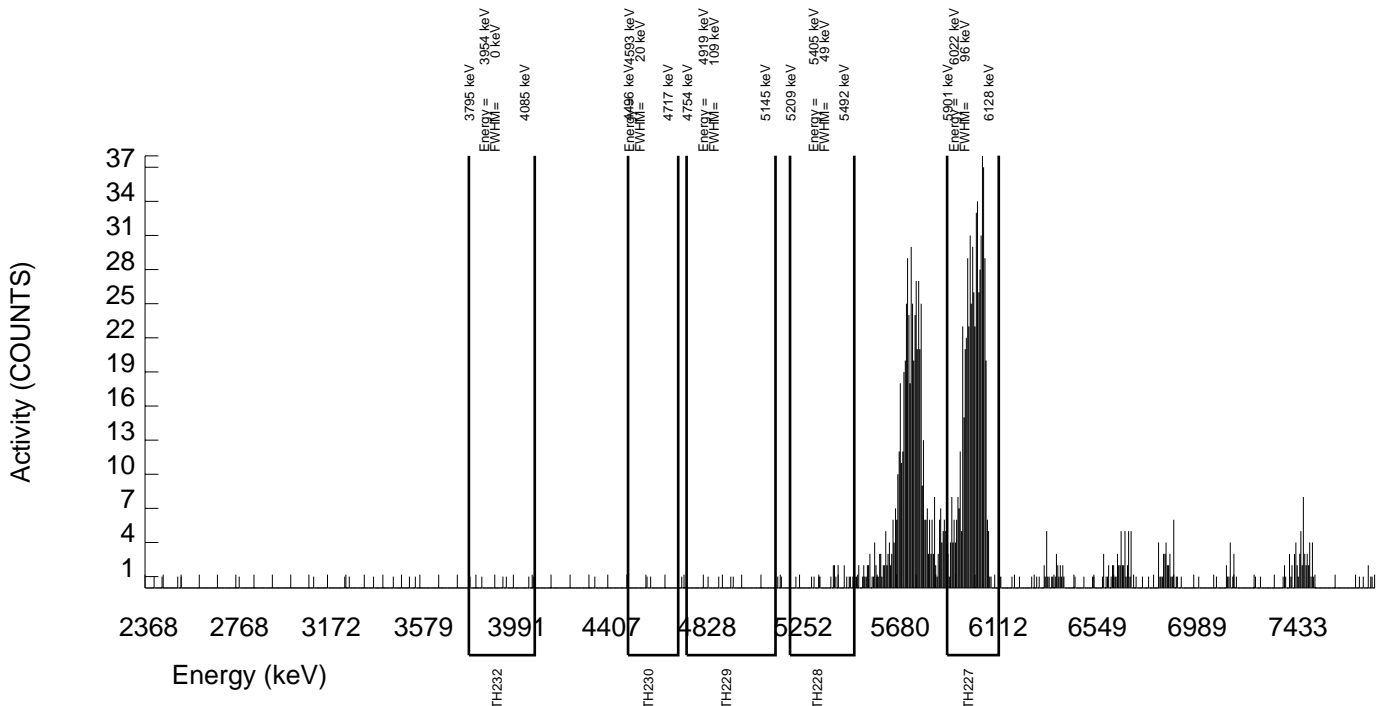
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 2.675E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91255 dpm
RESULTS : 2.83284 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B027.CNF;1064
BKG DATE : 23-AUG-2009
EFF FILE : W027.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
AC-227	6038.010	635.000	635.000	0.000	0.0000	68.10000	2.20E+00	2.13E-01	1.04E-02	0.00E+00	1.71E-01
TH-228	5363.000	19.000	14.000	5.000	2.2361	99.94000	3.21E-02	2.21E-02	3.07E-02	1.19E-02	2.20E-02
TH229	4900.000	4.000	1.000	3.000	1.7321	99.52000	2.30E-03	1.19E-02	2.54E-02	9.27E-03	1.19E-02
TH-230	4625.000	2.000	0.000	2.000	1.4142	100.0000	-5.46E-10	8.98E-03	2.19E-02	7.53E-03	8.97E-03
TH-232	3972.000	6.000	3.000	3.000	1.7321	100.0000	6.87E-03	1.35E-02	2.53E-02	9.23E-03	1.35E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 897494
SAMPLE DATE : 26-AUG-2009 20:02:00

SAMPLE ID : S1201911149_TH
SAMPLE QTY: 0.800 L

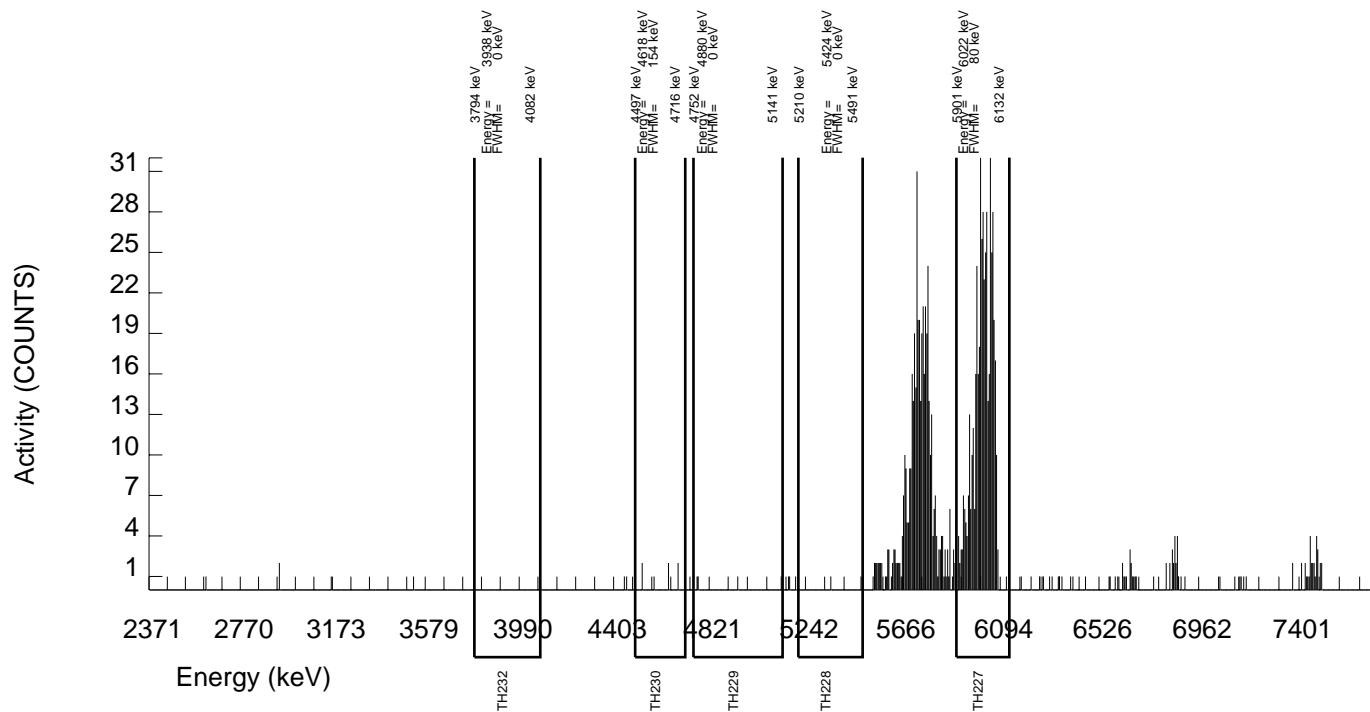
DETECTOR NUMBER :78895
AVERAGE %EFFICIENCY :25.4102
% YIELD : 75.758

COUNT DATE:27-AUG-2009 08:08:35
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD ID : A2796-J ISOTOPE : TH-230 PCI/L : 2.675E+00	LCS/LCSD ID : A2796-J ISOTOPE : TH-230 PCI/L : 2.675E+00	TRACER ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.91255 dpm RESULTS : 2.96406 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
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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	497.000	497.000	0.000	0.0000	68.10000	2.20E+00	2.27E-01	1.33E-02	0.00E+00	1.94E-01
TH-228	5363.000	2.000	1.000	1.000	1.0000	99.94000	2.93E-03	9.95E-03	2.24E-02	6.81E-03	9.94E-03
TH229	4900.000	5.000	5.000	0.000	0.0000	99.52000	1.47E-02	1.29E-02	8.82E-03	0.00E+00	1.29E-02
TH-230	4625.000	7.000	7.000	0.000	0.0000	100.0000	2.05E-02	1.52E-02	8.77E-03	0.00E+00	1.52E-02
TH-232	3972.000	0.000	0.000	0.000	0.0000	100.0000	0.00E+00	5.74E-03	8.77E-03	0.00E+00	5.73E-03



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 897494
SAMPLE DATE : 26-AUG-2009 20:02:00

SAMPLE ID : S1201911150_TH
SAMPLE QTY: 0.800 L

DETECTOR NUMBER :78908
AVERAGE %EFFICIENCY :25.6002
% YIELD : 75.196

COUNT DATE:27-AUG-2009 08:08:55
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 2.675E+00

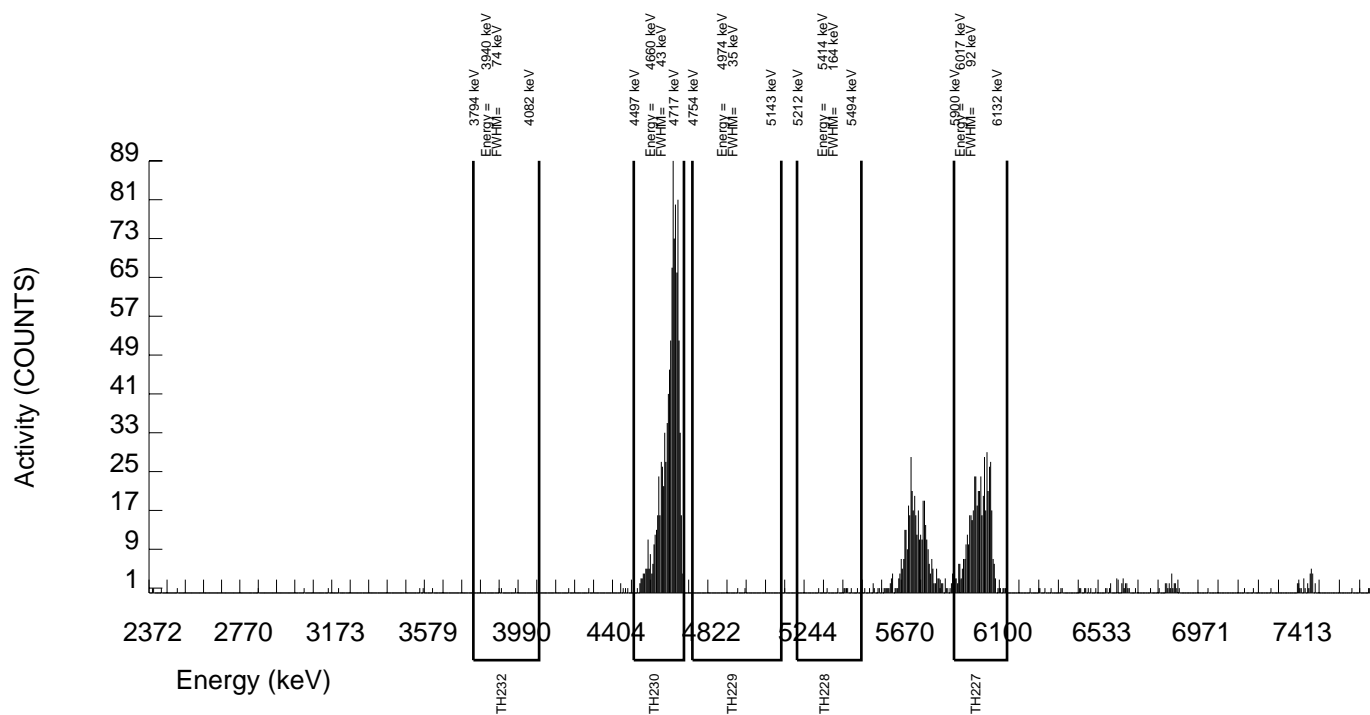
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 2.675E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91255 dpm
RESULTS : 2.94209 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B205.CNF;48
BKG DATE : 23-AUG-2009
EFF FILE : W205.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	499.000	497.000	2.000	1.4142	68.10000	2.20E+00	2.28E-01	4.25E-02	1.46E-02	1.94E-01
TH-228	5363.000	9.000	9.000	0.000	0.0000	99.94000	2.64E-02	1.73E-02	8.79E-03	0.00E+00	1.72E-02
TH229	4900.000	2.000	2.000	0.000	0.0000	99.52000	5.88E-03	8.15E-03	8.82E-03	0.00E+00	8.15E-03
TH-230	4625.000	1022.000	1021.000	1.000	1.0000	100.0000	2.99E+00	2.44E-01	2.24E-02	6.80E-03	1.83E-01
TH-232	3972.000	3.000	2.000	1.000	1.0000	100.0000	5.85E-03	1.15E-02	2.24E-02	6.80E-03	1.15E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 897494
SAMPLE DATE : 26-AUG-2009 20:02:00

SAMPLE ID : S1201911151_TH
SAMPLE QTY: 0.800 L

DETECTOR NUMBER :78909
AVERAGE %EFFICIENCY :25.3986
% YIELD : 67.101

COUNT DATE:27-AUG-2009 08:08:59
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :JXD2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 2.675E+00

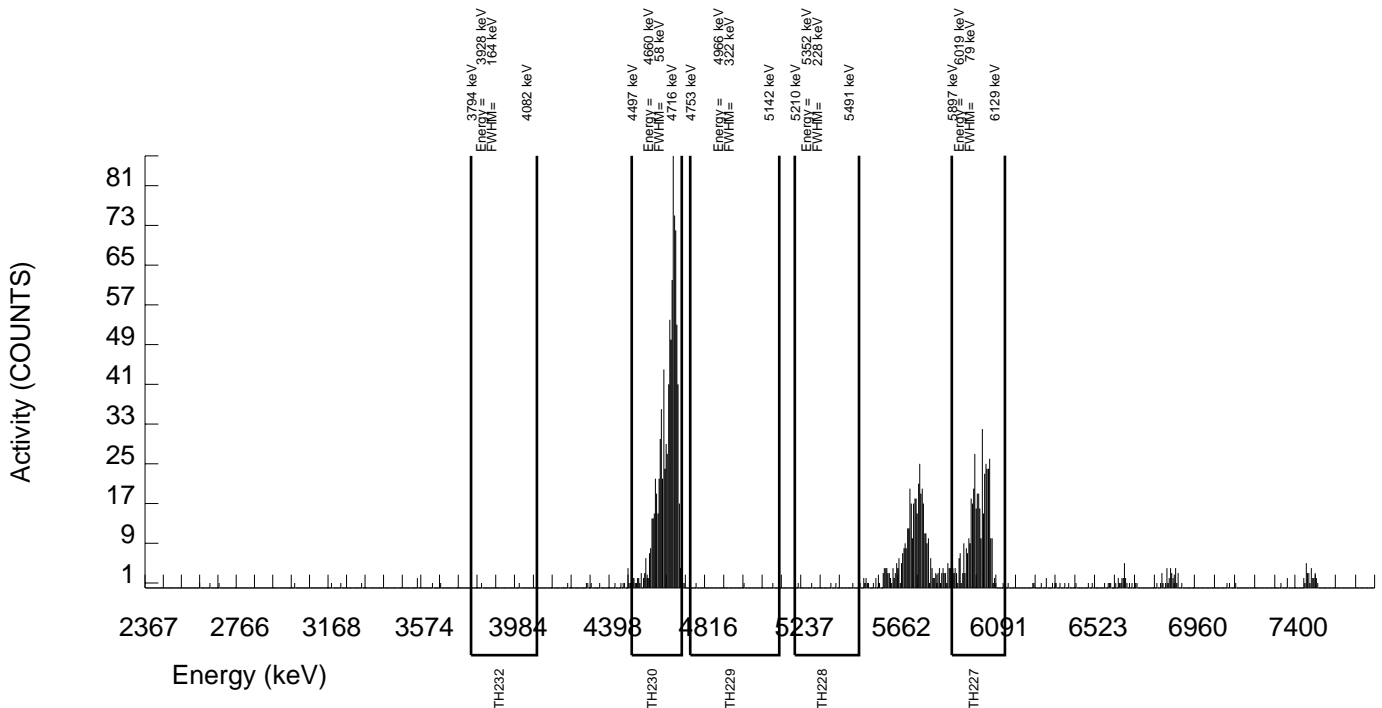
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 2.675E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.91255 dpm
RESULTS : 2.62534 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B206.CNF;48
BKG DATE : 23-AUG-2009
EFF FILE : W206.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	440.000	440.000	0.000	0.0000	68.10000	2.20E+00	2.38E-01	1.50E-02	0.00E+00	2.06E-01
TH-228	5363.000	5.000	4.000	1.000	1.0000	99.94000	1.32E-02	1.59E-02	2.53E-02	7.70E-03	1.59E-02
TH229	4900.000	3.000	2.000	1.000	1.0000	99.52000	6.64E-03	1.30E-02	2.54E-02	7.72E-03	1.30E-02
TH-230	4625.000	935.000	935.000	0.000	0.0000	100.0000	3.09E+00	2.59E-01	9.91E-03	0.00E+00	1.98E-01
TH-232	3972.000	2.000	2.000	0.000	0.0000	100.0000	6.61E-03	9.16E-03	9.91E-03	0.00E+00	9.16E-03



RADIUM 228

Radiochemistry Batch Checklist, Rev 9

Batch# 891149 Product: 7A228 Date: 8/15/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)			N/A
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.			N/A
Smears Taken for Radioactive batches.			N/A
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.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stated.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)	✓		
Batch entered into Case Narrative.	✓		
Batch non-conformances completed, if applicable.			N/A
Batch non-conformances second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By:  8/15/09

Secondary Review Performed By: 

Radium-228 Que Sheet

Batch #: 891149 Analyst: JXC5 First Client Due Date: 08/28/2009 Internal Due Date: 08/17/2009
 Spike Isotope: Radium-228 Spike Code: 0503-B Expiration Date: 9-13-09 Vol: 0.1 mL
 LCS Isotope: Radium-228 LCS Code: 0503-B Expiration Date: 9-13-09 Vol: 0.1 mL
 Tracer Isotope: Barium-133 Tracer Code: 0114-J Expiration Date: 2-17-10 Vol: 0.1
 Prep Date: 8-5-09 Initials: MS Pipet ID: 2766933 Balance ID: 17955160
 Ac-228 Ingrow: 8-10-09 / 1230
 Ac-228 Separation Date/Time: 8-12-09 / 0955
 Witness: MCB 8-5-09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collect Date & Time	Pos. #	Vol (mL)	Ba Yield (%)	Gamma Det. #
234267001-1	RSAM7-28B	SAMPLE		.5 pCi/g	SOIL	KERR003	28-JUL-09 12:55 PM	1	1.003	5A	79.10
234267002-1	SA179-0-5B	SAMPLE		.5 pCi/g	SOIL	KERR003	28-JUL-09 07:58 AM	2	1.023	2D	91.67
234267003-1	SA179-10B	SAMPLE		.5 pCi/g	SOIL	KERR003	28-JUL-09 08:37 AM	3	1.021	11D	84.28
234267004-1	SA179-29B	SAMPLE		.5 pCi/g	SOIL	KERR003	28-JUL-09 09:21 AM	4	1.006	2A	85.51
234267005-1	RSAU4-0-5B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 07:14 AM	5	1.019	8C	87.38
234267006-1	RSAU4-10B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 07:44 AM	6	1.013	8A	93.54
234267007-1	RSAU4-20B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 08:14 AM	7	1.019	13A	95.07
234267008-1	RSAU4-25B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 08:45 AM	8	1.019	13A	82.58
234267009-1	RSAU4-40B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 09:20 AM	9	1.030	7D	74.17
234267010-1	RSAU4-50B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 10:15 AM	10	1.028	6D	94.14
234267011-1	RSAU4-56B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 10:45 AM	11	1.020	1A	88.57
234267012-1	RSAL6-0-5B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 10:51 AM	12	1.005	1B	87.85
234267013-1	RSAL6-10B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 11:15 AM	13	1.006	7A	88.28
234267014-1	RSAL6-28B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 11:50 AM	14	1.003	7B	82.58
234267015-1	SA73-0-5B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 08:44 AM	15	1.012	7A	86.58
234267016-1	SA73-10B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 09:13 AM	16	1.056	5C	101.23
234267017-1	SA73-30B	SAMPLE		.5 pCi/g	SOIL	KERR003	29-JUL-09 10:18 AM	17	1.016	9A	84.62
234267019-1	SA49-10B	SAMPLE		.5 pCi/g	SOIL	KERR003	30-JUL-09 11:15 AM	18	1.016	1C	84.11
234267020-1	SA49-20B	SAMPLE		.5 pCi/g	SOIL	KERR003	30-JUL-09 11:36 AM	19	1.015	9A	76.30
1201895425-1	MB for batch 891149	MB		.5 pCi/g	SOIL	QC ACCOUNT	28-JUL-09 07:58 AM	20	1.056	9C	74.72
1201895426-1	SA179-0-5B(234267002DUP)	DUP		.5 pCi/g	SOIL	QC ACCOUNT	28-JUL-09 07:58 AM	21	1.029	11B	87.51
1201895427-1	SA179-0-5B(234267002MS)	MS		.5 pCi/g	SOIL	QC ACCOUNT	28-JUL-09 07:58 AM	22	0.128	8B	75.06
1201895428-1	LCS for batch 891149	LCS		.5 pCi/g	SOIL	QC ACCOUNT	28-JUL-09 07:58 AM	23	1.056	10D	82.24

8/15/09

* of 8/15/09

MS 8/15/09

Data Reviewed By: MS 8/15/09

Comments:

Radium-228 Solid

Filename : RA228.XLS
 File type : Excel
 Version # : 1.2.4

Spike S/N : 0503-B
 Spike Exp Date : 9/13/2009
 Spike Activity (dpm/ml): 180.32
 Spike 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

Batch : 891149
 Analyst : JXC5
 Prep Date : 8/5/2009

Procedure Code : GFC28RAS

Parname : Radium-228
 Required MDA : 0.5 pCi/G
 Half-life of Ra-228 : 5.75 years
 Half-life of Ac-228 : 6.13 hours
 Batch counted on : PIC
 BKG Count time : 500 min

Ra-228 Abundance : 1
 Ra-228 Method Uncertainty : 0

Calibration Date : 7/2/2009
 Calibration Due Date : 7/31/2010
 Geometry: CeF on 25mm Filter

Sample Characteristics			Tracer Calculations				Tracer Samp.		
Pos.	Sample ID	Sample Aliquot G	Sample Aliquot StDev G	Tracer Concentration (Ba-133 Ref.) (cpm)	Tracer Ref. Count Uncertainty (cpm)	Tracer Concentration (Ba-133 Samp.) (cpm)	Tracer Count Uncertainty (cpm)	Tracer Aliquot (mL)	Tracer Aliquot StDev. (mL)
1	234267001.1	1.0030	3.3237E-03	235.4	4.07%	186.2	4.66%	0.1	0.000701
2	234267002.1	1.0230	3.3257E-03	235.4	4.07%	215.8	4.28%	0.1	0.000701
3	234267003.1	1.0260	3.3260E-03	235.4	4.07%	198.4	4.49%	0.1	0.000701
4	234267004.1	1.0060	3.3240E-03	235.4	4.07%	201.4	4.45%	0.1	0.000701
5	234267005.1	1.0190	3.3253E-03	235.4	4.07%	205.7	4.40%	0.1	0.000701
6	234267006.1	1.0130	3.3247E-03	235.4	4.07%	220.2	4.23%	0.1	0.000701
7	234267007.1	1.0190	3.3253E-03	235.4	4.07%	223.8	4.19%	0.1	0.000701
8	234267008.1	1.0190	3.3253E-03	235.4	4.07%	194.4	4.54%	0.1	0.000701
9	234267009.1	1.0300	3.3265E-03	235.4	4.07%	174.6	4.84%	0.1	0.000701
10	234267010.1	1.0280	3.3263E-03	235.4	4.07%	221.6	4.21%	0.1	0.000701
11	234267011.1	1.0200	3.3254E-03	235.4	4.07%	208.5	4.36%	0.1	0.000701
12	234267012.1	1.0050	3.3239E-03	235.4	4.07%	206.8	4.38%	0.1	0.000701
13	234267013.1	1.0060	3.3240E-03	196.3	4.52%	165.3	5.00%	0.1	0.000701
14	234267014.1	1.0030	3.3237E-03	196.3	4.52%	177.7	4.79%	0.1	0.000701
15	234267015.1	1.0120	3.3246E-03	235.4	4.07%	203.8	4.42%	0.1	0.000701
16	234267016.1	1.0560	3.3292E-03	235.4	4.07%	238.3	4.04%	0.1	0.000701
17	234267017.1	1.0160	3.3250E-03	235.4	4.07%	199.2	4.48%	0.1	0.000701
18	234267019.1	1.0160	3.3250E-03	235.4	4.07%	198.0	4.49%	0.1	0.000701
19	234267020.1	1.0150	3.3249E-03	235.4	4.07%	179.6	4.76%	0.1	0.000701
20	1201895425.1	1.0560	3.3292E-03	235.4	4.07%	175.9	4.82%	0.1	0.000701
21	1201895426.1	1.0290	3.3264E-03	235.4	4.07%	210.7	4.33%	0.1	0.000701
22	1201895427.1	0.1280	3.3294E-03	235.4	4.07%	176.7	4.80%	0.1	0.000701
23	1201895428.1	1.0560	3.3292E-03	235.4	4.07%	193.6	4.55%	0.1	0.000701

Pos.	Counting		Gross Counts		Beta cpm	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	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 %
	Detector ID	Time (min.)	Alpha	Beta											
1	5A	90	18	124	1.378	0.6258	0.00816	0.444	8/12/2009 9:55	8/12/2009 14:02	0.995	0.628	1.087	79.10%	3.25%
2	2D	60	6	53	0.883	0.6119	0.00479	0.326	8/12/2009 9:55	8/12/2009 14:32	0.995	0.593	1.058	91.67%	3.12%
3	11D	390	50	427	1.085	0.6348	0.00816	0.480	8/12/2009 9:55	8/12/2009 19:24	0.995	0.342	1.412	84.28%	3.19%
4	2A	90	12	91	1.011	0.6172	0.00349	0.478	8/12/2009 9:55	8/12/2009 14:25	0.995	0.600	1.087	85.56%	3.17%
5	8C	80	2	115	1.438	0.6339	0.00816	0.472	8/12/2009 9:55	8/12/2009 14:25	0.995	0.601	1.077	87.38%	3.16%
6	8A	90	12	142	1.578	0.6247	0.00816	0.674	8/12/2009 9:55	8/12/2009 14:32	0.995	0.593	1.087	93.54%	3.10%
7	13A	390	162	420	1.077	0.6410	0.00816	0.488	8/12/2009 9:55	8/12/2009 19:25	0.995	0.342	1.412	95.07%	3.06%
8	13A	80	42	119	1.488	0.6410	0.00816	0.488	8/12/2009 9:55	8/12/2009 14:19	0.995	0.608	1.077	82.58%	3.21%
9	7D	70	9	66	0.943	0.6257	0.00816	0.378	8/12/2009 9:55	8/12/2009 14:02	0.995	0.628	1.067	74.17%	3.31%
10	6D	80	17	76	0.950	0.6120	0.00816	0.500	8/12/2009 9:55	8/12/2009 14:41	0.995	0.583	1.077	94.14%	3.09%
11	1A	70	10	98	1.400	0.6303	0.00600	0.336	8/12/2009 9:55	8/12/2009 14:55	0.995	0.568	1.067	88.57%	3.14%
12	13B	390	58	636	1.631	0.6526	0.00816	1.308	8/12/2009 9:55	8/12/2009 19:25	0.995	0.341	1.412	87.85%	3.15%
13	11D	60	10	81	1.350	0.6348	0.00816	0.480	8/14/2009 9:59	8/14/2009 9:59	0.995	0.740	1.058	84.21%	3.51%
14	13A	60	28	64	1.067	0.6410	0.00816	0.488	8/14/2009 7:20	8/14/2009 10:00	0.995	0.739	1.058	90.52%	3.44%
15	14B	390	108	424	1.087	0.6266	0.00816	0.832	8/12/2009 9:55	8/12/2009 19:25	0.995	0.341	1.412	86.58%	3.16%
16	9A	390	31	359	0.921	0.6496	0.00816	0.340	8/12/2009 9:55	8/12/2009 19:28	0.995	0.339	1.412	101.23%	3.03%
17	10B	390	15	779	1.997	0.6137	0.00816	1.198	8/12/2009 9:55	8/12/2009 19:29	0.995	0.339	1.412	84.62%	3.18%
18	10C	390	19	270	0.692	0.6250	0.00816	0.344	8/12/2009 9:55	8/12/2009 19:29	0.996	0.339	1.412	84.11%	3.19%
19	9A	60	4	41	0.683	0.6496	0.00816	0.340	8/12/2009 9:55	8/12/2009 14:02	0.996	0.627	1.058	76.30%	3.29%
20	9C	70	7	37	0.529	0.6273	0.00816	0.350	8/12/2009 9:55	8/12/2009 14:02	0.997	0.627	1.067	74.72%	3.31%
21	10D	390	161	545	1.397	0.6320	0.00816	0.924	8/12/2009 9:55	8/12/2009 19:28	0.995	0.339	1.412	89.51%	3.13%
22	8B	30	2	268	8.933	0.6332	0.00816	1.920	8/12/2009 9:55	8/12/2009 13:04	0.995	0.700	1.029	75.06%	3.30%
23	10D	30	17	204	6.800	0.6320	0.00816	0.924	8/12/2009 9:55	8/12/2009 15:15	0.997	0.547	1.029	82.24%	3.21%

- 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

Pos.	Decision Level		Critical Level	Required MDA	MDA	Sample Act. Conc.	Sample Act. Error	Net Count Rate	Net Count Rate Error	2 SIGMA Counting Uncertainty		Sample QC	Sample Type	RPD	RER	Nominal pCi/G	Recovery
	pCi/G	pCi/G								pCi/G	pCi/G						
1	0.2807	0.1982	0.1982	0.5	0.4490	1.4746	0.1404	0.9338	0.1273	0.3939	0.4057		SAMPLE				
2	0.2559	0.1807	0.1807	0.5	0.4317	0.7846	0.2247	0.5573	0.1240	0.3421	0.3456		SAMPLE				
3	0.3718	0.2625	0.2625	0.5	0.5513	2.0965	0.1052	0.6149	0.0614	0.4102	0.4321		SAMPLE				
4	0.2847	0.2010	0.2010	0.5	0.4534	0.8228	0.2096	0.5331	0.1104	0.3340	0.3380		SAMPLE				
5	0.2773	0.1957	0.1957	0.5	0.4454	1.3888	0.1462	0.9655	0.1375	0.3877	0.3978		SAMPLE				
6	0.3071	0.2168	0.2168	0.5	0.4804	1.2674	0.1554	0.9038	0.1374	0.3776	0.3860		SAMPLE				
7	0.3314	0.2340	0.2340	0.5	0.4912	1.7750	0.1086	0.5889	0.0611	0.3611	0.3780		SAMPLE				
8	0.2916	0.2058	0.2058	0.5	0.4675	1.4869	0.1439	0.9995	0.1399	0.4079	0.4192		SAMPLE				
9	0.2944	0.2078	0.2078	0.5	0.4847	0.9096	0.2139	0.5649	0.1193	0.3764	0.3914		SAMPLE				
10	0.2800	0.1977	0.1977	0.5	0.4484	0.6352	0.2542	0.4500	0.1135	0.3139	0.3165		SAMPLE				
11	0.2574	0.1818	0.1818	0.5	0.4275	1.5893	0.1389	1.0640	0.1438	0.4209	0.4327		SAMPLE				
12	0.5848	0.4129	0.4129	0.5	0.9508	1.0485	0.2575	0.3228	0.0824	0.5249	0.5292		SAMPLE				
13	0.2654	0.1874	0.1874	0.5	0.4349	1.0468	0.1797	0.8700	0.1532	0.3612	0.3688		SAMPLE				
14	0.2476	0.1748	0.1748	0.5	0.4052	0.6442	0.2393	0.5787	0.1369	0.2988	0.3022		SAMPLE				
15	0.4898	0.3458	0.3458	0.5	0.7178	0.8704	0.2635	0.2552	0.0667	0.4461	0.4496		SAMPLE				
16	0.2492	0.1759	0.1759	0.5	0.3727	1.5758	0.1001	0.5805	0.0551	0.2934	0.3091		SAMPLE				
17	0.6156	0.4346	0.4346	0.5	0.9967	2.8564	0.1134	0.7994	0.0867	0.6072	0.6347		SAMPLE				
18	0.3258	0.2300	0.2300	0.5	0.4872	1.2292	0.1463	0.3483	0.0496	0.3433	0.3524		SAMPLE				
19	0.2815	0.1987	0.1987	0.5	0.4732	0.5206	0.3218	0.3433	0.1099	0.3265	0.3283		SAMPLE				
20	0.2731	0.1928	0.1928	0.5	0.4522	0.2772	0.5098	0.1786	0.0908	0.2764	0.2770		SAMPLE				
21	0.4901	0.3460	0.3460	0.5	0.7169	1.5334	0.1590	0.4734	0.0737	0.4678	0.4779	234267002.1	MB	64.6%		63.6192	119.3%
22	6.6329	4.6829	4.6829	0.5	10.4588	76.6532	0.0890	7.0133	0.5492	11.7650	13.3746	234267002.1	DUP			7.6919	118.2%
23	0.6514	0.4599	0.4599	0.5	1.0746	9.0921	0.0879	5.8760	0.4780	1.4498	1.5663		LCS				

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine
234267001	5A	90	18	124	8/12/2009 14:02	8/12/2009 15:32	Protean
234267002	2D	60	6	53	8/12/2009 14:32	8/12/2009 15:32	Protean
234267003	11D	390	50	427	8/12/2009 19:24	8/13/2009 1:54	Protean
234267004	2A	90	12	91	8/12/2009 14:25	8/12/2009 15:55	Protean
234267005	8C	80	2	115	8/12/2009 14:25	8/12/2009 15:45	Protean
234267006	8A	90	12	142	8/12/2009 14:32	8/12/2009 16:02	Protean
234267007	13A	390	162	420	8/12/2009 19:25	8/13/2009 1:55	Protean
234267008	13A	80	42	119	8/12/2009 14:19	8/12/2009 15:39	Protean
234267009	7D	70	9	66	8/12/2009 14:02	8/12/2009 15:12	Protean
234267010	6D	80	17	76	8/12/2009 14:41	8/12/2009 16:01	Protean
234267011	1A	70	10	98	8/12/2009 14:55	8/12/2009 16:05	Protean
234267012	13B	390	58	636	8/12/2009 19:25	8/13/2009 1:55	Protean
234267013	11D	60	10	81	8/14/2009 9:59	8/14/2009 10:59	Protean
234267014	13A	60	28	64	8/14/2009 10:00	8/14/2009 11:00	Protean
234267015	14B	390	108	424	8/12/2009 19:25	8/13/2009 1:55	Protean
234267016	9A	390	31	359	8/12/2009 19:28	8/13/2009 1:58	Protean
234267017	10B	390	15	779	8/12/2009 19:29	8/13/2009 1:59	Protean
234267018	10C	390	19	270	8/12/2009 19:29	8/13/2009 1:59	Protean
234267020	9A	60	4	41	8/12/2009 14:02	8/12/2009 15:02	Protean
1201895425	9C	70	7	37	8/12/2009 14:02	8/12/2009 15:12	Protean
1201895426	10D	390	161	545	8/12/2009 19:28	8/13/2009 1:58	Protean
1201895427	8B	30	2	268	8/12/2009 13:04	8/12/2009 13:34	Protean
1201895428	10D	30	17	204	8/12/2009 15:15	8/12/2009 15:45	Protean

ASSAY 14-Aug-09 3:03:57

Protocol id 8 228_REC
Time limit 180
Count limit 50000
Isotope Ba-133
Protocol date 9-Apr-07 10:03:07
Run id. 25

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	98	1	180	680	196.3	4.52		03:04:04
2	98	2	180	587	165.3	5	84.21	03:07:15
3	98	3	180	624	177.7	4.79	90.52	03:10:27
4	98	4	180	524	144.3	5.42	73.51	03:13:38
5	98	5	180	589	165.9	4.99	84.51	03:16:49

END OF ASSAY

VERIFICATION ONLY

RA891149re1

Radium-228 Solid

Filename : RA228.XLS
File type : Excel
Version # : 1.2.4

Spike S/N : 0503-B
Spike Exp Date : 9/13/2009
Spike Activity (dpm/ml) : 180.32
Spike 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

Batch : 891149
Analyst : JXC5
Prep Date : 8/5/2009

Procedure Code : GFC28RAS
Parname : Radium-228

Ra-228 Abundance : 1
Ra-228 Method Uncertainty : 0

Required MDA : 0.5 pCi/G
Half-life of Ra-228 : 5.75 years
Half-life of Ac-228 : 6.13 hours
Batch counted on : PIC
BKG Count time : 500 min

LCS S/N : 0503-B
LCS Exp Date : 9/13/2009
LCS Activity (dpm/ml) : 180.32
LCS Volume Added : 0.10

Tracer S/N : 0112-J
Tracer Exp Date : 2/17/2010
Tracer Volume Added : 0.10

Calibration Date : 7/2/2009
Calibration Due Date : 7/31/2010
Geometry: CeF on 25mm Filter

Pos.	Sample Characteristics			Sample Date/Time	Tracer Calculations			Tracer Samp.		
	Sample ID	Sample Aliquot G	Sample Aliquot StDev. G		Tracer Concentration (Ba-133 Ref.) (cpm)	Tracer Ref. Count Uncertainty (cpm)	Tracer Concentration (Ba-133 Samp.) (cpm)	Tracer Count Uncertainty (cpm)	Tracer Aliquot (mL)	Tracer Aliquot StDev. (mL)
1	234267001.1	1.0030	3.3237E-03	7/28/2009 12:55	235.4	4.07%	186.2	4.66%	0.1	0.000701
2	234267002.1	1.0230	3.3257E-03	7/28/2009 7:58	235.4	4.07%	215.8	4.28%	0.1	0.000701
3	234267003.1	1.0260	3.3260E-03	7/28/2009 8:37	235.4	4.07%	198.4	4.49%	0.1	0.000701
4	234267004.1	1.0060	3.3240E-03	7/28/2009 9:21	235.4	4.07%	201.4	4.45%	0.1	0.000701
5	234267005.1	1.0190	3.3253E-03	7/29/2009 7:14	235.4	4.07%	205.7	4.40%	0.1	0.000701
6	234267006.1	1.0130	3.3247E-03	7/29/2009 7:44	235.4	4.07%	220.2	4.23%	0.1	0.000701
7	234267007.1	1.0190	3.3253E-03	7/29/2009 8:14	235.4	4.07%	223.8	4.19%	0.1	0.000701
8	234267008.1	1.0190	3.3253E-03	7/29/2009 8:45	235.4	4.07%	194.4	4.54%	0.1	0.000701
9	234267009.1	1.0300	3.3265E-03	7/29/2009 9:20	235.4	4.07%	174.6	4.84%	0.1	0.000701
10	234267010.1	1.0280	3.3263E-03	7/29/2009 10:15	235.4	4.07%	221.6	4.21%	0.1	0.000701
11	234267011.1	1.0200	3.3254E-03	7/29/2009 10:45	235.4	4.07%	208.5	4.36%	0.1	0.000701
12	234267012.1	1.0050	3.3239E-03	7/29/2009 10:51	235.4	4.07%	206.8	4.36%	0.1	0.000701
13	234267013.1	1.0060	3.3240E-03	7/29/2009 11:15	196.3	4.52%	165.3	5.00%	0.1	0.000701
14	234267014.1	1.0030	3.3237E-03	7/29/2009 11:50	196.3	4.52%	177.7	4.79%	0.1	0.000701
15	234267015.1	1.0120	3.3246E-03	7/29/2009 8:44	235.4	4.07%	203.8	4.42%	0.1	0.000701
16	234267016.1	1.0560	3.3292E-03	7/29/2009 9:13	235.4	4.07%	238.3	4.04%	0.1	0.000701
17	234267017.1	1.0160	3.3250E-03	7/29/2009 10:18	235.4	4.07%	199.2	4.48%	0.1	0.000701
18	234267019.1	1.0160	3.3250E-03	7/30/2009 11:15	235.4	4.07%	198.0	4.49%	0.1	0.000701
19	234267020.1	1.0150	3.3249E-03	7/30/2009 11:36	235.4	4.07%	179.6	4.76%	0.1	0.000701
20	1201895425.1	1.0560	3.3292E-03	8/5/2009 0:00	196.3	4.52%	144.3	5.42%	0.1	0.000701
21	1201895426.1	1.0290	3.3264E-03	7/28/2009 7:58	235.4	4.07%	210.7	4.33%	0.1	0.000701
22	1201895427.1	0.1280	3.2324E-03	7/28/2009 7:58	235.4	4.07%	176.7	4.80%	0.1	0.000701
23	1201895428.1	1.0560	3.3292E-03	8/5/2009 0:00	196.3	4.52%	165.9	4.99%	0.1	0.000701

VERIFICATION ONLY

Count raw Data		Counting		Gross Counts		Beta		Detector Efficiency (cpm/dpm)		Detector Efficiency Error (cpm/dpm)		Weekly Bkg		Separation		Count		Ra-228		Ac-228		Ac-228		Calculated		Sample		
Pos.	Detector ID	Time (min.)	Alpha	Beta	Alpha	Beta	cpm	cpm/dpm	cpm/dpm	cpm	cpm	Count Time (min.)	Date/Time	Date/Time	Date/Time	Start Date/Time	Decay	Decay	Correction	Count	Decay	Correction	Recovery %	Recovery %	Recovery %	Recovery %	Recovery %	Error %
1	5A	90	18	124	1.378	0.6258	0.00816	0.444	0.444	0.00816	500	8/12/2009 9:55	8/12/2009 14:02	0.995	0.628	1.087	79.10%	3.25%										
2	2D	60	53	53	0.883	0.6119	0.00479	0.326	0.326	0.00479	500	8/12/2009 9:55	8/12/2009 14:32	0.995	0.593	1.058	91.67%	3.12%										
3	11D	390	50	427	1.095	0.6348	0.00816	0.480	0.480	0.00816	500	8/12/2009 9:55	8/12/2009 19:24	0.995	0.342	1.412	84.28%	3.19%										
4	2A	90	12	91	1.011	0.6172	0.00349	0.478	0.478	0.00349	500	8/12/2009 9:55	8/12/2009 14:25	0.995	0.600	1.087	85.56%	3.17%										
5	8C	80	2	115	1.438	0.6339	0.00816	0.472	0.472	0.00816	500	8/12/2009 9:55	8/12/2009 14:25	0.995	0.601	1.077	87.38%	3.16%										
6	8A	90	12	142	1.578	0.6247	0.00816	0.674	0.674	0.00816	500	8/12/2009 9:55	8/12/2009 14:32	0.995	0.593	1.087	93.54%	3.10%										
7	13A	390	162	420	1.077	0.6410	0.00816	0.488	0.488	0.00816	500	8/12/2009 9:55	8/12/2009 19:25	0.995	0.342	1.412	95.07%	3.08%										
8	13A	80	42	119	1.488	0.6410	0.00816	0.488	0.488	0.00816	500	8/12/2009 9:55	8/12/2009 14:19	0.995	0.608	1.077	82.58%	3.21%										
9	7D	70	9	66	0.943	0.6257	0.00816	0.378	0.378	0.00816	500	8/12/2009 9:55	8/12/2009 14:02	0.995	0.628	1.067	74.17%	3.31%										
10	6D	80	17	76	0.950	0.6120	0.00816	0.500	0.500	0.00816	500	8/12/2009 9:55	8/12/2009 14:41	0.995	0.583	1.077	94.14%	3.09%										
11	1A	70	10	98	1.400	0.6303	0.00600	0.336	0.336	0.00600	500	8/12/2009 9:55	8/12/2009 14:55	0.995	0.588	1.067	88.57%	3.14%										
12	13B	390	58	636	1.631	0.6526	0.00816	1.308	1.308	0.00816	500	8/12/2009 9:55	8/12/2009 19:25	0.995	0.341	1.412	87.85%	3.15%										
13	14A	390	71	295	0.756	0.6393	0.00816	0.448	0.448	0.00816	500	8/14/2009 7:20	8/14/2009 12:17	0.995	0.570	1.412	84.21%	3.51%										
14	13A	60	28	64	1.067	0.6410	0.00816	0.488	0.488	0.00816	500	8/14/2009 7:20	8/14/2009 10:00	0.995	0.739	1.058	90.52%	3.44%										
15	14B	390	108	424	1.087	0.6266	0.00816	0.832	0.832	0.00816	500	8/12/2009 9:55	8/12/2009 19:25	0.995	0.341	1.412	86.58%	3.16%										
16	9A	390	31	359	0.921	0.6496	0.00816	0.340	0.340	0.00816	500	8/12/2009 9:55	8/12/2009 19:28	0.995	0.339	1.412	101.23%	3.03%										
17	10B	390	15	779	1.997	0.6137	0.00816	1.198	1.198	0.00816	500	8/12/2009 9:55	8/12/2009 19:29	0.995	0.339	1.412	84.62%	3.18%										
18	10C	390	19	270	0.892	0.6250	0.00816	0.344	0.344	0.00816	500	8/12/2009 9:55	8/12/2009 19:29	0.996	0.339	1.412	84.11%	3.19%										
19	9A	60	4	41	0.683	0.6496	0.00816	0.340	0.340	0.00816	500	8/12/2009 9:55	8/12/2009 14:02	0.996	0.627	1.058	76.30%	3.28%										
20	14A	60	12	49	0.817	0.6393	0.00816	0.448	0.448	0.00816	500	8/14/2009 7:20	8/14/2009 10:00	0.997	0.739	1.058	73.51%	3.67%										
21	10D	390	161	545	1.397	0.6320	0.00816	0.924	0.924	0.00816	500	8/12/2009 9:55	8/12/2009 19:28	0.995	0.339	1.412	89.51%	3.13%										
22	8B	30	2	268	8.933	0.6332	0.00816	1.920	1.920	0.00816	500	8/12/2009 9:55	8/12/2009 13:04	0.995	0.700	1.029	75.06%	3.30%										
23	11B	60	23	460	7.667	0.6372	0.00816	0.832	0.832	0.00816	500	8/14/2009 7:20	8/14/2009 10:00	0.997	0.739	1.058	84.51%	3.51%										

VERIFICATION ONLY

Notes:

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

Pos.	Decision Level pCi/G	Critical Level pCi/G	Required MDA pCi/G	MDA pCi/G	Sample Act. Conc. pCi/G	Sample Act. Error pCi/G	Net Count Rate CPM	Net Count Rate Error CPM	2 SIGMA		Sample QC	Sample Type	RPD	RER	Nominal pCi/G	Recovery
									Counting Uncertainty pCi/G	Total Prop. Uncertainty pCi/G						
1	0.2807	0.1982	0.5	0.4490	1.4746	0.1404	0.9338	0.1273	0.3939	0.4057		SAMPLE				
2	0.2559	0.1807	0.5	0.4317	0.7846	0.2247	0.5573	0.1240	0.3421	0.3456		SAMPLE				
3	0.3718	0.2625	0.5	0.5513	2.0965	0.1052	0.6149	0.0614	0.4102	0.4321		SAMPLE				
4	0.2847	0.2010	0.5	0.4534	0.8228	0.2096	0.5331	0.1104	0.3340	0.3380		SAMPLE				
5	0.2773	0.1957	0.5	0.4454	1.3888	0.1462	0.9655	0.1375	0.3877	0.3978		SAMPLE				
6	0.3071	0.2166	0.5	0.4804	1.2674	0.1554	0.9038	0.1374	0.3776	0.3860		SAMPLE				
7	0.3314	0.2340	0.5	0.4912	1.7750	0.1086	0.5889	0.0611	0.3611	0.3780		SAMPLE				
8	0.2916	0.2058	0.5	0.4675	1.4869	0.1439	0.9995	0.1399	0.4079	0.4192		SAMPLE				
9	0.2944	0.2078	0.5	0.4847	0.9096	0.2139	0.5649	0.1193	0.3764	0.3814		SAMPLE				
10	0.2800	0.1977	0.5	0.4484	0.6352	0.2542	0.4500	0.1135	0.3139	0.3165		SAMPLE				
11	0.2574	0.1818	0.5	0.4275	1.5893	0.1389	1.0640	0.1438	0.4209	0.4327		SAMPLE				
12	0.5848	0.4129	0.5	0.8508	1.0485	0.2575	0.3228	0.0824	0.5249	0.5292		SAMPLE				
13	0.2181	0.1540	0.5	0.3239	0.6385	0.1764	0.3084	0.0532	0.2161	0.2208		SAMPLE				
14	0.2476	0.1748	0.5	0.4052	0.6442	0.2393	0.5787	0.1369	0.2988	0.3022		SAMPLE				
15	0.4898	0.3458	0.5	0.7178	0.8704	0.2635	0.2552	0.0667	0.4461	0.4496		SAMPLE				
16	0.2492	0.1759	0.5	0.3727	1.5758	0.1001	0.5905	0.0551	0.2934	0.3091		SAMPLE				
17	0.6156	0.4346	0.5	0.8967	2.8564	0.1134	0.7994	0.0867	0.6072	0.6347		SAMPLE				
18	0.3258	0.2300	0.5	0.4872	1.2292	0.1463	0.3483	0.0496	0.3433	0.3524		SAMPLE				
19	0.2815	0.1987	0.5	0.4732	0.5206	0.3218	0.3433	0.1099	0.3265	0.3283		SAMPLE				
20	0.2777	0.1960	0.5	0.4573	0.4805	0.3289	0.3687	0.1204	0.3077	0.3097		SAMPLE				
21	0.4901	0.3460	0.5	0.7169	1.5334	0.1590	0.4734	0.0737	0.4678	0.4779	234267002.1	MB	64.6%			
22	6.6329	4.6829	0.5	10.4588	76.6532	0.0890	7.0133	0.5492	11.7650	13.3746	234267002.1	DUP			63.6192	119.3%
23	0.3303	0.2332	0.5	0.5233	7.7749	0.0639	6.8347	0.3598	0.8022	0.9733		LCS			7.6919	101.1%

VERIFICATION ONLY

891149re1

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine
234267001	5A	90	18	124	8/12/2009 14:02	8/12/2009 15:32	Protean
234267002	2D	60	6	53	8/12/2009 14:32	8/12/2009 15:32	Protean
234267003	11D	390	50	427	8/12/2009 19:24	8/13/2009 1:54	Protean
234267004	2A	90	12	91	8/12/2009 14:25	8/12/2009 15:55	Protean
234267005	8C	80	2	115	8/12/2009 14:25	8/12/2009 15:45	Protean
234267006	8A	90	12	142	8/12/2009 14:32	8/12/2009 16:02	Protean
234267007	13A	390	162	420	8/12/2009 19:25	8/13/2009 1:55	Protean
234267008	13A	80	42	119	8/12/2009 14:19	8/12/2009 15:39	Protean
234267009	7D	70	9	66	8/12/2009 14:02	8/12/2009 15:12	Protean
234267010	6D	80	17	76	8/12/2009 14:41	8/12/2009 16:01	Protean
234267011	1A	70	10	98	8/12/2009 14:55	8/12/2009 16:05	Protean
234267012	13B	390	58	636	8/12/2009 19:25	8/13/2009 1:55	Protean
234267013	14A	390	71	295	8/14/2009 12:17	8/14/2009 18:47	Protean
234267014	13A	60	28	64	8/14/2009 10:00	8/14/2009 11:00	Protean
234267015	14B	390	108	424	8/12/2009 19:25	8/13/2009 1:55	Protean
234267016	9A	390	31	359	8/12/2009 19:28	8/13/2009 1:58	Protean
234267017	10B	390	15	779	8/12/2009 19:29	8/13/2009 1:59	Protean
234267019	10C	390	19	270	8/12/2009 19:29	8/13/2009 1:59	Protean
234267020	9A	60	4	41	8/12/2009 14:02	8/12/2009 15:02	Protean
1201895425	14A	60	12	49	8/14/2009 10:00	8/14/2009 11:00	Protean
1201895426	10D	390	161	545	8/12/2009 19:28	8/13/2009 1:58	Protean
1201895427	8B	30	2	268	8/12/2009 13:04	8/12/2009 13:34	Protean
1201895428	11B	60	23	460	8/14/2009 10:00	8/14/2009 11:00	Protean

Radiochemistry Batch Checklist, Rev 9

Batch# 891394 Product: Radium 228 Date: 8/12/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 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 stasured.	✓		
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: 

8/26
KERE

Secondary Review Performed By:  8/13/09

Radium-228 Que Sheet

General Engineering Laboratories, Radiochemistry Division
08/06/2009

Batch #: 891394 Analyst: MXS2 First Client Due Date: 08/26/2009 Internal Due Date: 08/15/2009
 Spike Isotope: Radium-228 Spike Code: _____ Expiration Date: _____ Ac-228 Ingrow: 8-7-09 1050
 LCS Isotope: Radium-228 LCS Code: 0503-8 Expiration Date: 9-13-09
 Tracer Isotope: Barium-133 Tracer Code: 0117-3 Expiration Date: 2-17-10 Ac-228 Separation Date/Time: 8-10-09 10515
 Prep Date: 8-6-09 Initials: MS Pipet ID: 2766953 Balance ID: 11955160 Witness: MCB 8-6-09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collect Date & Time	Pos. #	Vol (mL)	Det #	Ba Yield (%)	Gamma Det. #
234120018-1	EB072709-SO	SAMPLE		3 pCi/L	WATER	KERR003	27-JUL-09 01:30 PM	1	200	1A	88.31	
234267018-1	FB072909-SO	SAMPLE		3 pCi/L	WATER	KERR003	29-JUL-09 02:25 PM	2	200	1C	78.03	
234414019-1	EB073109-SO	SAMPLE		3 pCi/L	WATER	KERR003	31-JUL-09 11:52 AM	3	200	1D	87.21	
234414020-1	EB080309-SO	SAMPLE		3 pCi/L	WATER	KERR003	03-AUG-09 11:50 AM	4	200	2A	86.81	
234414021-1	FB080309-SO	SAMPLE		3 pCi/L	WATER	KERR003	03-AUG-09 02:00 PM	5	200	2C	76.75	
1201896008-1	MB for batch 891394	MB		3 pCi/L	WATER	QC ACCOUNT	27-JUL-09 01:30 PM	6	200	2D	77.51	
1201896009-1	LCS for batch 891394	LCS		3 pCi/L	WATER	QC ACCOUNT	27-JUL-09 01:30 PM	7	200	3C	87.00	
1201896010-1	LCS for batch 891394	LCS		3 pCi/L	WATER	QC ACCOUNT	27-JUL-09 01:30 PM	8	200	3D	78.61	

daily ✓

8/12/09

Comments: _____
 Data Reviewed By: Michael Henry III

Radium-228 Liquid

Filename : RA228.XLS
 File type : Excel
 Version # : 1.2.4

Spike S/N : N/A
 Spike Exp Date : N/A
 Spike Activity (dpm/ml) : N/A
 Spike Volume Added: N/A

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

LCS S/N : 0503-B
 LCS Exp Date : 9/13/2009
 LCS Activity (dpm/ml): 180.26
 LCS Volume Added: 0.10

Procedure Code : GFC28RAL
 Parmname : Radium-228

Required MDA : 3 pCi/L
 Half-life of Ra-228 : 5.75 years
 Half-life of Ac-228 : 6.13 hours
 Batch counted on : PIC
 BKG Count time : 500 min

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

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

Geometry: CeF on 25mm Filter

Pos.	Sample Characteristics			Sample Date/Time	Tracer Calculations			Tracer Samp.		
	Sample ID	Sample Aliquot L	Sample Aliquot StDev. L		Tracer Concentration (Ba-133 Ref.) (cpm)	Tracer Ref. Count Uncertainty (cpm)	Tracer Concentration (Ba-133 Samp.) (cpm)	Tracer Count Uncertainty (cpm)	Tracer Aliquot (mL)	Tracer Aliquot StDev. (mL)
1	234120018.1	0.2000	1.6007E-05	7/27/2009 13:30	231.8	4.10%	176.7	4.80%	0.1	0.000701
2	234267018.1	0.2000	1.6007E-05	7/29/2009 14:25	217.8	4.25%	169.5	4.92%	0.1	0.000701
3	234414019.1	0.2000	1.6007E-05	7/31/2009 11:52	231.8	4.10%	170.1	4.91%	0.1	0.000701
4	234414020.1	0.2000	1.6007E-05	8/3/2009 11:50	231.8	4.10%	169.3	4.93%	0.1	0.000701
5	234414021.1	0.2000	1.6007E-05	8/3/2009 14:00	233.3	4.09%	179.2	4.76%	0.1	0.000701
6	1201896008.1	0.2000	1.6007E-05	8/6/2009 0:00	233.3	4.09%	176.5	4.81%	0.1	0.000701
7	1201896009.1	0.2000	1.6007E-05	8/6/2009 0:00	233.3	4.09%	178.1	4.78%	0.1	0.000701
8	1201896010.1	0.2000	1.6007E-05	8/6/2009 0:00	231.8	4.10%	174.4	4.84%	0.1	0.000701

Counting		Gross Counts		Beta		Detector Efficiency (cpm/dpm)		Detector Efficiency Error (cpm/dpm)		Weekly Bkg		Separation		Count Start		Ra-228 Decay		Ac-228 Decay		Ac-228 Count Correction		Calculated Sample Recovery %		Sample Recovery Error %	
Pos.	Detector ID	Time (min.)	Alpha	Beta	Beta cpm	cpm/dpm	cpm/dpm	cpm/dpm	cpm/dpm	cpm	Time (min.)	Date/Time	Date/Time	Date/Time	Date/Time	Decay	Decay	Decay	Decay	Correction	%	%	%	%	
1	2A	90	5	57	0.633	0.6172	0.00349	0.478	500	8/12/2009 7:00	8/12/2009 10:07	0.995	0.702	1.087	76.23%	3.31%									
2	2D	90	10	41	0.456	0.6119	0.00479	0.326	500	8/12/2009 7:00	8/12/2009 10:07	0.995	0.702	1.087	77.82%	3.40%									
3	5A	90	8	48	0.533	0.6258	0.00816	0.444	500	8/12/2009 7:00	8/12/2009 10:08	0.996	0.702	1.087	73.38%	3.35%									
4	5C	90	26	114	1.267	0.6368	0.00816	0.798	500	8/12/2009 7:00	8/12/2009 10:08	0.997	0.701	1.087	73.04%	3.36%									
5	6B	90	29	84	0.933	0.6163	0.00816	0.752	500	8/12/2009 7:00	8/12/2009 10:08	0.997	0.701	1.087	76.81%	3.29%									
6	6D	90	11	56	0.622	0.6120	0.00816	0.500	500	8/12/2009 7:00	8/12/2009 10:08	0.998	0.701	1.087	75.65%	3.31%									
7	2B	60	7	398	6.633	0.6167	0.00383	1.140	500	8/12/2009 7:00	8/12/2009 10:08	0.998	0.701	1.058	76.34%	3.30%									
8	3A	60	60	334	5.567	0.5682	0.00943	0.984	500	8/12/2009 7:00	8/12/2009 10:08	0.998	0.701	1.058	75.24%	3.32%									

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

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		Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
									Counting Uncertainty pCi/L	Total Prop. Uncertainty pCi/L						
1	1.3747	0.9706	3	2.1895	1.1577	0.5765	0.1553	0.0894	1.3060	1.3394		SAMPLE				
2	1.1214	0.7917	3	1.8288	0.9537	0.5845	0.1296	0.0756	1.0906	1.1179		SAMPLE				
3	1.3564	0.9576	3	2.1696	0.6816	0.9247	0.0693	0.0825	1.2345	1.2469		SAMPLE				
4	1.7943	1.2668	3	2.7845	3.5284	0.2693	0.4687	0.1252	1.8472	2.0586		SAMPLE				
5	1.7117	1.2085	3	2.6636	1.3416	0.6019	0.1813	0.1090	1.5802	1.6174		SAMPLE				
6	1.4262	1.0069	3	2.2659	0.9240	0.7286	0.1222	0.0890	1.3182	1.3395		MB			40.5999	97.9%
7	2.4589	1.7360	3	3.8337	39.7409	0.0696	5.4933	0.3359	4.7630	11.2661		LCS	8.5%		40.5999	89.9%
8	2.5160	1.7763	3	3.9510	36.5120	0.0755	4.5827	0.3078	4.8088	10.5621		LCSD				

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine
234120018	2A	90	5	57	8/12/2009 10:07	8/12/2009 11:37	Protean
234267018	2D	90	10	41	8/12/2009 10:07	8/12/2009 11:37	Protean
234414019	5A	90	8	48	8/12/2009 10:08	8/12/2009 11:38	Protean
234414020	5C	90	26	114	8/12/2009 10:08	8/12/2009 11:38	Protean
234414021	6B	90	29	84	8/12/2009 10:08	8/12/2009 11:38	Protean
1201896008	6D	90	11	56	8/12/2009 10:08	8/12/2009 11:38	Protean
1201896009	2B	60	7	398	8/12/2009 10:08	8/12/2009 11:08	Protean
1201896010	3A	60	60	334	8/12/2009 10:08	8/12/2009 11:08	Protean

ASSAY 11-Aug-09 6:13:52

Protocol id 9 228_REC2
Time limit 180
Count limit 50000
Isotope Ba-133
Protocol date 9-Apr-07 10:02:22
Run id. 62

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT	TIME
1	90	1	180	787	231.8	4.1			06:13:59
2	90	2	180	621	176.7	4.8	76.23		06:17:11
3	90	3	180	558	155.5	5.19	67.08		06:20:22 <i>9/11/10</i>
4	90	4	180	602	170.1	4.91	73.38		06:23:33
5	90	5	180	599	169.3	4.93	73.04		06:26:45
6	75	6	180	557	155.2	5.19	66.95		06:30:09 <i>9/11/10</i>
7	75	7	180	555	154.6	5.2	66.70		06:33:21 <i>9/11/10</i>
8	75	8	180	544	151.1	5.28	65.19		06:36:32 <i>9/11/10</i>
9	75	9	180	614	174.4	4.84	75.24		06:39:44

END OF ASSAY

ASSAY 11-Aug-09 8:04:11

Protocol id 9 228_REC2
Time limit 180
Count limit 50000
Isotope Ba-133
Protocol date 9-Apr-07 10:02:22
Run id. 64

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	90	1	180	745	217.8	4.25		08:04:19
2	90	2	180	600	169.5	4.92	77.82	08:07:30

END OF ASSAY

ASSAY 11-Aug-09 7:39:39

Protocol id 9 228_REC2
Time limit 180
Count limit 50000
Isotope Ba-133
Protocol date 9-Apr-07 10:02:22
Run id. 63

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	90	1	180	791	233.3	4.09		07:39:47
2	90	2	180	570	159.7	5.1	68.45	07:42:58
3	90	3	180	629	179.2	4.76	76.81	07:46:09
4	90	4	180	621	176.5	4.81	75.65	07:49:21
5	90	5	180	626	178.1	4.78	76.34	07:52:32

910 8-11-10

END OF ASSAY

RADIUM 226

Radiochemistry Batch Checklist, Rev 9

Batch# 892760 Product: Pa-226 Date: 8/22/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 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%.			NA
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.			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 stasured.	✓		
QC data entered into QC database and batch is in REW	✓		
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 REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: Symonee Pare

Secondary Review Performed By: Shoh 8/24/09

KETR 8/26/09

Radium-226 Que Sheet

08/11/2009

General Engineering Laboratories, Radiochemistry Division

Batch #: 892760 Analyst: KSD1

First Client Due Date: 08/26/2009

Internal Due Date: 08/15/2009

Spike Isotope: Radium-226 Spike Code: 00584

Expiration Date: 7/7/10

Nom Conc: 24.1655 pCi/L

LCS Isotope: Radium-226 LCS Code: 00584

Expiration Date: 7/7/10

Nom Conc: 24.1655 pCi/L

Prep Date: 8/18/09

Pipet ID: 1429303

Initials: LD Witness: DL-8-18-09

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
234120018-1	EB072709-SO	SAMPLE		WATER	1 pCi/L	KERR003 1	500	8/18/09 1320	8/22/09 0645	8/22/09 1405	312	3	6	14
234267018-1	FB072909-SO	SAMPLE		WATER	1 pCi/L	KERR003 2	500	8/18/09 1320	8/22/09 0645	8/22/09 1330	404	4	8	16
234414019-1	EB073109-SO	SAMPLE		WATER	1 pCi/L	KERR003 3	500	8/18/09 1320	8/22/09 0645	8/22/09 1405	506	5	8	23
234414020-1	EB080309-SO	SAMPLE		WATER	1 pCi/L	KERR003 4	500	8/18/09 1320	8/22/09 0645	8/22/09 1405	604	6	8	29
234414021-1	FB080309-SO	SAMPLE		WATER	1 pCi/L	KERR003 5	500	8/18/09 1320	8/22/09 0645	8/22/09 1405	204	2	8	5
1201899206-1	MB for batch 892760	MB		WATER	1 pCi/L	QC ACCOUNT 6	500	8/18/09 1320	8/22/09 0645	8/22/09 1505	301	3	8	13
1201899207-1	LCS for batch 892760	LCS		WATER	1 pCi/L	QC ACCOUNT 7	500	8/18/09 1320	8/22/09 0645	8/22/09 1405	412	4	6	684
1201899208-1	LCS for batch 892760	LCS		WATER	1 pCi/L	QC ACCOUNT 8	500	8/18/09 1320	8/22/09 0645	8/22/09 1505	501	5	8	735

*PP 8/22/09

Comments:
Instrument ID's:

LUCASI:90988, LUCAS2:136917, LUCAS3:90989, LUCAS4:102753, LUC5:132286, LUC6:170055

Data Reviewed By: Andrew Foe 8/22/09

Radium-226 Liquid

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

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

Spike S/N : N/A
 Spike Exp Date : N/A
 Spike Activity (dpm/ml): N/A
 Spike Volume Added: N/A

Batch : 892760
 Analyst : KSD1
 Prep Date : 8/18/2009
 Ra-226 Abundance : 1
 Ra-226 Method Uncertainty : 0.0918

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

Pos.	Sample Characteristics		Sample Aliquot StDev. L	Sample Date/Time	Count Raw Data Counting			Weekly Background			Detector Efficiency (cpm/dpm)	
	Sample ID	Sample Aliquot L			Cell Number	Time (min.)	Gross Counts	Gross CPM	Counts	CPM		Count Time (min.)
1	234120018.1	0.5000	2.0256E-05	7/27/2009 13:30	312	30	14	0.467	6	0.200	30	1.9440
2	234267018.1	0.5000	2.0256E-05	7/29/2009 14:25	404	30	16	0.533	8	0.267	30	1.9310
3	234414019.1	0.5000	2.0256E-05	7/31/2009 11:52	506	30	23	0.767	8	0.267	30	2.0040
4	234414020.1	0.5000	2.0256E-05	8/3/2009 11:50	604	30	9	0.300	2	0.067	30	2.1330
5	234414021.1	0.5000	2.0256E-05	8/3/2009 14:00	209	30	5	0.167	8	0.267	30	2.2910
6	1201899206.1	0.5000	2.0256E-05	8/18/2009 0:00	301	30	13	0.433	8	0.267	30	2.0210
7	1201899207.1	0.5000	2.0256E-05	8/18/2009 0:00	412	30	684	22.800	6	0.200	30	1.9670
8	1201899208.1	0.5000	2.0256E-05	8/18/2009 0:00	501	30	735	24.500	8	0.267	30	2.0870

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	
0.06082	2/4/2009	2/4/2010	8/18/2009 13:20	8/22/2009 8:45	8/22/2009 14:05	0.499	0.961	1.000
0.12371	3/2/2009	3/2/2010	8/18/2009 13:20	8/22/2009 8:45	8/22/2009 13:30	0.499	0.965	1.000
0.14377	3/25/2009	3/25/2010	8/18/2009 13:20	8/22/2009 8:45	8/22/2009 14:05	0.499	0.961	1.000
0.06605	8/4/2009	8/4/2010	8/18/2009 13:20	8/22/2009 8:45	8/22/2009 14:05	0.499	0.961	1.000
0.07722	12/19/2008	12/19/2009	8/18/2009 13:20	8/22/2009 9:00	8/22/2009 14:05	0.500	0.962	1.000
0.06082	2/4/2009	2/4/2010	8/18/2009 13:20	8/22/2009 9:00	8/22/2009 15:05	0.500	0.955	1.000
0.12371	3/2/2009	3/2/2010	8/18/2009 13:20	8/22/2009 9:00	8/22/2009 14:05	0.500	0.962	1.000
0.14377	3/25/2009	3/25/2010	8/18/2009 13:20	8/22/2009 9:00	8/22/2009 15:05	0.500	0.955	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

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		2 SIGMA		Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
									Counting Uncertainty pCi/L	Total Prop. Uncertainty pCi/L	Counting Uncertainty pCi/L	Total Prop. Uncertainty pCi/L						
1	0.2598	0.1834	1	0.4634	0.2575	0.5623	0.2667	0.1491	0.2821	0.2876	SAMPLE							
2	0.3007	0.2123	1	0.5213	0.2581	0.6247	0.2667	0.1633	0.3098	0.3194	SAMPLE							
3	0.2910	0.2054	1	0.5046	0.4683	0.3981	0.5000	0.1856	0.3407	0.3750	SAMPLE							
4	0.1367	0.0965	1	0.2810	0.2053	0.4784	0.2333	0.1106	0.1907	0.1961	SAMPLE							
5	0.2536	0.1790	1	0.4397	-0.0816	1.2043	-0.1000	0.1202	0.1923	0.1924	SAMPLE							
6	0.2896	0.2045	1	0.5022	0.1554	0.9185	0.1667	0.1528	0.2791	0.2811	MB						24.1655	88.9%
7	0.2558	0.1806	1	0.4562	21.4857	0.1296	22.6000	0.8756	1.6316	6.6892	LCS						24.1655	90.5%
8	0.2805	0.1980	1	0.4863	21.8785	0.1486	24.2333	0.9086	1.6078	7.4893	LCSD			1.8%				

Radiochemistry Batch Checklist, Rev 9

Batch# 893450 Product: Radium 226 Date: 8-27-09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 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%.			NA
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.			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 stasured.	✓		
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 726872
Batch non-conformances second reviewed and disposition verified to be completed.			
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

revised 8/1/08

Primary Review Performed By: [Signature]

Secondary Review Performed By: [Signature] 8/27/09

KERR 8-28-09

Radium-226 Que Sheet

Batch #: 893450 Analyst: KSD1 First Client Due Date: 08/28/2009 Internal Due Date: 08/17/2009
 Spike Isotope: Radium-226 Spike Code: 01038-H Expiration Date: 7/17/10 Vol: 0.1 Nom Conc: 12.0110
 LCS Isotope: Radium-226 LCS Code: 0038-H Expiration Date: 7/17/10 Vol: 0.1 Nom Conc: 11.6180
 Prep Date: 8/19/09 Pipet ID: 1429303 Initials: KD Witness: DM 8-19-09 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
234267001-1	RSAM7-28B	SAMPLE	SOIL	.5 pCi/g	KERR003 1	1.006	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	107	1	8	193
234267002-1	SA179-0.5B	SAMPLE	SOIL	.5 pCi/g	KERR003 2	1.040	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	109	2	4	46
234267003-1	SA179-10B	SAMPLE	SOIL	.5 pCi/g	KERR003 3	1.035	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	205	3	5	196
234267004-1	SA179-29B	SAMPLE	SOIL	.5 pCi/g	KERR003 4	1.014	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	411	4	7	82
234267005-1	RSAU4-0.5B	SAMPLE	SOIL	.5 pCi/g	KERR003 5	1.008	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	510	5	4	55
234267006-1	RSAU4-10B	SAMPLE	SOIL	.5 pCi/g	KERR003 6	1.028	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	400	6	3	86
234267007-1	RSAU4-20B	SAMPLE	SOIL	.5 pCi/g	KERR003 7	1.004	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	111	1	6	53
234267008-1	RSAU4-25B	SAMPLE	SOIL	.5 pCi/g	KERR003 8	1.003	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	201	2	6	148
234267009-1	RSAU4-40B	SAMPLE	SOIL	.5 pCi/g	KERR003 9	1.015	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	309	3	8	63
234267010-1	RSAU4-50B	SAMPLE	SOIL	.5 pCi/g	KERR003 10	1.021	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	407	4	8	118
234267011-1	RSAU4-56B	SAMPLE	SOIL	.5 pCi/g	KERR003 11	1.026	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	505	5	3	115
234267012-1	RSAL6-0.5B	SAMPLE	SOIL	.5 pCi/g	KERR003 12	1.002	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	604	4	6	47
234267013-1	RSAL6-10B	SAMPLE	SOIL	.5 pCi/g	KERR003 13	1.015	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	104	1	4	77
234267014-1	RSAL6-28B	SAMPLE	SOIL	.5 pCi/g	KERR003 14	1.037	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	209	2	2	116
234267015-1	SA73-0.5B	SAMPLE	SOIL	.5 pCi/g	KERR003 15	1.033	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	311	3	5	52
234267016-1	SA73-10B	SAMPLE	SOIL	.5 pCi/g	KERR003 16	1.027	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	409	4	7	64
234267017-1	SA73-30B	SAMPLE	SOIL	.5 pCi/g	KERR003 17	1.017	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	503	5	1	168
234267019-1	SA49-10B	SAMPLE	SOIL	.5 pCi/g	KERR003 18	1.030	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	605	4	8	61
234267020-1	SA49-20B	SAMPLE	SOIL	.5 pCi/g	KERR003 19	1.014	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	106	1	8	99
1201900978-1	MB for batch 893450	MB	SOIL	.5 pCi/g	QC ACCOUNT	201.040	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	203	2	8	22
1201900979-1	SA179-0.5B(234267002DUP)	DUP	SOIL	.5 pCi/g	QC ACCOUNT	1.033	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	301	3	8	42
1201900980-1	SA179-0.5B(234267002MS)	MS	SOIL	.5 pCi/g	QC ACCOUNT	1.006	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	414	4	8	987
1201900981-1	LCS for batch 893450	LCS	SOIL	.5 pCi/g	QC ACCOUNT	23.010	8/17/09 11:00	8/17/09 11:20	8/17/09 12:50	508	5	1	971

8-27-09
 1730
 8-27-09
 dailies ✓

DM 8-27-09

Radium-226 Solid

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

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

Batch : 893450
 Analyst : KSD1
 Prep Date : 8/19/2009
 Ra-226 Abundance : 1
 Ra-226 Method Uncertainty : 0.1153

Procedure Code : LUC26RAS
 Parmname : Radium-226
 Required MDA : 0.5 pCi/G
 Half-life of Ra-226 : 1600 years
 Half-life of Rn-222: 3.823 days
 Batch counted on : LUCAS CELL DETECTOR
 BKG Count time : 30 min

Pos.	Sample Characteristics		Sample Aliquot G	Sample Aliquot StDev. G	Sample Date/Time	Count Raw Data Counting			Weekly Background			Detector Efficiency (cpm/dpm)
	Sample ID	Sample Aliquot G				Cell Number	Time (min.)	Gross Counts	Gross CPM	Counts	CPM	
1	234267001.1	1.0060	3.3240E-03	7/28/2009 12:55	102	30	193	6.433	8	0.267	30	1.6470
2	234267002.1	1.0400	3.3275E-03	7/28/2009 7:58	204	30	46	1.533	4	0.133	30	2.1930
3	234267003.1	1.0350	3.3270E-03	7/28/2009 8:37	305	30	196	6.533	5	0.167	30	2.0570
4	234267004.1	1.0140	3.3248E-03	7/28/2009 9:21	411	30	82	2.733	7	0.233	30	1.8240
5	234267005.1	1.0080	3.3242E-03	7/29/2009 7:14	510	30	55	1.833	4	0.133	30	1.4580
6	234267006.1	1.0280	3.3263E-03	7/29/2009 7:44	602	30	86	2.867	3	0.100	30	2.1680
7	234267007.1	1.0040	3.3238E-03	7/29/2009 8:14	111	30	53	1.767	6	0.200	30	1.5750
8	234267008.1	1.0030	3.3237E-03	7/29/2009 8:45	201	30	148	4.933	6	0.200	30	1.9930
9	234267009.1	1.0150	3.3249E-03	7/29/2009 9:20	309	30	63	2.100	8	0.267	30	1.8770
10	234267010.1	1.0210	3.3255E-03	7/29/2009 10:15	402	30	118	3.933	8	0.267	30	2.1180
11	234267011.1	1.0260	3.3260E-03	7/29/2009 10:45	505	30	115	3.833	3	0.100	30	2.3310
12	234267012.1	1.0020	3.3235E-03	7/29/2009 10:51	604	30	47	1.567	6	0.200	30	2.1330
13	234267013.1	1.0150	3.3249E-03	7/29/2009 11:15	104	30	77	2.567	4	0.133	30	1.9730
14	234267014.1	1.0370	3.3272E-03	7/29/2009 11:50	209	30	116	3.867	2	0.067	30	2.2910
15	234267015.1	1.0330	3.3268E-03	7/29/2009 8:44	311	30	52	1.733	5	0.167	30	2.1140
16	234267016.1	1.0270	3.3261E-03	7/29/2009 9:13	409	30	64	2.133	7	0.233	30	2.0360
17	234267017.1	1.0170	3.3251E-03	7/29/2009 10:18	503	30	168	5.600	1	0.033	30	1.6010
18	234267019.1	1.0300	3.3265E-03	7/30/2009 11:15	605	30	61	2.033	8	0.267	30	2.1490
19	234267020.1	1.0140	3.3248E-03	7/30/2009 11:36	106	30	99	3.300	8	0.267	30	1.4860
20	1201900978.1	1.0400	3.3275E-03	8/19/2009 0:00	203	30	22	0.733	8	0.267	30	2.2540
21	1201900979.1	1.0330	3.3268E-03	7/28/2009 7:58	301	30	42	1.400	8	0.267	30	2.0210
22	1201900980.1	1.0060	3.3240E-03	7/28/2009 7:58	412	30	987	32.900	8	0.267	30	1.9670
23	1201900981.1	1.0400	3.3275E-03	8/19/2009 0:00	508	30	823	27.433	1	0.033	30	1.5340

Detector Efficiency Error (cpm/dpm)	Cell Calibration Date	Cell Calibration Due Date	De-Gas Date/Time	Rn-222 Ingrow		Count Start Date/Time	Rn-222 Corrections		Ra-226 Decay
				End Date/Time	De-Gas to Ingrow		Ingrow to Count	During Count	
0.09580	8/29/2008	8/29/2009	8/21/2009 16:00	8/26/2009 9:30	8/26/2009 12:50	0.576	0.975	1.002	1.000
0.07722	12/19/2008	12/19/2009	8/21/2009 16:00	8/26/2009 9:30	8/26/2009 12:50	0.576	0.975	1.002	1.000
0.06082	2/4/2009	2/4/2010	8/21/2009 16:00	8/26/2009 9:30	8/26/2009 12:50	0.576	0.975	1.002	1.000
0.12371	3/2/2009	3/2/2010	8/21/2009 16:00	8/26/2009 9:30	8/26/2009 12:50	0.576	0.975	1.002	1.000
0.14377	3/25/2009	3/25/2010	8/21/2009 16:00	8/26/2009 9:30	8/26/2009 12:50	0.576	0.975	1.002	1.000
0.06605	8/4/2009	8/4/2010	8/21/2009 16:00	8/26/2009 9:30	8/26/2009 12:50	0.576	0.975	1.002	1.000
0.09580	8/29/2008	8/29/2009	8/21/2009 16:00	8/26/2009 9:55	8/26/2009 13:20	0.577	0.975	1.002	1.000
0.07722	12/19/2008	12/19/2009	8/21/2009 16:00	8/26/2009 9:55	8/26/2009 13:20	0.577	0.975	1.002	1.000
0.06082	2/4/2009	2/4/2010	8/21/2009 16:00	8/26/2009 9:55	8/26/2009 13:20	0.577	0.975	1.002	1.000
0.12371	3/2/2009	3/2/2010	8/21/2009 16:00	8/26/2009 9:55	8/26/2009 13:20	0.577	0.975	1.002	1.000
0.14377	3/25/2009	3/25/2010	8/21/2009 16:00	8/26/2009 9:55	8/26/2009 13:20	0.577	0.975	1.002	1.000
0.06605	8/4/2009	8/4/2010	8/21/2009 16:00	8/26/2009 9:55	8/26/2009 13:20	0.577	0.975	1.002	1.000
0.09580	8/29/2008	8/29/2009	8/21/2009 16:00	8/26/2009 10:20	8/26/2009 13:55	0.578	0.973	1.002	1.000
0.07722	12/19/2008	12/19/2009	8/21/2009 16:00	8/26/2009 10:20	8/26/2009 13:55	0.578	0.973	1.002	1.000
0.06082	2/4/2009	2/4/2010	8/21/2009 16:00	8/26/2009 10:20	8/26/2009 13:55	0.578	0.973	1.002	1.000
0.12371	3/2/2009	3/2/2010	8/21/2009 16:00	8/26/2009 10:20	8/26/2009 13:55	0.578	0.973	1.002	1.000
0.14377	3/25/2009	3/25/2010	8/21/2009 16:00	8/26/2009 10:20	8/26/2009 13:55	0.578	0.973	1.002	1.000
0.06605	8/4/2009	8/4/2010	8/21/2009 16:00	8/26/2009 10:20	8/26/2009 13:55	0.578	0.973	1.002	1.000
0.09580	8/29/2008	8/29/2009	8/21/2009 16:00	8/26/2009 10:45	8/26/2009 14:25	0.580	0.973	1.002	1.000
0.07722	12/19/2008	12/19/2009	8/21/2009 16:00	8/26/2009 10:45	8/26/2009 14:25	0.580	0.973	1.002	1.000
0.06082	2/4/2009	2/4/2010	8/21/2009 16:00	8/26/2009 10:45	8/26/2009 14:25	0.580	0.973	1.002	1.000
0.12371	3/2/2009	3/2/2010	8/21/2009 16:00	8/26/2009 10:45	8/26/2009 14:25	0.580	0.973	1.002	1.000
0.14377	3/25/2009	3/25/2010	8/21/2009 16:00	8/26/2009 10:45	8/26/2009 17:30	0.580	0.950	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

Pos.	Decision Level pCi/G	Critical Level pCi/G	Required MDA pCi/G	MDA pCi/G	Sample Act. Conc. pCi/G	Sample Act. Error pCi/G	Net Count Rate CPM	Net Count Rate Error CPM	2 SIGMA Counting Uncertainty pCi/G	2 SIGMA Total Prop. Uncertainty pCi/G	Sample QC	Sample Type	RPD	RER	Nominal pCi/G	Recovery
1	0.1502	0.1060	0.5	0.2604	2.9806	0.1227	6.1667	0.4726	0.4477	0.9837		SAMPLE				
2	0.0771	0.0545	0.5	0.1440	0.4916	0.1853	1.4000	0.2357	0.1622	0.2102		SAMPLE				
3	0.0924	0.0652	0.5	0.1681	2.3948	0.0960	6.3667	0.4726	0.3484	0.7043		SAMPLE				
4	0.1258	0.0888	0.5	0.2210	1.0825	0.1765	2.5000	0.3145	0.2669	0.4472		SAMPLE				
5	0.1197	0.0845	0.5	0.2235	0.9263	0.2082	1.7000	0.2560	0.2735	0.4322		SAMPLE				
6	0.0684	0.0483	0.5	0.1325	0.9941	0.1315	2.7667	0.3145	0.2215	0.3408		SAMPLE				
7	0.1360	0.0960	0.5	0.2426	0.7921	0.1895	1.5667	0.2560	0.2537	0.3443		SAMPLE				
8	0.1076	0.0760	0.5	0.1919	1.8931	0.1167	4.7333	0.4137	0.3243	0.6086		SAMPLE				
9	0.1304	0.0920	0.5	0.2260	0.7693	0.1649	1.8333	0.2809	0.2310	0.3034		SAMPLE				
10	0.1149	0.0811	0.5	0.1991	1.3556	0.1604	3.6667	0.3742	0.2711	0.5248		SAMPLE				
11	0.0636	0.0449	0.5	0.1232	1.2480	0.1735	3.7333	0.3621	0.2372	0.5095		SAMPLE				
12	0.1006	0.0711	0.5	0.1795	0.5112	0.1895	1.3667	0.2427	0.1779	0.2222		SAMPLE				
13	0.0676	0.0619	0.5	0.1636	0.9704	0.1562	2.4333	0.3000	0.2345	0.3692		SAMPLE				
14	0.0522	0.0369	0.5	0.1073	1.2774	0.1227	3.8000	0.3621	0.2386	0.4215		SAMPLE				
15	0.0898	0.0634	0.5	0.1634	0.5730	0.1718	1.5667	0.2517	0.1804	0.2323		SAMPLE				
16	0.1110	0.0784	0.5	0.1949	0.7257	0.1928	1.9000	0.2809	0.2103	0.3195		SAMPLE				
17	0.0539	0.0380	0.5	0.1251	2.7305	0.1635	5.5667	0.4333	0.4166	1.0708		SAMPLE				
18	0.1121	0.0791	0.5	0.1944	0.6374	0.1701	1.7667	0.2769	0.1958	0.2567		SAMPLE				
19	0.1644	0.1161	0.5	0.2850	1.6051	0.1487	3.0333	0.3448	0.3576	0.5919		SAMPLE				
20	0.1057	0.0746	0.5	0.1832	0.1587	0.3988	0.4667	0.1826	0.1217	0.1291		MB				
21	0.1186	0.0838	0.5	0.2057	0.4328	0.2167	1.1333	0.2357	0.1764	0.2082	234267002.1	DUP	12.7%		12.0110	105.4%
22	0.1252	0.0884	0.5	0.2170	13.1490	0.1279	32.6333	1.0515	0.8304	4.4374	234267002.1	MS			11.6180	120.6%
23	0.0562	0.0397	0.5	0.1305	14.0162	0.1480	27.4000	0.9568	0.9594	5.1537		LCS				

METHOD CALIBRATION DATA

GAS FLOW PROPORTIONAL COUNTERS


General Engineering Laboratories

2040 Savage Road, Charleston, SC 29414
(843)556-8171

Gas Flow Proportional Counter Calibration Package

Method: Re-228(Pc)

	YES	NO	Comments
1) Is all calibration standard information enclosed for: primary standard certificate? secondary standard(s) documentation? standard preparation information? standard < 1 Year old or verified?	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
2) Are the detector graphs included? beta absorption curves? beta plateau?			Average Efficiency
	<input checked="" type="checkbox"/>		
3) Is the raw count data included for: the plateau generation? the absorption curve generation? the calibration verification? the crosstalk calculations?	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
4) Are the calibration verification calculations included? are verification recoveries 100% +/- 25%			
	<input checked="" type="checkbox"/>		
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 time		Ac-228 decay	Spike Vol. Ra-228	Std. Act. Ra-228	Standard Nominal	raw beta	ct. time (min)	Beta cpm	corrected* cpm	Ra-228 eff (cpm/dpm)	
		date	date										
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	5746.92888	0.6021	
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	0.5854	
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	5878.380714	0.6159	
2D	4	7/1/09 10:45	7/1/2009 13:58	0.6954	1.5	6363.2	9544.8	11892	3	3897.3	5804.158523	0.5871	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	
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	5868.58525	0.6148	
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	
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	
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	
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	5686.467573	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	
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	
5A	1	7/1/09 10:45	7/1/2009 15:06	0.6112	1.5	6363.2	9544.8	14870	4	3717.5	6082.165809	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	
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	
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	
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	
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	

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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	5590.212859	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	6047.285806	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	5846.694018	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	6133.782218	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	6145.874775	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	6085.406803	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	6180.125852	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	5982.583098	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	6278.391381	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	5856.748417	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 1										

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	0.6386	
12C	2	7/1/09 10:45	7/1/2009 12:20	0.8361	1.5	6363.2	9544.8	15851	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	5718.805229	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	5758.75774	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	15825	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	0.8082	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	0.6185	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

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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

2019 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 Normalis are Decay corrected to Sample Date/Time

* indicates results calculated at 100% recovery

Decision Level	Critical Level	Required MDA	MDA	Sample Act. Conc.		Sample Error	Net Count Rate		Net Count Rate		Counting Uncertainty		Sample Type	Nominal pCi/L	Recovery
				pCi/L	Conc.		CPM	Rate	CPM	Rate	pCi/L	Uncertainty			
0.3471	0.2451	1	0.6837	134.0279	0.0254	131.6880	2.9666	5.9178	21.6466	164.3409	81.6%				
0.3647	0.2575	1	0.7192	133.0399	0.0251	130.2590	2.9508	5.9071	21.4655	164.3409	81.0%				
0.5389	0.3790	1	0.9659	145.2921	0.0243	139.8173	3.0611	6.2347	23.3752	164.3409	88.4%				
0.4695	0.3314	1	0.8755	159.8328	0.0239	150.4760	3.1730	6.6057	25.6756	164.3409	97.3%				
0.4261	0.3008	1	0.8057	127.0000	0.0247	122.0633	2.8583	5.8279	20.5368	164.3409	77.3%				
0.7599	0.5385	1	1.2813	141.0616	0.0243	135.4387	3.0211	6.1673	22.7300	164.3409	85.8%				
0.3798	0.2681	1	0.7515	141.8559	0.0253	131.7993	2.9681	6.2613	22.9053	164.3409	86.3%				
0.4150	0.2930	1	0.8072	145.8182	0.0251	131.8887	2.9686	6.4352	23.5274	164.3409	88.7%				
0.6347	0.4481	1	1.1343	129.6854	0.0284	108.9047	2.7042	6.3116	21.1935	164.3409	82.4%				
0.9035	0.6379	1	1.5022	135.4510	0.0266	119.6900	2.8455	6.3115	21.9803	164.3409	86.0%				
0.6078	0.4291	1	1.0779	141.2594	0.0255	128.6447	2.9382	6.3235	22.8259	164.3409	94.7%				
0.5473	0.3864	1	0.9887	155.5960	0.0247	137.7700	3.0378	6.7244	25.0636	164.3409	82.5%				
0.6283	0.4438	1	1.1054	135.5336	0.0264	124.2433	2.8886	6.1761	21.9739	164.3409	83.3%				
0.9036	0.6378	1	1.4942	138.9155	0.0254	125.4287	2.9134	6.2333	22.1127	164.3409	88.8%				
0.7676	0.5419	1	1.3079	145.9826	0.0252	130.3400	2.9624	6.5032	23.5821	164.3409	90.0%				
0.7520	0.5309	1	1.3000	147.9661	0.0268	124.2633	2.8910	6.7471	24.0105	164.3409	82.1%				
0.4809	0.3385	1	0.9027	134.9811	0.0269	120.7040	2.8427	6.2312	21.9265	164.3409	80.0%				
0.8874	0.4924	1	1.2076	131.4742	0.0271	117.9500	2.8170	6.1544	21.3797	164.3409	89.0%				
0.6530	0.4610	1	1.1419	148.2299	0.0259	132.9873	2.9894	6.4406	23.6659	164.3409	95.2%				
0.7861	0.5409	1	1.3064	156.3706	0.0255	139.2187	3.0605	6.7377	25.2668	164.3409	81.7%				
0.8889	0.4871	1	1.1997	134.1883	0.0270	118.9960	2.8288	6.2523	21.8127	164.3409	83.4%				
0.6079	0.4282	1	1.0882	137.0396	0.0269	120.3027	2.8412	6.3436	22.2643	164.3409	88.8%				
0.9509	0.6713	1	1.5725	146.0056	0.0264	127.0207	2.9317	6.6044	23.6775	164.3409	88.0%				
0.4376	0.3090	1	0.8562	144.5849	0.0275	113.7227	2.7577	6.3803	21.8573	164.3409	83.8%				
0.4227	0.2984	1	0.8330	134.2390	0.0275	113.7227	2.7577	6.3803	21.8573	164.3409	83.8%				
0.4360	0.3079	1	0.8480	137.6373	0.0270	118.4887	2.8152	6.4094	22.3723	164.3409	92.4%				
0.3982	0.2797	1	0.7956	151.8935	0.0262	128.6313	2.9319	6.7858	24.6088	164.3409	92.6%				
0.4480	0.3163	1	0.8657	152.1131	0.0261	130.4707	2.9539	6.7499	24.6318	164.3409	77.8%				
0.6332	0.4470	1	1.1278	127.8251	0.0279	109.4120	2.7108	6.2072	20.8618	164.3409	82.2%				
0.8817	0.6831	1	1.6167	135.1471	0.0273	117.2540	2.8197	6.3699	21.9896	164.3409	89.2%				
0.5779	0.4080	1	1.0463	148.5864	0.0263	127.3240	2.8214	6.5922	23.7610	164.3409	86.1%				
0.8422	0.5946	1	1.4301	141.4935	0.0272	117.4880	2.8147	6.6441	23.0148	164.3409	79.4%				
0.4379	0.3091	1	0.8509	130.5505	0.0276	112.2200	2.7400	6.2478	21.2882	164.3409	81.4%				
0.7972	0.5629	1	1.3635	133.7974	0.0277	112.5273	2.7540	6.4182	21.8026	164.3409	87.8%				
0.4475	0.3159	1	0.8728	144.2824	0.0269	119.7633	2.8301	6.6832	23.4437	164.3409	91.9%				
0.8154	0.5159	1	1.3863	150.3313	0.0263	128.3747	2.9406	6.7718	24.4459	164.3409	81.8%				
0.4063	0.2868	1	0.8104	134.4151	0.0275	118.5507	2.7553	6.3927	21.8871	164.3409	82.2%				
1.9322	1.3641	1	2.9747	135.0540	0.0285	109.6040	2.8489	6.7565	23.8548	164.3409	89.4%				
0.4205	0.2969	1	0.8358	146.9063	0.0268	121.4093	2.8041	6.7699	23.5500	164.3409	88.1%				
0.4437	0.3132	1	0.8728	144.8386	0.0271	117.5853	2.8041	6.7699	23.5500	164.3409	82.4%				
0.3432	0.2423	1	0.6763	135.4549	0.0253	141.3227	3.0733	5.7736	21.8705	164.3409	80.1%				
0.3289	0.2322	1	0.6397	131.8931	0.0247	150.2887	3.1684	5.4434	21.2189	164.3409	80.1%				
0.2949	0.2082	1	0.5922	148.3038	0.0237	169.2880	3.3628	5.7929	23.8866	164.3409	90.5%				
0.3379	0.2385	1	0.6530	151.8473	0.0235	172.6707	3.3968	5.9549	24.3915	164.3409	92.4%				
0.4816	0.3400	1	0.8577	131.6889	0.0249	148.2120	3.1520	5.4891	21.2301	164.3409	80.1%				
0.7488	0.5287	1	1.2332	134.8866	0.0246	153.3873	3.2186	5.5463	21.7215	164.3409	82.1%				
0.4447	0.3140	1	0.8052	148.8317	0.0238	167.9907	3.3090	5.8232	23.8982	164.3409	90.6%				
0.6180	0.4363	1	1.0494	143.9479	0.0241	162.8880	3.3090	5.7315	23.1384	164.3409	87.8%				
0.3427	0.2420	1	0.6680	135.0873	0.0248	144.3533	3.1490	5.6202	21.7752	164.3409	82.2%				
0.5997	0.4234	1	1.0256	129.5009	0.0251	144.7940	3.1202	5.4687	20.8960	164.3409	78.8%				
0.3316	0.2341	1	0.6469	146.0021	0.0240	163.4967	3.3053	5.7852	23.4616	164.3409	88.8%				
0.6355	0.4487	1	1.0805	159.6717	0.0235	174.3747	3.4225	6.1425	25.6134	164.3409	97.2%				
0.3138	0.2214	1	0.6265	132.0625	0.0251	144.5507	3.1078	5.5650	21.3060	164.3409	80.4%				
1.4618	1.0321	1	2.2506	135.6135	0.0254	145.4707	3.1861	5.8215	21.9070	164.3409	82.5%				
0.3185	0.2249	1	0.6330	141.6298	0.0245	154.5427	3.2193	5.7718	22.7980	164.3409	86.2%				
0.3327	0.2349	1	0.6546	146.7439	0.0242	158.8520	3.2579	5.8988	23.6017	164.3409	89.3%				

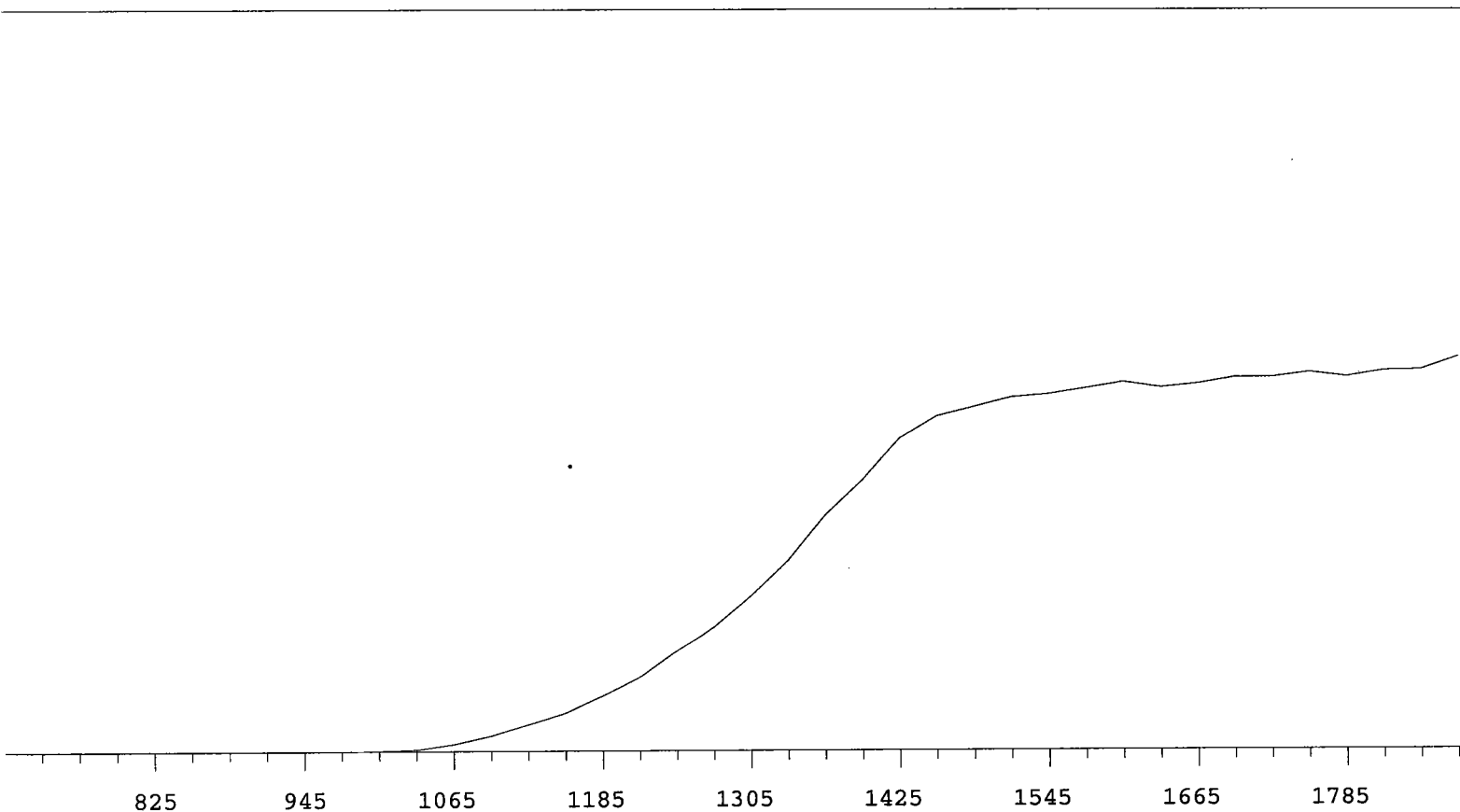
SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine
1	1A	15	36	1980	7/2/2009 8:39	7/2/2009 8:54	Protean
2	1B	15	27	1959	7/2/2009 8:40	7/2/2009 8:55	Protean
3	1C	15	44	2108	7/2/2009 8:40	7/2/2009 8:55	Protean
4	1D	15	108	2265	7/2/2009 8:40	7/2/2009 8:55	Protean
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

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7/2/09

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

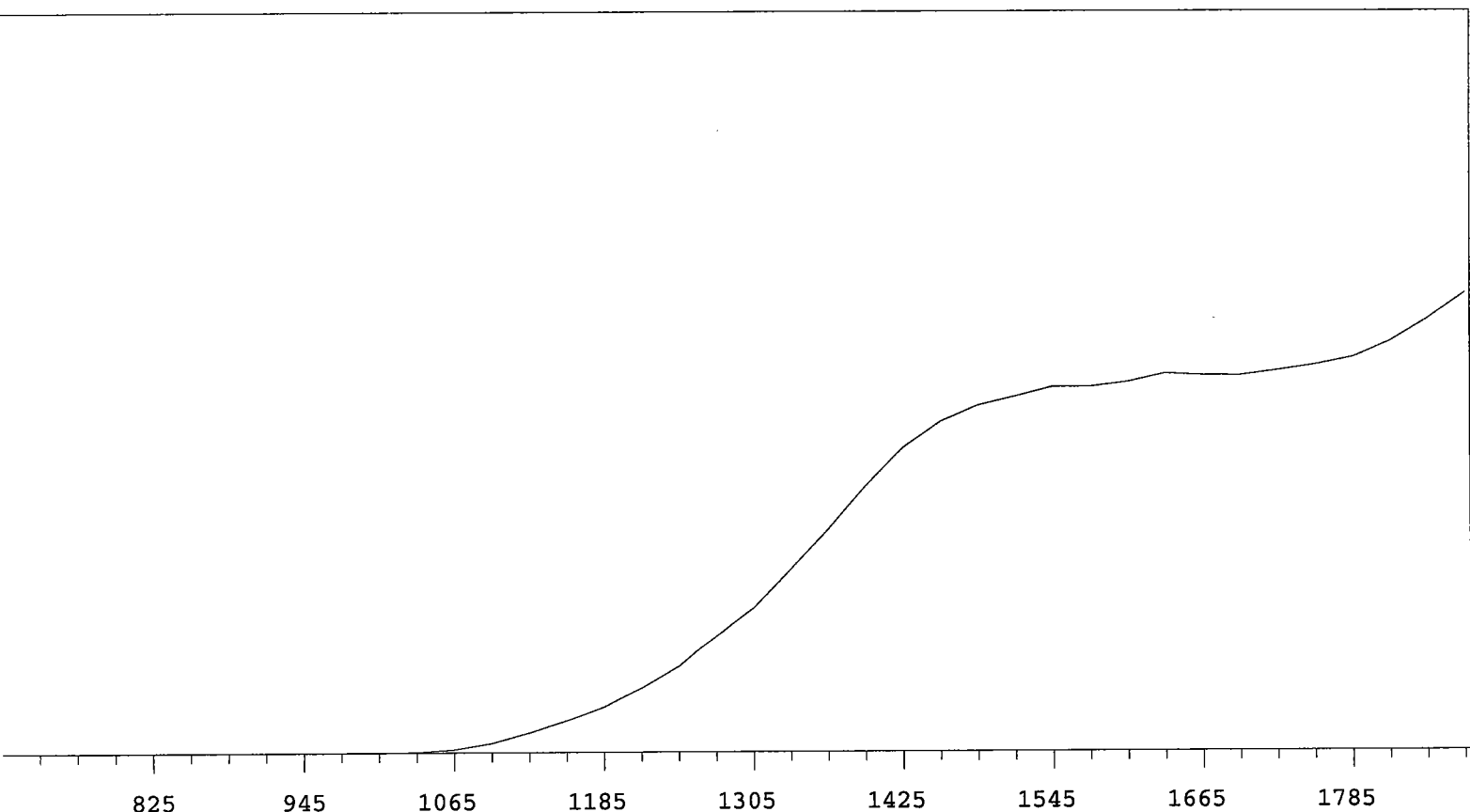
Ra-228 Protean	Cal Date A0	7/2/2009 A1	Exp Date A2	7/31/2009 A3	A4
1A	6.30258E-01				
1B	6.28221E-01				
1C	6.17615E-01				
1D	6.04341E-01				
2A	6.17224E-01				
2B	6.16681E-01				
2C	5.96919E-01				
2D	6.11886E-01				
3A	5.68218E-01				
3B	5.98041E-01				
3C	6.16431E-01				
3D	5.99405E-01				
4A	6.20765E-01				
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

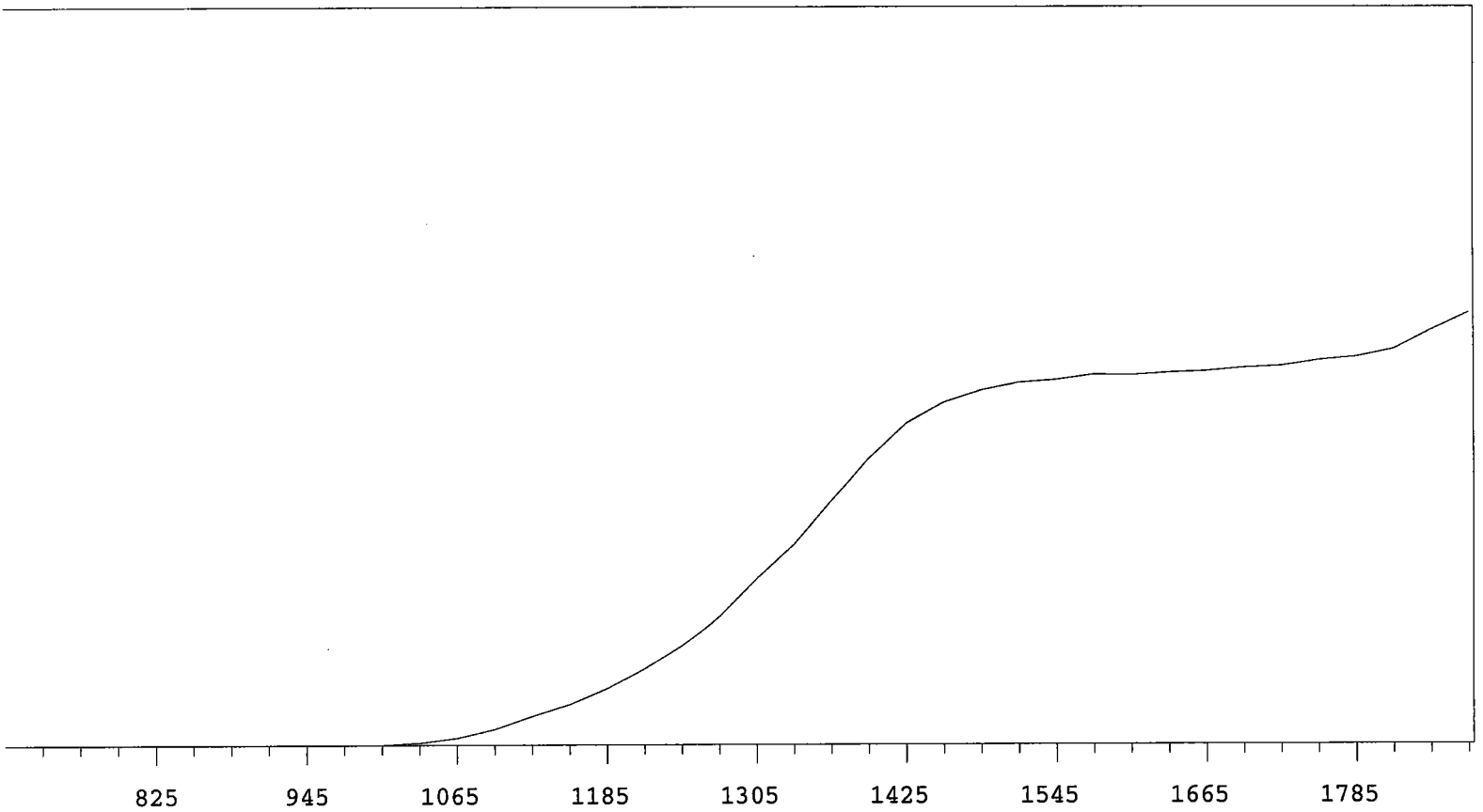


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	11640	+69.78
735	1		1335	14241	+62.88
765	0		1365	17534	+55.91
795	0	+0.00	1395	20127	+45.04
825	0	>100	1425	23254	+31.29
855	1	>100	1455	24902	+20.41
885	0	+55.56	1485	25605	+10.49
915	2	+66.67	1515	26310	+6.44
945	0	>100	1545	26535	+5.31
975	2	>100	1575	26953	+2.79
1005	42	>100	1605	27399	+1.83
1035	145	>100	1635	27000	+1.71
1065	544	>100	1665	27255	+1.62
1095	1136	>100	1695	27723	+3.14
1125	1967	>100	1725	27705	+1.56
1155	2845	>100	1755	28072	+1.15
1185	4078	>100	1785	27729	+1.43
1215	5483	+93.18	1815	28194	+3.24
1245	7400	+83.35	1845	28243	
1275	9328	+75.40	1875	29191	

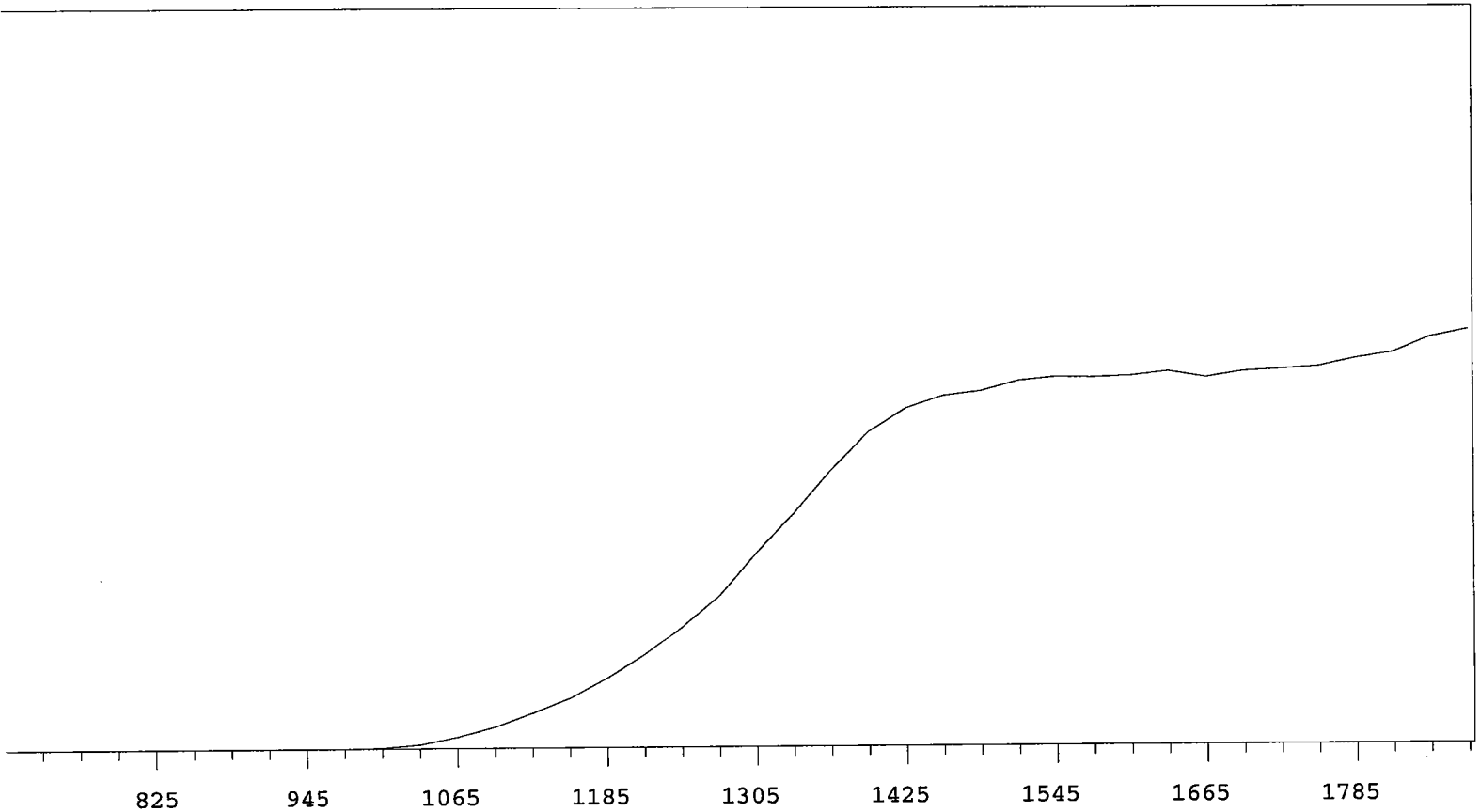
Alpha Volts: 1575 Beta Volts: 1575



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	13188	+75.92
735	0		1335	16818	+67.60
765	0	+55.56	1365	20420	+59.86
795	1	+83.33	1395	24341	+47.85
825	1	+55.56	1425	27854	+35.51
855	0	>100	1455	30288	+23.26
885	1	+0.00	1485	31798	+14.54
915	0	+0.00	1515	32622	+8.32
945	1	>100	1545	33496	+5.11
975	0	>100	1575	33475	+4.43
1005	4	>100	1605	33903	+3.09
1035	56	>100	1635	34654	+2.46
1065	292	>100	1665	34485	+1.74
1095	890	>100	1695	34445	+1.84
1125	1841	>100	1725	34908	+3.91
1155	2936	>100	1755	35401	+6.80
1185	4179	>100	1785	36062	+10.27
1215	5837	>100	1815	37505	+14.30
1245	7821	+91.28	1845	39508	
1275	10638	+83.88	1875	41843	



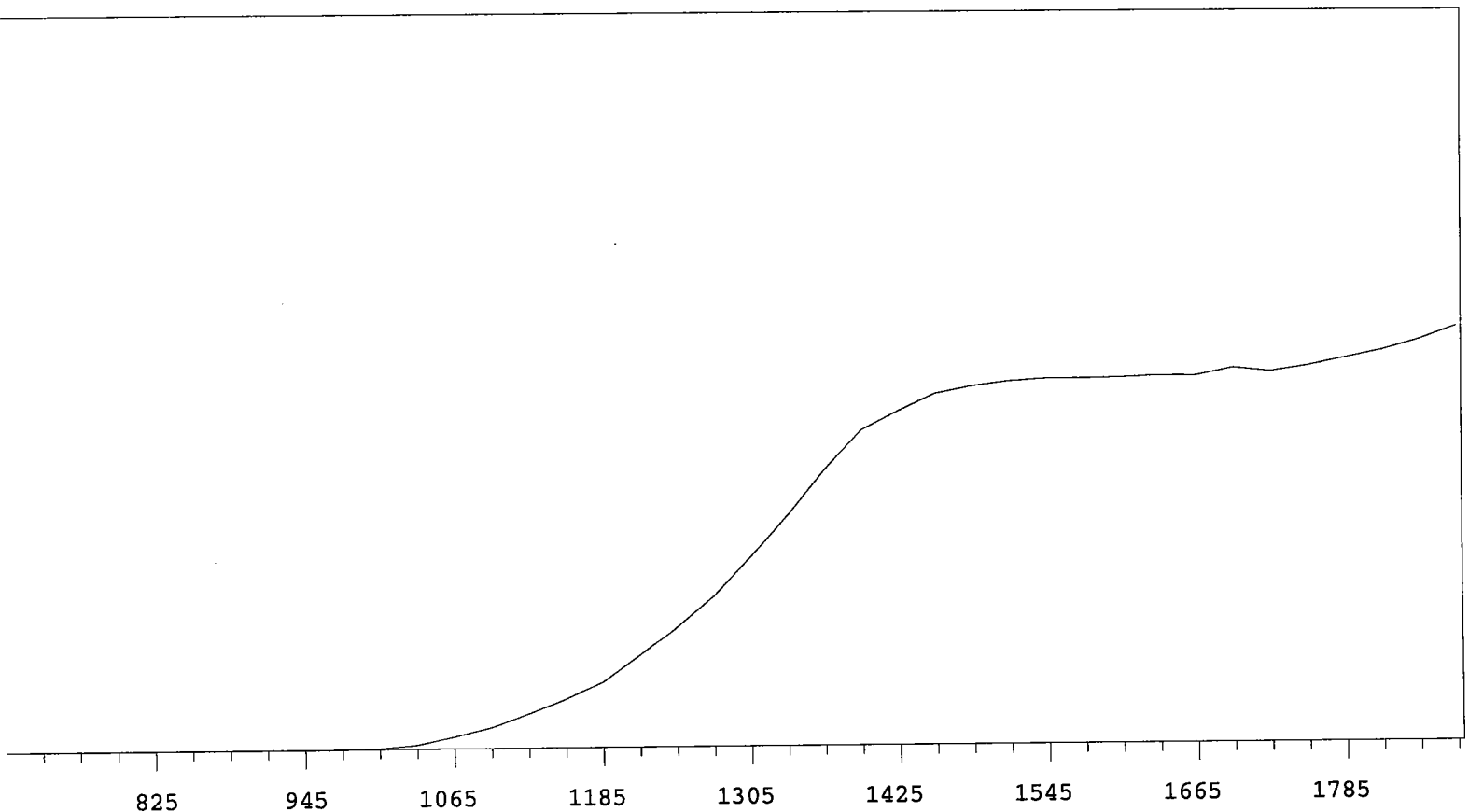
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	14817	+71.06
735	0		1335	17823	+63.34
765	1	+0.00	1365	21704	+53.63
795	0	>100	1395	25422	+42.55
825	1	-55.56	1425	28424	+29.21
855	1	+55.56	1455	30244	+18.11
885	0	>100	1485	31305	+10.10
915	1	>100	1515	31989	+6.07
945	0	>100	1545	32223	+3.43
975	4	>100	1575	32671	+2.15
1005	32	>100	1605	32621	+1.68
1035	206	>100	1635	32837	+1.52
1065	639	>100	1665	32961	+2.01
1095	1416	>100	1695	33249	+2.64
1125	2551	>100	1725	33409	+3.21
1155	3619	>100	1755	33931	+4.07
1185	5037	+98.68	1785	34234	+7.20
1215	6875	+91.19	1815	34909	+10.28
1245	8915	+85.53	1845	36660	
1275	11519	+77.28	1875	38205	



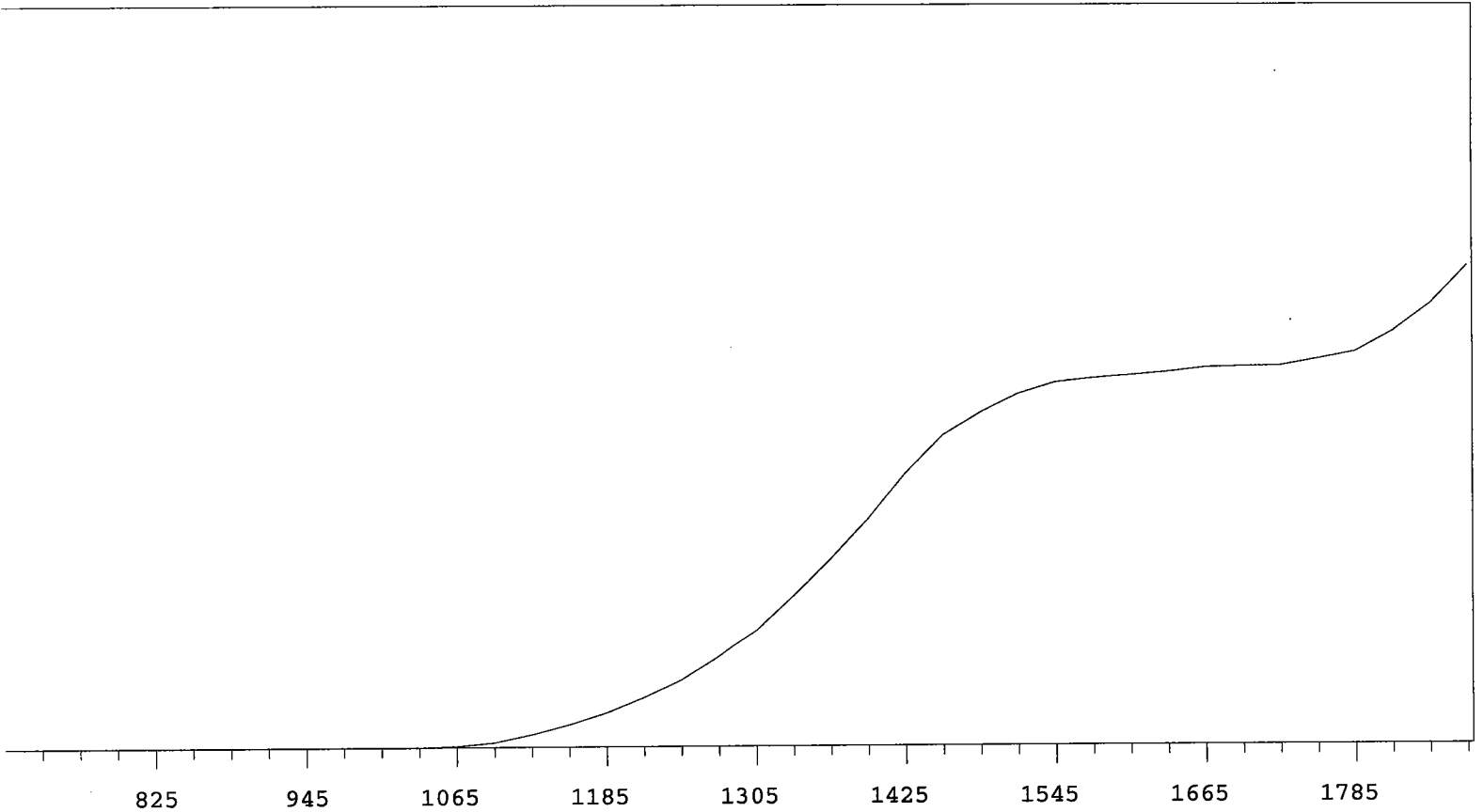
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	15202	+66.36
735	1		1335	18216	+57.86
765	0	+0.00	1365	21597	+45.58
795	1	+0.00	1395	24648	+32.96
825	0	+0.00	1425	26505	+19.92
855	1	>100	1455	27475	+11.42
885	0	>100	1485	27836	+7.08
915	0	>100	1515	28609	+4.51
945	0	>100	1545	28896	+2.93
975	8	>100	1575	28862	+1.66
1005	75	>100	1605	28969	+0.36
1035	303	>100	1635	29292	+0.80
1065	872	>100	1665	28836	+1.06
1095	1656	>100	1695	29279	+1.48
1125	2729	>100	1725	29439	+3.59
1155	3862	>100	1755	29642	+4.07
1185	5425	+98.19	1785	30243	+6.51
1215	7256	+88.82	1815	30699	+7.79
1245	9510	+81.89	1845	31876	
1275	11944	+74.07	1875	32444	

MPC 9600 Plateau
 Alpha Volts: 705

Instrument 2 MPC 9604 Detector A 7/1/2009
 Beta Volts: 1575



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	19017	+67.45
735	1		1335	23157	+59.23
765	0	+83.33	1365	27625	+45.78
795	0	-83.33	1395	31465	+32.72
825	1	>100	1425	33352	+20.41
855	0	>100	1455	35084	+11.74
885	1	+100.00	1485	35819	+7.11
915	1	>100	1515	36292	+3.35
945	2	>100	1545	36527	+1.63
975	12	>100	1575	36540	+0.87
1005	91	>100	1605	36585	+0.48
1035	421	>100	1635	36742	+1.76
1065	1239	>100	1665	36691	+1.53
1095	2155	>100	1695	37461	+1.89
1125	3527	>100	1725	37073	+3.07
1155	4974	>100	1755	37603	+4.02
1185	6647	+97.44	1785	38346	+6.58
1215	9250	+89.00	1815	39111	+7.95
1245	12041	+82.15	1845	40115	
1275	15094	+73.81	1875	41409	

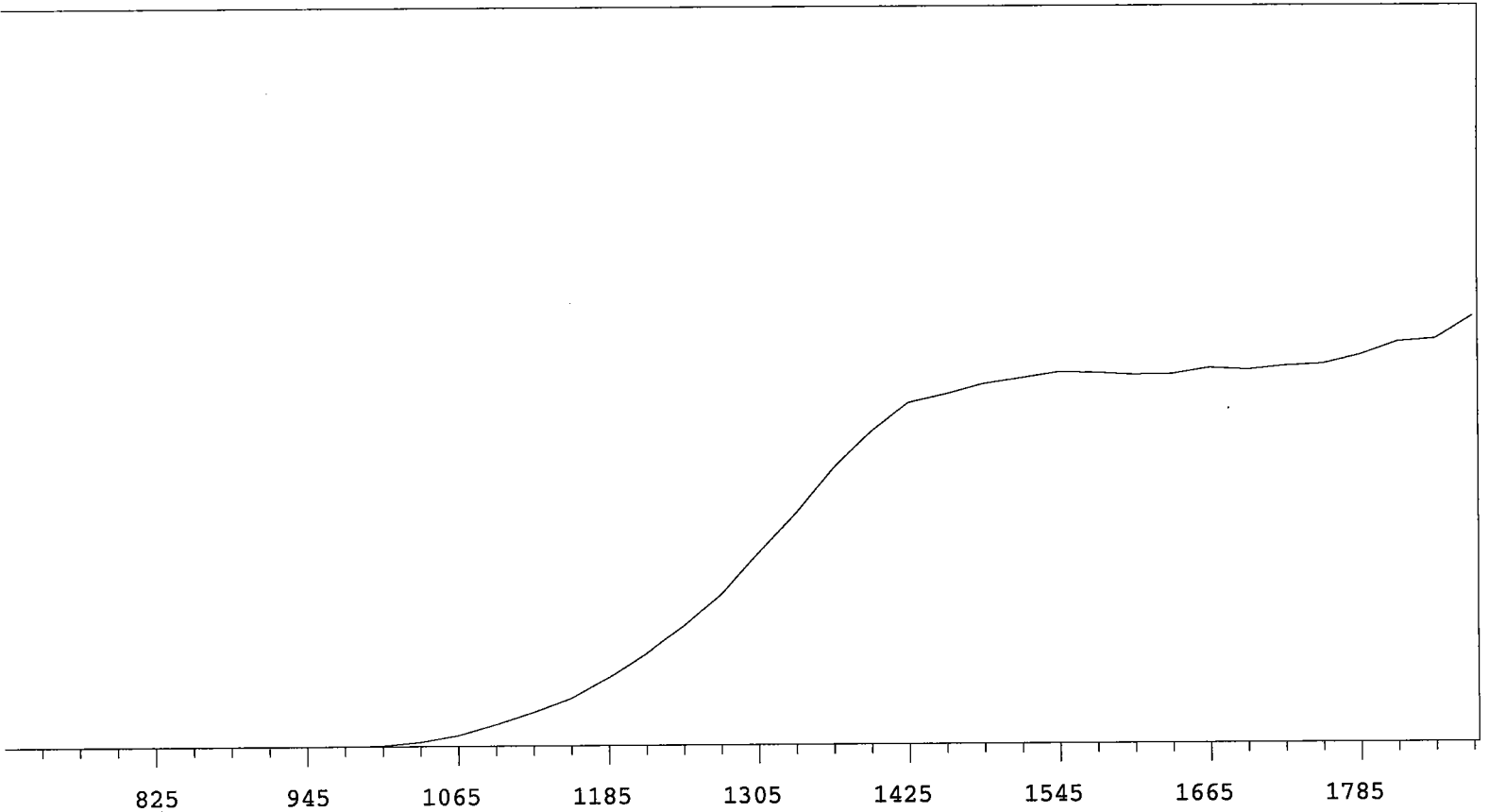


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	12541	+83.18
735	1		1335	16192	+74.48
765	0		1365	20083	+67.17
795	0	>100	1395	24273	+58.43
825	0	>100	1425	29090	+46.86
855	0	>100	1455	33223	+34.56
885	0	>100	1485	35608	+22.67
915	0	>100	1515	37581	+13.63
945	1	>100	1545	38762	+8.18
975	2	>100	1575	39185	+4.42
1005	3	>100	1605	39484	+3.06
1035	14	>100	1635	39806	+2.61
1065	127	>100	1665	40264	+2.03
1095	500	>100	1695	40353	+2.32
1125	1332	>100	1725	40431	+3.28
1155	2373	>100	1755	41127	+7.09
1185	3614	>100	1785	41882	+12.40
1215	5227	>100	1815	44049	+18.52
1245	7060	+97.33	1845	46950	
1275	9574	+90.30	1875	51097	

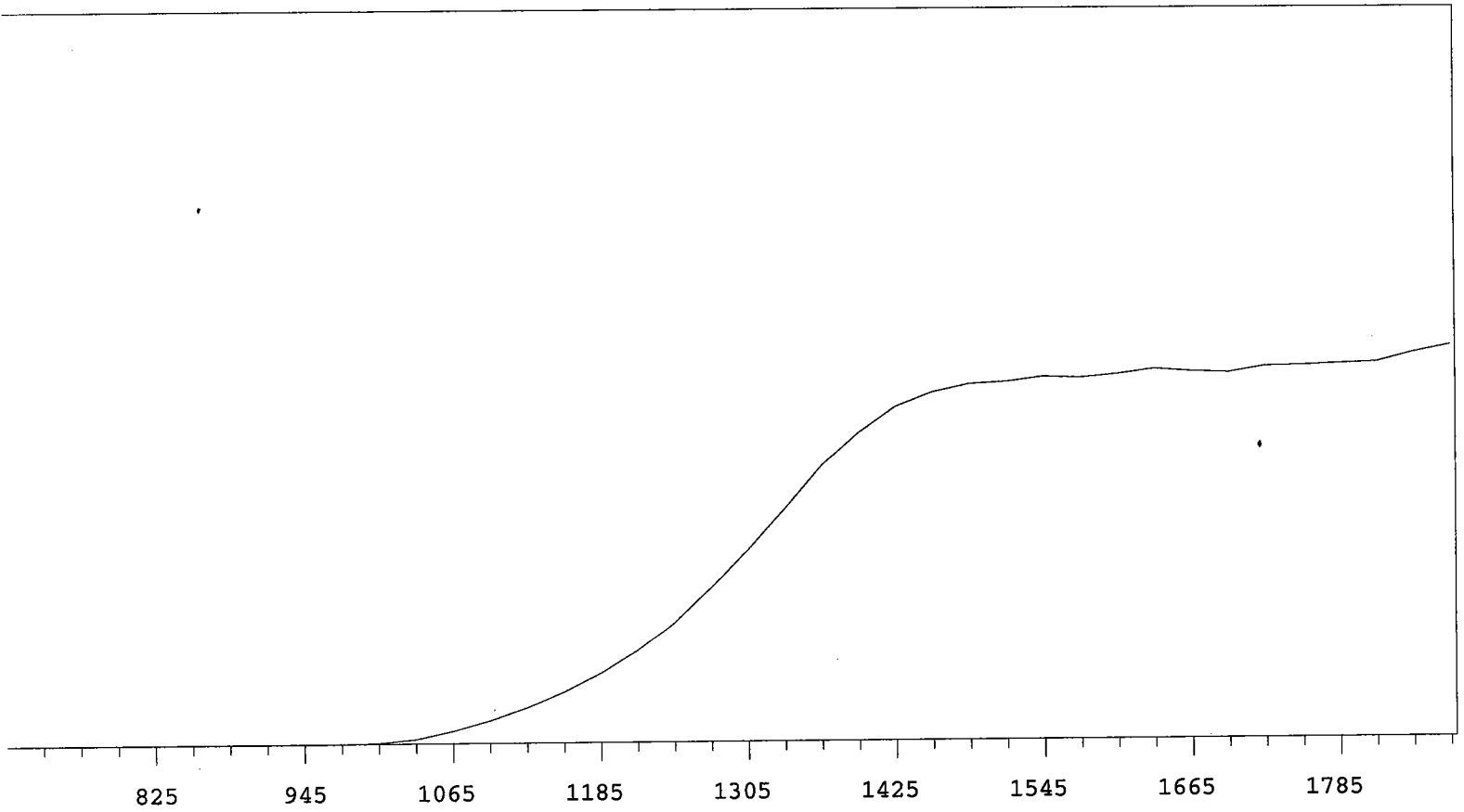
MPC 9600 Plateau
 Alpha Volts: 705

Instrument 2 MPC 9604 Detector C
 Beta Volts: 1575

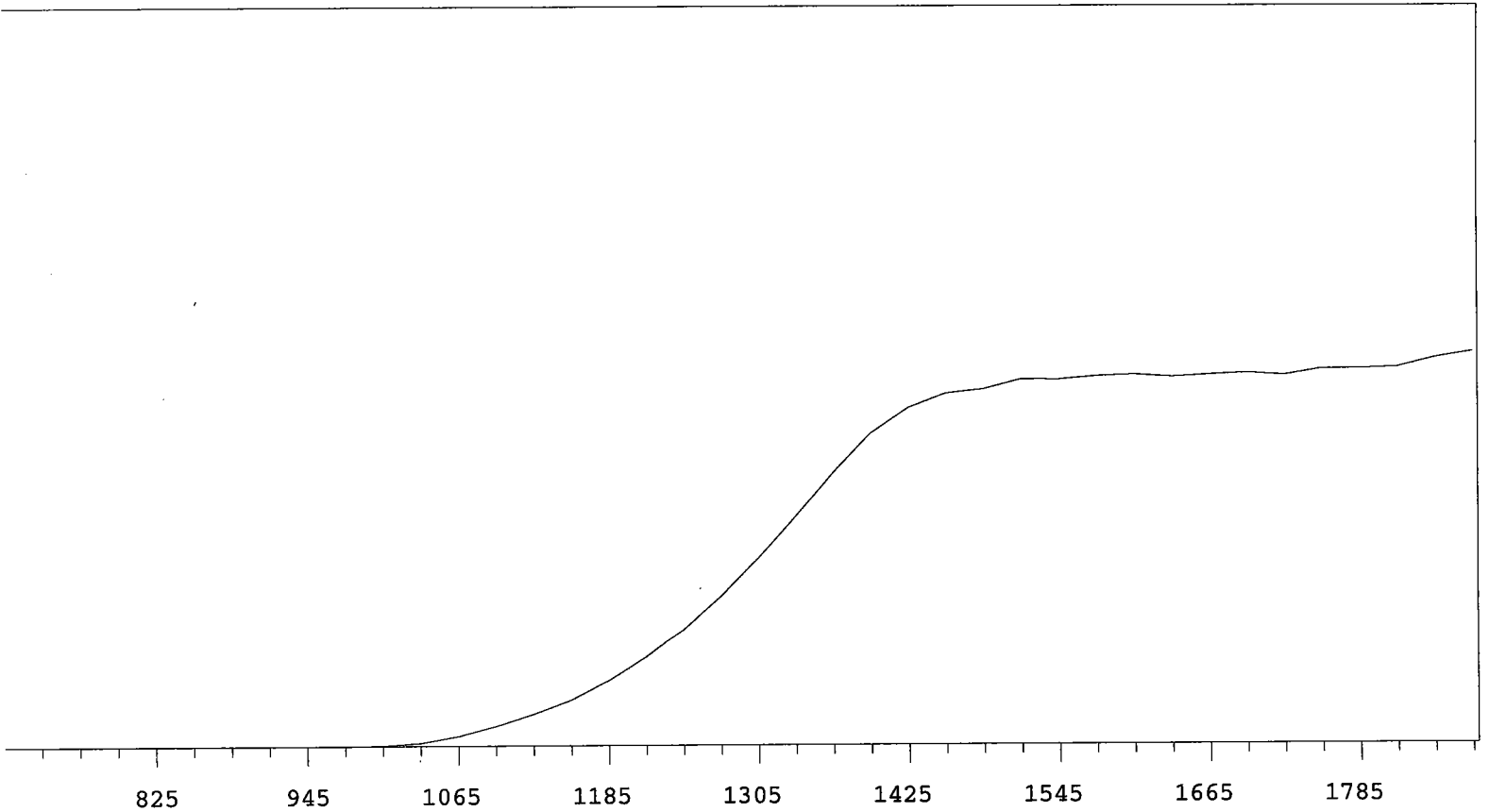
7/1/2009



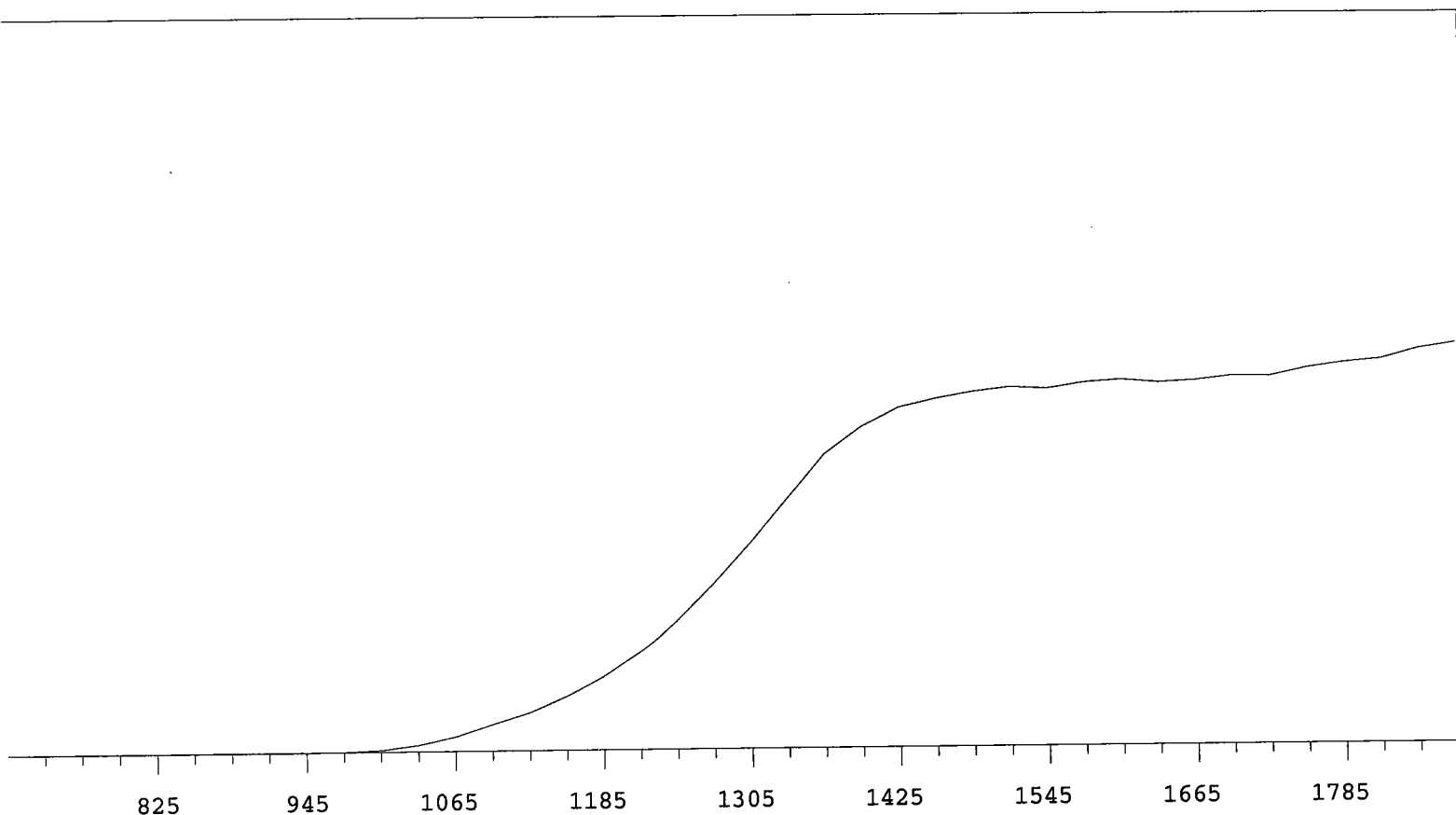
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	18216	+67.74
735	0		1335	21995	+58.11
765	0		1365	26173	+46.11
795	0	>100	1395	29479	+32.75
825	0	>100	1425	32186	+20.62
855	0	>100	1455	33022	+12.13
885	0	>100	1485	33981	+7.22
915	1	>100	1515	34520	+4.95
945	0	>100	1545	35095	+2.07
975	17	>100	1575	35014	+0.38
1005	87	>100	1605	34812	+0.55
1035	438	>100	1635	34859	+1.11
1065	1055	>100	1665	35460	+1.94
1095	2114	>100	1695	35273	+1.95
1125	3282	>100	1725	35629	+2.73
1155	4625	>100	1755	35811	+5.77
1185	6554	+97.66	1785	36656	+6.44
1215	8743	+88.09	1815	37896	+9.21
1245	11345	+81.31	1845	38145	
1275	14261	+74.60	1875	40283	



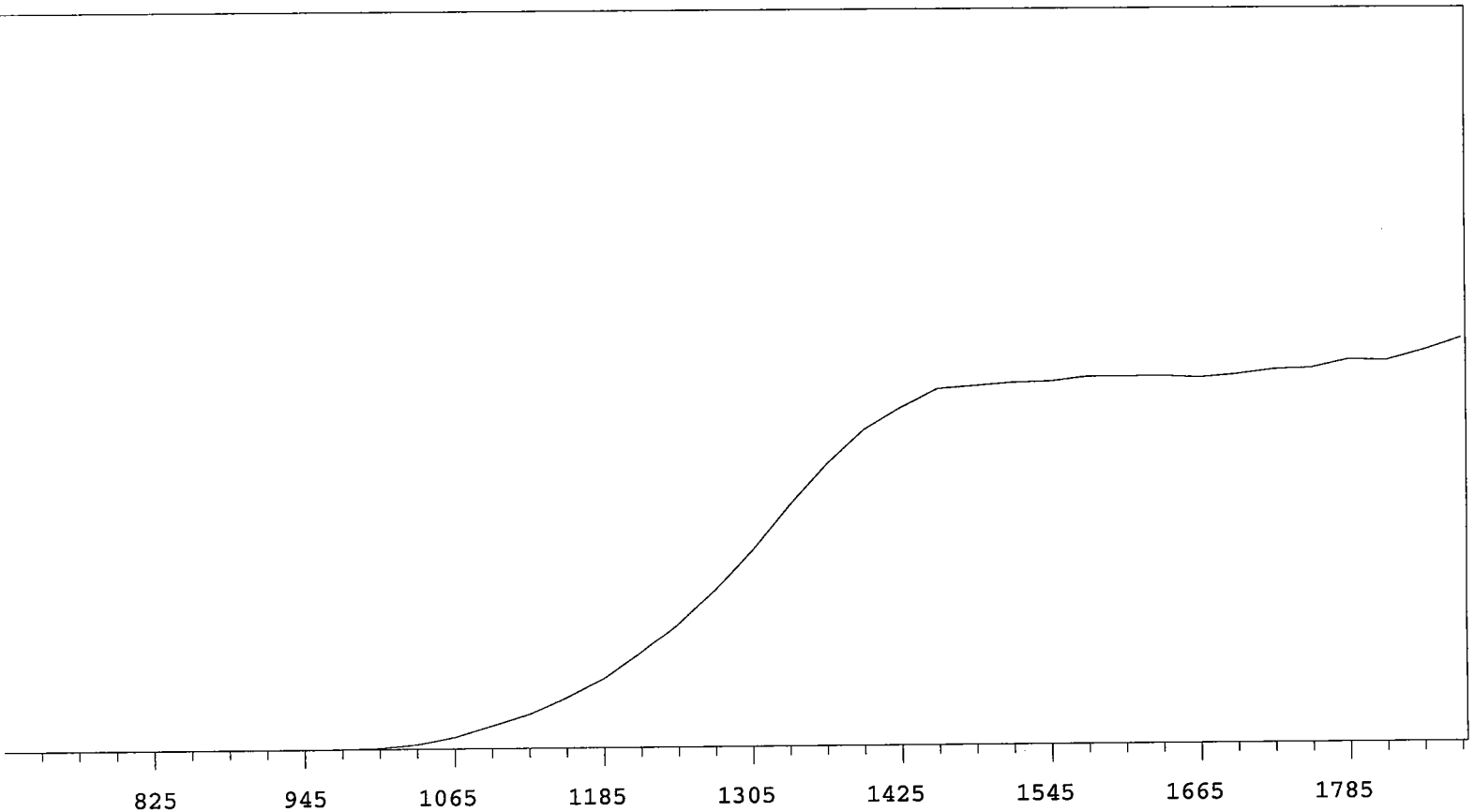
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	18675	+65.94
735	0		1335	22620	+55.69
765	0	+83.33	1365	26869	+44.63
795	2	+55.56	1395	29957	+32.08
825	1	>100	1425	32494	+20.49
855	0	>100	1455	33836	+11.98
885	0	>100	1485	34627	+6.45
915	0	>100	1515	34849	+3.22
945	2	>100	1545	35298	+1.98
975	9	>100	1575	35180	+2.37
1005	89	>100	1605	35503	+1.57
1035	439	>100	1635	36006	+0.99
1065	1198	>100	1665	35722	+0.89
1095	2164	>100	1695	35597	+0.93
1125	3436	>100	1725	36188	+1.86
1155	4917	>100	1755	36272	+1.90
1185	6762	+96.59	1785	36389	+2.55
1215	9006	+89.14	1815	36529	+4.39
1245	11800	+81.34	1845	37459	
1275	15132	+73.59	1875	38170	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	16654	+68.57
735	0		1335	20416	+59.26
765	0	+55.56	1365	24191	+47.28
795	1	>100	1395	27643	+34.04
825	1	+0.00	1425	29891	+21.08
855	1	>100	1455	31183	+12.30
885	0	>100	1485	31558	+6.67
915	0	>100	1515	32444	+4.05
945	0	>100	1545	32413	+2.90
975	9	>100	1575	32704	+0.81
1005	53	>100	1605	32837	+0.71
1035	302	>100	1635	32629	+0.49
1065	878	>100	1665	32797	+0.16
1095	1805	>100	1695	32964	+1.32
1125	2887	>100	1725	32746	+1.40
1155	4163	>100	1755	33308	+1.56
1185	5842	+99.81	1785	33318	+3.21
1215	7959	+90.90	1815	33456	+3.92
1245	10323	+83.03	1845	34283	
1275	13250	+75.91	1875	34815	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	19810	+64.73
735	1		1335	23962	+52.62
765	0	-55.56	1365	28091	+39.27
795	0	>100	1395	30594	+25.61
825	1	>100	1425	32381	+14.86
855	3	+33.33	1455	33206	+8.91
885	0	+0.00	1485	33832	+4.41
915	1	>100	1515	34260	+3.01
945	2	>100	1545	34071	+2.33
975	29	>100	1575	34623	+1.34
1005	165	>100	1605	34848	+1.22
1035	613	>100	1635	34564	+0.89
1065	1394	>100	1665	34733	+1.01
1095	2558	>100	1695	35144	+2.76
1125	3702	>100	1725	35084	+3.66
1155	5222	>100	1755	35839	+3.97
1185	7161	+96.06	1785	36332	+5.39
1215	9507	+89.18	1815	36654	+5.35
1245	12552	+81.52	1845	37609	
1275	16030	+73.64	1875	38164	

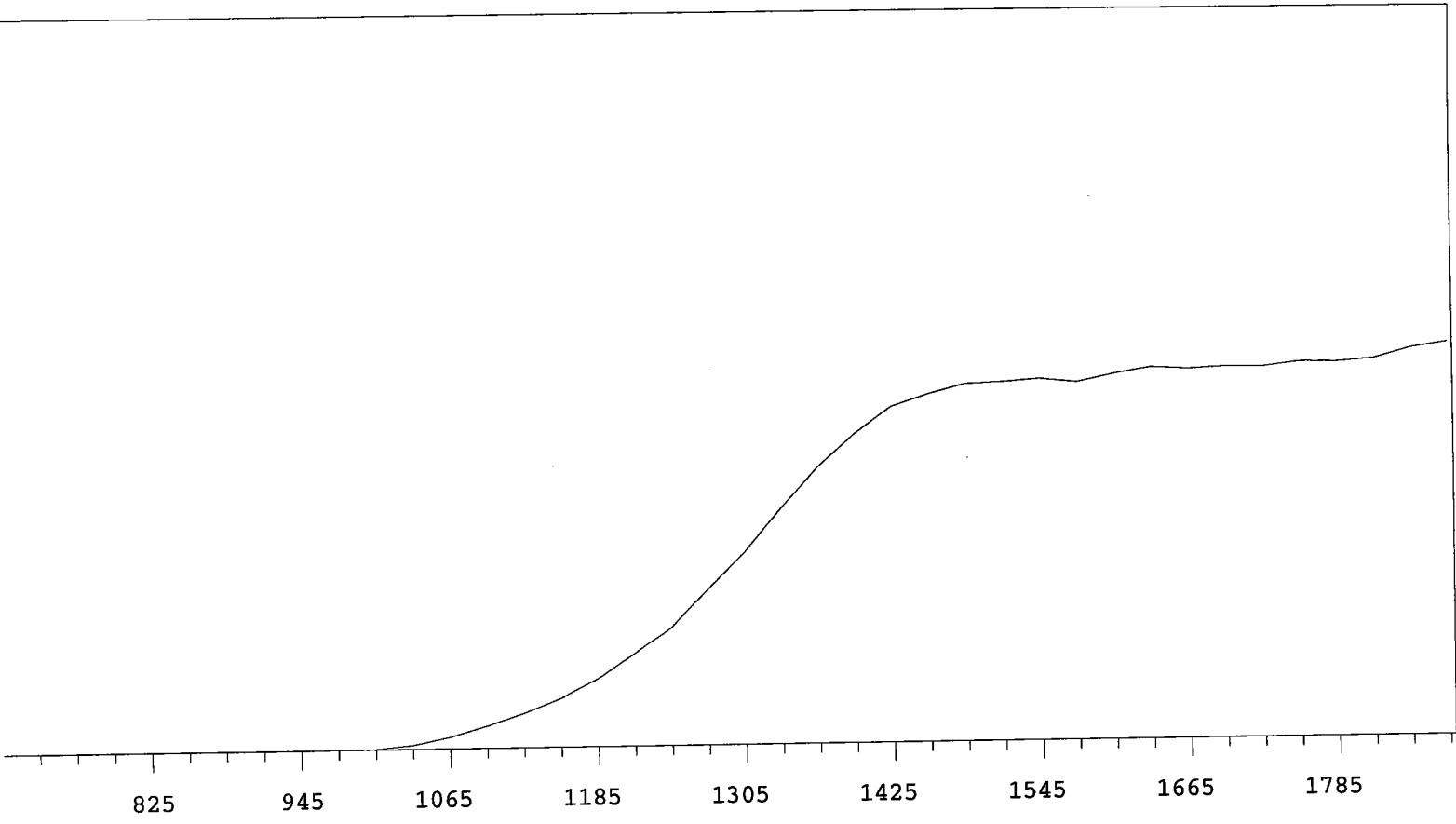


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	21412	+66.80
735	1		1335	26262	+56.32
765	1		1365	30679	+43.71
795	0	>100	1395	34466	+31.61
825	0	+0.00	1425	36949	+20.14
855	0	>100	1455	38998	+11.16
885	1	>100	1485	39313	+5.34
915	1	>100	1515	39625	+2.44
945	1	>100	1545	39751	+2.04
975	17	>100	1575	40227	+1.45
1005	122	>100	1605	40228	+0.56
1035	533	>100	1635	40255	+0.13
1065	1287	>100	1665	40075	+1.22
1095	2493	>100	1695	40384	+1.95
1125	3753	>100	1725	40900	+3.50
1155	5482	>100	1755	41028	+3.05
1185	7538	+99.39	1785	41899	+3.71
1215	10305	+90.31	1815	41767	+5.64
1245	13415	+82.57	1845	42852	
1275	17141	+75.13	1875	44132	

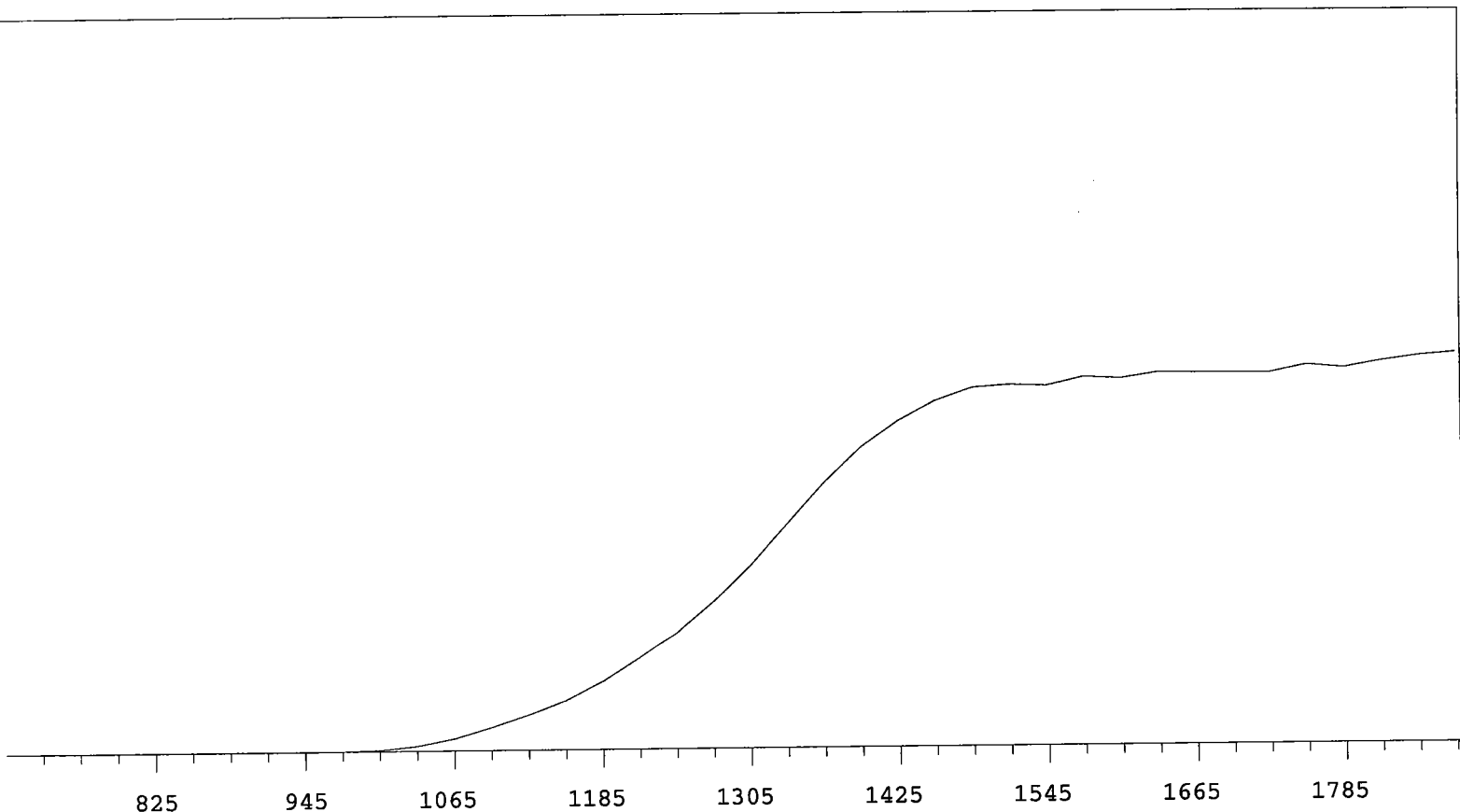
MPC 9600 Plateau
 Alpha Volts: 705

Instrument 3 MPC 9604 Detector D
 Beta Volts: 1575

7/1/2009



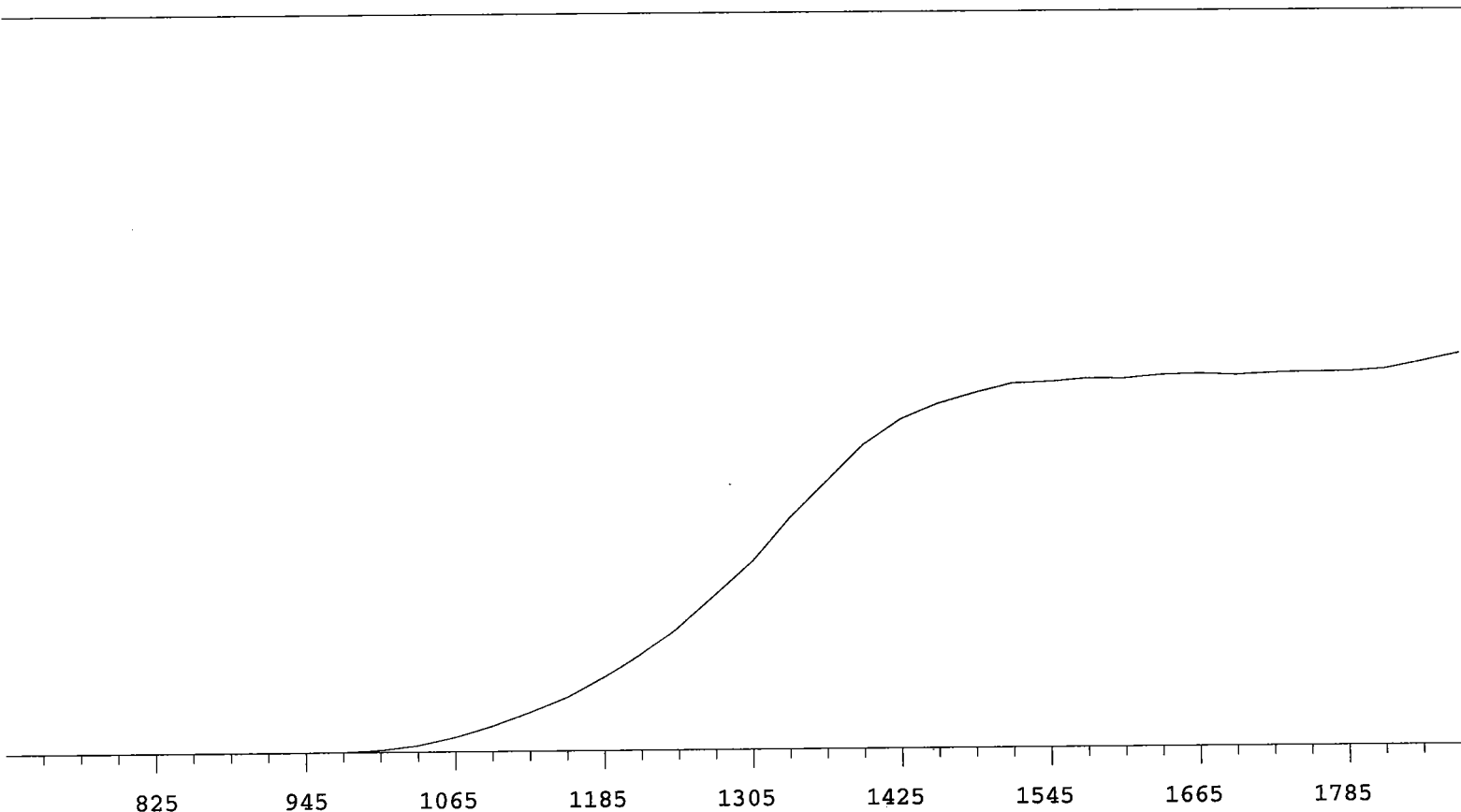
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	14171	+66.45
735	1		1335	17362	+54.90
765	0	+0.00	1365	20310	+43.83
795	1	>100	1395	22647	+30.82
825	0	+83.33	1425	24551	+20.19
855	0	-83.33	1455	25440	+11.69
885	1	>100	1485	26124	+5.90
915	0	>100	1515	26245	+2.21
945	1	>100	1545	26428	+1.39
975	12	>100	1575	26151	+2.69
1005	51	>100	1605	26721	+2.72
1035	298	>100	1635	27168	+2.80
1065	848	>100	1665	27007	+0.87
1095	1649	>100	1695	27135	+0.70
1125	2535	>100	1725	27089	+1.24
1155	3602	>100	1755	27414	+1.43
1185	5036	+98.31	1785	27373	+3.21
1215	6880	+91.37	1815	27581	+4.34
1245	8822	+82.29	1845	28332	
1275	11546	+74.61	1875	28750	



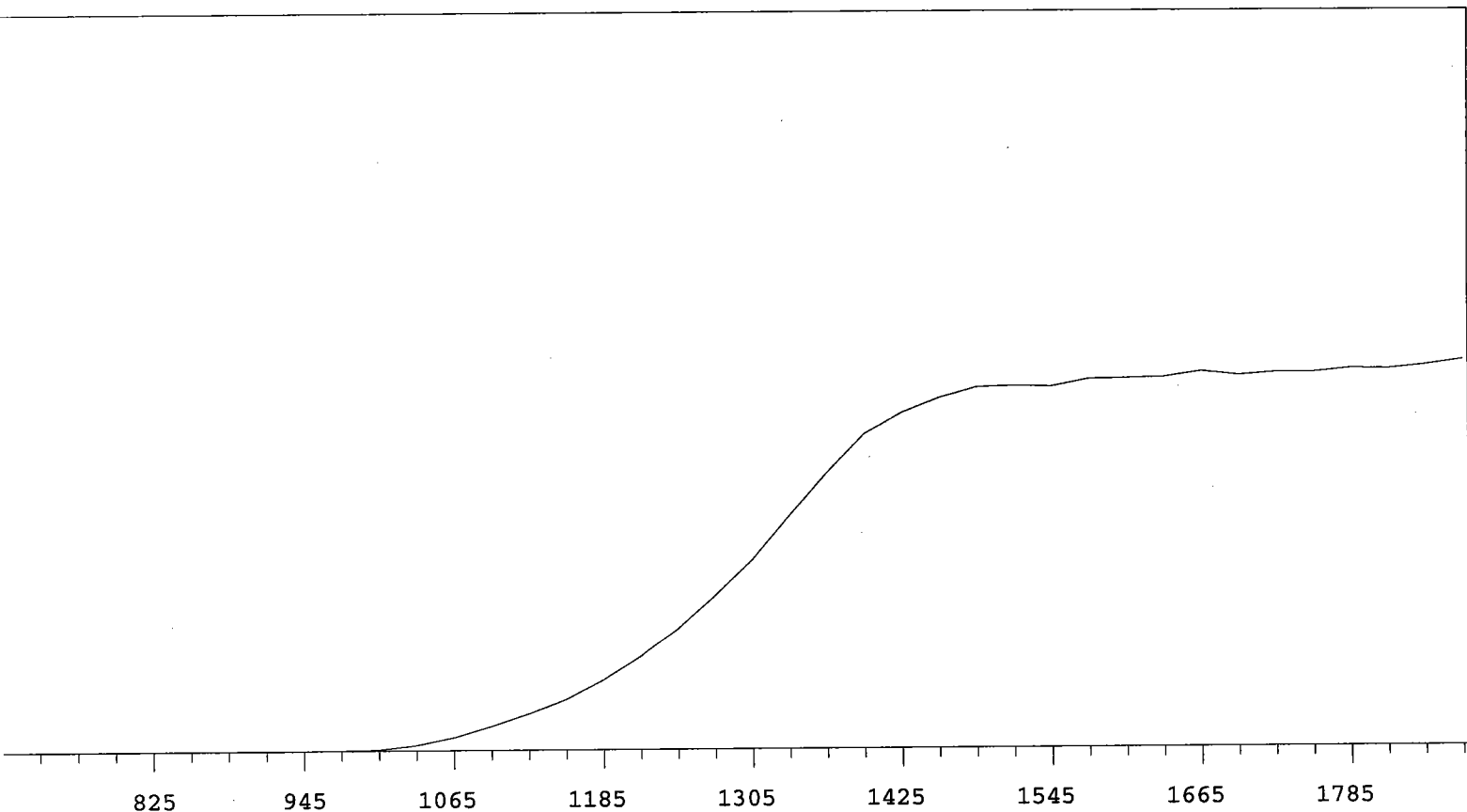
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16442	+66.24
735	0		1335	20146	+57.40
765	0		1365	23769	+46.40
795	0	>100	1395	26926	+34.68
825	2	+55.56	1425	29276	+24.40
855	1	>100	1455	31037	+15.28
885	0	-55.56	1485	32197	+7.91
915	3	>100	1515	32425	+4.33
945	0	>100	1545	32314	+2.14
975	16	>100	1575	33071	+2.66
1005	114	>100	1605	32918	+2.52
1035	451	>100	1635	33435	+1.02
1065	1100	>100	1665	33382	+0.73
1095	2068	>100	1695	33349	+1.07
1125	3189	>100	1725	33324	+1.28
1155	4386	>100	1755	34001	+2.26
1185	6094	+94.81	1785	33701	+3.08
1215	8184	+87.09	1815	34304	+2.97
1245	10489	+78.88	1845	34744	
1275	13273	+72.66	1875	35012	

MPC 9600 Plateau
 Alpha Volts: 705

Instrument 4 MPC 9604 Detector B 7/1/2009
 Beta Volts: 1575



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	15747	+62.38
735	1		1335	19230	+54.19
765	0	+0.00	1365	22255	+44.46
795	1	>100	1395	25299	+32.45
825	0	>100	1425	27370	+22.24
855	0	>100	1455	28625	+14.10
885	0	>100	1485	29467	+8.56
915	0	>100	1515	30213	+5.29
945	2	>100	1545	30326	+2.77
975	31	>100	1575	30564	+1.57
1005	176	>100	1605	30548	+1.52
1035	550	>100	1635	30820	+0.85
1065	1218	>100	1665	30898	+0.79
1095	2114	>100	1695	30779	+0.44
1125	3212	>100	1725	30934	+0.45
1155	4416	>100	1755	31008	+0.96
1185	6066	+92.28	1785	30991	+2.01
1215	7936	+85.60	1815	31196	+3.80
1245	10288	+76.79	1845	31781	
1275	13020	+70.59	1875	32406	



VOLTS	COUNTS	%/100 Volts
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VOLTS	COUNTS	%/100 Volts
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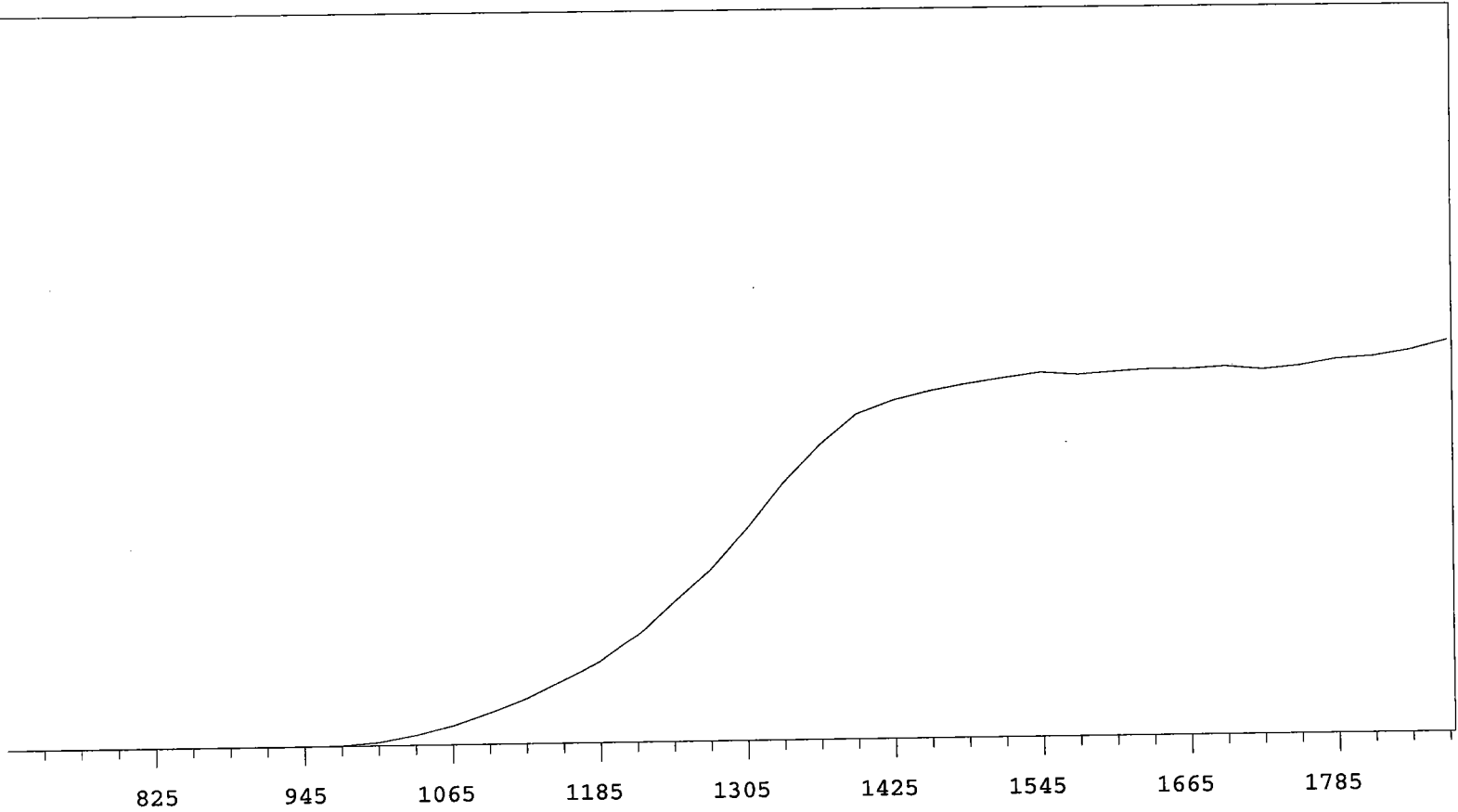
705	0	
735	1	
765	0	+55.56
795	2	+0.00
825	0	-55.56
855	1	>100
885	0	>100
915	0	>100
945	2	>100
975	24	>100
1005	134	>100
1035	558	>100
1065	1361	>100
1095	2511	>100
1125	3762	>100
1155	5246	>100
1185	7268	+96.29
1215	9733	+88.98
1245	12701	+79.94
1275	16176	+73.13

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	

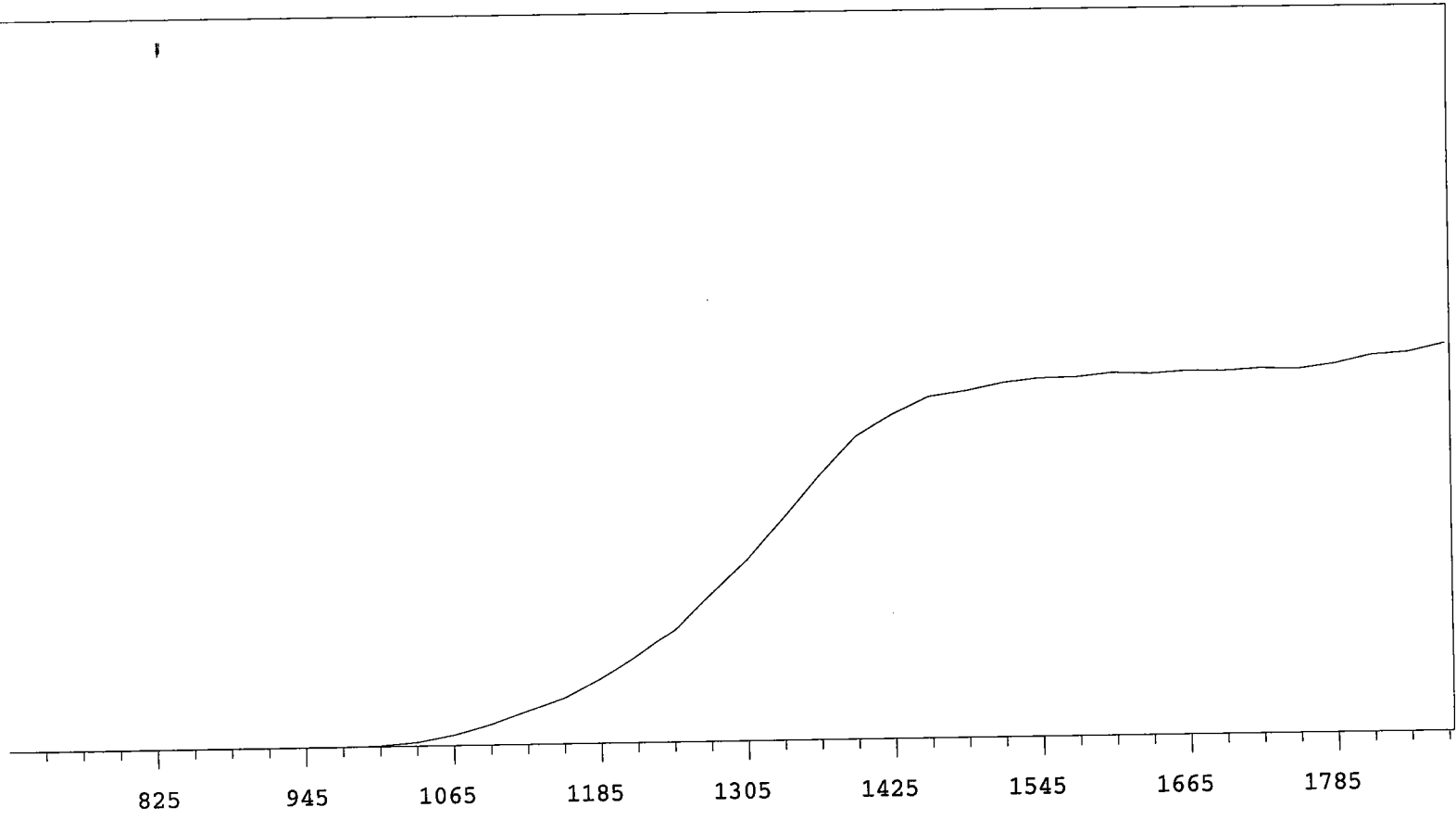
MPC 9600 Plateau
Alpha Volts: 705

Instrument 4 MPC 9604 Detector D
Beta Volts: 1575

7/1/2009



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	18491	+61.09
735	0		1335	22444	+51.56
765	0	+0.00	1365	25756	+37.44
795	0	>100	1395	28379	+23.82
825	1	+83.33	1425	29517	+14.00
855	1	+55.56	1455	30309	+8.08
885	0	+0.00	1485	30874	+6.03
915	1	>100	1515	31345	+3.66
945	1	>100	1545	31782	+2.17
975	60	>100	1575	31567	+1.31
1005	297	>100	1605	31789	+0.78
1035	855	>100	1635	31963	+1.34
1065	1647	>100	1665	31956	+0.29
1095	2700	>100	1695	32123	+0.20
1125	3921	>100	1725	31850	+1.46
1155	5471	+96.54	1755	32114	+2.39
1185	7042	+90.21	1785	32665	+3.95
1215	9405	+82.23	1815	32876	+4.96
1245	12266	+76.33	1845	33399	
1275	14989	+69.38	1875	34206	

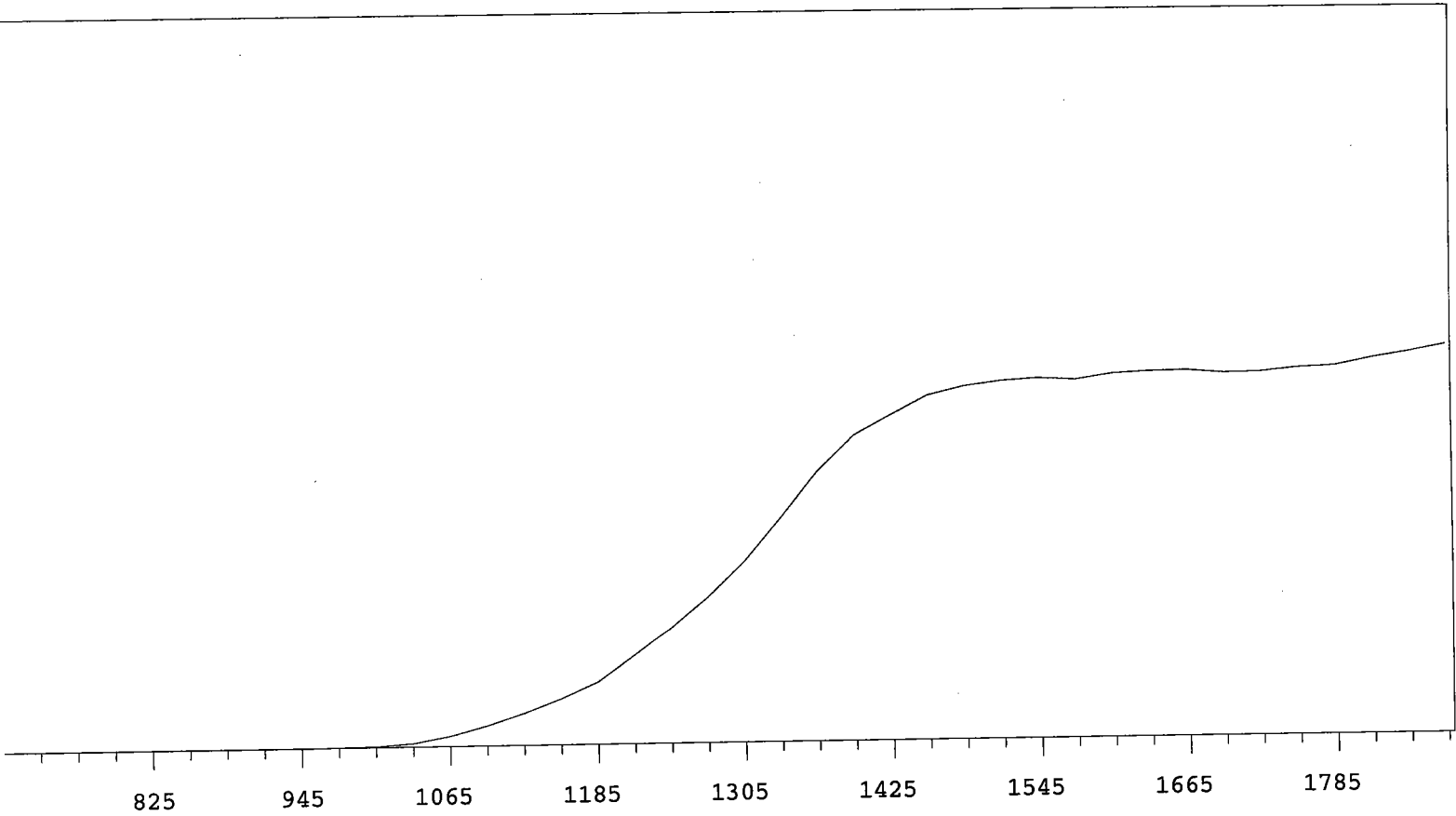


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	13974	+68.00
735	0		1335	17170	+58.62
765	1		1365	20456	+47.04
795	1	+83.33	1395	23332	+33.83
825	1	-83.33	1425	24996	+21.10
855	1	>100	1455	26290	+12.40
885	0	-55.56	1485	26683	+7.74
915	0	>100	1515	27270	+4.43
945	1	>100	1545	27590	+3.48
975	9	>100	1575	27635	+1.71
1005	76	>100	1605	27932	+1.20
1035	308	>100	1635	27807	+0.88
1065	814	>100	1665	28006	+0.62
1095	1600	>100	1695	27964	+0.63
1125	2598	>100	1725	28112	+0.98
1155	3596	>100	1755	28020	+2.84
1185	5065	+96.05	1785	28392	+3.76
1215	6773	+90.23	1815	29028	+5.17
1245	8717	+81.43	1845	29220	
1275	11391	+74.83	1875	29849	

MPC 9600 Plateau
Alpha Volts: 705

Instrument 5 MPC 9604 Detector B
Beta Volts: 1575

7/1/2009

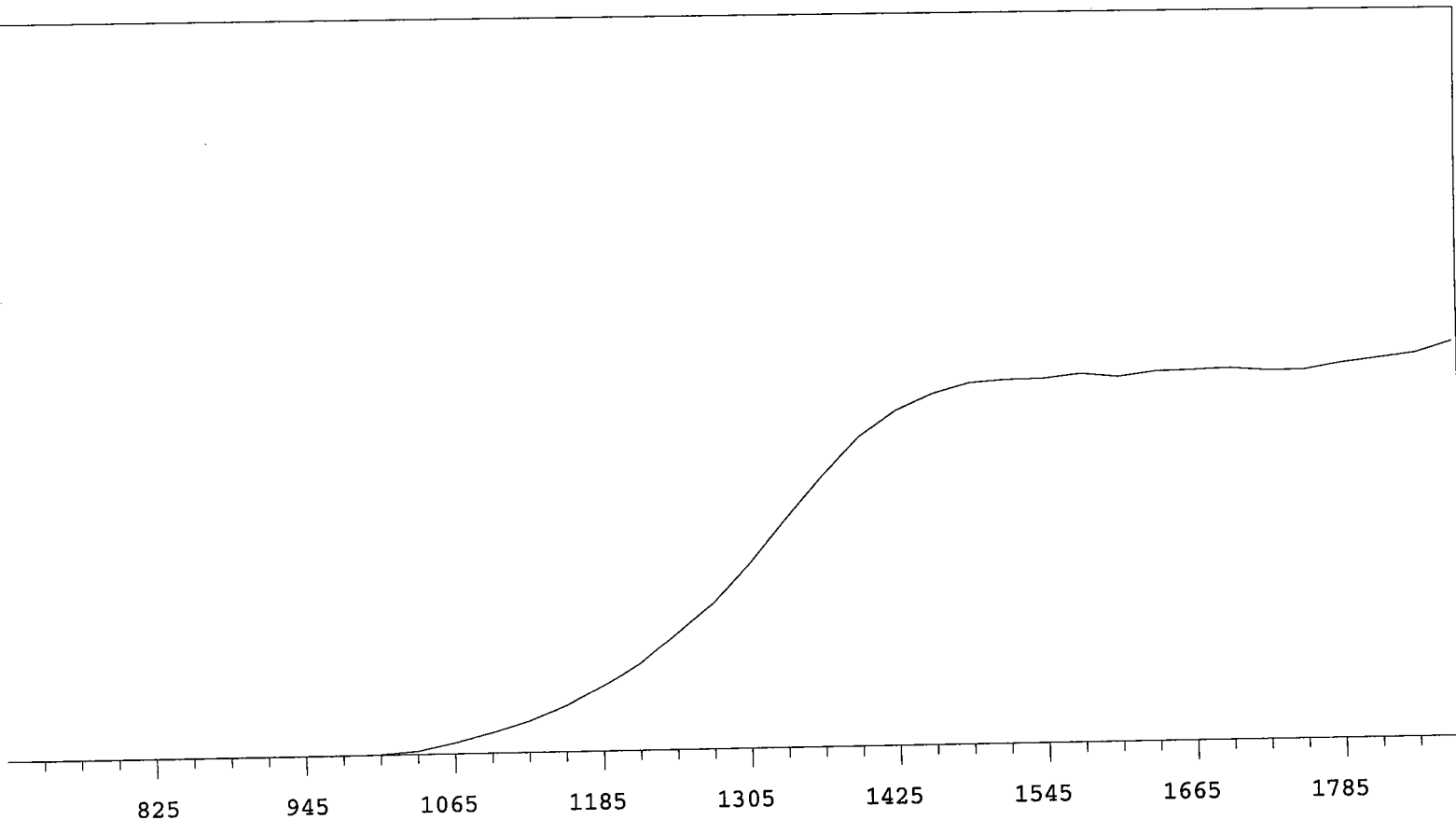


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	17414	+68.46
735	0		1335	21540	+59.98
765	0		1365	25854	+46.75
795	0	>100	1395	29222	+33.38
825	1	>100	1425	31128	+21.52
855	1	+41.67	1455	32995	+13.26
885	2	-33.33	1485	33846	+8.09
915	0	>100	1515	34289	+3.25
945	1	>100	1545	34528	+2.00
975	17	>100	1575	34311	+1.78
1005	87	>100	1605	34866	+1.78
1035	336	>100	1635	35046	+1.14
1065	1010	>100	1665	35087	-0.26
1095	1955	>100	1695	34795	+0.11
1125	3124	>100	1725	34857	+0.93
1155	4486	>100	1755	35220	+2.81
1185	6017	>100	1785	35363	+3.98
1215	8507	+91.20	1815	36028	+4.79
1245	11148	+82.59	1845	36577	
1275	14003	+74.21	1875	37207	

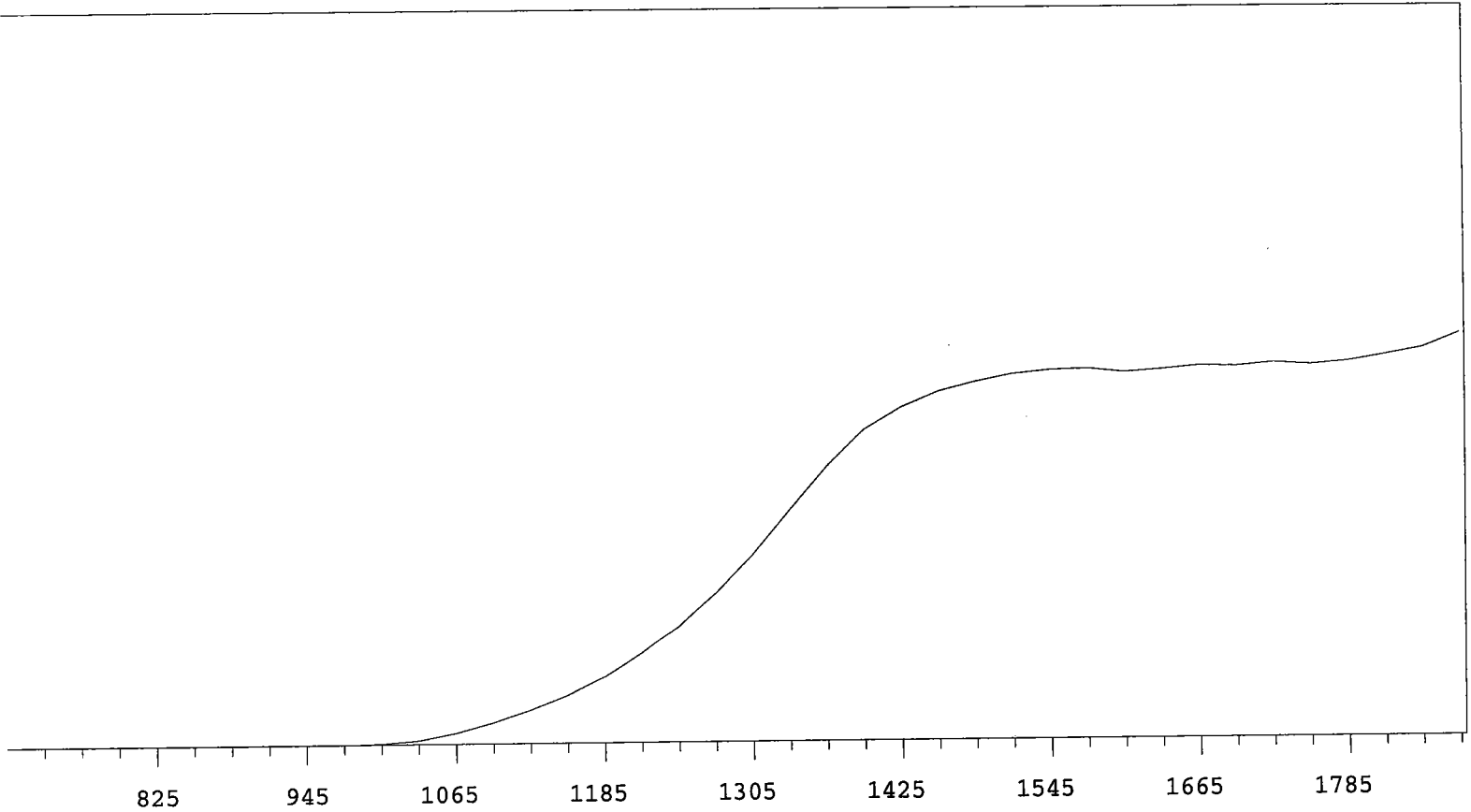
MPC 9600 Plateau
 Alpha Volts: 705

Instrument 5 MPC 9604 Detector C
 Beta Volts: 1575

7/1/2009



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	17085	+68.24
735	0		1335	21135	+59.99
765	0		1365	25066	+47.39
795	0	>100	1395	28530	+33.93
825	0	>100	1425	30823	+22.30
855	1	>100	1455	32287	+12.93
885	0	>100	1485	33217	+6.71
915	1	>100	1515	33474	+3.57
945	2	>100	1545	33517	+1.17
975	7	>100	1575	33921	+1.13
1005	56	>100	1605	33584	+1.27
1035	305	>100	1635	34014	+1.12
1065	982	>100	1665	34116	+0.98
1095	1874	>100	1695	34225	-0.22
1125	2890	>100	1725	33980	+0.58
1155	4260	>100	1755	33971	+1.96
1185	6001	>100	1785	34541	+3.64
1215	8050	+91.54	1815	34954	+5.38
1245	10895	+82.98	1845	35375	
1275	13556	+76.26	1875	36384	



VOLTS COUNTS %/100 Volts

VOLTS COUNTS %/100 Volts

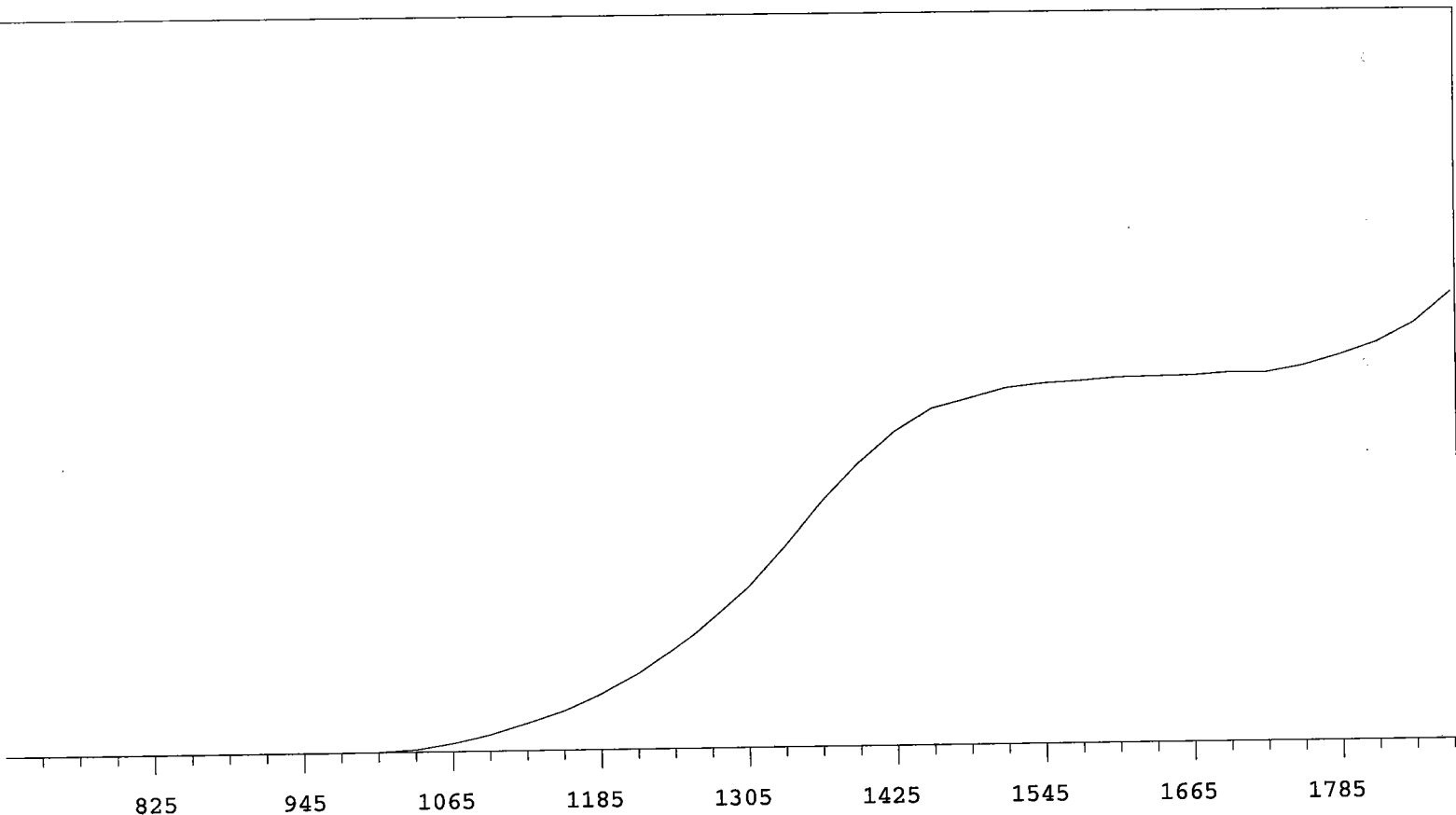
705	0	
735	0	
765	0	
795	0	>100
825	0	>100
855	0	>100
885	0	>100
915	0	>100
945	0	>100
975	6	>100
1005	81	>100
1035	318	>100
1065	897	>100
1095	1710	>100
1125	2714	>100
1155	3925	>100
1185	5395	+97.31
1215	7282	+88.49
1245	9426	+81.36
1275	12007	+75.65

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	

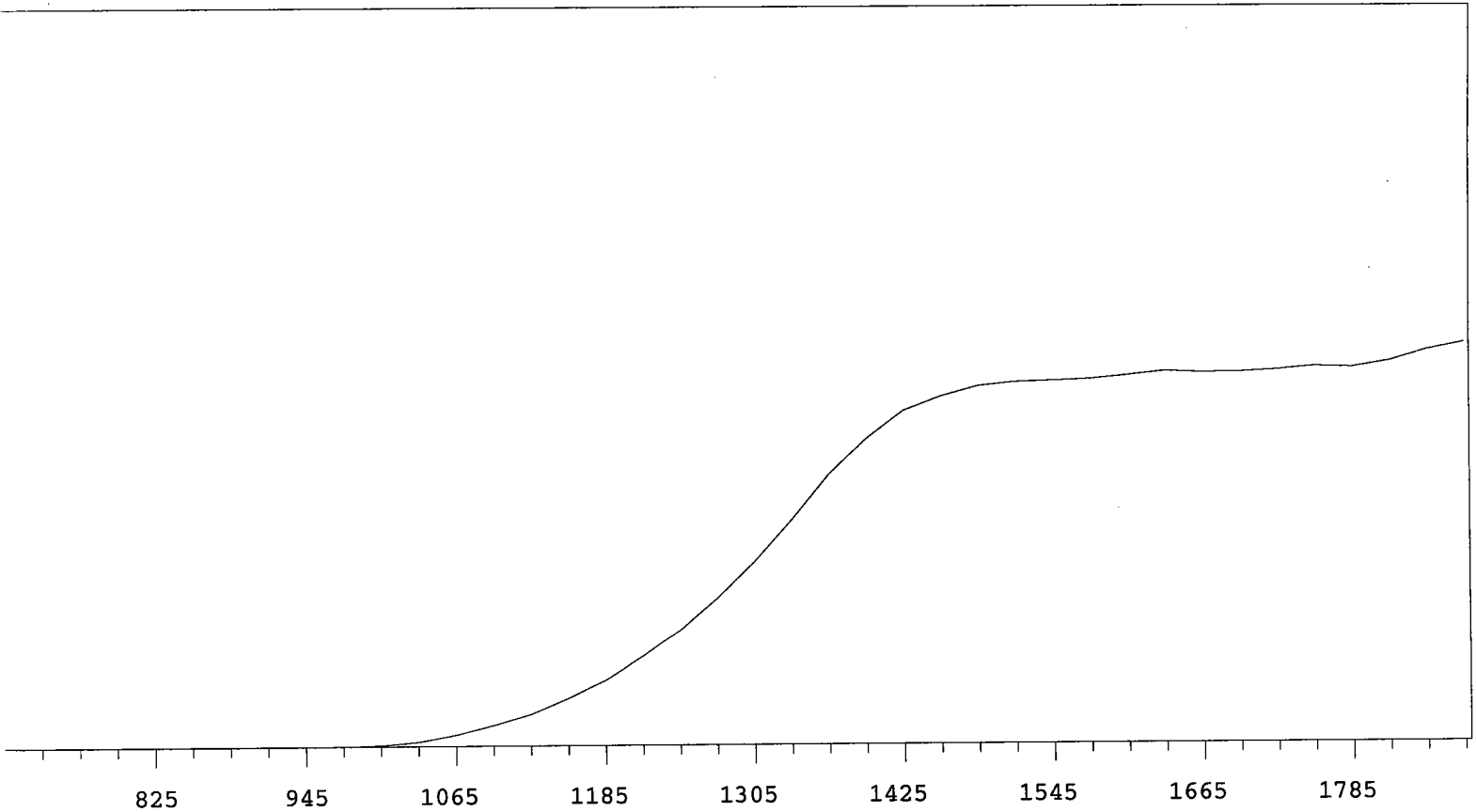
MPC 9600 Plateau
Alpha Volts: 705

Instrument 6 MPC 9604 Detector A
Beta Volts: 1575

7/1/2009



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16217	+71.57
735	0		1335	20184	+63.76
765	0		1365	24605	+53.98
795	0	>100	1395	28528	+41.40
825	0	>100	1425	31675	+28.02
855	0	>100	1455	33899	+17.93
885	0	>100	1485	34826	+10.65
915	0	>100	1515	35815	+6.13
945	0	>100	1545	36225	+4.15
975	7	>100	1575	36456	+2.28
1005	31	>100	1605	36747	+1.47
1035	238	>100	1635	36801	+1.26
1065	810	>100	1665	36859	+0.85
1095	1637	>100	1695	37095	+1.85
1125	2743	>100	1725	37072	+4.01
1155	3932	>100	1755	37724	+6.65
1185	5579	>100	1785	38802	+10.33
1215	7602	+94.41	1815	40036	+14.71
1245	10078	+84.86	1845	41975	
1275	13091	+77.67	1875	45123	

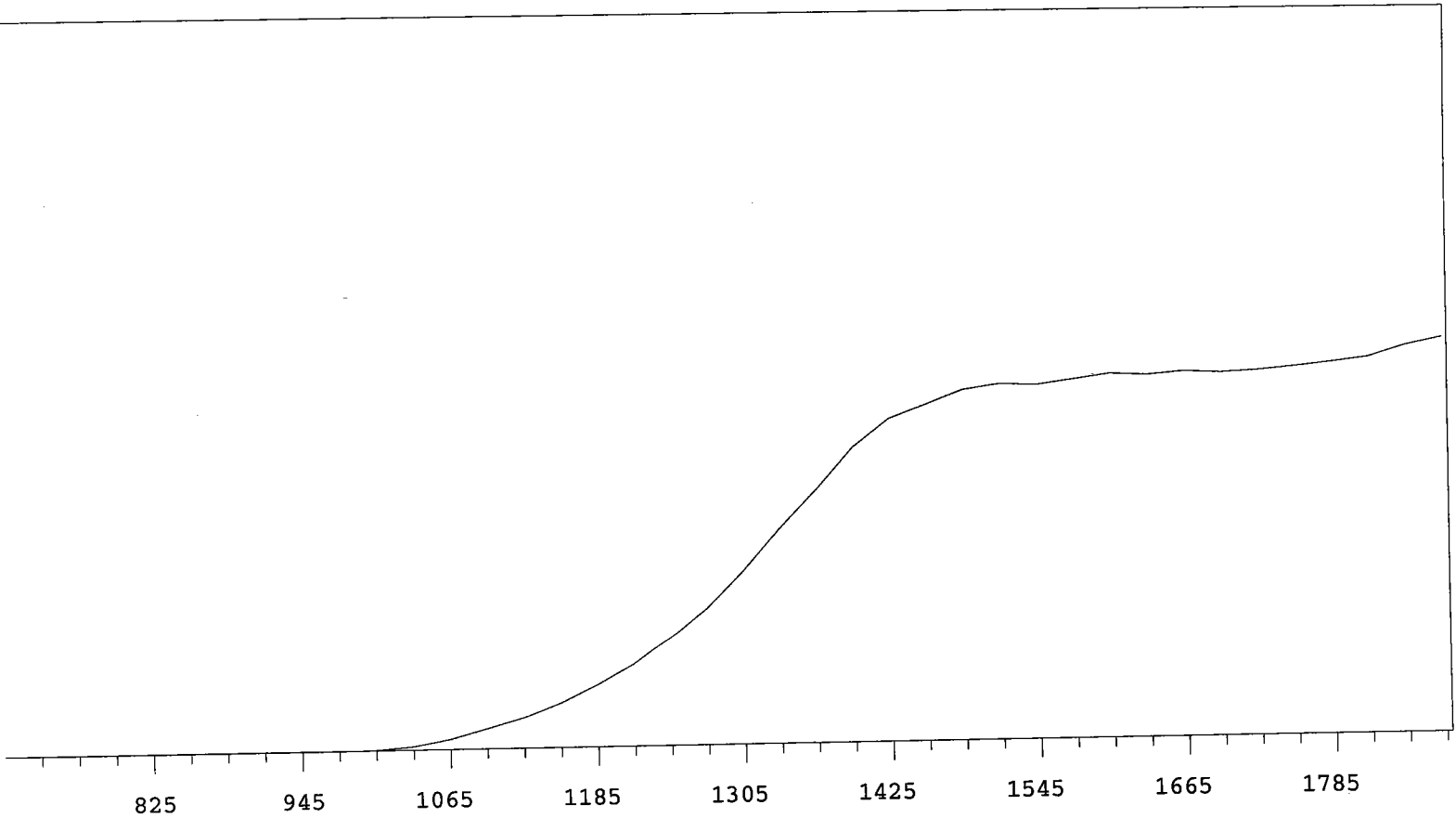


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	20094	+68.67
735	0		1335	24665	+59.40
765	0		1365	29591	+47.86
795	0	>100	1395	33376	+34.51
825	1	+83.33	1425	36440	+22.50
855	1	-83.33	1455	38024	+13.58
885	0	>100	1485	39187	+7.04
915	0	>100	1515	39608	+3.63
945	5	>100	1545	39722	+2.10
975	18	>100	1575	39894	+2.32
1005	125	>100	1605	40298	+2.09
1035	482	>100	1635	40711	+1.41
1065	1255	>100	1665	40574	+0.80
1095	2318	>100	1695	40608	+1.02
1125	3540	>100	1725	40839	+1.28
1155	5288	>100	1755	41201	+1.97
1185	7168	+98.51	1785	41065	+3.74
1215	9760	+88.48	1815	41711	+5.42
1245	12656	+81.52	1845	42917	
1275	16065	+74.58	1875	43699	

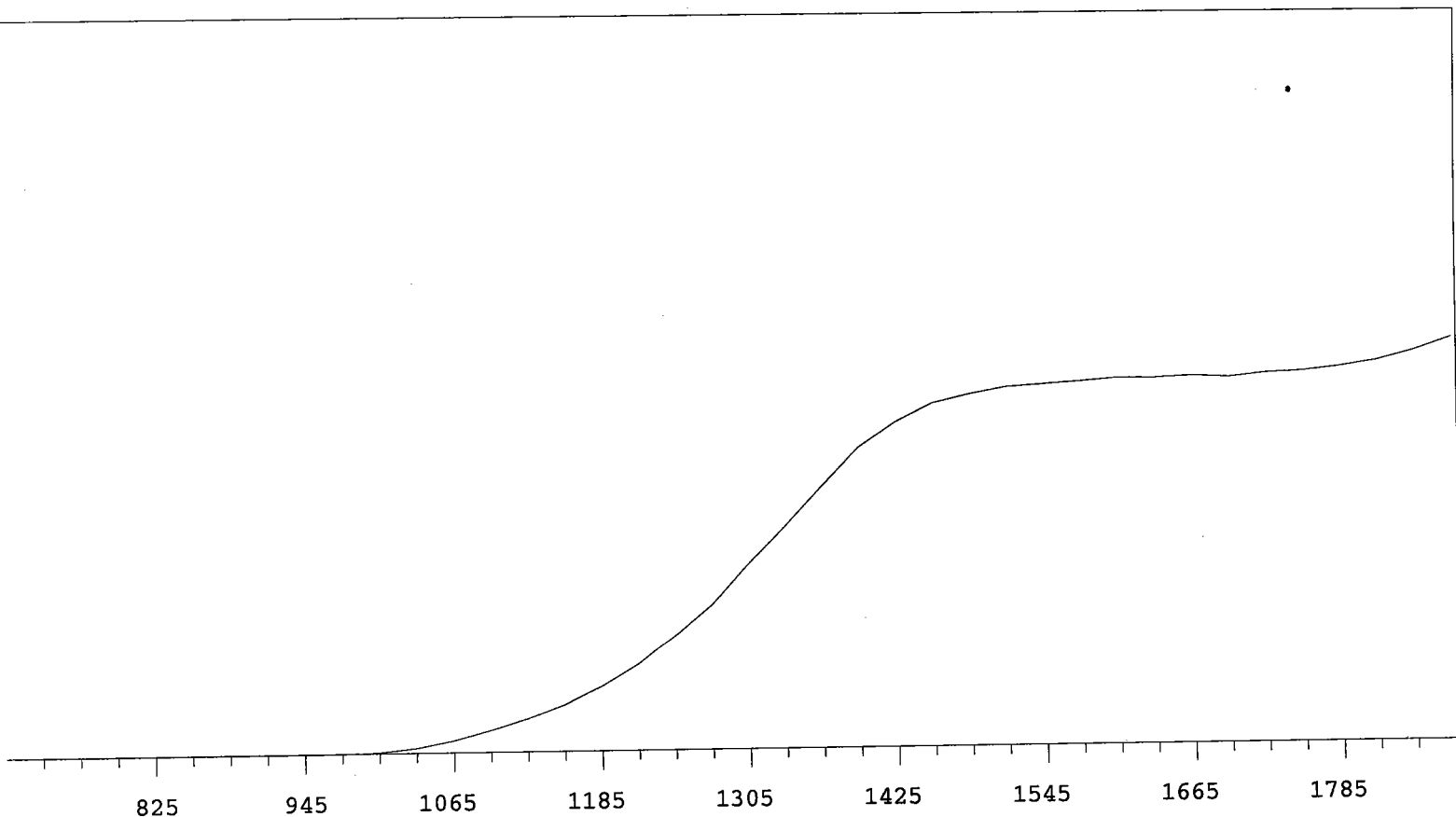
MPC 9600 Plateau
Alpha Volts: 705

Instrument 6 MPC 9604 Detector C
Beta Volts: 1575

7/1/2009



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	17350	+67.80
735	0		1335	21371	+60.27
765	1	+0.00	1365	25084	+49.32
795	0	>100	1395	29177	+36.15
825	0	+0.00	1425	31927	+24.86
855	0	>100	1455	33217	+14.70
885	1	>100	1485	34545	+7.74
915	1	>100	1515	35097	+4.64
945	2	>100	1545	34927	+2.96
975	8	>100	1575	35439	+2.21
1005	70	>100	1605	35939	+2.41
1035	353	>100	1635	35763	+0.94
1065	990	>100	1665	36053	+0.35
1095	1956	>100	1695	35886	+1.15
1125	3024	>100	1725	36066	+1.77
1155	4400	>100	1755	36379	+3.03
1185	6173	+99.75	1785	36768	+4.80
1215	8230	+89.85	1815	37193	+6.14
1245	10904	+82.36	1845	38320	
1275	13747	+76.18	1875	39061	

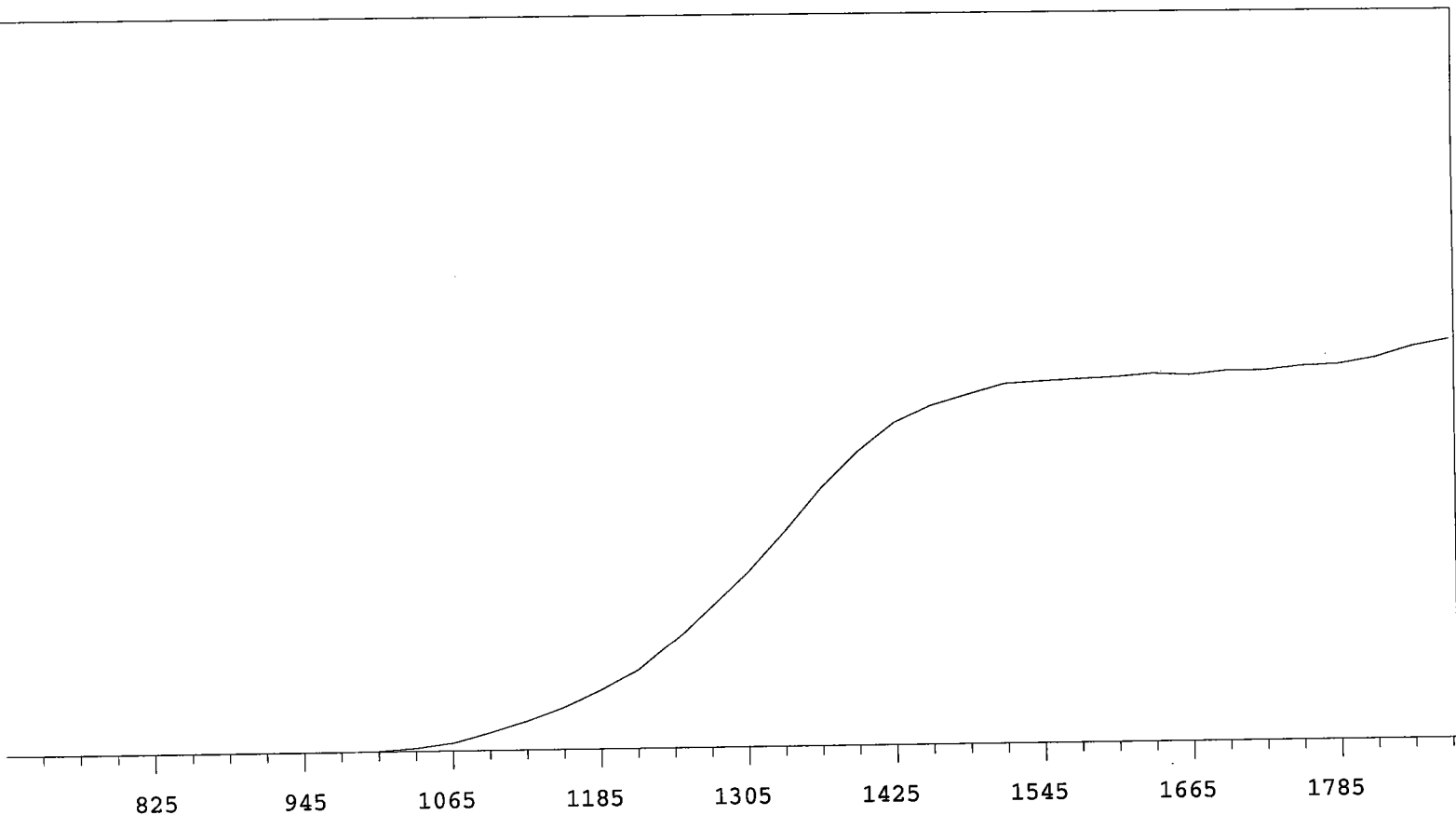


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	17954	+65.82
735	0		1335	21482	+57.64
765	0		1365	25373	+45.78
795	1	+0.00	1395	29042	+34.80
825	0	>100	1425	31373	+23.29
855	0	+0.00	1455	33143	+14.25
885	0	>100	1485	34006	+8.49
915	1	>100	1515	34662	+4.71
945	0	>100	1545	34892	+3.14
975	14	>100	1575	35129	+1.86
1005	109	>100	1605	35411	+1.49
1035	481	>100	1635	35380	+0.62
1065	1177	>100	1665	35554	+0.65
1095	2133	>100	1695	35385	+1.18
1125	3243	>100	1725	35755	+1.89
1155	4554	>100	1755	35907	+3.26
1185	6285	+98.38	1785	36305	+4.62
1215	8468	+89.75	1815	36870	+6.98
1245	11266	+83.13	1845	37807	
1275	14088	+74.43	1875	39047	

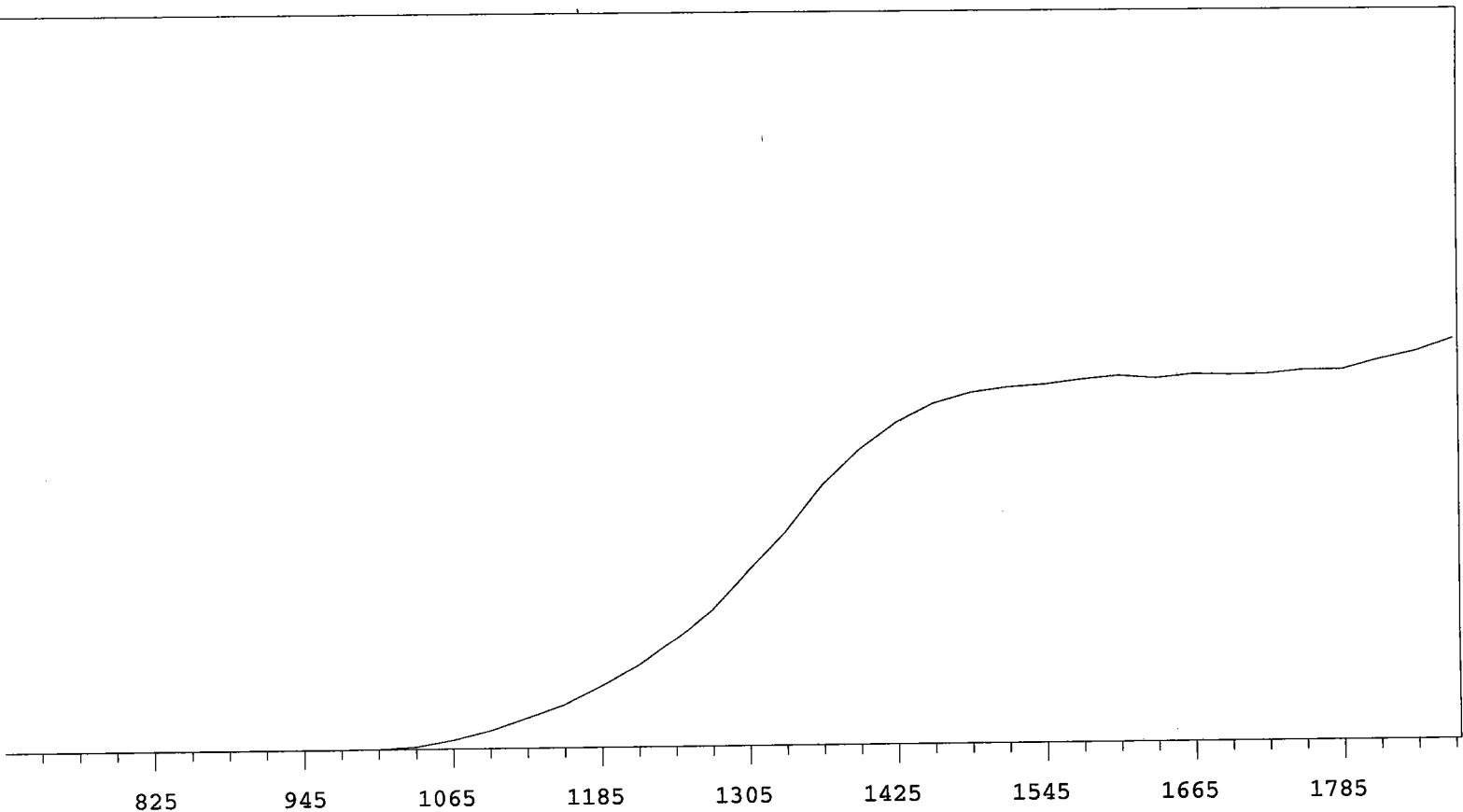
MPC 9600 Plateau
 Alpha Volts: 705

Instrument 7 MPC 9604 Detector A
 Beta Volts: 1575

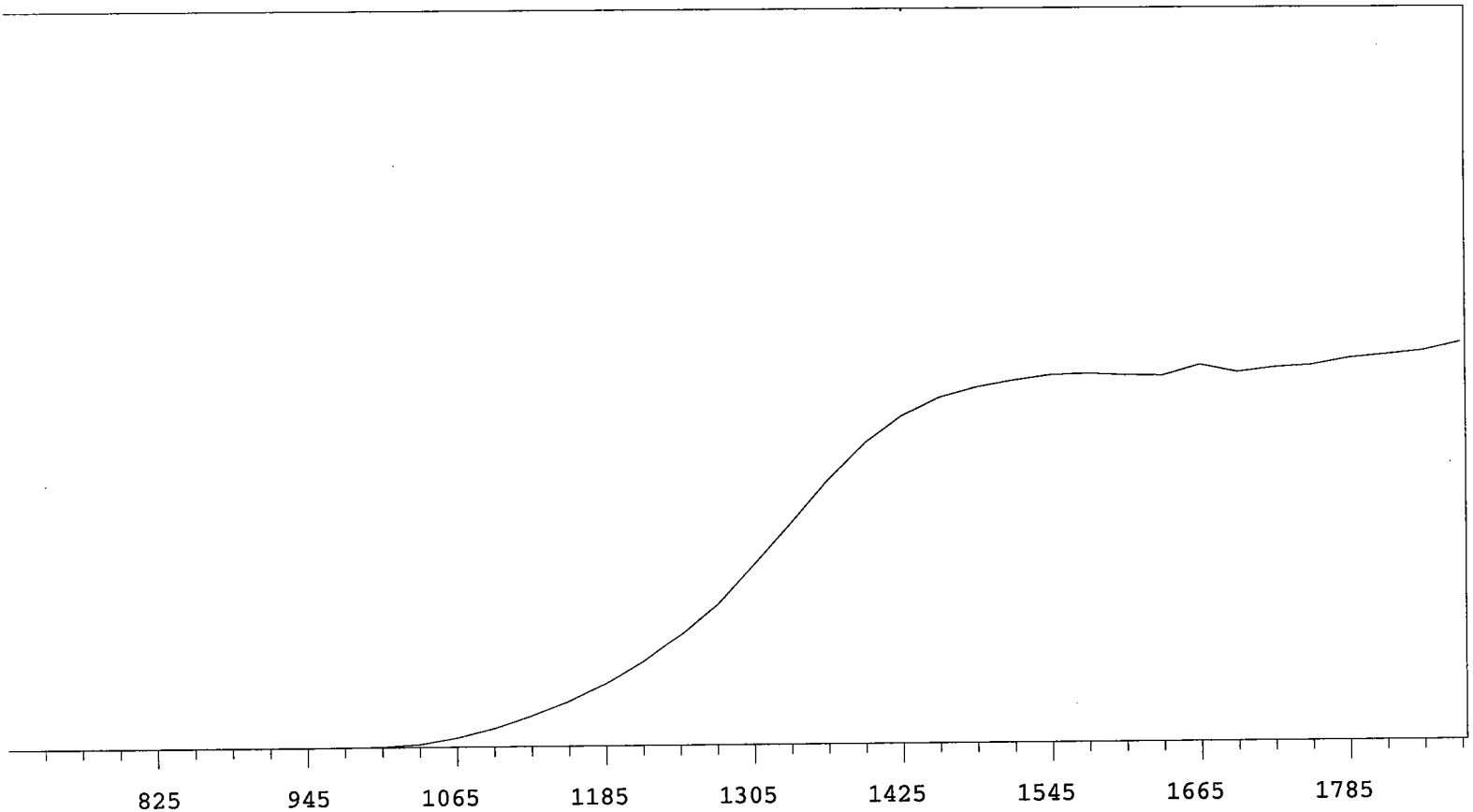
7/1/2009



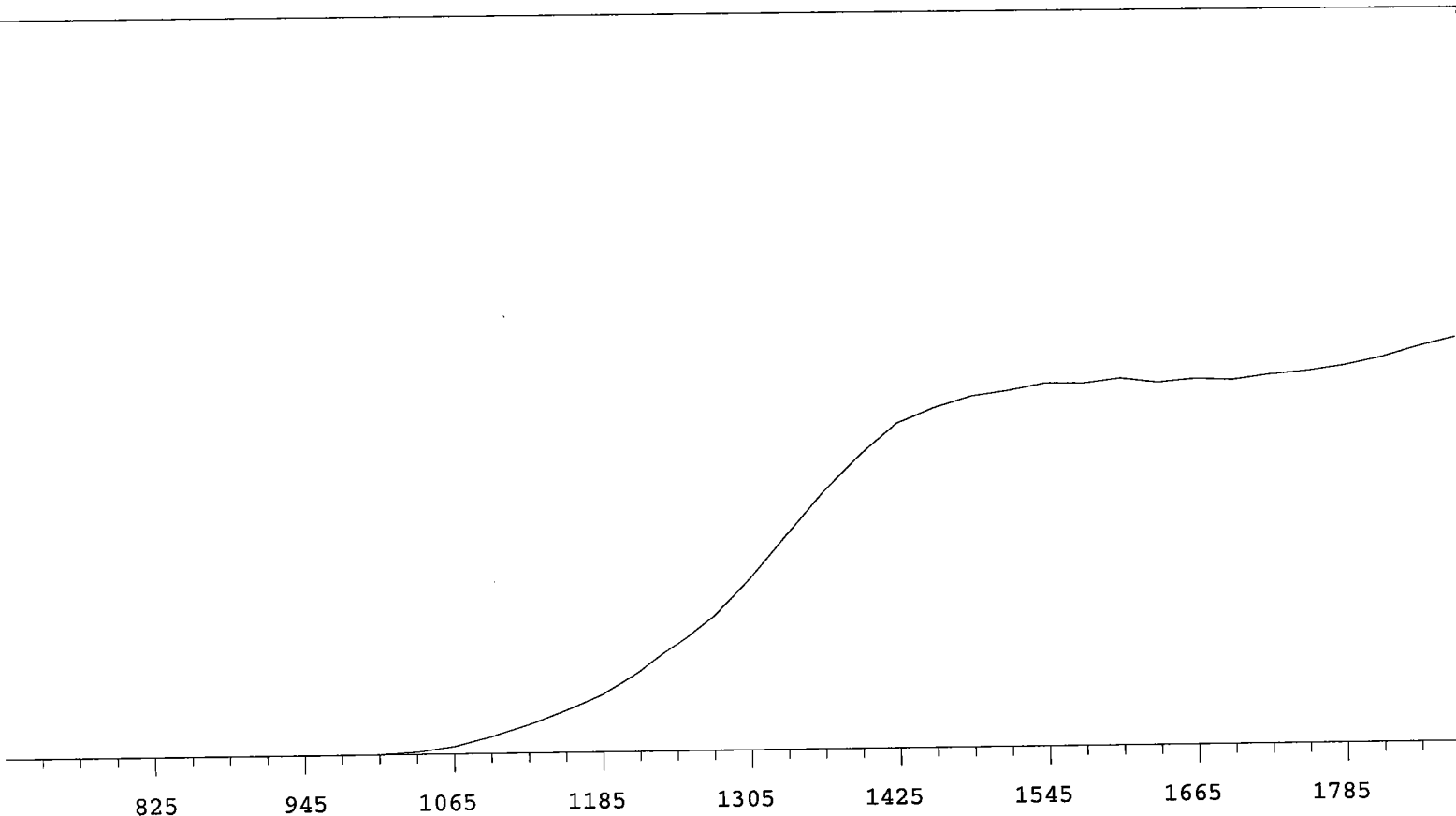
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	13228	+70.36
735	0		1335	16271	+60.12
765	0		1365	19506	+49.19
795	0	>100	1395	22188	+36.46
825	1	+83.33	1425	24373	+24.43
855	1	-83.33	1455	25649	+15.99
885	0	-55.56	1485	26433	+9.58
915	0	>100	1515	27195	+5.74
945	1	>100	1545	27367	+3.24
975	3	>100	1575	27490	+1.86
1005	42	>100	1605	27608	+1.22
1035	242	>100	1635	27841	+1.33
1065	613	>100	1665	27695	+1.11
1095	1353	>100	1695	27999	+1.42
1125	2213	>100	1725	27992	+2.04
1155	3256	>100	1755	28289	+2.52
1185	4474	>100	1785	28408	+4.56
1215	5932	+94.10	1815	28863	+5.70
1245	8072	+87.32	1845	29664	
1275	10579	+79.61	1875	30148	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16978	+70.97
735	0		1335	20569	+61.39
765	0		1365	24989	+48.97
795	0	>100	1395	28389	+36.69
825	0	>100	1425	30977	+24.05
855	0	>100	1455	32727	+14.93
885	0	>100	1485	33697	+8.42
915	1	>100	1515	34195	+4.89
945	1	>100	1545	34437	+3.49
975	3	>100	1575	34850	+2.11
1005	34	>100	1605	35174	+1.62
1035	221	>100	1635	34923	+0.68
1065	825	>100	1665	35250	+0.35
1095	1709	>100	1695	35171	+1.24
1125	2873	>100	1725	35237	+1.02
1155	4078	>100	1755	35584	+2.79
1185	5858	>100	1785	35587	+4.59
1215	7809	+91.82	1815	36485	+6.74
1245	10336	+85.02	1845	37270	
1275	13215	+77.79	1875	38453	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16543	+70.03
735	0		1335	20257	+60.71
765	0		1365	24245	+48.17
795	0	>100	1395	27602	+35.50
825	0	>100	1425	30019	+23.48
855	0	>100	1455	31614	+14.53
885	0	>100	1485	32522	+8.91
915	0	>100	1515	33103	+5.28
945	0	>100	1545	33572	+2.60
975	4	>100	1575	33695	+0.70
1005	57	>100	1605	33525	+1.48
1035	277	>100	1635	33477	+0.99
1065	817	>100	1665	34432	+1.49
1095	1666	>100	1695	33745	+1.43
1125	2766	>100	1725	34149	+1.60
1155	4077	>100	1755	34350	+3.69
1185	5667	>100	1785	34955	+3.62
1215	7694	+91.50	1815	35251	+4.44
1245	10209	+84.83	1845	35592	
1275	12950	+77.50	1875	36382	

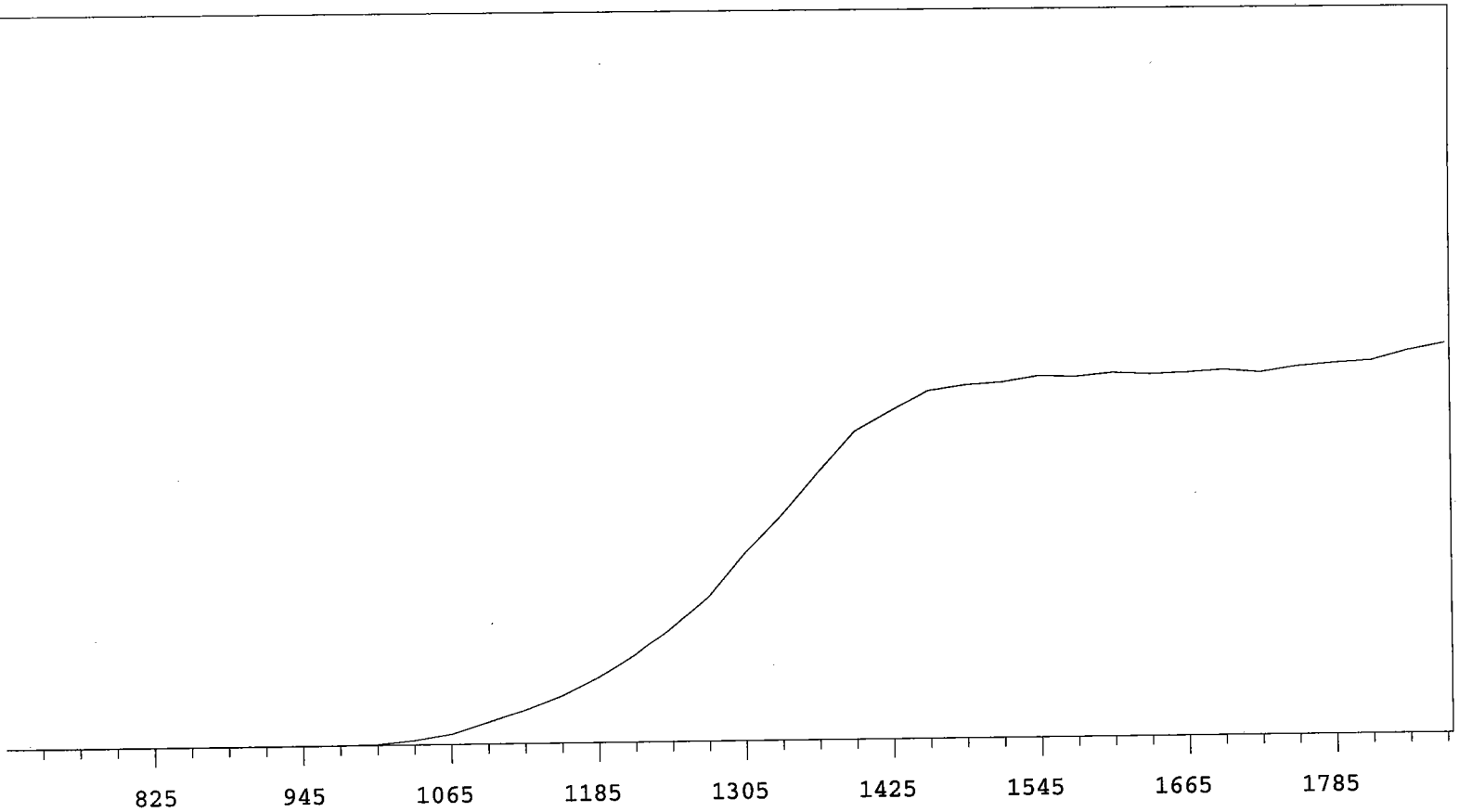


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	14016	+71.42
735	0		1335	17436	+62.21
765	0		1365	20814	+50.32
795	0	>100	1395	23760	+36.91
825	0	>100	1425	26302	+24.91
855	0	>100	1455	27519	+15.17
885	0	>100	1485	28410	+8.91
915	0	>100	1515	28843	+5.41
945	0	>100	1545	29396	+3.58
975	5	>100	1575	29357	+1.54
1005	29	>100	1605	29719	+0.51
1035	204	>100	1635	29358	+0.23
1065	609	>100	1665	29623	+0.57
1095	1354	>100	1695	29509	+2.12
1125	2316	>100	1725	29896	+2.84
1155	3418	>100	1755	30165	+4.42
1185	4654	>100	1785	30570	+5.65
1215	6455	+92.99	1815	31180	+6.95
1245	8669	+86.45	1845	31995	
1275	10931	+79.15	1875	32717	

MPC 9600 Plateau
Alpha Volts: 705

Instrument 8 MPC 9604 Detector A
Beta Volts: 1575

7/1/2009

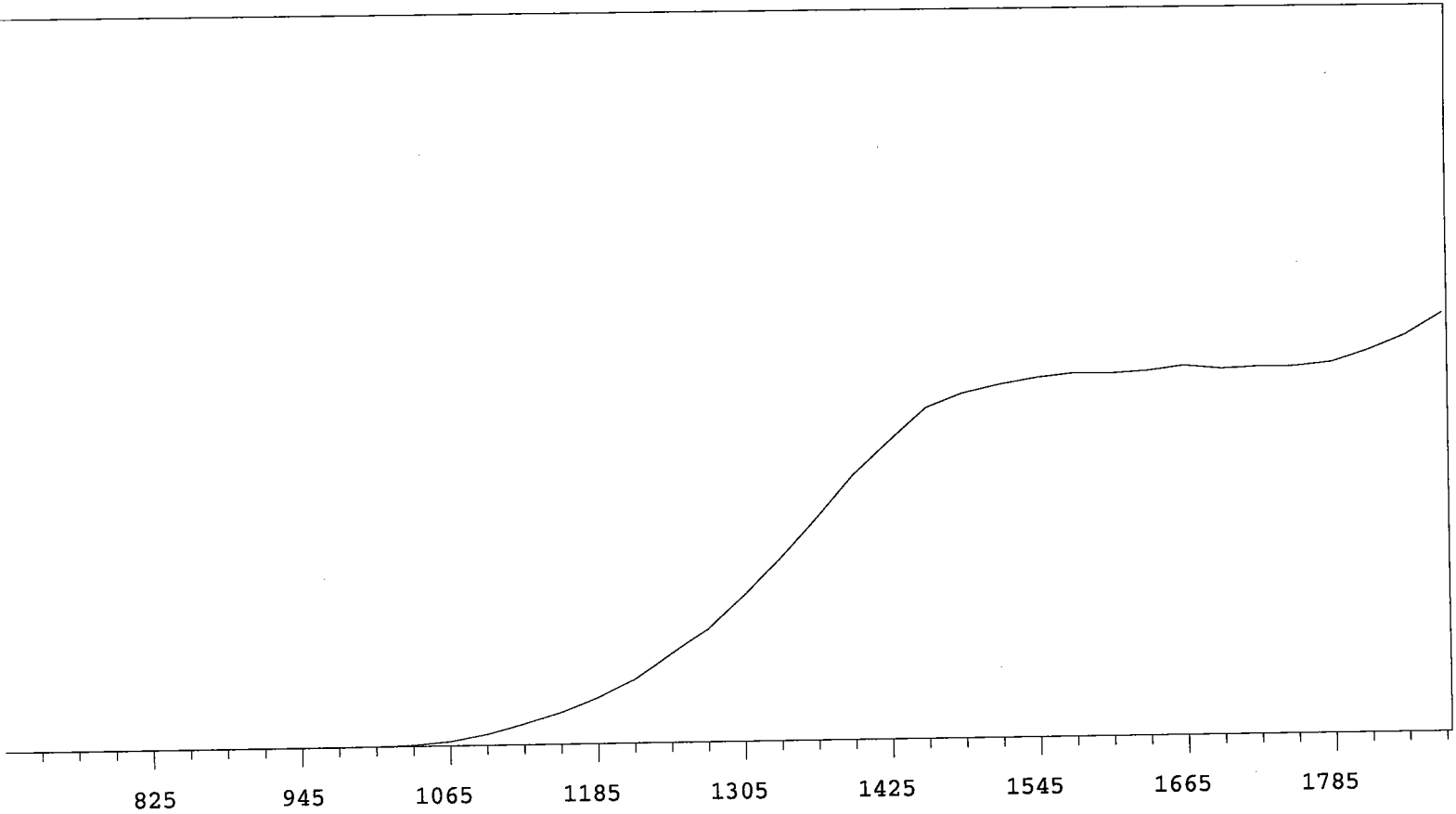


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	19482	+67.45
735	0		1335	23344	+59.35
765	0		1365	27793	+45.86
795	0	>100	1395	31916	+34.29
825	0	>100	1425	33979	+21.61
855	0	>100	1455	35993	+11.71
885	0	>100	1485	36530	+7.04
915	0	>100	1515	36796	+3.11
945	1	>100	1545	37393	+2.44
975	9	>100	1575	37279	+1.41
1005	96	>100	1605	37650	+0.49
1035	468	>100	1635	37458	+0.91
1065	1084	>100	1665	37579	+0.12
1095	2286	>100	1695	37828	+1.10
1125	3479	>100	1725	37535	+1.72
1155	4912	>100	1755	38104	+2.18
1185	6819	+98.23	1785	38416	+4.12
1215	9153	+89.05	1815	38633	+4.92
1245	12105	+83.21	1845	39649	
1275	15122	+75.24	1875	40366	

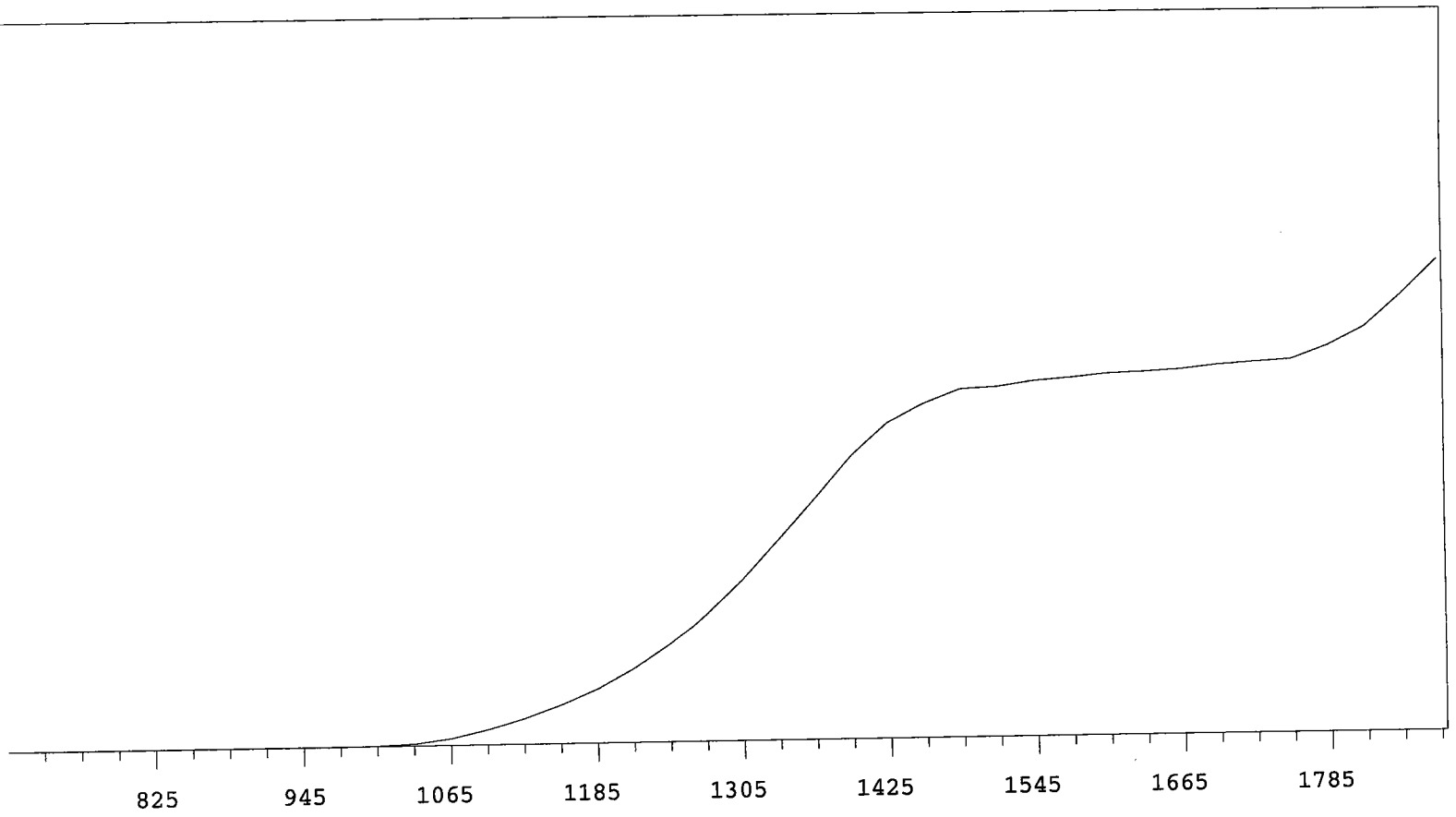
MPC 9600 Plateau
 Alpha Volts: 705

Instrument 8 MPC 9604 Detector B
 Beta Volts: 1575

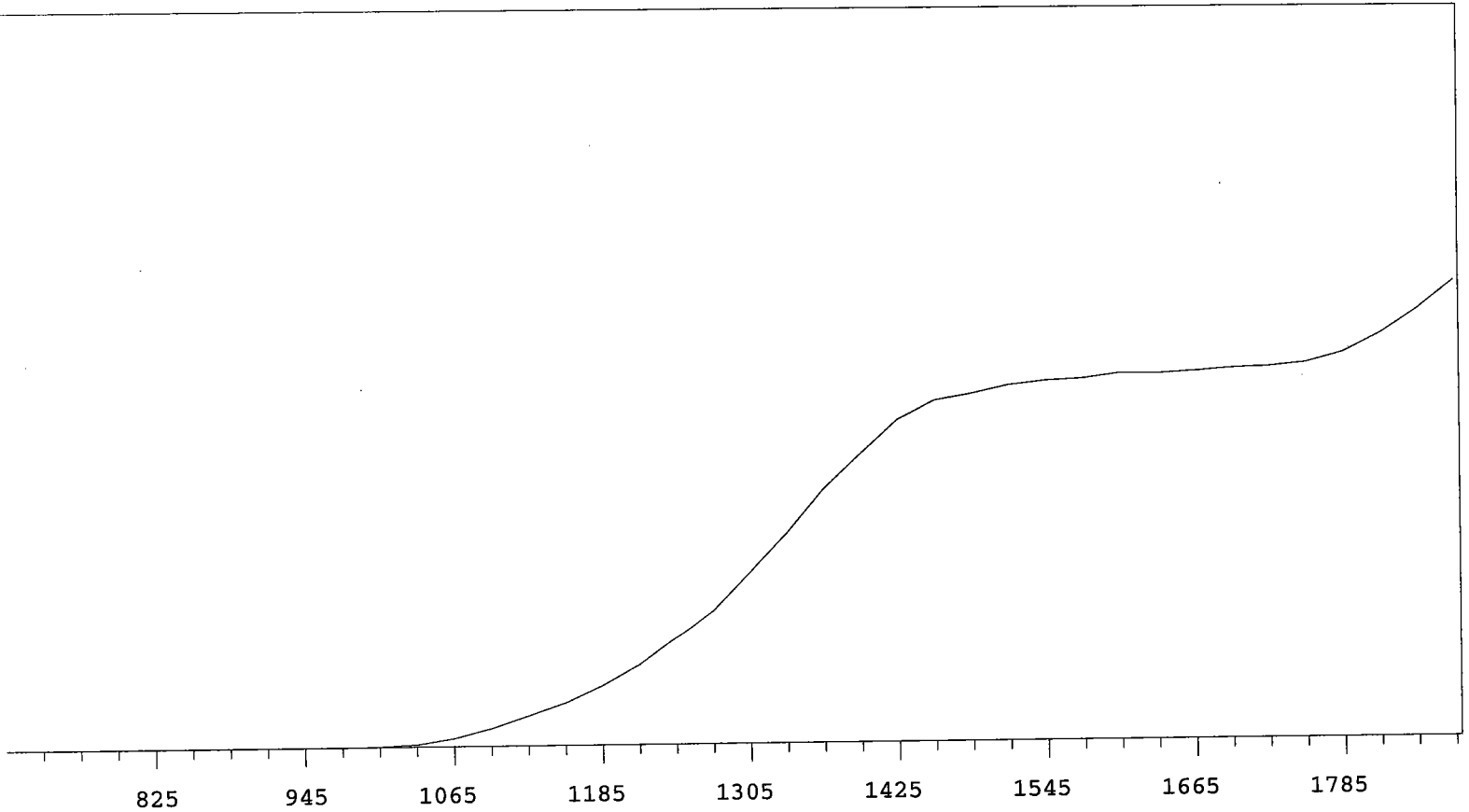
7/1/2009



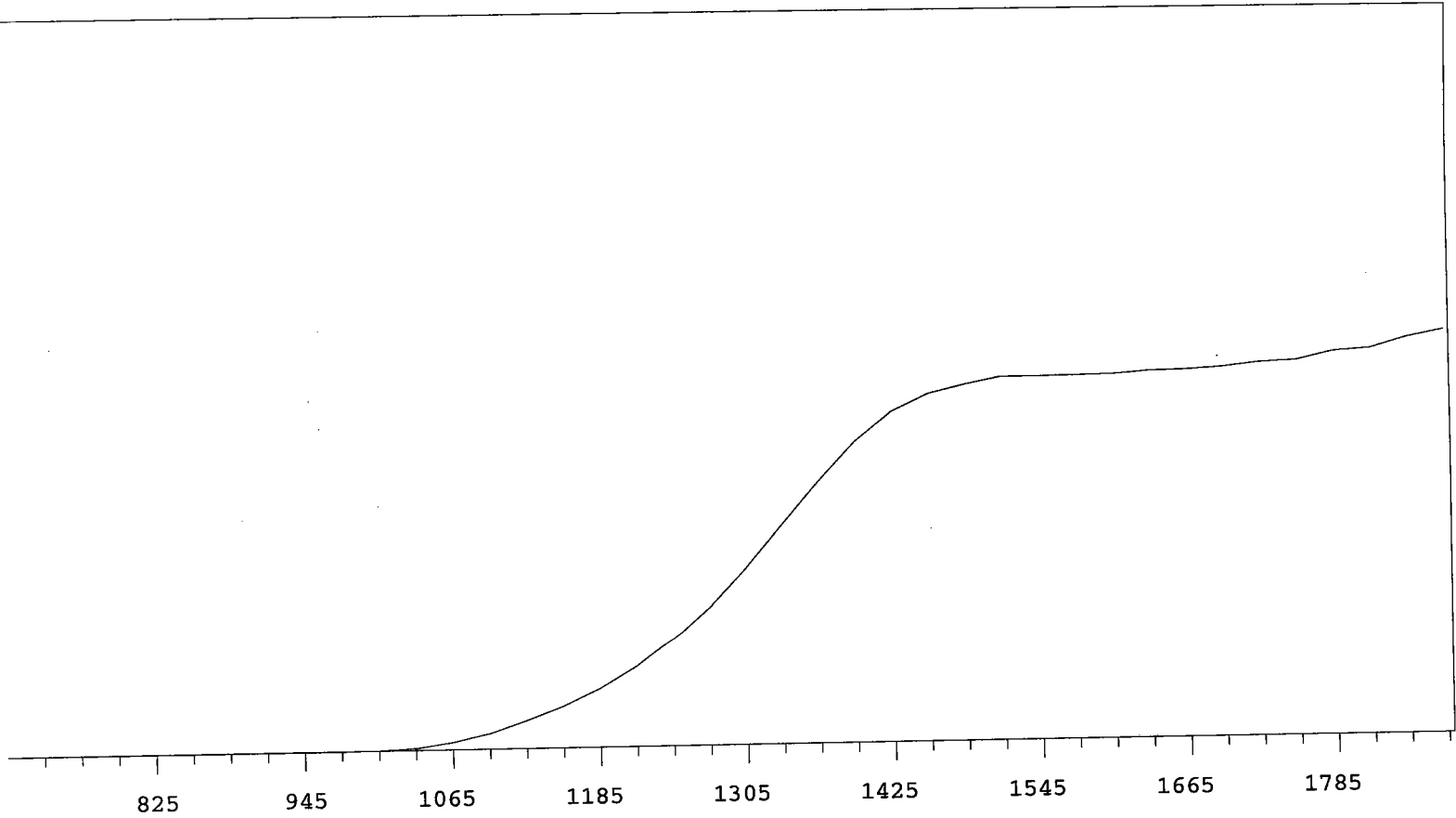
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16337	+74.91
735	0		1335	20471	+68.07
765	0		1365	25012	+57.86
795	0	>100	1395	29694	+47.48
825	0	>100	1425	33409	+35.17
855	0	>100	1455	37013	+23.27
885	0	>100	1485	38629	+14.35
915	0	>100	1515	39529	+7.69
945	0	>100	1545	40284	+4.34
975	0	>100	1575	40711	+2.52
1005	20	>100	1605	40642	+1.97
1035	122	>100	1635	40879	+1.11
1065	511	>100	1665	41405	+0.98
1095	1263	>100	1695	41011	+0.30
1125	2390	>100	1725	41182	+0.41
1155	3641	>100	1755	41178	+3.28
1185	5246	>100	1785	41573	+6.47
1215	7212	+98.32	1815	42858	+10.82
1245	9897	+89.80	1845	44440	
1275	12742	+82.40	1875	46780	



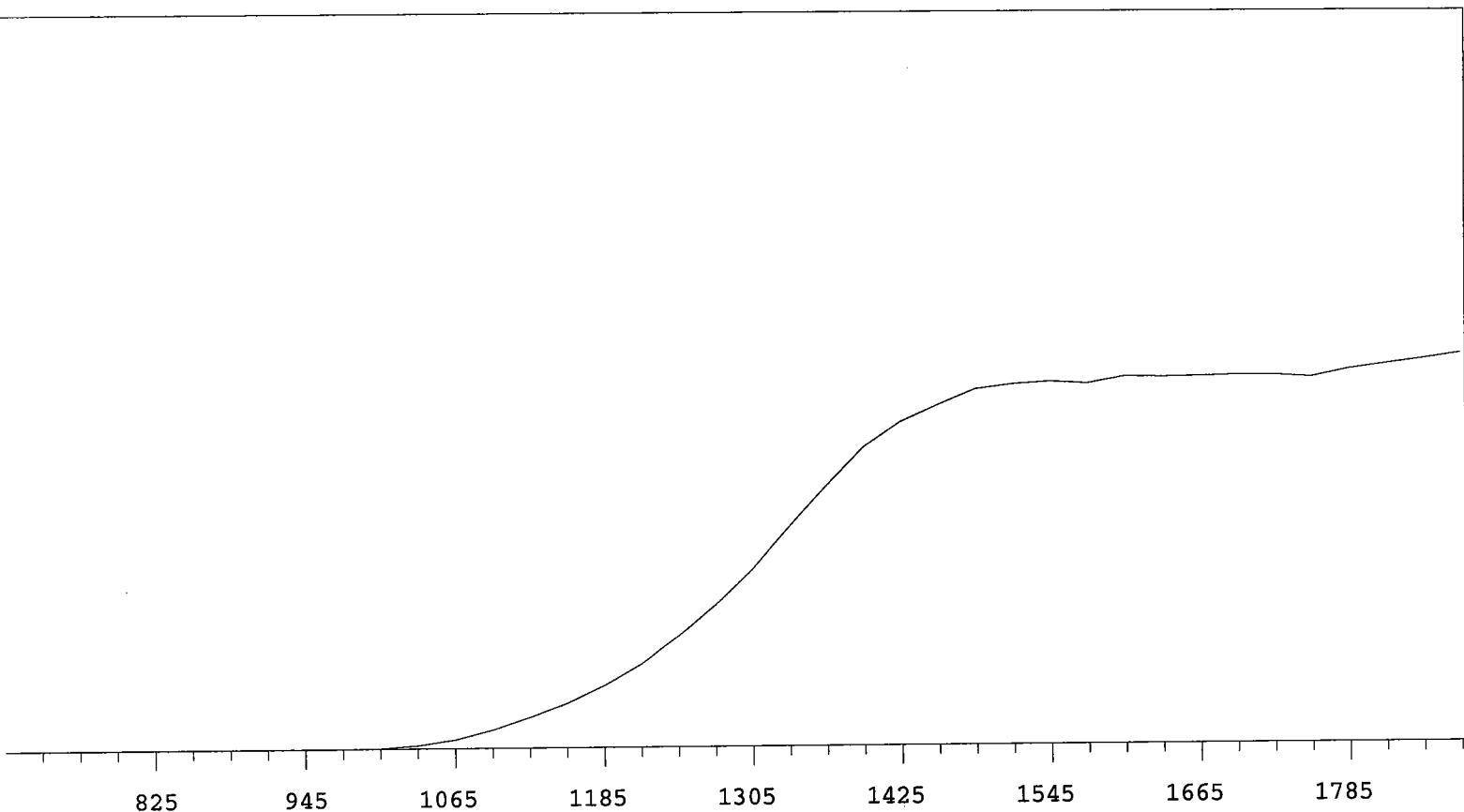
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16303	+72.82
735	0		1335	20309	+64.32
765	0		1365	24364	+53.82
795	0	>100	1395	28527	+40.95
825	0	>100	1425	31774	+28.74
855	0	>100	1455	33631	+16.87
885	0	>100	1485	35030	+9.25
915	0	>100	1515	35208	+5.21
945	0	>100	1545	35741	+3.27
975	4	>100	1575	36019	+2.95
1005	46	>100	1605	36373	+2.21
1035	202	>100	1635	36484	+2.27
1065	697	>100	1665	36713	+2.28
1095	1532	>100	1695	37093	+2.46
1125	2614	>100	1725	37325	+4.17
1155	3953	>100	1755	37543	+7.52
1185	5474	>100	1785	38833	+13.43
1215	7466	+93.09	1815	40656	+19.49
1245	9842	+86.73	1845	43753	
1275	12814	+80.29	1875	47246	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16889	+70.18
735	0		1335	20600	+61.29
765	1	+0.00	1365	24824	+50.40
795	0	>100	1395	28208	+38.85
825	0	>100	1425	31539	+25.79
855	0	>100	1455	33391	+16.06
885	0	>100	1485	33991	+8.60
915	0	>100	1515	34782	+5.01
945	0	>100	1545	35201	+4.10
975	5	>100	1575	35380	+2.50
1005	47	>100	1605	35849	+1.87
1035	243	>100	1635	35784	+1.79
1065	792	>100	1665	36000	+1.43
1095	1744	>100	1695	36269	+2.10
1125	2933	>100	1725	36381	+3.46
1155	4123	>100	1755	36733	+6.86
1185	5780	>100	1785	37669	+11.78
1215	7791	+91.58	1815	39465	+16.64
1245	10478	+84.93	1845	41803	
1275	13118	+77.50	1875	44665	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16226	+71.71
735	0		1335	20083	+61.95
765	1	+0.00	1365	23913	+49.99
795	0	>100	1395	27526	+36.97
825	0	>100	1425	30193	+24.54
855	0	>100	1455	31747	+14.71
885	0	>100	1485	32544	+7.71
915	0	>100	1515	33198	+3.66
945	0	>100	1545	33188	+1.51
975	2	>100	1575	33227	+0.73
1005	33	>100	1605	33278	+1.04
1035	203	>100	1635	33518	+1.38
1065	668	>100	1665	33565	+1.95
1095	1403	>100	1695	33774	+1.99
1125	2545	>100	1725	34135	+3.30
1155	3800	>100	1755	34244	+3.67
1185	5363	>100	1785	35022	+4.84
1215	7355	+95.00	1815	35229	+5.93
1245	9807	+87.69	1845	36179	
1275	12700	+80.28	1875	36821	

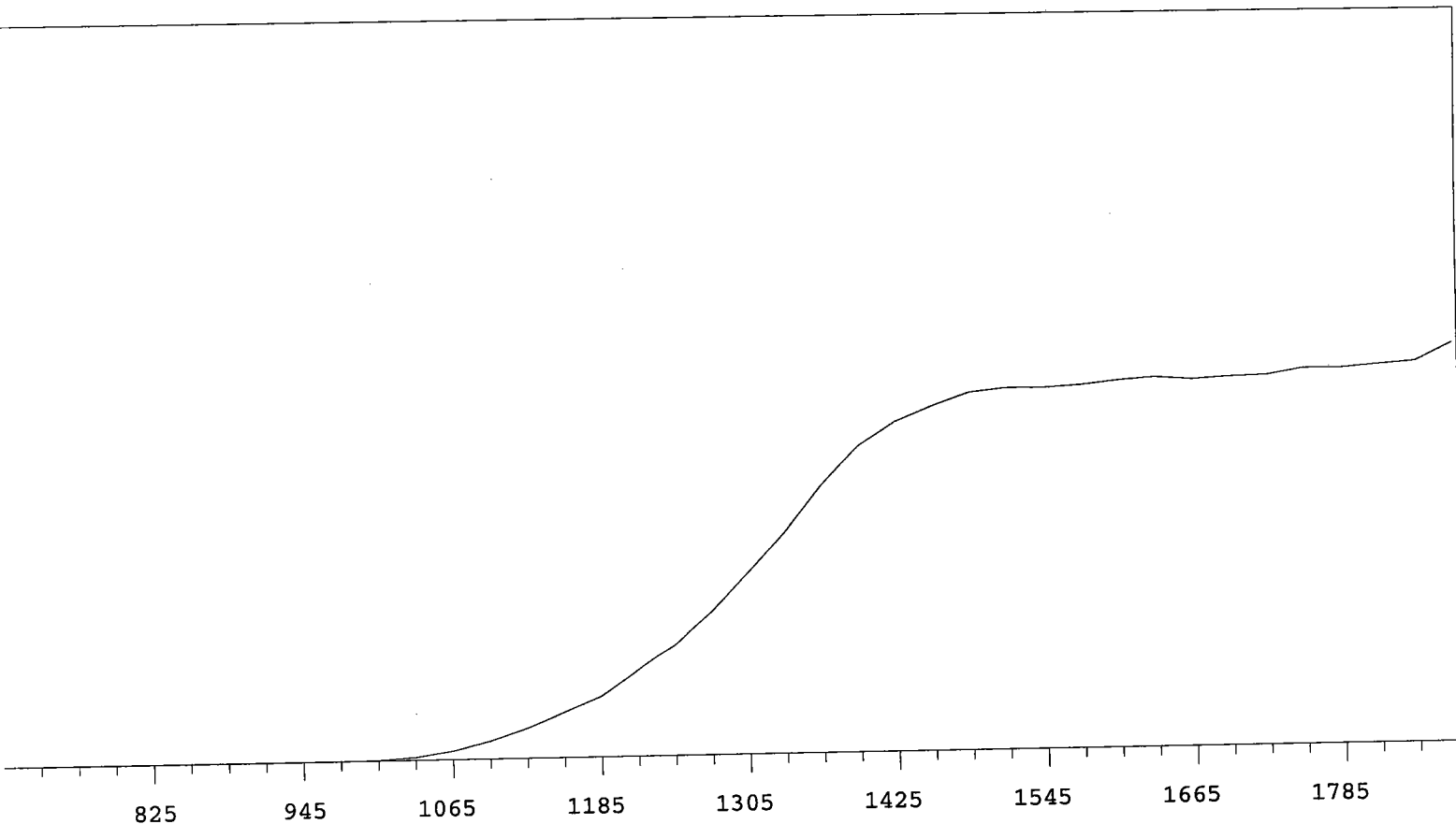


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16723	+68.78
735	0		1335	20749	+60.55
765	0		1365	24686	+48.78
795	0	>100	1395	28343	+35.24
825	0	>100	1425	30657	+24.31
855	0	>100	1455	32208	+15.22
885	0	>100	1485	33662	+9.32
915	0	>100	1515	34098	+4.47
945	0	>100	1545	34326	+2.17
975	4	>100	1575	34133	+1.60
1005	45	>100	1605	34758	+1.41
1035	300	>100	1635	34706	+1.35
1065	836	>100	1665	34769	+0.30
1095	1742	>100	1695	34830	-0.10
1125	2896	>100	1725	34850	+0.90
1155	4198	>100	1755	34613	+2.41
1185	5849	>100	1785	35351	+3.87
1215	7887	+92.20	1815	35849	+4.97
1245	10561	+83.55	1845	36285	
1275	13442	+76.62	1875	36814	

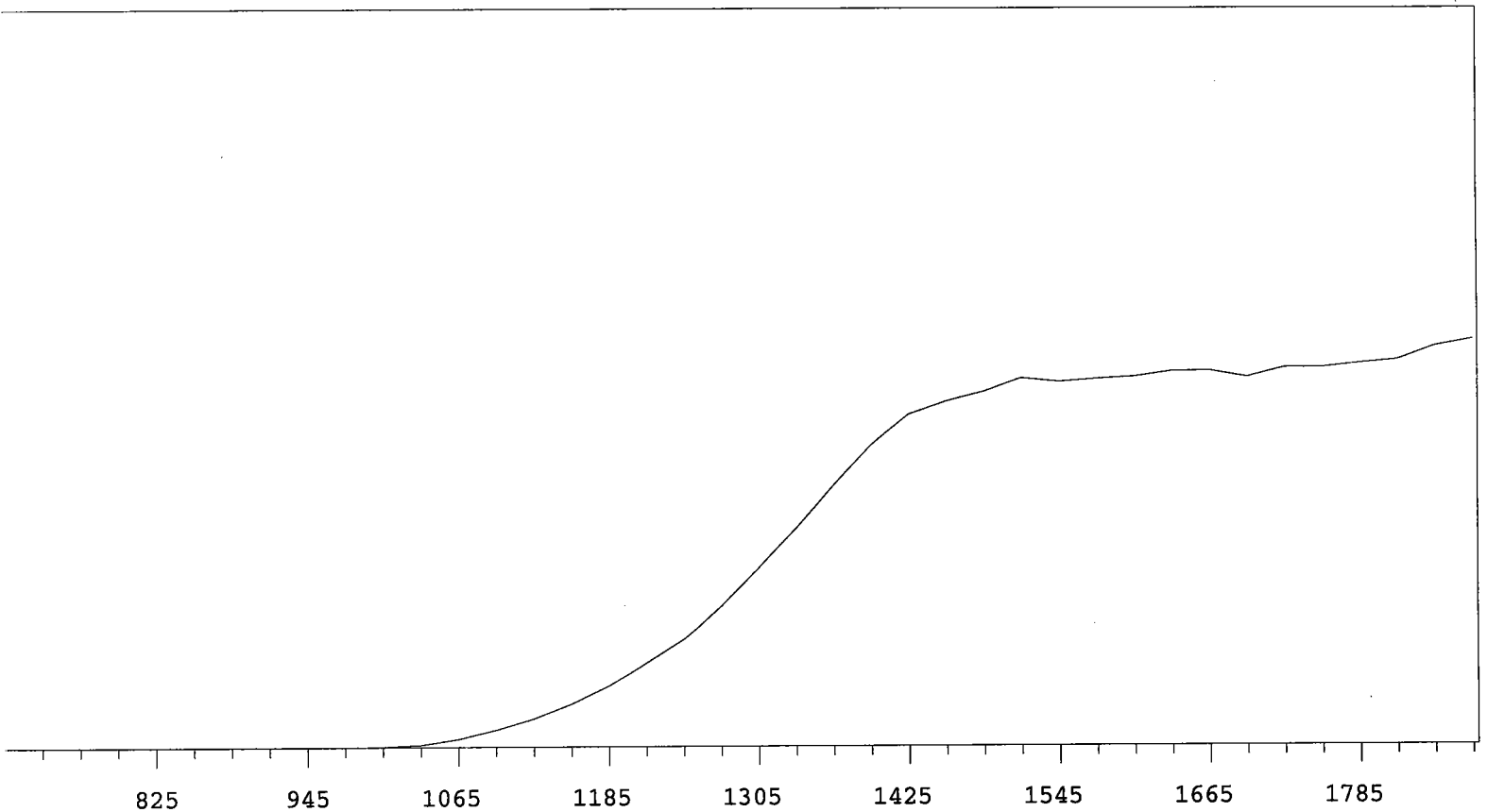
MPC 9600 Plateau
Alpha Volts: 870

Instrument 9 MPC 9604 Detector C
Beta Volts: 1530

7/1/2009



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	20192	+70.39
735	0		1335	24524	+60.97
765	0		1365	29650	+48.44
795	0	>100	1395	33904	+35.09
825	0	>100	1425	36549	+22.73
855	0	>100	1455	38217	+13.58
885	1	>100	1485	39628	+7.51
915	1	>100	1515	40035	+3.73
945	2	>100	1545	40020	+1.92
975	3	>100	1575	40236	+2.06
1005	64	>100	1605	40680	+1.62
1035	349	>100	1635	40953	+1.03
1065	970	>100	1665	40643	+0.43
1095	1982	>100	1695	40882	+1.41
1125	3328	>100	1725	40979	+2.18
1155	5012	>100	1755	41654	+2.20
1185	6669	>100	1785	41602	+2.27
1215	9448	+92.67	1815	41935	+4.50
1245	12293	+86.58	1845	42259	
1275	15917	+76.99	1875	44183	

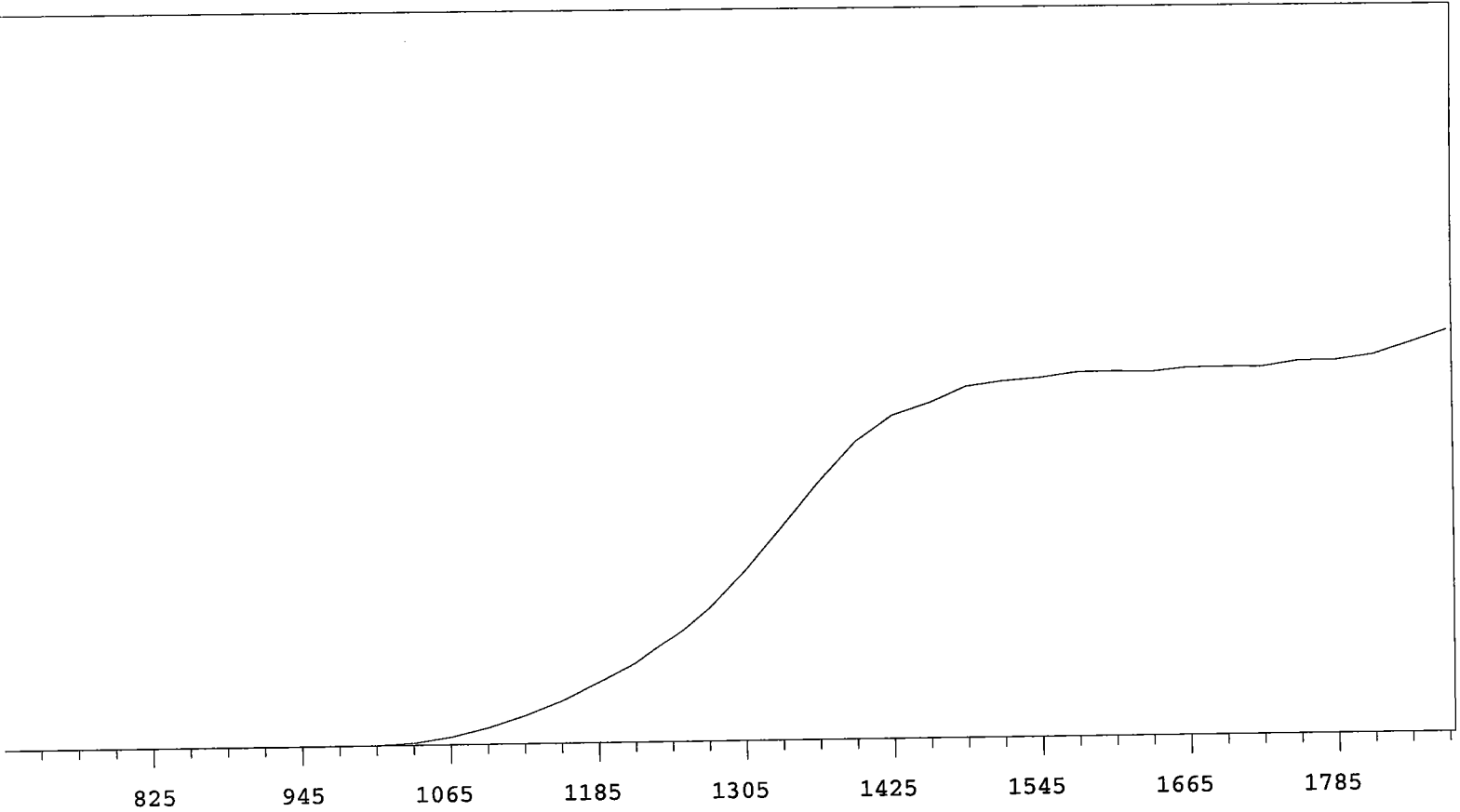


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	13319	+70.94
735	0		1335	16319	+61.35
765	0		1365	19577	+50.27
795	0	>100	1395	22498	+36.85
825	0	>100	1425	24782	+23.90
855	0	>100	1455	25761	+15.37
885	0	>100	1485	26486	+8.38
915	1	>100	1515	27503	+5.11
945	0	>100	1545	27223	+2.67
975	5	>100	1575	27453	+1.71
1005	35	>100	1605	27604	+2.70
1035	186	>100	1635	28021	+0.78
1065	618	>100	1665	28059	+1.05
1095	1280	>100	1695	27548	+0.90
1125	2141	>100	1725	28280	+2.16
1155	3268	>100	1755	28290	+3.51
1185	4659	>100	1785	28600	+4.46
1215	6343	+90.68	1815	28879	+6.35
1245	8064	+83.46	1845	29913	
1275	10497	+77.03	1875	30417	

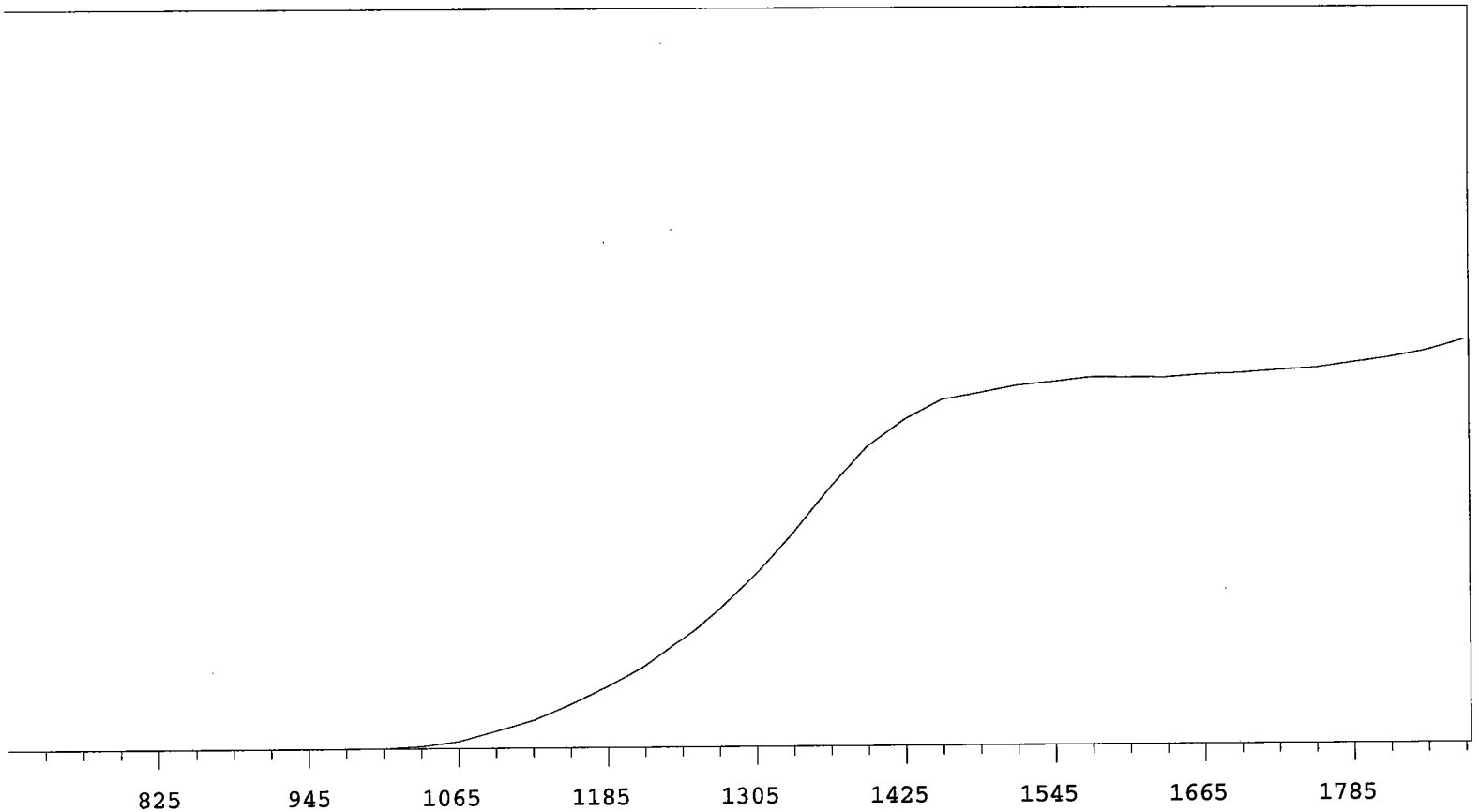
MPC 9600 Plateau
Alpha Volts: 870

Instrument 10 MPC 9604 Detector A
Beta Volts: 1552

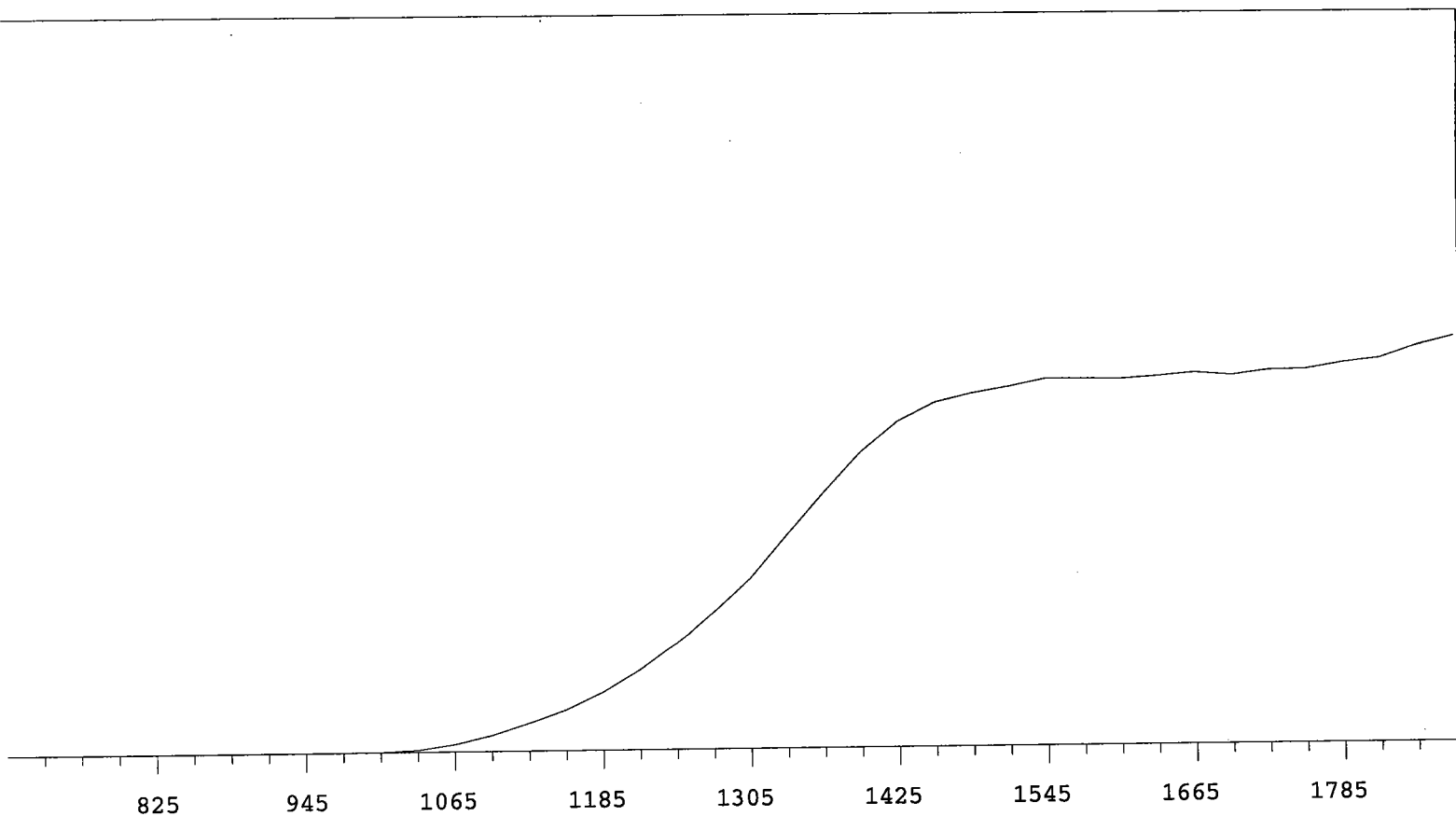
7/1/2009



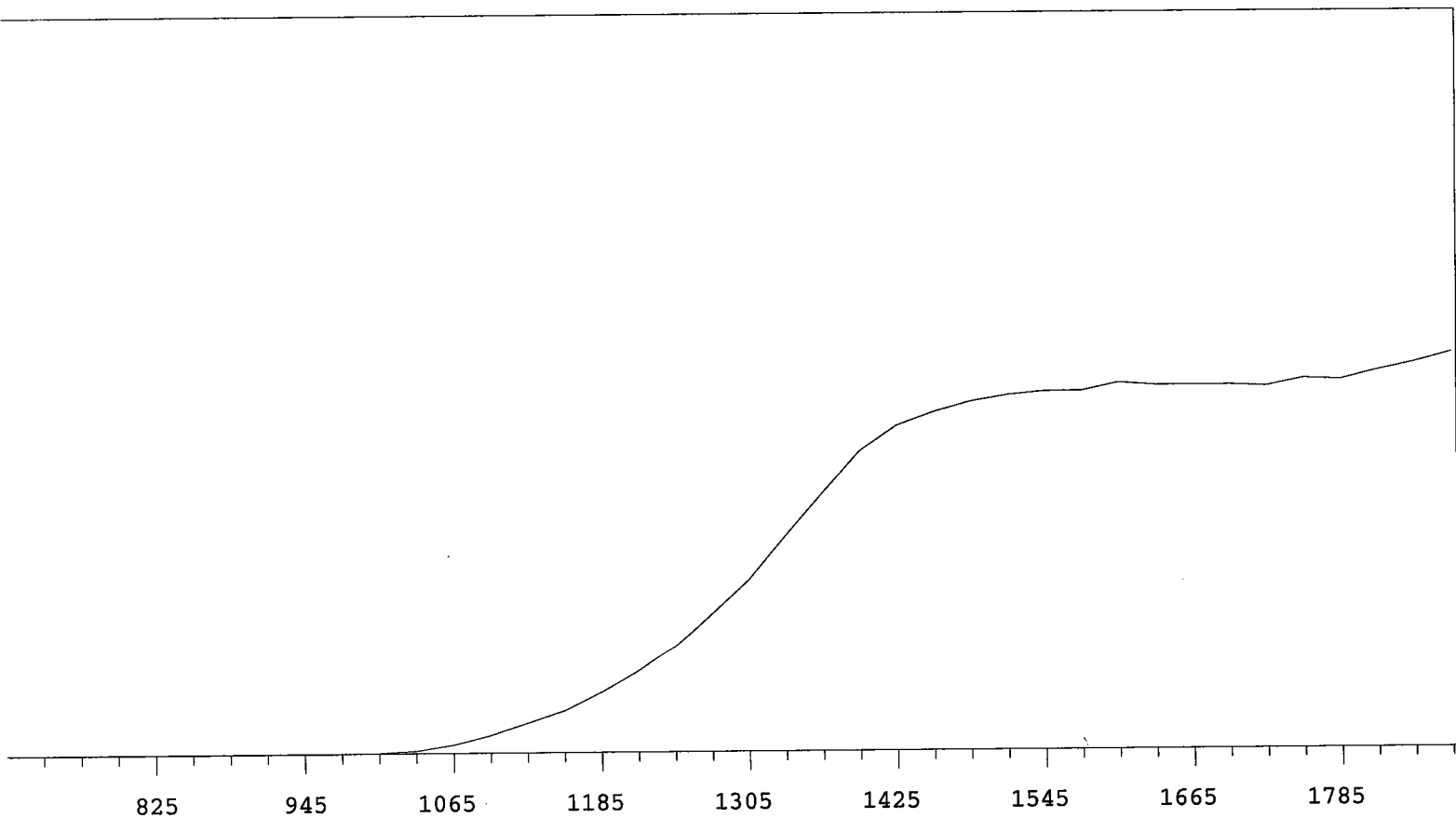
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16076	+72.76
735	1		1335	19985	+63.85
765	0		1365	24102	+50.95
795	0	>100	1395	27819	+36.01
825	0	>100	1425	30228	+23.86
855	0	>100	1455	31343	+14.40
885	0	>100	1485	32811	+8.77
915	0	>100	1515	33243	+6.10
945	0	>100	1545	33518	+3.25
975	1	>100	1575	34010	+1.98
1005	37	>100	1605	34061	+1.59
1035	198	>100	1635	33973	+0.97
1065	687	>100	1665	34346	+0.93
1095	1491	>100	1695	34366	+1.72
1125	2580	>100	1725	34341	+1.54
1155	3920	>100	1755	34860	+2.47
1185	5588	>100	1785	34897	+4.50
1215	7384	+91.32	1815	35377	+6.60
1245	9794	+84.81	1845	36458	
1275	12572	+79.73	1875	37630	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	14469	+71.08
735	0		1335	17904	+63.07
765	0		1365	21677	+51.20
795	0	>100	1395	25027	+38.06
825	0	>100	1425	27237	+24.55
855	0	>100	1455	28914	+14.61
885	0	>100	1485	29480	+8.48
915	0	>100	1515	30075	+5.06
945	1	>100	1545	30374	+3.42
975	7	>100	1575	30738	+1.68
1005	28	>100	1605	30703	+1.08
1035	190	>100	1635	30679	+0.77
1065	597	>100	1665	30902	+1.46
1095	1474	>100	1695	30992	+1.89
1125	2383	>100	1725	31224	+2.40
1155	3680	>100	1755	31397	+3.27
1185	5131	>100	1785	31826	+4.13
1215	6808	+89.95	1815	32236	+5.59
1245	8990	+83.03	1845	32782	
1275	11493	+77.30	1875	33632	

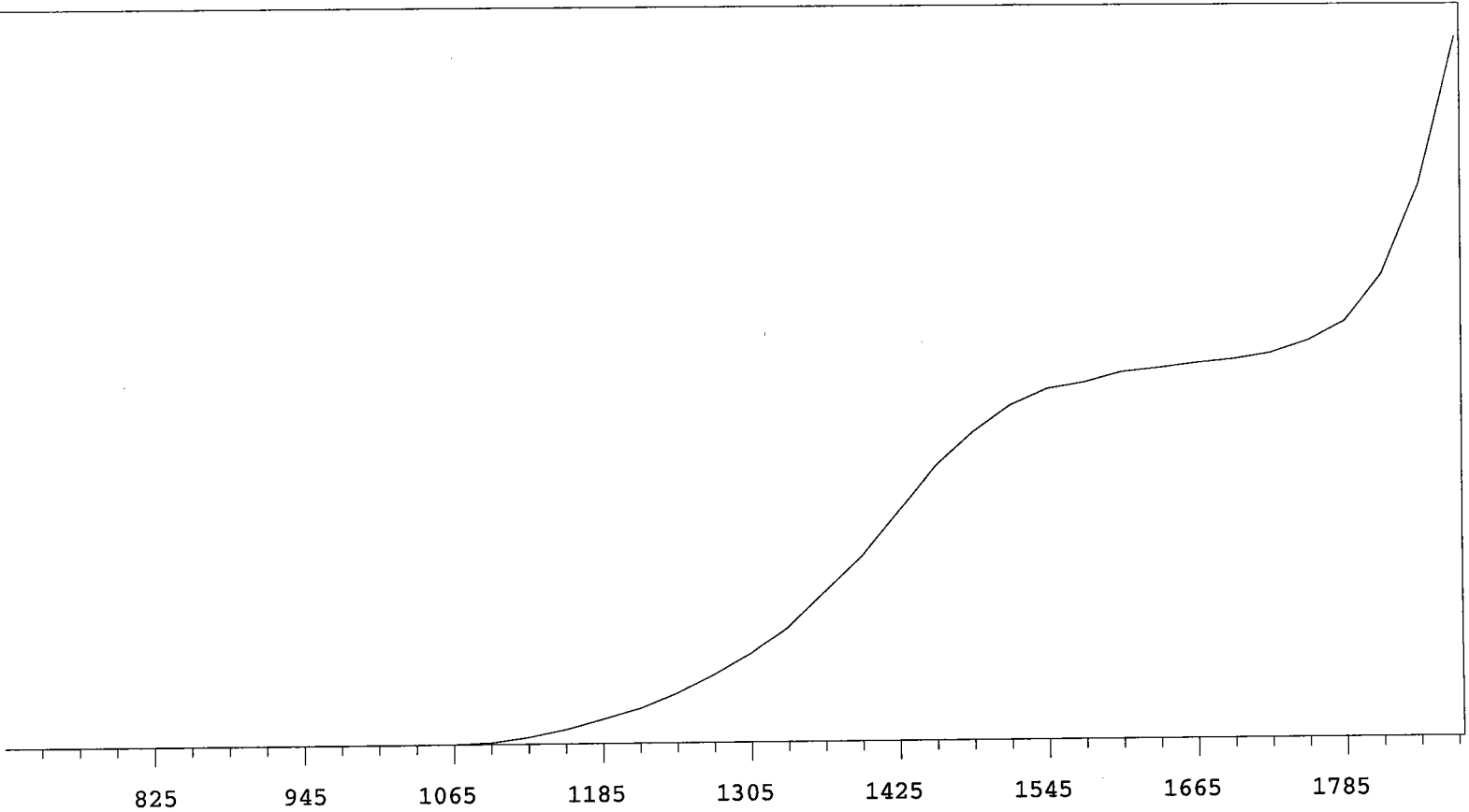


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	18051	+71.16
735	0		1335	22586	+62.34
765	0		1365	26973	+51.47
795	0	>100	1395	31137	+38.24
825	0	>100	1425	34321	+25.70
855	0	>100	1455	36267	+15.37
885	1	>100	1485	37197	+9.21
915	0	>100	1515	37851	+5.38
945	2	>100	1545	38622	+3.00
975	2	>100	1575	38600	+1.55
1005	36	>100	1605	38538	+1.03
1035	220	>100	1635	38786	+0.91
1065	780	>100	1665	39129	+1.38
1095	1712	>100	1695	38832	+1.20
1125	2926	>100	1725	39323	+2.00
1155	4297	>100	1755	39390	+3.35
1185	6097	>100	1785	40031	+4.86
1215	8397	+95.11	1815	40466	+6.64
1245	11155	+85.84	1845	41713	
1275	14430	+78.79	1875	42620	

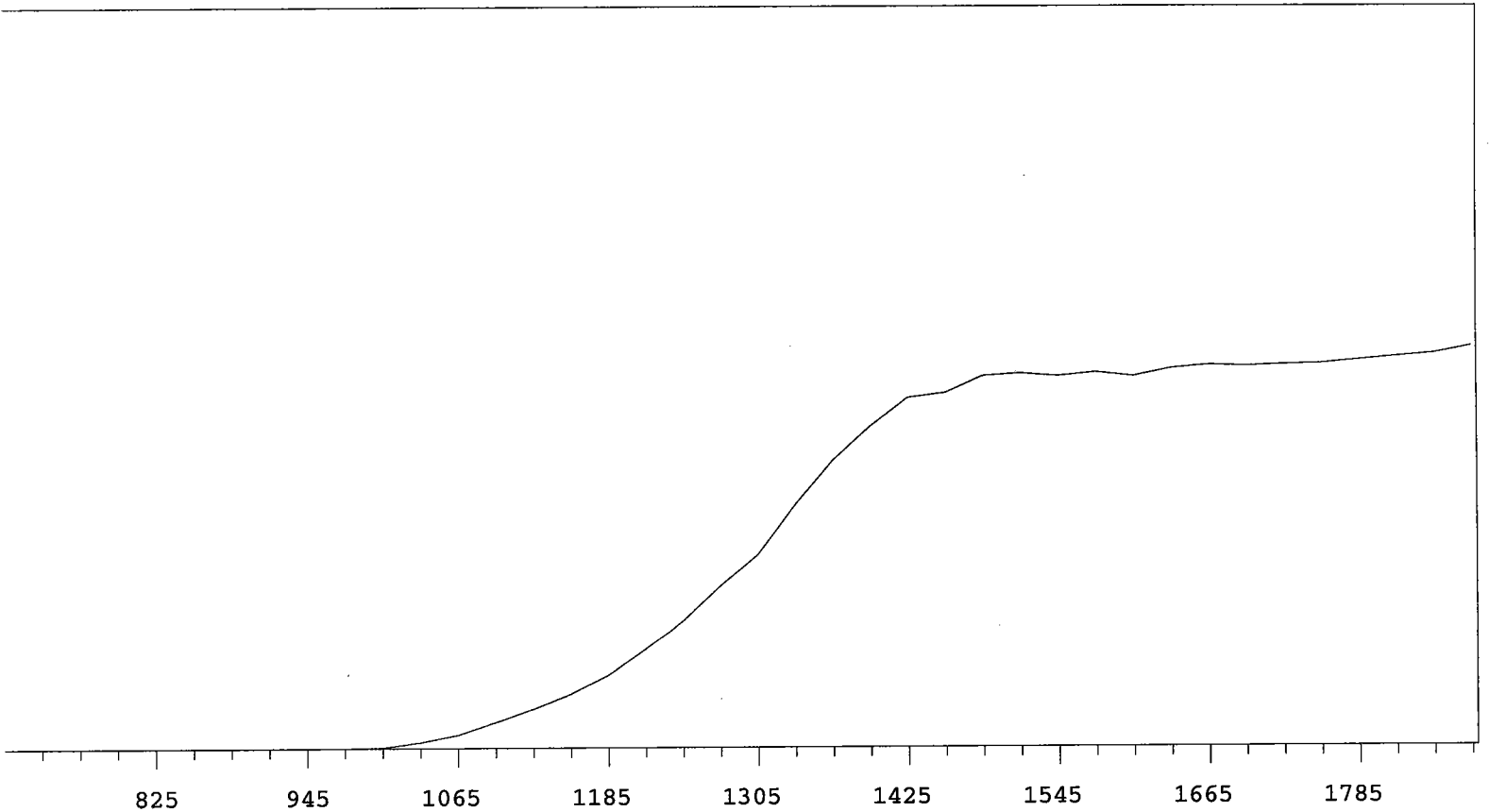


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	15430	+69.87
735	0		1335	19258	+61.49
765	0		1365	23018	+50.06
795	0	>100	1395	26562	+35.34
825	0	>100	1425	28750	+22.67
855	0	>100	1455	29911	+13.20
885	0	>100	1485	30798	+8.01
915	0	>100	1515	31375	+4.83
945	0	>100	1545	31684	+3.74
975	3	>100	1575	31721	+2.38
1005	49	>100	1605	32398	+1.44
1035	244	>100	1635	32154	+0.64
1065	764	>100	1665	32157	-0.77
1095	1584	>100	1695	32152	+0.99
1125	2677	>100	1725	32029	+1.41
1155	3763	>100	1755	32699	+3.00
1185	5395	>100	1785	32566	+4.71
1215	7350	+93.71	1815	33351	+5.92
1245	9655	+83.52	1845	34031	
1275	12504	+76.82	1875	34941	

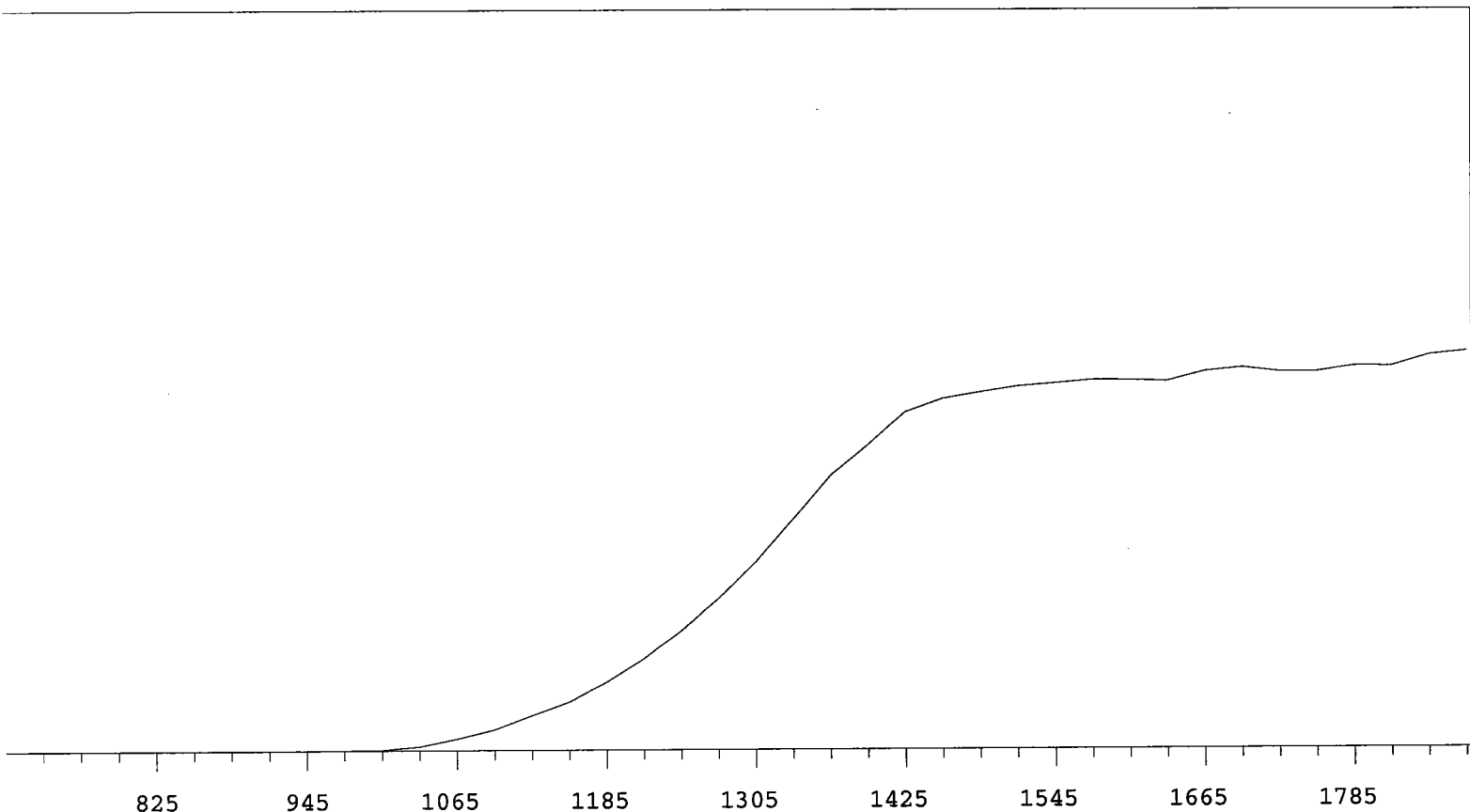
Alpha Volts: 1515 Beta Volts: 1515



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	3225	+87.64
735	1		1335	4189	+80.15
765	0		1365	5428	+75.12
795	0	>100	1395	6662	+68.60
825	0	>100	1425	8241	+58.14
855	0	>100	1455	9857	+46.65
885	0	>100	1485	11018	+33.24
915	0	>100	1515	11953	+21.01
945	1	+0.00	1545	12538	+13.57
975	0	>100	1575	12760	+8.35
1005	0	>100	1605	13114	+5.84
1035	2	>100	1635	13258	+4.78
1065	9	>100	1665	13430	+3.99
1095	61	>100	1695	13551	+5.46
1125	248	>100	1725	13771	+8.65
1155	528	>100	1755	14204	+16.44
1185	882	>100	1785	14916	+30.03
1215	1270	>100	1815	16579	+48.74
1245	1786	>100	1845	19717	
1275	2478	+93.67	1875	25029	

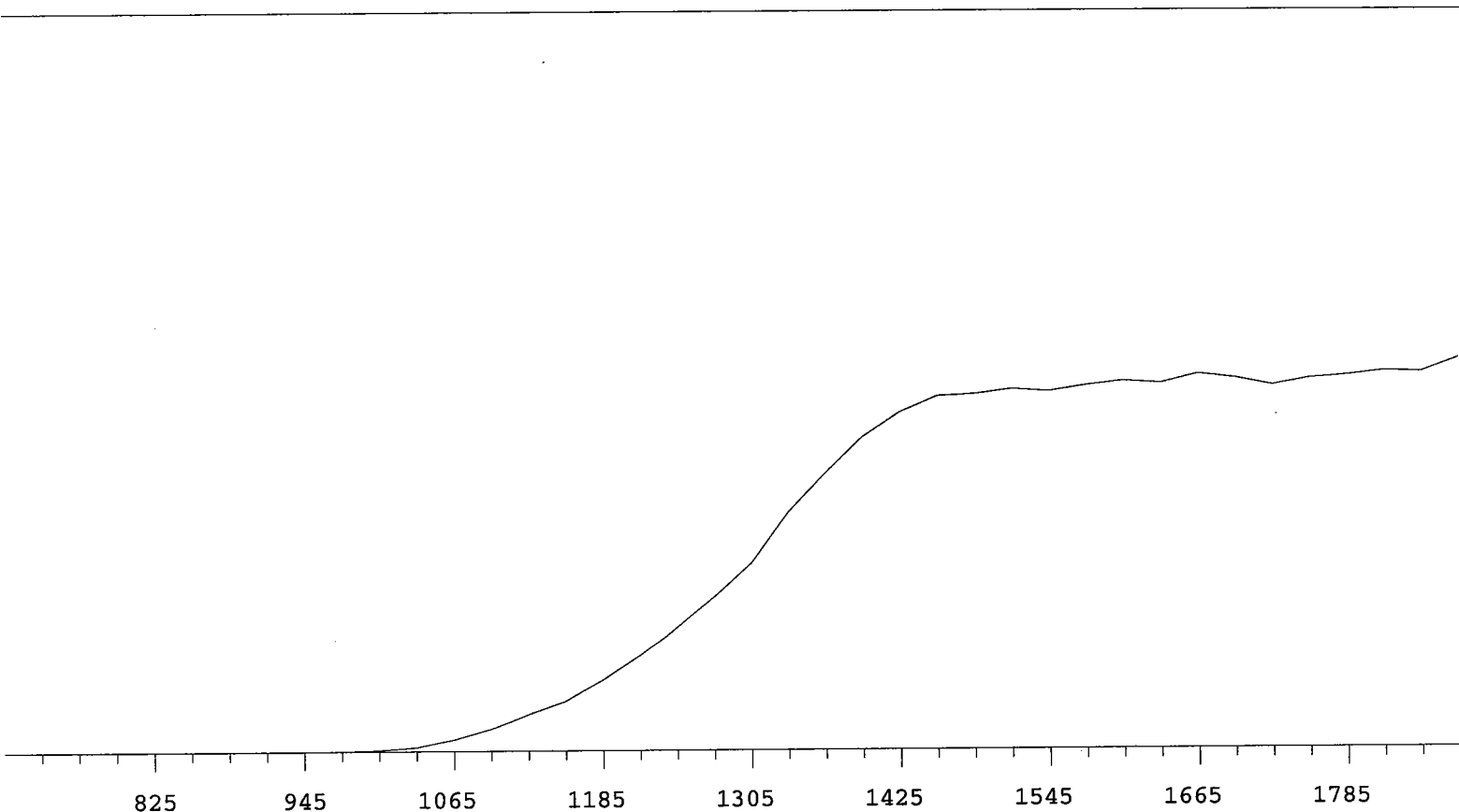


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	8947	+65.63
735	0		1335	11238	+56.58
765	0		1365	13246	+46.66
795	0	>100	1395	14838	+30.69
825	0	>100	1425	16166	+20.11
855	0	>100	1455	16396	+11.95
885	0	>100	1485	17161	+5.61
915	1	>100	1515	17274	+3.59
945	0	>100	1545	17144	-0.00
975	11	>100	1575	17323	+0.80
1005	47	>100	1605	17136	+2.21
1035	280	>100	1635	17484	+1.94
1065	610	>100	1665	17638	+2.16
1095	1192	>100	1695	17580	+0.85
1125	1789	>100	1725	17655	+1.05
1155	2466	>100	1755	17700	+1.98
1185	3337	+94.91	1785	17857	+2.38
1215	4526	+88.85	1815	18006	+3.36
1245	5885	+78.40	1845	18140	
1275	7518	+72.09	1875	18468	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	8636	+66.44
735	0		1335	10593	+56.56
765	0	+0.00	1365	12582	+46.23
795	0	>100	1395	13957	+33.45
825	1	+0.00	1425	15443	+21.49
855	0	>100	1455	16048	+13.14
885	0	+0.00	1485	16331	+6.45
915	0	>100	1515	16603	+4.19
945	1	>100	1545	16736	+2.73
975	7	>100	1575	16884	+1.11
1005	46	>100	1605	16875	+1.91
1035	191	>100	1635	16813	+2.86
1065	540	>100	1665	17257	+2.60
1095	957	>100	1695	17425	+1.58
1125	1597	>100	1725	17238	+0.49
1155	2217	>100	1755	17230	+0.63
1185	3154	+98.74	1785	17482	+3.27
1215	4239	+89.75	1815	17468	+4.46
1245	5550	+79.98	1845	17977	
1275	6980	+73.12	1875	18163	

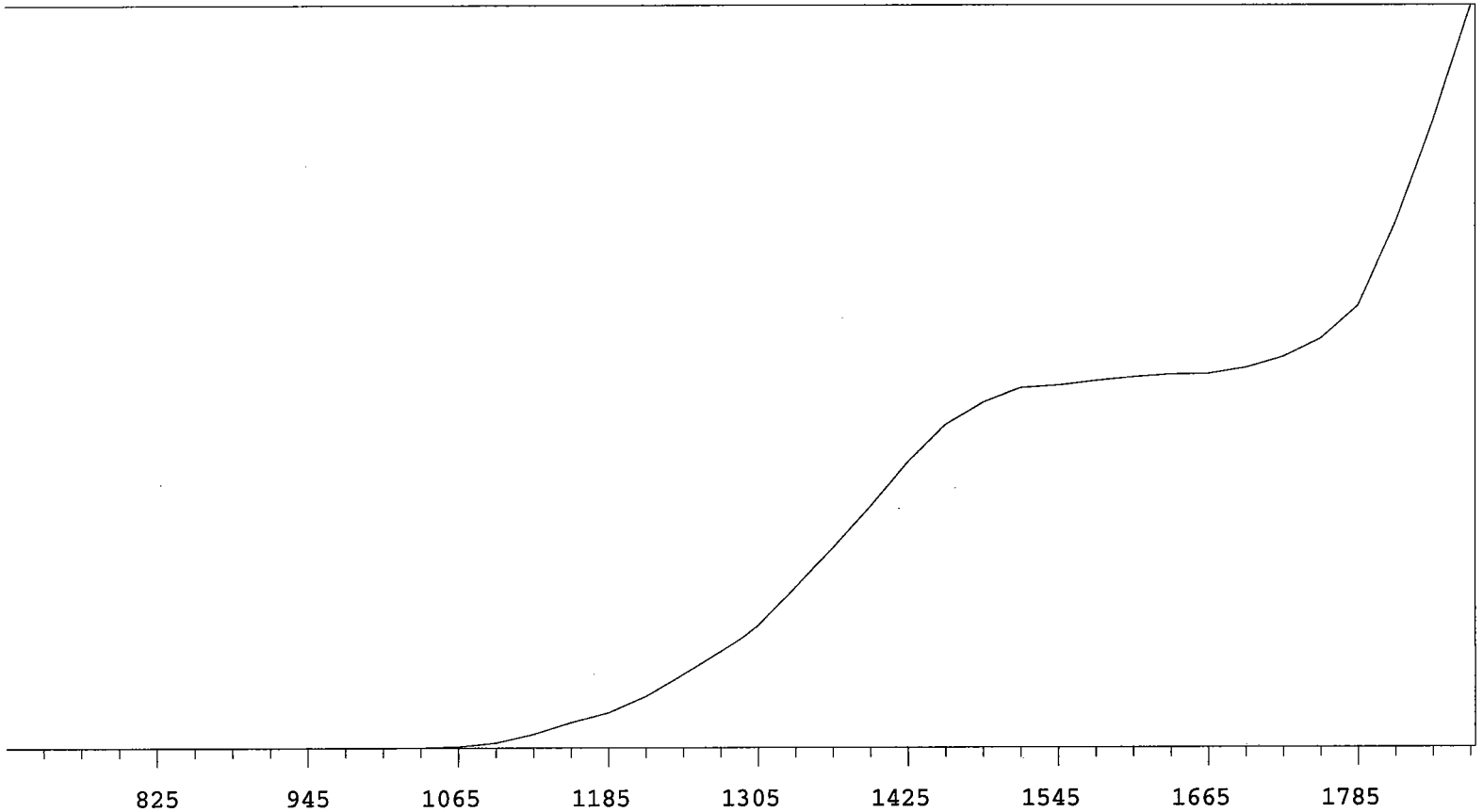
Alpha Volts: 1515 Beta Volts: 1515



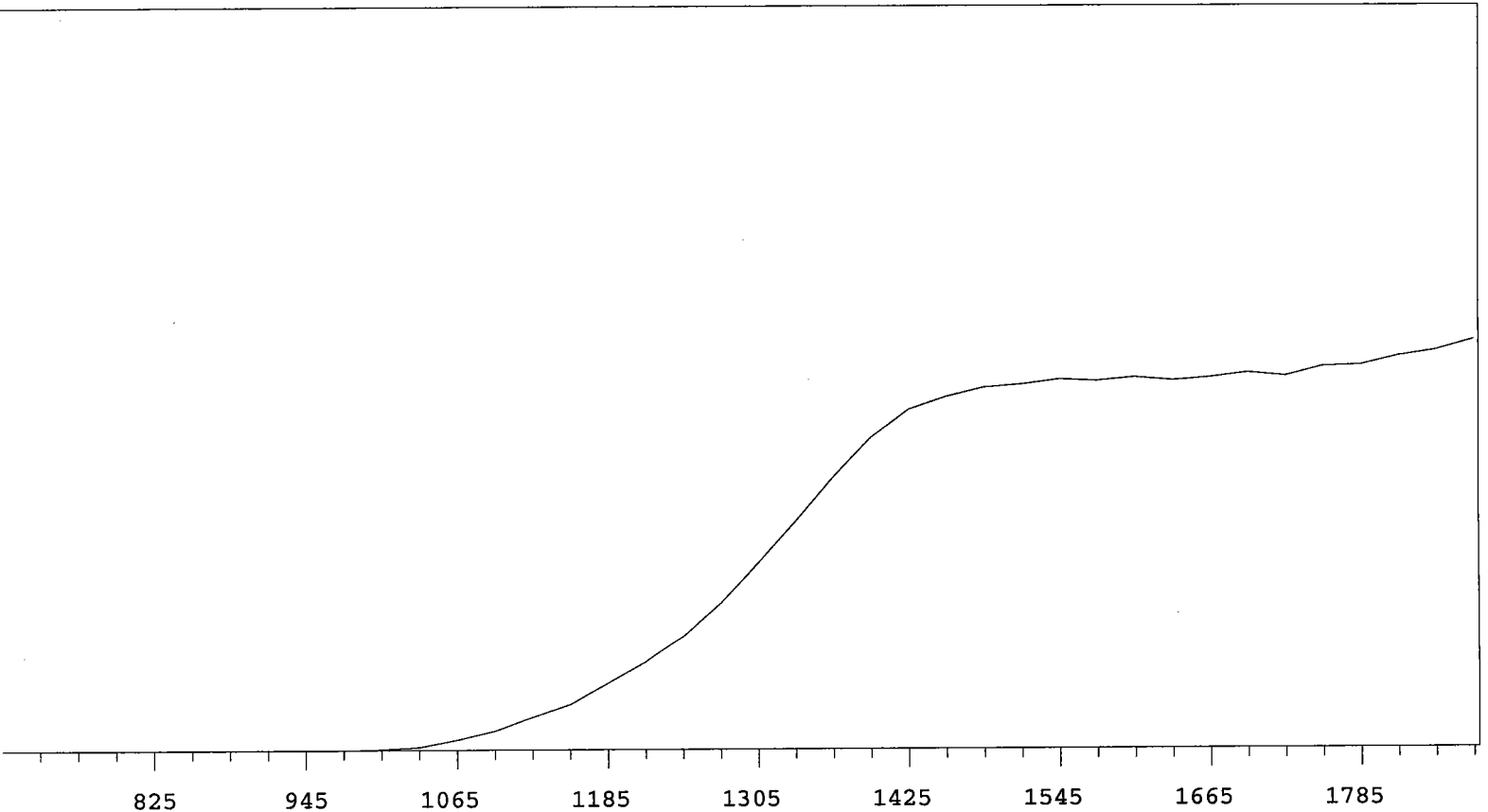
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	7679	+65.97
735	0		1335	9737	+57.57
765	0		1365	11301	+45.87
795	0	>100	1395	12767	+31.71
825	0	>100	1425	13767	+19.90
855	1	+83.33	1455	14399	+10.72
885	1	+55.56	1485	14467	+4.38
915	0	>100	1515	14671	+2.12
945	1	>100	1545	14576	+2.61
975	9	>100	1575	14808	+1.80
1005	60	>100	1605	14974	+3.15
1035	173	>100	1635	14872	+1.76
1065	480	>100	1665	15248	-0.41
1095	911	>100	1695	15067	-0.27
1125	1508	>100	1725	14784	-0.43
1155	2024	>100	1755	15044	+2.01
1185	2872	+97.38	1785	15163	+2.82
1215	3858	+89.30	1815	15333	+3.61
1245	5070	+78.02	1845	15278	
1275	6322	+73.30	1875	15817	

Alpha Volts: 705

Beta Volts: 1515



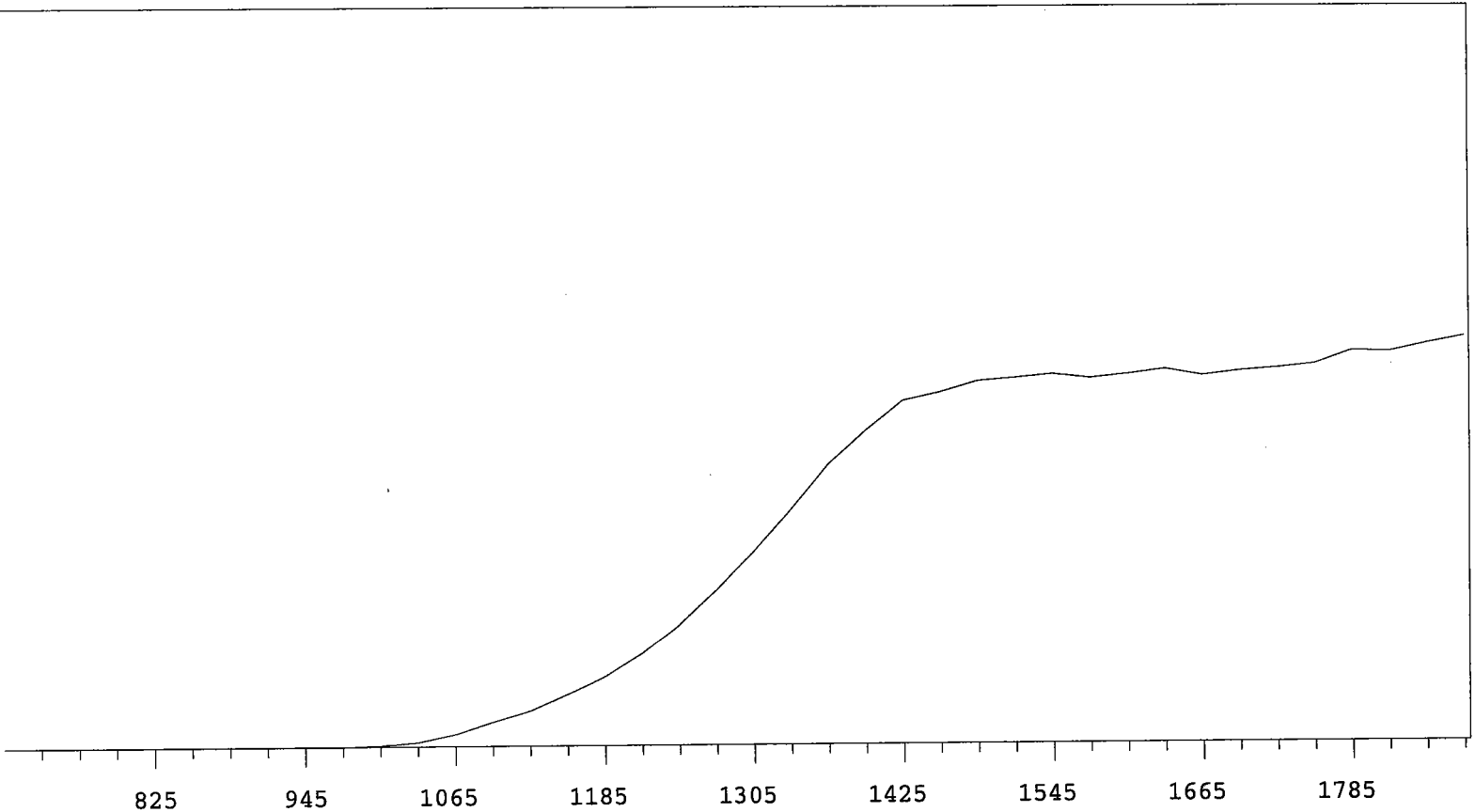
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	6302	+80.03
735	1		1335	8191	+73.78
765	0		1365	10140	+66.18
795	0	>100	1395	12247	+55.83
825	0	>100	1425	14468	+43.92
855	0	>100	1455	16303	+31.28
885	0	>100	1485	17411	+18.64
915	0	>100	1515	18150	+9.87
945	0	>100	1545	18275	+5.30
975	1	>100	1575	18496	+3.16
1005	3	>100	1605	18685	+2.66
1035	17	>100	1635	18820	+2.63
1065	84	>100	1665	18855	+4.16
1095	267	>100	1695	19152	+7.70
1125	709	>100	1725	19706	+13.90
1155	1299	>100	1755	20640	+26.51
1185	1813	>100	1785	22308	+40.92
1215	2638	>100	1815	26460	+51.46
1245	3777	+96.47	1845	31616	
1275	4915	+87.98	1875	37348	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	10207	+70.42
735	0		1335	12473	+60.75
765	0		1365	14900	+48.87
795	0	>100	1395	17101	+35.36
825	0	>100	1425	18643	+22.53
855	1	+83.33	1455	19350	+12.34
885	1	-83.33	1485	19848	+6.68
915	0	-55.56	1515	20014	+3.51
945	0	>100	1545	20278	+2.03
975	1	>100	1575	20186	+0.80
1005	43	>100	1605	20375	+0.32
1035	165	>100	1635	20209	+1.36
1065	557	>100	1665	20364	+0.83
1095	1055	>100	1695	20607	+2.43
1125	1775	>100	1725	20429	+2.51
1155	2470	>100	1755	20924	+3.64
1185	3617	+98.46	1785	20984	+5.11
1215	4757	+90.95	1815	21470	+5.63
1245	6186	+83.59	1845	21773	
1275	8021	+77.85	1875	22346	

Alpha Volts: 705

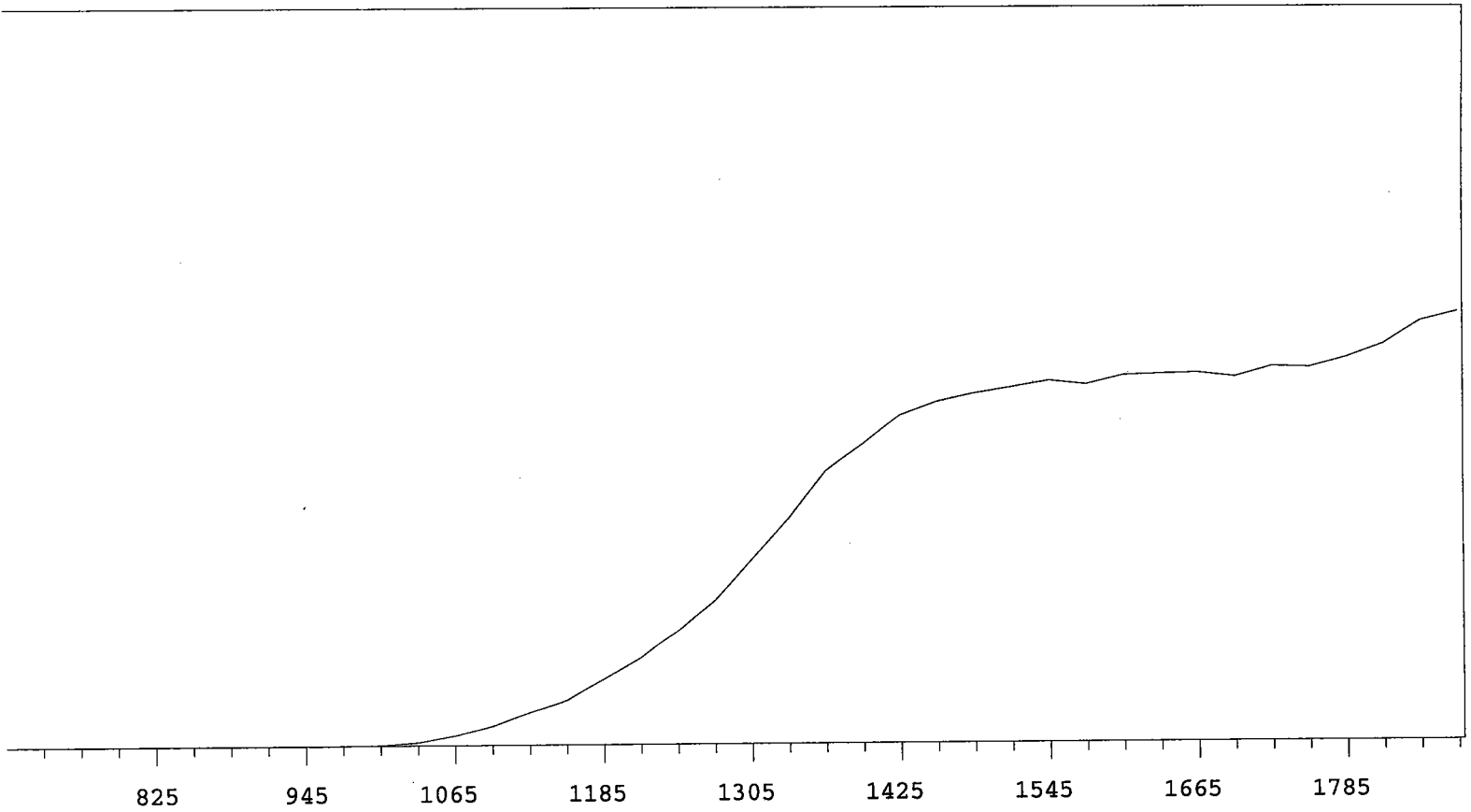
Beta Volts: 1515



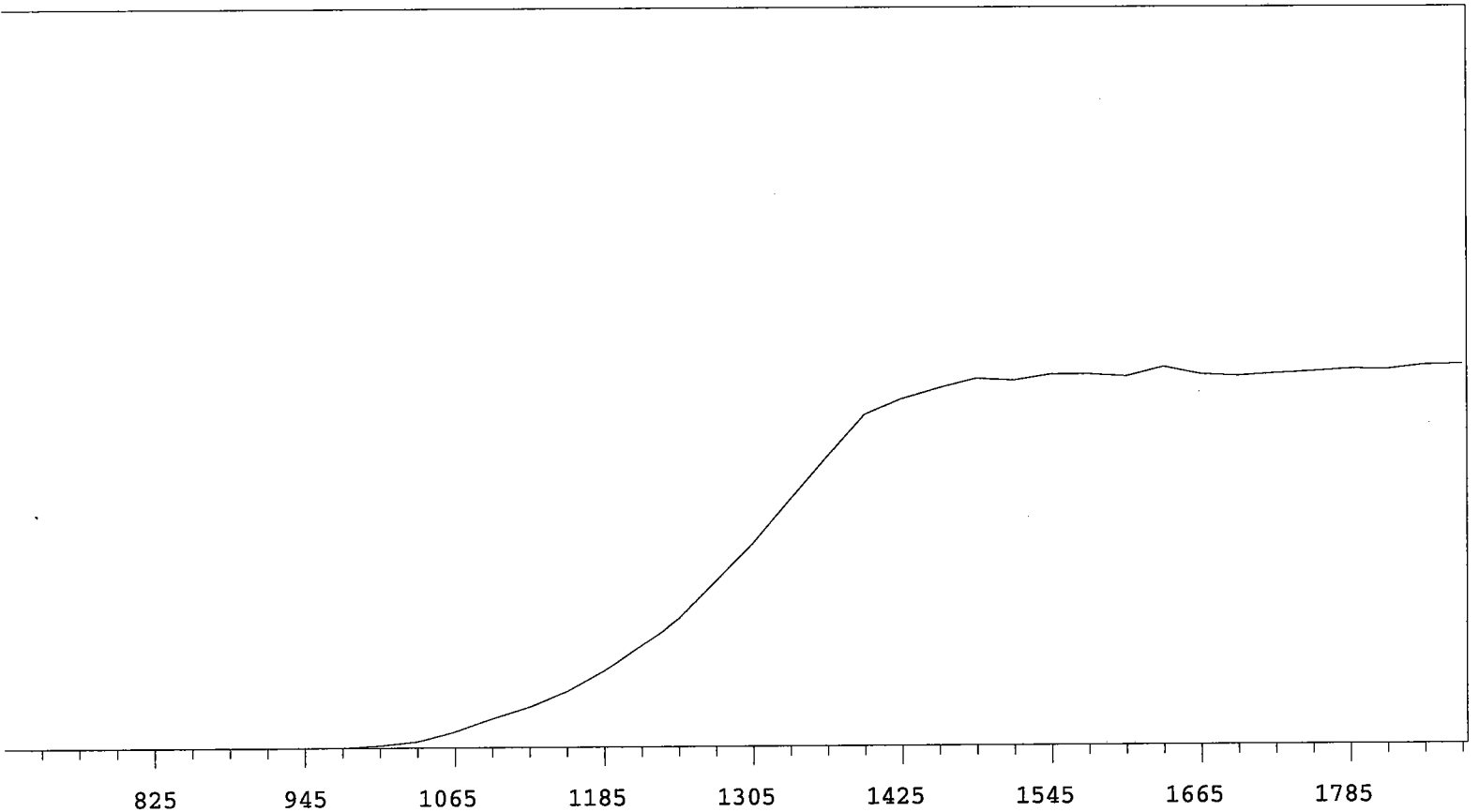
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	9543	+67.01
735	0		1335	11617	+56.47
765	0		1365	13791	+45.47
795	0	>100	1395	15387	+31.66
825	0	>100	1425	16819	+20.02
855	0	>100	1455	17210	+11.63
885	1	+0.00	1485	17742	+6.05
915	0	>100	1515	17892	+3.04
945	0	>100	1545	18070	+1.09
975	7	>100	1575	17856	+1.43
1005	52	>100	1605	18054	+0.42
1035	214	>100	1635	18287	+1.06
1065	590	>100	1665	17969	+0.78
1095	1201	>100	1695	18187	+1.48
1125	1759	>100	1725	18317	+4.89
1155	2569	>100	1755	18518	+4.76
1185	3440	+95.13	1785	19156	+5.18
1215	4583	+87.74	1815	19100	+5.18
1245	5985	+81.67	1845	19496	
1275	7682	+74.54	1875	19842	

Alpha Volts: 705

Beta Volts: 1515



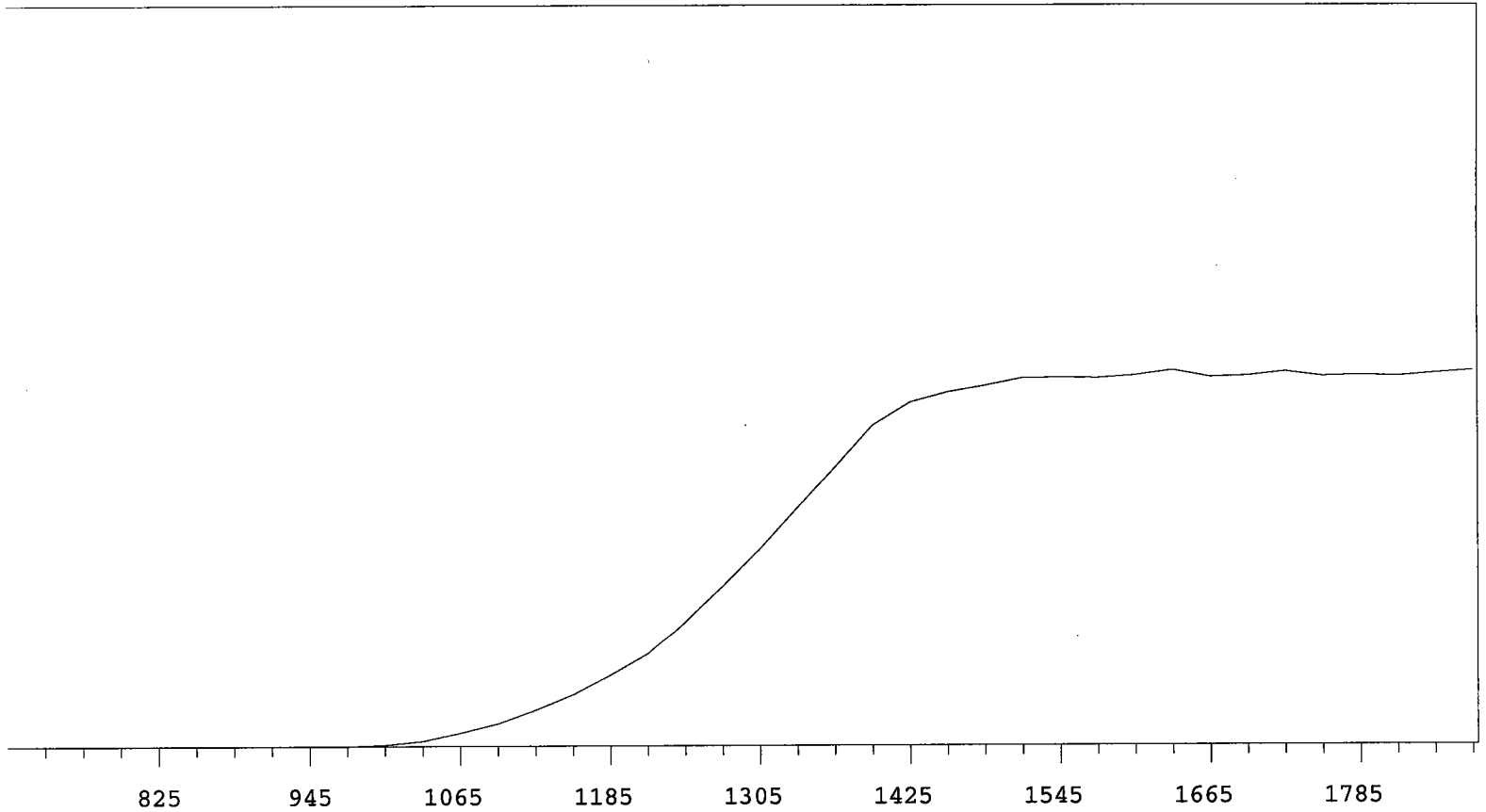
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	9144	+69.92
735	0		1335	11120	+58.43
765	0		1365	13399	+45.40
795	0	>100	1395	14711	+32.57
825	0	>100	1425	16134	+20.69
855	0	>100	1455	16805	+13.46
885	0	>100	1485	17209	+7.90
915	0	>100	1515	17500	+4.31
945	0	>100	1545	17812	+3.48
975	4	>100	1575	17629	+2.80
1005	26	>100	1605	18066	+2.23
1035	169	>100	1635	18122	+1.44
1065	483	>100	1665	18166	+1.20
1095	955	>100	1695	17967	+1.60
1125	1639	>100	1725	18469	+3.41
1155	2233	>100	1755	18409	+6.35
1185	3262	+98.61	1785	18884	+9.47
1215	4306	+89.77	1815	19535	+11.98
1245	5662	+82.36	1845	20630	
1275	7113	+76.36	1875	21076	



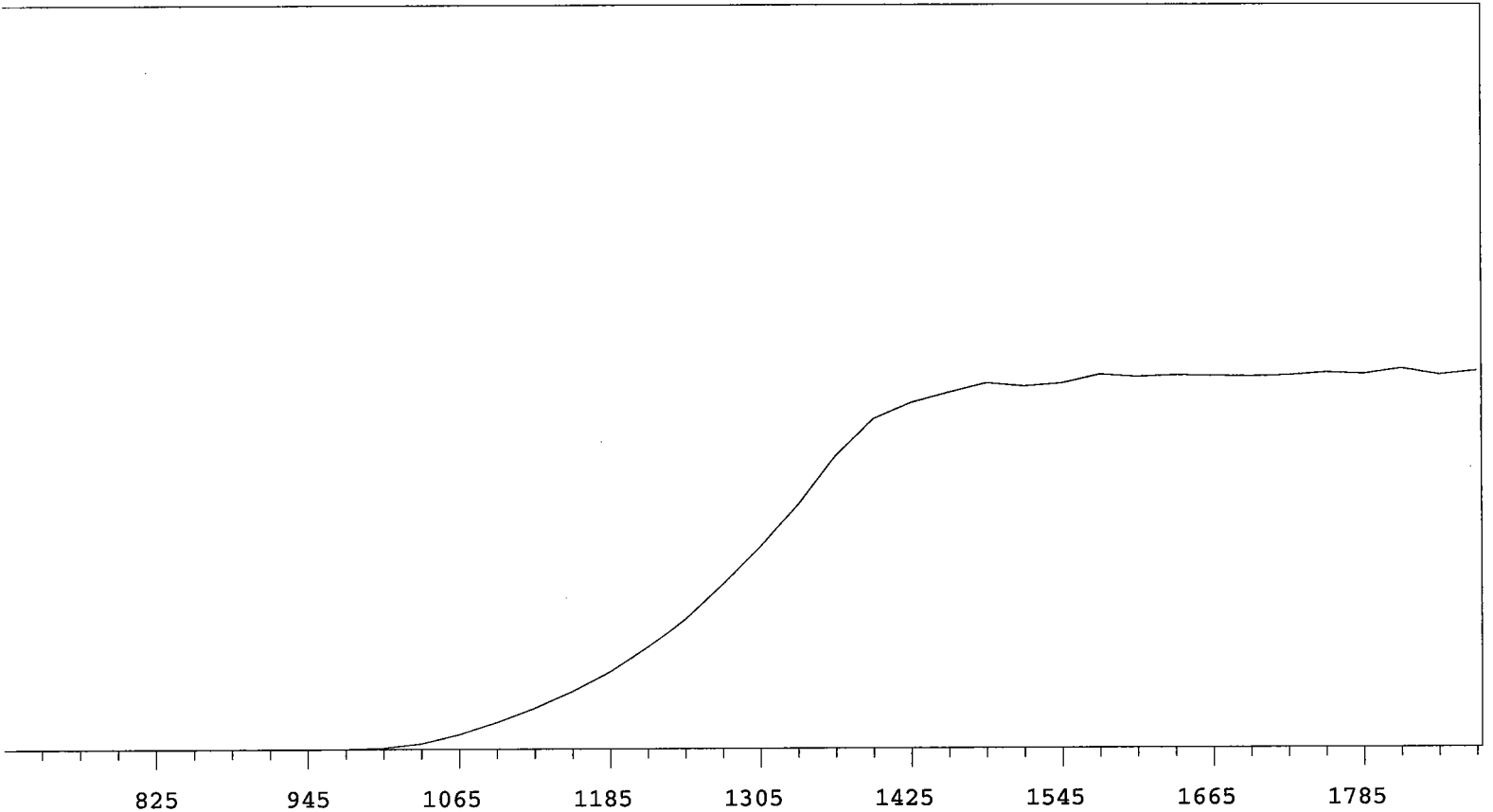
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	9209	+64.55
735	1		1335	11200	+55.94
765	0	+55.56	1365	13123	+43.27
795	2	>100	1395	14957	+29.04
825	0	+0.00	1425	15658	+17.41
855	0	>100	1455	16123	+8.01
885	1	>100	1485	16530	+4.92
915	0	>100	1515	16437	+2.71
945	1	>100	1545	16704	+0.83
975	14	>100	1575	16707	+2.14
1005	104	>100	1605	16602	+0.55
1035	281	>100	1635	17024	-0.28
1065	720	>100	1665	16684	-0.42
1095	1302	>100	1695	16597	-0.85
1125	1834	>100	1725	16711	+1.27
1155	2544	>100	1755	16796	+1.51
1185	3485	+92.28	1785	16903	+1.57
1215	4624	+85.50	1815	16880	+1.46
1245	5878	+77.82	1845	17066	
1275	7515	+71.49	1875	17085	

Alpha Volts: 705

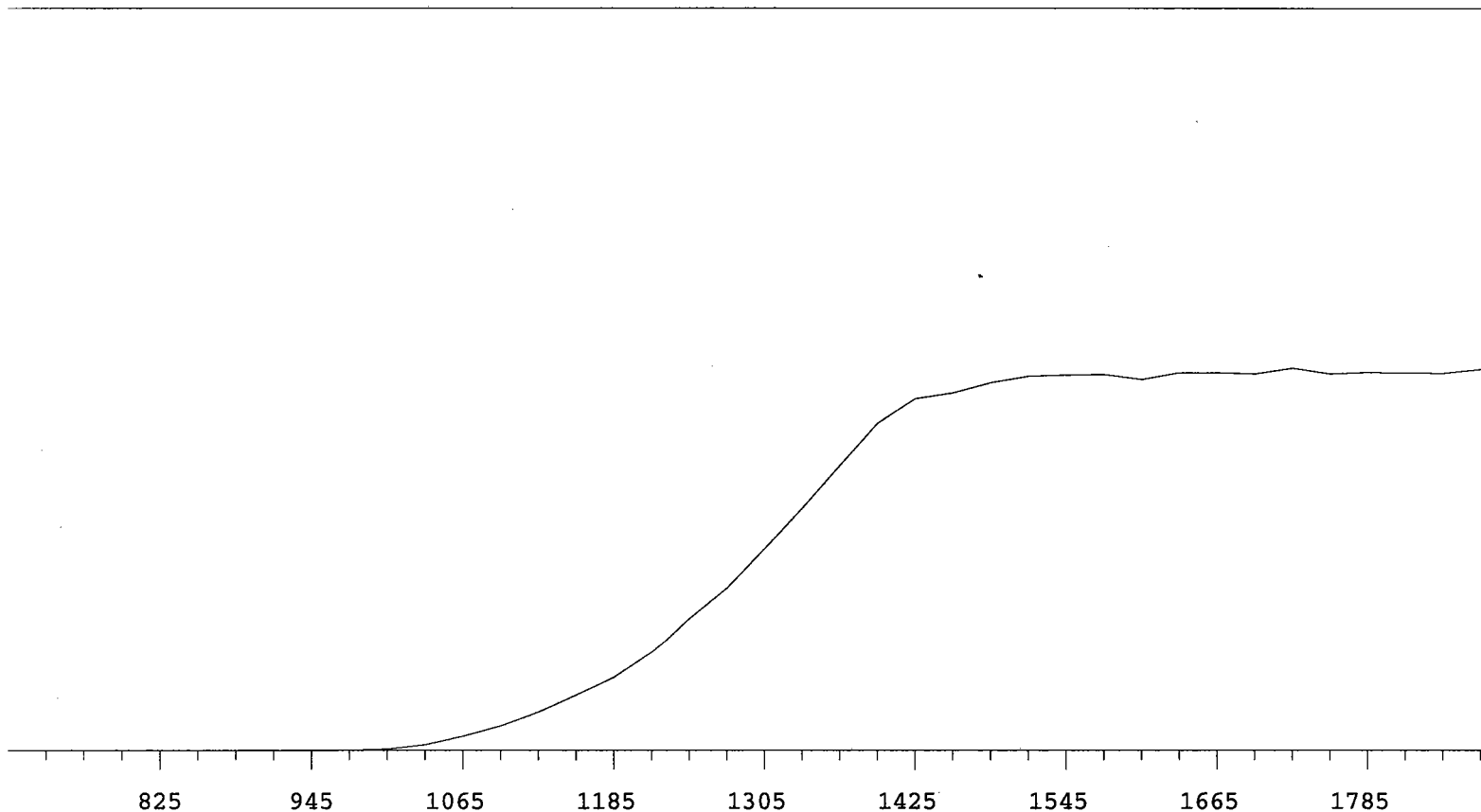
Beta Volts: 1515



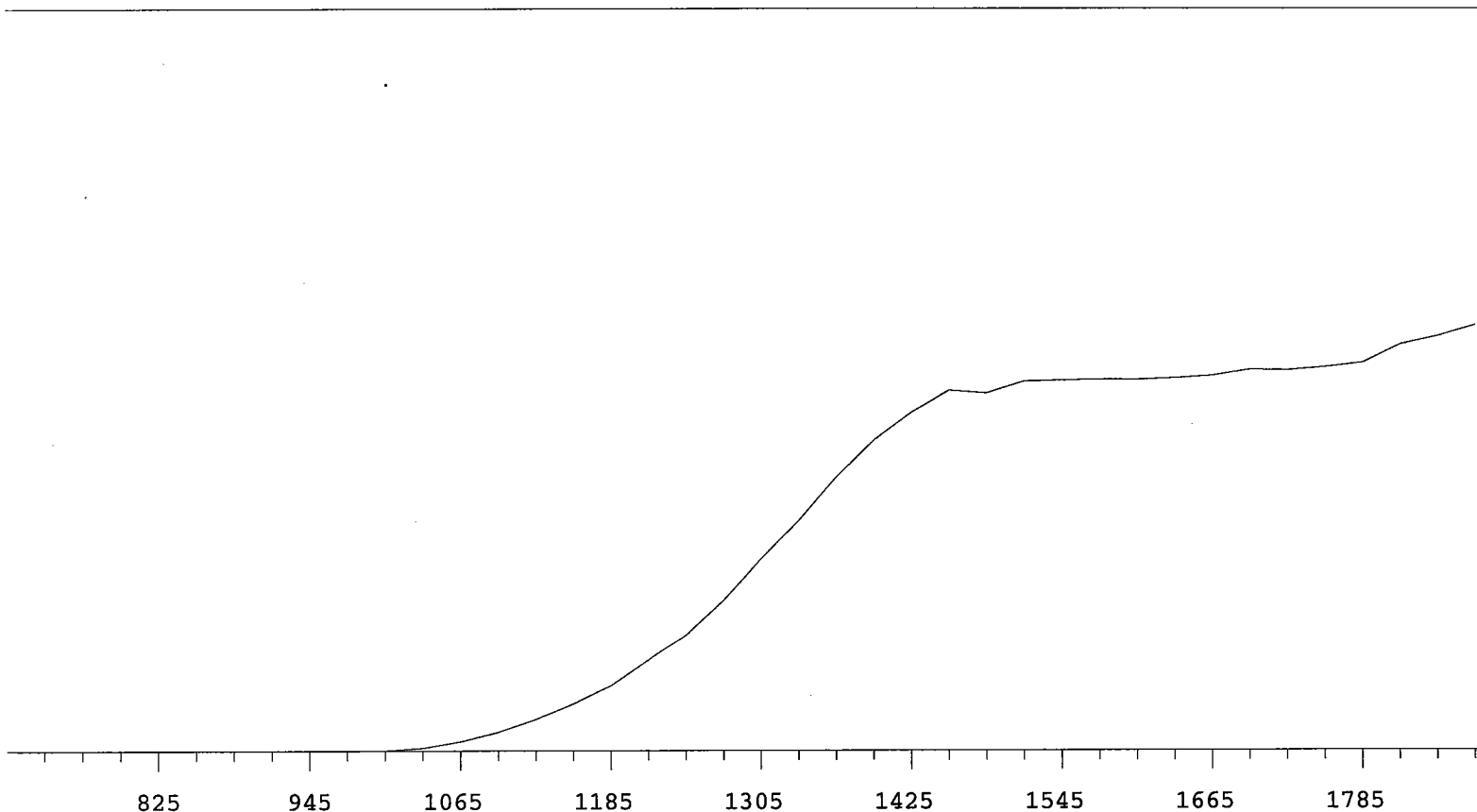
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	9666	+64.39
735	0		1335	11722	+55.91
765	0		1365	13680	+44.91
795	0	>100	1395	15677	+31.56
825	0	>100	1425	16786	+19.46
855	0	>100	1455	17283	+10.57
885	0	>100	1485	17608	+5.95
915	1	>100	1515	17972	+3.32
945	0	>100	1545	18006	+1.84
975	4	>100	1575	17970	+1.58
1005	70	>100	1605	18104	+0.74
1035	257	>100	1635	18351	+0.24
1065	648	>100	1665	18016	+0.16
1095	1116	>100	1695	18080	-0.63
1125	1784	>100	1725	18283	+0.29
1155	2560	>100	1755	18047	-0.47
1185	3531	+96.11	1785	18110	-0.32
1215	4568	+89.22	1815	18040	+1.17
1245	6137	+81.65	1845	18200	
1275	7855	+74.42	1875	18320	



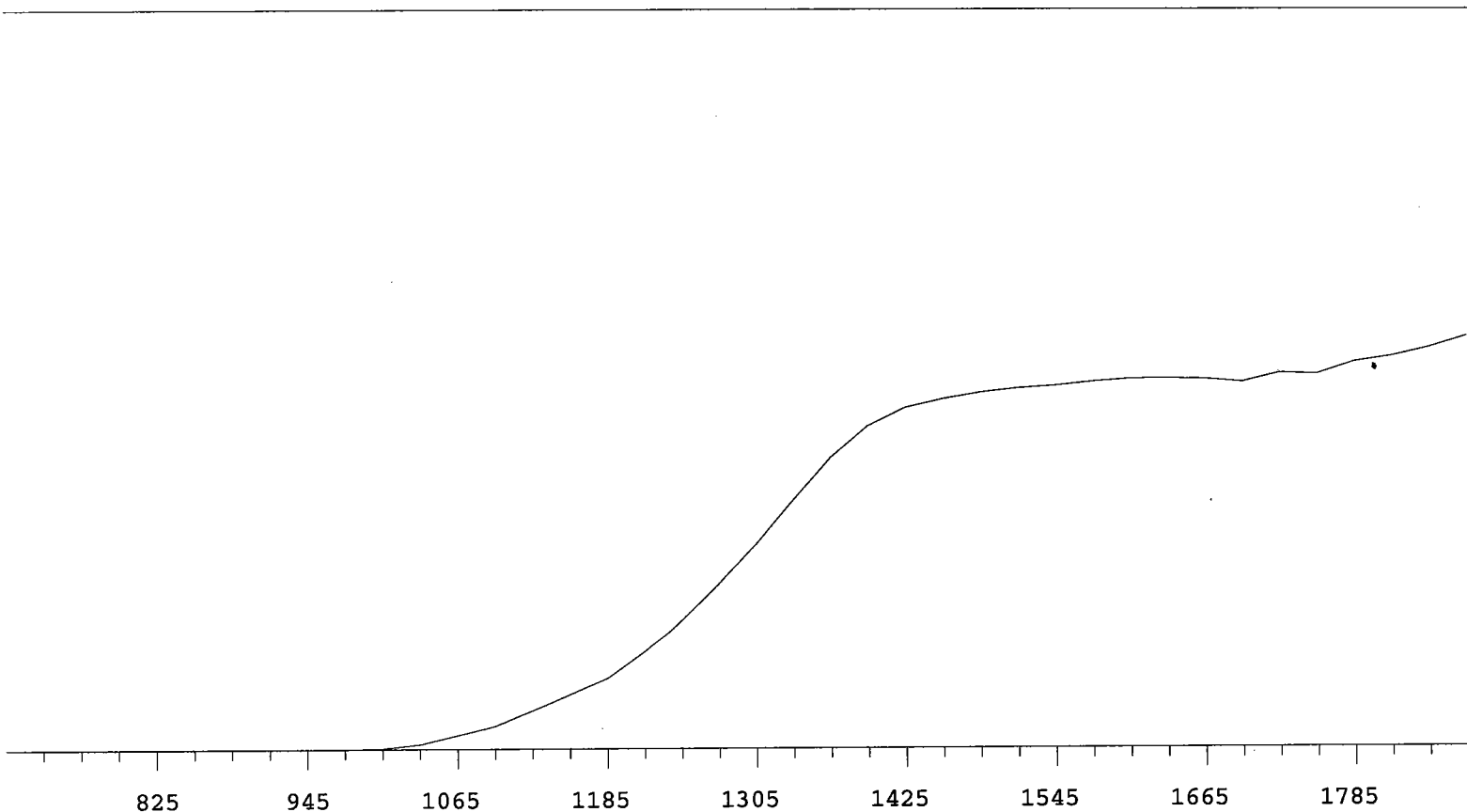
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	11573	+64.95
735	0		1335	13929	+56.47
765	0		1365	16726	+43.82
795	0	>100	1395	18834	+29.38
825	0	>100	1425	19743	+16.84
855	0	>100	1455	20314	+7.95
885	0	>100	1485	20860	+4.16
915	0	>100	1515	20670	+3.23
945	0	>100	1545	20844	+2.09
975	9	>100	1575	21330	+2.48
1005	93	>100	1605	21188	+1.16
1035	325	>100	1635	21280	-0.32
1065	834	>100	1665	21237	+0.08
1095	1525	>100	1695	21202	+0.42
1125	2318	>100	1725	21254	+0.60
1155	3233	>100	1755	21406	+1.41
1185	4357	+92.07	1785	21326	+0.42
1215	5755	+85.64	1815	21619	+0.16
1245	7438	+78.35	1845	21282	
1275	9463	+70.89	1875	21478	



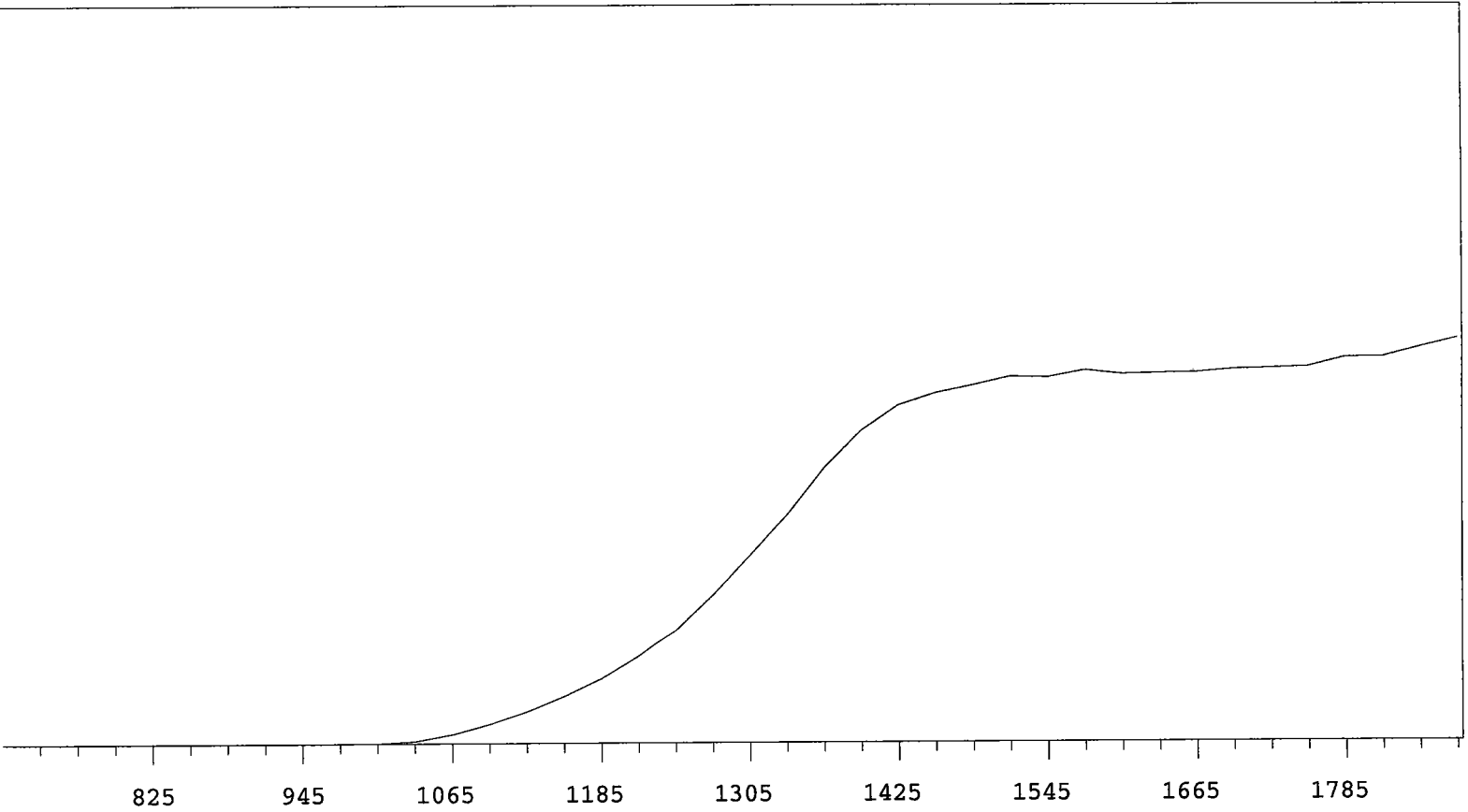
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	7524	+61.93
735	0		1335	9002	+55.36
765	0		1365	10542	+44.70
795	0	>100	1395	12064	+31.21
825	0	>100	1425	12981	+19.20
855	0	>100	1455	13192	+10.41
885	0	>100	1485	13570	+5.93
915	0	>100	1515	13820	+4.08
945	0	>100	1545	13866	+0.75
975	9	>100	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	



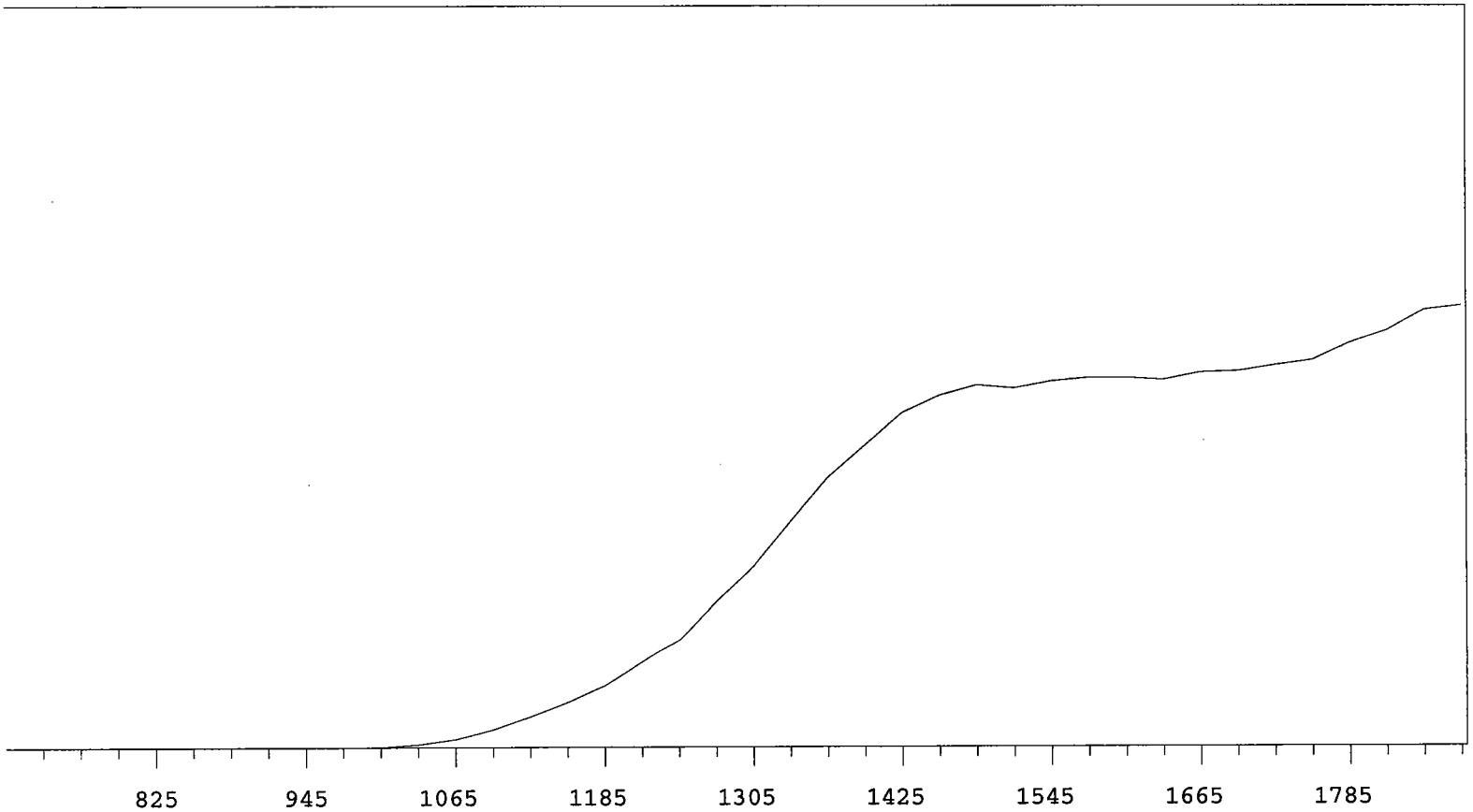
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	8778	+67.49
735	0		1335	10502	+57.68
765	0		1365	12516	+46.36
795	0	>100	1395	14215	+35.88
825	0	>100	1425	15472	+22.01
855	0	>100	1455	16469	+12.99
885	1	+0.00	1485	16342	+6.70
915	0	>100	1515	16874	+3.07
945	0	>100	1545	16918	+2.53
975	0	>100	1575	16950	+0.58
1005	18	>100	1605	16943	+0.95
1035	137	>100	1635	17008	+2.13
1065	430	>100	1665	17130	+2.45
1095	865	>100	1695	17403	+2.43
1125	1444	>100	1725	17377	+2.43
1155	2151	>100	1755	17515	+4.88
1185	2981	>100	1785	17710	+7.54
1215	4168	+92.14	1815	18533	+9.04
1245	5377	+84.73	1845	18905	
1275	6924	+74.92	1875	19415	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	8797	+65.44
735	0		1335	10726	+54.47
765	0		1365	12570	+41.11
795	0	>100	1395	13917	+26.79
825	0	>100	1425	14687	+15.44
855	1	+0.00	1455	15048	+8.47
885	0	>100	1485	15318	+5.00
915	0	>100	1515	15494	+3.76
945	0	>100	1545	15606	+3.04
975	3	>100	1575	15776	+2.35
1005	40	>100	1605	15889	+1.44
1035	210	>100	1635	15907	-0.16
1065	590	>100	1665	15881	+0.64
1095	983	>100	1695	15741	+1.21
1125	1645	>100	1725	16124	+3.63
1155	2342	>100	1755	16076	+5.41
1185	3045	+96.43	1785	16588	+5.79
1215	4201	+90.42	1815	16830	+7.53
1245	5579	+83.64	1845	17185	
1275	7121	+74.44	1875	17682	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	10118	+69.76
735	0		1335	12269	+59.65
765	0		1365	14810	+47.35
795	0	>100	1395	16773	+33.46
825	0	>100	1425	18104	+20.13
855	0	>100	1455	18720	+11.98
885	1	+0.00	1485	19122	+6.50
915	0	>100	1515	19580	+4.77
945	0	>100	1545	19527	+2.48
975	2	>100	1575	19902	+0.81
1005	21	>100	1605	19690	+0.53
1035	132	>100	1635	19739	+0.23
1065	491	>100	1665	19765	+1.29
1095	1036	>100	1695	19932	+1.40
1125	1698	>100	1725	19976	+2.72
1155	2517	>100	1755	20051	+2.92
1185	3468	>100	1785	20523	+4.26
1215	4721	+91.83	1815	20542	+5.57
1245	6175	+85.13	1845	21035	
1275	8025	+76.82	1875	21528	



VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	8095	+71.16
735	0		1335	10052	+58.38
765	0		1365	11990	+47.92
795	0	>100	1395	13400	+35.01
825	0	>100	1425	14808	+23.58
855	0	>100	1455	15554	+13.45
885	0	>100	1485	15987	+6.39
915	0	>100	1515	15861	+3.45
945	0	>100	1545	16156	+2.18
975	1	>100	1575	16297	+1.72
1005	14	>100	1605	16297	+1.33
1035	130	>100	1635	16208	+1.62
1065	363	>100	1665	16526	+2.92
1095	785	>100	1695	16581	+3.94
1125	1357	>100	1725	16832	+5.91
1155	1996	>100	1755	17039	+8.68
1185	2735	+99.45	1785	17800	+11.53
1215	3785	+94.20	1815	18351	+11.46
1245	4857	+86.43	1845	19265	
1275	6571	+78.80	1875	19468	

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 μ g/g Ba carrier.

P O NUMBER 3219 RD, Item 1

SOURCE PREPARED BY:

M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED:

LM. Muty 4-23-03



Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0553-A	Isotope:	Radium-228 SPIKE
Prepared By:	Lonnie Morris	Prepared By:	Lonnie Morris
Carrier Conc:	0.5M HCl	Prep Date:	04/25/2003
Reference Date:	04/23/2003	Verification Date:	04/27/2005
Ampoule Mass (g):	5.0235 g	Expiration Date:	04/27/2006
Uncertainty:	+/-	Primary Code:	0553-B
LogBook No:	RC-S-035-068	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

$(\text{Mass of parent(g)}) * (\text{Parent Activity (dpm/mL)}) * (\text{conversion dpm to dpm}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (dpm/mL)}) * (\text{conversion dpm to dpm}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(30.535 \text{ g}) * (13419.8626 \text{ dpm/mL}) * (1 \text{ dpm/dpm}) / (1000 \text{ mL}) = 409.7755 \text{ dpm/mL}$
$(30.535 \text{ g}) * (13419.8626 \text{ dpm/mL}) * (1 \text{ dpm/dpm}) / (\text{g/mL}) / (1000 \text{ mL}) = \text{dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
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GEL Laboratories LLC
Version 1.0 9/18/2000

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 $\mu\text{g/g}$ Ba carrier.

P O NUMBER 3208RD, Item 2

SOURCE PREPARED BY:

M. Taskaeva
M. Taskaeva, Radiochemist

Q A APPROVED:

M. M. T. 10202



Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0503	Isotope:	Radium-228
Prepared By:	Angela Johnson	Prepared By:	Angela Johnson
Carrier Conc:	0.1 M HCL	Prep Date:	02/20/2003
Reference Date:	10/01/2002	Verification Date:	04/09/2004
Ampoule Mass (g):	5.02617 g	Expiration Date:	04/09/2005
Uncertainty:	+/- 3.6 %	Primary Code:	0503-A
LogBook No:	RC S 035 018	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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (dps)}) * (\text{conversion dpm to dps}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (dps)}) * (\text{conversion dpm to dps}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(4.4737 \text{ g}) * (19390 \text{ dps}) * (60 \text{ dpm/dps}) / (5.02617 \text{ g} * 100 \text{ mL}) = 10355.2060 \text{ dpm/mL}$
$(4.4737 \text{ g}) * (19390 \text{ dps}) * (60 \text{ dpm/dps}) / (0.9992 \text{ g/mL}) / (5.02617 \text{ g} * 100 \text{ mL}) = 10363.0820 \text{ dpm/g}$

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		Standard	
Isotope	Detector CPM	NET CPM	Source DPM/mL
0503-B	1962.0000	1916.4000	206.8705773
0503-B	1983.2000	1937.6000	209.1590642
0503-B	1927.0000	1881.4000	203.092415
			206.3740189

Mean Value (Counting) = 206.3740189 dpm/mL **Pass**
 Stdev = 3.063655617 dpm/mL 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:

$$\text{Source dpm/g} = (A - B)/(C)(D)$$

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

Angela Johnson 9/17/08

5/16/16

16 SEP 2008 16:24

ID: TOTAL ACTIVITY

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

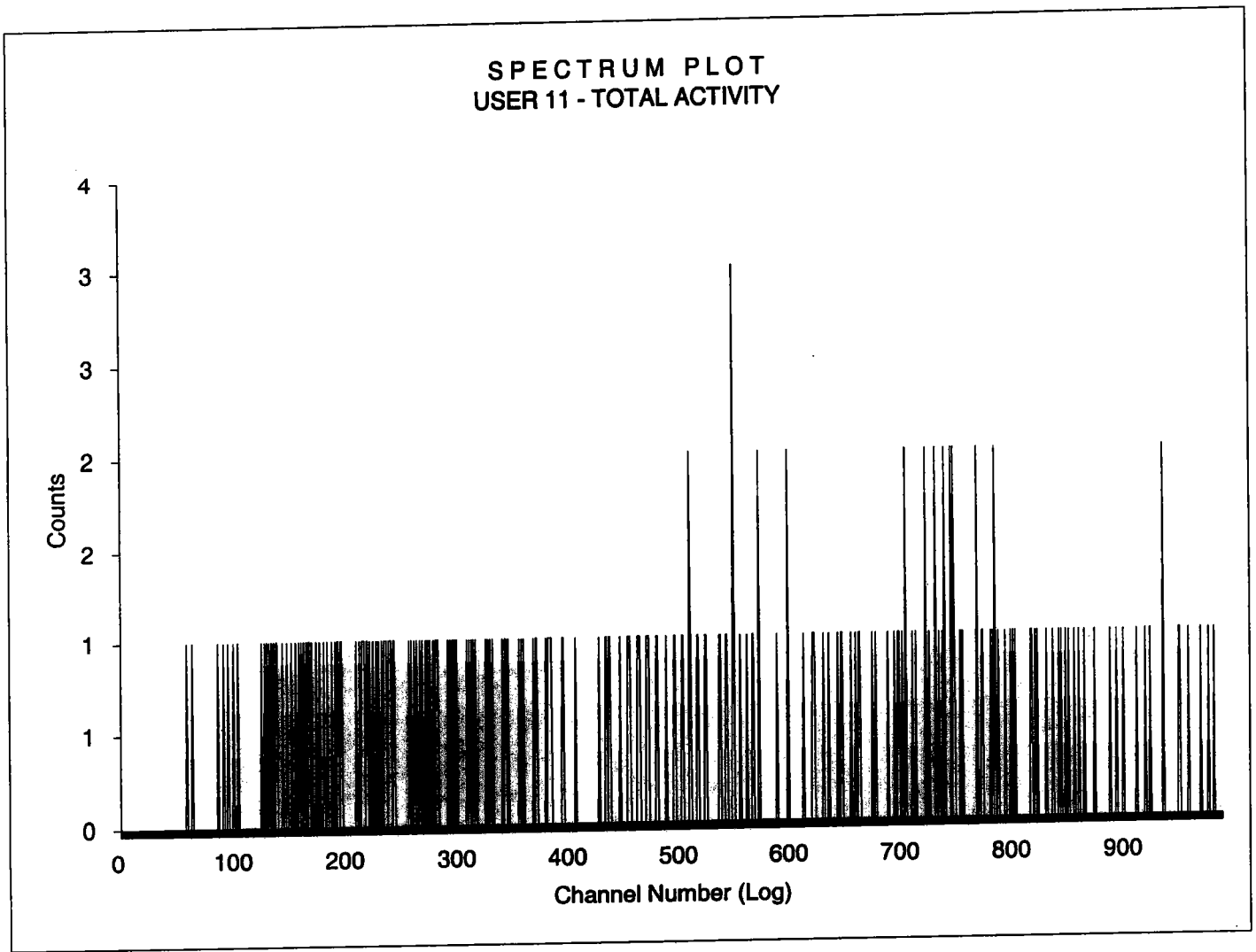
CHAN: 0.0 - 990.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

CHAN: 0.0 - 1000.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

SAM NO	POS	TIME MIN	H#	WIND1		WIND2		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
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

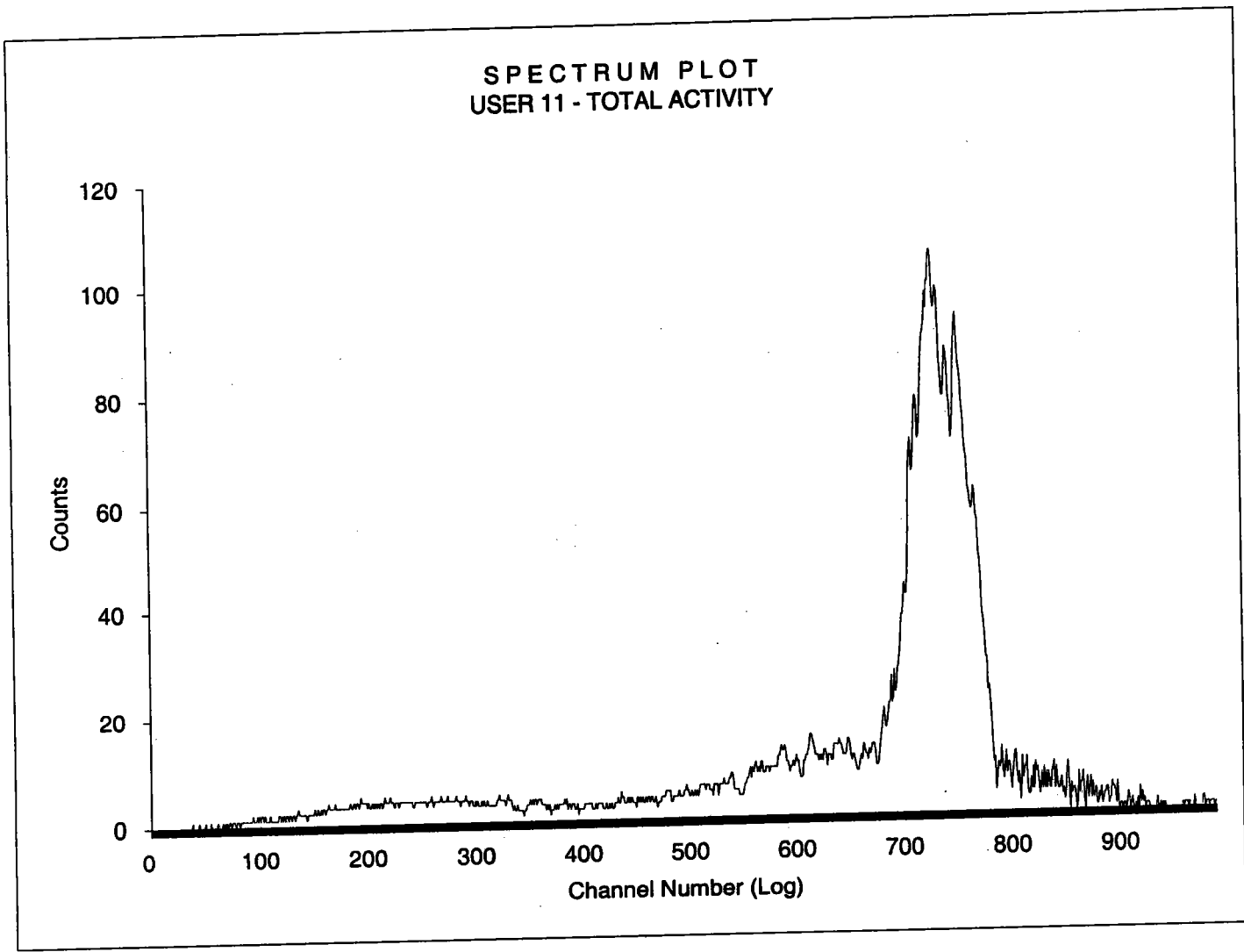
801916
28

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



50/9/16
253

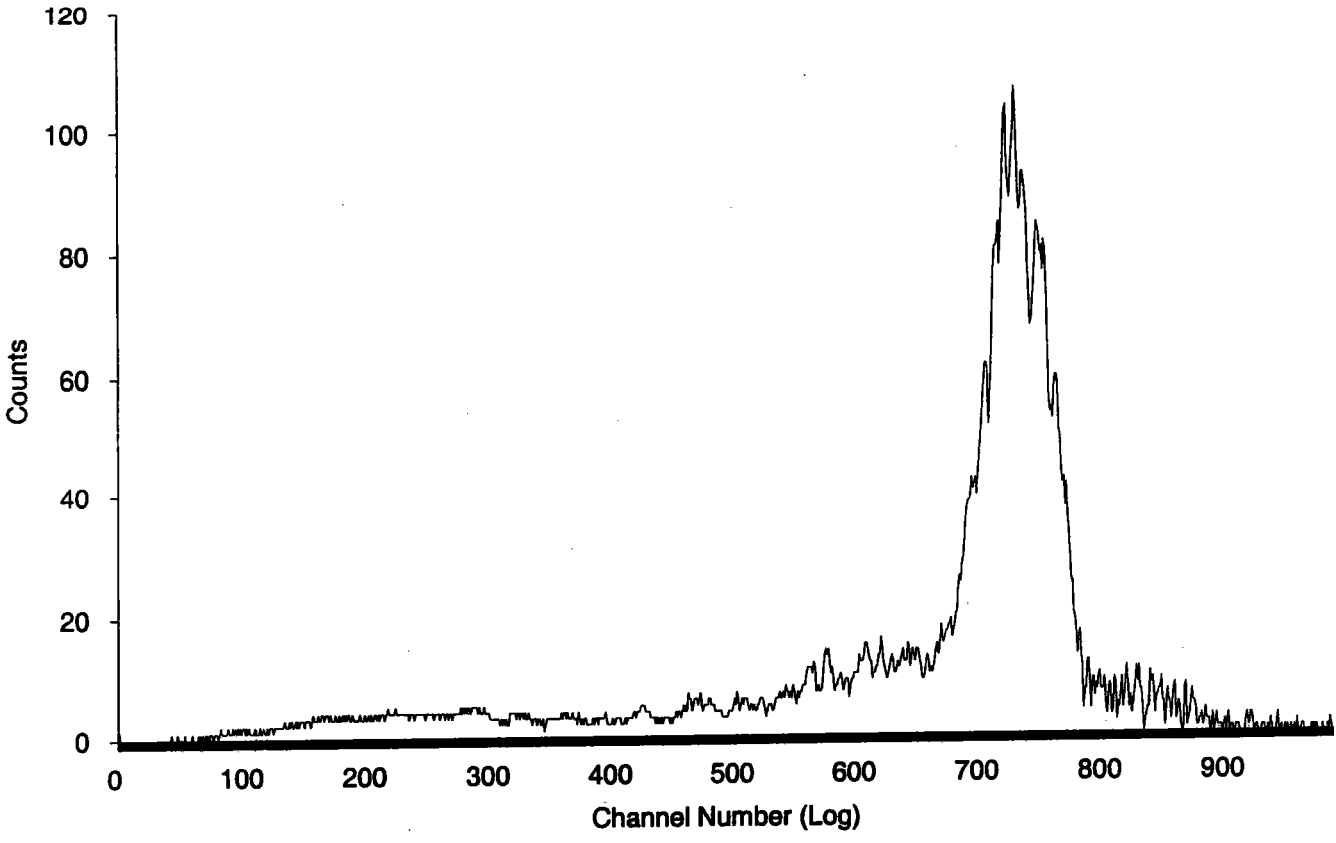
Sample Count Start Time: 16 Sep 2008 16:53:01
Data Capture Date: 9/16/2008 16:58:06
User Filename: S11091611-6A.WK1
U11091611-1A.WK1
Spectrum Type: Log Counts
User Number: 11
User Id: TOTAL ACTIVITY
User Comment: GOLD
Isotope Name: 14C
Scintillator: LIQUID
Sample, Rack-Pos, Time: 6 11-6 5.00
H#, Total Counts: 110.7 7666
Start, End, X-Axis: 0 990 Channel Number



8/16/08
LJS

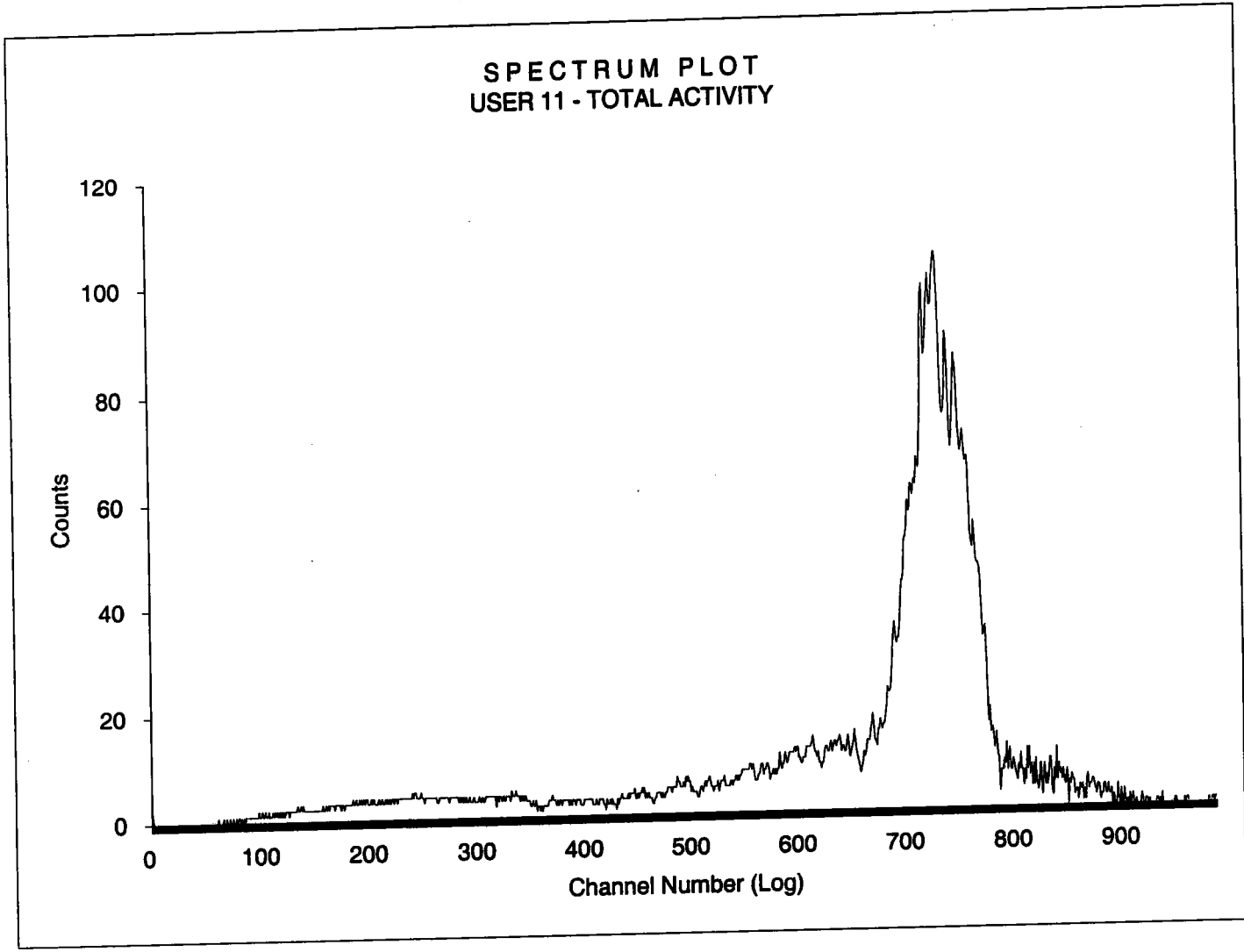
Sample Count Start Time: 16 Sep 2008 16:59:07
Data Capture Date: 9/16/2008 17:04:12
User Filename: S11091611-7A.WK1
U11091611-1A.WK1
Spectrum Type: Log Counts
User Number: 11
User Id: TOTAL ACTIVITY
User Comment: GOLD
Isotope Name: 14C
Scintillator: LIQUID
Sample, Rack-Pos, Time: 7 11-7 5.00
H#, Total Counts: 110.8 7726
Start, End, X-Axis: 0 990 Channel Number

SPECTRUM PLOT
USER 11 - TOTAL ACTIVITY



9/16/08
S

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

SR 6/30/09

Batch #: 881540
 Spike Isotope: Radium-228
 LCS Isotope: Radium-228
 Tracer Isotope: Barium-133
 Prep Date: 6/30/09
 Analyst: DXM2
 Spike Code: NA
 LCS Code: 0503-B
 Tracer Code: 0112-2
 Initials: JRS
 First Client Due Date: NA
 Expiration Date: 9/13/09
 Expiration Date: 2/17/10
 Pipet ID: 1734212
 Internal Due Date: 7/03/2009
 Ac-228 Ingrow: 2025 6/30/09
 Ac-228 Separation Date/Time: 7-2-09 0540
 Witness: JRS 6/30/09
 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	WZAL
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		107.70	
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	↓

JRS 7/2/09

SLC 7/2/09

Data Reviewed By:

Comments:

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

[Handwritten signature]
7/2/09

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 second standard(s) documentation? standard preparation information? standard < 1 Year old or verified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2) Is the efficiency calibration report included ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3) Is the raw count data included for: Cell constant determination? Plateau generation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4) Are the calibration verifications included?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5) Are the instrument settings included: HVPS settings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6) Has the CELLEFF.xls file been updated ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7) Have the calibration dates been updated in ALPHALIMS ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Prepared By: Kelli S. Deneale

Date: 8/29/08

Reviewed By: Mark J. Idene

Date: 9/12/08

Effective Date: 9/24/08

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	total time min	count	cpm	Known activity dpm	11 (days) end-degas to flush	12 (days) end-flush to count	13 (days) Std Ref Date to count	Decay from Std Ref Date to count
101	1.796	Average 1.751	6/11/2008 22:40	6/11/2008 14:55	6/5/2008 14:10	8	0.267	8239	30	274.63	244.63	244.63	6.03125	0.32292	3102	0.9963
101	1.729	Stdev 0.039	8/15/2008 12:50	8/15/2008 9:25	8/12/2008 16:10	8	0.267	4800	30	160.00	244.63	244.63	2.71675	0.14236	3167	0.9962
101	1.728		7/31/2008 15:35	7/31/2008 8:55	7/28/2008 10:55	8	0.267	4938	30	164.60	244.63	244.63	2.91867	0.27778	3152	0.9963
102	1.677	Average 1.647	6/11/2008 23:15	6/11/2008 15:20	6/5/2008 14:10	8	0.267	7698	30	256.60	244.63	244.63	6.04861	0.32966	3102	0.9963
102	1.632	Stdev 0.026	8/4/2008 16:35	8/4/2008 9:45	8/1/2008 13:30	8	0.267	4570	30	152.33	244.63	244.63	2.84375	0.28472	3156	0.9963
102	1.632		7/31/2008 16:10	7/31/2008 9:20	7/28/2008 10:55	8	0.267	4680	30	156.00	244.63	244.63	2.93403	0.28472	3152	0.9963
103	1.864	Average 1.752	6/11/2008 13:40	6/11/2008 9:40	6/5/2008 14:10	8	0.267	8620	30	287.33	244.63	244.63	5.81250	0.16667	3102	0.9963
103	1.667	Stdev 0.098	7/31/2008 16:40	7/31/2008 9:50	7/28/2008 10:55	7	0.233	4862	30	162.07	244.63	244.63	2.95486	0.28472	3152	0.9963
103	1.704		8/4/2008 17:10	8/4/2008 10:15	8/1/2008 13:30	7	0.233	4796	30	159.87	244.63	244.63	2.86458	0.28819	3156	0.9963
104	1.937	Average 1.973	6/11/2008 14:10	6/11/2008 10:00	6/5/2008 14:10	6	0.200	8955	30	298.50	244.63	244.63	5.82639	0.17361	3102	0.9963
104	1.917	Stdev 0.080	6/24/2008 17:20	6/24/2008 14:10	6/20/2008 9:50	8	0.267	7275	30	242.50	244.63	244.63	4.18056	0.13194	3115	0.9963
104	2.064		7/31/2008 17:20	7/31/2008 10:15	7/28/2008 10:55	8	0.267	5964	30	198.80	244.63	244.63	2.97222	0.29514	3152	0.9963
105	1.916	Average 1.749	8/15/2008 13:55	8/15/2008 9:55	8/12/2008 16:10	8	0.267	5327	30	177.57	244.63	244.63	2.73958	0.16667	3167	0.9962
105	1.700	Stdev 0.149	7/31/2008 17:55	7/31/2008 10:45	7/28/2008 10:55	4	0.133	4933	30	164.43	244.63	244.63	2.99306	0.29861	3152	0.9963
105	1.631		8/4/2008 18:35	8/4/2008 11:05	8/1/2008 13:30	1	0.033	4805	30	153.50	244.63	244.63	2.89931	0.31250	3156	0.9963
106	1.594	Average 1.486	8/15/2008 14:30	8/15/2008 10:15	8/12/2008 16:10	8	0.267	4441	30	148.03	244.63	244.63	2.75347	0.17708	3167	0.9962
106	1.441	Stdev 0.094	7/31/2008 18:25	7/31/2008 11:15	7/28/2008 10:55	8	0.267	4208	30	140.27	244.63	244.63	3.01389	0.29861	3152	0.9963
106	1.422		8/19/2008 8:00	8/18/2008 16:00	8/15/2008 9:25	8	0.267	4132	30	137.73	244.63	244.63	3.27431	0.68687	3170	0.9962
107	1.779	Average 1.773	6/11/2008 15:50	6/11/2008 11:10	6/5/2008 14:10	8	0.267	8232	30	274.40	244.63	244.63	5.87500	0.19444	3102	0.9963
107	1.751	Stdev 0.020	7/31/2008 19:05	7/31/2008 11:40	7/28/2008 10:55	7	0.233	5121	30	170.70	244.63	244.63	3.03125	0.30903	3152	0.9963
107	1.790		8/4/2008 19:40	8/4/2008 12:00	8/1/2008 13:30	8	0.267	5105	30	170.17	244.63	244.63	2.93750	0.31944	3156	0.9963
108	1.755	Average 1.840	6/11/2008 17:00	6/11/2008 11:30	6/5/2008 14:10	7	0.233	8081	30	269.37	244.63	244.63	5.88889	0.22917	3102	0.9963
108	1.937	Stdev 0.092	6/25/2008 20:00	6/25/2008 15:40	6/20/2008 9:50	8	0.267	8413	30	280.43	244.63	244.63	5.24306	0.18056	3116	0.9963
108	1.827		8/15/2008 16:09	8/15/2008 10:15	8/12/2008 16:10	8	0.267	5071	30	169.03	244.63	244.63	2.75347	0.19792	3167	0.9962
109	1.646	Average 1.512	6/11/2008 17:35	6/11/2008 11:45	6/5/2008 14:10	8	0.267	7570	30	252.33	244.63	244.63	5.89931	0.24306	3102	0.9963
109	1.441	Stdev 0.117	8/1/2008 8:55	7/31/2008 13:05	7/28/2008 10:55	6	0.200	3994	30	129.80	244.63	244.63	3.09028	0.82639	3152	0.9963
109	1.448		8/4/2008 20:40	8/4/2008 13:40	8/1/2008 13:30	8	0.267	4226	30	140.87	244.63	244.63	3.00694	0.29167	3156	0.9963
110	1.664	Average 1.544	6/24/2008 21:15	6/24/2008 15:05	6/20/2008 9:50	8	0.267	6214	30	207.13	244.63	244.63	4.21675	0.26694	3115	0.9963
110	1.566	Stdev 0.133	8/15/2008 15:35	8/15/2008 10:50	8/12/2008 16:10	8	0.267	4377	30	145.90	244.63	244.63	2.77778	0.19792	3167	0.9962
110	1.401		8/4/2008 21:10	8/4/2008 14:05	8/1/2008 13:30	8	0.267	4103	30	136.77	244.63	244.63	3.02431	0.29514	3156	0.9963
111	1.632	Average 1.575	6/24/2008 22:30	6/24/2008 15:30	6/20/2008 9:50	7	0.233	6071	30	202.37	244.63	244.63	4.23611	0.29167	3115	0.9963
111	1.517	Stdev 0.057	8/1/2008 10:30	7/31/2008 14:00	7/28/2008 10:55	8	0.267	4120	30	137.33	244.63	244.63	3.12847	0.86417	3152	0.9963
111	1.576		8/4/2008 21:35	8/4/2008 14:30	8/1/2008 13:30	7	0.233	4636	30	154.53	244.63	244.63	3.04167	0.29514	3156	0.9963
112	1.797	Average 1.648	6/11/2008 22:10	6/11/2008 14:30	6/5/2008 14:10	8	0.267	8239	30	274.63	244.63	244.63	6.01389	0.31944	3102	0.9963
112	1.588	Stdev 0.130	8/1/2008 11:00	7/31/2008 14:00	7/28/2008 10:55	8	0.267	4294	30	143.13	244.63	244.63	3.12847	0.87500	3152	0.9963
112	1.559		8/4/2008 22:00	8/4/2008 14:50	8/1/2008 13:30	8	0.267	4599	30	153.30	244.63	244.63	3.05556	0.29861	3156	0.9963

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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	6/15/08 1410	6/15/08 1410	6/15/08 1410	104	1	8	7275
Cal 13	500	6/15/08 1410	6/15/08 1410	6/15/08 1410	107	1	8	18
Cal 10	500	6/15/08 1410	6/15/08 1410	6/15/08 1410	108	1	8	7547
Cal 14	500	6/15/08 1410	6/15/08 1410	6/15/08 1410	110	1	8	6214
Cal 34	500	6/15/08 1410	6/15/08 1410	6/15/08 1410	111	1	7	6071
Cal 21	500	6/24/08 0950	6/24/08 1410	6/24/08 1720	104	1	8	7275
Cal 20	500	6/24/08 0950	6/24/08 1430	6/24/08 1820	107	1	8	18
Cal 25	500	6/24/08 0950	6/24/08 1450	6/24/08 1921	108	1	8	7547
Cal 36	500	6/24/08 0950	6/24/08 1505	6/24/08 2115	110	1	8	6214
Cal 37	500	6/24/08 0950	6/24/08 1530	6/24/08 2230	111	1	7	6071
Cal 17	500	6/24/08 0950	6/24/08 1545	6/24/08 2305	112	1	8	5592
Cal 3	500	6/24/08 0950	6/25/08 1405	6/25/08 1705	109	1	8	8275
Cal 32	500	6/24/08 0950	6/25/08 1420	6/25/08 1740	101	1	8	3362
Cal 41	500	6/24/08 0950	6/25/08 1445	6/25/08 1820	103	1	8	8905
Cal 39	500	6/24/08 0950	6/25/08 1510	6/25/08 1851	105	1	8	9300
Cal 43	500	6/24/08 0950	6/25/08 1525	6/25/08 1930	109	1	8	8121
Cal 47	500	6/24/08 0950	6/25/08 1540	6/25/08 2000	100	1	8	8413

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
Ca147	500	6/5/08 1410	6/11/08 0940	6/11/08 1340	103	1	8	8620
Ca13	500	6/5/08 1410	6/11/08 1000	6/11/08 1410	104	1	6	8955
Ca127	500	6/5/08 1410	6/11/08 1015	6/11/08 1440	105	1	4	9429
Ca140	500	6/5/08 1410	6/11/08 1045	6/11/08 1510	106	1	8	3534
Ca125	500	6/5/08 1410	6/11/08 1110	6/11/08 1550	107	1	8	8232
Ca136	500	6/5/08 1410	6/11/08 1130	6/11/08 1700	108	1	7	8081
Ca121	500	6/5/08 1410	6/11/08 1145	6/11/08 1735	109	1	8	7570
Ca132	500	6/5/08 1410	6/11/08 1150	6/11/08 2040	110	1	8	4366
Ca134	500	6/5/08 1410	6/11/08 115	6/11/08 2115	111	1	6	6792
Ca143	500	6/5/08 1410	6/11/08 1130	6/11/08 2210	110	1	8	5867
Ca17	500	6/5/08 1410	6/11/08 1455	6/11/08 2240	101	1	8	8239
Ca141	500	6/5/08 1410	6/11/08 1520	6/11/08 2315	102	1	8	7690
Ca111	500	6/5/08 1410						
Ca130	500	6/5/08 1410						
Ca17	500	6/5/08 1410						
Ca19	500	6/5/08 1410						
Ca16	500	6/5/08 1410						
Ca18	500	6/5/08 1410						
Ca135	500	6/5/08 1410						

100
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	49380
Cal 144	500	7/28/08 1055	7/31/08 0920	7/31/08 1610	102	1	8	4680
Cal 140	500	7/28/08 1055	7/31/08 0950	7/31/08 1640	103	1	7	4862
Cal 119	500	7/28/08 1055	7/31/08 1015	7/31/08 1720	104	1	8	5964
Cal 130	500	7/28/08 1055	7/31/08 1045	7/31/08 1755	105	1	4	4933
Cal 146	500	7/28/08 1055	7/31/08 1115	7/31/08 1825	106	1	8	4208
Cal 143	500	7/28/08 1055	7/31/08 1140	7/31/08 1905	107	1	7	5721
Cal 143	500	7/28/08 1055	7/31/08 1205	8/1/08 0815	108	1	8	3159
Cal 142	500	7/28/08 1055	7/31/08 1305	8/1/08 0855	109	1	6	3894
Cal 143	500	7/28/08 1055	7/31/08 1330	8/1/08 0930	110	1	6	3185
Cal 143	500	7/28/08 1055	7/31/08 1400	8/1/08 1030	111	1	8	4120
Cal 137	500	7/28/08 1055	7/31/08 1415	8/1/08 1100	112	1	8	4294

100
8/2/08

Ra-226 Verification Sheet

Run 1

VP
8/29/08

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
41	500	8/11/08 1330	8/4/08 0615	8/4/08 1550	101	1	8	3638
44	500	8/11/08 1330	8/4/08 0645	8.4.08 1635	102	1	8	4570
30	500	8/11/08 1330	8/4/08 1015	8.4.08 1710	103	1	7	4796
19	500	8/11/08 1330	8/4/08 1035	8.4.08 1745	104	1	6	4733
35	500	8/11/08 1330	8/4/08 1105	8.4.08 1835	105	1	1	4605
46	500	8/11/08 1330	8/4/08 1130	8.4.08 1910	106	1	6	3725
13	500	8/11/08 1330	8/4/08 1200	8.4.08 1940	107	1	8	5105
25	500	8/11/08 1330	8/4/08 1310	8.4.08 2010	108	1	8	4575
42	500	8/11/08 1330	8/4/08 1340	8.4.08 2040	109	1	8	4226
15	500	8/11/08 1330	8/4/08 1405	8.4.08 2110	110	1	8	4103
43	500	8/11/08 1330	8/4/08 1430	8.4.08 2135	111	1	7	4636
37	500	8/11/08 1330	8/4/08 1450	8.4.08 2200	112	1	8	4599

VP 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
 Stdev = 10.63610098

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:

$$\text{Source dpm/g} = (A - B)/(C)(D)$$

where:

- A = Ver. source cpm,
- B = BKG cpm,
- C = System efficiency, (cpm/dpm), and
- D = mass used for standard verification.

IRAD.SOP.M-001

10/8/2008
 Nancy S. Johnson 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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 122414.2500 \text{ dpm/mL}$
$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0012 \text{ g/mL}) / (100 \text{ mL}) = 122273.3377 \text{ dpm/g}$

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

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8/28/08

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-KAD-A-008 Isotope Ka-226
 Date Standards Prepared 4/5/05 Cocktail Type Used N/A
 Standard ID 0299-6 Matrix of Vial/Planchett N/A
 Amount Used (g or ml) 0.1 Type of Scintillation Vial N/A
 Standard Activity (DPM/g or ml) 2446.347 Pipette ID Used 1429303
 Reference Date 12/15/99 Balance ID Used 36040216
 Expiration Date 4/12/09 Quenching Agent N/A
 Residue/Carrier Agent 0.5M HCl

	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				

No. 1429303

Prepared By: Kyle D. Pierce Date: 8/23/05
 Reviewed By: John G. Adams Date: 8/28/08

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-KAD-A-008 Isotope Ka-226
 Date Standards Prepared 4/5/05 Cocktail Type Used N/A
 Standard ID D2991-6 Matrix of Vial/Planchett N/A
 Amount Used (g or ml) 0.1 N/A
 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	CAL 16				
17	CAL 17				
18	CAL 18				
19	CAL 19				
20	CAL 20				
21	CAL 21				
22	CAL 22				
23	CAL 23				
24	CAL 24				
25	CAL 25				
26	CAL 26				
27	CAL 27				
28	CAL 28				
29	CAL 29				
30	CAL 30				

W. R. S. 8/29/08

Prepared By: Will Powell Date: 8/29/08
 Reviewed By: John J. Identi Date: 8/29/08

Rev 1 RLM 9/10/97

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-KAD-A-008 Isotope Ka-226
 Date Standards Prepared 4/15/05 Cocktail Type Used N/A
 Standard ID 0299-6 Matrix of Vial/Planchet N/A
 Amount Used (g or ml) 0.1 Type of Scintillation Vial N/A
 Standard Activity (DPM/g or ml) 2446.347 Pipette ID Used 1429303
 Reference Date 12/15/99 Balance ID Used 36040216
 Expiration Date 4/12/09 Quenching Agent N/A
 Residue/Carrier Agent 0.5M HCl

	Standard Number	Quenching Vol (uL)/ Residue Volume (mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
31	CAL 31				
32	CAL 32				
33	CAL 33				
34	CAL 34				
35	CAL 35				
36	CAL 36				
37	CAL 37				
38	CAL 38				
39	CAL 39				
40	CAL 40				
41	CAL 41				
42	CAL 42				
43	CAL 43				
44	CAL 44				
45	CAL 45				

N/A
 8/25/08

Prepared By: Kelli Brown Date: 8/25/08
 Reviewed By: James G. Jones Date: 8/29/08

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-KAD-A-003 Isotope Po-226
 Date Standards Prepared 4/5/05 Cocktail Type Used N/A
 Standard ID 0299-G Matrix of Vial/Planchett N/A
 Amount Used (g or ml) 0.1 Type of Scintillation Vial N/A
 Standard Activity (DPM/g or ml) 2446.347 Pipette ID Used 1429303
 Reference Date 12/5/09 Balance ID Used 36040216
 Expiration Date 4/12/09 Quenching Agent N/A
 Residue/Carrier Agent 0.5M HCl

	Standard Number	Quenching Vol (uL)/ Residue Volume (mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (g)
46	CAL 46				10.120
47	CAL 47				10.120
48	CAL 48				10.120

Prepared By: Vello's Dione Date 8/1/05
 Reviewed By: John J. Adams Date 3/28/08

Rev 1 RLM 9/10/97

0299



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

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 $\nu_{\text{eff}} = \infty$ 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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ory

Date of
issue

17th December 1999

1008/8/99

272

Nycomed
Amersham

Ra-226 WATER

Batch: LCSVER
 Date: 8/20/2008
 Analyst: KSD1

Procedure Code: LUC26RAL
 Parmname: Radium-226

MDA: 1 pCi/L
 Instrument Used: LUCAS CELL DETECTOR

Bkg Count Time: 30 min

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	738	101	1.751	0.267	0.4737	21.7600	1.5957	8/26/2008 16:10
Ver 2	0.500	30	770	102	1.647	0.267	0.5038	24.1604	1.7334	8/26/2008 17:05
Ver 3	0.500	30	716	103	1.752	0.267	0.4735	21.0967	1.5715	8/26/2008 17:45
Ver 4	0.500	30	820	104	1.973	0.200	0.3728	21.4823	1.4866	8/26/2008 18:15
Ver 5	0.500	30	656	106	1.486	0.267	0.5576	22.7382	1.7722	8/26/2008 19:00
Ver 6	0.500	30	860	107	1.773	0.267	0.4674	25.0613	1.6986	8/26/2008 19:35
Ver 7	0.500	30	867	108	1.840	0.267	0.4505	24.3515	1.6436	8/26/2008 20:10
Ver 8	0.500	30	756	110	1.544	0.267	0.5372	25.2853	1.8313	8/26/2008 20:40
Ver 9	0.500	30	827	111	1.575	0.133	0.3989	27.2897	1.8735	8/26/2008 21:10
VER 10	0.500	30	851	112	1.648	0.267	0.5042	26.7480	1.8227	8/26/2008 21:45

WJ
 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	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

Handwritten signature

Ra-226 Verification Sheet

Via 1

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
VEN 1	500	8/21/08 1530	8/21/08 1300	8/26/08 1610	101	1	8	138
VEN 2	500	8/21/08 1530	8/21/08 1330	8/26/08 1765	102	1	8	770
VEN 3	500	8/21/08 1530	8/21/08 1355	8/26/08 1748	103	1	8	716
VEN 4	500	8/21/08 1530	8/21/08 1425	8/26/08 1815	104	1	8	820
VEN 5	500	8/21/08 1530	8/21/08 1445	8/26/08 1900	106	1	8	656
VEN 6	500	8/21/08 1530	8/21/08 1505	8/26/08 1935	107	1	8	800
VEN 7	500	8/21/08 1530	8/21/08 1525	8/26/08 2010	108	1	8	867
VEN 8	500	8/21/08 1530	8/26/08 1540	8/26/08 2040	110	1	8	756
VEN 9	500	8/21/08 1530	8/26/08 1555	8/26/08 2110	111	1	4	827
VEN 10	500	8/21/08 1530	8/26/08 1610	8/26/08 2145	112	1	8	851
VEN 11	500	8/21/08 1530						
VEN 12	500	8/21/08 1530						

VP 8/26/08

Verification for Ra-226 Standard 0638-F

D Roy
12/27/2007

Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff Mass. Used (mL)	Standard Source DPM/mL
0638-F N1	1239.9000	31.5000	1208.4000	1.0000	281.3311626
0638-F N2	1222.8000	31.5000	1191.3000	1.0000	257.6330801
0638-F N3	1219.4000	31.5000	1187.9000	1.0000	256.8977989
				Average =	258.6206772

Mean Value (Counting) = 258.6206772
Stdev = 2.375965421

Certificate Value = 267.1
Lower Limit = 253.8687464
Upper Limit = 263.3726081
Rule 1 Pass/Fail Fail
Two sigma = 4.751930843
10 % of Mean = 25.86206772
Rule 2 (Pass/Fail) Pass

*exception taken due to full recovery of standard

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:

$$\text{Source dpm/g} = (A - B)/(C)(D)$$

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


 Amanda L. Fehr 1/4/07

**General Engineering Laboratories
Verification Source Preparation Sheet**

Applicable SOP Number GL-11AD-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

Amount Used (g or ml) 0.1

N/A

N/A

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	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				
13	ver 13				
14	ver 14				
15	ver 15				

Prepared By: Kelli Perrelli Date 8/29/08

Reviewed By: Mary G. Jones Date 8/29/08

**General Engineering Laboratories
Verification Source Preparation Sheet**

Applicable SOP Number GL-STD. A-008

Isotope Ka-226

Date Standards Prepared 12/18/07

Cocktail Type Used N/A

Standard ID 0638-P

Matrix of Vial/Planchett N/A

Amount Used (g or ml) 12.1

N/A

N/A

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 0.1 μ 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 8/28/08

Prepared By: Kelly Dorel Date 8/28/08

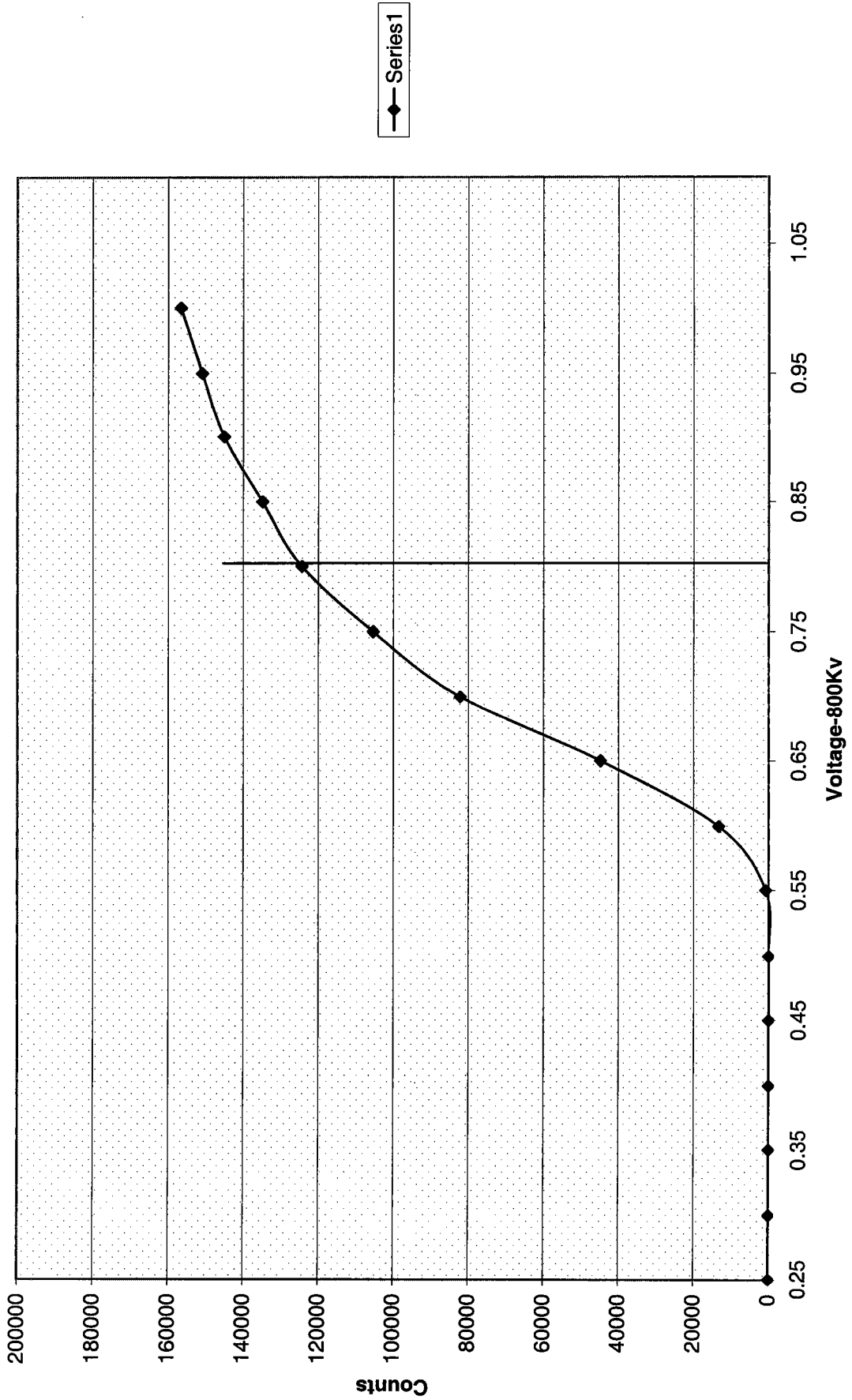
Reviewed By: [Signature] Date 8/28/08

VOLTAGE CURVE 08

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

*MD
Shiner*

Ludlum 1 Voltage Curve



60 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

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 secondary 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 Donnell

Date: 12/19/08

Reviewed By: Mark G. Adams

Date: 12/19/08

Effective Date: 12/19/08

12/19/08

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	11 (days) end-degas to flush	12 (days) end-flush to count	13 (days) Std Ref Date to count	Decay from Std Ref Date to count		
201	2.021	Average	1.983	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	Sidev	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	Sidev	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	10/19/2008 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	Sidev	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	0.44782	3208	0.9962
204	2.184	Average	2.183	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	Sidev	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	9/28/2008 9:45	0.133	7535	30	251.17	243.02	3.97589	0.20486	3213	0.9962
205	1.677	Average	1.799	Cal 13	10/21/2008 8:30	10/20/2008 14:05	10/19/2008 16:00	0.267	7584	30	252.80	243.02	6.92014	0.78736	3233	0.9962
205	1.730	Sidev	0.167	Cal 44	9/18/2008 16:00	9/18/2008 10:05	9/15/2008 10:55	0.167	4989	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	9/28/2008 9:45	0.187	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	0.40825	3198	0.9962
206	2.293	Sidev	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	9/28/2008 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	6084	30	203.13	243.02	2.93750	0.40872	3198	0.9962
207	2.141	Sidev	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	2.95159	0.30208	3201	0.9962
207	2.110			Cal 36	9/30/2008 16:00	9/30/2008 10:45	9/28/2008 9:45	0.233	7656	30	255.20	243.02	4.04167	0.21875	3213	0.9962
208	2.239	Average	2.283	Cal 36	9/15/2008 22:15	9/15/2008 12:15	9/12/2008 13:20	0.267	6288	30	208.60	243.02	2.85486	0.41667	3198	0.9962
208	2.243	Sidev	0.135	Cal 30	9/18/2008 18:30	9/18/2008 11:00	9/15/2008 12:15	0.133	6374	30	212.47	243.02	2.94782	0.41250	3201	0.9962
208	2.148			Cal 30	9/30/2008 16:35	9/30/2008 11:10	9/28/2008 9:45	0.665	7691	30	256.03	243.02	4.95989	0.23958	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	Sidev	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	9/28/2008 9:45	0.100	8795	30	293.17	243.02	4.07996	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	6685	30	222.17	243.02	3.03819	0.37500	3198	0.9962
210	2.210	Sidev	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	0.34875	3201	0.9962
210	2.230			Cal 47	9/30/2008 18:00	9/30/2008 12:05	9/28/2008 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	3.04661	0.36889	3198	0.9962
211	2.238	Sidev	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	0.40825	3201	0.9962
211	2.136			Cal 37	9/30/2008 18:30	9/30/2008 13:35	9/28/2008 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	9/15/2008 0:20	9/15/2008 14:50	9/12/2008 13:20	0.033	6928	30	230.87	243.02	3.06250	0.39583	3198	0.9962
212	2.315	Sidev	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	9/28/2008 9:45	0.267	8287	30	276.23	243.02	4.17708	0.24306	3213	0.9962

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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 Pass
 Stdev = 10.63610098 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.

BAD.SOP.M-001

M. V. T. 12/19/08
 W. V. 11/19/08
 Nancy E. Johnson 4/9/08
 Daniel Dwyer 4/10/08



Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0299	Isotope:	Radium-226
Prepared By:	Angela Johnson	Prepared By:	Angela Johnson
Carrier Conc:	0.5 M HCL	Prep Date:	09/15/2000
Reference Date:	12/15/1999	Verification Date:	01/23/2008
Ampoule Mass (g):	5.0368 g	Expiration Date:	01/23/2009
Uncertainty:	+/- 2.5 %	Primary Code:	0299-A
LogBook No:	RC S 027 128	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

$$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$$

$$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$$

$$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 122414.2500 \text{ dpm/mL}$$

$$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0012 \text{ g/mL}) / (100 \text{ mL}) = 122273.3377 \text{ dpm/g}$$

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

*all ok 12/19/08
len 12/19/08*

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number <u>GLRAD A-008</u>	Isotope <u>Ra-226</u>
Date Standards Prepared <u>4/15/08</u>	Cocktail Type Used <u>NA</u>
Standard ID <u>0299-G</u>	Matrix of Vial/Planchett <u>NA</u> <u>NA</u> <u>NA</u>
Amount Used (g or ml) <u>0.1</u>	Type of Scintillation Vial <u>NA</u>
Standard Activity (DPM/g or ml) <u>2446.347</u>	Pipette ID Used <u>1429303</u>
Reference Date <u>12/15/99</u>	Balance ID Used <u>36040216</u>
Expiration Date <u>4/12/09</u>	Quenching Agent <u>NA</u>
Residue/Carrier Agent <u>0.5 M HCl</u>	

	Standard Number	Quenching Vol (uL/ Residue Volume (mL))	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
14	Cal 14				
13	Cal 13				
43	Cal 43				
15	Cal 15				
44	Cal 44				
46	Cal 46				
36	Cal 36				
19	Cal 19				
47	Cal 47				
37	Cal 37				
42	Cal 42				

See table

Prepared By: <u>Kelli S. Deroso</u>	Date: <u>12/19/08</u>
Reviewed By: <u>M. G. Johnson</u>	Date: <u>12/19/08</u>

Rev 1 RLM 9/10/97

0299

UKAS ACCREDITED CALIBRATION LABORATORY No. 0146

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.

- Expanded uncertainty in the radioactive concentration quoted above: $\pm 2.5\%$
- Combined Type A uncertainty: $\pm 0.2\%$
- Combined Type B uncertainty: $\pm 1.3\%$

Radiochemical 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.

Carrier free in 0.5M HCl

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.

Handwritten: 12/19/98
12/19/98

Ra-226 WATER

Batch : LCSVER
Date : 10/31/2008
Analyst : KSD1

Procedure Code : LUC26RAL

Parname : Radium-226

MDA : 1 pCi/L

Instrument Used : LUCAS CELL DETECTOR

Bkg Count Time: 30 min

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	593	208	2.283	0.267	0.5132	16.9552	1.4723	11/20/2008 16:40
VER 9	0.500	30	630	209	2.291	0.133	0.4042	21.0513	1.6596	10/30/2008 23:40
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

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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% <i>W</i>
209		2	10/30/2008 14:05	LCS	0638-F	24.10	pCi/L	87% <i>W</i>
210		2	10/30/2008 14:25	LCS	0638-F	24.10	pCi/L	98% <i>W</i>
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%

W
12/18/08

DEGASSING DATE/TIME	DE-EMAN. DATE/TIME	DEGASS-DE-EM	dE-EM-COUNT	constant	constant	constant	Net 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	17.5900	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

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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 1045	10/30/08 1500	201	2	4	152
VW 2	500	10/27/08 1420	10/30/08 1005	10/30/08 1535	202	2	4	189
VW 3	500	10/27/08 1420	10/30/08 1105	10/30/08 1605	203	2	8	726
VW 4	500	10/27/08 1420	10/30/08 1230	10/30/08 1820	204	2	8	737
VW 5	500	10/27/08 1420	10/30/08 1050	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

VP
12/18/08

100
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100
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100
12/18/08

100
12/18/08

Verification for Ra-226 Standard 0638-F

D Roy
12/27/2007

Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff Mass. Used (mL)	Source DPM/mL
0638-F N1	1239.9000	31.5000	1208.4000	4.624018	261.3311626
0638-F N2	1222.8000	31.5000	1191.3000	4.624018	257.6330801
0638-F N3	1219.4000	31.5000	1187.9000	4.624018	256.8977889
					Average =

Mean Value (Counting) = 258.6206772
Stdev = 2.375965421

96.8384646
0.00918707 Rule 3 (Pass/Fail) Pass

Certificate Value = 267.1
Lower Limit = 253.8687464
Upper Limit = 263.3726081
Rule 1 Pass/Fail Fail
Two sigma = 4.751930843
10 % of Mean = 25.86206772
Rule 2 (Pass/Fail) Pass

*exception taken due to full recovery of standard

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:

$$\text{Source dpm/g} = (A - B)/(C)(D)$$

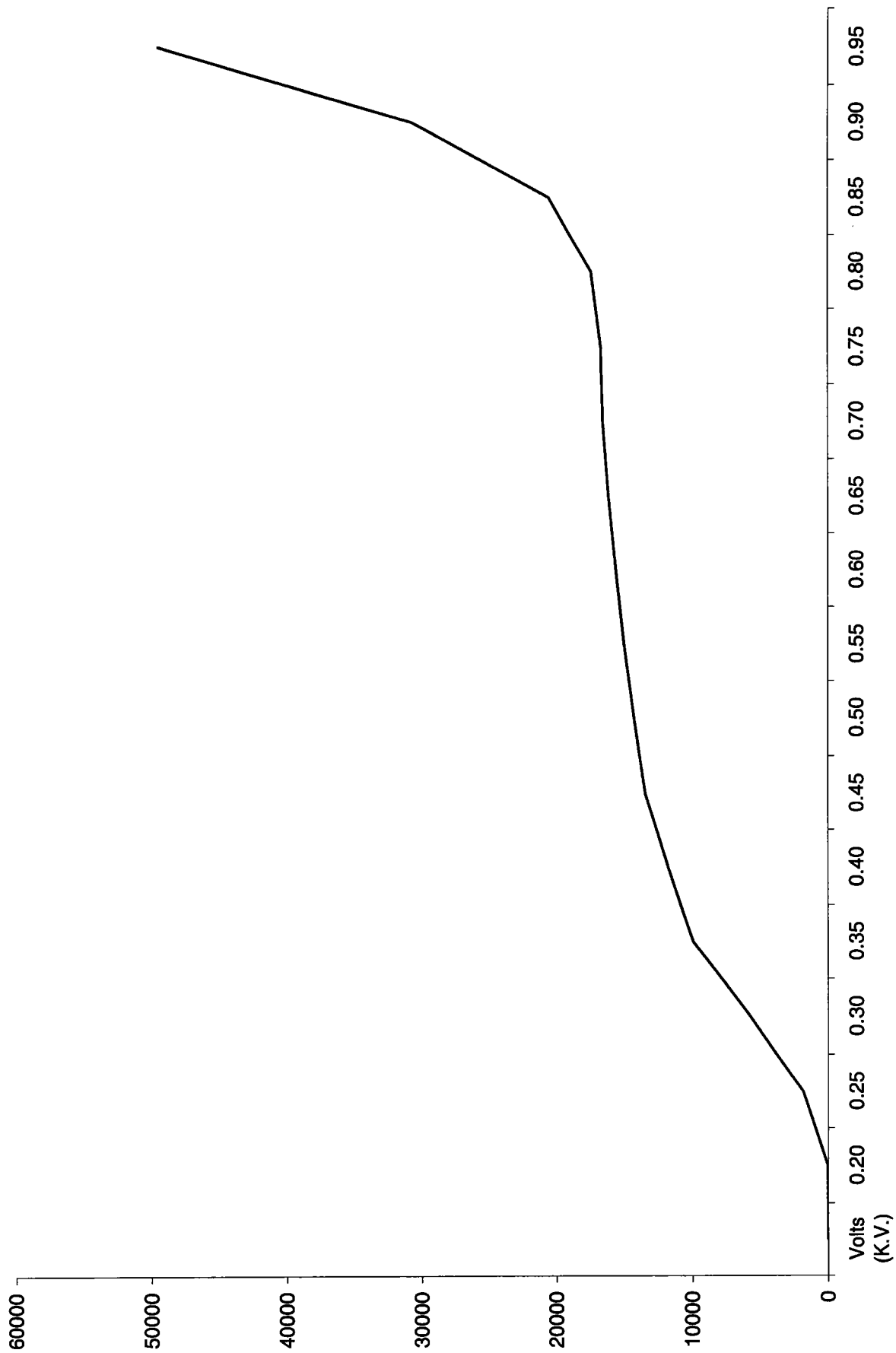
where:

- A = Ver. source cpm,
- B = BKG cpm,
- C = System efficiency, (cpm/dpm), and
- D = mass used for standard verification.

Reference RAD SOP M-001

12/19/08

Handwritten signature: Amanda L. Feher 1/4/07



Mud 12/19/08
V6 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

*Next
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 second 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: Kellipanel

Date: 2/3/09

Reviewed By: W. G. Hens

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	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	1/20/2009 11:05	1/19/2009 10:10	1/9/2009 15:45	0.267	9355	30	311.83	9.76736	1.03819	3324	0.9961
301	2.184	Stdev	1/29/2009 11:50	1/28/2009 8:50	1/28/2009 13:00	0.267	6239	30	207.97	2.82639	0.12500	3333	0.9961
301	2.011		1/26/2009 14:35	1/26/2009 9:25	1/22/2009 9:10	0.267	7282	30	242.73	4.01042	0.21528	3331	0.9961
302	2.082	Average	1/30/2009 11:30	1/30/2009 8:30	1/28/2009 13:00	0.267	7401	30	246.70	3.81250	0.12500	3334	0.9961
302	2.225	Stdev	1/29/2009 13:30	1/29/2009 9:20	1/28/2009 13:00	0.233	6335	30	211.17	2.84722	0.17361	3334	0.9961
302	2.086		1/26/2009 15:30	1/26/2009 9:55	1/22/2009 9:10	0.267	7555	30	251.83	4.03125	0.23264	3331	0.9961
303	1.958	Average	1/20/2009 13:40	1/19/2009 11:00	1/9/2009 15:45	0.267	9695	30	323.17	9.80208	1.11111	3325	0.9961
303	2.218	Stdev	1/22/2009 20:35	1/22/2009 10:05	1/19/2009 15:00	0.267	5938	30	197.93	2.79514	0.43750	3327	0.9961
303	2.231		1/26/2009 17:20	1/26/2009 10:25	1/22/2009 9:10	0.267	8028	30	267.60	4.05208	0.28819	3331	0.9961

305	1.897	Average	1/20/2009 14:50	1/19/2009 11:35	1/9/2009 15:45	0.200	9357	30	311.90	9.82639	1.13542	3325	0.9961
305	2.191	Stdev	1/22/2009 21:50	1/22/2009 11:05	1/19/2009 15:00	0.267	5921	30	197.37	2.83681	0.44792	3327	0.9961
305	2.083		1/26/2009 23:00	1/26/2009 11:20	1/22/2009 9:10	0.267	7280	30	242.67	4.09028	0.48611	3331	0.9961
306	1.730	Average	1/20/2009 15:20	1/19/2009 11:50	1/9/2009 15:45	0.167	8521	30	284.03	9.83681	1.14593	3325	0.9961
306	1.891	Stdev	1/29/2009 14:30	1/29/2009 10:20	1/28/2009 13:00	0.233	4869	30	162.30	2.88889	0.17361	3334	0.9961
306	1.821		1/26/2009 23:30	1/26/2009 11:50	1/22/2009 9:10	0.267	6387	30	212.90	4.11111	0.48611	3331	0.9961
307	1.818	Average	1/20/2009 15:50	1/19/2009 12:05	1/9/2009 15:45	0.267	8944	30	298.13	9.84722	1.15625	3325	0.9961
307	2.095	Stdev	1/30/2009 12:55	1/30/2009 9:10	1/28/2009 13:00	0.267	7442	30	248.07	3.84028	0.15625	3335	0.9961
307	1.881		1/27/2009 0:05	1/26/2009 12:10	1/22/2009 9:10	0.267	6598	30	219.93	4.12500	0.49563	3331	0.9961
308	2.129	Average	1/29/2009 15:50	1/29/2009 11:05	1/28/2009 13:00	0.133	6149	30	204.97	2.92014	0.19792	3334	0.9961
308	1.858	Stdev	1/23/2009 9:35	1/22/2009 13:45	1/19/2009 15:00	0.267	4829	30	160.97	2.94792	0.82639	3327	0.9961
308	1.862		1/27/2009 8:30	1/26/2009 13:15	1/22/2009 9:10	0.267	6226	30	207.53	4.17014	0.80208	3331	0.9961
309	1.857	Average	1/20/2009 17:20	1/19/2009 13:35	1/9/2009 15:45	0.033	9149	30	304.97	9.90972	1.15625	3325	0.9961
309	1.964	Stdev	1/23/2009 10:30	1/22/2009 14:05	1/19/2009 15:00	0.267	5100	30	170.00	2.96181	0.85069	3327	0.9961
309	1.810		1/27/2009 9:05	1/26/2009 13:30	1/22/2009 9:10	0.267	6046	30	201.53	4.18056	0.81597	3331	0.9961

311	2.140	Average	1/29/2009 16:40	1/29/2009 11:20	1/28/2009 13:00	0.267	6176	30	205.87	2.93056	0.22222	3334	0.9961
311	2.212	Stdev	1/23/2009 12:20	1/22/2009 14:25	1/19/2009 15:00	0.267	5698	30	189.93	2.97569	0.91319	3328	0.9961
311	1.988		1/27/2009 10:15	1/26/2009 13:45	1/22/2009 9:10	0.267	6607	30	220.23	4.19097	0.85417	3331	0.9961
312	1.871	Average	1/20/2009 19:16	1/19/2009 14:10	1/9/2009 15:45	0.100	9135	30	304.50	9.93403	1.21250	3325	0.9961
312	2.014	Stdev	1/29/2009 17:10	1/29/2009 11:35	1/28/2009 13:00	0.167	5814	30	193.80	2.94097	0.23264	3334	0.9961
312	1.946		1/27/2009 11:10	1/26/2009 14:00	1/22/2009 9:10	0.267	6446	30	214.87	4.20139	0.88194	3331	0.9961

KW 213109

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.

IRAD.SOP.M-001

Handwritten notes:
 5/2/08
 1.917186
 2558.093715

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0299	Isotope:	Radium-226
Prepared By:	Angela Johnson	Prepared By:	Angela Johnson
Carrier Conc:	0.5 M HCL	Prep Date:	09/15/2000
Reference Date:	12/15/1999	Verification Date:	01/23/2008
Ampoule Mass (g):	5.0368 g	Expiration Date:	01/23/2009
Uncertainty:	+/- 2.5 %	Primary Code:	0299-A
LogBook No:	RC S 027 128	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

$$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$$

$$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$$

$$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 122414.2500 \text{ dpm/mL}$$

$$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0012 \text{ g/mL}) / (100 \text{ mL}) = 122273.3377 \text{ dpm/g}$$

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

LD 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 02896 Matrix of Vial/Planchett NA
 Amount Used (g or ml) 0.1 NA
 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 30040216
 Residue/Carrier Agent 0.5 M HCl Quenching Agent NA

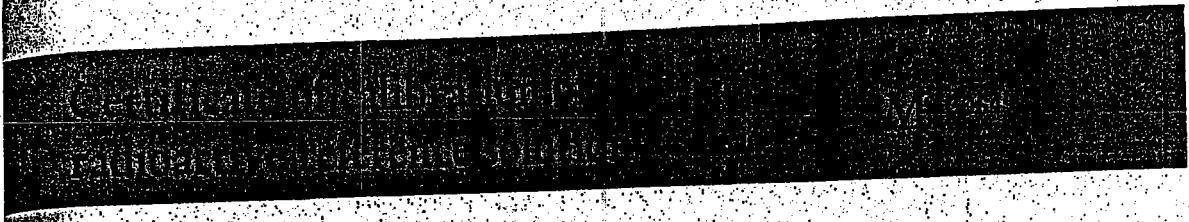
	Standard Number	Quenching Vol (uL)/ Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
43	Cal 43				
47	Cal 47				
19	Cal 19				
30	Cal 30				
42	Cal 42				
44	Cal 44				
15	Cal 15				
14	Cal 14				
13	Cal 13				
28	Cal 28				
36	Cal 36				

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 213/09

Prepared By: Kelli Brown Date 2/3/09
 Reviewed By: Raymond Jones Date 2/4/09

Rev 1 RLM 9/10/97

0299



UKAS ACCREDITED CALIBRATION LABORATORY No. 0146

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.

- Expanded uncertainty in the radioactive concentration quoted above: $\pm 2.5\%$
- Combined Type A uncertainty: $\pm 0.2\%$
- Combined Type B uncertainty: $\pm 1.3\%$

Conclusion: 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.

Carrier free in 0.5M HCL

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.

KB 21/3/09
WMA 21/11/09

Ra-226 WATER

Batch : LCSVER
 Date : 1/2/2009
 Analyst : KSD1

Procedure Code : LUC26RAL
 Parname : Radium-226

MDA : 1 pCi/L

Instrument Used : LUCAS CELL DETECTOR

Bkg Count Time: 30 min

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

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Handwritten signature

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%
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%
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	Net CPM	Ingrowth constant
1/26/2009 16:05	1/30/2009 10:40	90.58	4.42	0.9672	1.0019	21.6000	0.4800
1/30/2009 10:00	2/2/2009 9:15	71.25	4.42	0.9672	1.0019	21.5667	0.4032
1/26/2009 16:05	1/30/2009 11:05	91.00	4.58	0.9660	1.0019	30.1997	0.4809
1/26/2009 16:05	1/30/2009 11:30	91.42	5.58	0.9587	1.0019	26.1000	0.4788
1/26/2009 16:05	1/30/2009 11:45	91.67	5.87	0.9567	1.0019	25.3330	0.4787
1/30/2009 10:00	2/2/2009 9:40	71.67	4.58	0.9660	1.0019	23.7330	0.4044
1/26/2009 16:05	1/30/2009 12:00	91.92	7.08	0.9479	1.0019	24.0667	0.4753
1/26/2009 16:05	1/30/2009 13:05	93.00	21.25	0.8518	1.0019	25.1997	0.4305
1/26/2009 16:05	1/30/2009 13:20	93.25	28.00	0.8095	1.0019	19.5330	0.4099
1/26/2009 16:05	1/30/2009 13:40	93.58	66.75	0.6041	1.0019	17.7997	0.3067

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 LSW 2141.01

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
Vex 1	500	11/20/09 1605	11/20/09 1040	11/20/09 1505	301	3	8	656
Vex 2	500	11/20/09 1605	11/20/09 1105	11/20/09 1540	303	3	8	914
Vex 3	500	11/20/09 1605	11/20/09 1130	11/30/09 1705	305	3	8	791
Vex 4	500	11/20/09 1605	11/20/09 1145	11/30/09 1737 1.31.09 1020	306	3	8	768
Vex 5	500	11/20/09 1605	11/30/09 1200	11/30/09 1905 1.31.09 1020	308	3	8	730
Vex 6	500	11/20/09 1605	11/30/09 1305	1.31.09 1020	309	3	8	764
Vex 7	500	11/20/09 1605	11/20/09 1320	13/09 1720	311	3	8	594
Vex 8	500	11/20/09 1605	11/20/09 1340	11/09 0805	312	3	8	542
Vex 9	500	11/20/09 1605						
Vex 10	500	11/20/09 1605						
Vex 11	500	11/20/09 1605						
Vex 12	500	11/20/09 1605						

11/30/09
2/3/09

11/21/09

Ra-226 Verification Sheet

LWO 213109

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	11/20/09 1000	2/2/09 0915	2/2/09 1340	307	3	8	655
VW 2	500	11/20/09 1000	2/2/09 0940	2/2/09 1415	307	3	8	120
VW 3	500	11/20/09 1000	2/2/09 1115	2/2/09 1450	309	3	8	754

LWO 213109

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Verification for Ra-226 Standard 0638-F

	Isotope	Value	Uncertainty
D. Roy 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.

140 2/4/09
[Signature] 2/2/09
 Amanda L. Lehn
 2/4/09

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-RAD-008 Isotope Pu-226
 Date Standards Prepared ^{Handwritten} 12/18/2007 Cocktail Type Used N/A
 Standard ID 0630-F Matrix of Vial/Planchett N/A
 Amount Used (g or ml) 0.1 ml Type of Scintillation Vial N/A
 Standard Activity (DPM/g or ml) 267.519 dpm/ml Pipette ID Used 1429303
 Reference Date 1/23/2004 Balance ID Used N/A
 Expiration Date 2/14/09 Quenching Agent N/A
 Residue/Carrier Agent 0.1 ml H₂O

	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				

LO 2/13/09

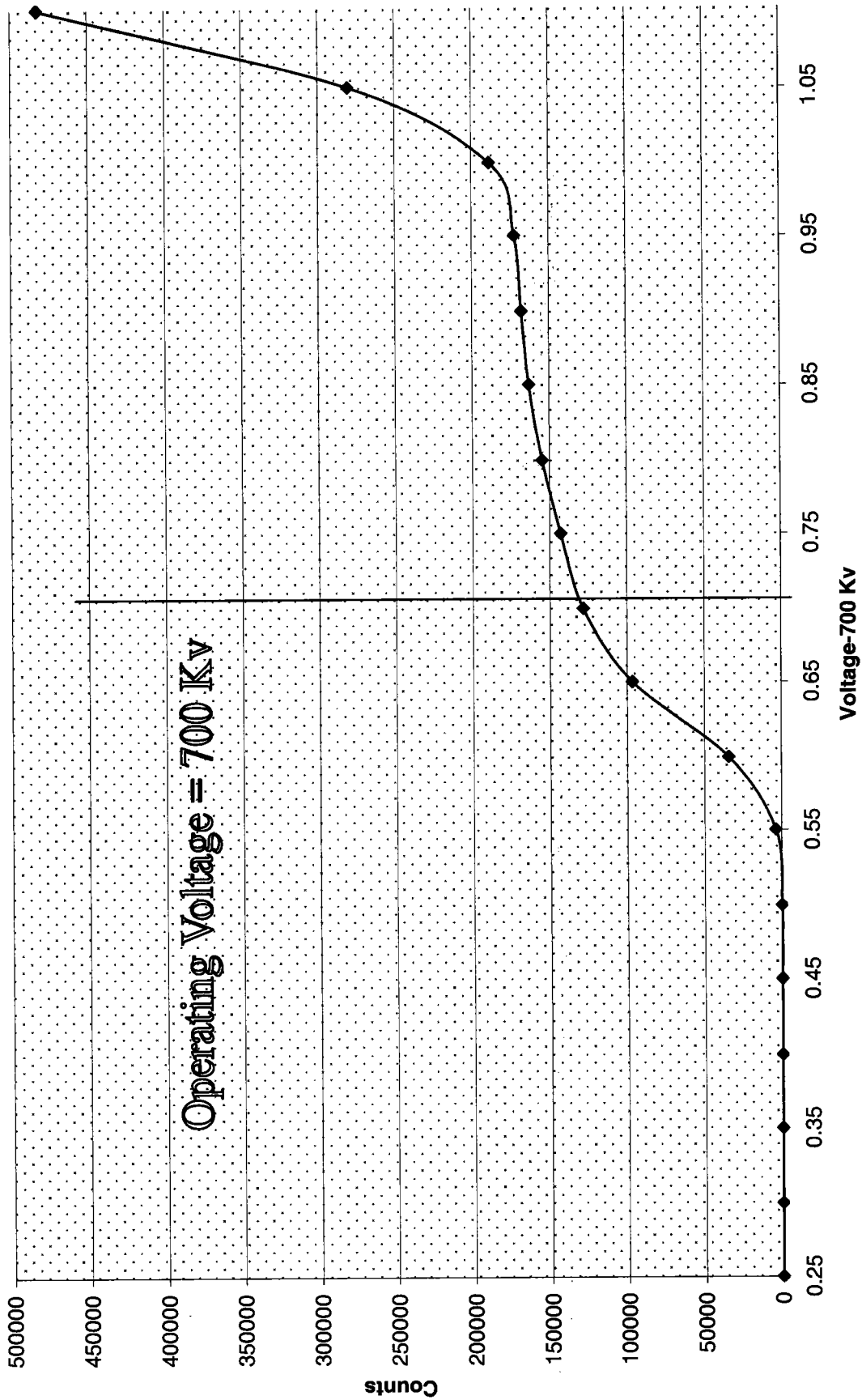
Prepared By: Kelli Brunell Date 2/3/09
 Reviewed By: [Signature] Date 2/4/09

Voltage Curve 1-09

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

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 2/3/09

Ludlum 3 Voltage Curve



2/12/73
MCA

KO 213109

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

RE ut
2/4/09

~~RE ut~~
2/4/09

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 secondary 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 Dorrel

Date: 2/28/09

Reviewed By: Angela Johnson

Date: 3/2/09

Effective Date: 3/2/09

Ra-226 Cell Constants

Standard Reference date: 12/15/1999
 standard ID: 0.289-G
 Volume added (mL): 0.1
 Standard Reference Activity (DPM/mL): 2446.35

Lucas cell #	Call 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	11 (days) end-degas to flush	12 (days) end-flush to count	13 (days) Std Ref Date to count	Decay from Std Ref Date to count
401	1.689	Average 1.574	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	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		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	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	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		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	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	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		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	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	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		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	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	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		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	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	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		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	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	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		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	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	1.911	Stdev 0.013	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		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	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	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		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)

Angela J. Johnson 3/2/09
 Multi Rowed 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 GLRAD-A-008 Isotope Pu-239
 Date Standards Prepared 4/15/09 Cocktail Type Used NA
 Standard ID 02996 Matrix of Vial/Planchett NA
 Amount Used (g or ml) 0.1 Type of Scintillation Vial NA
 Standard Activity (DPM/g or mL) 2446.347 Pipette ID Used 1429303
 Reference Date 4/15/09 Balance ID Used 3604026
 Expiration Date 4/15/09 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)
3	CA13				
43	CA143				
7	CA17				
42	CA142				
13	CA143				
44	CA144				
30	CA130				
48	CA148				
36	CA136				
35	CA135				
38	CA138				
15	CA115				
14	CA114				
46	CA146				
47	CA147				

W 3/2/09

Prepared By: Kell Develo Date 3/2/09
 Reviewed By: Angie J. Ghera Date 3/2/09

Rev 1 RLM 9/10/97

**General Engineering Laboratories
Verification Source Preparation Sheet**

Applicable SOP Number GL-PAD-008 Isotope RA-226
Date Standards Prepared 4/5/09 Cocktail Type Used NA
Standard ID 0799G Matrix of Vial/Planchett NA
Amount Used (g or ml) 0.210 3/21/09
Standard Activity (DPM/g or ml) 2.446.347 Type of Scintillation Vial NA
Reference Date 12/5/09 Pipette ID Used 1429305
Expiration Date 4/2/09 Balance ID Used 3604026
Residue/Carrier Agent D.5M HCl Quenching Agent NA

	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				
<u>NO 3/21/09</u>					

Prepared By: Valeri Dorelli Date 3/21/09
Reviewed By: Ayle A. G. Date 3/2/09

Standard Traceability Log Rad

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:	

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

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parent Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 122414.2500 \text{ dpm/mL}$
$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0012 \text{ g/mL}) / (100 \text{ mL}) = 122273.3377 \text{ dpm/g}$

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



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

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 $\nu_{\text{eff}} = \infty$ 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

Nycomed
Amersham
Via 31/05

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 **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 *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:

$$\text{Source dpm/g} = (A - B)/(C)(D)$$

where:

- A = Ver. source cpm,
- B = BKG cpm,
- C = System efficiency, (cpm/dpm), and
- D = mass used for standard verification.

RAD.SOP.M-001

Henry Strickland 4/19/08
David Roy 4/10/08
 WMS

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
40	1050	1130109 1050	1130109 1355	2309 1710	401	4	8	6763
41	1050	1130109 1050	1130109 1310	2309 1800	402	4	8	9067
42	1050	1130109 1050	1130109 1335	2309 1840	403	4	8	7092
44	1050	1130109 1050	1130109 1400	2309 1915	404	4	8	7877
42	1050	1130109 1050	1130109 1435	2309 2035	405	4	8	8700
44	1050	1130109 1050	1130109 1500	2309 2110	409	4	8	7949
15	1050	1130109 1050	1130109 1530	24109 0830 24109 0830 24109 0830	410	4	8	1108
44	1050	1130109 1050	1130109 1545	24109 1115 24109 1115	411	4	8	1552
42	1050	1130109 1050	1130109 1600	24109 1150	412	4	8	9523
48								
36								

100
3/2/09

100
3/2/09
100 3/2/09

100
3/2/09

100
3/2/09

100
3/2/09

100
3/2/09

100
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 3	500	2/20/09 1725	2/23/09 1030	2/23/09 1615	401	4	0	4580
43	500	2/20/09 1725	2/23/09 1105	2/23/09 1655	402	4	0	5877 4877
7	500	2/20/09 1725	2/23/09 1130	2.23.09 1930	403	4	0	4011
42	500	2/20/09 1725	2/23/09 1310	2.23.09 1908	404	4	0	5005
13	500	2/20/09 1725	2/23/09 1340	2.23.09 1935	405	4	0	4224
3A	500	2/20/09 1725	2/23/09 1405	2.23.09 2250	406	4	0	2355
44	500	2/20/09 1725	2/23/09 1435	2.23.09 2330	407	4	0	2359
41	500	2/20/09 1725	2/23/09 1455	2.24.09 00:00	408	4	0	2598
30	500	2/20/09 1725	2/23/09 1520	2.24.09 00:30	409	4	8	5887 5887
48	500	2/20/09 1725	2/23/09 1540	2.24.09 0800 2.24.09 0800	410	4	8	4840
30	500	2/20/09 1725	2/23/09 1555	2/24/09 0840	411	4	8	4829
35	500	2/20/09 1725	2/23/09 1610	2/24/09 0940	412	4	8	4878

K40 2/23/09

K40 2/28/09
K40 2/28/09

2/28/09-140

K40 2/28/09

K40 2/24/09

K40 2/21/09
3/21/09

K40 3/21/09

K40 2/22/09

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
CM 098	500	2/25/09 1725	2/25/09 0755	2/25/09 1440	401	4	8	5677
15	500	2/25/09 1725	2/25/09 0815	2/25/09 1525	402	4	8	8017
14	500	2/25/09 1725	2/25/09 0855	2/25/09 1555	403	4	8	5562
40	500	2/25/09 1725	2/25/09 0855	2.25.09 20:20	404	4	8	7075
47	500	2/25/09 1725	2/25/09 1010	2.25.09 20:55	405	4	8	6721
10	500	2/25/09 1725	2/25/09 1040	2.25.09 20:22 2.25.09 20:22 2.25.09 20:22	406	4	8	7091
25	500	2/25/09 1725	2/25/09 1110	2.25.09 22:05	407	4	8	2827
22	500	2/25/09 1725	2/25/09 1145	2.25.09 22:45 2.25.09 22:55	408	4	8	5137
29	500	2/25/09 1725	2/25/09 1210	2/25/09 0810	409	4	8	5169
28	500	2/25/09 1725	2/25/09 1305	2/25/09 0850	410	4	8	6838
9	500	2/25/09 1725	2/25/09 1310	2/25/09 0930	411	4	8	6734
34	500	2/25/09 1725	2/25/09 1405	2/25/09 1015	412	4	8	7137

49 3/2/09
49 3/2/09
49 3/2/09
49 3/2/09

100 3/2/09

100 3/2/09

100 3/2/09

100 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 43	500	2/23/09 1605	2/27/09 0930	2/27/09 1215	401	4	8	5474
Cal 43	500	2/23/09 1605	2/27/09 0930	2/27/09 1416	402	4	8	7507
Cal 4	500	2/23/09 1605	2/27/09 1000	2/28/09 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 1635	409	4	8	7516
Cal 9	500	2/23/09 1605	2/27/09 1150	2/27/09 1715	410	4	8	7850
Cal 40	500	2/23/09 1605	2/27/09 1220	2/27/09 1745	411	4	8	2357
Cal 40	500	2/23/09 1605	2/27/09 1245	2/27/09 1820	412	4	8	7495

NO WORK

160312109
6357
1640
2/28/09

1640
312109

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 788	500	1/25/09 1400	3/2/09 1030	3/2/09 1340	405	4	8	8622

5012/8
405

5012/8
405

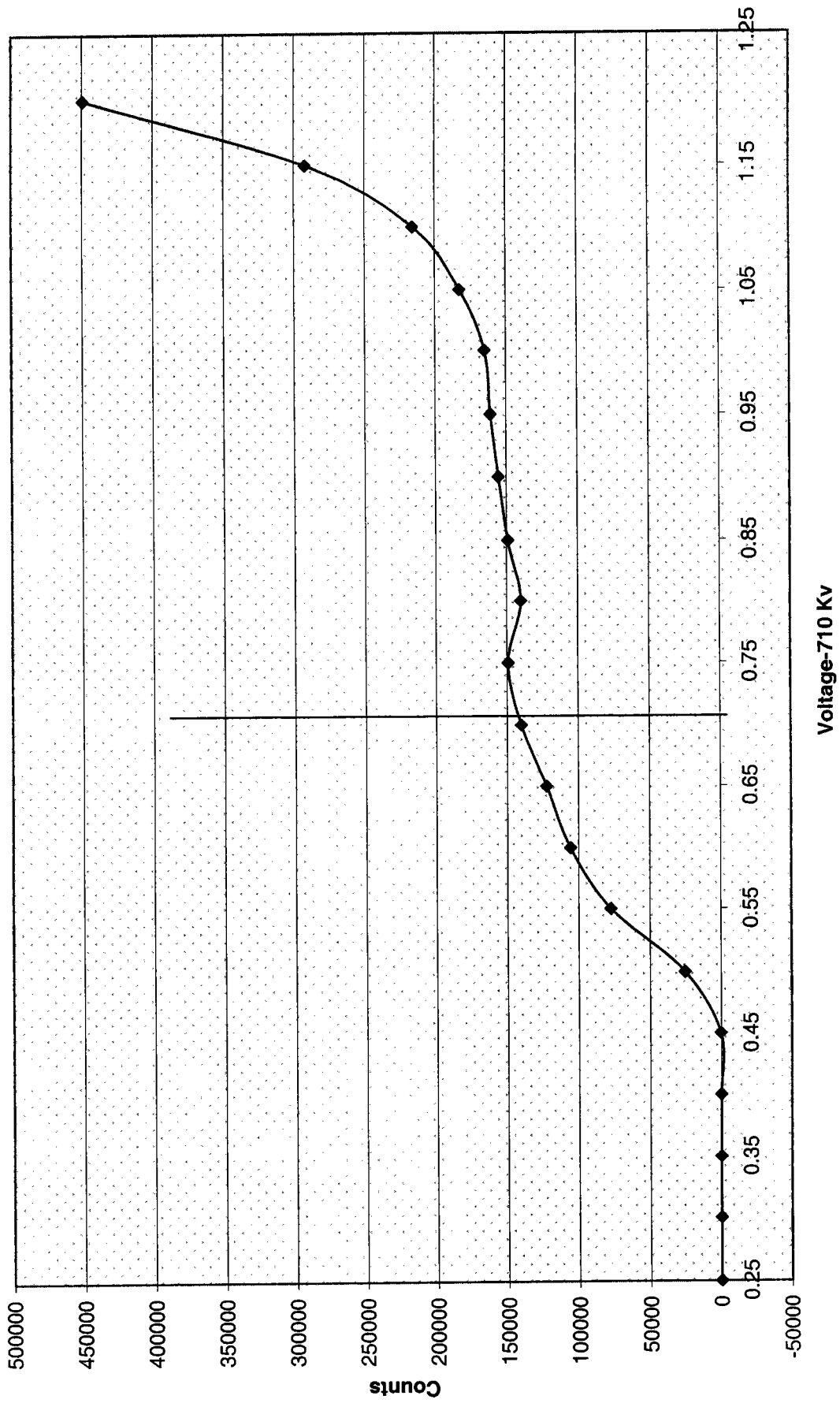
5012/8
405

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

JLJ
3/2/09

LM 3/2/09

Ludlum 4 Voltage Curve



10/3/04

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 second standard standard(s) documentation? standard preparation information? standard < 1 Year old or verified?	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
2) Is the efficiency calibration report included ?	<input checked="" type="checkbox"/>		
3) Is the raw count data included for: Cell constant determination? Plateau generation?	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
4) Are the calibration verifications included?	<input checked="" type="checkbox"/>		
5) Are the instrument settings included: HVPS settings?	<input checked="" type="checkbox"/>		
	<input checked="" type="checkbox"/>		
6) Has the CELLEFF.xls file been updated ?	<input checked="" type="checkbox"/>		
7) Have the calibration dates been updated in ALPHALIMS ?	<input checked="" type="checkbox"/>		

Prepared By: Kelli Brancee

Date: 3/24/09

Reviewed By: Angela Johnson

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	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	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	16	3/18/2009 8:25	3/17/2009 12:50	3/10/2009 14:00	7951	30	265.03	243.03	6.95739	0.81597	3381	0.9960
502	2.045	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	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	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	47	3/6/2009 10:30	3/5/2009 9:40	2/25/2009 14:00	7282	30	242.07	243.03	7.81944	1.03472	3369	0.9960
504	1.611	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	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	23	3/11/2009 13:00	3/10/2009 14:30	3/5/2009 14:00	8824	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	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	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	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	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	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	44	3/19/2009 21:30	3/19/2009 15:45	3/12/2009 12:10	7581	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	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	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	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	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	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	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	9088	30	302.27	243.03	5.90625	0.39583	3376	0.9960
512	1.796	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	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

*Backgrounds are not significant enough to be considered in calculations. ANSI N42.25-1997 (B.2).

Errr 0.143768 <- Put in Machines.xls (Lucas Cell Tab)

Calibration
Ra-226 Verification-Sheet
3/19/10

Cal #5

no 3124109
3119109

3/19/10

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	3/2/09 0815	3/6/09 0750	501	5	8	5281
Cal 14	500	2/25/09 1400	2/27/09 0845	3/6/09 0840	502	5	1	4200
		2/25/09 1400	3/2/09		503	5	100 313109	6800
Cal 46	500	2/25/09 1400	3/5/09 0920	3/6/09 0900	503	5	3	7250
Cal 47	500	2/25/09 1400	3/5/09 0940	3/6/09 1030	504	5	1	7262
Cal 48	500	2/25/09 1400	3/5/09 1005	3/6/09 1240	505	5	3	10654
Cal 45	500	2/25/09 1400	3/5/09 1030	3/6/09 1316	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	500	2/25/09 1400	3/5/09 1220	3/6/09 1630	511	5	6	8316

Calibration

Ra-226 Verification Sheet

219 3116109

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 1370	3/11/09 1115	502	5	5	7474
Cal 15	500	3/5/09 1400	3/10/09 1345	3/11/09 1155	503	5	8	7352
Cal 16	500	3/5/09 1400	3/10/09 1405	3/11/09 1230	504	5	4	5889
Cal 17	500	3/5/09 1400	3/10/09 1430	3/11/09 1300	505	5	2	8924
Cal 17	500	3/5/09 1400	3/10/09 1505	3/11/09 1530	506	5	8	7804
Cal 18	500	3/5/09 1400	3/10/09 1527	3/11/09 1410	507	5	4	6315
Cal 19	500	3/5/09 1400	3/10/09 1550	3/11/09 1455	508	5	4	6443
Cal 29	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 1610	510	5	3	5246
Cal 44	500	3/5/09 1400	3/10/09 1635	3/11/09 1650	511	5	8	7283
Cal 48	500	3/5/09 1400	3/10/09 1650	3/11/09 1735	512	5	8	6542

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Calibration
Ra-226 Verification Sheet
3/25/09

Cal # 5's

VO
3/24/09
VO
3/22/09

3/25/09
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 114	500	3/10/09 1400	3/17/09 1250	3/18/09 0825	502	5	5	7951
Cal 29	500	3/16/09 1400	3/17/09 1325	3/18/09 0855	503	5		6855
Cal 28	500	3/10/09 1400	3/17/09 1345	3/18/09 1025	504	5		6804
Cal 140	500	3/10/09 1400	3/17/09 1400	3/18/09 1300	512	5	8	8053
Cal 125	500	3/5/09 1400	3/10/09 1527	3/11/09 1420	507	5	4	6315
3/24/09								
3/24/09								
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Ra-226 Calibration Sheet

Standard ID: 0747-0
 Volume Added (mL): 1.1
 Expiration Date: 4/12/09

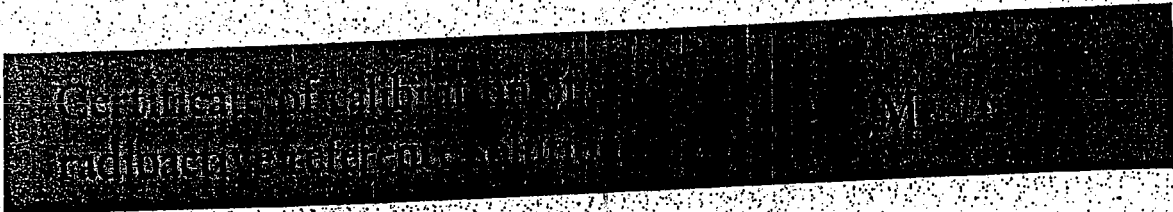
Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Total Counts
Cal 42	500	3/12/09 1210	3/12/09 1515	3/19/09 2015	503	85	8282
Cal 19	500	3/12/09 1210	3/14/09 1530	3/19/09 2030	504	5	8310
Cal 44	500	3/12/09 1210	3/14/09 1545	3/19/09 2130	508	5	7561
Cal 30	500	3/12/09 1210	3/14/09 1600	3/19/09 2200	509	5	9942

3/25/09
 3/25/09

8-21-00

Nycomed Amersham plc
Amersham Laboratories

0299



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

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

Date of 344 17th December 1999



Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0299	Isotope:	Radium-226
Prepared By:	Angela Johnson	Prepared By:	Angela Johnson
Carrier Conc:	0.5 M HCL	Prep Date:	09/15/2000
Reference Date:	12/15/1999	Verification Date:	01/23/2008
Ampoule Mass (g):	5.0368 g	Expiration Date:	01/23/2009
Uncertainty:	+/- 2.5 %	Primary Code:	0299-A
LogBook No:	RC S 027 128	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

$$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$$

$$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$$

$$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 122414.2500 \text{ dpm/mL}$$

$$(4.6634 \text{ g}) * (43.75 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0012 \text{ g/mL}) / (100 \text{ mL}) = 122273.3377 \text{ dpm/g}$$

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 Donnell

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 Pass
 Stdev = 10.63610098 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.

BAD-SOP-M-001

New Source 3/22/09
 4/19/08
 David D. Roy 4/10/08

General Engineering Laboratories
Verification Source Preparation Sheet
Calibration

Applicable SOP Number GL RAD-A-008 Isotope RA-226
 Date Standards Prepared 4/15/09 Cocktail Type Used NA
 Standard ID 0249-G Matrix of Vial/Planchett NA
 Amount Used (g or ml) 0.1 NA
 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 31240216
 Residue/Carrier Agent D.5M HCl Quenching Agent NA

	Standard Number	Quenching Vol (uL) Residue Volume (mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
15	Ca115				
46	Ca146				
47	Ca147				
16	Ca116				
25	Ca125				
23	Ca123				
39	Ca139				
28	Ca128				
9	Ca19				
34	Ca134				
42	Ca142				
19	Ca119				
44	Ca144				
7	Ca17				
13	Ca113				

VLD 3/24/09

Prepared By: Kelli D'Amico Date 3/24/09
 Reviewed By: _____ Date _____

General Engineering Laboratories
Verification Source Preparation Sheet
3/25/09 Calibration

Applicable SOP Number GLDMD-A-008 Isotope DIA 226
 Date Standards Prepared 4/5/09 Cocktail Type Used NA
 Standard ID 02946 Matrix of Vial/Planchett NA
 Amount Used (g or ml) 0.1 Type of Scintillation Vial NA
 Standard Activity (DPM/g or mL) 2446.347 Pipette ID Used 1429303
 Reference Date 12/15/99 Balance ID Used 3604026
 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)
43	Cal 43				
3	Cal 3				
36	Cal 36				
35	Cal 35				
37	Cal 37				
38	Cal 38				

Handwritten: 160 3/24/09

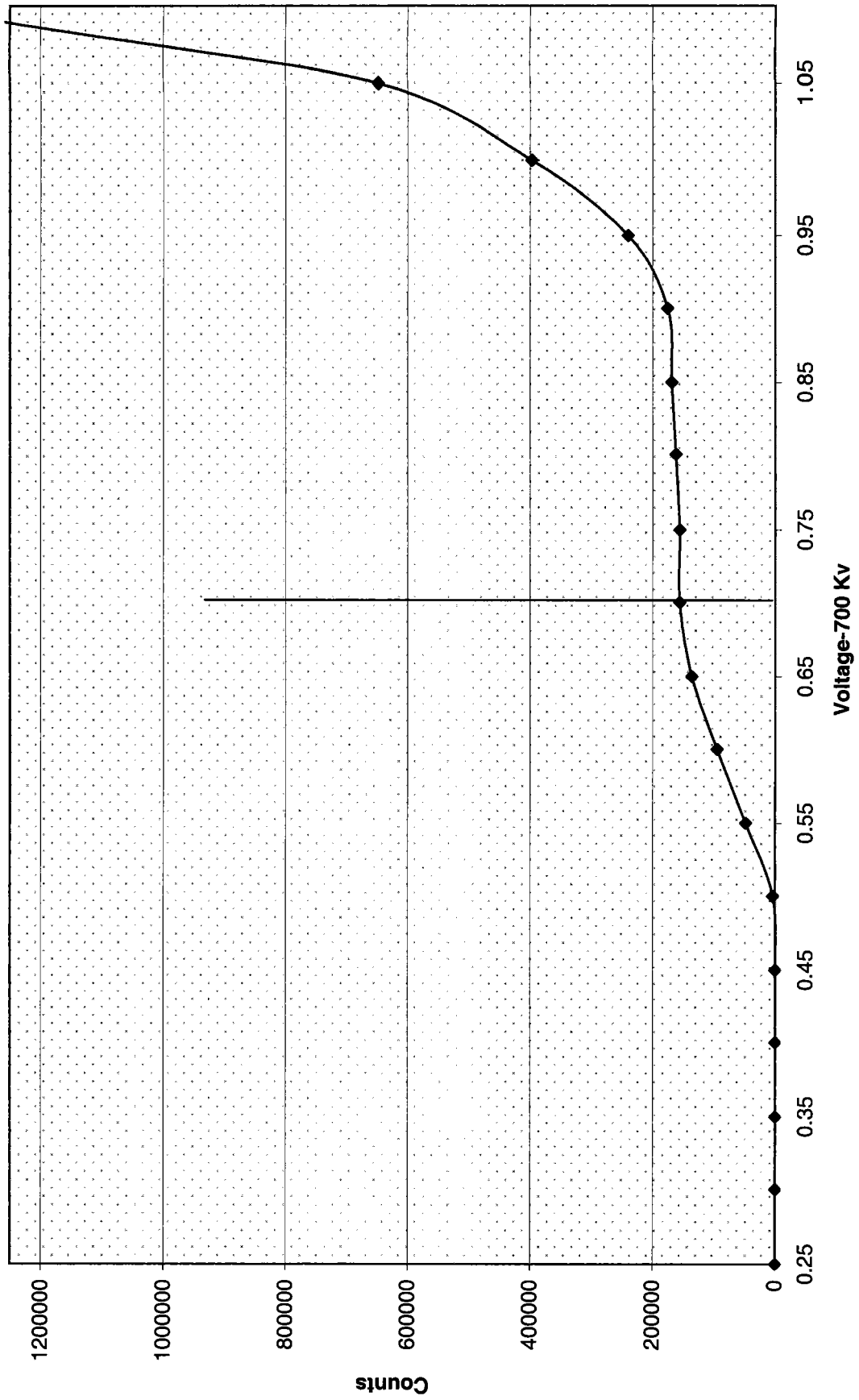
Prepared By: Kelli Doree Date: 3/24/09
 Reviewed By: _____ Date: _____

Voltage

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

UD 3/25/09

Ludlum 5 Voltage Curve



KAP 3/24/09

Ra-226 WATER

Batch : LCSVER
 Date : 2/20/2008
 Analyst : DXM2

Procedure Code : LUC26RAL

Parmname : Radium-226

MDA : 1 pCi/L

Instrument Used : LUCAS CELL DETECTOR

Bkg Count Time: 30 min

Sample ID	Sample Vol L	Count Time min	Gross counts cts	Cell #	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	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

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
NUN 1	500	3/12/09 1530	3/16/09 0945	3/16/09 1510 3/17/09 1510 3/16/09 1510	501	5	8	766
NUN 2	500	3/13/09 1530	3/16/09 1010	3/16/09 1925	502	5	85 140 3124109	537
NUN 3	500	3/13/09 1530	3/16/09 1030	3/16/09 2020	503	5	8	518
NUN 4	500	3/13/09 1530	3/16/09 1100	3/16/09 2115	504	5	8	577
NUN 5	500	3/13/09 1530	3/16/09 1125	3/16/09 2200	505	5	8 140 3124109	680
NUN 6	500	3/13/09 1530	3/16/09 1155	3/16/09 2230	506	5	8	707
NUN 7	500	3/13/09 1530	3/16/09 1320	3/16/09 2300	507	5	8	488
NUN 8	500	3/13/09 1530	3/16/09 1350	3/16/09 2330	508	5	8 140 3124109	544
NUN 9	500	3/13/09 1530	3/16/09 1410	3/17/09 0445 3/17/09 0545 3/17/09 0545	509	5	8	640
NUN 10	500	3/13/09 1530	3/16/09 1425	3/17/09 0500	510	5	8 140 3124109	432
NUN 11	500	3/13/09 1530	3/16/09 1445	3/17/09 0535	511	5	8	577
NUN 12	500	3/13/09 1530	3/16/09 1500	3/17/09 0610	512	5	8	723

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3124109

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3/25/09
3/25/09

3/17/09
3/17/09

Ra-226 Verification Sheet

Standard ID: 0638F
 Volume Added (mL): 0.1
 Expiration Date: 2/2/10

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background Counts	Total Counts
VEN 1	500	3/16/09 1400	3/20/09 1245	3/20/09 1820	501	5	8	70
VEN 2	500	3/16/09 1400	3/20/09 1305	3/20/09 1900	504	5	8	701
VEN 3	500	3/16/09 1400	3/20/09 1320	3/30/09 1940	506	5	8	893
VEN 4	500	3/16/09 1400	3/20/09 1345	3/30/09 2050	509	5	8	768

3/20/09 1900

VEN 3/20/09

VEN 3/20/09

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0638	Isotope:	Radium-226
Prepared By:	Amanda Fehr	Prepared By:	Amanda Fehr
Carrier Conc:	0.1M HCl	Prep Date:	01/16/2006
Reference Date:	01/23/2004	Verification Date:	03/04/2007
Ampoule Mass (g):	5.01065 g	Expiration Date:	03/04/2008
Uncertainty:	+/- 3.3 %	Primary Code:	0638-A
LogBook No:	RC-S-037-037	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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (dps)}) * (\text{conversion dpm to dps}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (dps)}) * (\text{conversion dpm to dps}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(4.8398 \text{ g}) * (23530 \text{ dps}) * (60 \text{ dpm/dps}) / (5.01065 \text{ g} * 100 \text{ mL}) = 13636.6133 \text{ dpm/mL}$
$(4.8398 \text{ g}) * (23530 \text{ dps}) * (60 \text{ dpm/dps}) / (1.0266 \text{ g/mL}) / (5.01065 \text{ g} * 100 \text{ mL}) = 13282.9676 \text{ dpm/g}$

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 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.

140 3124109

.. CI - T: 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 second 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: KDD 8/14/09

Date: 8/14/09

Reviewed By: Angela D. Ghera

Date: 8/16/09

Effective Date: 8/14/09

KD 8/16/09

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	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	5/26/2009 13:30	5/26/2009 9:30	5/19/2009 14:00	10883	30	362.77	6.81250	0.16667	3451	0.9959
601	2.253	Stdev	5/22/2009 12:55	5/22/2009 9:15	5/19/2009 14:00	6378	30	212.60	2.80208	0.15278	3447	0.9959
601	2.126		5/29/2009 14:45	5/29/2009 9:50	5/22/2009 10:45	10735	30	357.83	6.96181	0.20486	3454	0.9959
602	2.007	Average	5/29/2009 15:20	5/29/2009 10:15	5/22/2009 10:45	10133	30	337.77	6.97917	0.21181	3454	0.9959
602	2.194	Stdev	5/26/2009 14:05	5/26/2009 9:55	5/19/2009 14:00	11033	30	367.77	6.82986	0.17361	3451	0.9959
602	2.304		6/2/2009 14:45	6/2/2009 11:30	5/29/2009 9:50	8575	30	285.83	4.06944	0.13542	3458	0.9959
604	2.244	Average	6/2/2009 15:50	6/2/2009 11:50	5/29/2009 9:50	8321	30	277.37	4.08333	0.16667	3458	0.9959
604	2.076	Stdev	5/29/2009 15:55	5/29/2009 10:45	5/22/2009 12:00	10451	30	348.37	6.94792	0.21528	3454	0.9959
604	2.079		5/26/2009 15:45	5/26/2009 10:20	5/19/2009 14:00	10372	30	345.73	6.84722	0.22569	3451	0.9959
605	2.096	Average	5/26/2009 16:15	5/26/2009 10:50	5/19/2009 14:00	10474	30	349.13	6.86806	0.22569	3451	0.9959
605	2.228	Stdev	5/22/2009 16:25	5/22/2009 10:45	5/19/2009 14:00	6318	30	210.60	2.86458	0.23611	3447	0.9959
605	2.122		5/29/2009 17:15	5/29/2009 11:05	5/22/2009 12:50	10587	30	352.90	6.92708	0.25694	3454	0.9959
606	2.543	Average	5/29/2009 17:45	5/29/2009 13:10	5/26/2009 9:30	7816	30	260.53	3.15278	0.19097	3454	0.9959
606	2.202	Stdev	5/26/2009 16:45	5/26/2009 12:25	5/22/2009 12:00	8057	30	268.57	4.01736	0.18056	3451	0.9959
606	2.298		6/2/2009 18:20	6/2/2009 12:55	5/29/2009 9:50	8495	30	283.17	4.12847	0.22569	3458	0.9959
607	2.454	Average	6/2/2009 19:00	6/2/2009 13:10	5/29/2009 9:50	9057	30	301.90	4.13889	0.24306	3458	0.9959
607	2.572	Stdev	5/29/2009 19:00	5/29/2009 13:25	5/26/2009 9:55	7832	30	261.07	3.14583	0.23264	3454	0.9959
607	2.325		5/26/2009 17:15	5/26/2009 12:50	5/22/2009 12:00	8527	30	284.23	4.03472	0.18403	3451	0.9959
609	2.277	Average	5/26/2009 19:20	5/26/2009 13:10	5/22/2009 12:00	8261	30	275.37	4.04861	0.25694	3451	0.9959
609	2.280	Stdev	5/22/2009 19:20	5/22/2009 12:00	5/19/2009 14:00	6473	30	215.77	2.91667	0.30556	3447	0.9959
609	2.392		5/29/2009 19:40	5/29/2009 13:45	5/26/2009 10:20	7261	30	242.03	3.14236	0.24653	3454	0.9959
611	2.488	Average	5/29/2009 20:20	5/29/2009 14:00	5/26/2009 10:50	7510	30	250.33	3.13194	0.26389	3454	0.9959
611	2.245	Stdev	5/26/2009 22:00	5/26/2009 13:25	5/22/2009 12:00	8010	30	267.00	4.05903	0.35764	3451	0.9959
611	2.187		6/2/2009 19:50	6/2/2009 13:25	5/29/2009 9:50	8052	30	268.40	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).

Original of 9/16/09
WJ 8/16/09

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

Amount Used (g or ml) 0.1

NA
NA

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 0.1M 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				

JBG
8/4/09

JBG
8/4/09

Prepared By: Kelli Rowell Date 8/4/09

Reviewed By: Angela Gh... Date 8/4/09

Rev 1 RLM 9/10/97

Ra-226 Calibration Sheet

Standard ID: ~~0299-G~~ 0299-G
 Volume Added (mL): 0.1 *19814109

Expiration Date: ~~4/11/10~~ *19814109

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	5/24/09 0950	5/29/09 14:45	601	6	10735
Cal 6	500	5/22/09 1045	5/24/09 1015	5/29/09 15:20	602	6	10133
Cal 7	500	5/22/09 12:00	5/24/09 1045	5/29/09 15:55	604	6	10451
Cal 8	500	5/22/09 1250	5/24/09 1105	5/29/09 17:15 17:20	605	6	10587
Cal 9	500	5/24/09 0930	5/24/09 1310	5/29/09 17:45	606	6	7816
Cal 10	500	5/24/09 0955	5/24/09 1325	5/29/09 19:00	607	6	7832
Cal 11	500	5/24/09 1000	5/24/09 1345	5/29/09 19:40	609	6	7261
Cal 12	500	5/24/09 1050	5/24/09 1400	5/29/09 20:20	611	6	7510
					608	6	

*19814109
 *19814109

Ra-226 Calibration Sheet

Standard ID: ~~0299-6~~ 0299-6
 Volume Added (mL): 0.1 19 816109
 Expiration Date: ~~1126110~~ 1126110
 19 814109

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	5/20/09 1255	601	6	6318
Cal 2	500	5/19/09 1400	5/22/09 0945	5/22/09 1325	602	6	6358
Cal 3	500	5/19/09 1400	5/22/09 1010	5/22/09 1420	604	6	4600
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
Cal 6	500	5/19/09 1400	5/22/09 1140	5/22/09 1735	607	6	6428
Cal 7	500	5/19/09 1400	5/22/09 1200	5/22/09 1920	609	6	6473
Cal 8	500	5/19/09 1400	5/22/09 1250	5/22/09 2035	611	6	6455
Cal 9							
Cal 10							
Cal 11							
Cal 12							

100 814109
 100 814109
 100 814109
 100 814109
 6162-100 814109

19 814109

19 814109
 100 816109

Ra-226 Calibration Sheet

Standard ID: ~~0229~~ ~~E~~ 0299-G

Volume Added (mL): 0.1 ~~219~~ 214109

Expiration Date: ~~4/4/10~~ 1/26/10

019 214109

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Total Counts
Cal 5	500	5/24/09 0450	6/12/09 1130	6/12/09 1445	602	6	8575
Cal 6	500	5/24/09 0450	6/12/09 1150	6/12/09 1650	604	6	8321
Cal 7	500	5/24/09 0450	6/12/09 1255	6.2.09 1820	606	6	8495
Cal 8	500	5/24/09 0450	6/12/09 1310	6.2.09 1900	607	6	9057
Cal 9	500	5/24/09 0450	6/12/09 1325	6.2.09 1950	611	6	8052

MA 81109

8114109
219

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EEC

8-21-00

Nycomed Amersham plc
Amersham Laboratories

0299

CALIBRATION
No. 0146

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
Signature

Date of
issue

17th December 1999

Verification for Ra-226 Standard 0299-G

M. Aders 1/26/2009	Isotope	Value DPM	Uncertainty
	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.

M. Aders 241.9
August 9th 8/4/09

Ra-226 Cell Constants

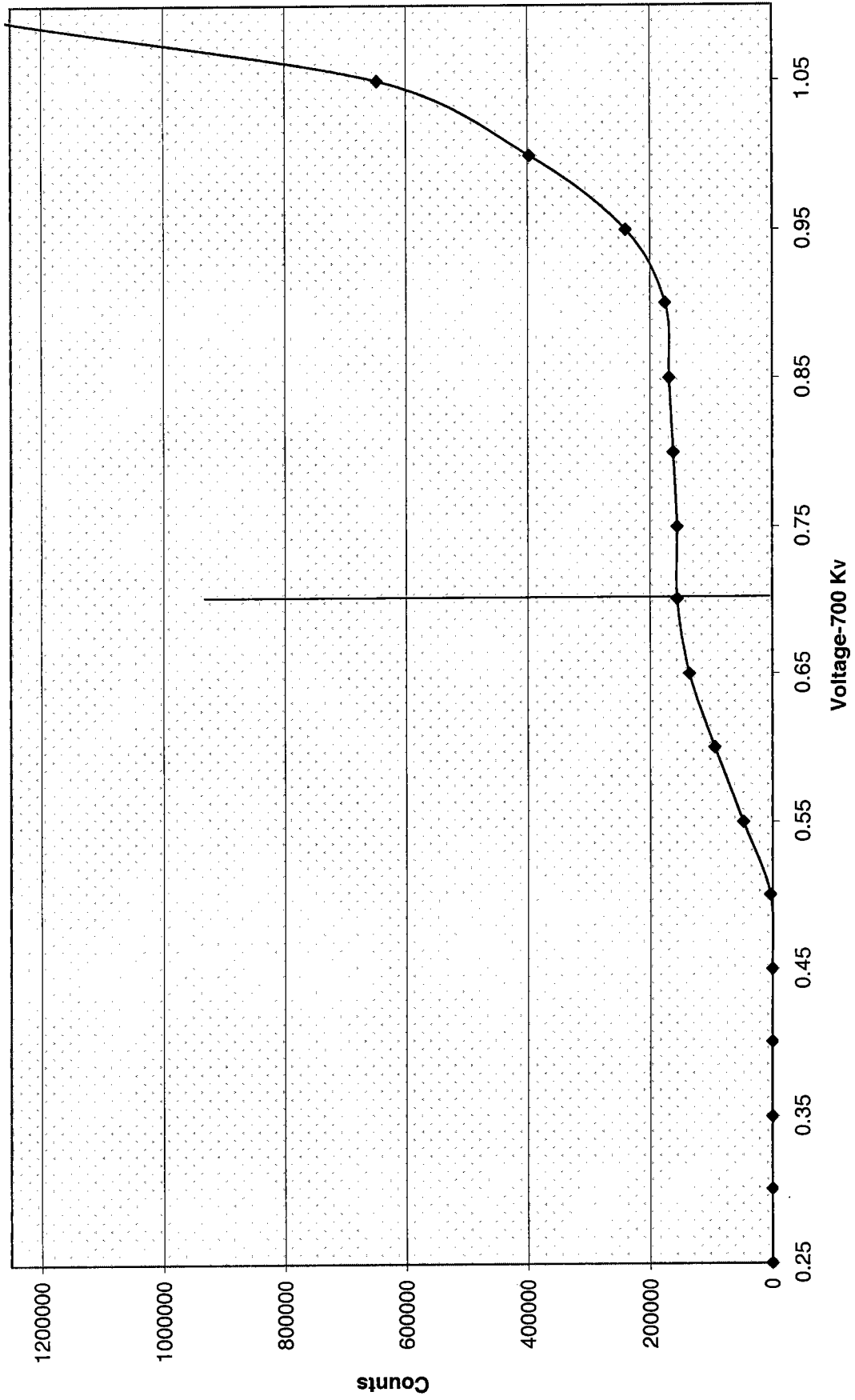
Standard Reference date: 12/15/1999
standard ID: 0299-G
Volume added (mL): 0.1
Standard Reference Activity (DPM/mL): 2446.35

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	0.996055551
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

W 8/4/09

Ludlum 6 Voltage Curve



WGS

Ra-226 WATER

Batch : LCSVER
Date : 6/2/2009
Analyst : KSD1

Procedure Code : LUC26RAL
Parmname : Radium-226
MDA : 1 pCi/L

Instrument Used : LUCAS CELL DETECTOR

Bkg Count Time: 30 min

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

Handwritten notes: 8/6/09, 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	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

Handwritten notes:
 8/16/09
 11/18/10

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 μ g/g Ba carrier.

P O NUMBER 3231RD, Item 5

SOURCE PREPARED BY:

M. D. Currie
M. D. Currie, Radiochemist

Q A APPROVED:

RCUW 1/26/04

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

Calculations Converting parent activity to dpm/mL|dpm/g

$$(\text{Mass of parent(g)}) * (\text{Parm Activity (dps)}) * (\text{conversion dpm to dps}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$$

$$(\text{Mass of parent(g)}) * (\text{Parm Activity (dps)}) * (\text{conversion dpm to dps}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$$

$$(4.8398 \text{ g}) * (23530 \text{ dps}) * (60 \text{ dpm/dps}) / (5.01065 \text{ g} * 100 \text{ mL}) = 13636.6133 \text{ dpm/mL}$$

$$(4.8398 \text{ g}) * (23530 \text{ dps}) * (60 \text{ dpm/dps}) / (1.0266 \text{ g/mL}) / (5.01065 \text{ g} * 100 \text{ mL}) = 13282.9676 \text{ dpm/g}$$

WMO 8/14/09

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

W084116

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.

Handwritten notes:
 0638-F #1
 2/2/2009
 Amanda [Signature]

Radium-226 Que Sheet

General Engineering Laboratories, Radiochemistry Division

02/03/2009

Analyst: KSDI

First Client Due Date:

Internal Due Date: 02/07/2009

Batch #: 838839

Spike Isotope: Radium-226 Spike Code: 003-P

Expiration Date: 12/27/03 Vol: 1

Nom Conc:

LCS Isotope: Radium-226 LCS Code: 003-P

Expiration Date: 12/27/03 Vol: 1

Nom Conc:

Prep Date: 12/27/03

Pipet ID:

Initials: VSD

Witness:

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 Date/Time	De-em Date/Time	Start Count Date/Time	Cell #	Det #	Bkg counts	Total Counts
1201770521-1	LCS for batch 838839	LCS	GROUND	WAJ 1	1 pCi/L	QC ACCOUNT	500	1/26/04 10:05	1/26/04 11:30	1/30/04 17:05	1/30/04 17:05	305	3	9	741
1201770522-1	LCS for batch 838839	LCS	GROUND	WAJ 1	1 pCi/L	QC ACCOUNT	500	1/26/04 10:05	1/26/04 11:45	1/30/04 17:57	1/30/04 17:57	304	3	9	748
1201770523-1	LCS for batch 838839	LCS	GROUND	WAJ 1	1 pCi/L	QC ACCOUNT	500	1/26/04 10:05	1/26/04 12:00	1/30/04 17:55	1/30/04 17:55	305	3	9	743

Comments:

Instrument ID's:

LUCAS-5028, LUCAS-13617, LUCAS-90899, LUCAS-162753, LUCAS-132286, LUC-6-17055

Data Reviewed By:

WJ Slivers

Radium-226 Liquid

Filename : RA226.XLS
 File type : Excel
 Version # : 1.2.3

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

Spike S/N : N/A
 Spike Exp Date : N/A
 Spike Activity (dpm/ml): N/A
 Spike Volume Added: N/A

Batch : 838839

Analyst : KSD1
 Prep Date : 1/26/2009

Ra-226 Abundance : 1

Ra-226 Method Uncertainty : 0.0918

Procedure Code : LUC26RAL

Parrrname : Radium-226

Required MDA : 1 pCi/L

Half-life of Ra-226 : 1600 years

Half-life of Rn-222: 3.823 days

Batch counted on : LUCAS CELL DETECTOR

BKG Count time : 30 min

Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Count Raw Data			Weekly Background			Detector Efficiency (cpm/dpm)	
				Cell Number	Counting Time (min.)	Gross Counts	Gross CPM	Counts	CPM		Count Time (min.)
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

Handwritten notes:
 UNSM105
 1/26/09

Detector Efficiency Error (cpm/dpm)	Cell Calibration Date	Cell Calibration Due Date	De-Gas Date/Time	Rn-222 Ingrowth		Count Start Date/Time	Rn-222 Corrections		Ra-226 Decay
				End Date/Time	De-Gas to Ingrowth		Ingrowth to Count	During Count	
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

K0816104
01/21/09

- 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

Results Decision Level pCi/L	Critical Level pCi/L	MDA pCi/L	Sample Act.		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
			Conc. pCi/L	Error pCi/L			2 SIGMA Counting Uncertainty pCi/L	2 SIGMA Total Prop. Uncertainty pCi/L								
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%	

383

11/28/10
(15)

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-propylene 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.

Ante Hill
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
 Two sigma = 0
 10 % of Mean = 10.6
 Rule 2 (Pass/Fail) Pass

PASS
 Fair 3/2/0

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
 Two sigma = 6.306610289
 10 % of Mean = 9.026666667
 Rule 2 (Pass/Fail) Pass

Gadolinium-148

Isotope	Value pCi/g
SSTOCK2002A2_AM	95.080
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
 Two sigma = 3.006148253
 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 stdev was zero. The intent of this rule is to ensure an appropriate amount of counts are achieved for proper determinations. ~~Surfaces~~ 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.

Robertson 02/20/03

Attachment II

Mixed alpha Reference date = 2/7/2003		Stock Dpm/g	Reference date	Half-life (years)	amount used for mixed	Dpm/g mixed	Decay corr dpm/g
Isotope	Source						
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

Attachment II

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

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]*.

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	(16.5 ± 0.5) mm	
	Wall Thickness	(0.60 ± 0.04) mm	
	Barium content	Less than 2.5%	
	Lead-oxide content	Less than 0.02%	
	Other heavy elements	Trace quantities	
Solution density	(1.030 ± 0.002) g·mL ⁻¹ at 22.8 °C [b]*		
Solution mass	Approximately 5.15 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L ⁻¹)	Mass Fraction (g·g ⁻¹)
	H ₂ O	54	0.94
	HNO ₃	1.0	0.06
	HCl	<0.001	<4 × 10 ⁻⁵
	²⁴⁴ Cm +3	5 × 10 ⁻¹¹	1 × 10 ⁻¹¹
Radiological Properties:			
Radionuclide	Curium-244		
Reference time	1230 EST, 1 February 1996 [c]		
Massic activity of the solution [d]	37.06 Bq·g ⁻¹ 24.12 Bq·g ⁻¹		
Relative expanded uncertainty (k=2)	0.68% [e] [f]		
Alpha-particle-emitting daughters	Plutonium-240: (0.22 ± 0.11) Bq·g ⁻¹ [b] [c]		
Alpha-particle-emitting impurities	Curium-243: (0.005 ± 0.004) Bq·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 4π liquid-scintillation counting systems		

37.06 x 2 2004
6

- [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 $u_i(y)/y = |\partial y/\partial x_i| \cdot u(x_i)/y = |\partial y/\partial x_i| \cdot (x_i/y) \cdot u(x_i)/x_i$. 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. $|\partial y/\partial x_i| \cdot (x_i/y) = \{(\text{response per Bq of impurity})/(\text{response per Bq of Cm-244})\} \cdot \{(\text{Bq of impurity})/(\text{Bq of Cm-244})\}$.
- [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. $u(x_i)/x_i = 100\%$. $|\partial y/\partial x_i| \cdot (x_i/y) = \{(\text{response per Bq of impurity})/(\text{response per Bq of Cm-244})\} \cdot \{(\text{Bq of impurity})/(\text{Bq of Cm-244})\}$. 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.



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):	<u>3.759 E3</u>
HALF-LIFE:	<u>74.6 years</u>
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:

100. [Signature] 9-6-02

25
31
30
31
31
7:

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·L ⁻¹ nitric acid
Reference time	March 1992
Radioactivity concentration	97.0 Bq·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 ± 0.11) × 10 ⁶ years ⁽⁵⁾
Measuring instrument	NIST "0.8π" α 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

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

$0.10 \text{ } \alpha \cdot \text{s}^{-1} \cdot \text{g}^{-1}$ for energies between 1.0 and 4.3 MeV and
 $0.05 \text{ } \alpha \cdot \text{s}^{-1} \cdot \text{g}^{-1}$ 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 : 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-AUG-2009 13:24:07
 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	4768.335
CM-244	4320A	2/28/10	5795.020	5794.881

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.838
 Energy Calibration Slope : 4.927811
 Energy Calibration Quadratic : 3.3034658E-04
 Energy Calibration Range : 7783.000

Instrument : CHAMBER 210
 Detector : 79189
 Calibration Date/Time : 28-AUG-2009 13:25:35
 Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.411
NP-237	4341	2/28/10	4768.800	4768.113
CM-244	4320A	2/28/10	5795.020	5794.645

Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.667
 Energy Calibration Slope : 4.959684
 Energy Calibration Quadratic : 2.9263049E-04
 Energy Calibration Range : 7769.000

Instrument : CHAMBER 211
 Detector : 79190
 Calibration Date/Time : 28-AUG-2009 13:25:47
 Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.995
NP-237	4341	2/28/10	4768.800	4768.326
CM-244	4320A	2/28/10	5795.020	5794.748

Energy/Channel Equation : see above
 Energy Calibration Zero : 2392.783
 Energy Calibration Slope : 4.948876
 Energy Calibration Quadratic : 3.2176418E-04
 Energy Calibration Range : 7798.000

Instrument : CHAMBER 212
 Detector : 79191
 Calibration Date/Time : 28-AUG-2009 13:26:50
 Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.995
NP-237	4341	2/28/10	4768.800	4768.536
CM-244	4320A	2/28/10	5795.020	5794.696

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.425
 Energy Calibration Slope : 4.930474
 Energy Calibration Quadratic : 3.3508314E-04
 Energy Calibration Range : 7791.000

Instrument : CHAMBER 213
 Detector : 79192
 Calibration Date/Time : 28-AUG-2009 13:27:02
 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	4768.585
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2391.388
 Energy Calibration Slope : 4.965888
 Energy Calibration Quadratic : 2.9186261E-04
 Energy Calibration Range : 7782.000

Instrument : CHAMBER 214
 Detector : 79193
 Calibration Date/Time : 28-AUG-2009 13:27:13
 Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.617
NP-237	4341	2/28/10	4768.800	4768.269
CM-244	4320A	2/28/10	5795.020	5794.897

Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.729
 Energy Calibration Slope : 4.939622
 Energy Calibration Quadratic : 3.2170661E-04
 Energy Calibration Range : 7784.000

Instrument : CHAMBER 215
 Detector : 79194
 Calibration Date/Time : 28-AUG-2009 13:27:24
 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	4768.687
CM-244	4320A	2/28/10	5795.020	5794.826

Energy/Channel Equation : see above
 Energy Calibration Zero : 2394.311
 Energy Calibration Slope : 4.937372
 Energy Calibration Quadratic : 3.3629968E-04
 Energy Calibration Range : 7803.000

Instrument : CHAMBER 216
 Detector : 79195
 Calibration Date/Time : 28-AUG-2009 13:27:35
 Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.995
NP-237	4341	2/28/10	4768.800	4768.219
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.139
 Energy Calibration Slope : 4.935822
 Energy Calibration Quadratic : 3.2837162E-04
 Energy Calibration Range : 7789.000

Instrument : CHAMBER 217
 Detector : 79410
 Calibration Date/Time : 28-AUG-2009 13:27:45
 Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.999
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5794.882

Energy/Channel Equation : see above
 Energy Calibration Zero : 2392.370
 Energy Calibration Slope : 4.932100
 Energy Calibration Quadratic : 3.3393077E-04
 Energy Calibration Range : 7793.000

Instrument : CHAMBER 218
 Detector : 79411
 Calibration Date/Time : 28-AUG-2009 13:27:55
 Calibration Source Id : AESS-010
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.358
 NP-237 4341 2/28/10 4768.800 4768.423
 CM-244 4320A 2/28/10 5795.020 5794.546
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.502
 Energy Calibration Slope : 4.945263
 Energy Calibration Quadratic : 3.2289582E-04
 Energy Calibration Range : 7793.000

Instrument : CHAMBER 219
 Detector : 79412
 Calibration Date/Time : 28-AUG-2009 13:28:06
 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 4768.507
 CM-244 4320A 2/28/10 5795.020 5794.730
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.417
 Energy Calibration Slope : 4.951864
 Energy Calibration Quadratic : 3.1518008E-04
 Energy Calibration Range : 7790.000

Instrument : CHAMBER 220
 Detector : 79413
 Calibration Date/Time : 28-AUG-2009 13:28:15
 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 4768.604
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.931
 Energy Calibration Slope : 4.925590
 Energy Calibration Quadratic : 3.4113281E-04
 Energy Calibration Range : 7786.000

Instrument : CHAMBER 221
 Detector : 79414
 Calibration Date/Time : 28-AUG-2009 13:28:26
 Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.994
NP-237	4341	2/28/10	4768.800	4768.508
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.873
 Energy Calibration Slope : 4.963081
 Energy Calibration Quadratic : 3.1328213E-04
 Energy Calibration Range : 7801.000

Instrument : CHAMBER 222
 Detector : 79415
 Calibration Date/Time : 28-AUG-2009 13:28:40
 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	4768.242
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.161
 Energy Calibration Slope : 5.032124
 Energy Calibration Quadratic : 2.3446424E-04
 Energy Calibration Range : 7782.000

Instrument : CHAMBER 223
 Detector : 79416
 Calibration Date/Time : 28-AUG-2009 13:28:50
 Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.591
CM-244	4320A	2/28/10	5795.020	5794.816

Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.471
 Energy Calibration Slope : 4.966544
 Energy Calibration Quadratic : 3.1951332E-04
 Energy Calibration Range : 7810.000

Instrument : CHAMBER 224
 Detector : 79417
 Calibration Date/Time : 28-AUG-2009 13:29:01
 Calibration Source Id : AESS-016
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.496
 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 : 2391.014
 Energy Calibration Slope : 4.986970
 Energy Calibration Quadratic : 2.9468181E-04
 Energy Calibration Range : 7807.000

Instrument : CHAMBER 225
 Detector : 79418
 Calibration Date/Time : 28-AUG-2009 13:29:13
 Calibration Source Id : AESS-017
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.995
 NP-237 4341 2/28/10 4768.800 4768.482
 CM-244 4320A 2/28/10 5795.020 5794.771

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2392.520
 Energy Calibration Slope : 4.953336
 Energy Calibration Quadratic : 3.1543931E-04
 Energy Calibration Range : 7795.000

Instrument : CHAMBER 226
 Detector : 79419
 Calibration Date/Time : 28-AUG-2009 13:29:24
 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 4768.533
 CM-244 4320A 2/28/10 5795.020 5794.638

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2385.990
 Energy Calibration Slope : 4.969761
 Energy Calibration Quadratic : 3.0473244E-04
 Energy Calibration Range : 7795.000

Instrument : CHAMBER 227
 Detector : 79420
 Calibration Date/Time : 28-AUG-2009 13:29:35
 Calibration Source Id : AESS-019

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.989
NP-237	4341	2/28/10	4768.800	4768.396
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.018
 Energy Calibration Slope : 4.958102
 Energy Calibration Quadratic : 3.1095589E-04
 Energy Calibration Range : 7793.000

Instrument : CHAMBER 228
 Detector : 79421
 Calibration Date/Time : 28-AUG-2009 13:30:03
 Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.080
CM-244	4320A	2/28/10	5795.020	5794.730

Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.553
 Energy Calibration Slope : 4.991631
 Energy Calibration Quadratic : 2.7237524E-04
 Energy Calibration Range : 7782.000

Instrument : CHAMBER 229
 Detector : 79422
 Calibration Date/Time : 28-AUG-2009 13:30:14
 Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.535
NP-237	4341	2/28/10	4768.800	4768.314
CM-244	4320A	2/28/10	5795.020	5794.771

Energy/Channel Equation : see above
 Energy Calibration Zero : 2391.623
 Energy Calibration Slope : 4.946116
 Energy Calibration Quadratic : 3.3402635E-04
 Energy Calibration Range : 7807.000

Instrument : CHAMBER 230
 Detector : 79423
 Calibration Date/Time : 28-AUG-2009 13:31:10
 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	4768.295
CM-244	4320A	2/28/10	5795.020	5794.755

Energy/Channel Equation : see above
 Energy Calibration Zero : 2386.924
 Energy Calibration Slope : 4.965939
 Energy Calibration Quadratic : 3.0765639E-04
 Energy Calibration Range : 7795.000

Instrument : CHAMBER 231
 Detector : 79424
 Calibration Date/Time : 28-AUG-2009 13:31:59
 Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.555
NP-237	4341	2/28/10	4768.800	4768.511
CM-244	4320A	2/28/10	5795.020	5794.833

Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.970
 Energy Calibration Slope : 4.957988
 Energy Calibration Quadratic : 3.0450191E-04
 Energy Calibration Range : 7786.000

Instrument : CHAMBER 232
 Detector : 79425
 Calibration Date/Time : 28-AUG-2009 13:32:18
 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	4768.305
CM-244	4320A	2/28/10	5795.020	5794.704

Energy/Channel Equation : see above
 Energy Calibration Zero : 2386.107
 Energy Calibration Slope : 5.009925
 Energy Calibration Quadratic : 2.5456178E-04
 Energy Calibration Range : 7783.000

Instrument : CHAMBER 233
 Detector : 79426
 Calibration Date/Time : 28-AUG-2009 13:32:35
 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	4768.576
CM-244	4320A	2/28/10	5795.020	5794.737

Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.864
 Energy Calibration Slope : 4.921108
 Energy Calibration Quadratic : 3.4491287E-04
 Energy Calibration Range : 7786.000

Instrument : CHAMBER 234
 Detector : 79427
 Calibration Date/Time : 28-AUG-2009 13:32:51
 Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.551
NP-237	4341	2/28/10	4768.800	4768.513
CM-244	4320A	2/28/10	5795.020	5794.778

Energy/Channel Equation : see above
 Energy Calibration Zero : 2381.948
 Energy Calibration Slope : 4.930495
 Energy Calibration Quadratic : 3.2252993E-04
 Energy Calibration Range : 7769.000

Instrument : CHAMBER 235
 Detector : 79428
 Calibration Date/Time : 28-AUG-2009 13:33:07
 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 : 2389.848
 Energy Calibration Slope : 4.916008
 Energy Calibration Quadratic : 3.6057594E-04
 Energy Calibration Range : 7802.000

Instrument : CHAMBER 236
 Detector : 79429
 Calibration Date/Time : 28-AUG-2009 13:33:24
 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 4768.403
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.679
 Energy Calibration Slope : 4.915041
 Energy Calibration Quadratic : 3.5203501E-04
 Energy Calibration Range : 7792.000

Instrument : CHAMBER 237
 Detector : 79430
 Calibration Date/Time : 28-AUG-2009 13:33:41
 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 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2386.371
 Energy Calibration Slope : 4.953910
 Energy Calibration Quadratic : 3.1539882E-04
 Energy Calibration Range : 7790.000

Instrument : CHAMBER 238
 Detector : 79431
 Calibration Date/Time : 28-AUG-2009 13:33:59
 Calibration Source Id : AESS-030
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.662
 CM-244 4320A 2/28/10 5795.020 5795.015
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2382.061
 Energy Calibration Slope : 4.932787
 Energy Calibration Quadratic : 3.2764973E-04
 Energy Calibration Range : 7777.000

Instrument : CHAMBER 239
 Detector : 79432
 Calibration Date/Time : 28-AUG-2009 13:34:23
 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	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.464
 Energy Calibration Slope : 4.922751
 Energy Calibration Quadratic : 3.5207078E-04
 Energy Calibration Range : 7801.000

Instrument : CHAMBER 240
 Detector : 79433
 Calibration Date/Time : 28-AUG-2009 13:34:40
 Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.994
NP-237	4341	2/28/10	4768.800	4768.676
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.323
 Energy Calibration Slope : 4.929180
 Energy Calibration Quadratic : 3.3816224E-04
 Energy Calibration Range : 7786.000

Instrument : CHAMBER 241
 Detector : 79434
 Calibration Date/Time : 28-AUG-2009 13:34:57
 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	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.207
 Energy Calibration Slope : 4.903821
 Energy Calibration Quadratic : 3.6748822E-04
 Energy Calibration Range : 7795.000

Instrument : CHAMBER 242
 Detector : 79435
 Calibration Date/Time : 28-AUG-2009 13:35:16
 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	4768.542
CM-244	4320A	2/28/10	5795.020	5794.775

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.032
 Energy Calibration Slope : 4.921538
 Energy Calibration Quadratic : 3.5085063E-04
 Energy Calibration Range : 7798.000

Instrument : CHAMBER 243
 Detector : 79436
 Calibration Date/Time : 28-AUG-2009 13:35:39
 Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.988
NP-237	4341	2/28/10	4768.800	4768.486
CM-244	4320A	2/28/10	5795.020	5794.752

Energy/Channel Equation : see above
 Energy Calibration Zero : 2386.548
 Energy Calibration Slope : 4.951634
 Energy Calibration Quadratic : 3.2005890E-04
 Energy Calibration Range : 7793.000

Instrument : CHAMBER 244
 Detector : 79437
 Calibration Date/Time : 28-AUG-2009 13:36:07
 Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.497
NP-237	4341	2/28/10	4768.800	4768.339
CM-244	4320A	2/28/10	5795.020	5794.813

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.547
 Energy Calibration Slope : 4.935142
 Energy Calibration Quadratic : 3.3349055E-04
 Energy Calibration Range : 7794.000

Instrument : CHAMBER 245
 Detector : 79438
 Calibration Date/Time : 28-AUG-2009 13:36:53
 Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.392
NP-237	4341	2/28/10	4768.800	4768.244
CM-244	4320A	2/28/10	5795.020	5794.789

Energy/Channel Equation : see above
 Energy Calibration Zero : 2393.397
 Energy Calibration Slope : 4.967153
 Energy Calibration Quadratic : 3.0749093E-04
 Energy Calibration Range : 7802.000

Instrument : CHAMBER 246
 Detector : 78912
 Calibration Date/Time : 28-AUG-2009 13:37:05
 Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.994
NP-237	4341	2/28/10	4768.800	4768.559
CM-244	4320A	2/28/10	5795.020	5794.661

Energy/Channel Equation : see above
 Energy Calibration Zero : 2393.972
 Energy Calibration Slope : 4.938848
 Energy Calibration Quadratic : 3.3234741E-04
 Energy Calibration Range : 7800.000

Instrument : CHAMBER 247
 Detector : 79440
 Calibration Date/Time : 28-AUG-2009 13:37:16
 Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.340
CM-244	4320A	2/28/10	5795.020	5794.822

Energy/Channel Equation : see above
 Energy Calibration Zero : 2392.511
 Energy Calibration Slope : 4.947969
 Energy Calibration Quadratic : 3.3144341E-04
 Energy Calibration Range : 7807.000

Instrument : CHAMBER 248
 Detector : 79441
 Calibration Date/Time : 28-AUG-2009 13:37:28
 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	5794.763

Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.425
 Energy Calibration Slope : 4.938920
 Energy Calibration Quadratic : 3.3573247E-04
 Energy Calibration Range : 7797.000

Instrument : CHAMBER 249
 Detector : 79442
 Calibration Date/Time : 28-AUG-2009 13:37:39
 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	4768.655
CM-244	4320A	2/28/10	5795.020	5794.817

Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.492
 Energy Calibration Slope : 4.950956
 Energy Calibration Quadratic : 3.3470633E-04
 Energy Calibration Range : 7808.000

Instrument : CHAMBER 250
 Detector : 79443
 Calibration Date/Time : 28-AUG-2009 13:37:51
 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 : 2382.437
 Energy Calibration Slope : 4.924478
 Energy Calibration Quadratic : 3.4610991E-04
 Energy Calibration Range : 7788.000

Instrument : CHAMBER 251
 Detector : 79444
 Calibration Date/Time : 28-AUG-2009 13:38:01
 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	4768.630
CM-244	4320A	2/28/10	5795.020	5794.883

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.000
 Energy Calibration Slope : 4.933837
 Energy Calibration Quadratic : 3.5430092E-04
 Energy Calibration Range : 7814.000

Instrument : CHAMBER 252
 Detector : 79445
 Calibration Date/Time : 28-AUG-2009 13:38:11
 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	4768.618
CM-244	4320A	2/28/10	5795.020	5794.764

Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.483
 Energy Calibration Slope : 4.925191
 Energy Calibration Quadratic : 3.5263240E-04
 Energy Calibration Range : 7803.000

Instrument : CHAMBER 253
 Detector : 79446
 Calibration Date/Time : 28-AUG-2009 13:38:20
 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	4768.801
CM-244	4320A	2/28/10	5795.020	5794.899

Energy/Channel Equation : see above
 Energy Calibration Zero : 2397.089
 Energy Calibration Slope : 4.939593
 Energy Calibration Quadratic : 3.6825475E-04
 Energy Calibration Range : 7841.000

Instrument : CHAMBER 254
 Detector : 79447
 Calibration Date/Time : 28-AUG-2009 13:38:31
 Calibration Source Id : AESS-046
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.420
 NP-237 4341 2/28/10 4768.800 4768.432
 CM-244 4320A 2/28/10 5795.020 5794.736

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2392.513
 Energy Calibration Slope : 4.939602
 Energy Calibration Quadratic : 3.3955529E-04
 Energy Calibration Range : 7807.000

Instrument : CHAMBER 255
 Detector : 79448
 Calibration Date/Time : 28-AUG-2009 13:38:42
 Calibration Source Id : AESS-047
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.573
 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 : 2389.962
 Energy Calibration Slope : 4.937794
 Energy Calibration Quadratic : 3.5419688E-04
 Energy Calibration Range : 7818.000

Instrument : CHAMBER 256
 Detector : 79449
 Calibration Date/Time : 28-AUG-2009 13:38:54
 Calibration Source Id : AESS-048
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.994
 NP-237 4341 2/28/10 4768.800 4768.603
 CM-244 4320A 2/28/10 5795.020 5794.763

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.038
 Energy Calibration Slope : 4.925209
 Energy Calibration Quadratic : 3.5748276E-04
 Energy Calibration Range : 7808.000

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	10.000000	2.400000	31.62278	95.00000
CM-244	5532.536	5882.399	13.000000	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	16.000000	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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	13.000000	3.119998	27.73501	95.00000
CM-244	5532.110	5886.157	66.000000	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	16.000000	3.839997	25.00000	95.00000
CM-244	5531.463	5885.396	50.000000	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	76.000000	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	43.000000	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	60.000000	14.399999	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	1.4399999	40.82483	95.00000
NP-237	4433.428	4906.578	9.000000	2.1599999	33.33334	95.00000
CM-244	5533.808	5885.833	47.000000	11.279999	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	2.1599999	33.33334	95.00000
CM-244	5535.296	5884.198	73.000000	17.519999	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	10.000000	2.3999998	31.62278	95.00000
CM-244	5533.930	5885.396	49.000000	11.759999	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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.428	4904.926	5.000000	1.500000	44.72136	95.00000
CM-244	5535.556	5884.119	12.000000	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	12.000000	3.6000000	28.86751	95.00000
CM-244	5531.940	5884.576	10.000000	3.0000000	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	16.000000	4.8000000	25.00000	95.00000
CM-244	5531.663	5884.741	9.000000	2.7000000	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	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4435.604	4905.905	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.021	5885.467	33.00000	9.900001	17.40777	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	24.00000	7.200000	20.41241	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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4435.824	4905.707	3.000000	0.900000	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	0.900000	57.73503	95.00000
NP-237	4434.099	4904.342	5.000000	1.500000	44.72136	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	1.000000	0.300000	100.0000	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	24.00000	7.200000	20.41241	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	19.00000	5.700000	22.94157	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	3.000000	0.9000000	57.73503	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	24.00000	7.200000	20.41241	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	12.00000	3.600000	28.86751	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	0.000000E+00	0.000000E+00	0.000000E+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	1.000000	0.3000000	100.0000	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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.0000000E+00	0.000000E+00	95.00000
CM-244	5531.710	5884.137	14.00000	4.200000	26.72612	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	6.000000	1.800000	40.82483	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 : 23-AUG-2009 11:57:44
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.940	3298.642	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.592	4905.793	3.000000	0.9000000	57.73503	95.00000
CM-244	5530.388	5883.749	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 210
 Detector : 79189
 Background Analysis Date/Time : 23-AUG-2009 11:57:48
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.073	3301.089	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.142	4905.164	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.916	5886.208	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 211
 Detector : 79190
 Background Analysis Date/Time : 23-AUG-2009 11:57:52
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.282	3299.071	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.230	4900.253	2.000000	0.6000000	70.71068	95.00000
CM-244	5531.327	5885.262	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 212
 Detector : 79191
 Background Analysis Date/Time : 23-AUG-2009 11:57:56
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.918	3298.870	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.027	4902.590	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.378	5887.318	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 213
 Detector : 79192
 Background Analysis Date/Time : 23-AUG-2009 11:58:01
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.497	3299.775	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.841	4905.254	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.504	5887.063	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 214
 Detector : 79193
 Background Analysis Date/Time : 23-AUG-2009 11:58:05
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.133	3298.396	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4436.844	4902.153	4.000000	1.200000	50.00000	95.00000
CM-244	5532.271	5885.676	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 215
 Detector : 79194
 Background Analysis Date/Time : 23-AUG-2009 11:58:09
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.638	3298.993	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4433.482	4904.904	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.246	5885.655	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 216
 Detector : 79195
 Background Analysis Date/Time : 23-AUG-2009 11:58:13
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.181	3299.336	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4432.606	4903.311	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.853	5887.574	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 217
 Detector : 79410
 Background Analysis Date/Time : 23-AUG-2009 11:58:18
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.031	3301.074	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.240	4905.058	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.547	5884.453	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 218
 Detector : 79411
 Background Analysis Date/Time : 23-AUG-2009 11:58:23
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.583	3301.235	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.884	4901.733	9.000000	2.700000	33.33334	95.00000
CM-244	5532.602	5886.438	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 219
 Detector : 79412
 Background Analysis Date/Time : 23-AUG-2009 11:58:27
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.207	3300.096	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.206	4906.290	4.000000	1.200000	50.00000	95.00000
CM-244	5531.669	5885.285	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 220
 Detector : 79413
 Background Analysis Date/Time : 23-AUG-2009 11:58:31
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.930	3297.738	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.749	4901.420	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.504	5886.683	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 221
 Detector : 79414
 Background Analysis Date/Time : 23-AUG-2009 11:58:35
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.954	3298.454	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4435.659	4902.272	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5533.925	5882.692	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 222
 Detector : 79415
 Background Analysis Date/Time : 23-AUG-2009 11:58:40
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.392	3301.657	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4433.525	4905.197	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5534.683	5886.672	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 223
 Detector : 79416
 Background Analysis Date/Time : 23-AUG-2009 11:58:47
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.058	3298.884	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.434	4905.074	2.000000	0.6000000	70.71068	95.00000
CM-244	5532.599	5887.467	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 224
 Detector : 79417
 Background Analysis Date/Time : 23-AUG-2009 11:58:53
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.636	3298.216	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4432.951	4905.382	3.000000	0.9000000	57.73503	95.00000
CM-244	5532.025	5886.099	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 225
 Detector : 79418
 Background Analysis Date/Time : 23-AUG-2009 11:58:59
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.462	3299.408	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.737	4905.917	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.430	5885.124	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 226
 Detector : 79419
 Background Analysis Date/Time : 23-AUG-2009 11:59:05
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.793	3300.581	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.080	4904.877	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.936	5884.804	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 227
 Detector : 79420
 Background Analysis Date/Time : 23-AUG-2009 11:59:10
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.468	3297.622	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.427	4904.675	1.000000	0.3000000	100.0000	95.00000
CM-244	5535.505	5883.794	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 228
 Detector : 79421
 Background Analysis Date/Time : 23-AUG-2009 11:59:16
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.529	3302.052	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.206	4906.368	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.800	5883.365	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 229
 Detector : 79422
 Background Analysis Date/Time : 23-AUG-2009 11:59:21
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.967	3297.813	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.942	4905.968	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.045	5882.442	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 230
 Detector : 79423
 Background Analysis Date/Time : 23-AUG-2009 11:59:28
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.307	3300.916	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.950	4904.639	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.626	5884.491	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 231
 Detector : 79424
 Background Analysis Date/Time : 23-AUG-2009 11:59:34
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.314	3302.411	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4437.493	4903.010	4.000000	1.200000	50.00000	95.00000
CM-244	5532.978	5886.091	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 232
 Detector : 79425
 Background Analysis Date/Time : 23-AUG-2009 11:59:39
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.963	3301.243	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.020	4902.090	4.000000	1.200000	50.00000	95.00000
CM-244	5531.563	5883.791	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 233
 Detector : 79426
 Background Analysis Date/Time : 23-AUG-2009 11:59:46
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.373	3302.025	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.487	4905.324	2.000000	0.6000000	70.71068	95.00000
CM-244	5531.110	5885.315	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 234
 Detector : 79427
 Background Analysis Date/Time : 23-AUG-2009 11:59:51
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.269	3300.079	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.893	4901.571	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.864	5883.822	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 235
 Detector : 79428
 Background Analysis Date/Time : 23-AUG-2009 11:59:57
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.964	3301.553	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.767	4906.350	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.497	5883.248	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 236
 Detector : 79429
 Background Analysis Date/Time : 23-AUG-2009 12:00:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.553	3300.921	3.000000	0.9000000	57.73503	95.00000
NP-237	4432.813	4903.618	11.00000	3.300000	30.15113	95.00000
CM-244	5534.883	5883.901	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 237
 Detector : 79430
 Background Analysis Date/Time : 23-AUG-2009 12:00:08
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.412	3298.430	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.021	4905.306	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.956	5884.725	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 238
 Detector : 79431
 Background Analysis Date/Time : 23-AUG-2009 12:00:14
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.738	3300.787	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4433.583	4904.073	4.000000	1.200000	50.00000	95.00000
CM-244	5534.315	5882.484	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 239
 Detector : 79432
 Background Analysis Date/Time : 23-AUG-2009 12:00:20
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.271	3298.066	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.718	4902.950	8.000000	2.400000	35.35534	95.00000
CM-244	5535.054	5884.530	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 240
 Detector : 79433
 Background Analysis Date/Time : 23-AUG-2009 12:00:26
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.716	3297.687	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.108	4901.861	3.000000	0.9000000	57.73503	95.00000
CM-244	5532.981	5887.143	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 241
 Detector : 79434
 Background Analysis Date/Time : 23-AUG-2009 12:00:31
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.942	3297.913	4.000000	1.200000	50.00000	95.00000
NP-237	4434.531	4905.642	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5532.339	5887.328	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 242
 Detector : 79435
 Background Analysis Date/Time : 23-AUG-2009 12:00:38
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.675	3302.424	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4435.599	4901.625	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.423	5882.719	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 243
 Detector : 79436
 Background Analysis Date/Time : 23-AUG-2009 12:00:44
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.382	3298.347	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.037	4905.494	2.000000	0.6000000	70.71068	95.00000
CM-244	5531.482	5885.497	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 244
 Detector : 79437
 Background Analysis Date/Time : 23-AUG-2009 12:00:50
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.566	3299.789	5.000000	1.500000	44.72136	95.00000
NP-237	4433.571	4904.626	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.417	5884.486	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 245
 Detector : 79438
 Background Analysis Date/Time : 23-AUG-2009 12:00:56
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.843	3302.525	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.670	4906.399	2.000000	0.6000000	70.71068	95.00000
CM-244	5532.436	5886.326	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 246
 Detector : 78912
 Background Analysis Date/Time : 23-AUG-2009 12:01:02
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.420	3298.792	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.098	4904.335	4.000000	1.200000	50.00000	95.00000
CM-244	5530.336	5884.508	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 247
 Detector : 79440
 Background Analysis Date/Time : 23-AUG-2009 12:01:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.040	3298.952	5.000000	1.500000	44.72136	95.00000
NP-237	4435.157	4901.869	5.000000	1.500000	44.72136	95.00000
CM-244	5534.103	5883.404	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 248
 Detector : 79441
 Background Analysis Date/Time : 23-AUG-2009 12:01:13
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.950	3302.491	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.546	4903.912	6.000000	1.800000	40.82483	95.00000
CM-244	5530.441	5884.950	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 249
 Detector : 79442
 Background Analysis Date/Time : 23-AUG-2009 12:01:19
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.458	3299.653	2.000000	0.6000000	70.71068	95.00000
NP-237	4437.087	4904.383	6.000000	1.800000	40.82483	95.00000
CM-244	5532.120	5887.291	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 250
 Detector : 79443
 Background Analysis Date/Time : 23-AUG-2009 12:01:25
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.375	3300.259	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.621	4904.859	3.000000	0.9000000	57.73503	95.00000
CM-244	5531.200	5885.729	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 251
 Detector : 79444
 Background Analysis Date/Time : 23-AUG-2009 12:01:31
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.181	3299.694	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.877	4903.211	9.000000	2.700000	33.33334	95.00000
CM-244	5531.476	5887.181	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 252
 Detector : 79445
 Background Analysis Date/Time : 23-AUG-2009 12:01:36
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.594	3297.549	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.816	4903.310	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.420	5885.459	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 253
 Detector : 79446
 Background Analysis Date/Time : 23-AUG-2009 12:01:42
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.116	3298.147	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.082	4905.908	11.00000	3.300000	30.15113	95.00000
CM-244	5531.106	5882.794	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 254
 Detector : 79447
 Background Analysis Date/Time : 23-AUG-2009 12:01:48
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.155	3297.706	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.107	4904.992	6.000000	1.800000	40.82483	95.00000
CM-244	5532.020	5886.853	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 255
 Detector : 79448
 Background Analysis Date/Time : 23-AUG-2009 12:02:23
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.598	3300.373	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.418	4905.095	9.000000	2.700000	33.33334	95.00000
CM-244	5533.813	5884.354	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 256
 Detector : 79449
 Background Analysis Date/Time : 23-AUG-2009 12:02:28
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.222	3298.267	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.956	4905.052	4.000000	1.200000	50.00000	95.00000
CM-244	5532.797	5882.840	2.000000	0.6000000	70.71068	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. Isteps	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. Isteps	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. Isteps	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	2.4708204E-03	0.0000000E+00
NP-237	208.5846	28-FEB-2010	4435.242	4901.625	202.0000	4.0063704E-03	3.4766502E-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 : 28-AUG-2009 07:06:29
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:24:07
 Average Efficiency : 0.3688648
 Average Efficiency Error : 1.0119580E-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	2991.940	3298.642	21909.00	0.3549186	1.5169610E-02	67.58371
NP-237	171.0024	28-FEB-2010	4435.592	4905.793	19508.00	0.3802500	1.9206451E-02	83.29742
CM-244	158.1060	28-FEB-2010	5530.388	5883.749	17000.00	0.3798451	1.9214446E-02	66.10979

Instrument : CHAMBER 210
 Detector : 79189
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 28-AUG-2009 07:06:35
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:25:35
 Average Efficiency : 0.3925964
 Average Efficiency Error : 1.0751541E-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	2988.073	3301.089	22564.00	0.3811763	1.6285976E-02	59.50077
NP-237	200.4990	28-FEB-2010	4435.142	4905.164	24168.00	0.4017925	2.0255197E-02	72.98598
CM-244	196.5558	28-FEB-2010	5533.916	5886.208	22310.00	0.4010454	2.0231251E-02	59.60097

Instrument : CHAMBER 211
 Detector : 79190
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 28-AUG-2009 07:06:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:25:47
 Average Efficiency : 0.3783190
 Average Efficiency Error : 1.0361547E-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	2991.282	3299.071	22252.00	0.3706464	1.5838793E-02	59.43069
NP-237	203.2080	28-FEB-2010	4434.230	4900.253	23526.00	0.3867531	1.9501008E-02	83.71527
CM-244	197.2236	28-FEB-2010	5531.327	5885.262	21283.00	0.3814342	1.9250123E-02	60.34041

Instrument : CHAMBER 212
 Detector : 79191
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 28-AUG-2009 07:06:45
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:26:50
 Average Efficiency : 0.3842054
 Average Efficiency Error : 1.0521159E-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	2991.918	3298.870	22817.00	0.3742636	1.5988497E-02	61.37182
NP-237	204.2586	28-FEB-2010	4437.027	4902.590	24211.00	0.3950988	1.9917466E-02	76.39180
CM-244	198.8100	28-FEB-2010	5533.378	5887.318	21854.00	0.3886002	1.9607035E-02	60.73505

Instrument : CHAMBER 213
 Detector : 79192
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 28-AUG-2009 07:06:50
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:27:02
 Average Efficiency : 0.3626718
 Average Efficiency Error : 9.9363821E-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	2991.497	3299.775	21877.00	0.3509731	1.5001265E-02	65.21502
NP-237	209.5938	28-FEB-2010	4434.841	4905.254	23395.00	0.3720641	1.8761570E-02	80.31606
CM-244	202.7478	28-FEB-2010	5534.504	5887.063	21311.00	0.3715691	1.8752033E-02	64.10100

Instrument : CHAMBER 214
 Detector : 79193
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 28-AUG-2009 07:06:55
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:27:13
 Average Efficiency : 0.3838671
 Average Efficiency Error : 1.0511074E-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	2991.133	3298.396	22762.00	0.3778099	1.6140467E-02	58.86099
NP-237	204.7038	28-FEB-2010	4436.844	4902.153	23748.00	0.3866856	1.9496445E-02	74.56451
CM-244	195.0060	28-FEB-2010	5532.271	5885.676	21514.00	0.3900006	1.9680507E-02	59.70840

Instrument : CHAMBER 215
 Detector : 79194
 Standard ID : AESS-007
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 28-AUG-2009 07:06:59
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:27:24
 Average Efficiency : 0.3806459
 Average Efficiency Error : 1.0423170E-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	2991.638	3298.993	22783.00	0.3725980	1.5917629E-02	61.31356
NP-237	205.0260	28-FEB-2010	4433.482	4904.904	23893.00	0.3884499	1.9584404E-02	80.36595
CM-244	199.6806	28-FEB-2010	5531.246	5885.655	21745.00	0.3849533	1.9423924E-02	60.77392

Instrument : CHAMBER 216
 Detector : 79195
 Standard ID : AESS-008
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:04
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:27:35
 Average Efficiency : 0.3745080
 Average Efficiency Error : 1.0257245E-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	2992.181	3299.336	22346.00	0.3666793	1.5668461E-02	61.23994
NP-237	209.2716	28-FEB-2010	4432.606	4903.311	23466.00	0.3737679	1.8847005E-02	82.70575
CM-244	199.6488	28-FEB-2010	5533.853	5887.574	21885.00	0.3874936	1.9550970E-02	61.73182

Instrument : CHAMBER 217
 Detector : 79410
 Standard ID : AESS-009
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:09
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:27:45
 Average Efficiency : 0.3777330
 Average Efficiency Error : 1.0345438E-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	2989.031	3301.074	22245.00	0.3697601	1.5800970E-02	58.22815
NP-237	204.0192	28-FEB-2010	4434.240	4905.058	23534.00	0.3845063	1.9388009E-02	79.31593
CM-244	197.2128	28-FEB-2010	5530.547	5884.453	21374.00	0.3829291	1.9324809E-02	62.42009

Instrument : CHAMBER 218
 Detector : 79411
 Standard ID : AESS-010
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:14
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:27:55
 Average Efficiency : 0.3930598
 Average Efficiency Error : 1.0761084E-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	2988.583	3301.235	23052.00	0.3858313	1.6480651E-02	58.44905
NP-237	202.9926	28-FEB-2010	4435.884	4901.733	24227.00	0.3977866	2.0052891E-02	78.90448
CM-244	196.2330	28-FEB-2010	5532.602	5886.438	22153.00	0.3990829	2.0133503E-02	64.39376

Instrument : CHAMBER 219
 Detector : 79412
 Standard ID : AESS-011
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:18
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:28:06
 Average Efficiency : 0.3681216
 Average Efficiency Error : 1.0080670E-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	2992.207	3300.096	22591.00	0.3588740	1.5332905E-02	58.48974
NP-237	214.4868	28-FEB-2010	4435.206	4906.290	24021.00	0.3732913	1.8819345E-02	78.80820
CM-244	208.4184	28-FEB-2010	5531.669	5885.285	22231.00	0.3770731	1.9022530E-02	63.56152

Instrument : CHAMBER 220
 Detector : 79413
 Standard ID : AESS-012
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:23
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:28:15
 Average Efficiency : 0.3790617
 Average Efficiency Error : 1.0378873E-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	2990.930	3297.738	22806.00	0.3739041	1.5973235E-02	57.23833
NP-237	205.8930	28-FEB-2010	4435.749	4901.420	23881.00	0.3866248	1.9492462E-02	76.47005
CM-244	203.1954	28-FEB-2010	5532.504	5886.683	21795.00	0.3791749	1.9131947E-02	59.12632

Instrument : CHAMBER 221
 Detector : 79414
 Standard ID : AESS-013
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:27
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:28:26
 Average Efficiency : 0.3760977
 Average Efficiency Error : 1.0297902E-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	2989.954	3298.454	22543.00	0.3742467	1.5990108E-02	51.83245
NP-237	210.2526	28-FEB-2010	4435.659	4902.272	23655.00	0.3750251	1.8909130E-02	73.29375
CM-244	201.9108	28-FEB-2010	5533.925	5882.692	21697.00	0.3798594	1.9167274E-02	59.34735

Instrument : CHAMBER 222
 Detector : 79415
 Standard ID : AESS-014
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:32
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:28:40
 Average Efficiency : 0.3479734
 Average Efficiency Error : 9.5388982E-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	2990.392	3301.657	21181.00	0.3334915	1.4259904E-02	57.45364
NP-237	211.7160	28-FEB-2010	4433.525	4905.197	22862.00	0.3599479	1.8154154E-02	71.83906
CM-244	207.3882	28-FEB-2010	5534.683	5886.672	21099.00	0.3594557	1.8142378E-02	61.07040

Instrument : CHAMBER 223
 Detector : 79416
 Standard ID : AESS-015
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:38
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:28:50
 Average Efficiency : 0.3915000
 Average Efficiency Error : 1.0720647E-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	2990.058	3298.884	22991.00	0.3809772	1.6273832E-02	50.91898
NP-237	200.6460	28-FEB-2010	4432.434	4905.074	24293.00	0.4035698	2.0343946E-02	76.26361
CM-244	195.9270	28-FEB-2010	5532.599	5887.467	21933.00	0.3957134	1.9965306E-02	59.83861

Instrument : CHAMBER 224
 Detector : 79417
 Standard ID : AESS-016
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:29:01
 Average Efficiency : 0.3813685
 Average Efficiency Error : 1.0448295E-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	2988.636	3298.216	22249.00	0.3686436	1.5753238E-02	55.61435
NP-237	199.3962	28-FEB-2010	4432.951	4905.382	23877.00	0.3991403	2.0123499E-02	76.52156
CM-244	198.6402	28-FEB-2010	5532.025	5886.099	21587.00	0.3841456	1.9384453E-02	60.82283

Instrument : CHAMBER 225
 Detector : 79418
 Standard ID : AESS-017
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:50
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:29:13
 Average Efficiency : 0.3798896
 Average Efficiency Error : 1.0400972E-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	2991.462	3299.408	23067.00	0.3712333	1.5856978E-02	56.54003
NP-237	208.5846	28-FEB-2010	4434.737	4905.917	24322.00	0.3886784	1.9593079E-02	73.79168
CM-244	205.5828	28-FEB-2010	5531.430	5885.124	22345.00	0.3842223	1.9382324E-02	56.97727

Instrument : CHAMBER 226
 Detector : 79419
 Standard ID : AESS-018
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 28-AUG-2009 07:07:57
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:29:24
 Average Efficiency : 0.3827937
 Average Efficiency Error : 1.0482643E-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	2991.793	3300.581	22481.00	0.3759236	1.6062303E-02	52.26083
NP-237	208.8990	28-FEB-2010	4433.080	4904.877	23880.00	0.3810358	1.9210700E-02	71.56741
CM-244	198.1458	28-FEB-2010	5530.936	5884.804	22156.00	0.3952768	1.9941466E-02	57.91118

Instrument : CHAMBER 227
 Detector : 79420
 Standard ID : AESS-019
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:29:35
 Average Efficiency : 0.3801799
 Average Efficiency Error : 1.0412521E-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	2989.468	3297.622	22414.00	0.3702514	1.5820496E-02	54.09752
NP-237	202.9140	28-FEB-2010	4433.427	4904.675	23804.00	0.3910310	1.9715140E-02	71.53796
CM-244	199.3140	28-FEB-2010	5535.505	5883.794	21696.00	0.3846057	1.9406769E-02	56.80846

Instrument : CHAMBER 228
 Detector : 79421
 Standard ID : AESS-020
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:10
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:30:03
 Average Efficiency : 0.3820991
 Average Efficiency Error : 1.0465804E-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	2992.529	3302.052	22496.00	0.3699491	1.5806897E-02	57.79967
NP-237	203.4984	28-FEB-2010	4435.206	4906.368	23880.00	0.3911529	1.9720770E-02	74.62083
CM-244	197.1096	28-FEB-2010	5530.800	5883.365	21859.00	0.3920157	1.9779330E-02	58.42591

Instrument : CHAMBER 229
 Detector : 79422
 Standard ID : AESS-021
 Standard Reference Date : 19-FEB-2008 15:31:52
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:15
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:30:14
 Average Efficiency : 0.3792264
 Average Efficiency Error : 1.0383990E-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	2989.967	3297.813	22847.00	0.3706752	1.5834933E-02	56.62864
NP-237	210.1548	28-FEB-2010	4433.942	4905.968	24067.00	0.3817250	1.9244215E-02	74.03220
CM-244	200.7390	28-FEB-2010	5533.045	5882.442	22147.00	0.3898062	1.9665552E-02	61.11129

Instrument : CHAMBER 230
 Detector : 79423
 Standard ID : AESS-022
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:19
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:31:10
 Average Efficiency : 0.3733873
 Average Efficiency Error : 1.0229134E-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	2992.307	3300.916	22287.00	0.3593755	1.5356863E-02	52.42038
NP-237	206.8830	28-FEB-2010	4432.950	4904.639	23944.00	0.3857800	1.9449461E-02	68.40366
CM-244	203.0208	28-FEB-2010	5530.626	5884.491	22017.00	0.3833580	1.9341249E-02	56.79975

Instrument : CHAMBER 231
 Detector : 79424
 Standard ID : AESS-023
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:24
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:31:59
 Average Efficiency : 0.3850142
 Average Efficiency Error : 1.0541392E-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	2989.314	3302.411	23101.00	0.3764438	1.6079262E-02	62.44617
NP-237	207.4998	28-FEB-2010	4437.493	4903.010	24175.00	0.3883348	1.9576734E-02	78.49866
CM-244	199.8804	28-FEB-2010	5532.978	5886.091	22319.00	0.3947221	1.9912189E-02	60.41550

Instrument : CHAMBER 232
 Detector : 79425
 Standard ID : AESS-024
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:30
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:32:18
 Average Efficiency : 0.3742643
 Average Efficiency Error : 1.0255569E-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	2990.963	3301.243	21662.00	0.3598436	1.5382325E-02	53.98000
NP-237	205.6662	28-FEB-2010	4436.020	4902.090	23797.00	0.3856703	1.9444924E-02	72.96513
CM-244	198.3060	28-FEB-2010	5531.563	5883.791	21651.00	0.3859375	1.9474341E-02	56.32160

Instrument : CHAMBER 233
 Detector : 79426
 Standard ID : AESS-025
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:35
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:32:35
 Average Efficiency : 0.3806617
 Average Efficiency Error : 1.0437921E-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	2990.373	3302.025	21917.00	0.3788947	1.6194314E-02	59.57938
NP-237	167.9916	28-FEB-2010	4434.487	4905.324	19388.00	0.3846898	1.9431910E-02	80.68842
CM-244	157.2432	28-FEB-2010	5531.110	5885.315	16870.00	0.3792152	1.9184273E-02	59.70237

Instrument : CHAMBER 234
 Detector : 79427
 Standard ID : AESS-026
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:41
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:32:51
 Average Efficiency : 0.3701842
 Average Efficiency Error : 1.0801505E-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	2988.269	3300.079	21287.00	0.3607304	1.8206345E-02	60.36027
NP-237	168.0294	28-FEB-2010	4436.893	4901.571	19195.00	0.3807805	1.9236386E-02	87.24484
CM-244	160.5822	28-FEB-2010	5530.864	5883.822	16817.00	0.3701437	1.8726060E-02	61.15481

Instrument : CHAMBER 235
 Detector : 79428
 Standard ID : AESS-027
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:45
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:33:07
 Average Efficiency : 0.3924418
 Average Efficiency Error : 1.1451972E-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	2989.964	3301.553	21591.00	0.3773947	1.9044928E-02	59.06186
NP-237	161.6154	28-FEB-2010	4434.767	4906.350	19376.00	0.3996259	2.0186499E-02	69.60875
CM-244	148.1754	28-FEB-2010	5533.497	5883.248	16865.00	0.4023240	2.0353375E-02	59.46798

Instrument : CHAMBER 236
 Detector : 79429
 Standard ID : AESS-028
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:51
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:33:24
 Average Efficiency : 0.3822154
 Average Efficiency Error : 1.1149851E-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	2989.553	3300.921	21911.00	0.3710214	1.8720830E-02	59.63935
NP-237	168.1992	28-FEB-2010	4432.813	4903.618	19461.00	0.3856082	1.9477623E-02	76.00614
CM-244	156.7614	28-FEB-2010	5534.883	5883.901	17350.00	0.3912177	1.9785114E-02	63.22596

Instrument : CHAMBER 237
 Detector : 79430
 Standard ID : AESS-029
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 28-AUG-2009 07:08:55
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:33:41
 Average Efficiency : 0.3836243
 Average Efficiency Error : 1.1190724E-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	2990.412	3298.430	22171.00	0.3718633	1.8761324E-02	57.93632
NP-237	169.7700	28-FEB-2010	4434.021	4905.306	19694.00	0.3866741	1.9529065E-02	74.67754
CM-244	154.8234	28-FEB-2010	5530.956	5884.725	17244.00	0.3937016	1.9912098E-02	63.18201

Instrument : CHAMBER 238
 Detector : 79431
 Standard ID : AESS-030
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:00
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:33:59
 Average Efficiency : 0.3827302
 Average Efficiency Error : 1.1164652E-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	2988.738	3300.787	21962.00	0.3731618	1.8828424E-02	57.84193
NP-237	166.3758	28-FEB-2010	4433.583	4904.073	19552.00	0.3916996	1.9784329E-02	69.05827
CM-244	157.1856	28-FEB-2010	5534.315	5882.484	17088.00	0.3842701	1.9437104E-02	55.46104

Instrument : CHAMBER 239
 Detector : 79432
 Standard ID : AESS-031
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:05
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:34:23
 Average Efficiency : 0.3877645
 Average Efficiency Error : 1.0634423E-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	2991.271	3298.066	21814.00	0.3807774	1.6275739E-02	53.01001
NP-237	162.9186	28-FEB-2010	4436.718	4902.950	19446.00	0.3978185	2.0094519E-02	75.58379
CM-244	153.1968	28-FEB-2010	5535.054	5884.530	16836.00	0.3883347	1.9646063E-02	61.05005

Instrument : CHAMBER 240
 Detector : 79433
 Standard ID : AESS-032
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:09
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:34:40
 Average Efficiency : 0.3763680
 Average Efficiency Error : 1.0324174E-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	2990.716	3297.687	21305.00	0.3688990	1.5772741E-02	54.18781
NP-237	165.9822	28-FEB-2010	4436.108	4901.861	19099.00	0.3835373	1.9376662E-02	70.26006
CM-244	153.7938	28-FEB-2010	5532.981	5887.143	16557.00	0.3804168	1.9249255E-02	59.34691

Instrument : CHAMBER 241
 Detector : 79434
 Standard ID : AESS-033
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:15
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:34:57
 Average Efficiency : 0.3975072
 Average Efficiency Error : 1.0901848E-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	2991.942	3297.913	22027.00	0.3869813	1.6538920E-02	56.90702
NP-237	161.7816	28-FEB-2010	4434.531	4905.642	19524.00	0.4022706	2.0318527E-02	70.70508
CM-244	147.2670	28-FEB-2010	5532.339	5887.328	17047.00	0.4090414	2.0690644E-02	61.22742

Instrument : CHAMBER 242
 Detector : 79435
 Standard ID : AESS-034
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:21
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:35:16
 Average Efficiency : 0.3864579
 Average Efficiency Error : 1.0596083E-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	2990.675	3302.424	22431.00	0.3781182	1.6156483E-02	57.80299
NP-237	167.2962	28-FEB-2010	4435.599	4901.625	19682.00	0.3921467	1.9805590E-02	79.14774
CM-244	154.4388	28-FEB-2010	5533.423	5882.719	17192.00	0.3933641	1.9895712E-02	58.04135

Instrument : CHAMBER 243
 Detector : 79436
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:26
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:35:39
 Average Efficiency : 0.3714339
 Average Efficiency Error : 1.0188053E-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	2990.382	3298.347	21390.00	0.3639862	1.5561880E-02	52.11441
NP-237	168.2934	28-FEB-2010	4434.037	4905.494	19170.00	0.3796824	1.9181171E-02	79.79841
CM-244	158.8128	28-FEB-2010	5531.482	5885.497	16828.00	0.3744243	1.8942432E-02	60.93315

Instrument : CHAMBER 244
 Detector : 79437
 Standard ID : AESS-036
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:32
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:36:07
 Average Efficiency : 0.3715149
 Average Efficiency Error : 1.0192083E-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	2987.566	3299.789	21504.00	0.3610823	1.5436707E-02	66.23463
NP-237	167.4312	28-FEB-2010	4433.571	4904.626	19293.00	0.3840864	1.9402392E-02	76.43731
CM-244	156.4188	28-FEB-2010	5530.417	5884.486	16611.00	0.3752594	1.8987549E-02	63.78664

Instrument : CHAMBER 245
 Detector : 79438
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:37
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:36:53
 Average Efficiency : 0.3848314
 Average Efficiency Error : 1.0552316E-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	2988.843	3302.525	22076.00	0.3774236	1.6129972E-02	66.05534
NP-237	167.1294	28-FEB-2010	4434.670	4906.399	19600.00	0.3909029	1.9743593E-02	75.47243
CM-244	154.7664	28-FEB-2010	5532.436	5886.326	17075.00	0.3898463	1.9719332E-02	65.09534

Instrument : CHAMBER 246
 Detector : 78912
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:37:05
 Average Efficiency : 0.3738058
 Average Efficiency Error : 1.0253170E-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	2991.420	3298.792	21522.00	0.3635281	1.5541083E-02	66.60865
NP-237	170.0886	28-FEB-2010	4433.098	4904.335	19515.00	0.3824243	1.9316213E-02	81.32760
CM-244	157.7460	28-FEB-2010	5530.336	5884.508	17010.00	0.3810334	1.9274388E-02	64.73948

Instrument : CHAMBER 247
 Detector : 79440
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:50
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:37:16
 Average Efficiency : 0.3955781
 Average Efficiency Error : 1.0848942E-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	2991.040	3298.952	21948.00	0.3859353	1.6494961E-02	55.97421
NP-237	159.1506	28-FEB-2010	4435.157	4901.869	19486.00	0.4080938	2.0613093E-02	75.98156
CM-244	151.7142	28-FEB-2010	5534.103	5883.404	17090.00	0.3980037	2.0131798E-02	63.42304

Instrument : CHAMBER 248
 Detector : 79441
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 28-AUG-2009 07:09:55
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:37:28
 Average Efficiency : 0.3941916
 Average Efficiency Error : 1.0806664E-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	2989.950	3302.491	22290.00	0.3874540	1.6556673E-02	56.03559
NP-237	166.8174	28-FEB-2010	4437.546	4903.912	19884.00	0.3972850	2.0063095E-02	79.90582
CM-244	155.0100	28-FEB-2010	5530.441	5884.950	17598.00	0.4011423	2.0283826E-02	58.96740

Instrument : CHAMBER 249
 Detector : 79442
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 28-AUG-2009 07:10:01
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:37:39
 Average Efficiency : 0.3691496
 Average Efficiency Error : 1.0125251E-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	2991.458	3299.653	21709.00	0.3599154	1.5384958E-02	54.07297
NP-237	171.2268	28-FEB-2010	4437.087	4904.383	19560.00	0.3807467	1.9231046E-02	72.35228
CM-244	159.5796	28-FEB-2010	5532.120	5887.291	16794.00	0.3718590	1.8813105E-02	57.81293

Instrument : CHAMBER 250
 Detector : 79443
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 28-AUG-2009 07:10:06
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:37:51
 Average Efficiency : 0.3921595
 Average Efficiency Error : 1.0755106E-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	2988.375	3300.259	21703.00	0.3887982	1.6619630E-02	48.88448
NP-237	159.6558	28-FEB-2010	4433.621	4904.859	19099.00	0.3987351	2.0144468E-02	67.77724
CM-244	150.5208	28-FEB-2010	5531.200	5885.729	16638.00	0.3905834	1.9762557E-02	55.02527

Instrument : CHAMBER 251
 Detector : 79444
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 28-AUG-2009 07:10:12
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:38:01
 Average Efficiency : 0.3860320
 Average Efficiency Error : 1.0584467E-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	2992.181	3299.694	22112.00	0.3779713	1.6153051E-02	53.81643
NP-237	168.7422	28-FEB-2010	4435.877	4903.211	19812.00	0.3913130	1.9762235E-02	75.40137
CM-244	156.3252	28-FEB-2010	5531.476	5887.181	17382.00	0.3928898	1.9869251E-02	59.21478

Instrument : CHAMBER 252
 Detector : 79445
 Standard ID : AESS-044
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 28-AUG-2009 07:10:17
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:38:11
 Average Efficiency : 0.3746736
 Average Efficiency Error : 1.0277720E-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	2990.594	3297.549	21166.00	0.3679778	1.5734663E-02	58.89096
NP-237	166.6248	28-FEB-2010	4436.816	4903.310	19132.00	0.3827184	1.9334946E-02	82.92307
CM-244	155.8290	28-FEB-2010	5530.420	5885.459	16612.00	0.3766809	1.9059464E-02	58.52933

Instrument : CHAMBER 253
 Detector : 79446
 Standard ID : AESS-045
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 28-AUG-2009 07:10:22
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:38:20
 Average Efficiency : 0.4166903
 Average Efficiency Error : 1.1423565E-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	2990.116	3298.147	22479.00	0.4063848	1.7363828E-02	54.86803
NP-237	160.8066	28-FEB-2010	4437.082	4905.908	20384.00	0.4224682	2.1329734E-02	78.85169
CM-244	145.8384	28-FEB-2010	5531.106	5882.794	17611.00	0.4266897	2.1575425E-02	60.09909

Instrument : CHAMBER 254
 Detector : 79447
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 28-AUG-2009 07:10:27
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:38:31
 Average Efficiency : 0.3994595
 Average Efficiency Error : 1.0953108E-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	2990.155	3297.706	22342.00	0.3878187	1.6571781E-02	57.29897
NP-237	164.6658	28-FEB-2010	4433.107	4904.992	20059.00	0.4060186	2.0502383E-02	81.53826
CM-244	151.3824	28-FEB-2010	5532.020	5886.853	17611.00	0.4110290	2.0783551E-02	57.98274

Instrument : CHAMBER 255
 Detector : 79448
 Standard ID : AESS-047
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 28-AUG-2009 07:10:32
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:38:42
 Average Efficiency : 0.3673038
 Average Efficiency Error : 1.0076646E-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	2987.598	3300.373	21106.00	0.3613006	1.5449724E-02	54.03281
NP-237	168.3948	28-FEB-2010	4437.418	4905.095	18737.00	0.3708411	1.8738993E-02	71.81757
CM-244	154.6032	28-FEB-2010	5533.813	5884.354	16306.00	0.3726670	1.8860538E-02	60.74806

Instrument : CHAMBER 256
 Detector : 79449
 Standard ID : AESS-048
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 28-AUG-2009 07:10:37
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-AUG-2009 13:38:54
 Average Efficiency : 0.3796731
 Average Efficiency Error : 1.0416142E-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	2991.222	3298.267	21126.00	0.3722856	1.5919263E-02	56.71911
NP-237	161.5530	28-FEB-2010	4432.956	4905.052	18745.00	0.3867485	1.9542677E-02	77.89369
CM-244	151.1856	28-FEB-2010	5532.797	5882.840	16417.00	0.3836786	1.9416265E-02	61.63605

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 : 3-AUG-2009 15:07:18
 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	4768.799
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2534.953
 Energy Calibration Slope : 5.110485
 Energy Calibration Quadratic : 3.6437725E-04
 Energy Calibration Range : 8150.000

Instrument : CHAMBER 002
 Detector : 78266
 Calibration Date/Time : 3-AUG-2009 15:07:28
 Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.388
NP-237	4341	2/28/10	4768.800	4766.321
CM-244	4320A	2/28/10	5795.020	5788.471

Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.235
 Energy Calibration Slope : 4.973730
 Energy Calibration Quadratic : 2.6397678E-04
 Energy Calibration Range : 7758.000

Instrument : CHAMBER 003
 Detector : 67617
 Calibration Date/Time : 3-AUG-2009 15:07:35
 Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.387
NP-237	4341	2/28/10	4768.800	4767.838
CM-244	4320A	2/28/10	5795.020	5794.156

Energy/Channel Equation : see above
 Energy Calibration Zero : 2584.211
 Energy Calibration Slope : 5.517208
 Energy Calibration Quadratic : 3.4034223E-04
 Energy Calibration Range : 8591.000

Instrument : CHAMBER 004
 Detector : 64279
 Calibration Date/Time : 3-AUG-2009 15:07:43
 Calibration Source Id : AESS-004
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.447
 NP-237 4341 2/28/10 4768.800 4768.577
 CM-244 4320A 2/28/10 5795.020 5794.331

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2531.886
 Energy Calibration Slope : 5.104729
 Energy Calibration Quadratic : 3.4169605E-04
 Energy Calibration Range : 8117.000

Instrument : CHAMBER 005
 Detector : 67612
 Calibration Date/Time : 3-AUG-2009 15:07:52
 Calibration Source Id : AESS-005
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.483
 NP-237 4341 2/28/10 4768.800 4768.485
 CM-244 4320A 2/28/10 5795.020 5794.609

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.088
 Energy Calibration Slope : 5.005554
 Energy Calibration Quadratic : 3.1303350E-04
 Energy Calibration Range : 7843.000

Instrument : CHAMBER 006
 Detector : 67613
 Calibration Date/Time : 3-AUG-2009 15:08:01
 Calibration Source Id : AESS-006
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.992
 NP-237 4341 2/28/10 4768.800 4768.752
 CM-244 4320A 2/28/10 5795.020 5795.014

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2370.146
 Energy Calibration Slope : 4.964829
 Energy Calibration Quadratic : 3.0693886E-04
 Energy Calibration Range : 7776.000

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 : 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 : 31-JUL-2009 14:19:45
 Calibration Source Id : AESS-022
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.400
 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 : 2326.942
 Energy Calibration Slope : 5.036047
 Energy Calibration Quadratic : 2.1360136E-04
 Energy Calibration Range : 7708.000

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 : 31-JUL-2009 14:19:55
 Calibration Source Id : AESS-028
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.208
 NP-237 4341 2/28/10 4768.800 4768.821
 CM-244 4320A 2/28/10 5795.020 5795.044
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2350.073
 Energy Calibration Slope : 4.971674
 Energy Calibration Quadratic : 2.7526112E-04
 Energy Calibration Range : 7730.000

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 : 23-JUL-2009 13:58:35
 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 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2371.155
 Energy Calibration Slope : 4.901179
 Energy Calibration Quadratic : 3.3258999E-04
 Energy Calibration Range : 7739.000

Instrument : CHAMBER 162
 Detector : 70323
 Calibration Date/Time : 30-JUL-2009 13:57:32
 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 5794.732

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2368.699
 Energy Calibration Slope : 4.929536
 Energy Calibration Quadratic : 3.0326832E-04
 Energy Calibration Range : 7735.000

Instrument : CHAMBER 163
 Detector : 70324
 Calibration Date/Time : 23-JUL-2009 13:58:54
 Calibration Source Id : AESS-002
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 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 : 2378.440
 Energy Calibration Slope : 4.923447
 Energy Calibration Quadratic : 3.2373652E-04
 Energy Calibration Range : 7760.000

Instrument : CHAMBER 164
 Detector : 70325
 Calibration Date/Time : 23-JUL-2009 13:59:02
 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	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2380.008
 Energy Calibration Slope : 4.927452
 Energy Calibration Quadratic : 3.2609751E-04
 Energy Calibration Range : 7768.000

Instrument : CHAMBER 165
 Detector : 72544
 Calibration Date/Time : 23-JUL-2009 13:59:11
 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 : 2387.218
 Energy Calibration Slope : 4.942940
 Energy Calibration Quadratic : 3.0943105E-04
 Energy Calibration Range : 7773.000

Instrument : CHAMBER 166
 Detector : 74545
 Calibration Date/Time : 23-JUL-2009 13:59:23
 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	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2373.718
 Energy Calibration Slope : 4.929422
 Energy Calibration Quadratic : 3.2212323E-04
 Energy Calibration Range : 7759.000

Instrument : CHAMBER 167
 Detector : 72546
 Calibration Date/Time : 23-JUL-2009 13:59:32
 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 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2375.899
 Energy Calibration Slope : 4.924172
 Energy Calibration Quadratic : 3.2251154E-04
 Energy Calibration Range : 7756.000

Instrument : CHAMBER 168
 Detector : 72547
 Calibration Date/Time : 23-JUL-2009 13:59:40
 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 : 2378.301
 Energy Calibration Slope : 4.935927
 Energy Calibration Quadratic : 3.1537362E-04
 Energy Calibration Range : 7763.000

Instrument : CHAMBER 169
 Detector : 72548
 Calibration Date/Time : 30-JUL-2009 13:57:41
 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 : 2382.975
 Energy Calibration Slope : 4.911447
 Energy Calibration Quadratic : 3.4493016E-04
 Energy Calibration Range : 7774.000

Instrument : CHAMBER 170
 Detector : 72549
 Calibration Date/Time : 23-JUL-2009 13:59:58
 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 : 2381.389
 Energy Calibration Slope : 4.912318
 Energy Calibration Quadratic : 3.5837301E-04
 Energy Calibration Range : 7787.000

Instrument : CHAMBER 171
 Detector : 78260
 Calibration Date/Time : 23-JUL-2009 14:00:07
 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	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2368.307
 Energy Calibration Slope : 4.932293
 Energy Calibration Quadratic : 3.2247280E-04
 Energy Calibration Range : 7757.000

Instrument : CHAMBER 172
 Detector : 78772
 Calibration Date/Time : 23-JUL-2009 14:00:15
 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	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2365.785
 Energy Calibration Slope : 4.920015
 Energy Calibration Quadratic : 3.3008555E-04
 Energy Calibration Range : 7750.000

Instrument : CHAMBER 173
 Detector : 74431
 Calibration Date/Time : 22-JUL-2009 14:12:56
 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 4768.926
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2364.405
 Energy Calibration Slope : 4.981549
 Energy Calibration Quadratic : 2.6860670E-04
 Energy Calibration Range : 7747.000

Instrument : CHAMBER 174
 Detector : 74432
 Calibration Date/Time : 22-JUL-2009 14:13:10
 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 : 2358.379
 Energy Calibration Slope : 5.035265
 Energy Calibration Quadratic : 2.0271989E-04
 Energy Calibration Range : 7727.000

Instrument : CHAMBER 175
 Detector : 74433
 Calibration Date/Time : 22-JUL-2009 14:13:33
 Calibration Source Id : AESS-014
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.817
 NP-237 4341 2/28/10 4768.800 4768.732
 CM-244 4320A 2/28/10 5795.020 5794.897
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.060
 Energy Calibration Slope : 4.980610
 Energy Calibration Quadratic : 2.6701824E-04
 Energy Calibration Range : 7741.000

Instrument : CHAMBER 176
 Detector : 74434
 Calibration Date/Time : 22-JUL-2009 14:13:51
 Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.546
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 : 2357.097
 Energy Calibration Slope : 5.018647
 Energy Calibration Quadratic : 2.3654266E-04
 Energy Calibration Range : 7744.000

Instrument : CHAMBER 177
 Detector : 74435
 Calibration Date/Time : 22-JUL-2009 14:14:02
 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	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2358.948
 Energy Calibration Slope : 4.983318
 Energy Calibration Quadratic : 2.6383059E-04
 Energy Calibration Range : 7739.000

Instrument : CHAMBER 178
 Detector : 74436
 Calibration Date/Time : 22-JUL-2009 14:14:14
 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 : 2354.644
 Energy Calibration Slope : 4.987851
 Energy Calibration Quadratic : 2.6228666E-04
 Energy Calibration Range : 7737.000

Instrument : CHAMBER 179
 Detector : 74437
 Calibration Date/Time : 22-JUL-2009 14:14:24
 Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.260
NP-237	4341	2/28/10	4768.800	4768.966
CM-244	4320A	2/28/10	5795.020	5795.056

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.987
 Energy Calibration Slope : 4.982908
 Energy Calibration Quadratic : 2.6569929E-04
 Energy Calibration Range : 7735.000

Instrument : CHAMBER 180
 Detector : 74438
 Calibration Date/Time : 22-JUL-2009 14:14:36
 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	4768.799
CM-244	4320A	2/28/10	5795.020	5795.167

Energy/Channel Equation : see above
 Energy Calibration Zero : 2352.144
 Energy Calibration Slope : 5.023554
 Energy Calibration Quadratic : 2.2043443E-04
 Energy Calibration Range : 7727.000

Instrument : CHAMBER 181
 Detector : 74439
 Calibration Date/Time : 22-JUL-2009 14:14:47
 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	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2357.233
 Energy Calibration Slope : 4.973598
 Energy Calibration Quadratic : 2.7286567E-04
 Energy Calibration Range : 7736.000

Instrument : CHAMBER 182
 Detector : 74440
 Calibration Date/Time : 22-JUL-2009 14:14:57
 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	4768.653
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2348.571
 Energy Calibration Slope : 4.995710
 Energy Calibration Quadratic : 2.4269641E-04
 Energy Calibration Range : 7719.000

Instrument : CHAMBER 183
 Detector : 74441
 Calibration Date/Time : 22-JUL-2009 14:15:07
 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	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2357.181
 Energy Calibration Slope : 4.984746
 Energy Calibration Quadratic : 2.6386807E-04
 Energy Calibration Range : 7738.000

Instrument : CHAMBER 184
 Detector : 74442
 Calibration Date/Time : 22-JUL-2009 14:15:18
 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	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2352.411
 Energy Calibration Slope : 5.026765
 Energy Calibration Quadratic : 2.1738216E-04
 Energy Calibration Range : 7728.000

Instrument : CHAMBER 185
 Detector : 68615
 Calibration Date/Time : 22-JUL-2009 14:15:30
 Calibration Source Id : AESS-025
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.262
 NP-237 4341 2/28/10 4768.800 4769.011
 CM-244 4320A 2/28/10 5795.020 5795.113

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2354.510
 Energy Calibration Slope : 4.938845
 Energy Calibration Quadratic : 2.7730624E-04
 Energy Calibration Range : 7703.000

Instrument : CHAMBER 186
 Detector : 68616
 Calibration Date/Time : 22-JUL-2009 14:15:43
 Calibration Source Id : AESS-031
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.191
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.143

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2359.547
 Energy Calibration Slope : 4.938616
 Energy Calibration Quadratic : 2.9074642E-04
 Energy Calibration Range : 7722.000

Instrument : CHAMBER 187
 Detector : 68620
 Calibration Date/Time : 22-JUL-2009 14:15:58
 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 4768.775
 CM-244 4320A 2/28/10 5795.020 5795.020

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.921
 Energy Calibration Slope : 4.980083
 Energy Calibration Quadratic : 2.9012386E-04
 Energy Calibration Range : 7772.000

Instrument : CHAMBER 188
 Detector : 68621
 Calibration Date/Time : 22-JUL-2009 14:16:10
 Calibration Source Id : AESS-032
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.008
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.044
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.934
 Energy Calibration Slope : 4.976158
 Energy Calibration Quadratic : 2.7708741E-04
 Energy Calibration Range : 7748.000

Instrument : CHAMBER 189
 Detector : 68622
 Calibration Date/Time : 22-JUL-2009 14:16:25
 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 5795.093
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2355.697
 Energy Calibration Slope : 4.939315
 Energy Calibration Quadratic : 2.8903113E-04
 Energy Calibration Range : 7717.000

Instrument : CHAMBER 190
 Detector : 68623
 Calibration Date/Time : 22-JUL-2009 14:16:38
 Calibration Source Id : AESS-033
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.298
 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 : 2351.739
 Energy Calibration Slope : 4.948914
 Energy Calibration Quadratic : 2.8685224E-04
 Energy Calibration Range : 7720.000

Instrument : CHAMBER 191
 Detector : 68624
 Calibration Date/Time : 22-JUL-2009 14:17:15
 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 4768.925
 CM-244 4320A 2/28/10 5795.020 5795.090
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.921
 Energy Calibration Slope : 4.966295
 Energy Calibration Quadratic : 3.1035815E-04
 Energy Calibration Range : 7779.000

Instrument : CHAMBER 192
 Detector : 74430
 Calibration Date/Time : 22-JUL-2009 14:17:47
 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 4768.903
 CM-244 4320A 2/28/10 5795.020 5795.089
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.162
 Energy Calibration Slope : 4.978550
 Energy Calibration Quadratic : 2.9185213E-04
 Energy Calibration Range : 7766.000

Instrument : CHAMBER 193
 Detector : 68627
 Calibration Date/Time : 22-JUL-2009 14:18:09
 Calibration Source Id : AESS-029
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.786
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.042
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.145
 Energy Calibration Slope : 4.920224
 Energy Calibration Quadratic : 3.1340783E-04
 Energy Calibration Range : 7730.000

Instrument : CHAMBER 194
 Detector : 68635
 Calibration Date/Time : 22-JUL-2009 14:18:45
 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 : 2356.478
 Energy Calibration Slope : 4.939730
 Energy Calibration Quadratic : 2.9438961E-04
 Energy Calibration Range : 7723.000

Instrument : CHAMBER 195
 Detector : 68636
 Calibration Date/Time : 22-JUL-2009 14:19:31
 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	5795.181

Energy/Channel Equation : see above
 Energy Calibration Zero : 2359.634
 Energy Calibration Slope : 4.956642
 Energy Calibration Quadratic : 2.8082752E-04
 Energy Calibration Range : 7730.000

Instrument : CHAMBER 196
 Detector : 68637
 Calibration Date/Time : 22-JUL-2009 14:19:51
 Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.156
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 : 2357.884
 Energy Calibration Slope : 4.943155
 Energy Calibration Quadratic : 2.9007217E-04
 Energy Calibration Range : 7724.000

Instrument : CHAMBER 197
 Detector : 78894
 Calibration Date/Time : 23-JUL-2009 14:00:24
 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	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2369.600
 Energy Calibration Slope : 4.961125
 Energy Calibration Quadratic : 2.9980636E-04
 Energy Calibration Range : 7764.000

Instrument : CHAMBER 198
 Detector : 78895
 Calibration Date/Time : 23-JUL-2009 14:00:36
 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 : 2364.985
 Energy Calibration Slope : 4.958083
 Energy Calibration Quadratic : 2.9077829E-04
 Energy Calibration Range : 7747.000

Instrument : CHAMBER 199
 Detector : 78896
 Calibration Date/Time : 23-JUL-2009 14:00:47
 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 : 2363.893
 Energy Calibration Slope : 4.975142
 Energy Calibration Quadratic : 2.8265564E-04
 Energy Calibration Range : 7755.000

Instrument : CHAMBER 200
 Detector : 78900
 Calibration Date/Time : 23-JUL-2009 14:00:57
 Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
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 : 2366.560
 Energy Calibration Slope : 4.944607
 Energy Calibration Quadratic : 3.1754555E-04
 Energy Calibration Range : 7763.000

Instrument : CHAMBER 201
 Detector : 78902
 Calibration Date/Time : 23-JUL-2009 14:01:05
 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 : 2365.274
 Energy Calibration Slope : 4.952928
 Energy Calibration Quadratic : 3.1035283E-04
 Energy Calibration Range : 7763.000

Instrument : CHAMBER 202
 Detector : 78903
 Calibration Date/Time : 23-JUL-2009 14:01:14
 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 : 2355.391
 Energy Calibration Slope : 4.951035
 Energy Calibration Quadratic : 2.9712555E-04
 Energy Calibration Range : 7737.000

Instrument : CHAMBER 203
 Detector : 78905
 Calibration Date/Time : 23-JUL-2009 14:01:22
 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 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2359.621
 Energy Calibration Slope : 4.976038
 Energy Calibration Quadratic : 2.7450506E-04
 Energy Calibration Range : 7743.000

Instrument : CHAMBER 204
 Detector : 78907
 Calibration Date/Time : 23-JUL-2009 14:01:31
 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 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2360.966
 Energy Calibration Slope : 4.954226
 Energy Calibration Quadratic : 2.9946532E-04
 Energy Calibration Range : 7748.000

Instrument : CHAMBER 205
 Detector : 78908
 Calibration Date/Time : 23-JUL-2009 14:01:40
 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 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.589
 Energy Calibration Slope : 4.954722
 Energy Calibration Quadratic : 3.0296977E-04
 Energy Calibration Range : 7759.000

Instrument : CHAMBER 206
 Detector : 78909
 Calibration Date/Time : 23-JUL-2009 14:01:49
 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	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.905
 Energy Calibration Slope : 4.955875
 Energy Calibration Quadratic : 2.9360279E-04
 Energy Calibration Range : 7745.000

Instrument : CHAMBER 207
 Detector : 78910
 Calibration Date/Time : 23-JUL-2009 14:01:57
 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 : 2368.030
 Energy Calibration Slope : 4.964427
 Energy Calibration Quadratic : 2.9426123E-04
 Energy Calibration Range : 7760.000

Instrument : CHAMBER 208
 Detector : 78911
 Calibration Date/Time : 23-JUL-2009 14:02:06
 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	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2364.066
 Energy Calibration Slope : 4.968146
 Energy Calibration Quadratic : 2.8974371E-04
 Energy Calibration Range : 7755.000

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	2987.497	3299.286	3.000000	0.7199996	57.73503	95.00000
NP-237	4432.698	4903.020	11.00000	2.639998	30.15113	95.00000
CM-244	5533.173	5882.474	10.00000	2.399998	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	2988.884	3302.198	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.520	4904.443	3.000000	0.7199996	57.73503	95.00000
CM-244	5531.029	5887.102	1.000000	0.2399998	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	2988.781	3301.594	6.000000	1.439999	40.82483	95.00000
NP-237	4436.211	4903.478	9.000000	2.159999	33.33334	95.00000
CM-244	5533.447	5886.860	9.000000	2.159999	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	2988.914	3300.077	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.281	4903.621	7.000000	1.679999	37.79645	95.00000
CM-244	5530.627	5883.485	4.000000	0.9599994	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	2989.182	3300.230	3.000000	0.7199996	57.73503	95.00000
NP-237	4436.140	4906.346	8.000000	1.919999	35.35534	95.00000
CM-244	5532.027	5883.330	1.000000	0.2399998	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	2990.504	3299.144	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4436.461	4902.944	9.000000	2.159999	33.33334	95.00000
CM-244	5534.266	5882.776	8.000000	1.919999	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	10.000000	2.400000	31.62278	95.00000
CM-244	5532.536	5882.399	13.000000	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	16.000000	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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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 : 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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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 : 30-JUL-2009 14:06:43
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.330	3301.737	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.839	4903.616	11.00000	3.300000	30.15113	95.00000
CM-244	5531.399	5887.519	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 : 30-JUL-2009 14:51:31
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.957	3299.552	7.000000	2.100000	37.79645	95.00000
NP-237	4434.731	4904.726	12.00000	3.600000	28.86751	95.00000
CM-244	5533.008	5884.829	6.000000	1.800000	40.82483	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	0.000000E+00	0.000000E+00	0.000000E+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	12.000000	3.600000	28.86751	95.00000
CM-244	5533.745	5886.569	13.000000	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	14.000000	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 : 19-JUL-2009 13:08:31
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.000	3299.306	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.547	4904.892	11.00000	3.300000	30.15113	95.00000
CM-244	5532.420	5884.522	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 162
 Detector : 70323
 Background Analysis Date/Time : 29-JUL-2009 14:45:34
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.629	3301.127	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.610	4904.052	6.000000	1.800000	40.82483	95.00000
CM-244	5530.978	5882.387	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 163
 Detector : 70324
 Background Analysis Date/Time : 19-JUL-2009 13:08:40
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.922	3300.358	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.910	4905.359	19.00000	5.700000	22.94157	95.00000
CM-244	5534.127	5886.809	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 164
 Detector : 70325
 Background Analysis Date/Time : 19-JUL-2009 13:08:44
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.018	3297.699	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.306	4904.250	9.000000	2.700000	33.33334	95.00000
CM-244	5533.729	5886.834	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 165
 Detector : 72544
 Background Analysis Date/Time : 19-JUL-2009 13:08:49
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.844	3302.139	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.670	4904.543	11.00000	3.300000	30.15113	95.00000
CM-244	5533.515	5886.135	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 166
 Detector : 74545
 Background Analysis Date/Time : 19-JUL-2009 13:08:54
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.919	3301.734	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4433.352	4903.208	6.000000	1.800000	40.82483	95.00000
CM-244	5532.473	5885.411	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 167
 Detector : 72546
 Background Analysis Date/Time : 19-JUL-2009 13:08:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.456	3297.909	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.461	4902.876	7.000000	2.100000	37.79645	95.00000
CM-244	5531.568	5884.192	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 168
 Detector : 72547
 Background Analysis Date/Time : 19-JUL-2009 13:09:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.191	3302.241	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.272	4904.107	10.00000	3.000000	31.62278	95.00000
CM-244	5533.178	5885.925	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 169
 Detector : 72548
 Background Analysis Date/Time : 29-JUL-2009 14:45:39
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.301	3298.359	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4433.879	4903.911	20.00000	6.000000	22.36068	95.00000
CM-244	5533.976	5887.635	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 170
 Detector : 72549
 Background Analysis Date/Time : 19-JUL-2009 13:09:11
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.026	3302.433	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.863	4906.064	7.000000	2.100000	37.79645	95.00000
CM-244	5532.657	5887.477	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 171
 Detector : 78260
 Background Analysis Date/Time : 19-JUL-2009 13:09:16
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.883	3301.923	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.363	4904.564	11.00000	3.300000	30.15113	95.00000
CM-244	5534.294	5887.494	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 172
 Detector : 78772
 Background Analysis Date/Time : 19-JUL-2009 13:09:20
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.947	3302.414	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.288	4903.064	6.000000	1.800000	40.82483	95.00000
CM-244	5532.422	5885.508	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 173
 Detector : 74431
 Background Analysis Date/Time : 19-JUL-2009 13:09:25
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.296	3300.266	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.390	4906.583	5.000000	1.500000	44.72136	95.00000
CM-244	5534.964	5886.757	17.00000	5.100000	24.25356	95.00000

Instrument : CHAMBER 174
 Detector : 74432
 Background Analysis Date/Time : 19-JUL-2009 13:09:29
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.955	3301.951	3.000000	0.9000000	57.73503	95.00000
NP-237	4436.112	4905.743	7.000000	2.100000	37.79645	95.00000
CM-244	5531.741	5886.720	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 175
 Detector : 74433
 Background Analysis Date/Time : 19-JUL-2009 13:09:34
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.808	3301.771	2.000000	0.6000000	70.71068	95.00000
NP-237	4437.598	4902.379	3.000000	0.9000000	57.73503	95.00000
CM-244	5530.438	5887.378	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 176
 Detector : 74434
 Background Analysis Date/Time : 19-JUL-2009 13:09:39
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.124	3298.749	3.000000	0.9000000	57.73503	95.00000
NP-237	4433.658	4904.539	5.000000	1.500000	44.72136	95.00000
CM-244	5533.031	5884.495	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 177
 Detector : 74435
 Background Analysis Date/Time : 19-JUL-2009 13:09:43
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.035	3300.055	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.061	4906.072	4.000000	1.200000	50.00000	95.00000
CM-244	5534.094	5885.629	20.00000	6.000000	22.36068	95.00000

Instrument : CHAMBER 178
 Detector : 74436
 Background Analysis Date/Time : 19-JUL-2009 13:09:47
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.331	3301.630	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.348	4903.642	11.00000	3.300000	30.15113	95.00000
CM-244	5531.998	5883.700	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 179
 Detector : 74437
 Background Analysis Date/Time : 19-JUL-2009 13:09:52
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.102	3300.165	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.443	4906.617	6.000000	1.800000	40.82483	95.00000
CM-244	5534.901	5886.605	25.00000	7.500000	20.00000	95.00000

Instrument : CHAMBER 180
 Detector : 74438
 Background Analysis Date/Time : 19-JUL-2009 13:09:56
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.611	3299.257	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.245	4903.299	9.000000	2.700000	33.33334	95.00000
CM-244	5535.594	5886.061	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 181
 Detector : 74439
 Background Analysis Date/Time : 19-JUL-2009 13:10:01
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.239	3301.914	2.000000	0.6000000	70.71068	95.00000
NP-237	4437.080	4901.757	3.000000	0.9000000	57.73503	95.00000
CM-244	5535.131	5886.836	26.00000	7.800000	19.61161	95.00000

Instrument : CHAMBER 182
 Detector : 74440
 Background Analysis Date/Time : 19-JUL-2009 13:10:05
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.998	3301.429	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.415	4901.861	6.000000	1.800000	40.82483	95.00000
CM-244	5533.907	5884.511	30.00000	9.000000	18.25742	95.00000

Instrument : CHAMBER 183
 Detector : 74441
 Background Analysis Date/Time : 19-JUL-2009 13:10:09
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.448	3298.556	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.882	4905.025	5.000000	1.500000	44.72136	95.00000
CM-244	5533.221	5884.854	26.00000	7.800000	19.61161	95.00000

Instrument : CHAMBER 184
 Detector : 74442
 Background Analysis Date/Time : 19-JUL-2009 13:10:15
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.235	3300.018	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.314	4904.409	4.000000	1.200000	50.00000	95.00000
CM-244	5531.386	5887.098	30.00000	9.000000	18.25742	95.00000

Instrument : CHAMBER 185
 Detector : 68615
 Background Analysis Date/Time : 19-JUL-2009 13:10:19
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.225	3297.857	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.385	4903.692	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.756	5883.696	28.00000	8.400001	18.89822	95.00000

Instrument : CHAMBER 186
 Detector : 68616
 Background Analysis Date/Time : 19-JUL-2009 13:10:23
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.440	3298.282	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.254	4901.541	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.251	5884.261	30.00000	9.000000	18.25742	95.00000

Instrument : CHAMBER 187
 Detector : 68620
 Background Analysis Date/Time : 19-JUL-2009 13:10:27
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.912	3299.166	3.000000	0.9000000	57.73503	95.00000
NP-237	4432.442	4904.149	11.00000	3.300000	30.15113	95.00000
CM-244	5535.067	5883.156	22.00000	6.600000	21.32007	95.00000

Instrument : CHAMBER 188
 Detector : 68621
 Background Analysis Date/Time : 19-JUL-2009 13:10:31
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.283	3302.165	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.129	4903.527	2.000000	0.6000000	70.71068	95.00000
CM-244	5532.390	5884.553	29.00000	8.700001	18.56953	95.00000

Instrument : CHAMBER 189
 Detector : 68622
 Background Analysis Date/Time : 19-JUL-2009 13:10:35
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.652	3299.552	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.579	4902.841	6.000000	1.800000	40.82483	95.00000
CM-244	5534.475	5885.420	43.00000	12.90000	15.24986	95.00000

Instrument : CHAMBER 190
 Detector : 68623
 Background Analysis Date/Time : 19-JUL-2009 13:10:39
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.900	3302.388	5.000000	1.500000	44.72136	95.00000
NP-237	4434.198	4903.145	22.00000	6.600000	21.32007	95.00000
CM-244	5535.637	5887.028	30.00000	9.000000	18.25742	95.00000

Instrument : CHAMBER 191
 Detector : 68624
 Background Analysis Date/Time : 19-JUL-2009 13:10:43
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.514	3302.389	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.396	4902.283	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.230	5883.124	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 192
 Detector : 74430
 Background Analysis Date/Time : 19-JUL-2009 13:10:47
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.042	3298.270	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.778	4903.324	5.000000	1.500000	44.72136	95.00000
CM-244	5534.357	5882.529	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 193
 Detector : 68627
 Background Analysis Date/Time : 19-JUL-2009 13:10:51
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.069	3299.225	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.121	4901.609	5.000000	1.500000	44.72136	95.00000
CM-244	5534.158	5885.907	25.00000	7.500000	20.00000	95.00000

Instrument : CHAMBER 194
 Detector : 68635
 Background Analysis Date/Time : 19-JUL-2009 13:10:55
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.572	3300.603	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.435	4905.175	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.274	5883.671	22.00000	6.600000	21.32007	95.00000

Instrument : CHAMBER 195
 Detector : 68636
 Background Analysis Date/Time : 19-JUL-2009 13:10:59
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.629	3301.408	5.000000	1.500000	44.72136	95.00000
NP-237	4433.877	4902.925	52.00000	15.60000	13.86751	95.00000
CM-244	5535.397	5886.705	43.00000	12.90000	15.24986	95.00000

Instrument : CHAMBER 196
 Detector : 68637
 Background Analysis Date/Time : 19-JUL-2009 13:11:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.343	3302.501	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.338	4901.979	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.144	5885.395	20.00000	6.000000	22.36068	95.00000

Instrument : CHAMBER 197
 Detector : 78894
 Background Analysis Date/Time : 19-JUL-2009 13:11:08
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.389	3297.669	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.236	4904.076	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.086	5887.165	19.00000	5.700000	22.94157	95.00000

Instrument : CHAMBER 198
 Detector : 78895
 Background Analysis Date/Time : 19-JUL-2009 13:11:12
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.288	3302.314	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.287	4906.224	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.818	5887.000	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 199
 Detector : 78896
 Background Analysis Date/Time : 19-JUL-2009 13:11:16
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.202	3299.048	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.598	4906.357	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.513	5883.049	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 200
 Detector : 78900
 Background Analysis Date/Time : 19-JUL-2009 13:11:20
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.598	3302.306	3.000000	0.9000000	57.73503	95.00000
NP-237	4436.820	4902.466	15.00000	4.500000	25.81989	95.00000
CM-244	5532.933	5886.480	31.00000	9.300000	17.96053	95.00000

Instrument : CHAMBER 201
 Detector : 78902
 Background Analysis Date/Time : 19-JUL-2009 13:11:24
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.239	3302.324	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.525	4903.539	4.000000	1.200000	50.00000	95.00000
CM-244	5534.042	5887.523	22.00000	6.600000	21.32007	95.00000

Instrument : CHAMBER 202
 Detector : 78903
 Background Analysis Date/Time : 19-JUL-2009 13:11:29
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.965	3301.750	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.262	4905.190	0.000000E+00	0.0000000E+00	0.000000E+00	95.00000
CM-244	5533.929	5886.269	31.00000	9.300000	17.96053	95.00000

Instrument : CHAMBER 203
 Detector : 78905
 Background Analysis Date/Time : 19-JUL-2009 13:11:32
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.960	3299.739	5.000000	1.500000	44.72136	95.00000
NP-237	4435.540	4905.766	9.000000	2.700000	33.33334	95.00000
CM-244	5534.337	5886.308	25.00000	7.500000	20.00000	95.00000

Instrument : CHAMBER 204
 Detector : 78907
 Background Analysis Date/Time : 19-JUL-2009 13:11:37
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.953	3297.878	13.00000	3.900000	27.73501	95.00000
NP-237	4437.339	4902.439	14.00000	4.200000	26.72612	95.00000
CM-244	5531.727	5884.400	31.00000	9.300000	17.96053	95.00000

Instrument : CHAMBER 205
 Detector : 78908
 Background Analysis Date/Time : 19-JUL-2009 13:11:41
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.664	3299.649	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.348	4904.923	3.000000	0.9000000	57.73503	95.00000
CM-244	5534.662	5887.628	18.00000	5.400000	23.57022	95.00000

Instrument : CHAMBER 206
 Detector : 78909
 Background Analysis Date/Time : 19-JUL-2009 13:11:45
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.007	3298.921	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.777	4902.746	2.000000	0.6000000	70.71068	95.00000
CM-244	5531.452	5883.730	22.00000	6.600000	21.32007	95.00000

Instrument : CHAMBER 207
 Detector : 78910
 Background Analysis Date/Time : 19-JUL-2009 13:11:49
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.143	3301.594	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.296	4902.779	2.000000	0.6000000	70.71068	95.00000
CM-244	5532.449	5885.271	25.00000	7.500000	20.00000	95.00000

Instrument : CHAMBER 208
 Detector : 78911
 Background Analysis Date/Time : 19-JUL-2009 13:11:53
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.612	3298.165	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.097	4904.804	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.389	5887.108	8.000000	2.400000	35.35534	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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4436.567	4903.132	0.000000E+00	0.000000E+00	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+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 : 3-AUG-2009 10:53:32
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 3-AUG-2009 15:07:18
 Average Efficiency : 0.3072915
 Average Efficiency Error : 8.4744794E-03
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2987.497	3299.286	14959.00	0.3027170	1.3013256E-02	60.06309
NP-237	171.0024	28-FEB-2010	4432.698	4903.020	12837.00	0.3127241	1.5878061E-02	70.44009
CM-244	158.1060	28-FEB-2010	5533.173	5882.474	11081.00	0.3086398	1.5708195E-02	59.67077

Instrument : CHAMBER 002
 Detector : 78266
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 3-AUG-2009 10:53:32
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 3-AUG-2009 15:07:28
 Average Efficiency : 0.3047790
 Average Efficiency Error : 8.3967093E-03
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2988.884	3302.198	14702.00	0.3102380	1.3340797E-02	65.57149
NP-237	200.4990	28-FEB-2010	4435.520	4904.443	14954.00	0.3107518	1.5744045E-02	94.51757
CM-244	196.5558	28-FEB-2010	5531.029	5887.102	13060.00	0.2926901	1.4856945E-02	0.0000000E+00

Instrument : CHAMBER 003
 Detector : 67617
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 3-AUG-2009 10:53:32
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 3-AUG-2009 15:07:35
 Average Efficiency : 0.3389317
 Average Efficiency Error : 9.3198884E-03
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2988.781	3301.594	15967.00	0.3322094	1.4264807E-02	60.31285
NP-237	203.2080	28-FEB-2010	4436.211	4903.478	16727.00	0.3429340	1.7350566E-02	79.97358
CM-244	197.2236	28-FEB-2010	5533.447	5886.860	15440.00	0.3449565	1.7469896E-02	60.62294

Instrument : CHAMBER 004
 Detector : 64279
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 3-AUG-2009 10:53:32
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 3-AUG-2009 15:07:43
 Average Efficiency : 0.3276852
 Average Efficiency Error : 9.0145394E-03
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2988.914	3300.077	15585.00	0.3193274	1.3717359E-02	53.06041
NP-237	204.2586	28-FEB-2010	4435.281	4903.621	16383.00	0.3341627	1.6910920E-02	59.06969
CM-244	198.8100	28-FEB-2010	5530.627	5883.485	15063.00	0.3339140	1.6915970E-02	56.20342

Instrument : CHAMBER 005
 Detector : 67612
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 3-AUG-2009 10:53:32
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 3-AUG-2009 15:07:52
 Average Efficiency : 0.2953230
 Average Efficiency Error : 8.1327893E-03
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2989.182	3300.230	14534.00	0.2912640	1.2527555E-02	49.46475
NP-237	209.5938	28-FEB-2010	4436.140	4906.346	14880.00	0.2957725	1.4986137E-02	66.12806
CM-244	202.7478	28-FEB-2010	5532.027	5883.330	13841.00	0.3008797	1.5259837E-02	55.20132

Instrument : CHAMBER 006
 Detector : 67613
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 3-AUG-2009 10:53:32
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 3-AUG-2009 15:08:01
 Average Efficiency : 0.3067075
 Average Efficiency Error : 8.4449323E-03
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2990.504	3299.144	14730.00	0.3054237	1.3133301E-02	57.36432
NP-237	204.7038	28-FEB-2010	4436.461	4902.944	15001.00	0.3052960	1.5467043E-02	60.47643
CM-244	195.0060	28-FEB-2010	5534.266	5882.776	13718.00	0.3100067	1.5724778E-02	55.94251

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. Isteps	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. Isteps	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. Isteps	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. Isteps	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. Isteps	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. Isteps	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 : 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. Isteps	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. Isteps	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. Isteps	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. Isteps	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. Isteps	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. Isteps	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	4.4010404E-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-02	4.4471347E-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. Istds	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. Istds	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. Istds	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 : 31-JUL-2009 07:58:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 31-JUL-2009 14:19:45
 Average Efficiency : 0.2508602
 Average Efficiency Error : 6.9039976E-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	2990.330	3301.737	15153.00	0.2441628	1.0493682E-02	47.13118
NP-237	206.8830	28-FEB-2010	4432.839	4903.616	15907.00	0.2562432	1.2972324E-02	57.62207
CM-244	203.0208	28-FEB-2010	5531.399	5887.519	14730.00	0.2557008	1.2957520E-02	51.35268

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 : 31-JUL-2009 07:58:09
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 31-JUL-2009 14:19:55
 Average Efficiency : 0.2422946
 Average Efficiency Error : 7.1076802E-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	2990.957	3299.552	14219.00	0.2405759	1.2197561E-02	46.88452
NP-237	168.1992	28-FEB-2010	4434.731	4904.726	12305.00	0.2437864	1.2385987E-02	57.18259
CM-244	156.7614	28-FEB-2010	5533.008	5884.829	10791.00	0.2425734	1.2351508E-02	49.33925

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 : 23-JUL-2009 08:06:57
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:58:35
 Average Efficiency : 0.3724494
 Average Efficiency Error : 1.0217360E-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	2989.000	3299.306	22090.00	0.3575253	1.5279296E-02	62.61223
NP-237	171.0024	28-FEB-2010	4436.547	4904.892	19670.00	0.3833612	1.9362049E-02	79.92251
CM-244	158.1060	28-FEB-2010	5532.420	5884.522	17328.00	0.3856982	1.9506300E-02	61.01914

Instrument : CHAMBER 162
 Detector : 70323
 Standard ID : AESS-007
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 30-JUL-2009 08:27:55
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUL-2009 13:57:32
 Average Efficiency : 0.3758747
 Average Efficiency Error : 1.0294678E-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	2989.629	3301.127	22440.00	0.3667149	1.5669044E-02	58.43632
NP-237	205.0260	28-FEB-2010	4435.610	4904.052	23835.00	0.3874826	1.9536050E-02	74.17772
CM-244	199.6806	28-FEB-2010	5530.978	5882.387	21440.00	0.3783883	1.9095136E-02	56.26302

Instrument : CHAMBER 163
 Detector : 70324
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 23-JUL-2009 08:07:06
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:58:54
 Average Efficiency : 0.3824499
 Average Efficiency Error : 1.0474509E-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	2988.922	3300.358	22181.00	0.3743604	1.5997946E-02	60.90985
NP-237	200.4990	28-FEB-2010	4435.910	4905.359	23404.00	0.3890015	1.9615676E-02	79.84089
CM-244	196.5558	28-FEB-2010	5534.127	5886.809	21671.00	0.3880399	1.9580306E-02	54.00466

Instrument : CHAMBER 164
 Detector : 70325
 Standard ID : AESS-008
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 23-JUL-2009 08:07:11
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:59:02
 Average Efficiency : 0.3871453
 Average Efficiency Error : 1.0598736E-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	2991.018	3297.699	23119.00	0.3790087	1.6188504E-02	60.82843
NP-237	209.2716	28-FEB-2010	4434.306	4904.250	24656.00	0.3926844	1.9792885E-02	74.00230
CM-244	199.6488	28-FEB-2010	5533.729	5886.834	22328.00	0.3938190	1.9866610E-02	56.32586

Instrument : CHAMBER 165
 Detector : 72544
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 23-JUL-2009 08:07:15
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:59:11
 Average Efficiency : 0.3820039
 Average Efficiency Error : 1.0462373E-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	2989.844	3302.139	22390.00	0.3726058	1.5921146E-02	65.20252
NP-237	203.2080	28-FEB-2010	4434.670	4904.543	24014.00	0.3938612	1.9856445E-02	91.19821
CM-244	197.2236	28-FEB-2010	5533.515	5886.135	21543.00	0.3846419	1.9409848E-02	65.46077

Instrument : CHAMBER 166
 Detector : 74545
 Standard ID : AESS-009
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 23-JUL-2009 08:07:19
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:59:23
 Average Efficiency : 0.3925092
 Average Efficiency Error : 1.0746423E-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	2989.919	3301.734	23062.00	0.3829970	1.6359299E-02	52.59587
NP-237	204.0192	28-FEB-2010	4433.352	4903.208	24416.00	0.3988877	2.0107118E-02	75.96468
CM-244	197.2128	28-FEB-2010	5532.473	5885.411	22446.00	0.4005800	2.0206742E-02	58.40631

Instrument : CHAMBER 167
 Detector : 72546
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 23-JUL-2009 08:07:23
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:59:32
 Average Efficiency : 0.3888160
 Average Efficiency Error : 1.0646137E-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	2991.456	3297.909	23075.00	0.3781414	1.6151825E-02	58.07474
NP-237	204.2586	28-FEB-2010	4433.461	4902.876	24396.00	0.3980886	2.0066978E-02	77.66827
CM-244	198.8100	28-FEB-2010	5531.568	5884.192	22354.00	0.3959535	1.9974077E-02	59.99561

Instrument : CHAMBER 168
 Detector : 72547
 Standard ID : AESS-010
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 23-JUL-2009 08:07:28
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:59:40
 Average Efficiency : 0.3899174
 Average Efficiency Error : 1.0677175E-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	2990.191	3302.241	22715.00	0.3798450	1.6227633E-02	58.81176
NP-237	202.9926	28-FEB-2010	4434.272	4904.107	24151.00	0.3965338	1.9990249E-02	77.71660
CM-244	196.2330	28-FEB-2010	5533.178	5885.925	22217.00	0.3986928	2.0113347E-02	60.84048

Instrument : CHAMBER 169
 Detector : 72548
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 30-JUL-2009 08:27:59
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUL-2009 13:57:41
 Average Efficiency : 0.3786090
 Average Efficiency Error : 1.0367081E-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	2992.301	3298.359	22972.00	0.3682704	1.5731057E-02	59.25197
NP-237	209.5938	28-FEB-2010	4433.879	4903.911	24257.00	0.3856828	1.9442579E-02	73.68909
CM-244	202.7478	28-FEB-2010	5533.976	5887.635	22289.00	0.3874188	1.9544041E-02	61.27797

Instrument : CHAMBER 170
 Detector : 72549
 Standard ID : AESS-011
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 23-JUL-2009 08:07:36
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:59:58
 Average Efficiency : 0.3678014
 Average Efficiency Error : 1.0071305E-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	2991.026	3302.433	22648.00	0.3594523	1.5356976E-02	58.76050
NP-237	214.4868	28-FEB-2010	4434.863	4906.064	24165.00	0.3755153	1.8930556E-02	77.34428
CM-244	208.4184	28-FEB-2010	5532.657	5887.477	22059.00	0.3727079	1.8803651E-02	57.81808

Instrument : CHAMBER 171
 Detector : 78260
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 23-JUL-2009 08:07:41
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:00:07
 Average Efficiency : 0.3837917
 Average Efficiency Error : 1.0510301E-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	2989.883	3301.923	22631.00	0.3752889	1.6033715E-02	57.49370
NP-237	204.7038	28-FEB-2010	4434.363	4904.564	23668.00	0.3853487	1.9429620E-02	72.93391
CM-244	195.0060	28-FEB-2010	5534.294	5887.494	21890.00	0.3953083	1.9945232E-02	55.35253

Instrument : CHAMBER 172
 Detector : 78772
 Standard ID : AESS-012
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 23-JUL-2009 08:07:46
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:00:15
 Average Efficiency : 0.3822835
 Average Efficiency Error : 1.0466998E-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	2990.947	3302.414	22849.00	0.3742635	1.5988056E-02	52.36660
NP-237	205.8930	28-FEB-2010	4433.288	4903.064	24169.00	0.3912586	1.9724179E-02	72.41768
CM-244	203.1954	28-FEB-2010	5532.422	5885.508	22239.00	0.3854235	1.9443754E-02	56.46907

Instrument : CHAMBER 173
 Detector : 74431
 Standard ID : AESS-013
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUL-2009 08:09:49
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:12:56
 Average Efficiency : 0.2623188
 Average Efficiency Error : 7.2139227E-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	2991.296	3300.266	16061.00	0.2663769	1.1436811E-02	50.38961
NP-237	210.2526	28-FEB-2010	4436.390	4906.583	16403.00	0.2600285	1.3159030E-02	60.88579
CM-244	201.9108	28-FEB-2010	5534.964	5886.757	14870.00	0.2592480	1.3135729E-02	54.15428

Instrument : CHAMBER 174
 Detector : 74432
 Standard ID : AESS-019
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 22-JUL-2009 08:09:54
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:13:10
 Average Efficiency : 0.2553943
 Average Efficiency Error : 7.0305546E-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	2990.955	3301.951	14943.00	0.2465975	1.0600956E-02	50.10695
NP-237	202.9140	28-FEB-2010	4436.112	4905.743	16012.00	0.2629998	1.3313278E-02	60.55487
CM-244	199.3140	28-FEB-2010	5531.741	5886.720	14821.00	0.2616092	1.3255978E-02	55.35811

Instrument : CHAMBER 175
 Detector : 74433
 Standard ID : AESS-014
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 22-JUL-2009 08:09:59
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:13:33
 Average Efficiency : 0.2539235
 Average Efficiency Error : 6.9827326E-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	2987.808	3301.771	16022.00	0.2520186	1.0820774E-02	50.17014
NP-237	211.7160	28-FEB-2010	4437.598	4902.379	16148.00	0.2542258	1.2867783E-02	58.39753
CM-244	207.3882	28-FEB-2010	5530.438	5887.378	15110.00	0.2563593	1.2986641E-02	52.37697

Instrument : CHAMBER 176
 Detector : 74434
 Standard ID : AESS-020
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:13:51
 Average Efficiency : 0.2596514
 Average Efficiency Error : 7.1437038E-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	2988.124	3298.749	15474.00	0.2542223	1.0921958E-02	48.05445
NP-237	203.4984	28-FEB-2010	4433.658	4904.539	16076.00	0.2633027	1.3327949E-02	56.64418
CM-244	197.1096	28-FEB-2010	5533.031	5884.495	14789.00	0.2641215	1.3383611E-02	51.45706

Instrument : CHAMBER 177
 Detector : 74435
 Standard ID : AESS-015
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:07
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:14:02
 Average Efficiency : 0.2685861
 Average Efficiency Error : 7.3855612E-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	2991.035	3300.055	16129.00	0.2670162	1.1463443E-02	46.17820
NP-237	200.6460	28-FEB-2010	4436.061	4906.072	16230.00	0.2696093	1.3645601E-02	58.26474
CM-244	195.9270	28-FEB-2010	5534.094	5885.629	15017.00	0.2697915	1.3668223E-02	52.64664

Instrument : CHAMBER 178
 Detector : 74436
 Standard ID : AESS-021
 Standard Reference Date : 19-FEB-2008 15:31:52
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:12
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:14:14
 Average Efficiency : 0.2563734
 Average Efficiency Error : 7.0544411E-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	2992.331	3301.630	15324.00	0.2483911	1.0673227E-02	46.26046
NP-237	210.1548	28-FEB-2010	4433.348	4903.642	16496.00	0.2615961	1.3237508E-02	57.60064
CM-244	200.7390	28-FEB-2010	5531.998	5883.700	15038.00	0.2635517	1.3351870E-02	53.76401

Instrument : CHAMBER 179
 Detector : 74437
 Standard ID : AESS-016
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:16
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:14:24
 Average Efficiency : 0.2654315
 Average Efficiency Error : 7.3000593E-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	2991.102	3300.165	15895.00	0.2631131	1.1298665E-02	48.51485
NP-237	199.3962	28-FEB-2010	4436.443	4906.617	16075.00	0.2687030	1.3601316E-02	57.52364
CM-244	198.6402	28-FEB-2010	5534.901	5886.605	14985.00	0.2655179	1.3452120E-02	51.10583

Instrument : CHAMBER 180
 Detector : 74438
 Standard ID : AESS-022
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:21
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:14:36
 Average Efficiency : 0.2505249
 Average Efficiency Error : 6.8937857E-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	2988.611	3299.257	15266.00	0.2459229	1.0567908E-02	47.44321
NP-237	206.8830	28-FEB-2010	4433.245	4903.299	15791.00	0.2543839	1.2879343E-02	51.57590
CM-244	203.0208	28-FEB-2010	5535.594	5886.061	14621.00	0.2534862	1.2846692E-02	51.76523

Instrument : CHAMBER 181
 Detector : 74439
 Standard ID : AESS-017
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:26
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:14:47
 Average Efficiency : 0.2548543
 Average Efficiency Error : 7.0099598E-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	2988.239	3301.914	15878.00	0.2552872	1.0962813E-02	48.35796
NP-237	208.5846	28-FEB-2010	4437.080	4901.757	16198.00	0.2588415	1.3100917E-02	57.35833
CM-244	205.5828	28-FEB-2010	5535.131	5886.836	14634.00	0.2505288	1.2696699E-02	51.18034

Instrument : CHAMBER 182
 Detector : 74440
 Standard ID : AESS-023
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:30
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:14:57
 Average Efficiency : 0.2578707
 Average Efficiency Error : 7.0930445E-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	2991.998	3301.429	15699.00	0.2555752	1.0977317E-02	46.97070
NP-237	207.4998	28-FEB-2010	4432.415	4901.861	16221.00	0.2605498	1.3187178E-02	56.46945
CM-244	199.8804	28-FEB-2010	5533.907	5884.511	14682.00	0.2584959	1.3099929E-02	47.10158

Instrument : CHAMBER 183
 Detector : 74441
 Standard ID : AESS-018
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:35
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:15:07
 Average Efficiency : 0.2636590
 Average Efficiency Error : 7.2516296E-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	2989.448	3298.556	16019.00	0.2676203	1.1490691E-02	47.36681
NP-237	208.8990	28-FEB-2010	4434.882	4905.025	16143.00	0.2575647	1.3036844E-02	61.28753
CM-244	198.1458	28-FEB-2010	5533.221	5884.854	14903.00	0.2647125	1.3412292E-02	54.17869

Instrument : CHAMBER 184
 Detector : 74442
 Standard ID : AESS-024
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:15:18
 Average Efficiency : 0.2589915
 Average Efficiency Error : 7.1259094E-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	2989.235	3300.018	15286.00	0.2536818	1.0901084E-02	45.69374
NP-237	205.6662	28-FEB-2010	4434.314	4904.409	16135.00	0.2614885	1.3235523E-02	58.78146
CM-244	198.3060	28-FEB-2010	5531.386	5887.098	14902.00	0.2644547	1.3399277E-02	53.47013

Instrument : CHAMBER 185
 Detector : 68615
 Standard ID : AESS-025
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:43
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:15:30
 Average Efficiency : 0.2565642
 Average Efficiency Error : 7.0740697E-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	2991.225	3297.857	15033.00	0.2596380	1.1160337E-02	55.72531
NP-237	167.9916	28-FEB-2010	4436.385	4903.692	12852.00	0.2550071	1.2947261E-02	59.11316
CM-244	157.2432	28-FEB-2010	5533.756	5883.696	11351.00	0.2539946	1.2921941E-02	56.16187

Instrument : CHAMBER 186
 Detector : 68616
 Standard ID : AESS-031
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:48
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:15:43
 Average Efficiency : 0.2530972
 Average Efficiency Error : 6.9825449E-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	2991.440	3298.282	14435.00	0.2517332	1.0828621E-02	55.45393
NP-237	162.9186	28-FEB-2010	4433.254	4901.541	12537.00	0.2565026	1.3028130E-02	59.45676
CM-244	153.1968	28-FEB-2010	5533.251	5884.261	10964.00	0.2517129	1.2813604E-02	55.46026

Instrument : CHAMBER 187
 Detector : 68620
 Standard ID : AESS-026
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:52
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:15:58
 Average Efficiency : 0.2501889
 Average Efficiency Error : 7.3357723E-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	2989.912	3299.166	15000.00	0.2539414	1.2865975E-02	52.23053
NP-237	168.0294	28-FEB-2010	4432.442	4904.149	12738.00	0.2526287	1.2828344E-02	58.21870
CM-244	160.5822	28-FEB-2010	5535.067	5883.156	11152.00	0.2443892	1.2436978E-02	54.57392

Instrument : CHAMBER 188
 Detector : 68621
 Standard ID : AESS-032
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUL-2009 08:10:57
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:16:10
 Average Efficiency : 0.2601093
 Average Efficiency Error : 7.1711414E-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	2988.283	3302.165	15025.00	0.2599137	1.1172294E-02	51.37601
NP-237	165.9822	28-FEB-2010	4433.129	4903.527	12962.00	0.2602972	1.3214173E-02	62.37115
CM-244	153.7938	28-FEB-2010	5532.390	5884.553	11377.00	0.2601953	1.3236898E-02	52.05467

Instrument : CHAMBER 189
 Detector : 68622
 Standard ID : AESS-027
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUL-2009 08:11:01
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:16:25
 Average Efficiency : 0.2590416
 Average Efficiency Error : 7.5966278E-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	2987.652	3299.552	14591.00	0.2547911	1.2913714E-02	51.68600
NP-237	161.6154	28-FEB-2010	4434.579	4902.841	12573.00	0.2592825	1.3168799E-02	58.17202
CM-244	148.1754	28-FEB-2010	5534.475	5885.420	11096.00	0.2633716	1.3404469E-02	50.36570

Instrument : CHAMBER 190
 Detector : 68623
 Standard ID : AESS-033
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUL-2009 08:11:06
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:16:38
 Average Efficiency : 0.2606415
 Average Efficiency Error : 7.1893386E-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	2989.900	3302.388	14653.00	0.2571782	1.1059794E-02	51.45757
NP-237	161.7816	28-FEB-2010	4434.198	4903.145	12826.00	0.2641300	1.3411093E-02	58.05247
CM-244	147.2670	28-FEB-2010	5535.637	5887.028	10980.00	0.2622307	1.3348678E-02	51.95362

Instrument : CHAMBER 191
 Detector : 68624
 Standard ID : AESS-028
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUL-2009 08:11:10
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:17:15
 Average Efficiency : 0.2621158
 Average Efficiency Error : 7.6803956E-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	2988.514	3302.389	15421.00	0.2608921	1.3213424E-02	48.76201
NP-237	168.1992	28-FEB-2010	4435.396	4902.283	13449.00	0.2665235	1.3522904E-02	61.15327
CM-244	156.7614	28-FEB-2010	5534.230	5883.124	11542.00	0.2591464	1.3180151E-02	50.76146

Instrument : CHAMBER 192
 Detector : 74430
 Standard ID : AESS-034
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUL-2009 08:11:15
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:17:47
 Average Efficiency : 0.2610474
 Average Efficiency Error : 7.1950918E-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	2989.042	3298.270	15338.00	0.2583001	1.1098851E-02	47.63512
NP-237	167.2962	28-FEB-2010	4436.778	4903.324	13156.00	0.2621002	1.3302793E-02	56.66595
CM-244	154.4388	28-FEB-2010	5534.357	5882.529	11589.00	0.2639953	1.3425920E-02	46.57637

Instrument : CHAMBER 193
 Detector : 68627
 Standard ID : AESS-029
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUL-2009 08:11:19
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:18:09
 Average Efficiency : 0.2640715
 Average Efficiency Error : 7.7369036E-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	2988.069	3299.225	15508.00	0.2598549	1.3159974E-02	52.58962
NP-237	169.7700	28-FEB-2010	4433.121	4901.609	13394.00	0.2629541	1.3342631E-02	58.77226
CM-244	154.8234	28-FEB-2010	5534.158	5885.907	11872.00	0.2698340	1.3717437E-02	53.66179

Instrument : CHAMBER 194
 Detector : 68635
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUL-2009 08:11:24
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:18:45
 Average Efficiency : 0.2549567
 Average Efficiency Error : 7.0293345E-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	2988.572	3300.603	15135.00	0.2573063	1.1058749E-02	49.25695
NP-237	168.2934	28-FEB-2010	4436.435	4905.175	12918.00	0.2558570	1.2989412E-02	62.01285
CM-244	158.8128	28-FEB-2010	5532.274	5883.671	11329.00	0.2509550	1.2767645E-02	52.44061

Instrument : CHAMBER 195
 Detector : 68636
 Standard ID : AESS-030
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUL-2009 08:11:29
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:19:31
 Average Efficiency : 0.2573034
 Average Efficiency Error : 7.5419121E-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	2988.629	3301.408	14891.00	0.2527547	1.2807086E-02	48.20201
NP-237	166.3758	28-FEB-2010	4433.877	4902.925	13025.00	0.2606431	1.3231294E-02	57.67042
CM-244	157.1856	28-FEB-2010	5535.397	5886.705	11566.00	0.2588032	1.3162592E-02	51.27964

Instrument : CHAMBER 196
 Detector : 68637
 Standard ID : AESS-036
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUL-2009 08:11:34
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUL-2009 14:19:51
 Average Efficiency : 0.2566788
 Average Efficiency Error : 7.0757568E-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	2990.343	3302.501	15220.00	0.2553304	1.0972751E-02	52.52193
NP-237	167.4312	28-FEB-2010	4433.338	4901.979	12956.00	0.2579251	1.3093841E-02	56.52662
CM-244	156.4188	28-FEB-2010	5534.144	5885.395	11442.00	0.2573523	1.3090876E-02	54.16713

Instrument : CHAMBER 197
 Detector : 78894
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 23-JUL-2009 07:57:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:00:24
 Average Efficiency : 0.2568228
 Average Efficiency Error : 7.0815496E-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	2989.389	3297.669	14834.00	0.2533745	1.0893730E-02	54.12946
NP-237	167.1294	28-FEB-2010	4433.236	4904.076	13081.00	0.2608898	1.3242440E-02	59.82949
CM-244	154.7664	28-FEB-2010	5534.086	5887.165	11341.00	0.2578318	1.3117233E-02	57.39178

Instrument : CHAMBER 198
 Detector : 78895
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 23-JUL-2009 07:57:47
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:00:36
 Average Efficiency : 0.2554221
 Average Efficiency Error : 7.0427968E-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	2989.288	3302.314	14813.00	0.2529756	1.0876846E-02	54.48853
NP-237	168.7422	28-FEB-2010	4436.287	4906.224	13147.00	0.2597000	1.3181067E-02	56.83169
CM-244	156.3252	28-FEB-2010	5534.818	5887.000	11318.00	0.2547599	1.2961345E-02	56.23568

Instrument : CHAMBER 199
 Detector : 78896
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 23-JUL-2009 07:57:56
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:00:47
 Average Efficiency : 0.2512973
 Average Efficiency Error : 6.9297734E-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	2990.202	3299.048	14855.00	0.2506810	1.0777651E-02	51.46595
NP-237	170.0886	28-FEB-2010	4435.598	4906.357	12647.00	0.2478395	1.2586436E-02	58.09747
CM-244	157.7460	28-FEB-2010	5530.513	5883.049	11473.00	0.2558941	1.3016121E-02	53.79463

Instrument : CHAMBER 200
 Detector : 78900
 Standard ID : AESS-044
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 23-JUL-2009 07:58:04
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:00:57
 Average Efficiency : 0.2672527
 Average Efficiency Error : 7.3646023E-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	2989.598	3302.306	15546.00	0.2700108	1.1599314E-02	51.74545
NP-237	166.6248	28-FEB-2010	4436.820	4902.466	13287.00	0.2657169	1.3484498E-02	57.34525
CM-244	155.8290	28-FEB-2010	5532.933	5886.480	11743.00	0.2650634	1.3477416E-02	51.61598

Instrument : CHAMBER 201
 Detector : 78902
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 23-JUL-2009 07:58:10
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:01:05
 Average Efficiency : 0.2606938
 Average Efficiency Error : 7.1896687E-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	2989.239	3302.324	14811.00	0.2602134	1.1188080E-02	47.14003
NP-237	159.1506	28-FEB-2010	4432.525	4903.539	12448.00	0.2606924	1.3242436E-02	55.19216
CM-244	151.7142	28-FEB-2010	5534.042	5887.523	11271.00	0.2613738	1.3298883E-02	50.86152

Instrument : CHAMBER 202
 Detector : 78903
 Standard ID : AESS-045
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 23-JUL-2009 07:58:17
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:01:14
 Average Efficiency : 0.2637661
 Average Efficiency Error : 7.2755860E-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	2988.965	3301.750	14586.00	0.2634446	1.1330210E-02	45.61659
NP-237	160.8066	28-FEB-2010	4435.262	4905.190	12706.00	0.2633806	1.3374711E-02	55.61831
CM-244	145.8384	28-FEB-2010	5533.929	5886.269	10972.00	0.2646115	1.3470060E-02	49.12627

Instrument : CHAMBER 203
 Detector : 78905
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 23-JUL-2009 07:58:24
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:01:22
 Average Efficiency : 0.2569410
 Average Efficiency Error : 7.0852954E-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	2990.960	3299.739	14972.00	0.2599902	1.1176325E-02	44.74440
NP-237	166.8174	28-FEB-2010	4435.540	4905.766	12710.00	0.2539164	1.2894144E-02	57.74120
CM-244	155.0100	28-FEB-2010	5534.337	5886.308	11275.00	0.2558869	1.3019669E-02	47.66172

Instrument : CHAMBER 204
 Detector : 78907
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 23-JUL-2009 07:58:28
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:01:31
 Average Efficiency : 0.2506487
 Average Efficiency Error : 6.9159763E-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	2989.953	3297.878	14336.00	0.2485577	1.0693511E-02	50.84674
NP-237	164.6658	28-FEB-2010	4437.339	4902.439	12528.00	0.2535195	1.2876903E-02	55.89592
CM-244	151.3824	28-FEB-2010	5531.727	5884.400	10796.00	0.2508073	1.2771029E-02	51.62991

Instrument : CHAMBER 205
 Detector : 78908
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 23-JUL-2009 07:58:33
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:01:40
 Average Efficiency : 0.2503343
 Average Efficiency Error : 6.9021145E-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	2991.664	3299.649	14924.00	0.2472031	1.0627222E-02	48.93098
NP-237	171.2268	28-FEB-2010	4434.348	4904.923	13015.00	0.2533501	1.2860725E-02	61.87793
CM-244	159.5796	28-FEB-2010	5534.662	5887.628	11424.00	0.2518927	1.2813480E-02	52.59251

Instrument : CHAMBER 206
 Detector : 78909
 Standard ID : AESS-047
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 23-JUL-2009 07:58:38
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:01:49
 Average Efficiency : 0.2562930
 Average Efficiency Error : 7.0664333E-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	2991.007	3298.921	15006.00	0.2566382	1.1031752E-02	49.35140
NP-237	168.3948	28-FEB-2010	4432.777	4902.746	12926.00	0.2558552	1.2989211E-02	55.62066
CM-244	154.6032	28-FEB-2010	5531.452	5883.730	11261.00	0.2562518	1.3038474E-02	55.87610

Instrument : CHAMBER 207
 Detector : 78910
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 23-JUL-2009 07:58:42
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:01:57
 Average Efficiency : 0.2558556
 Average Efficiency Error : 7.0599136E-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	2988.143	3301.594	14367.00	0.2571380	1.1062090E-02	47.38946
NP-237	159.6558	28-FEB-2010	4437.296	4902.779	12320.00	0.2572077	1.3067513E-02	57.42012
CM-244	150.5208	28-FEB-2010	5532.449	5885.271	10817.00	0.2528071	1.2872322E-02	52.11042

Instrument : CHAMBER 208
 Detector : 78911
 Standard ID : AESS-048
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 23-JUL-2009 07:58:46
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 14:02:06
 Average Efficiency : 0.2527668
 Average Efficiency Error : 6.9748992E-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	2989.612	3298.165	14243.00	0.2507517	1.0789137E-02	50.79447
NP-237	161.5530	28-FEB-2010	4434.097	4904.804	12430.00	0.2564567	1.3027546E-02	58.53157
CM-244	151.1856	28-FEB-2010	5534.389	5887.108	10827.00	0.2520371	1.2832657E-02	54.35335

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

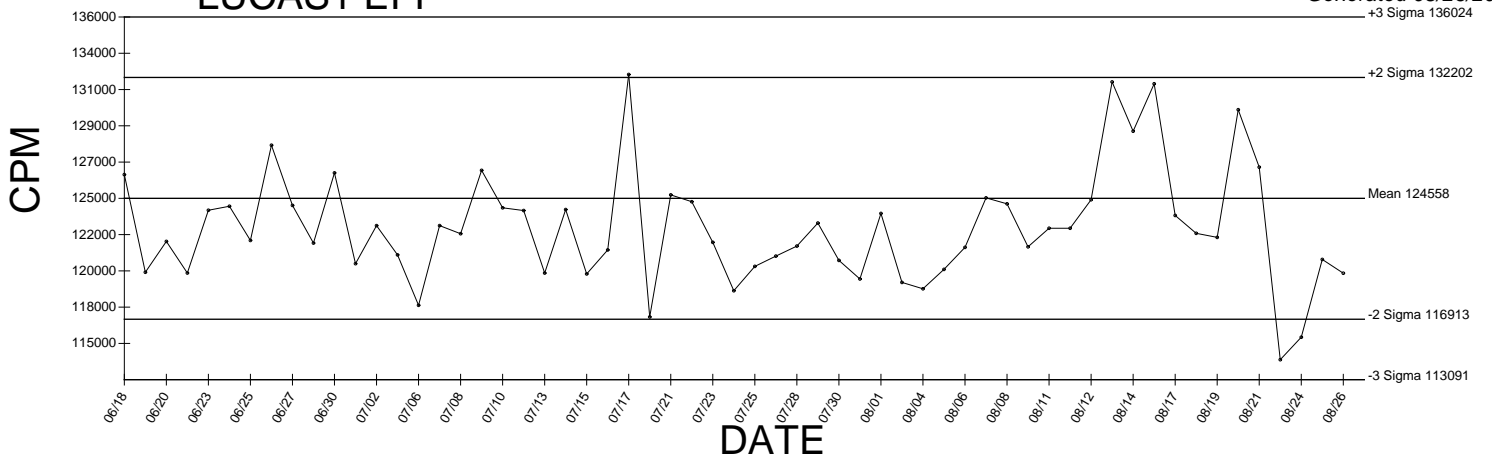
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 Detector : 79449
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 Efficiency Calibration Date/Time : 28-JUL-2009 14:08:26
 Average Efficiency : 0.3831320
 Average Efficiency Error : 1.0509511E-02
 Confidence : 95.00000

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

BACKGROUND AND EFFICIENCY DATA

LUCAS1 EFF

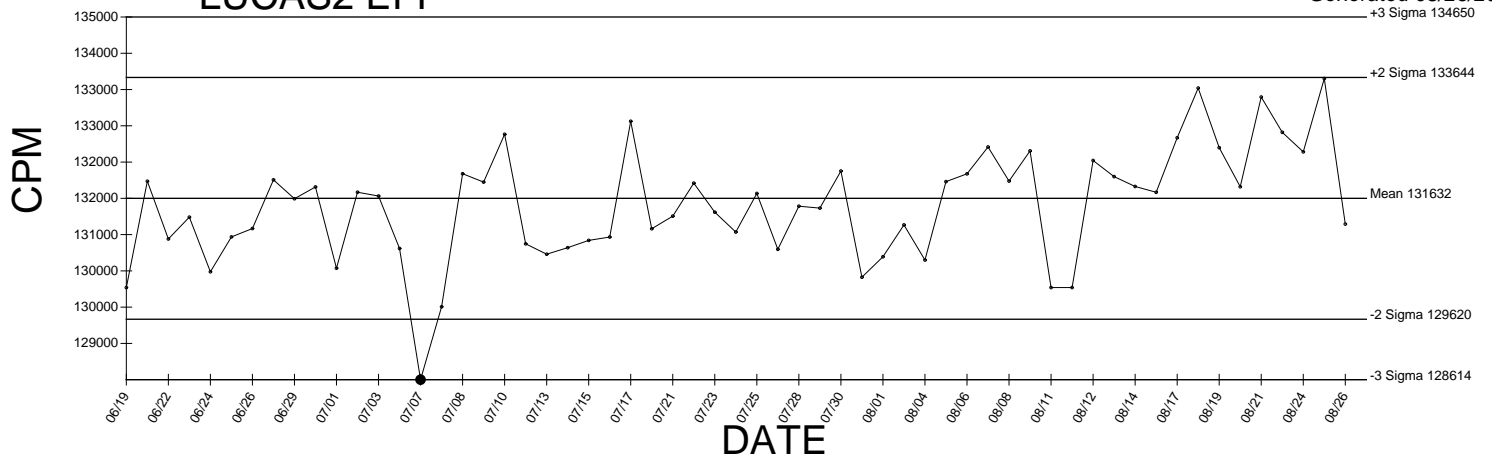
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● Denotes Outlier

LUCAS2 EFF

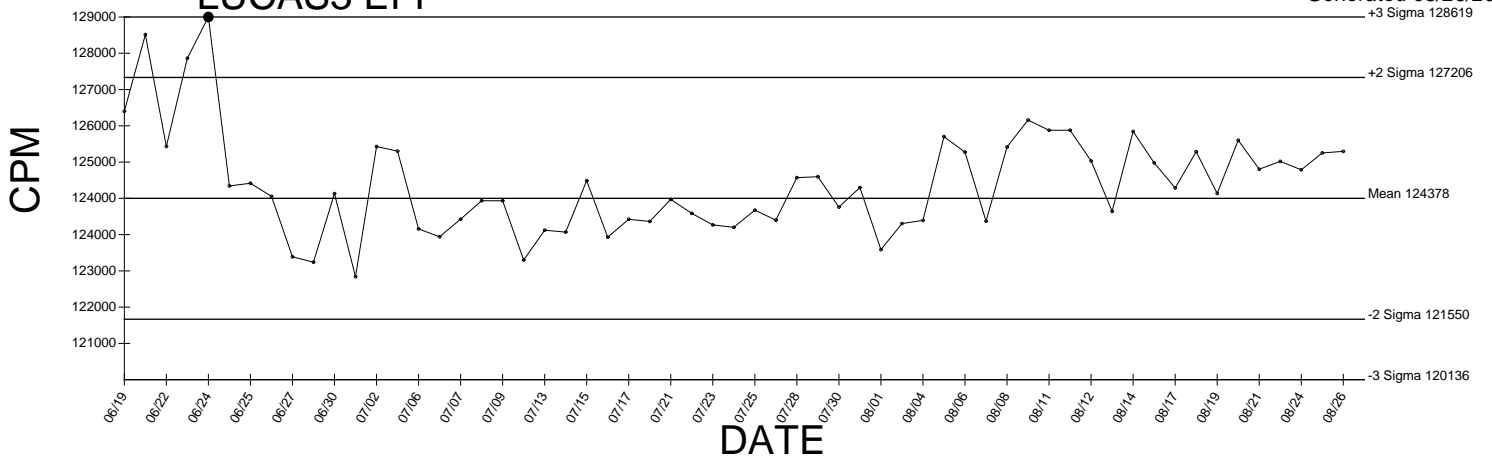
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● Denotes Outlier

LUCAS3 EFF

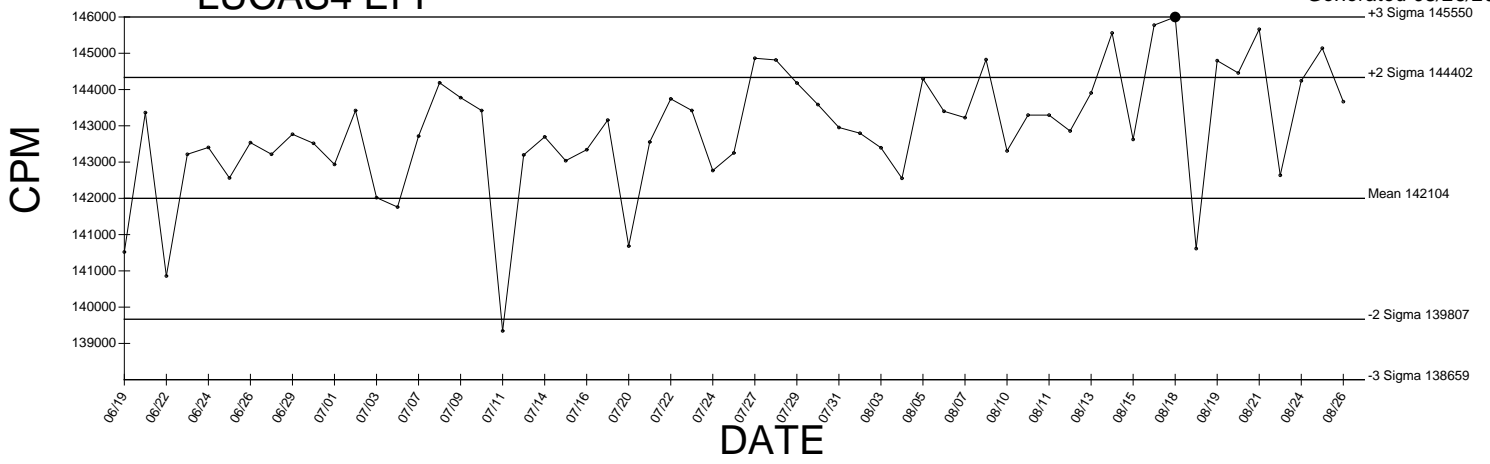
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● Denotes Outlier

LUCAS4 EFF

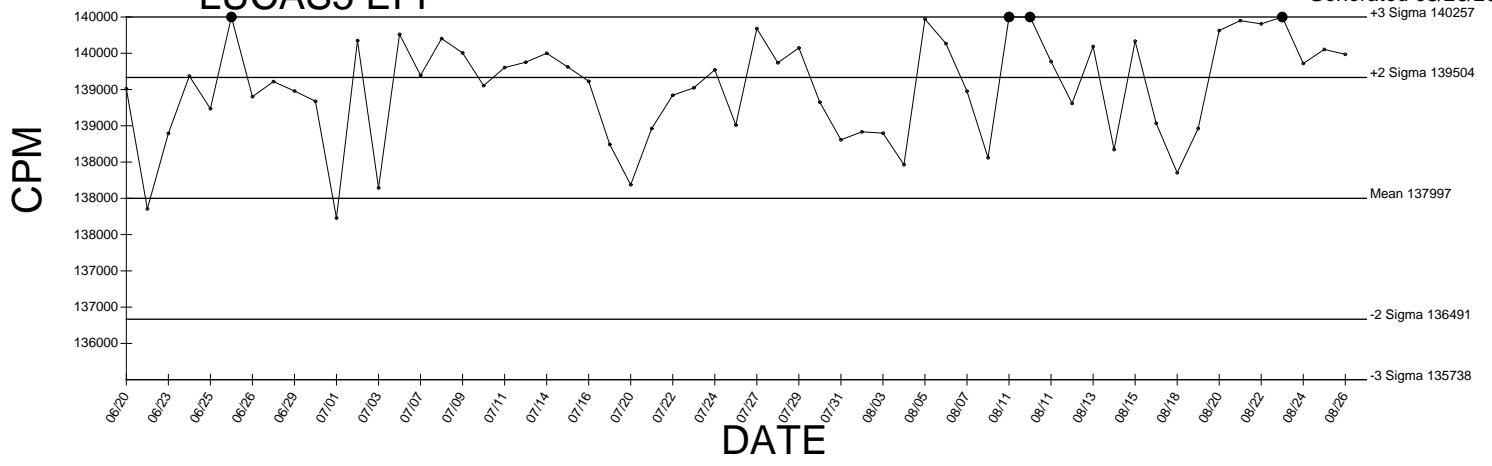
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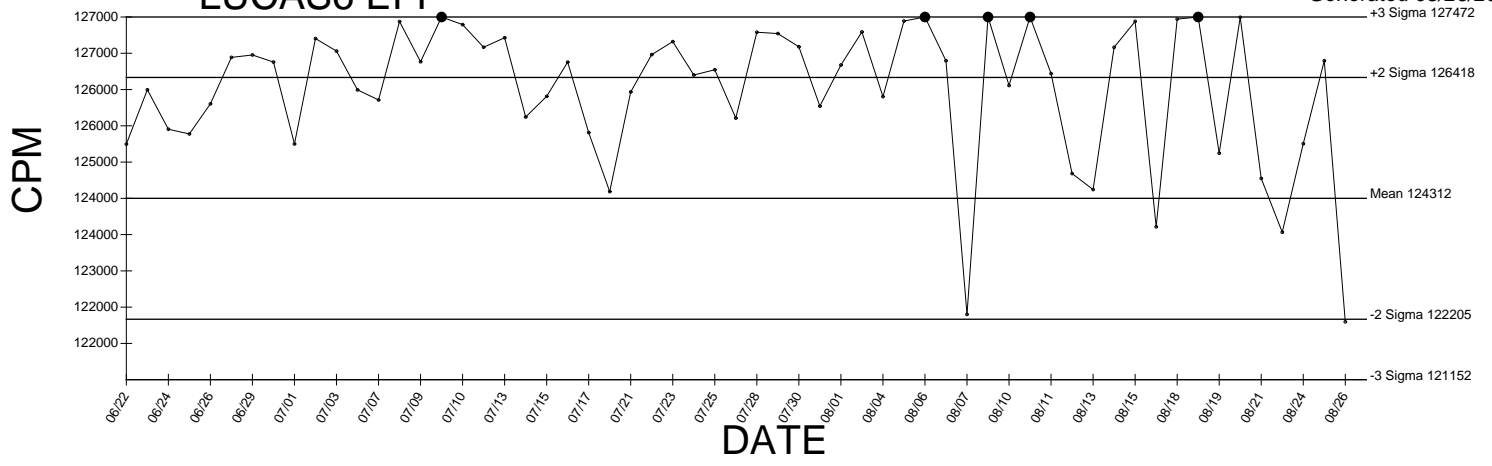
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● Denotes Outlier

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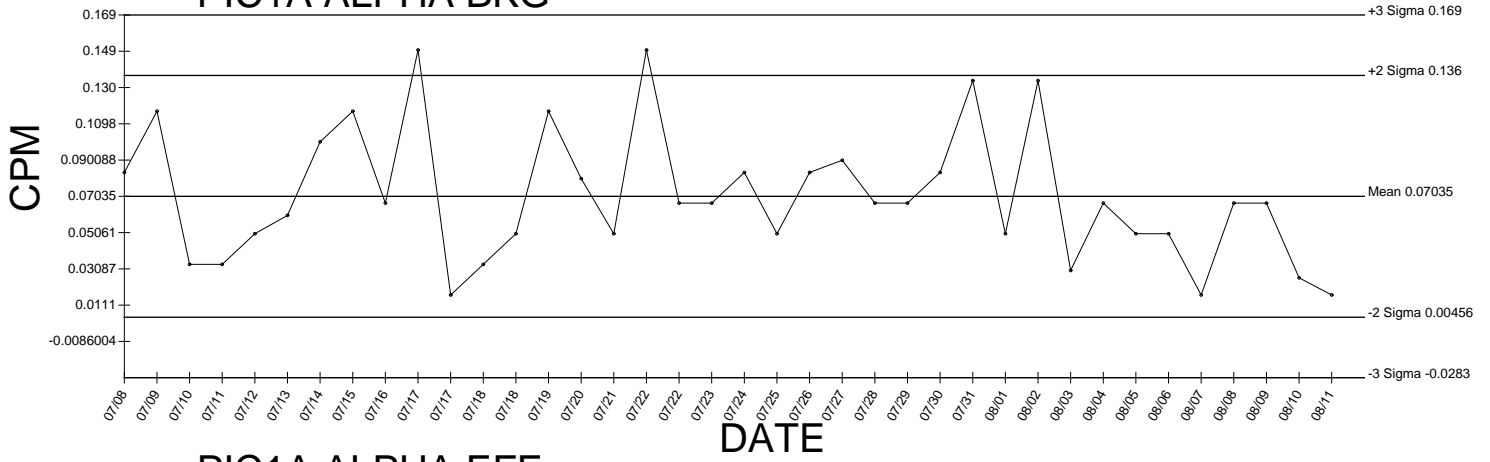
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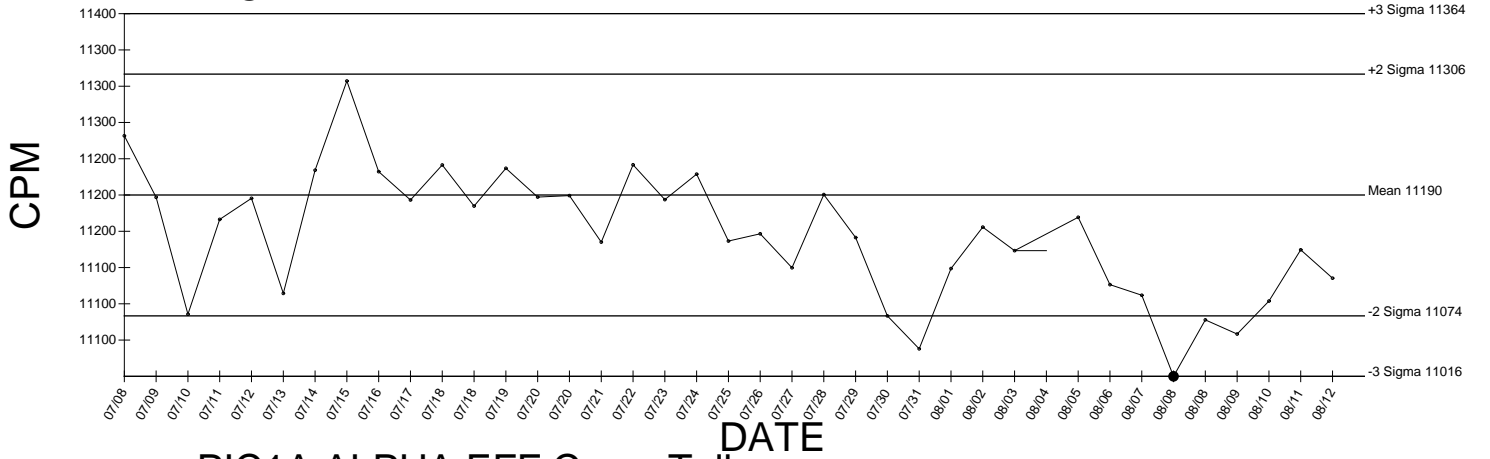
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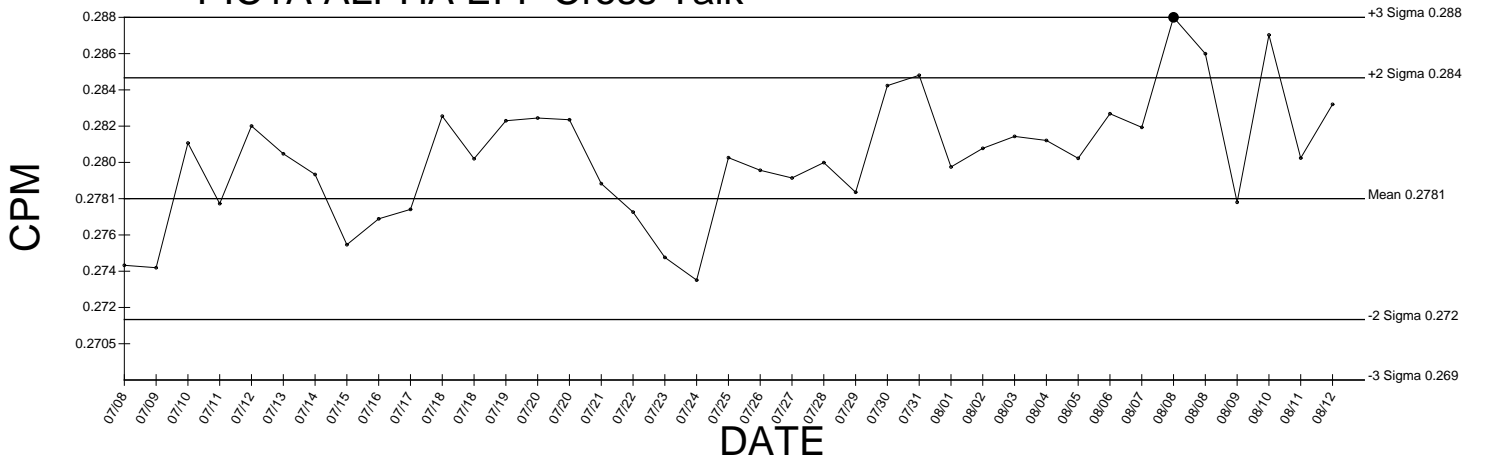
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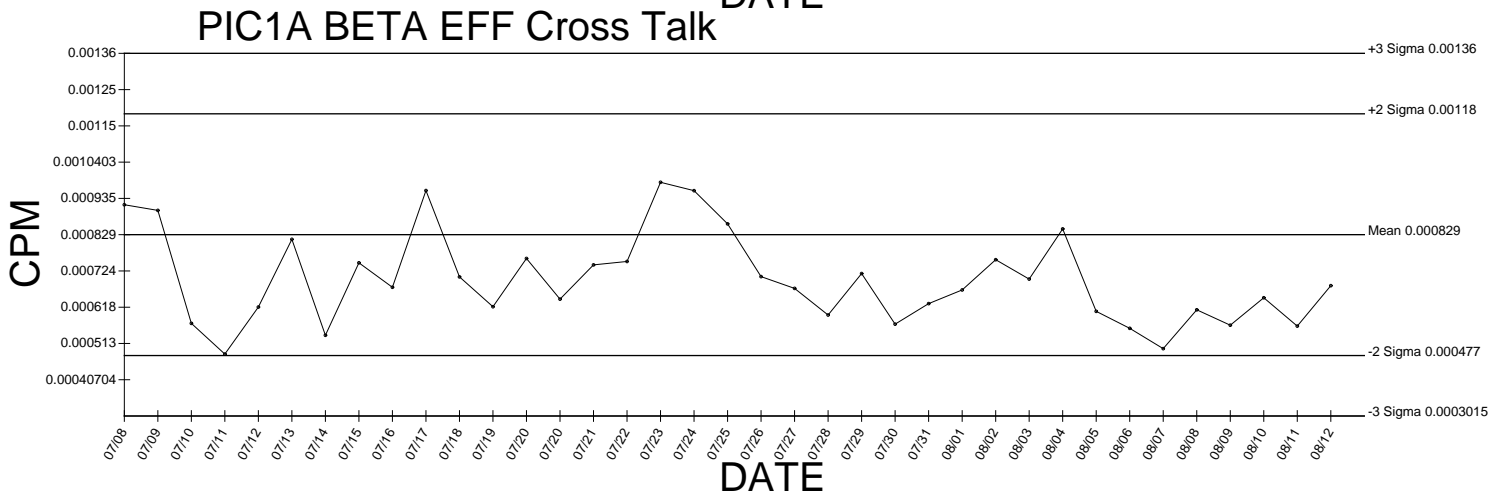
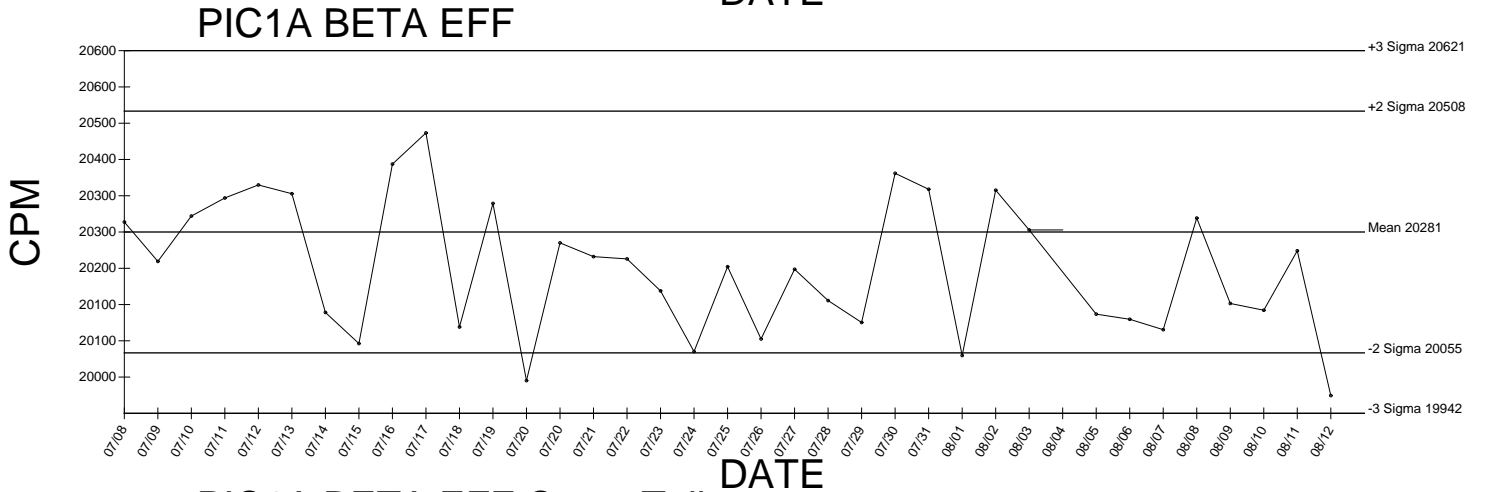
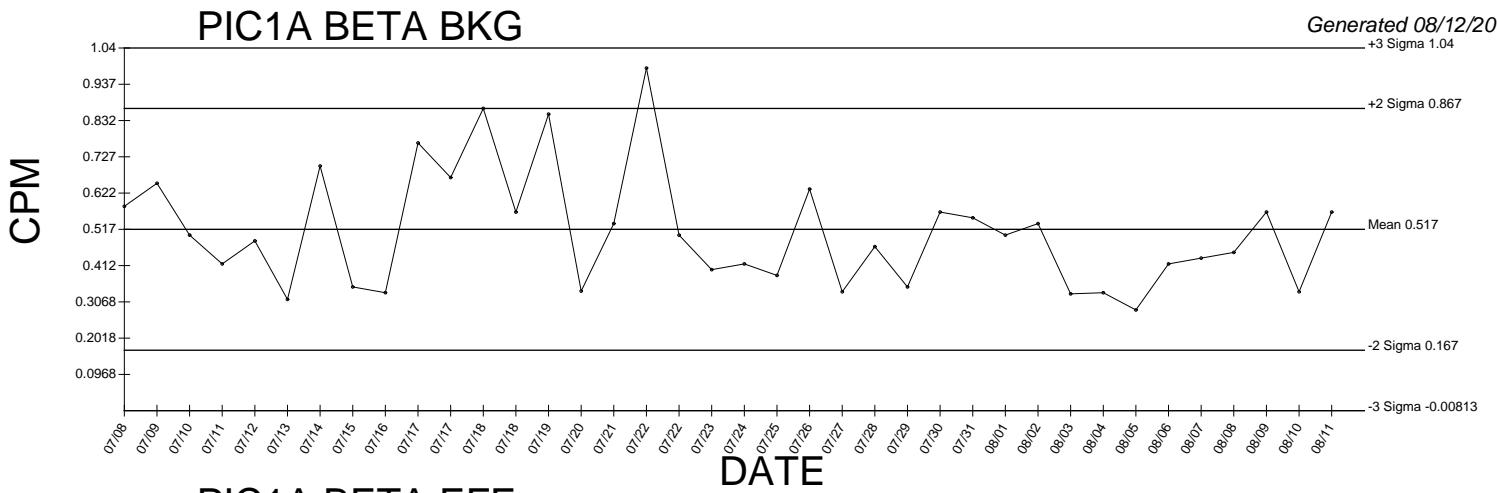
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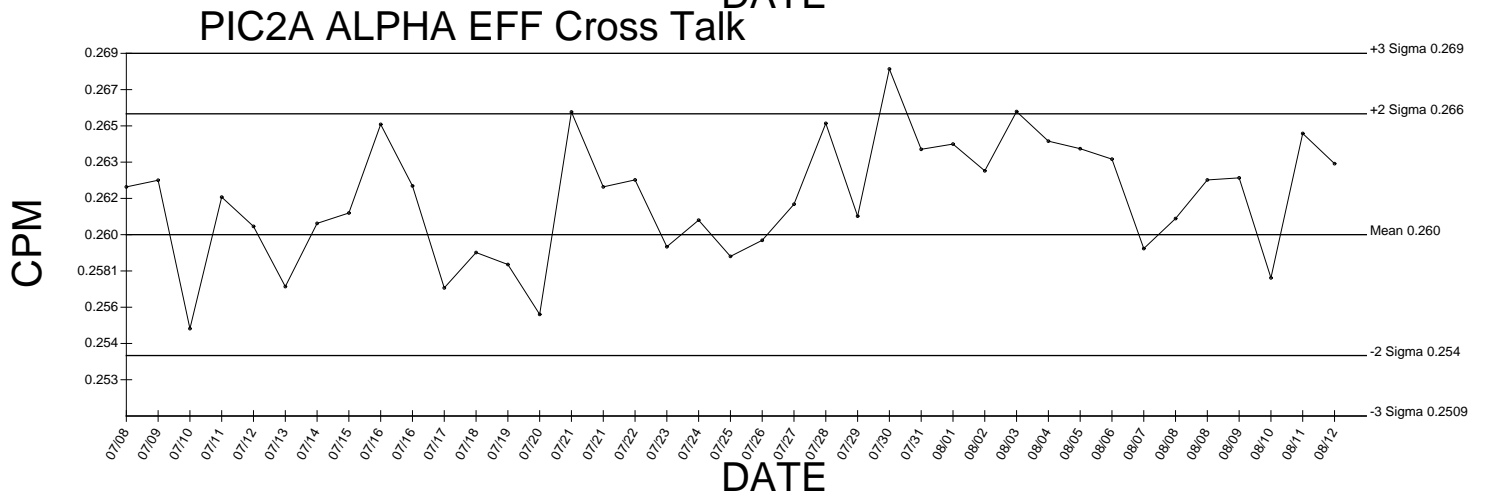
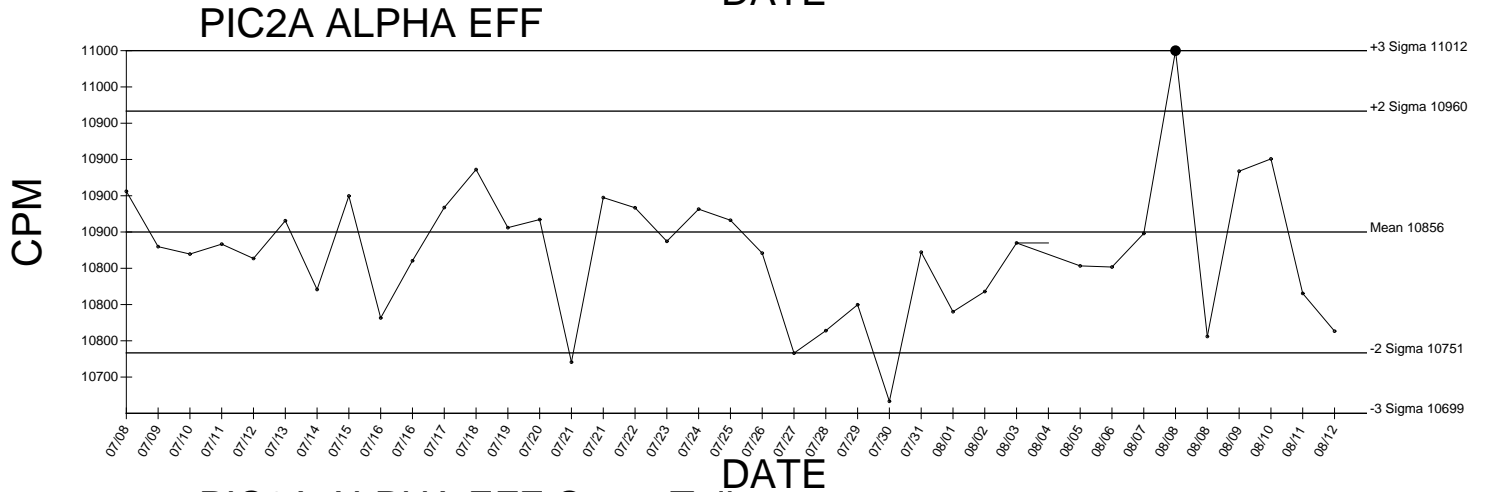
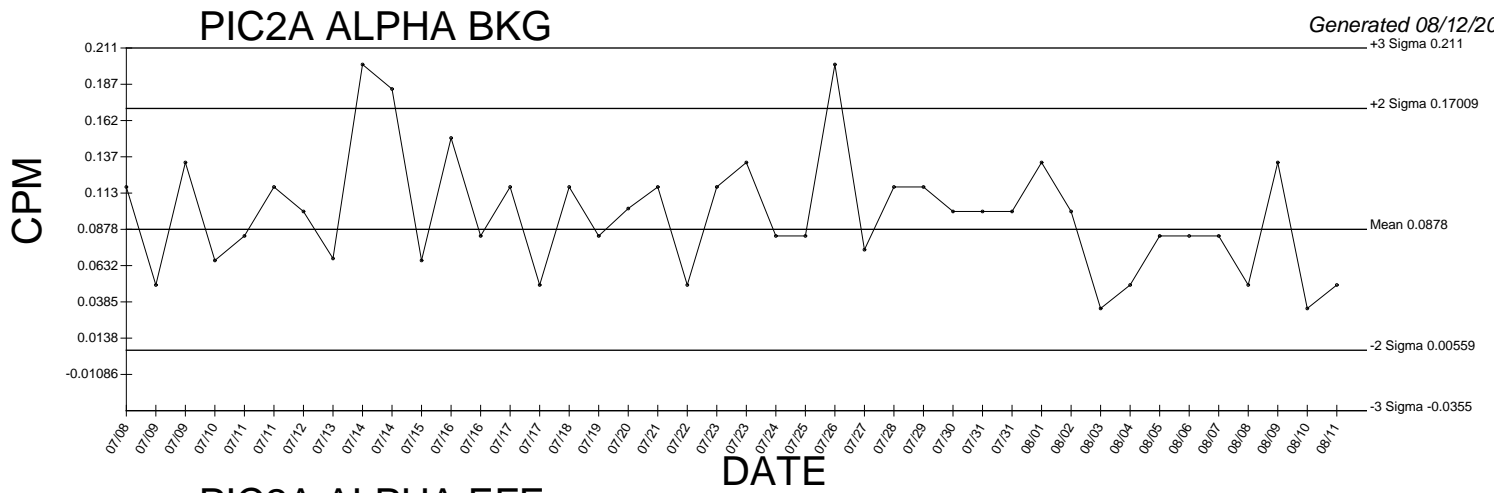
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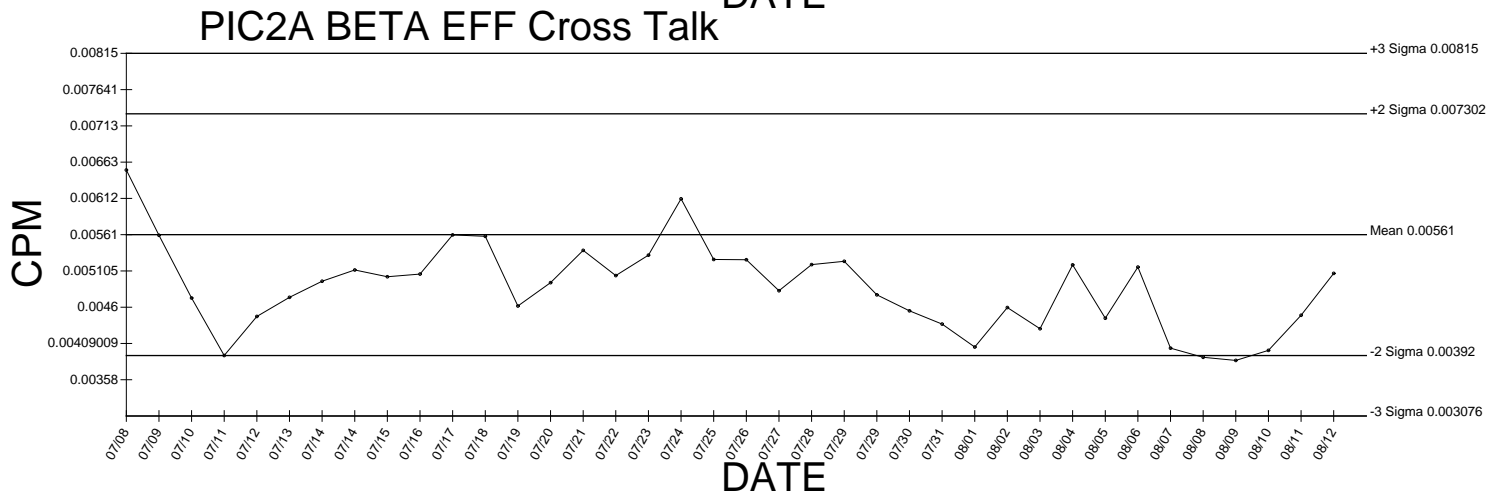
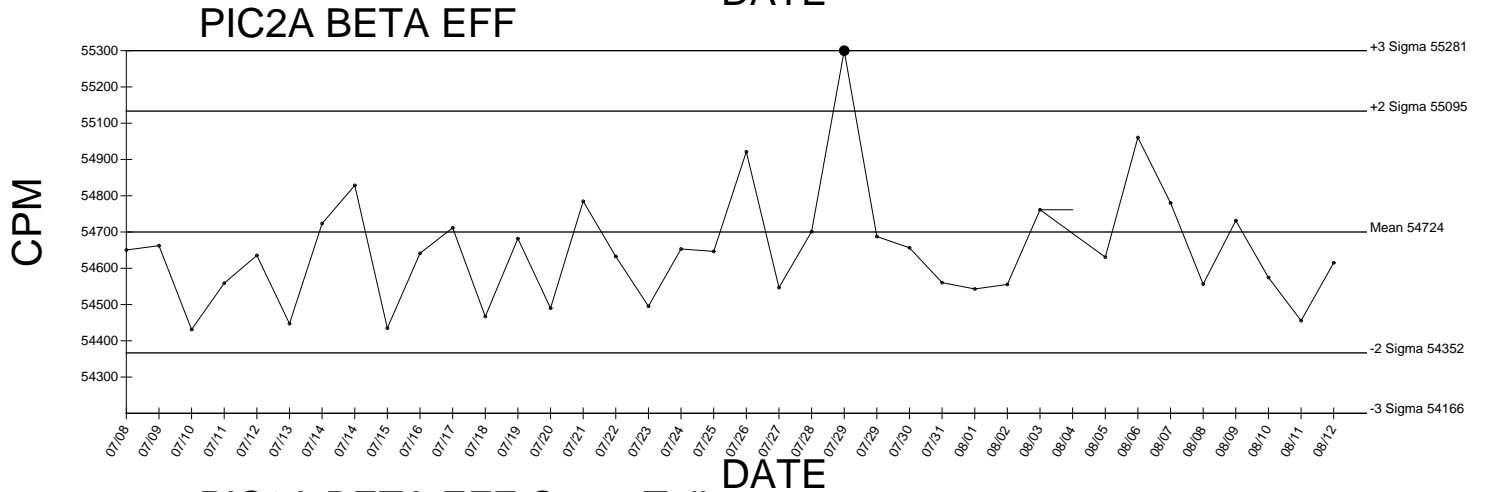
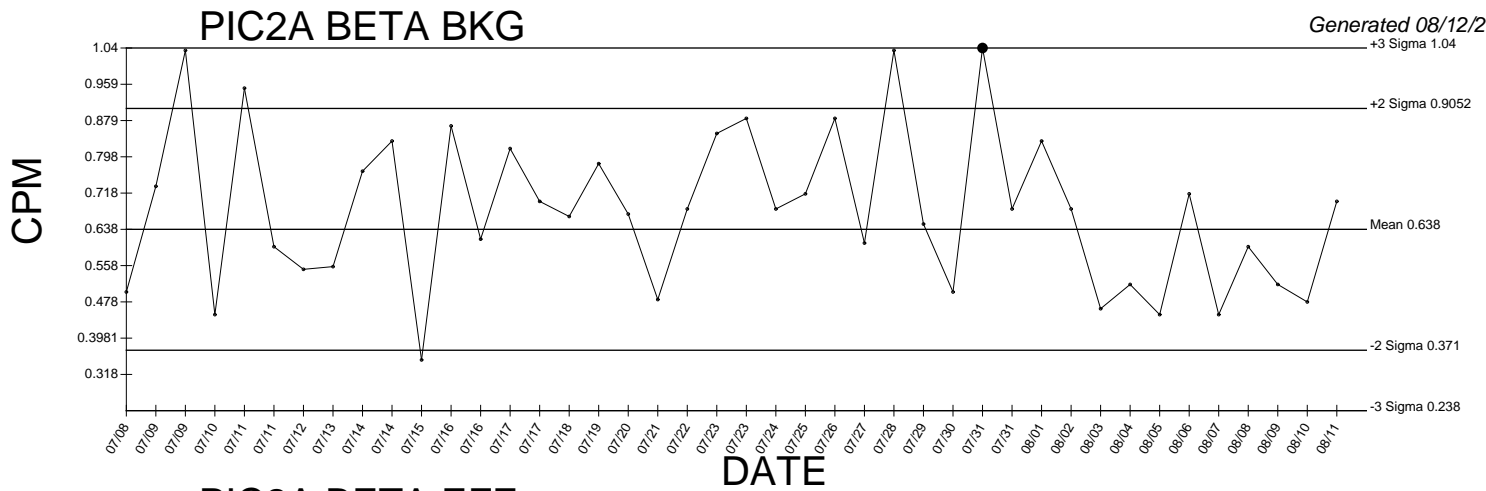
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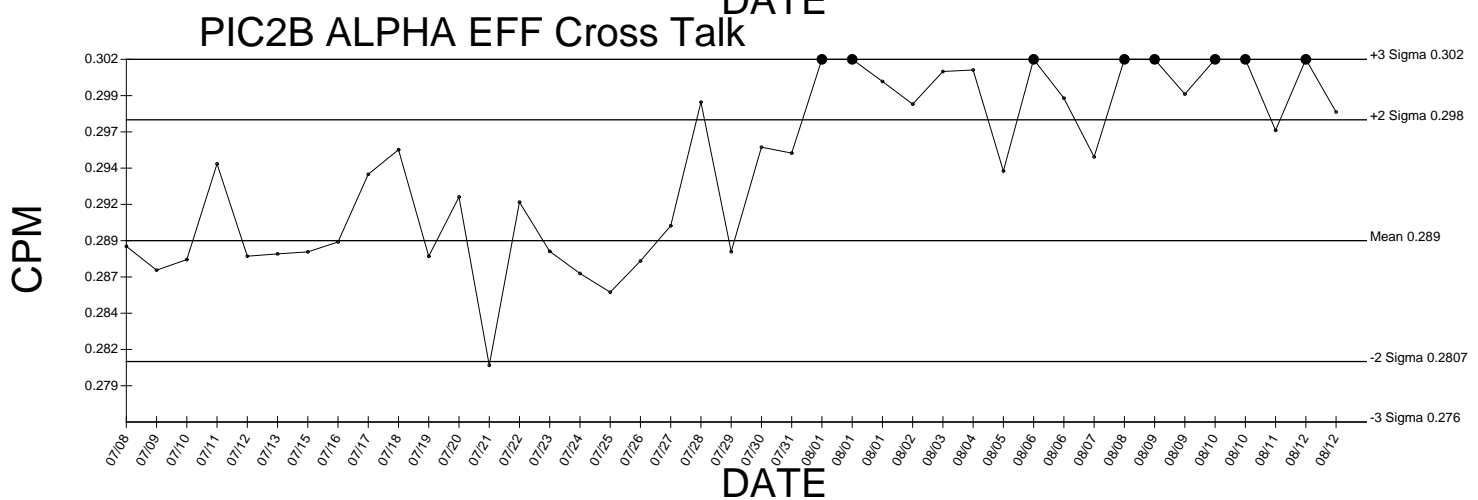
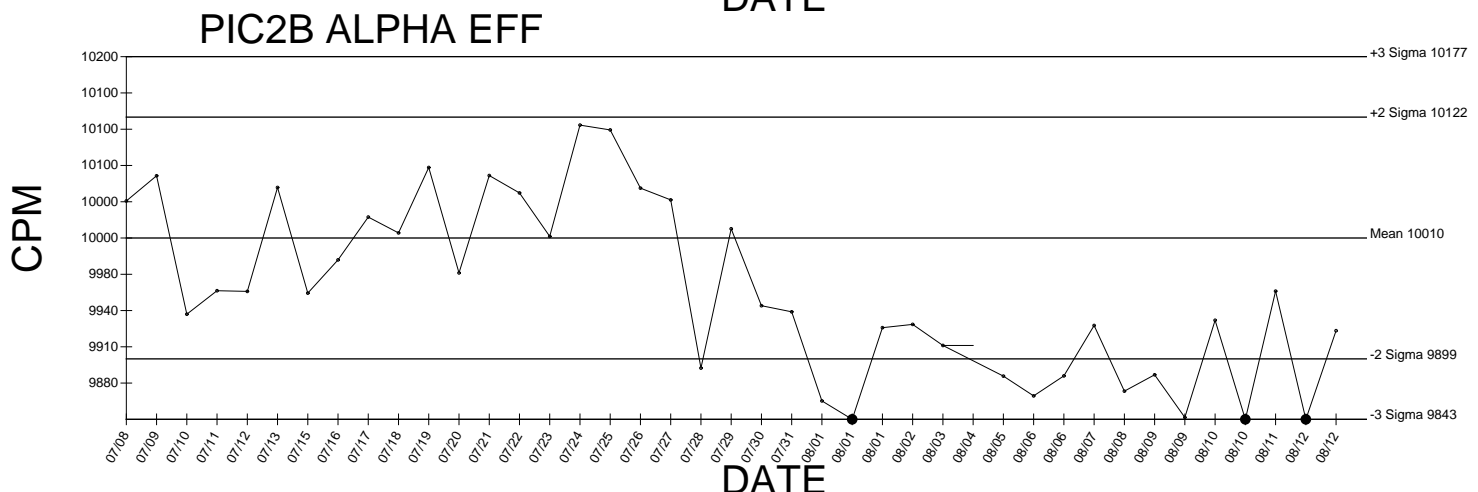
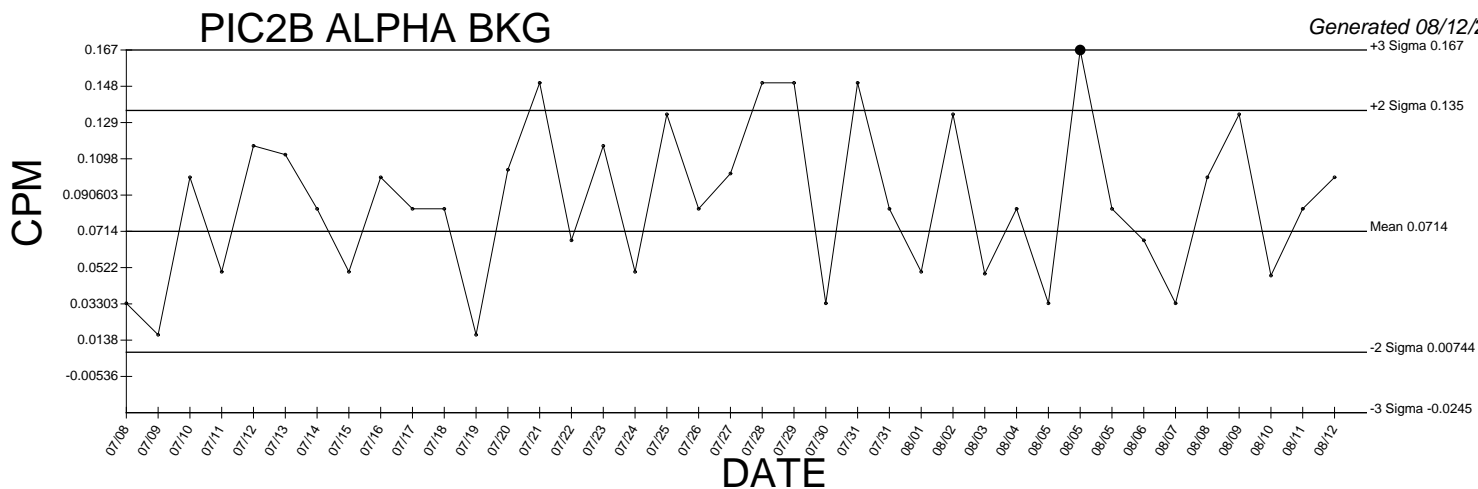
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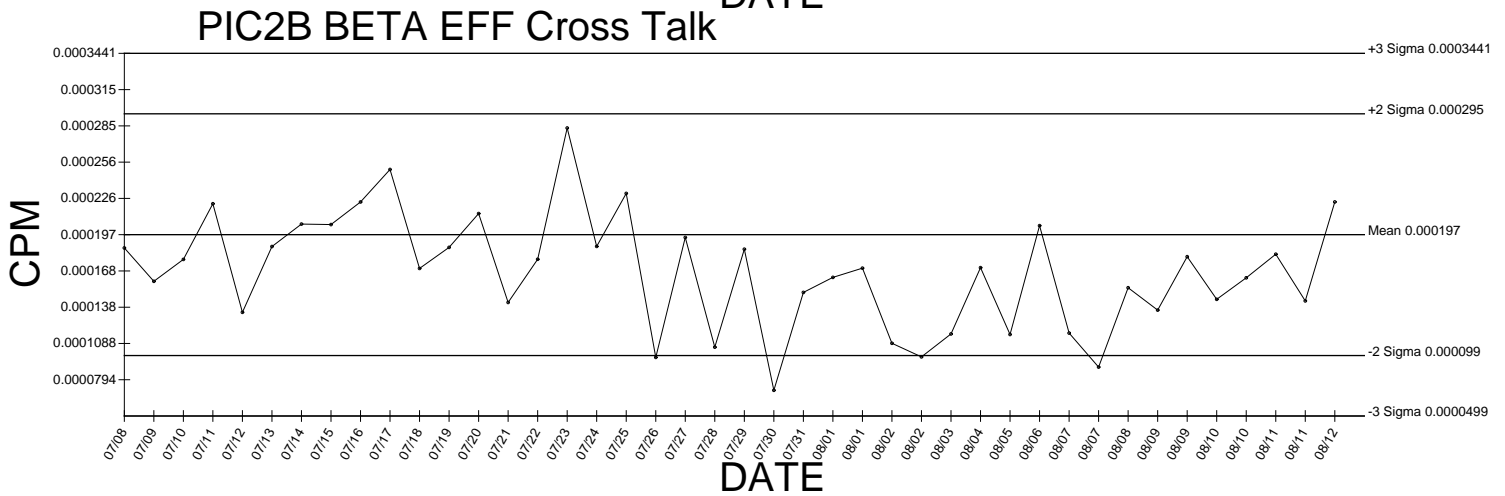
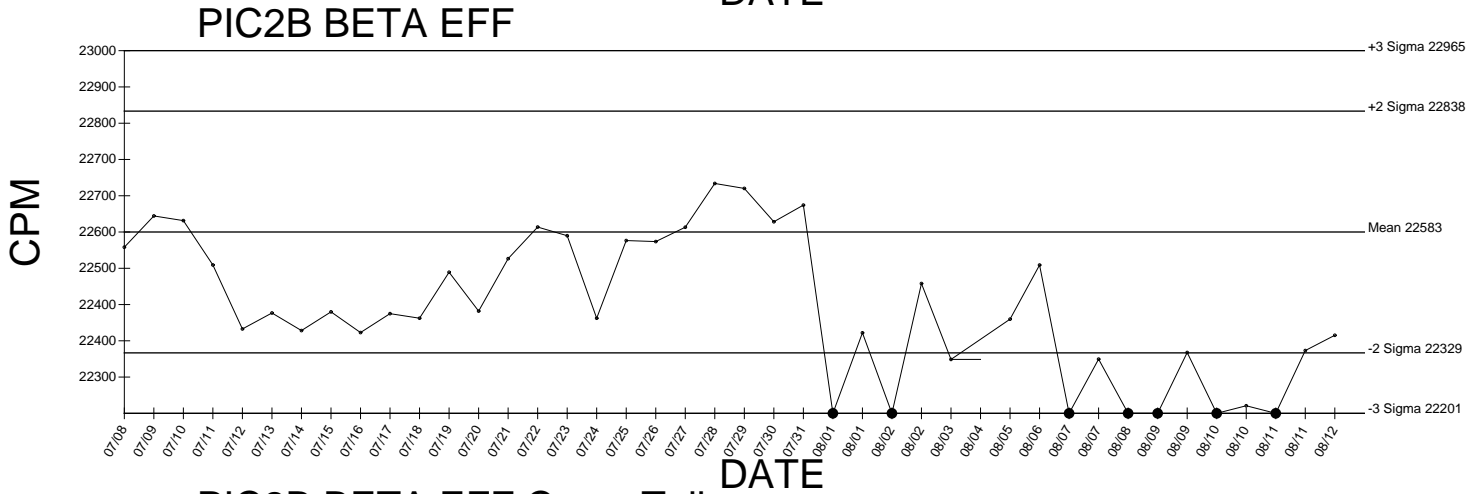
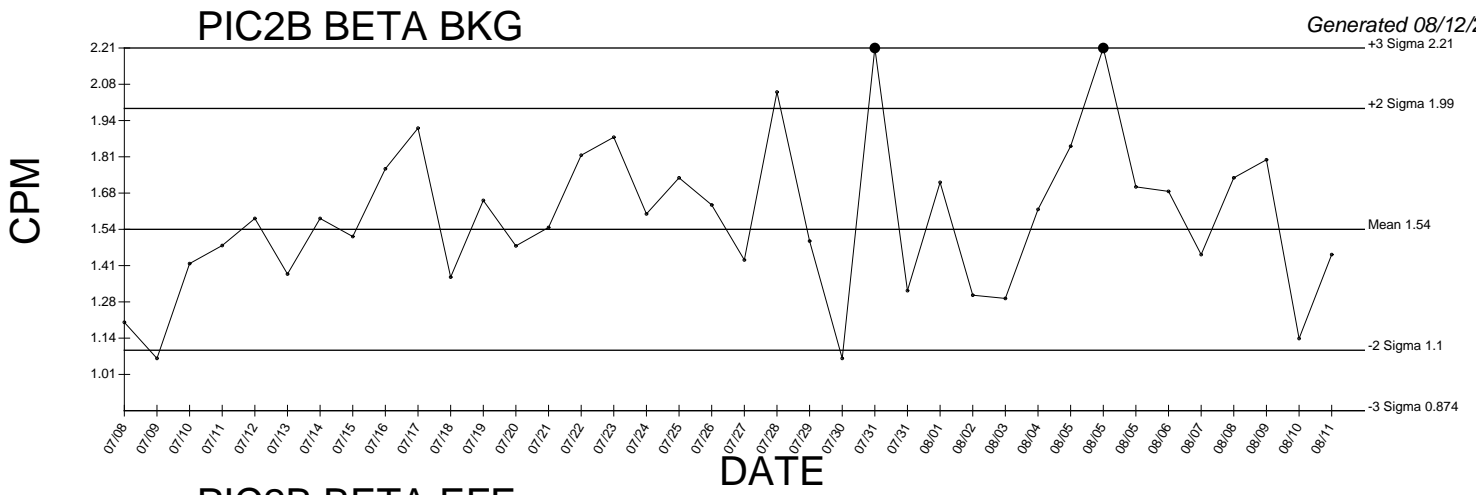
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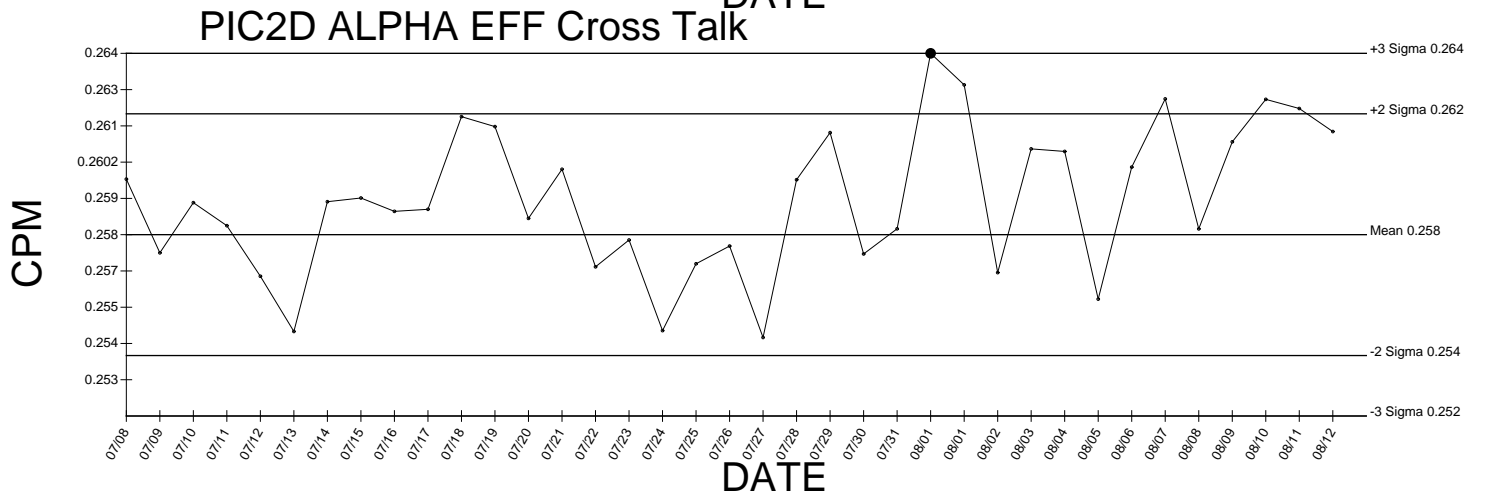
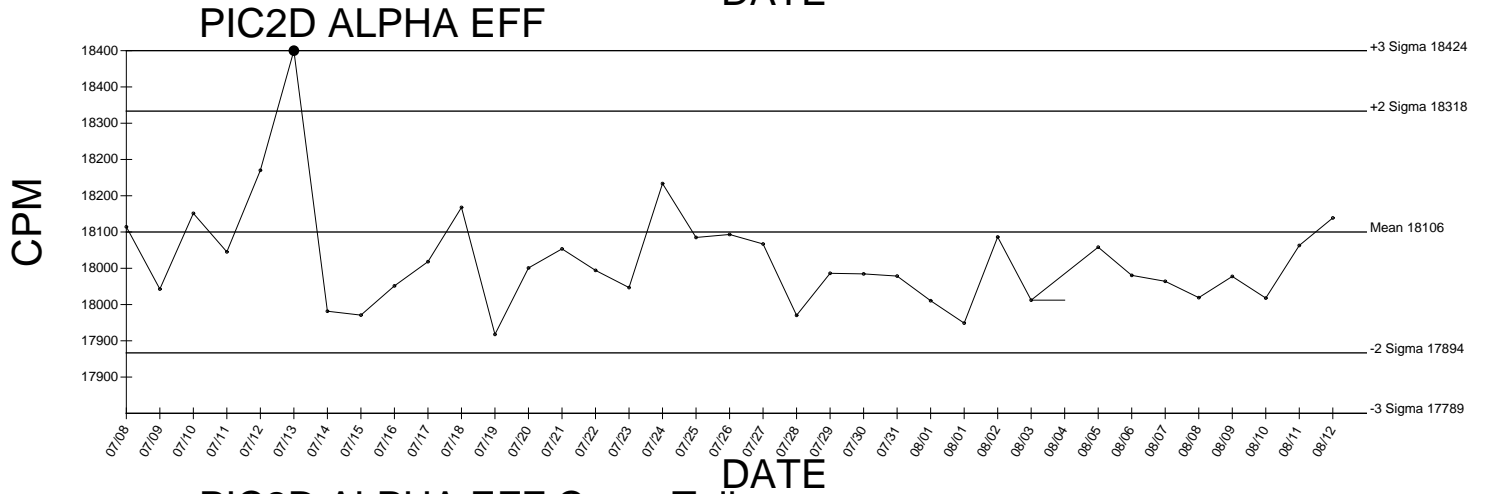
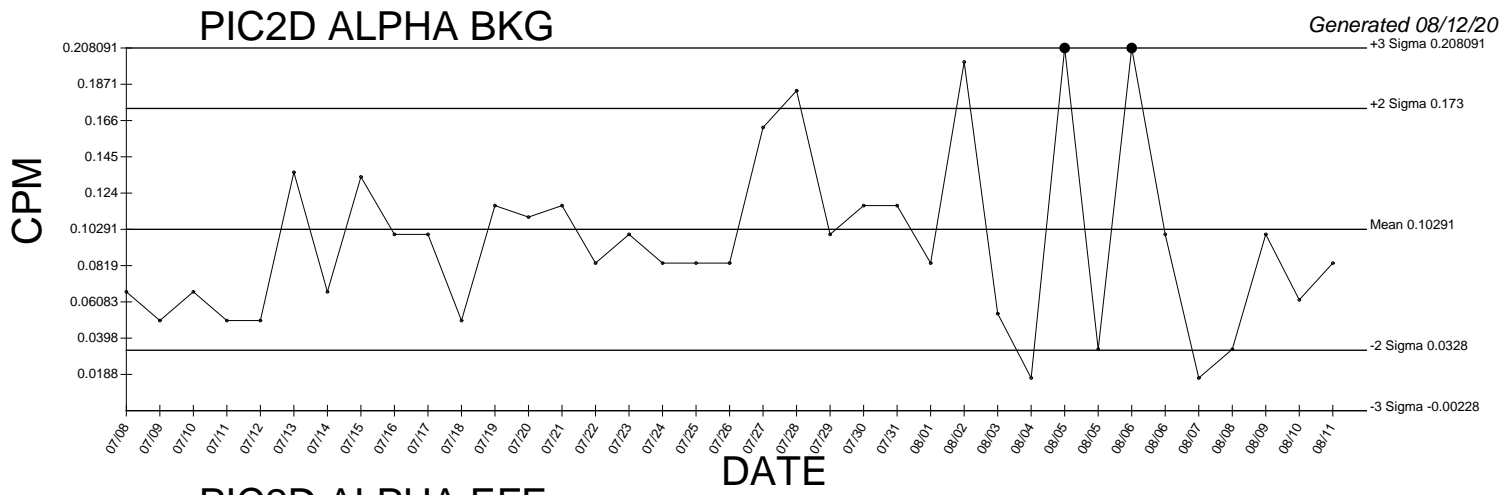
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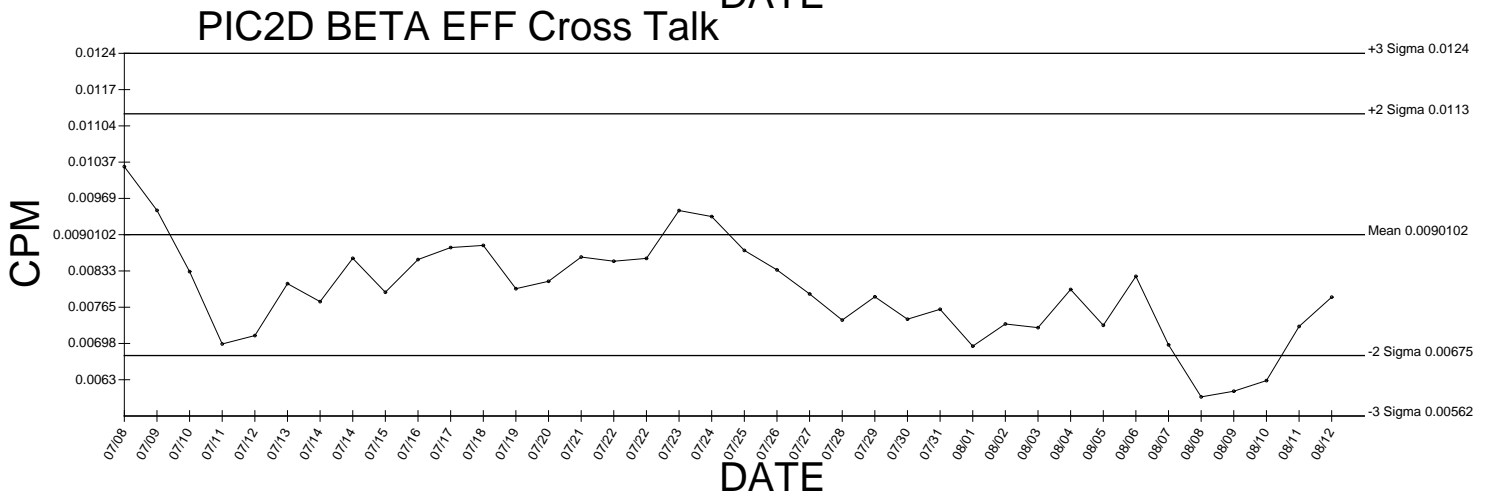
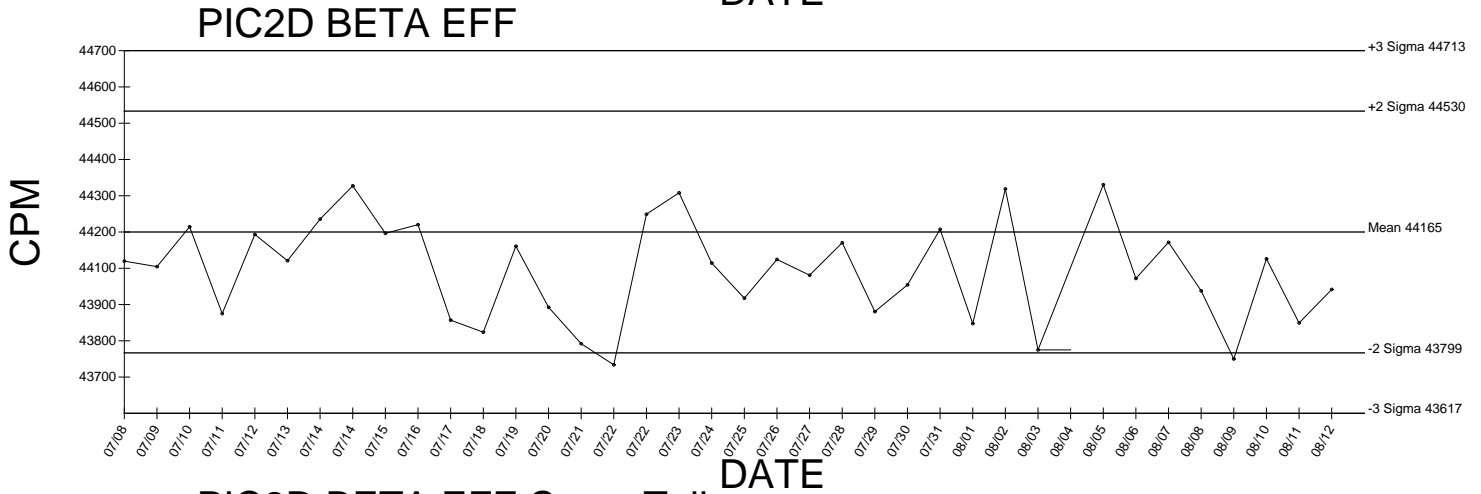
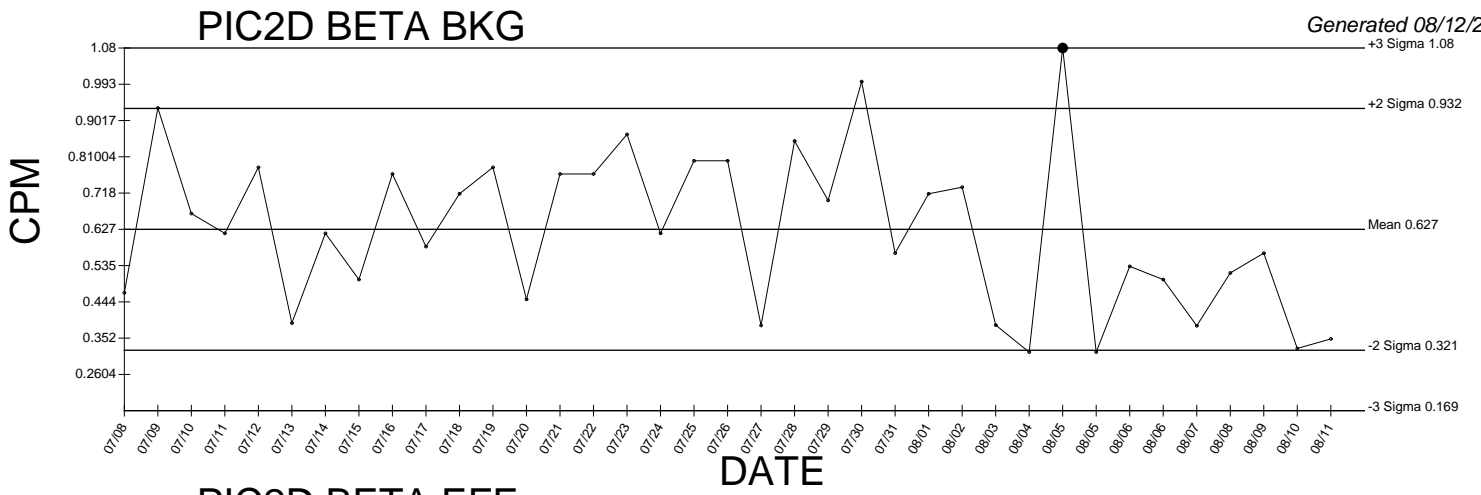
● Denotes Outlier



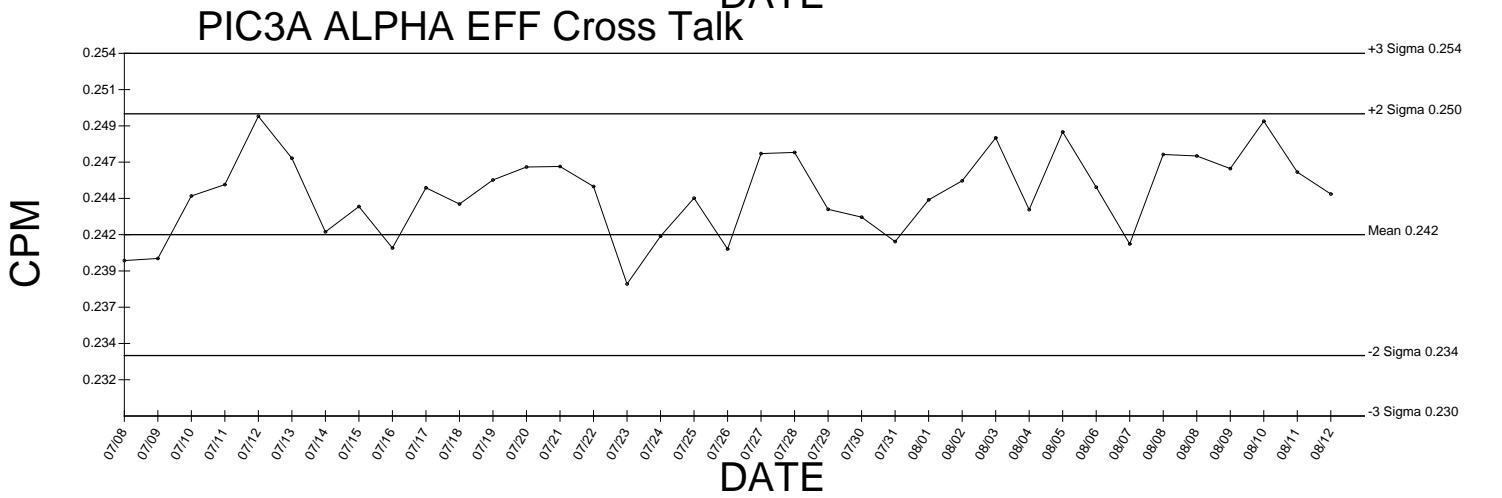
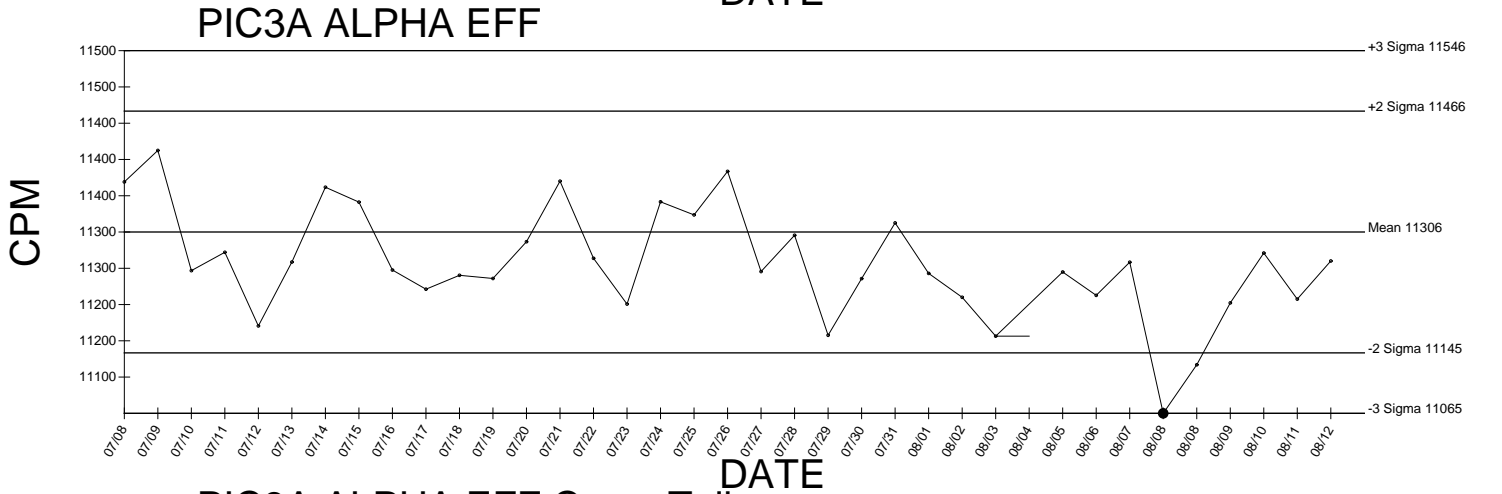
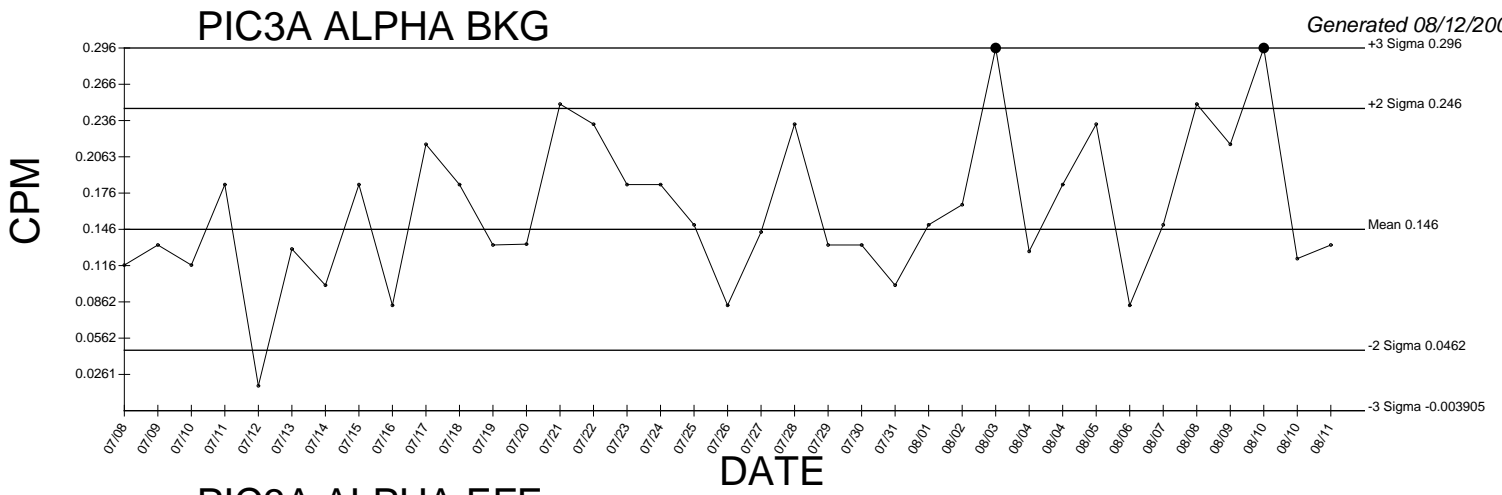
● Denotes Outlier



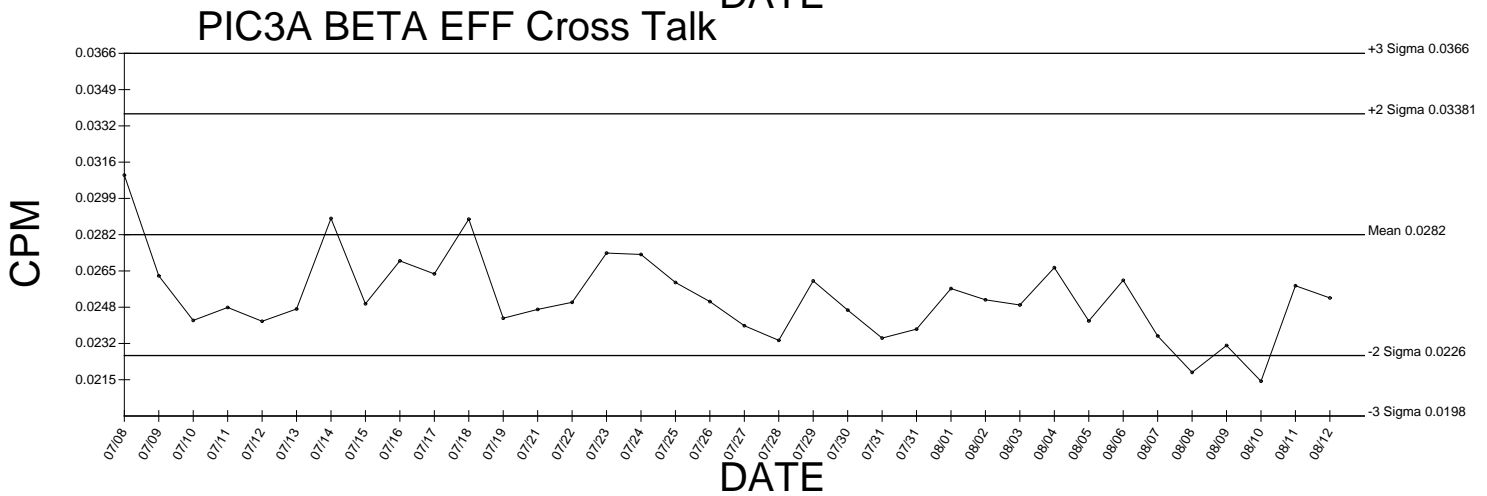
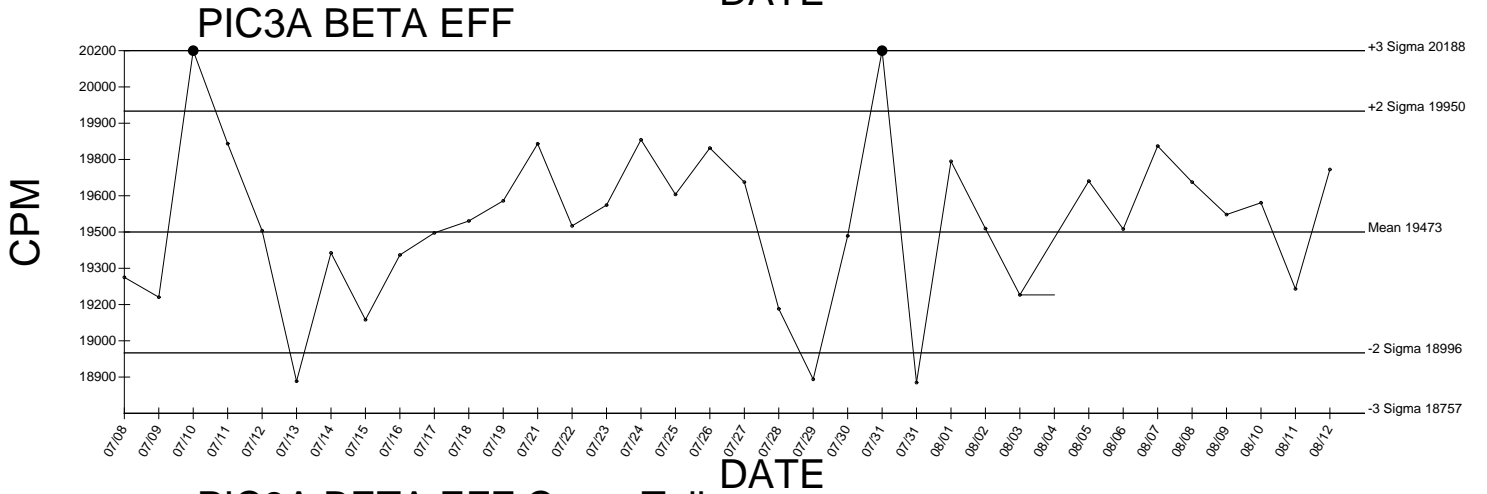
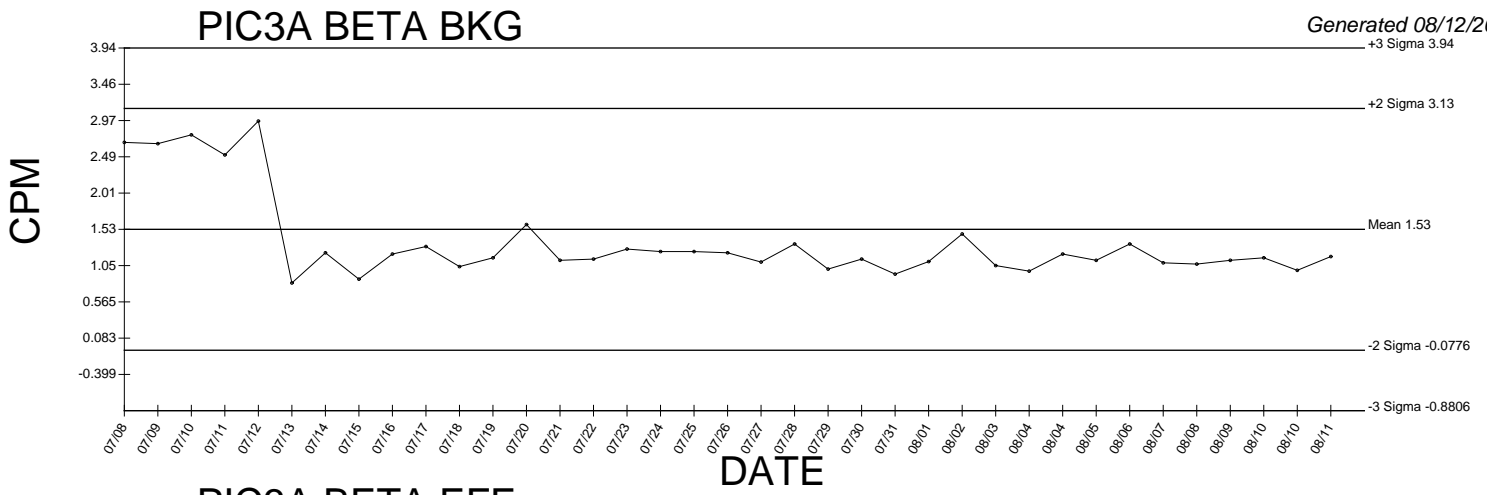
● Denotes Outlier



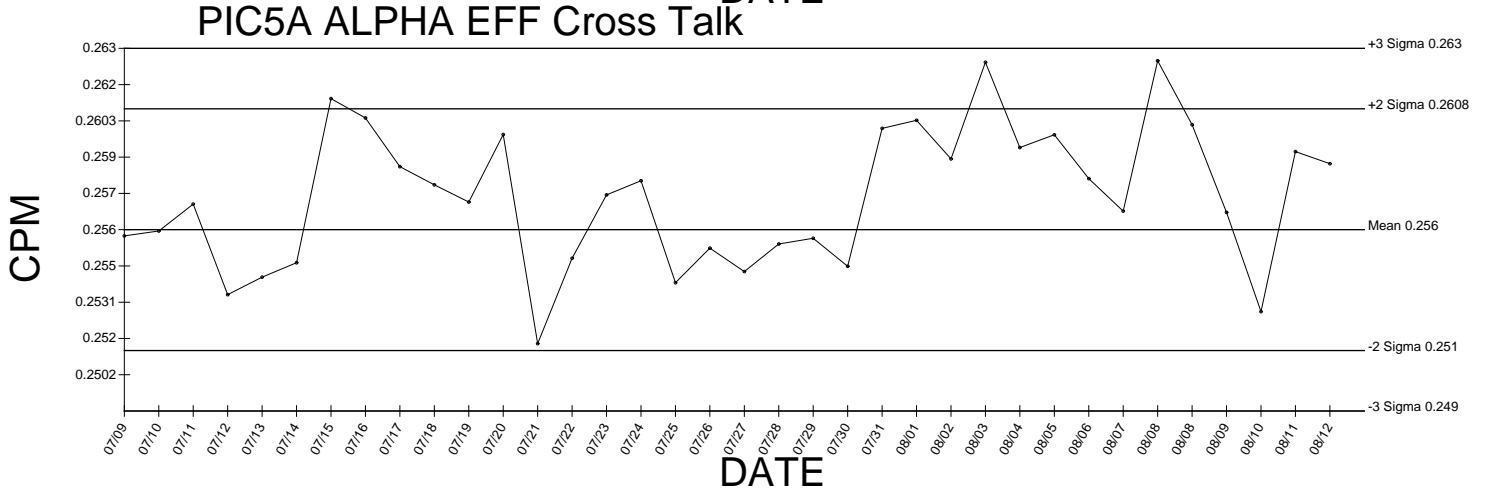
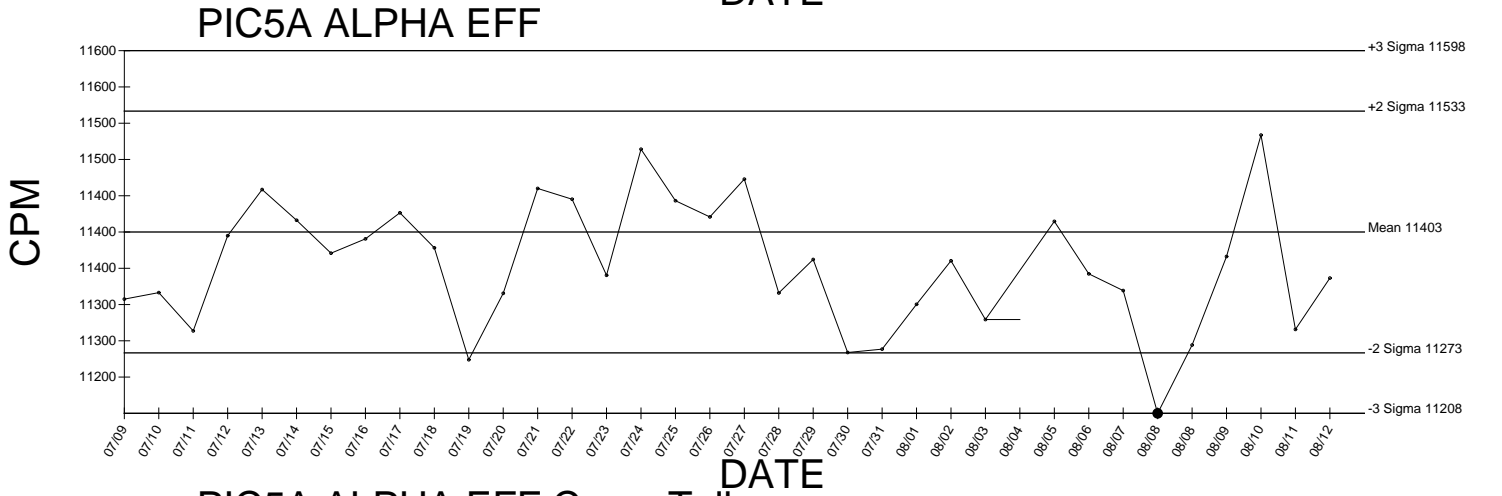
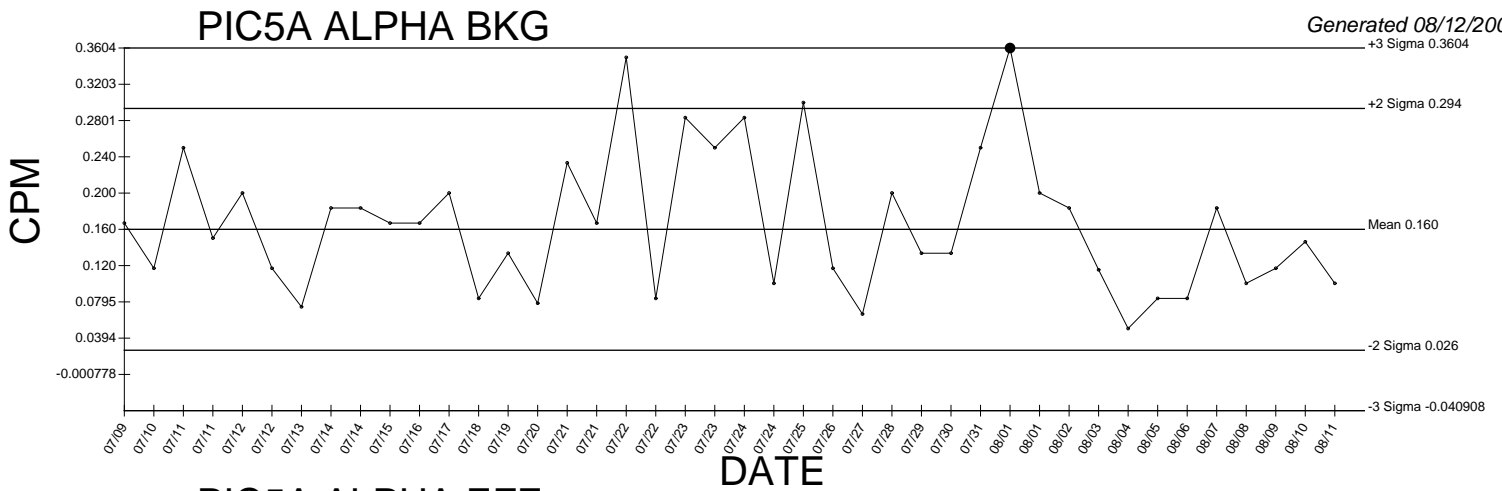
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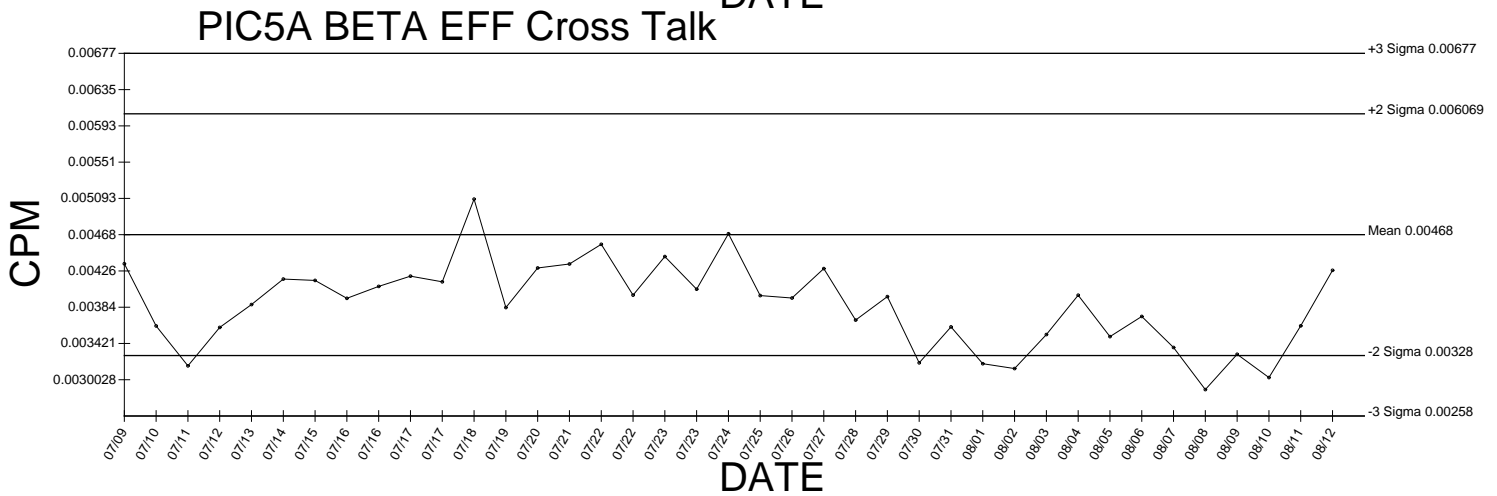
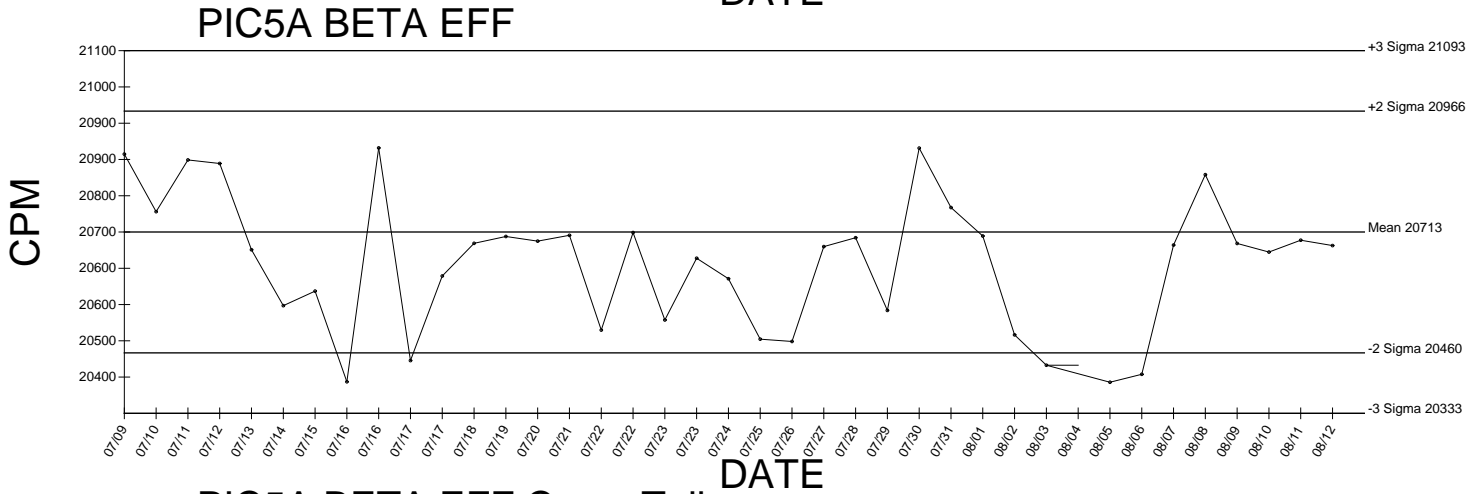
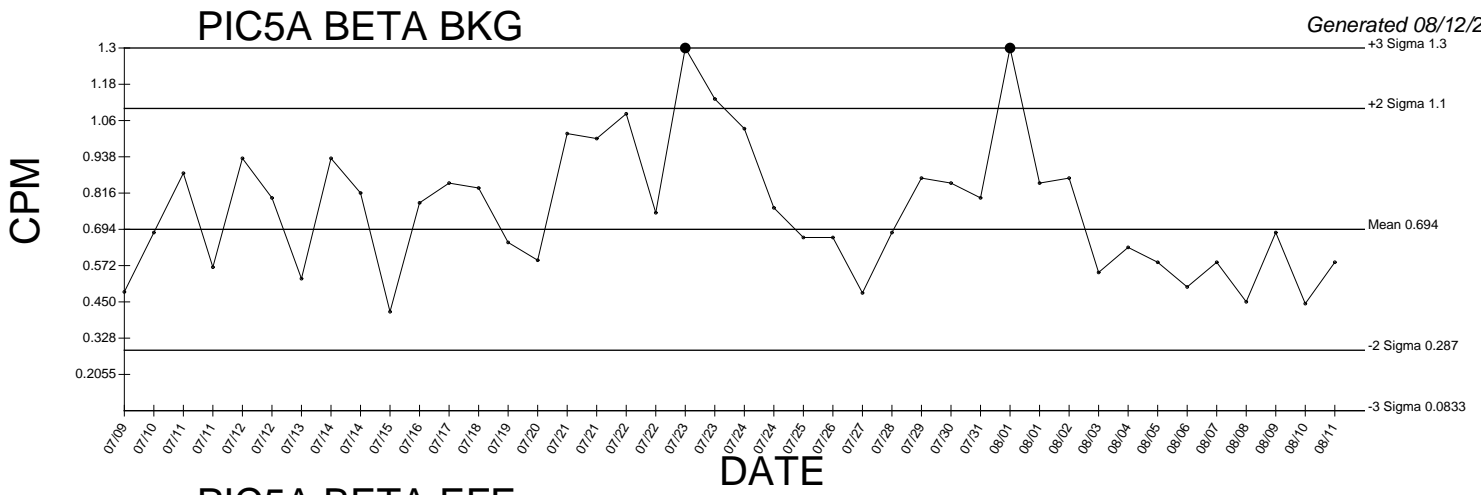
● Denotes Outlier



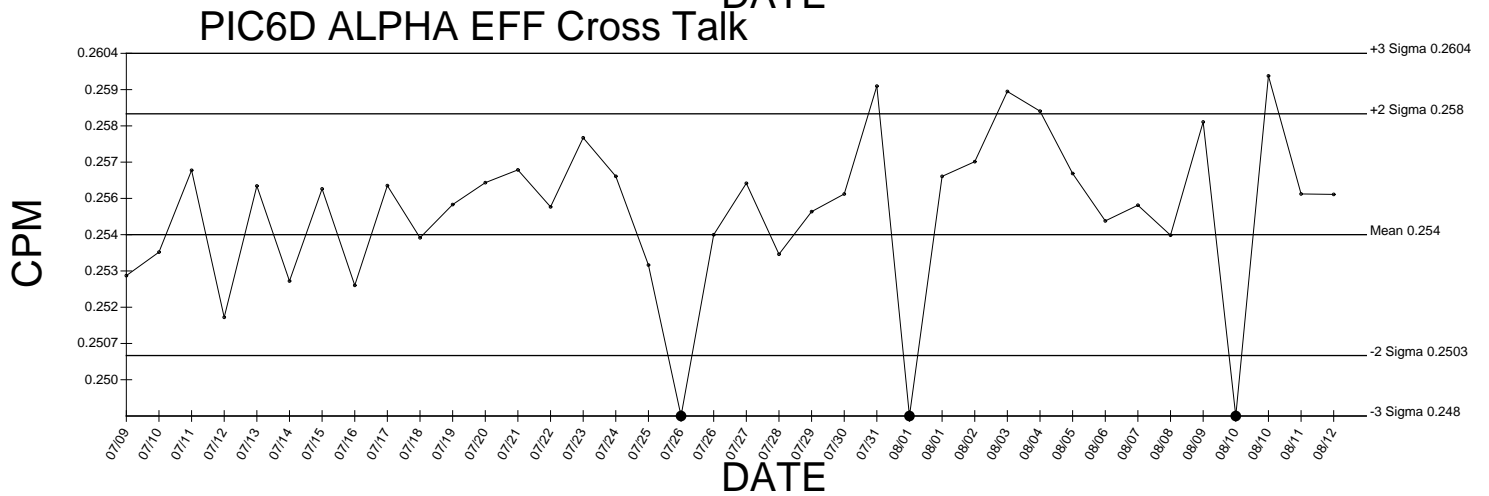
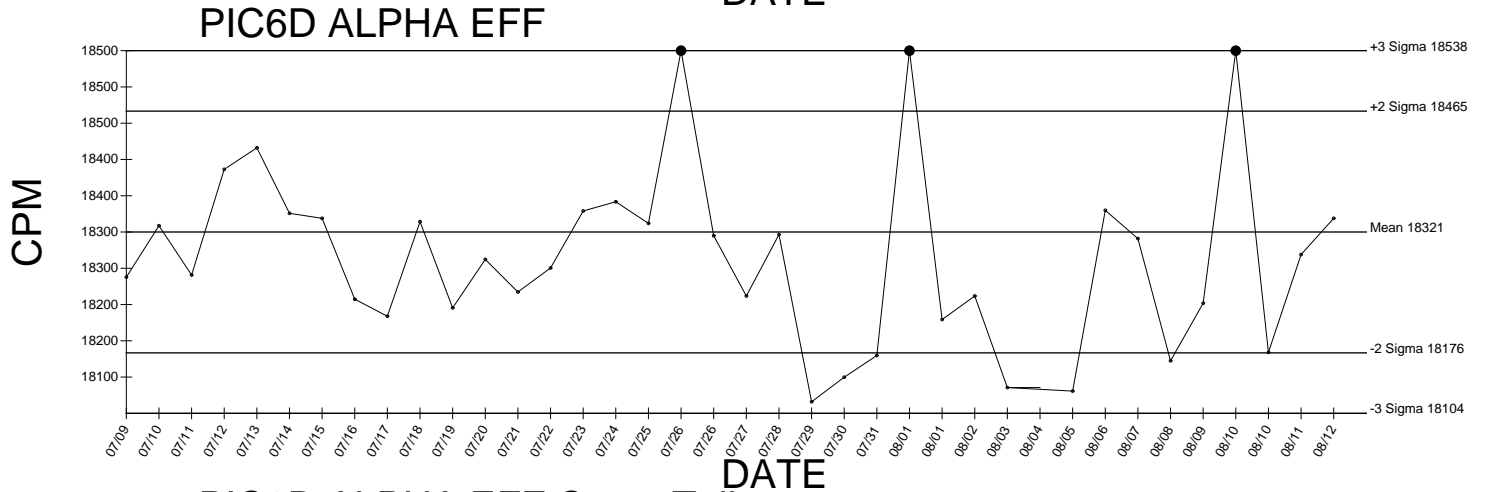
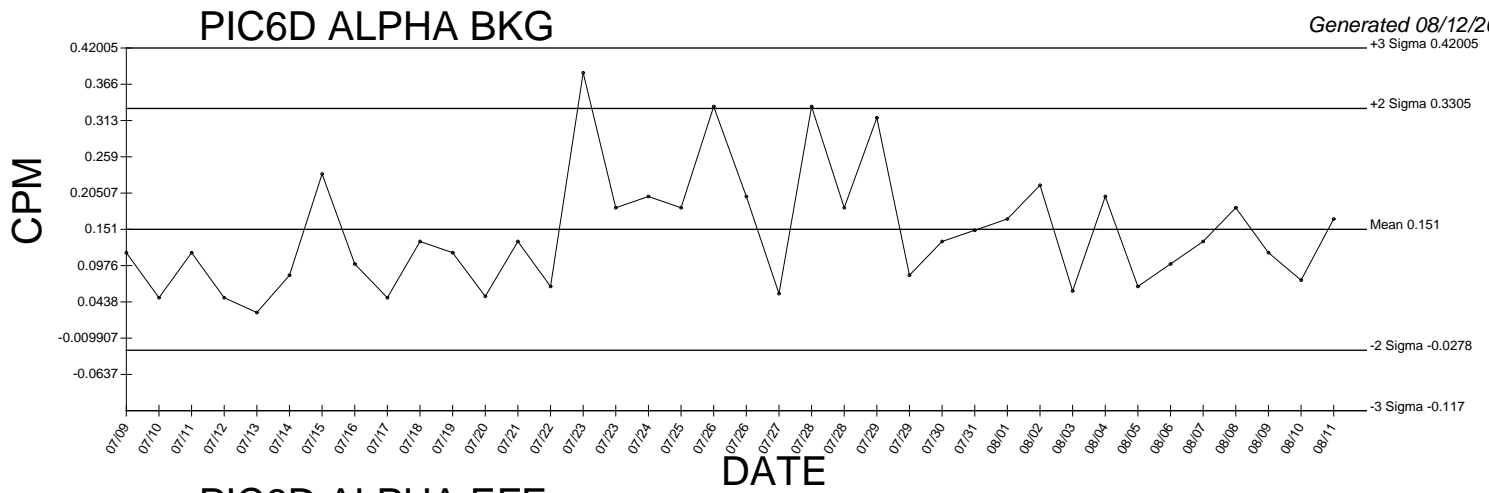
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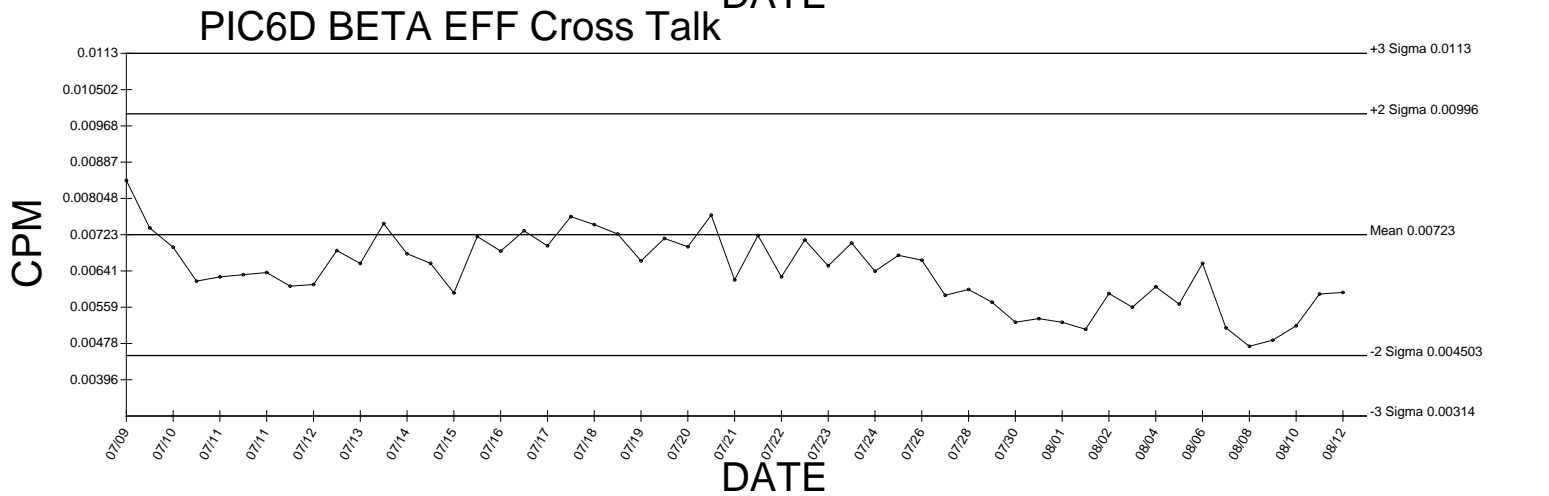
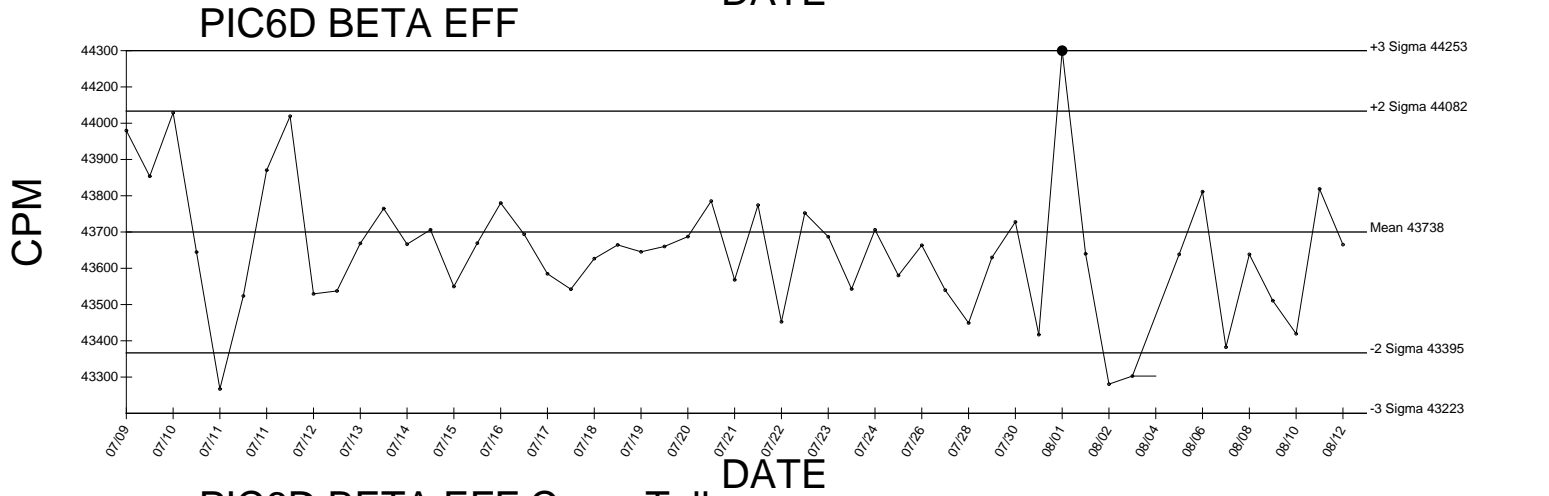
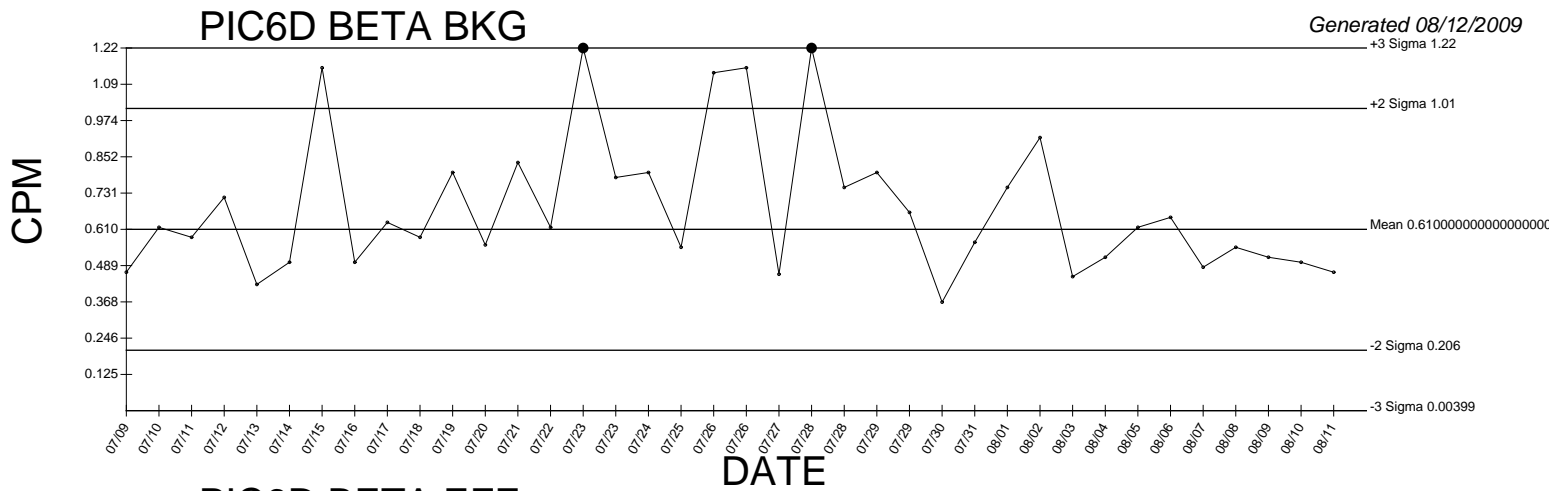
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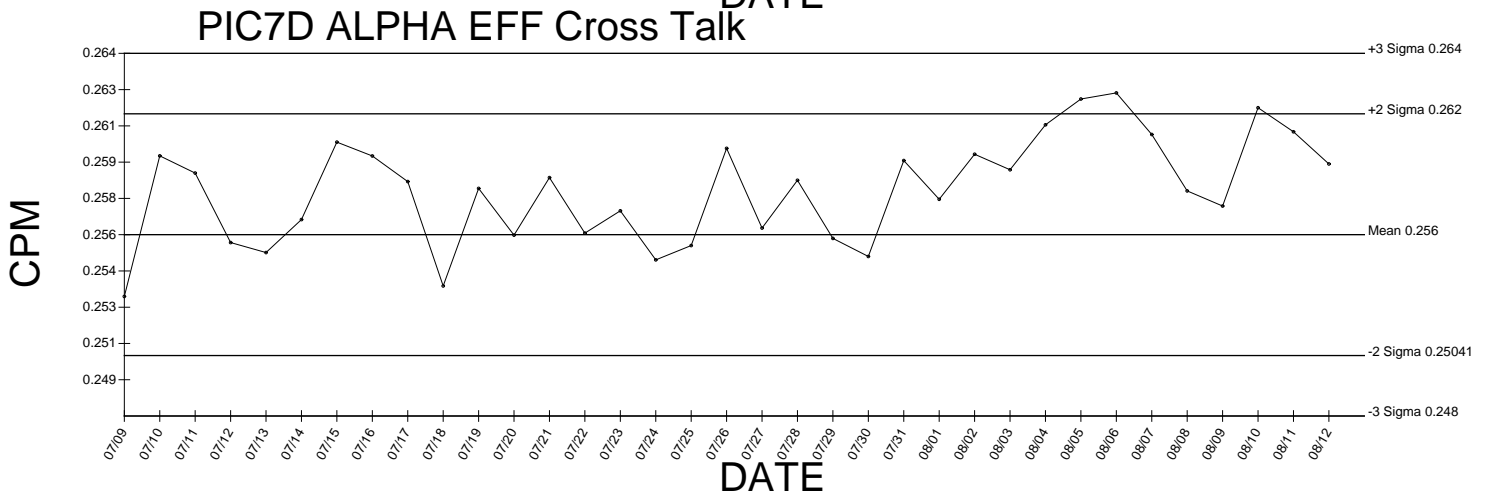
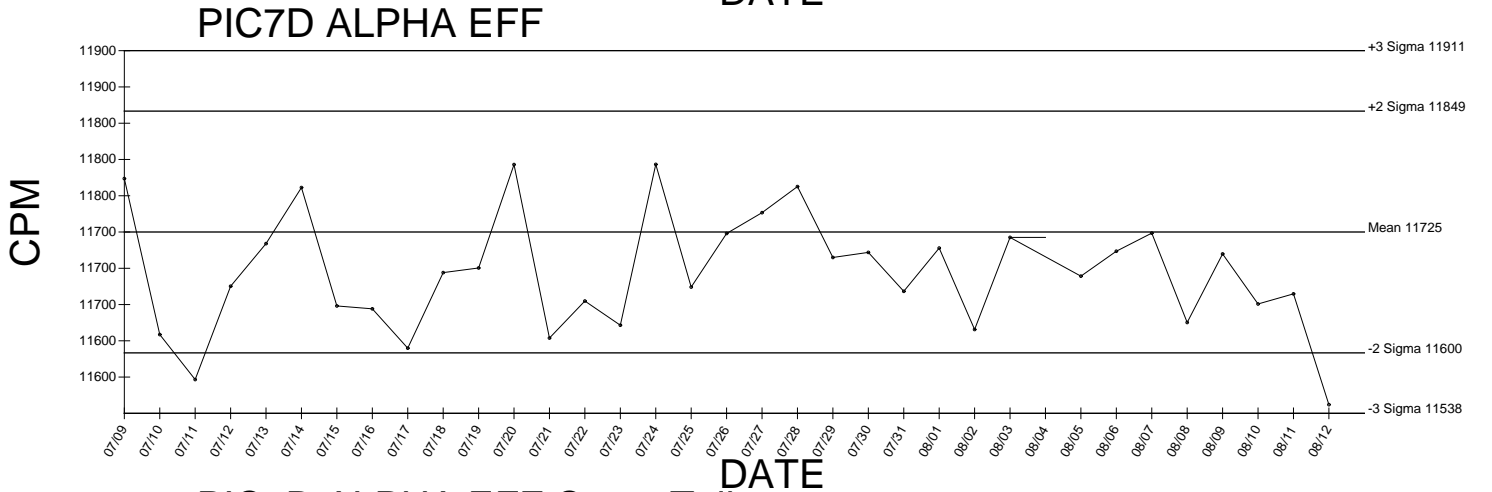
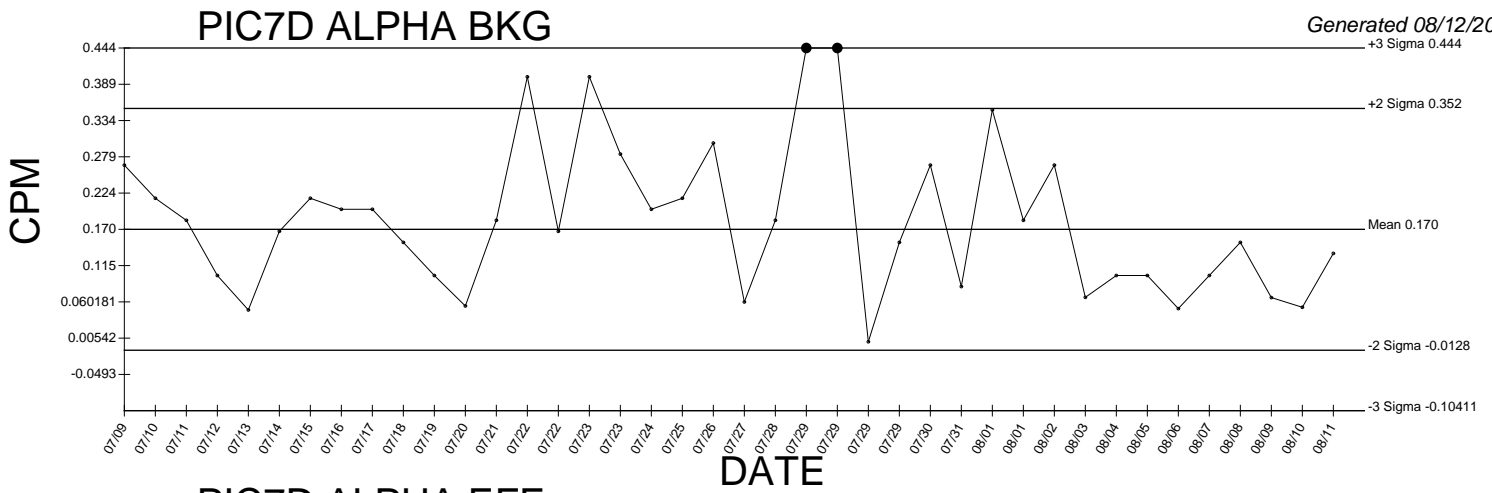
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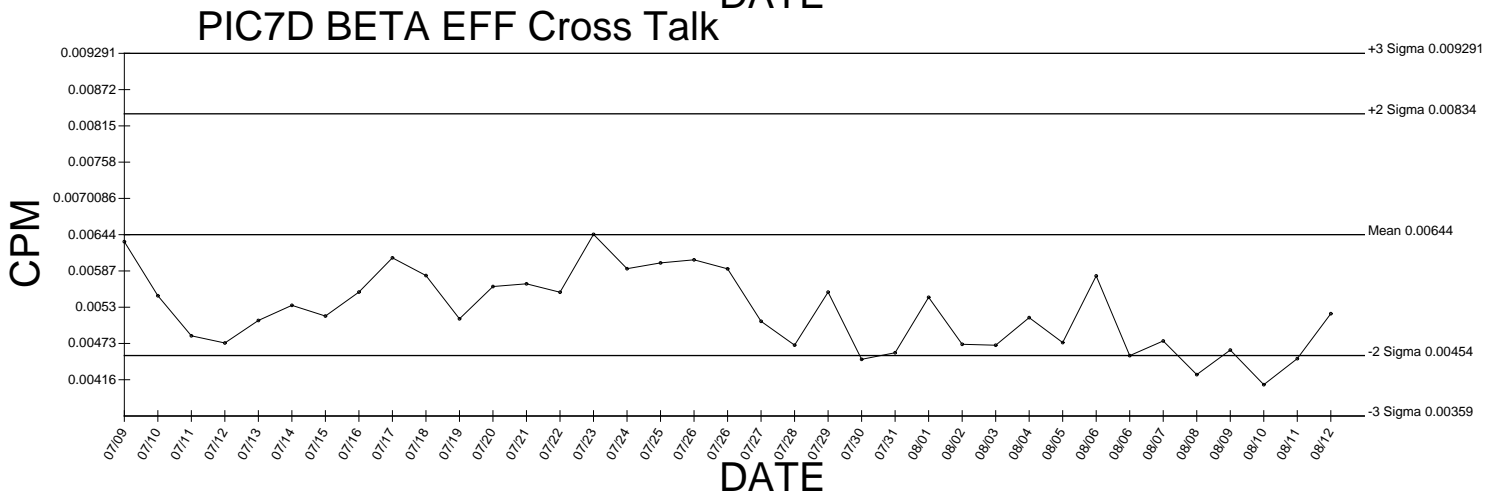
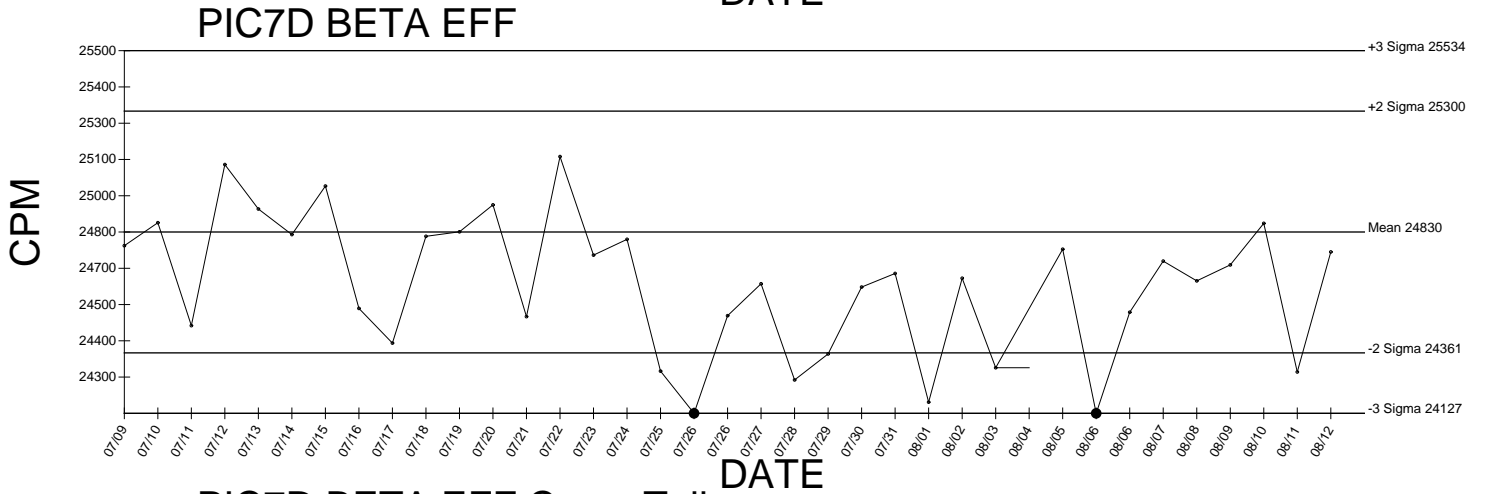
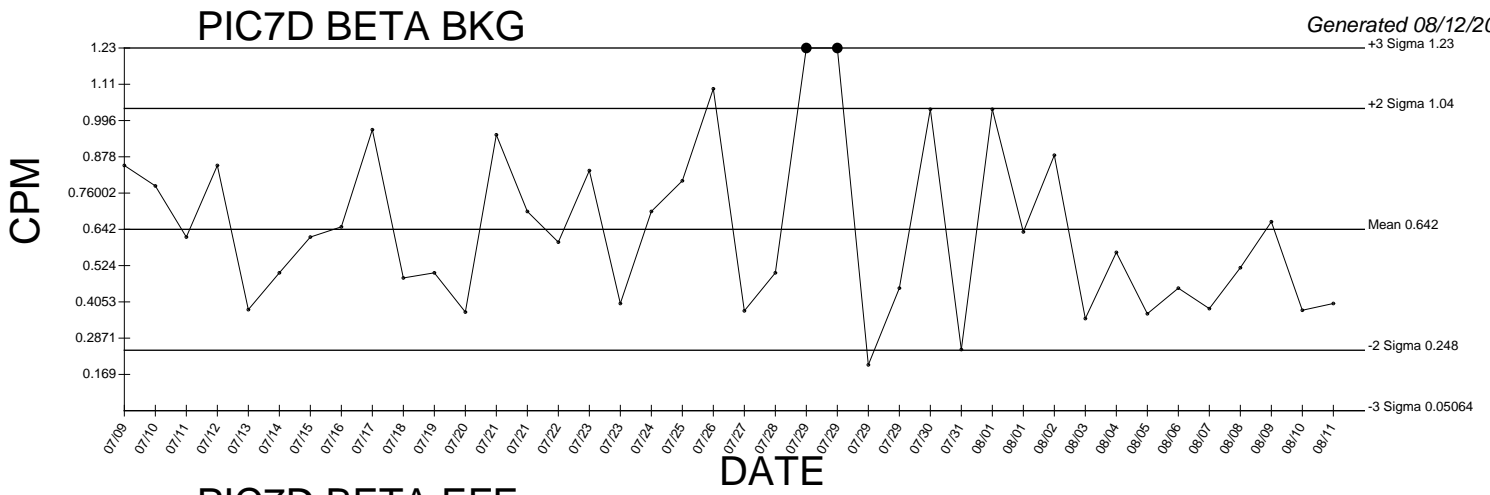
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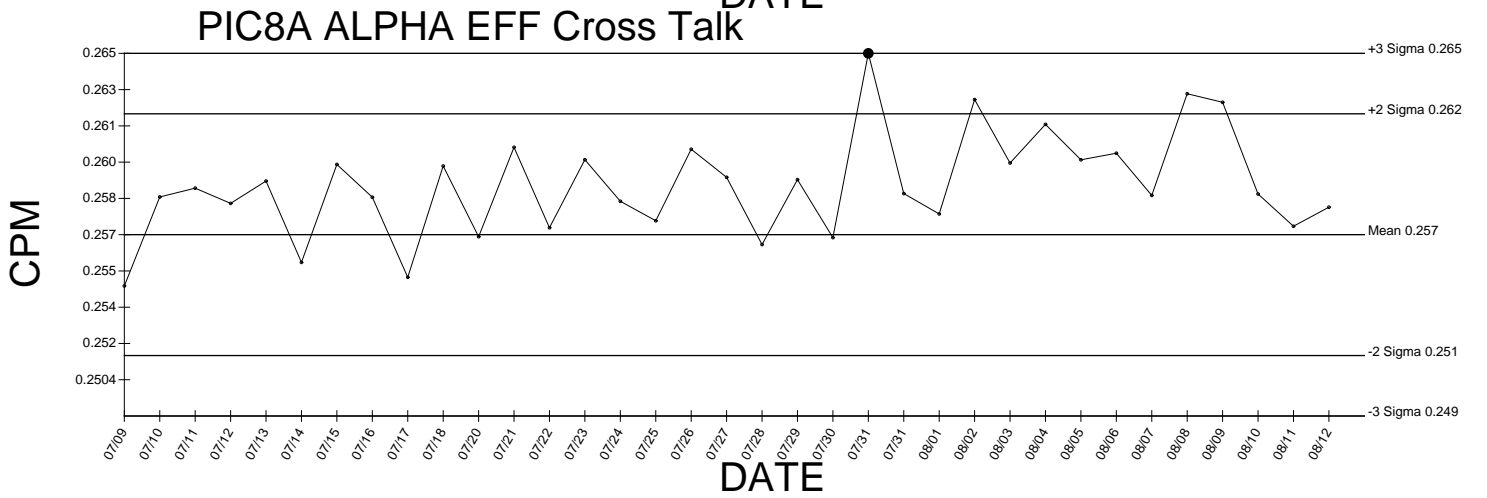
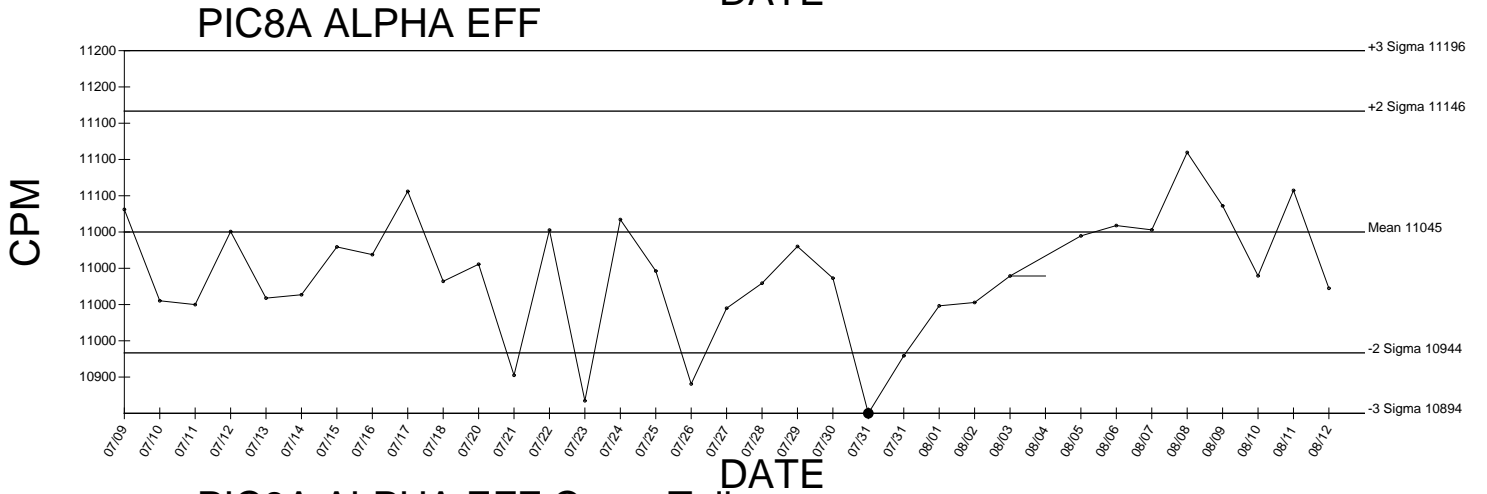
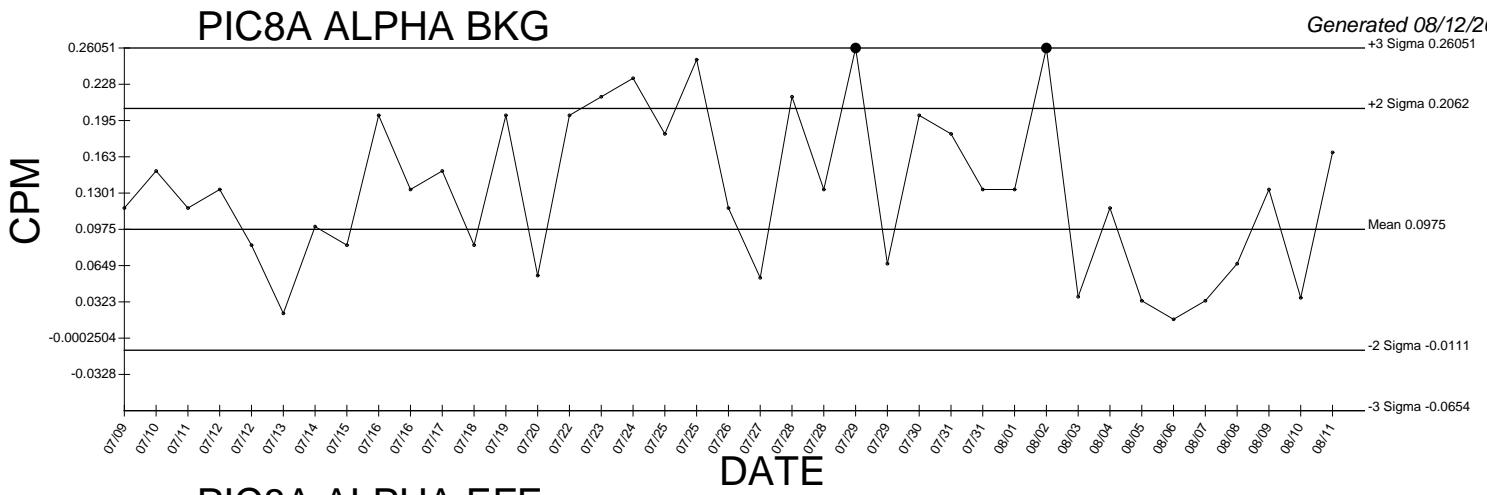
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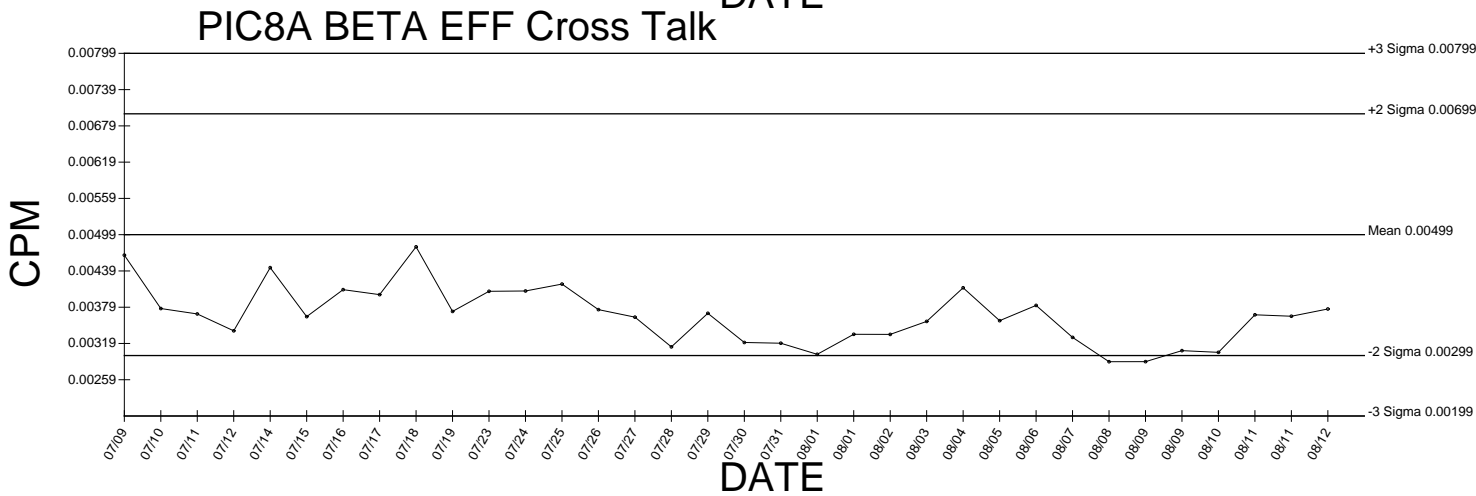
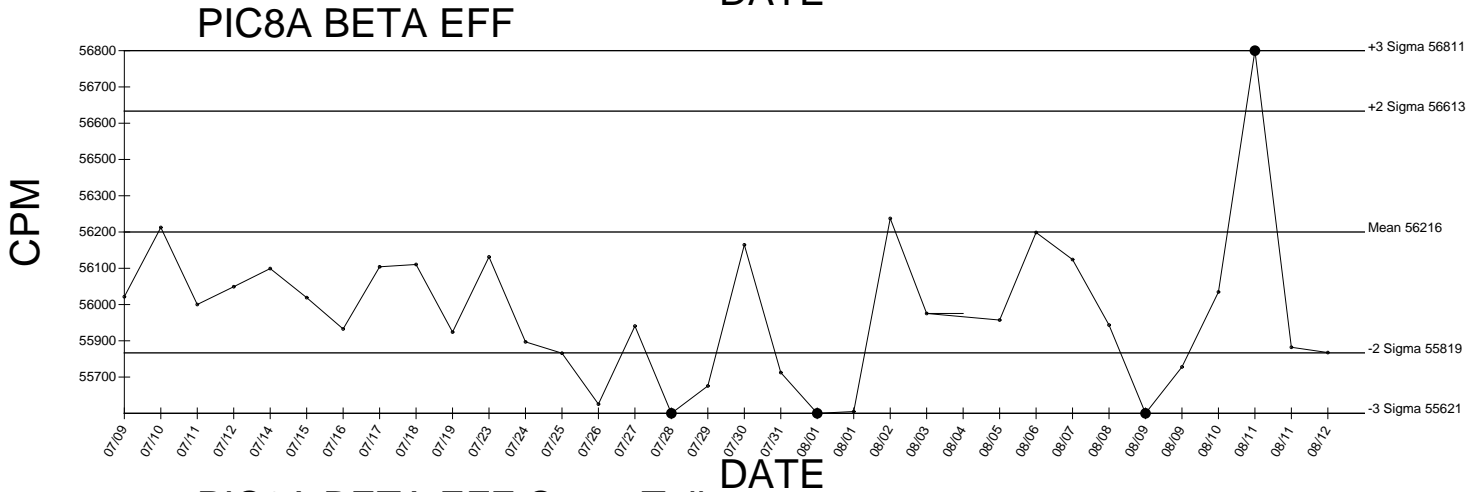
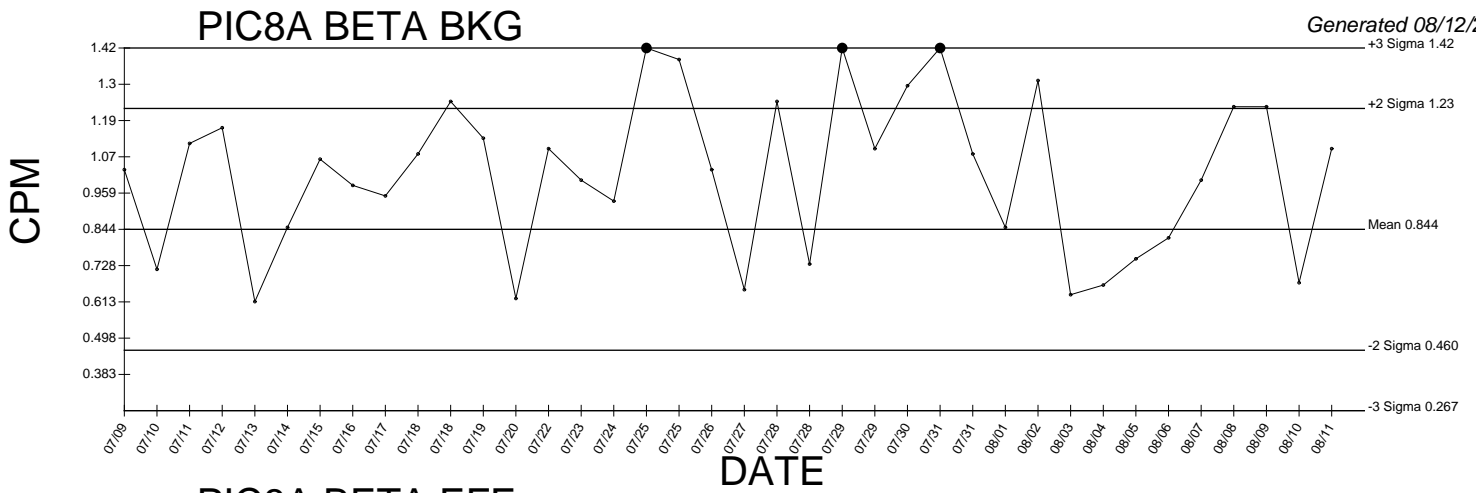
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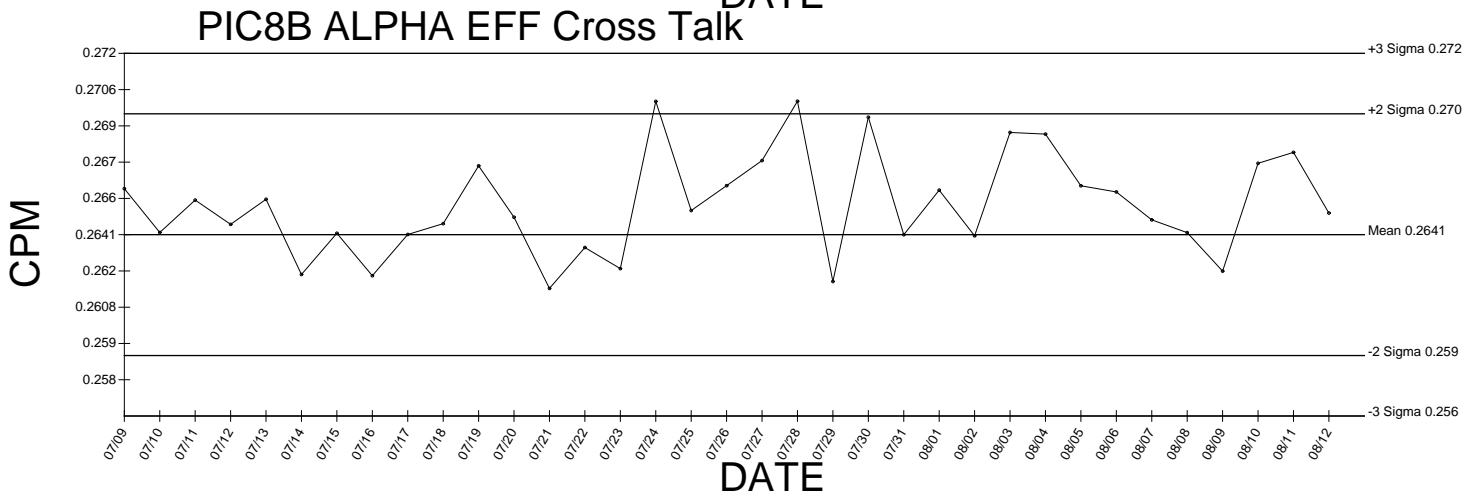
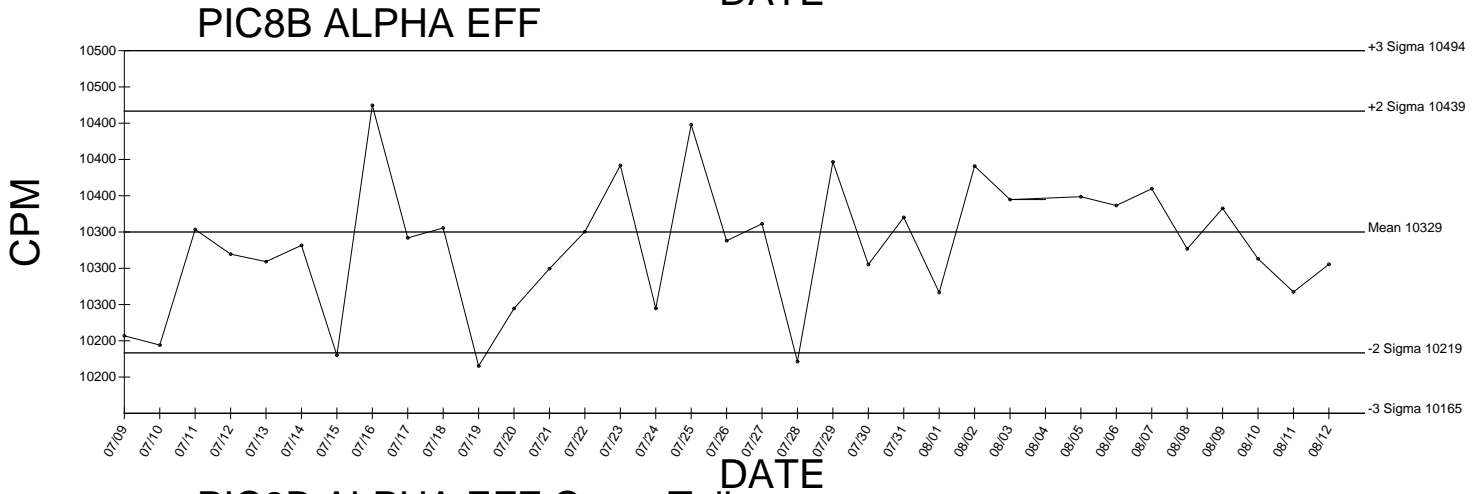
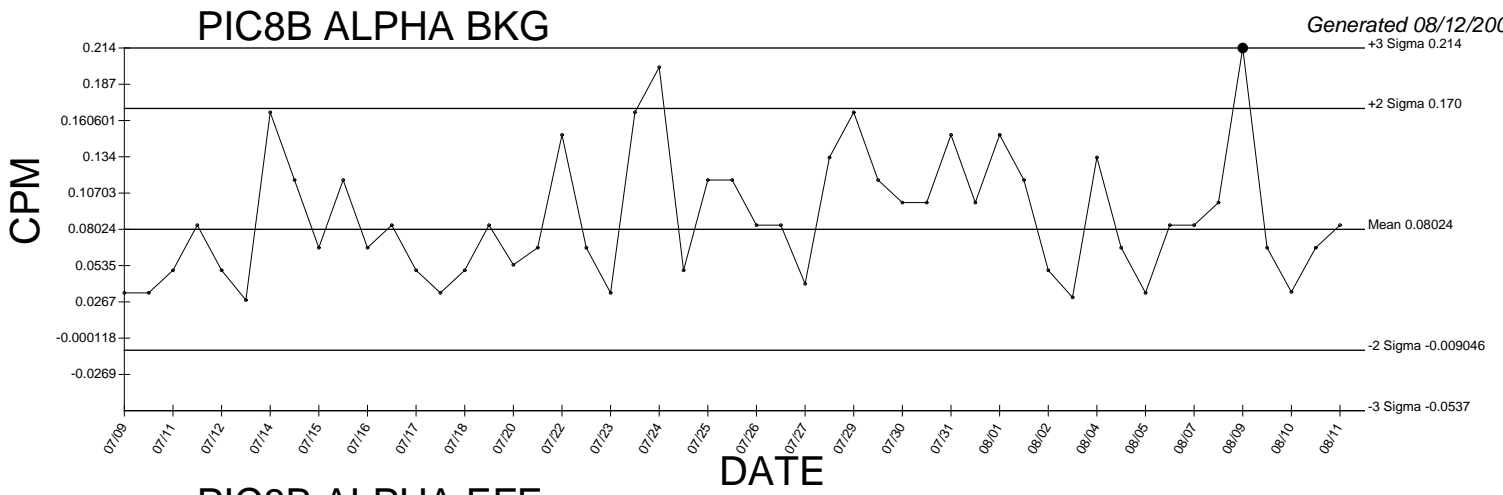
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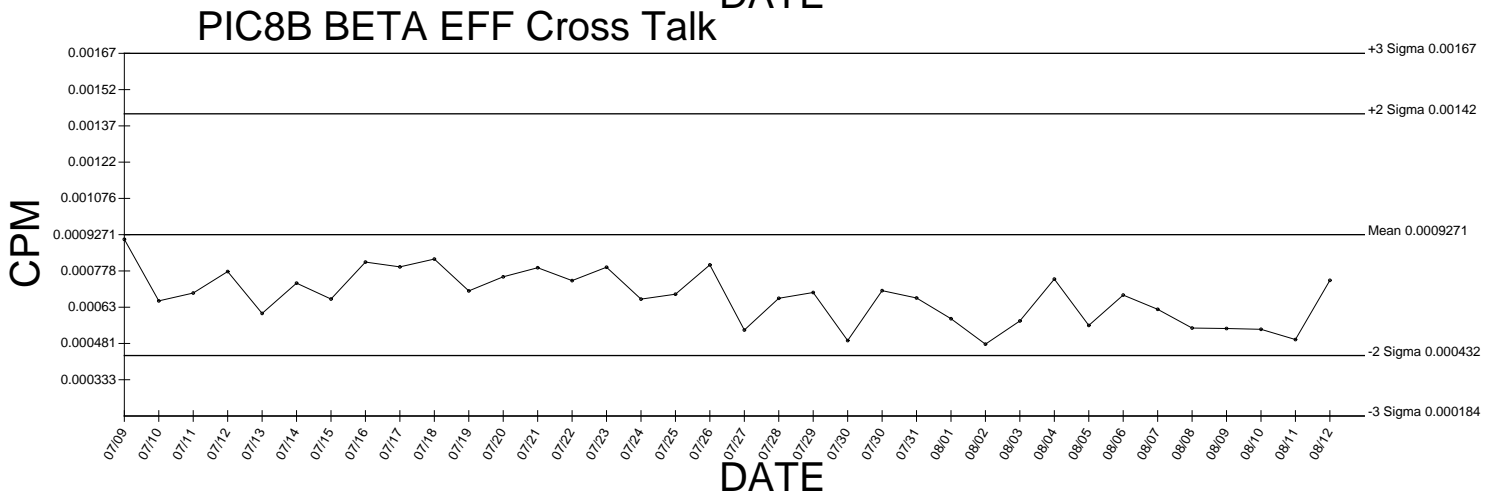
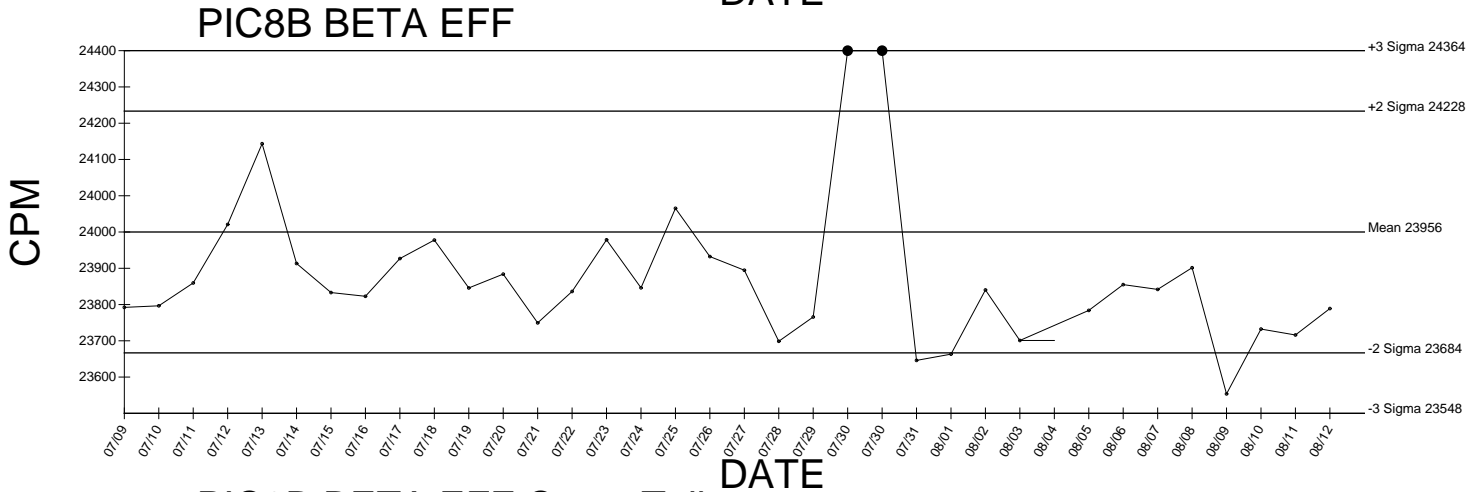
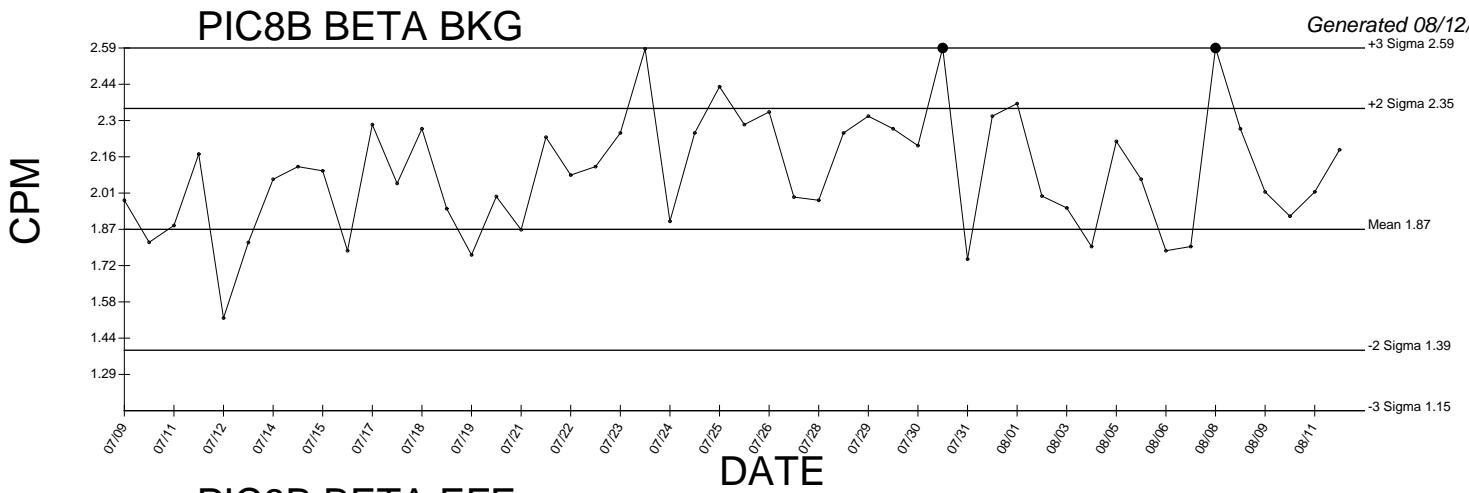
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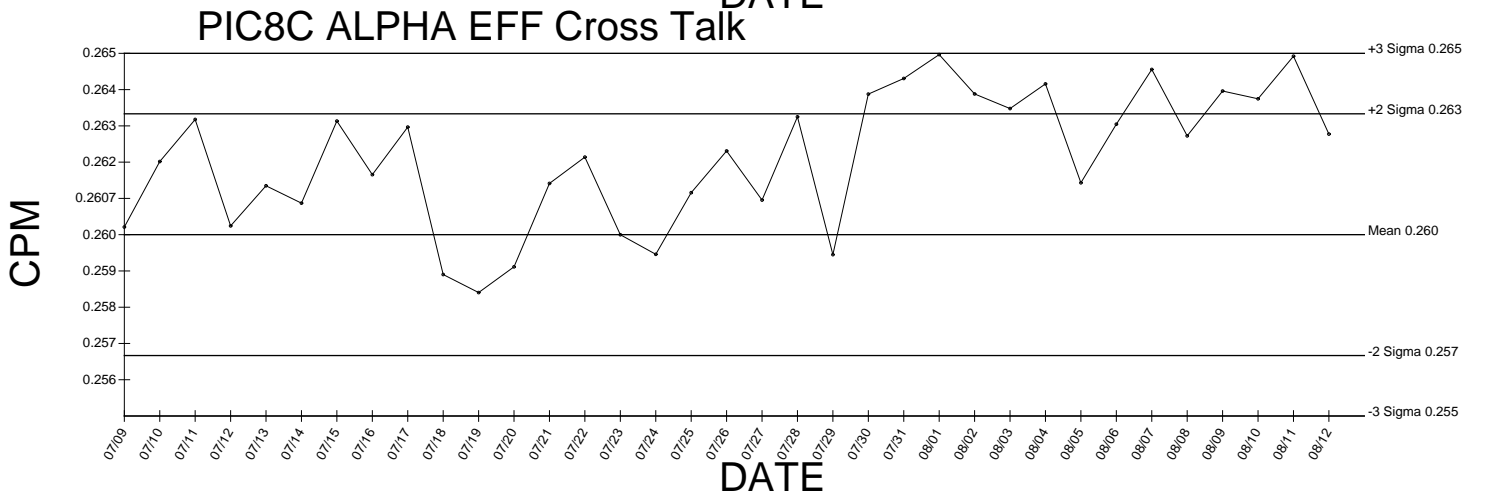
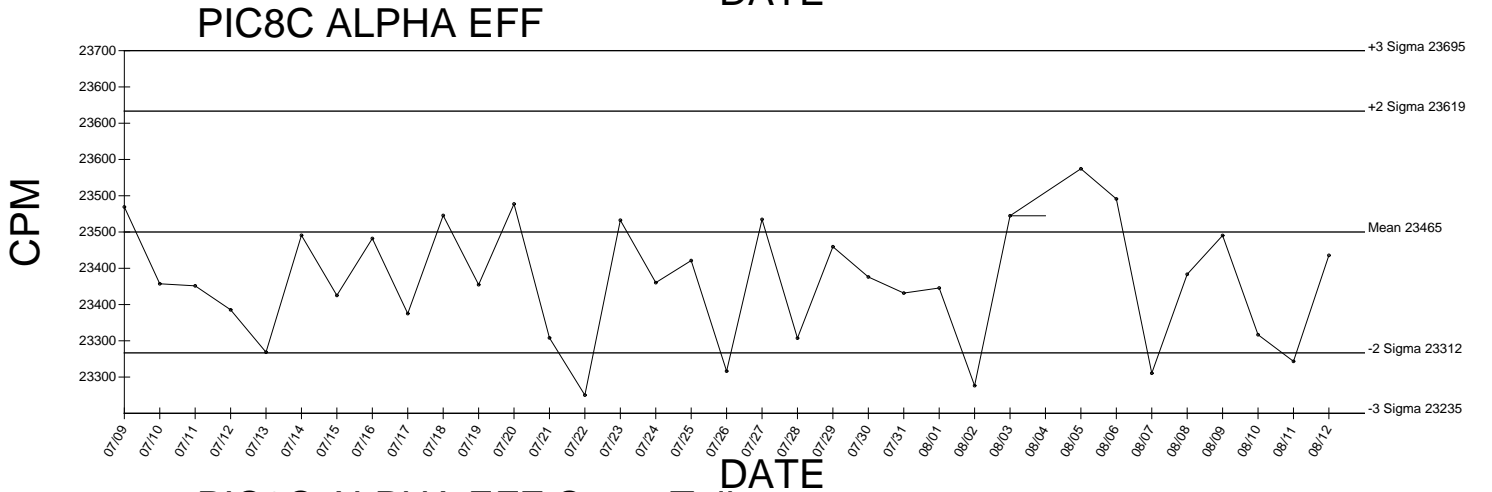
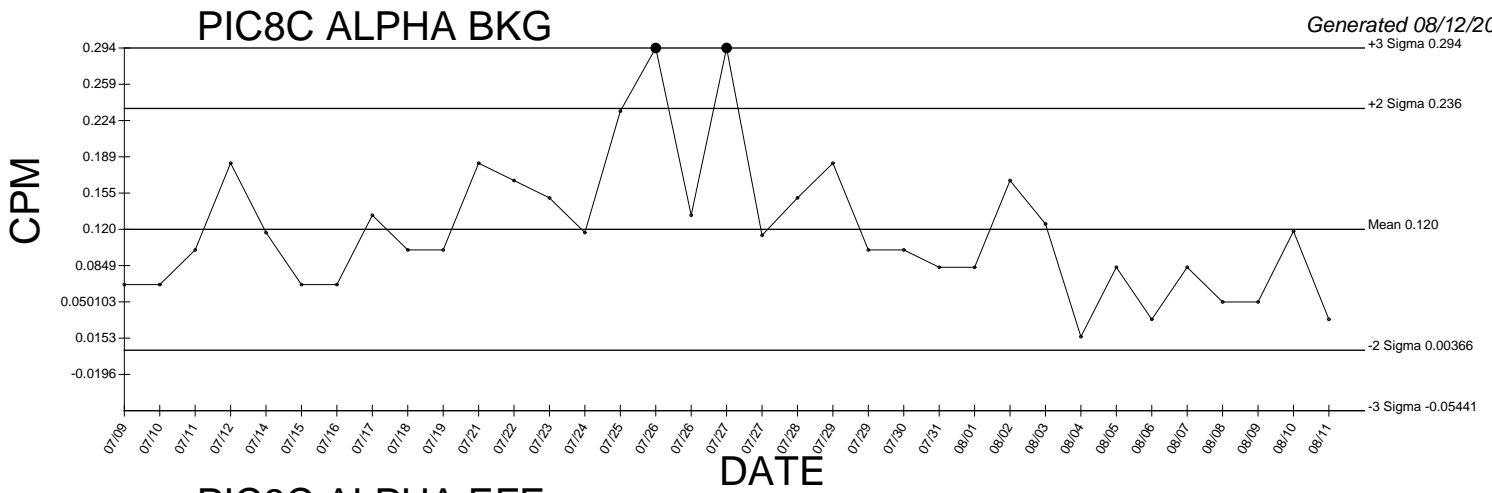
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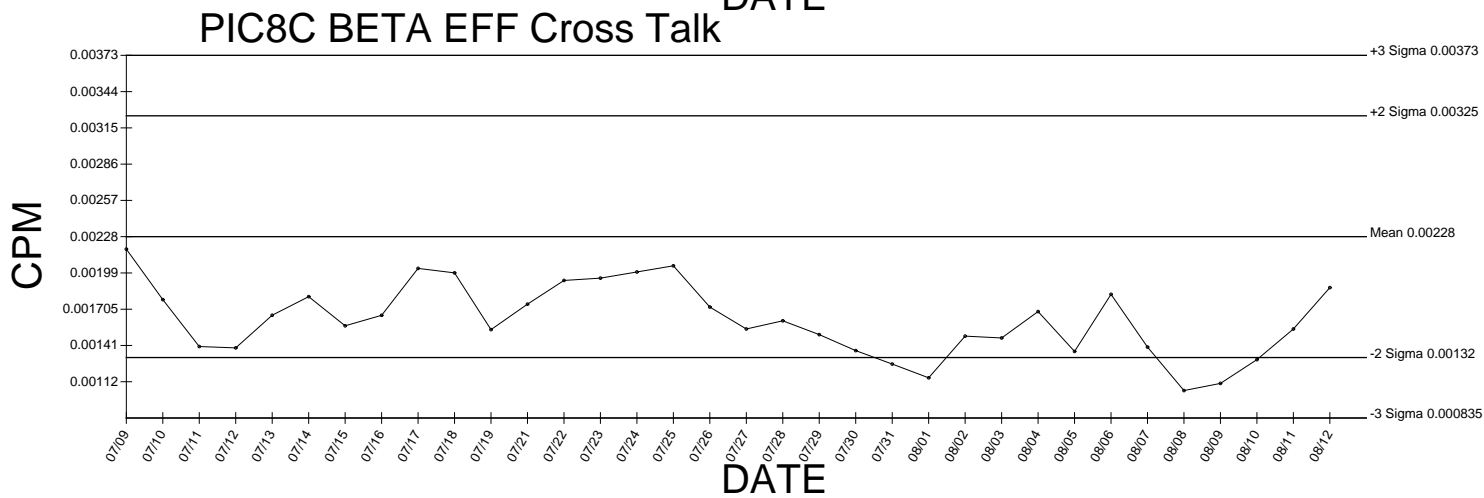
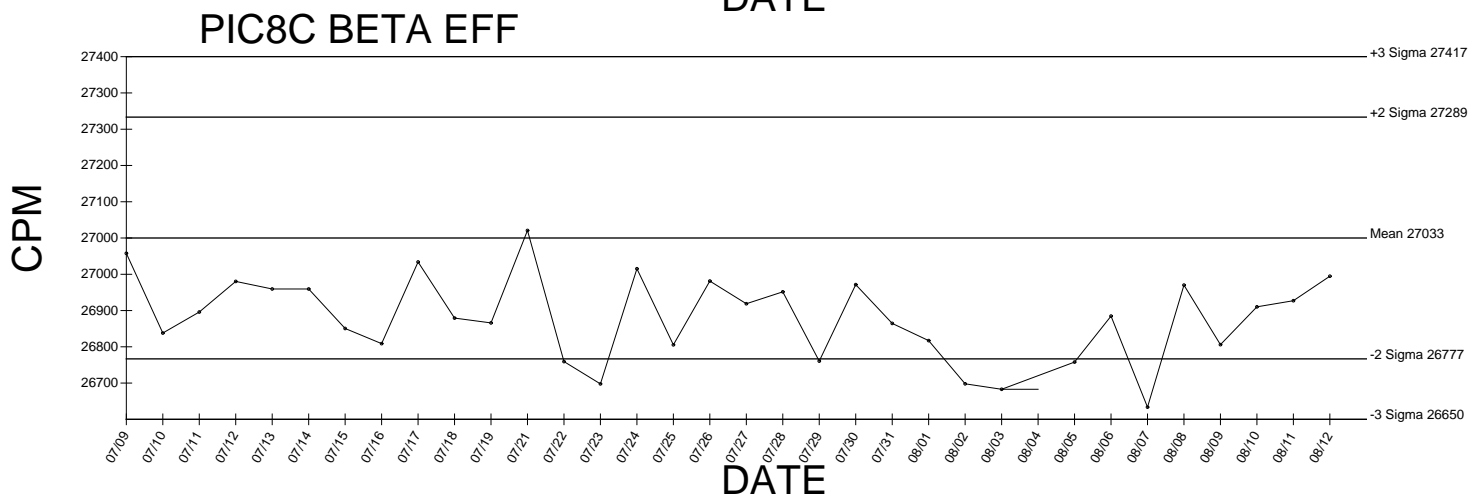
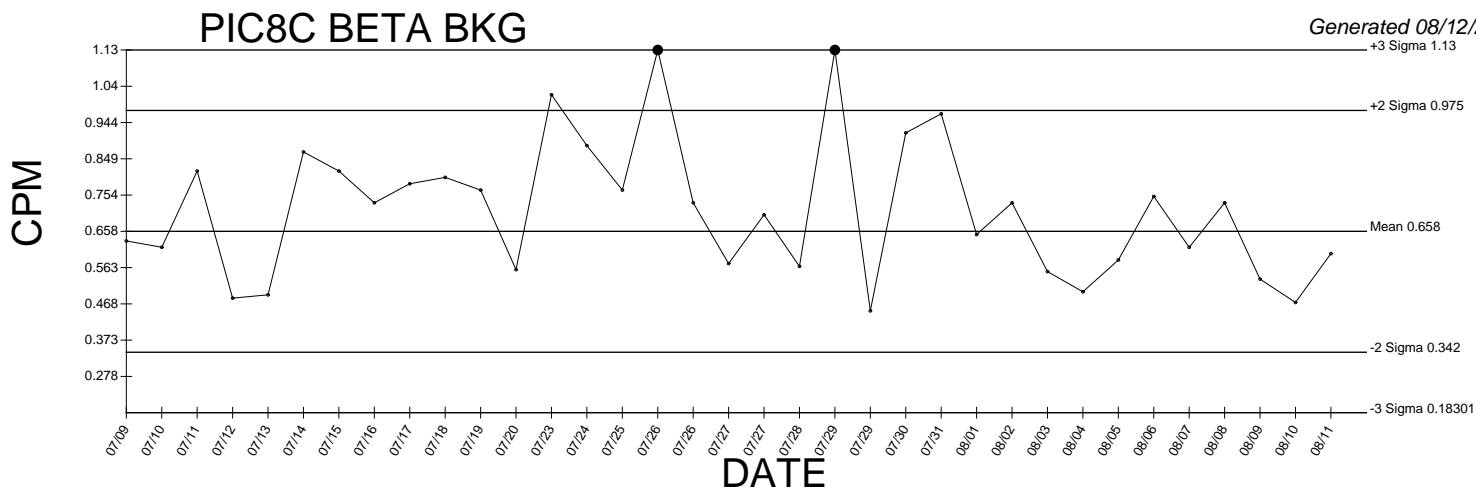
● Denotes Outlier



● Denotes Outlier



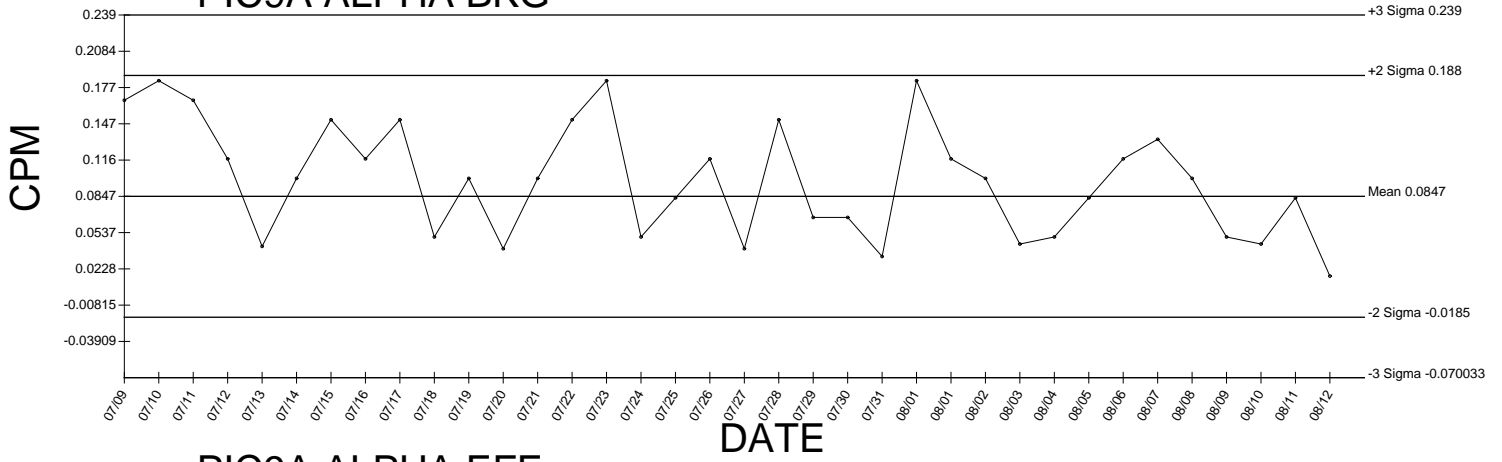
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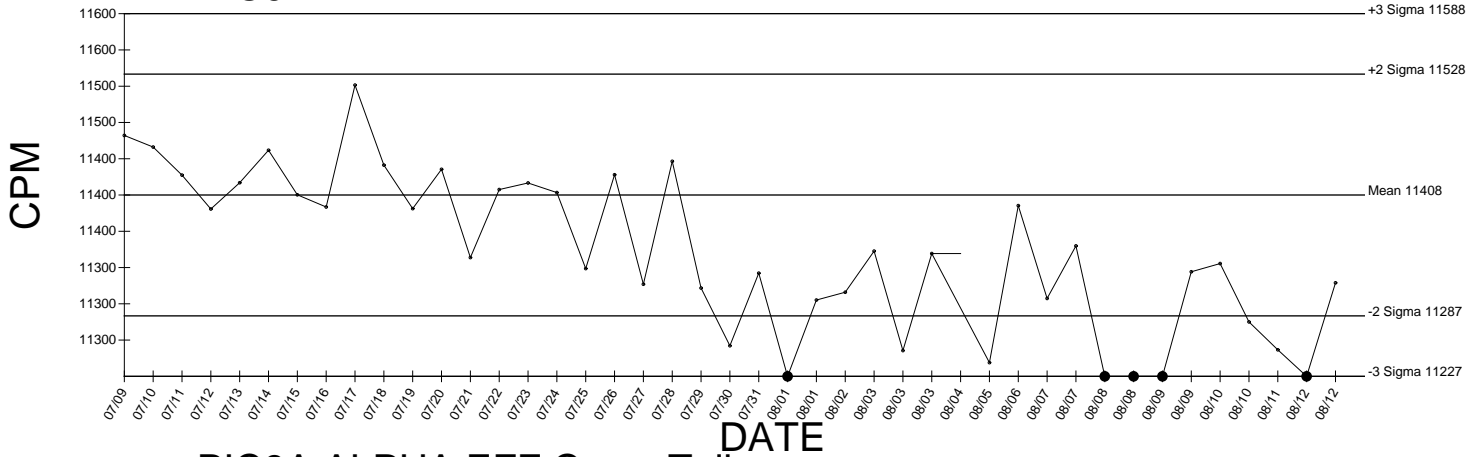
● Denotes Outlier

PIC9A ALPHA BKG

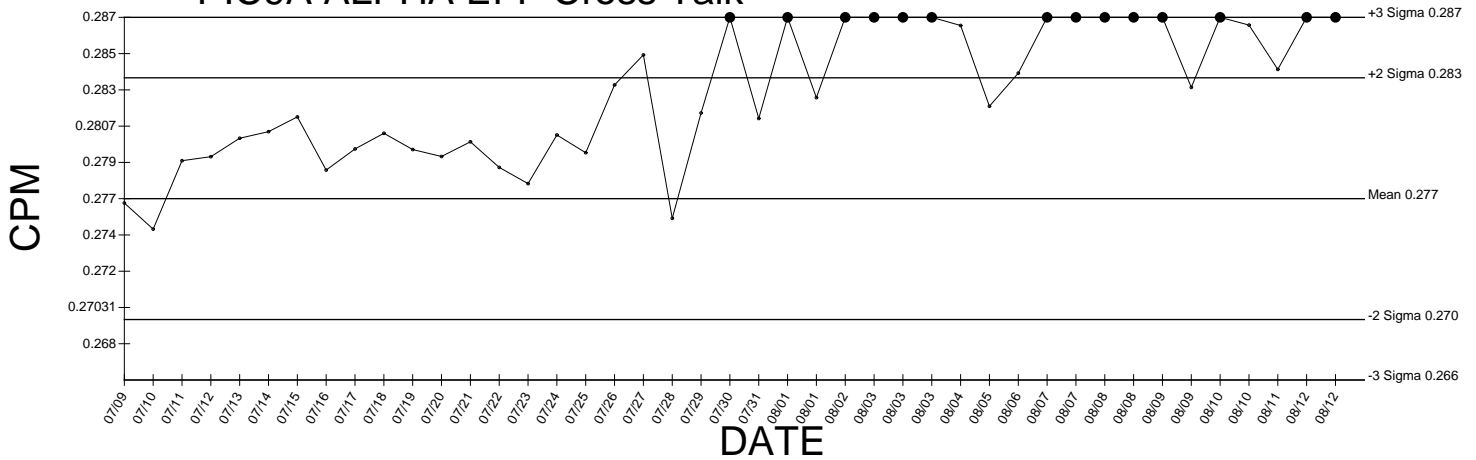
Generated 08/12/2009



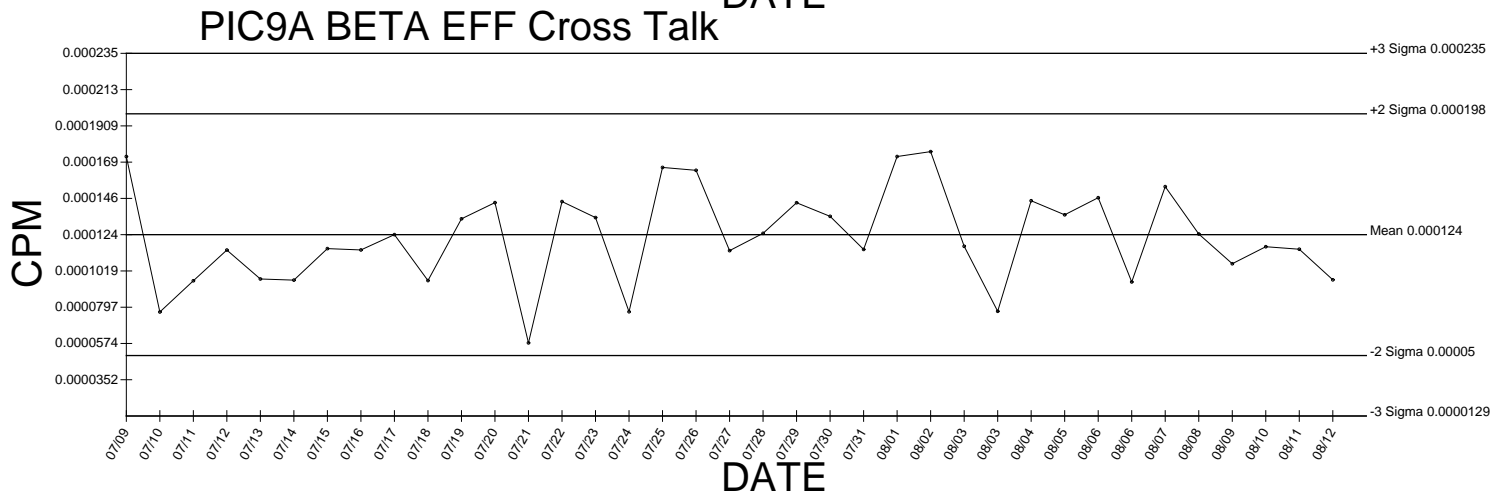
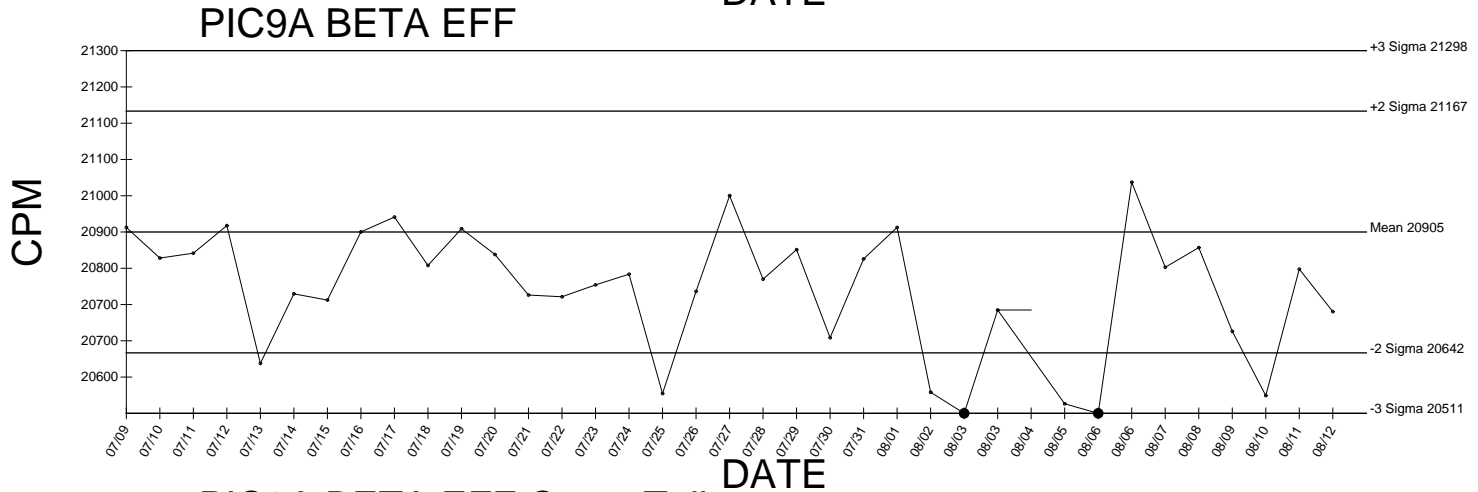
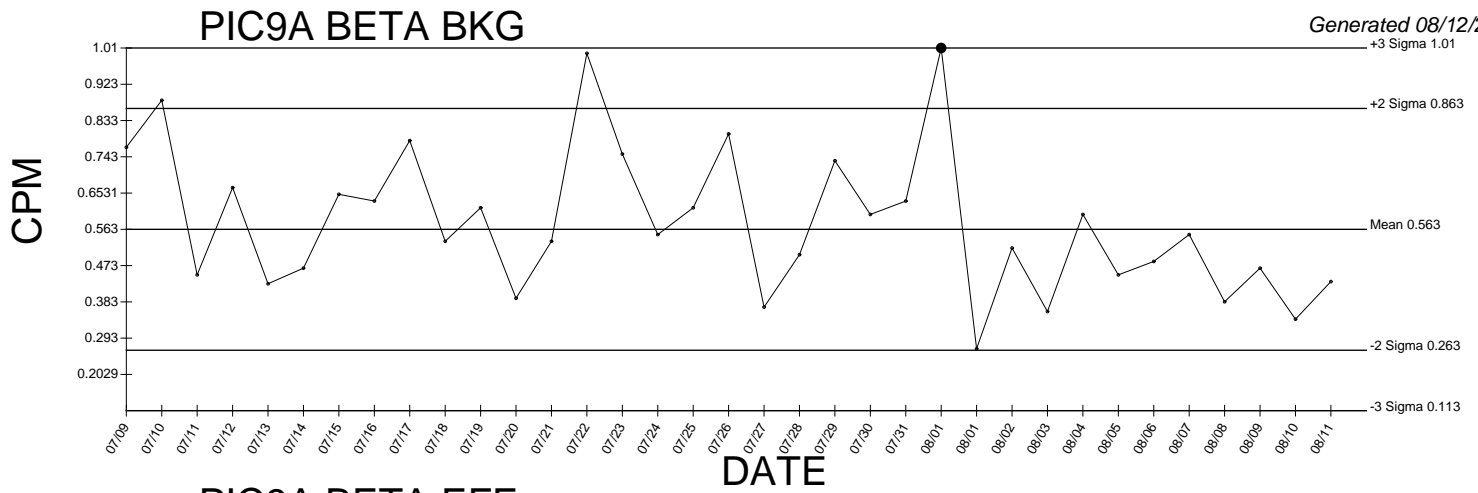
PIC9A ALPHA EFF



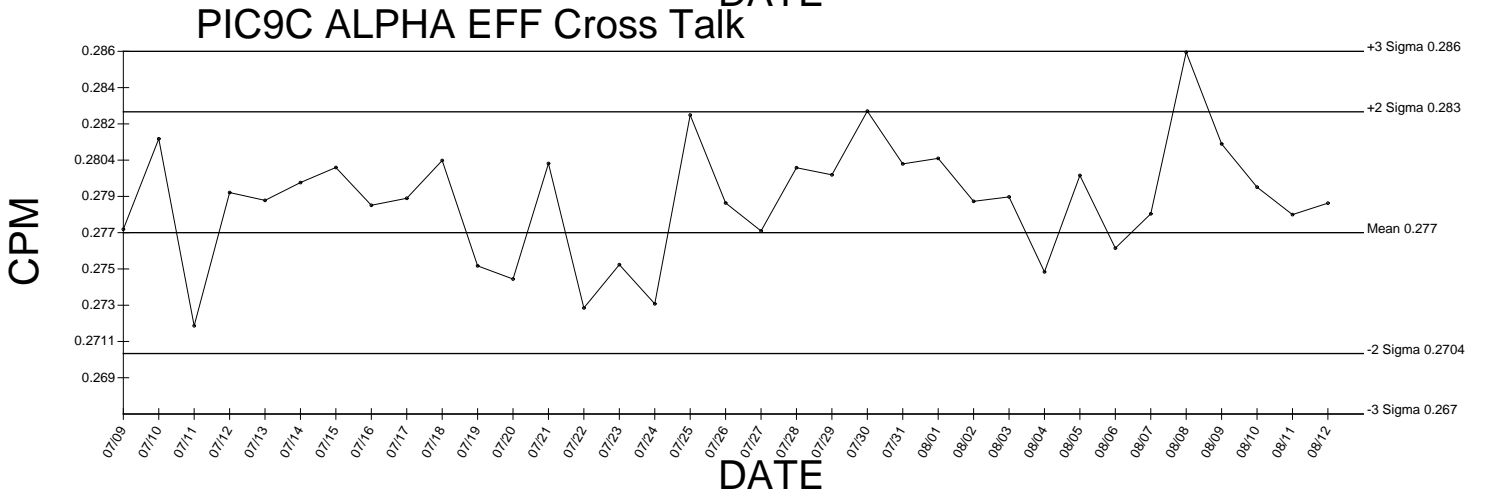
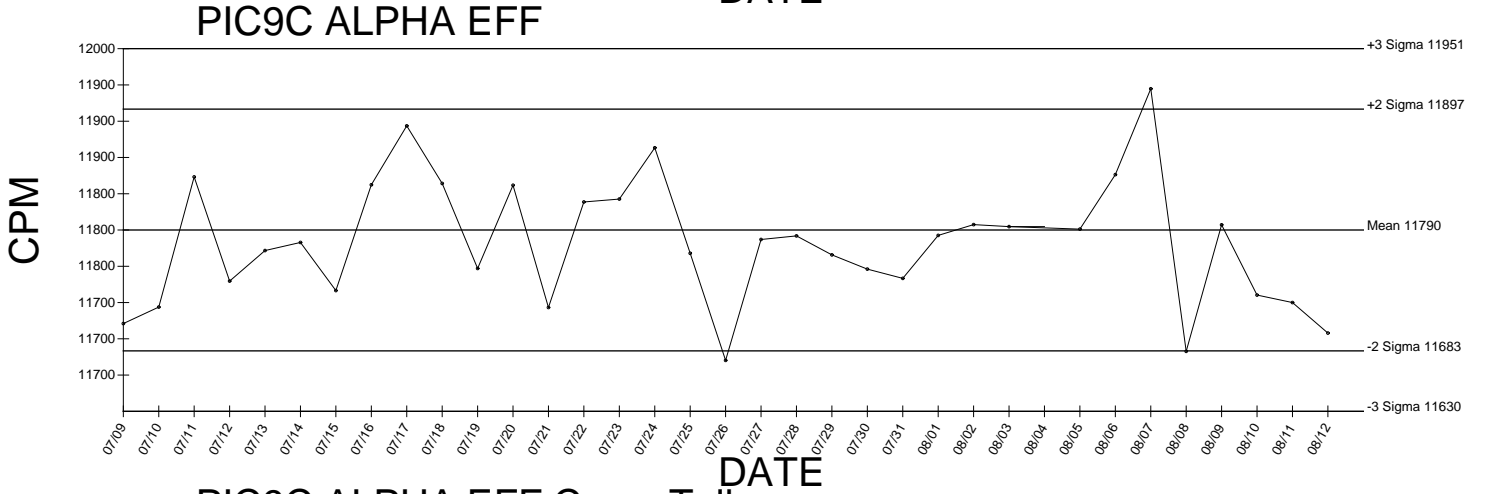
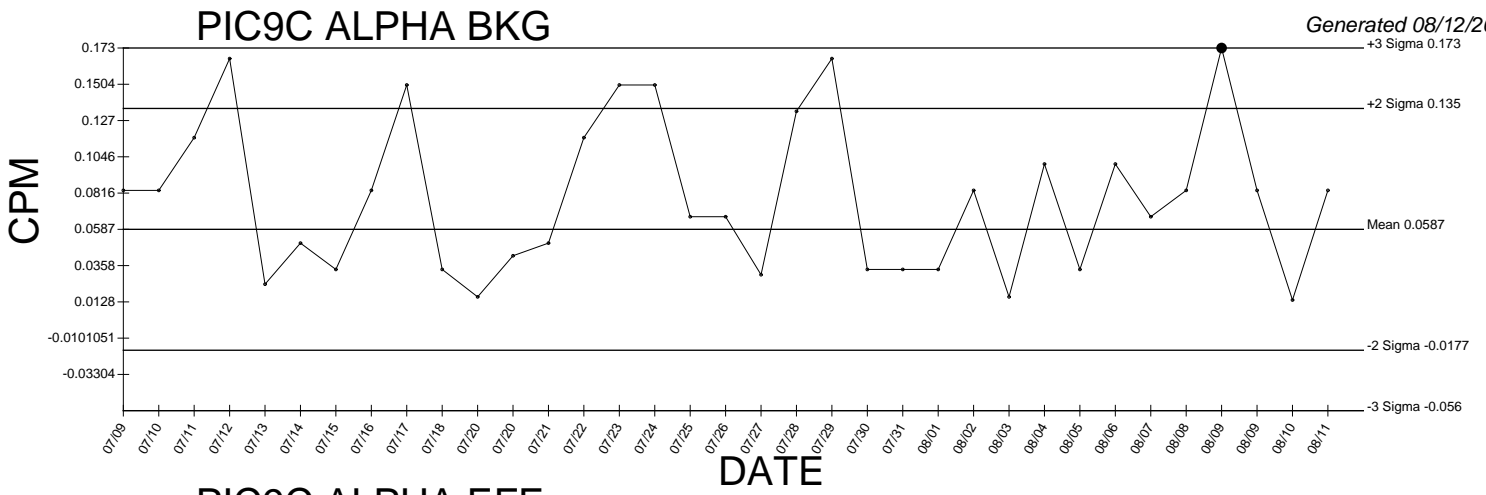
PIC9A ALPHA EFF Cross Talk



● Denotes Outlier



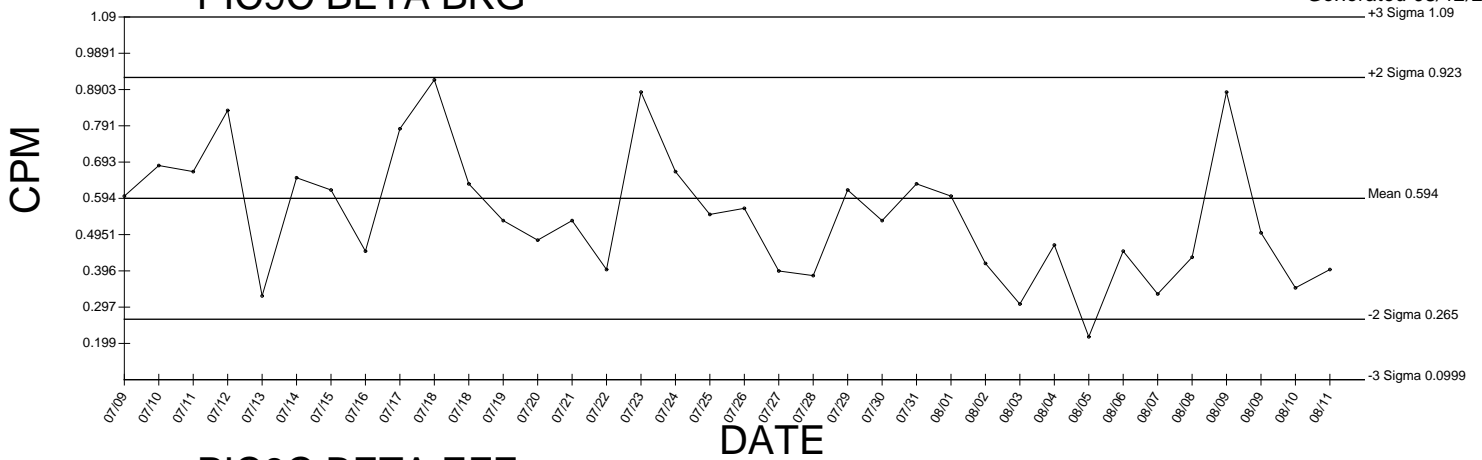
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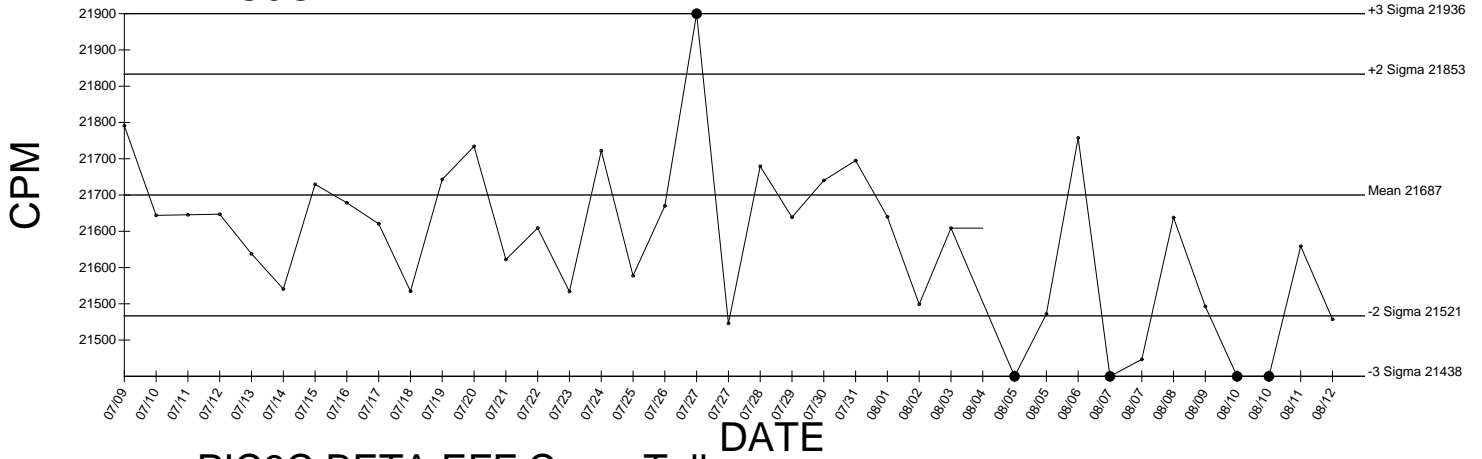
● Denotes Outlier

PIC9C BETA BKG

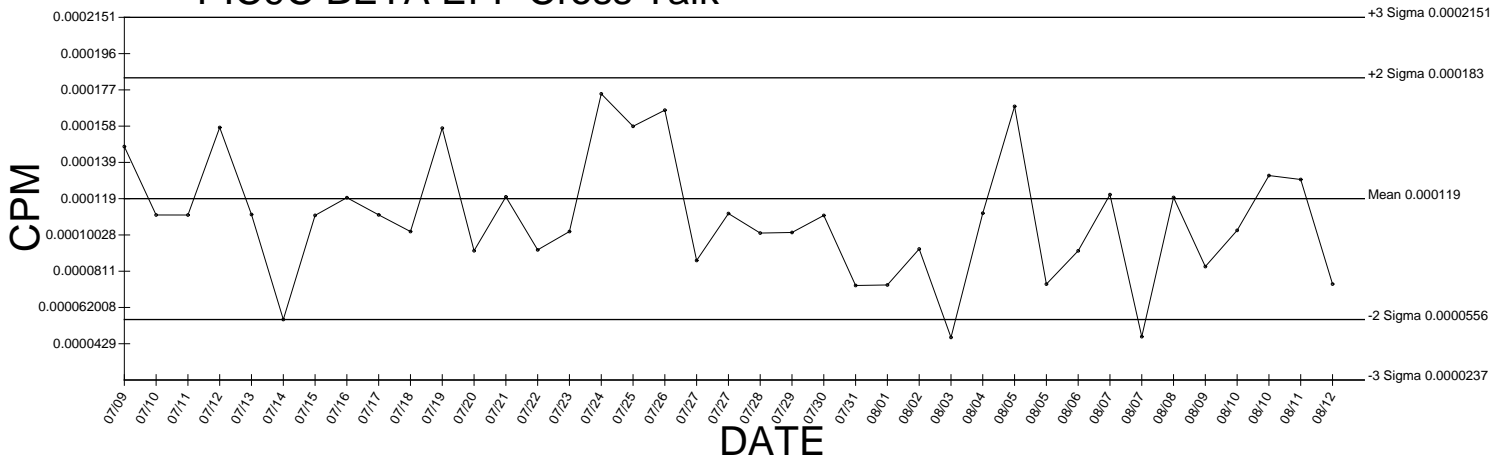
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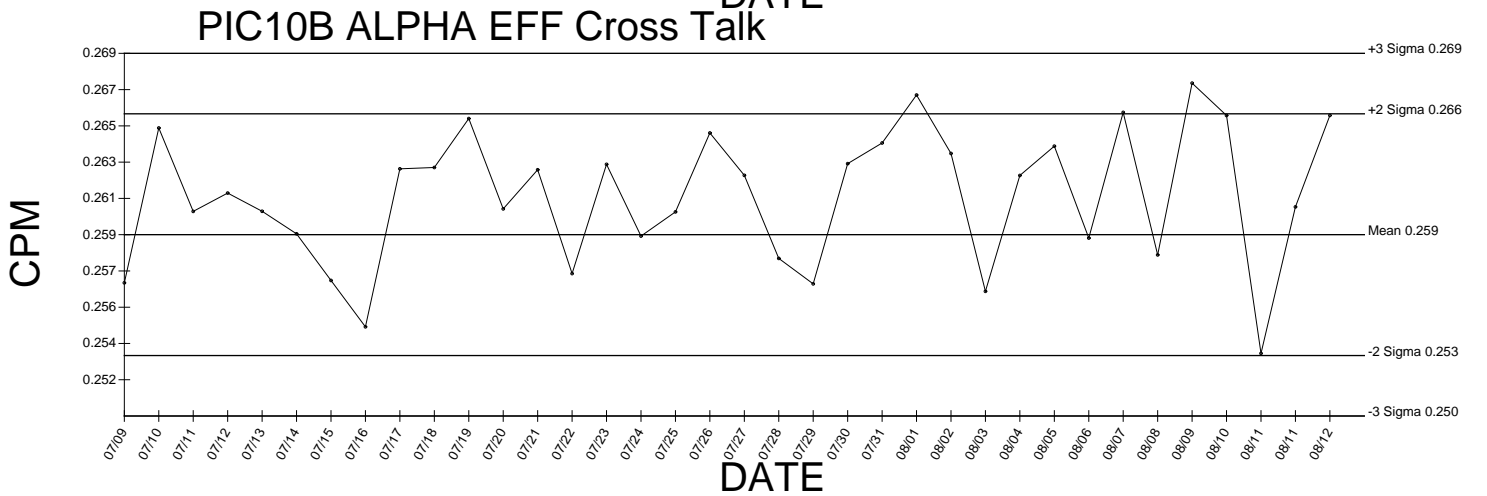
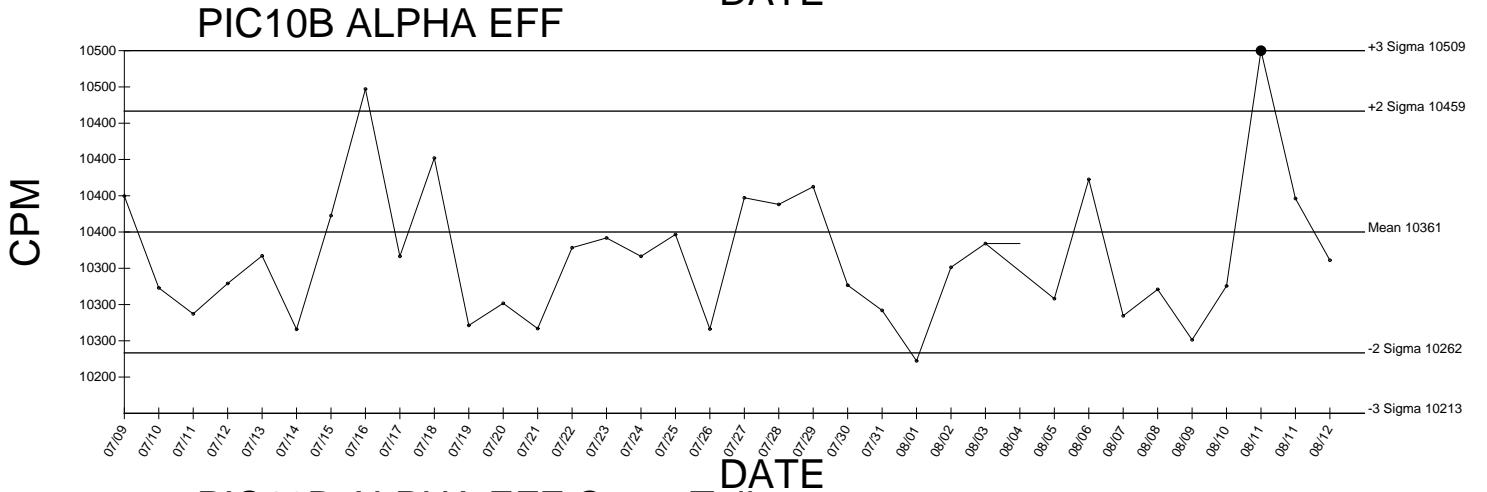
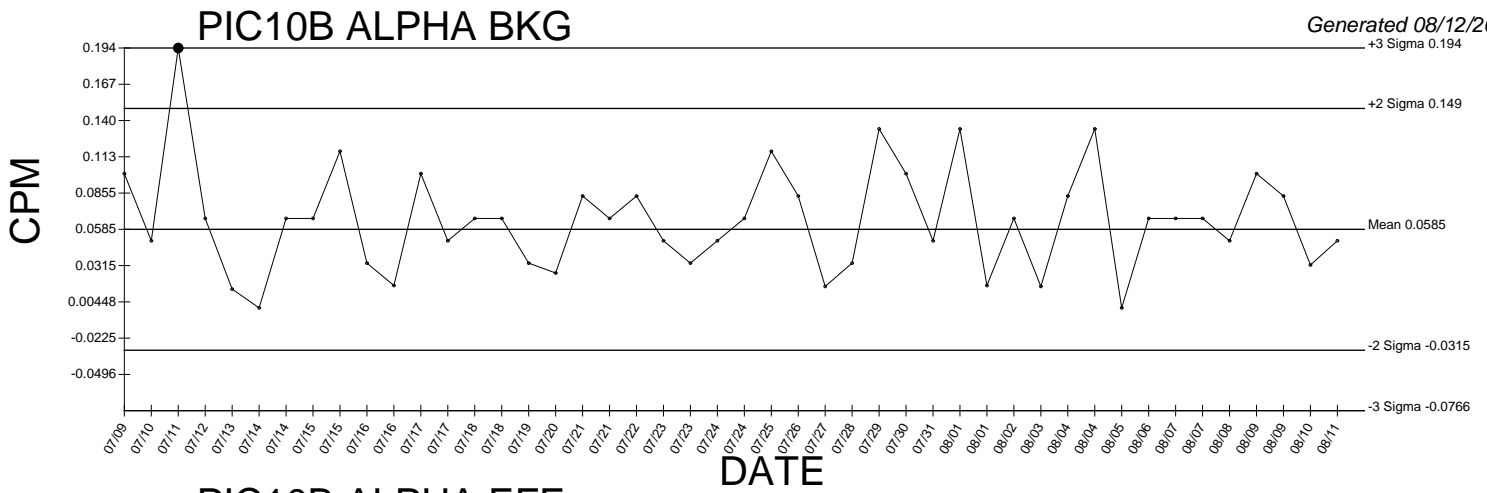
PIC9C BETA EFF



PIC9C BETA EFF Cross Talk



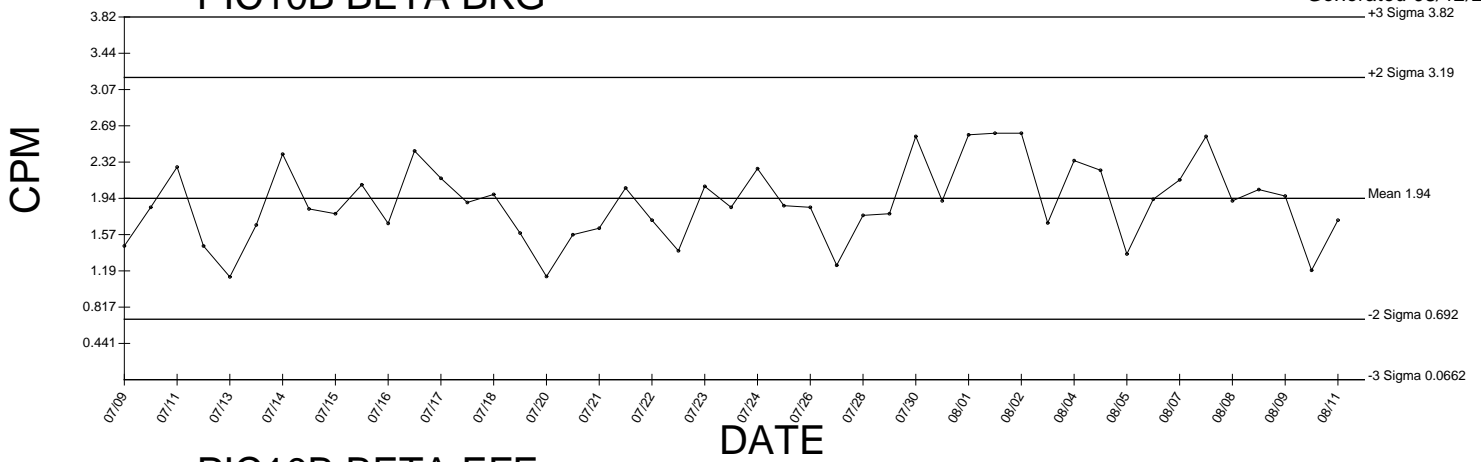
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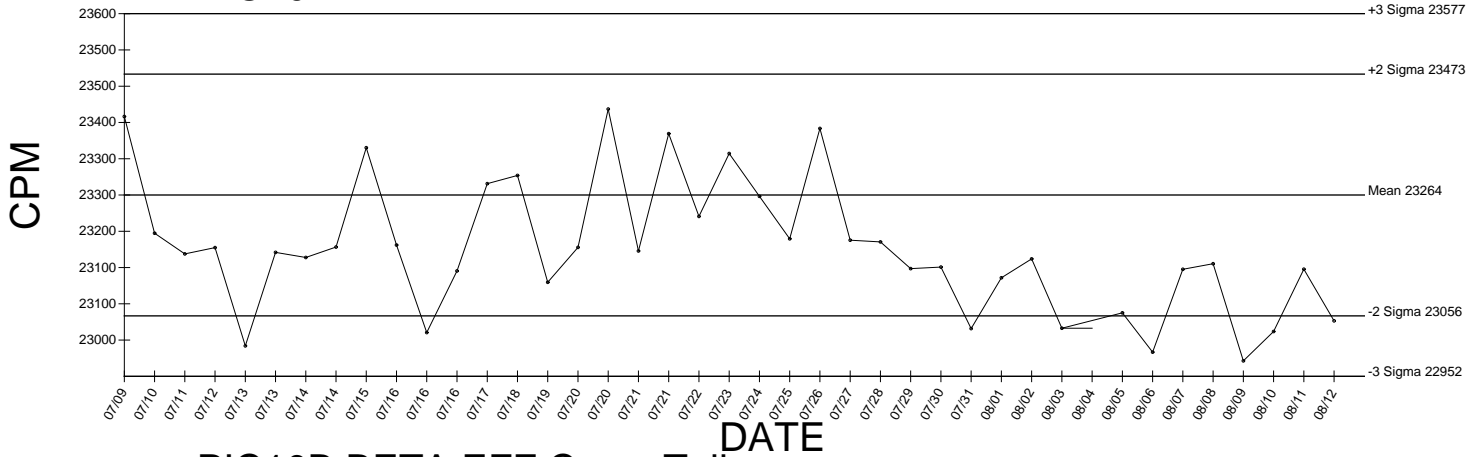
● Denotes Outlier

PIC10B BETA BKG

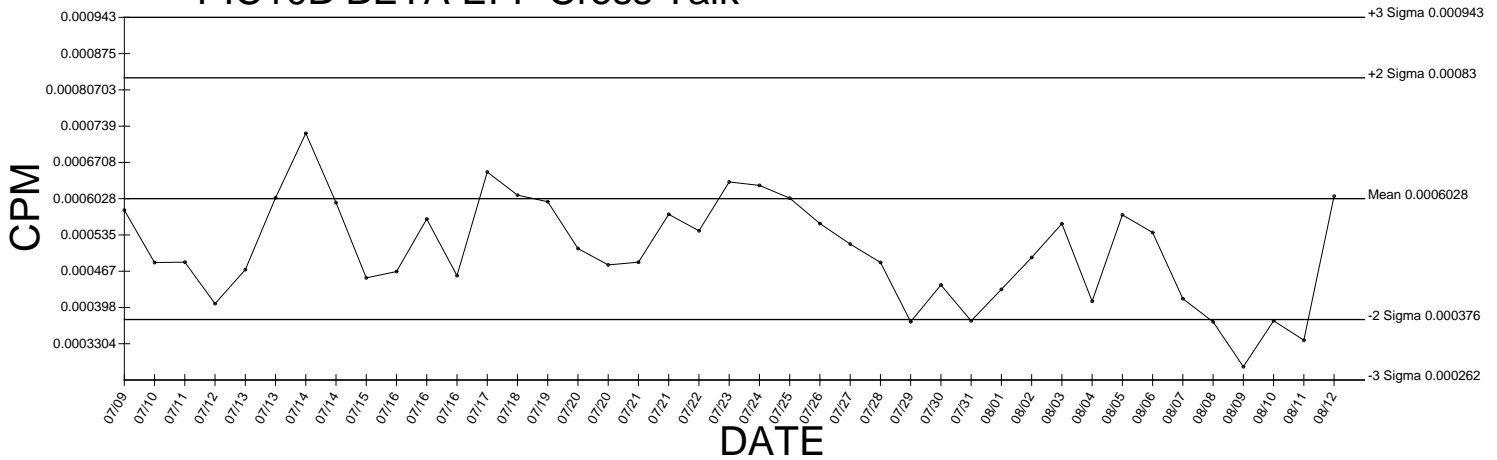
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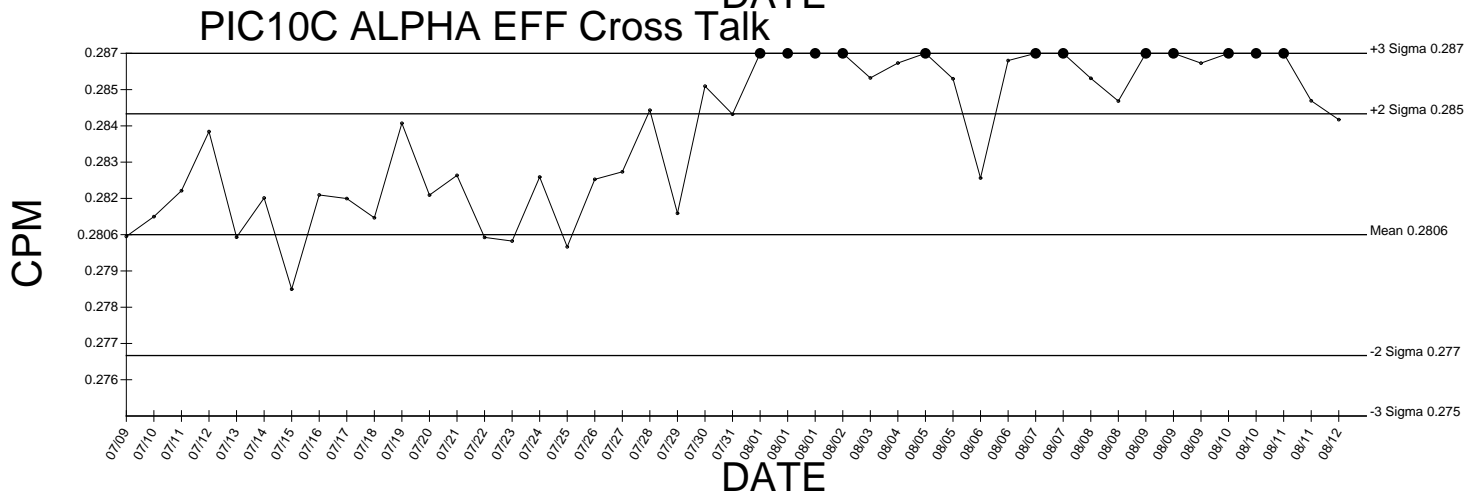
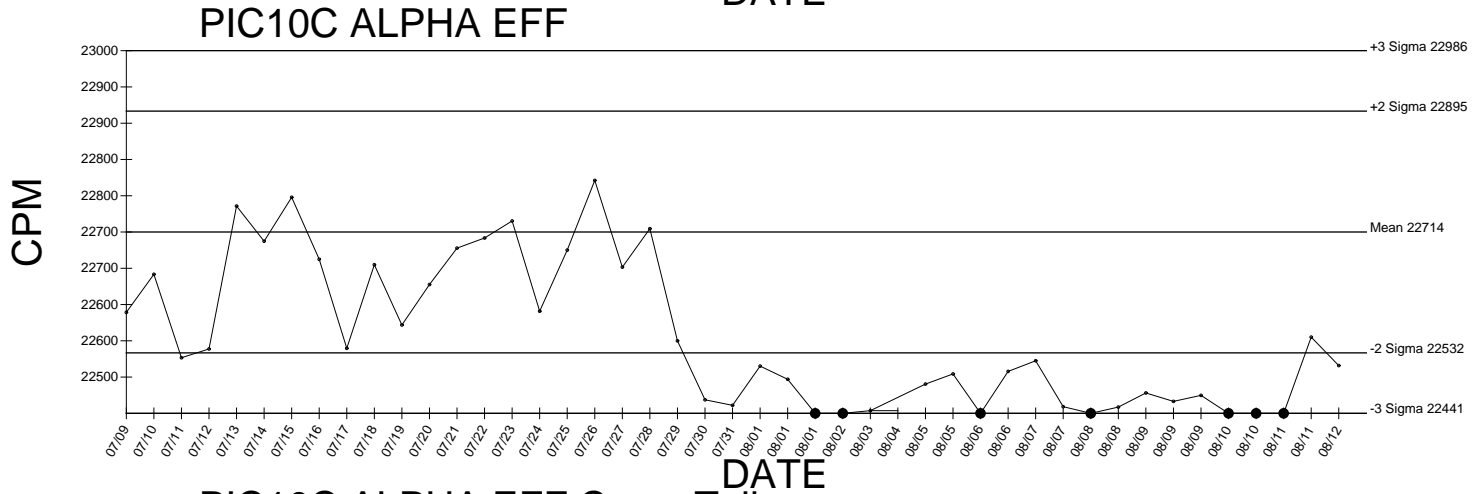
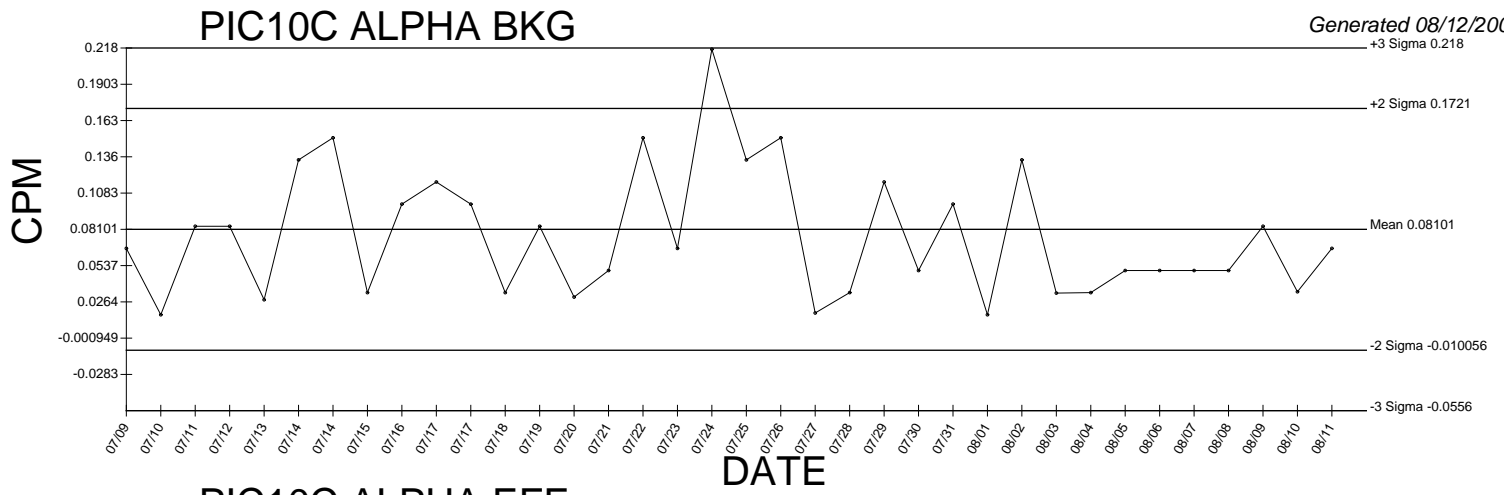
PIC10B BETA EFF



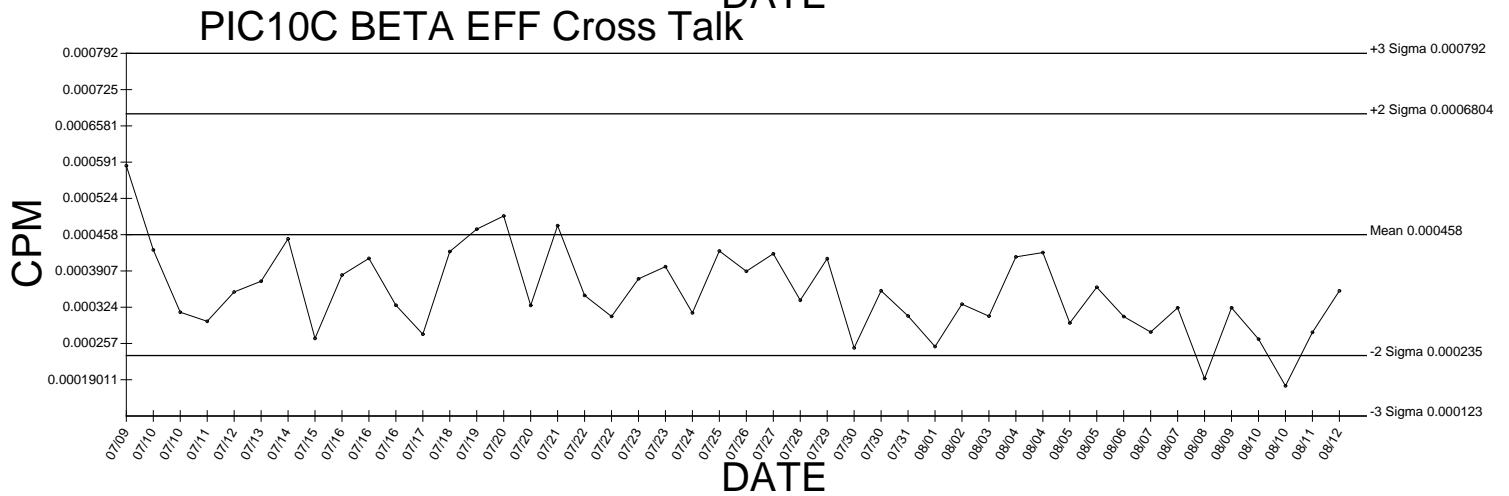
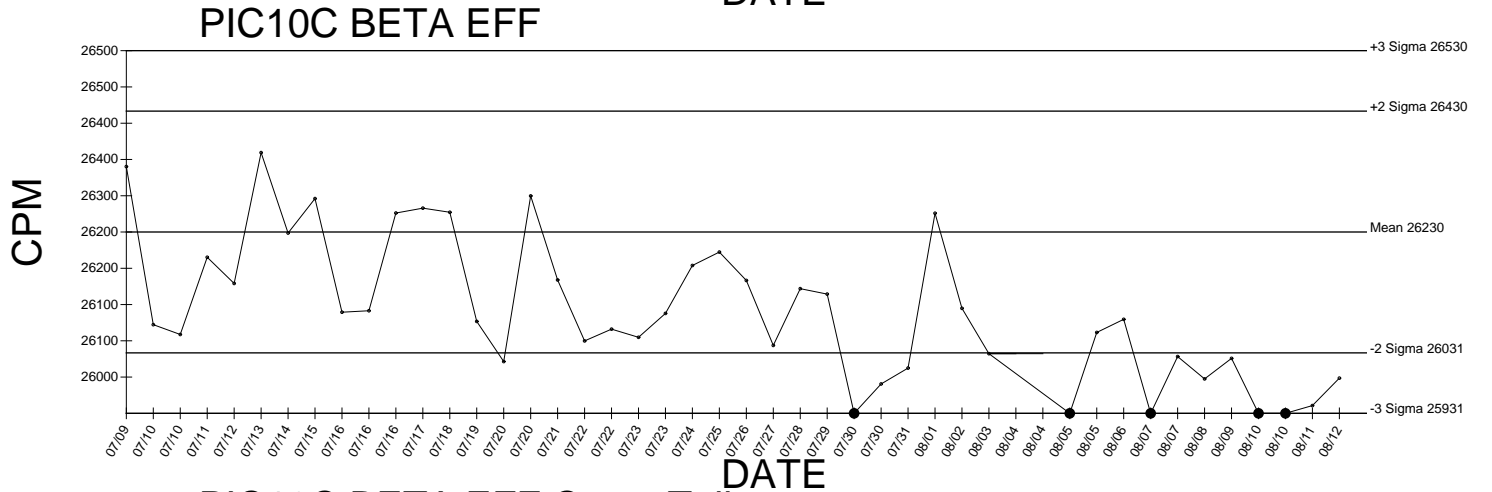
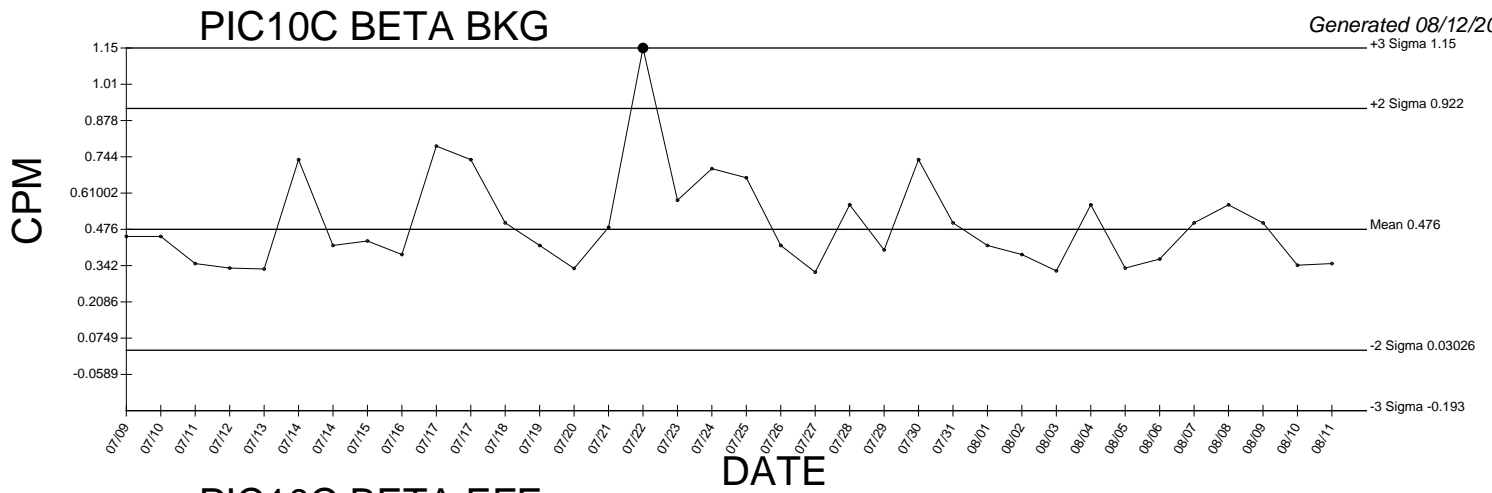
PIC10B BETA EFF Cross Talk



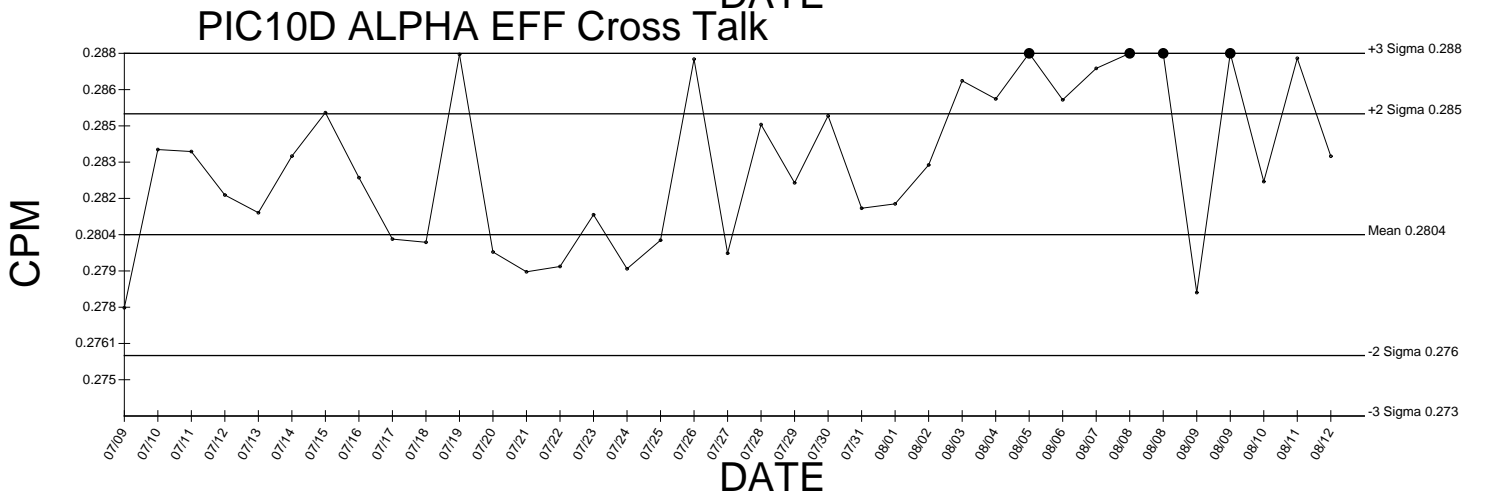
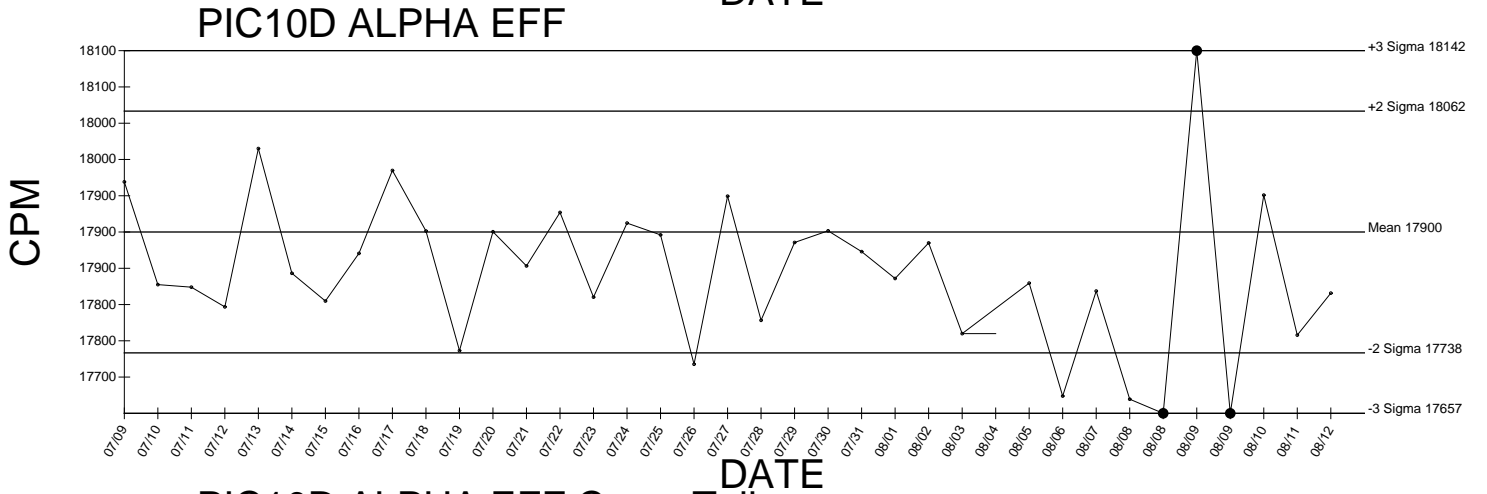
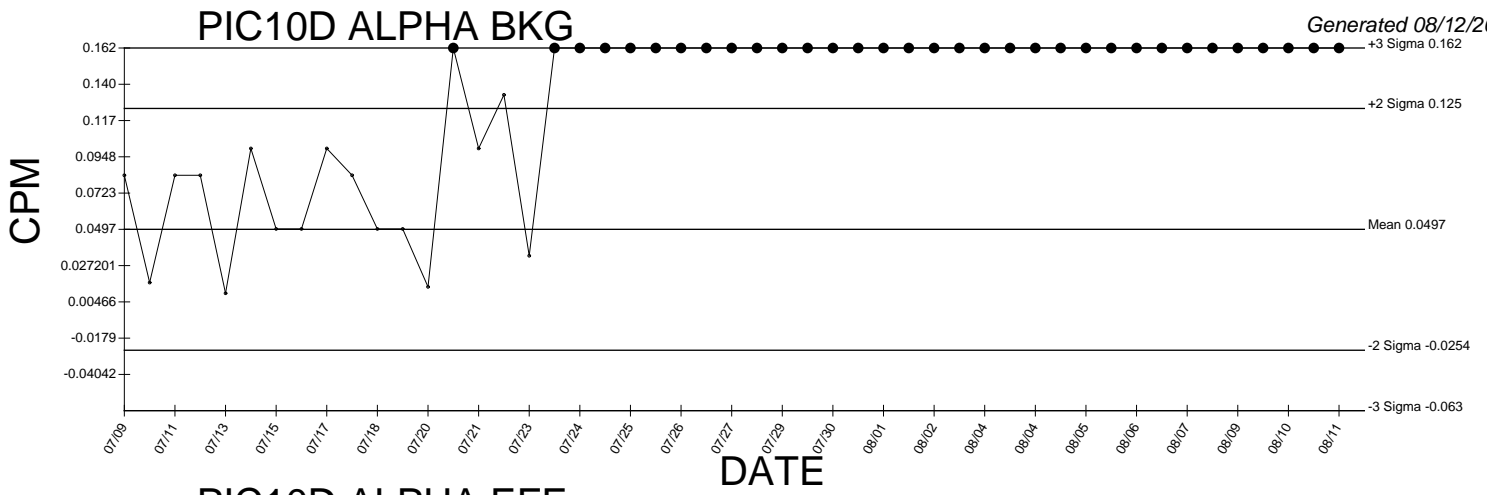
● Denotes Outlier



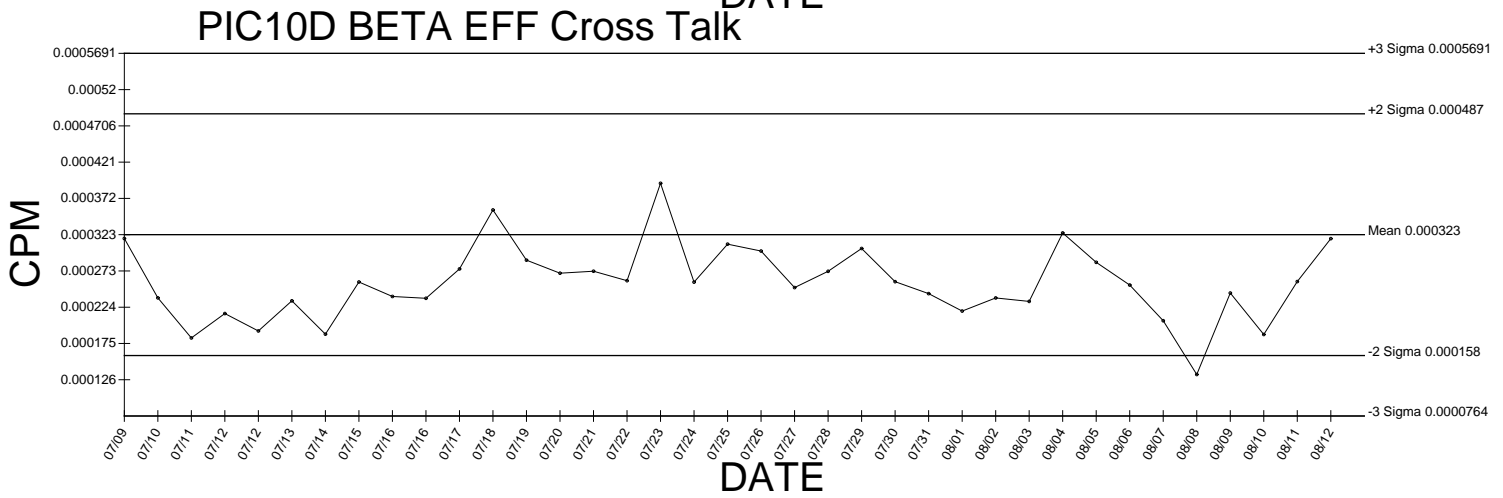
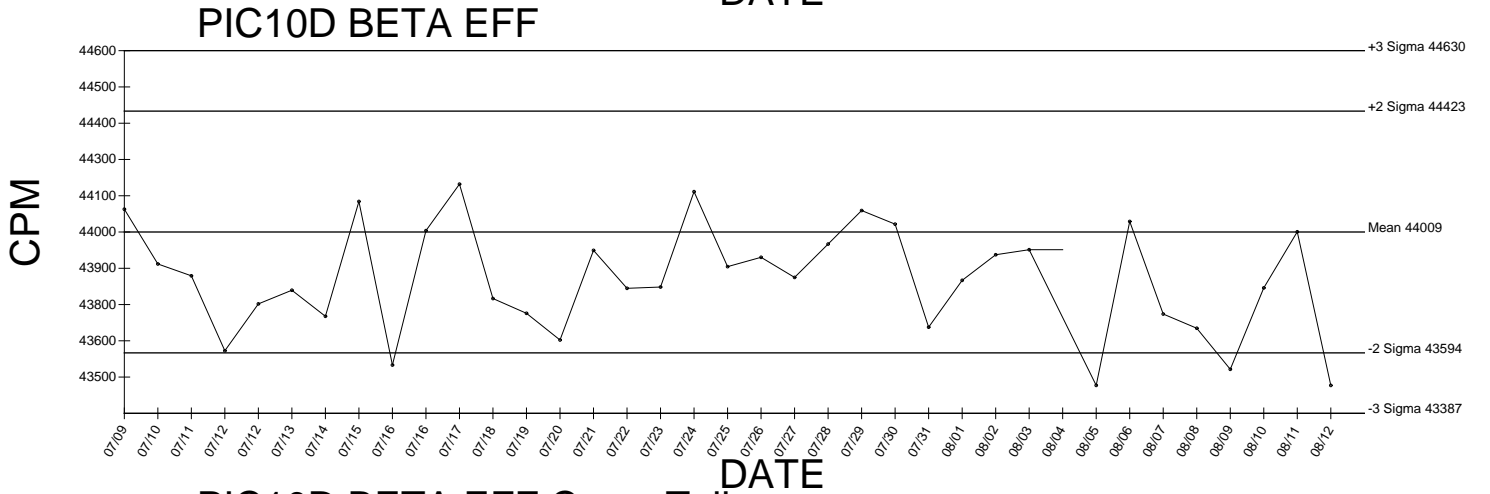
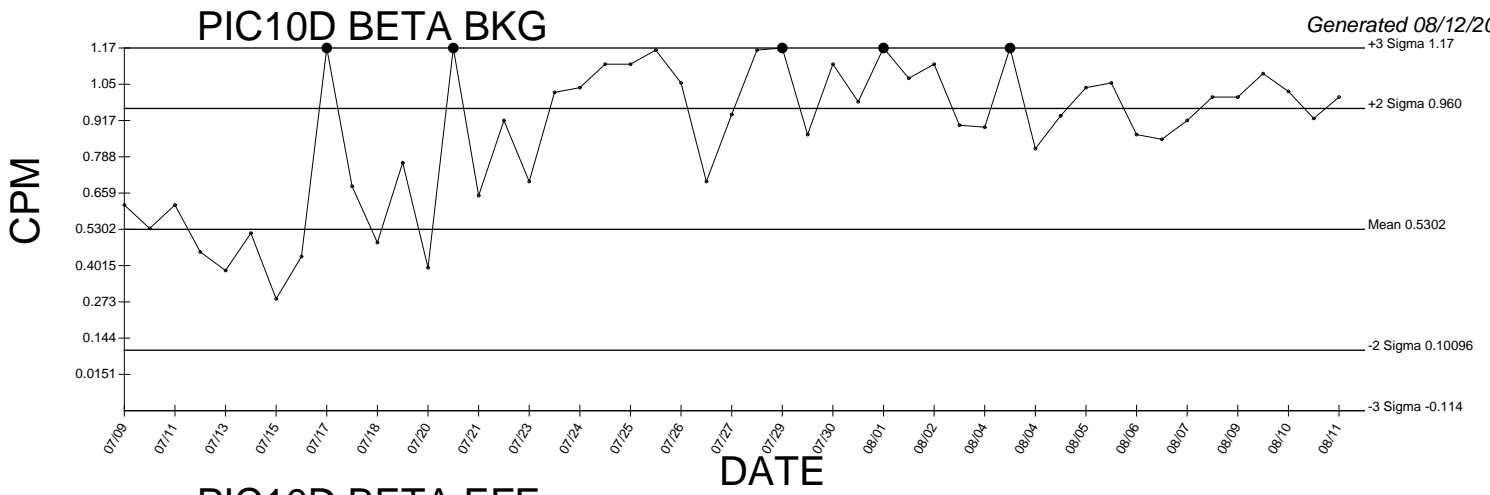
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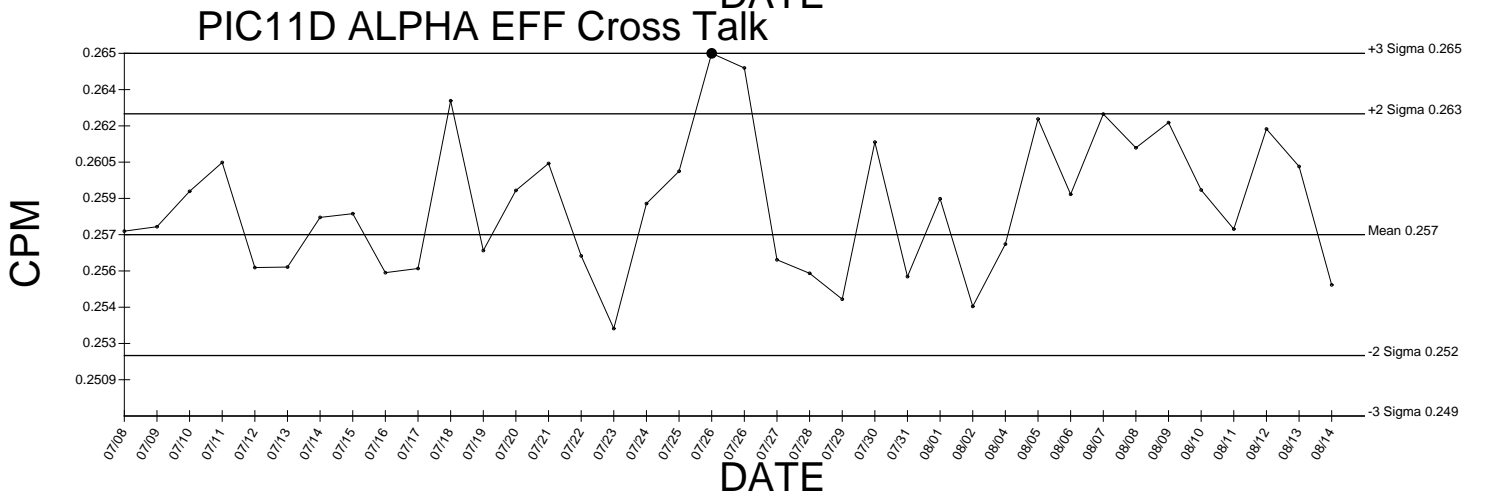
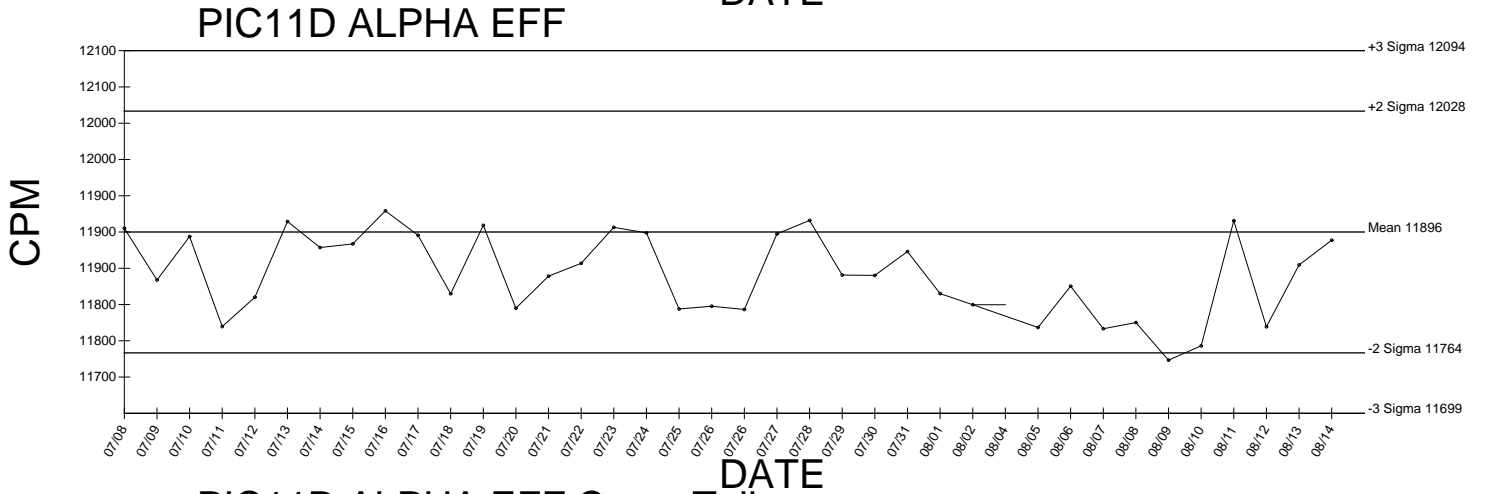
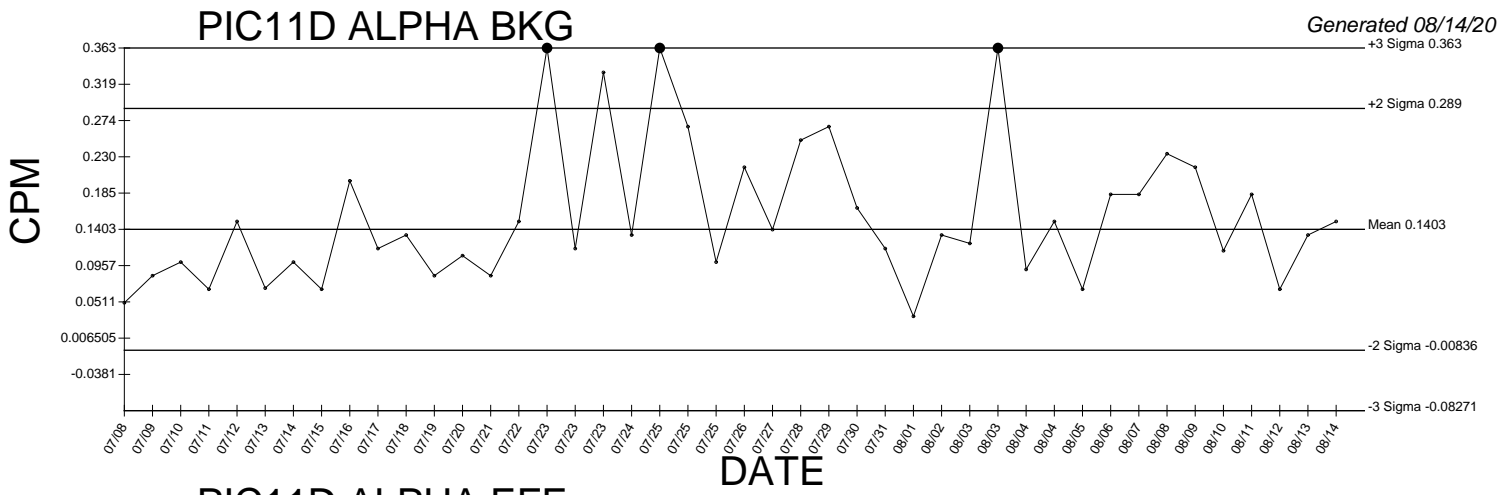
● Denotes Outlier



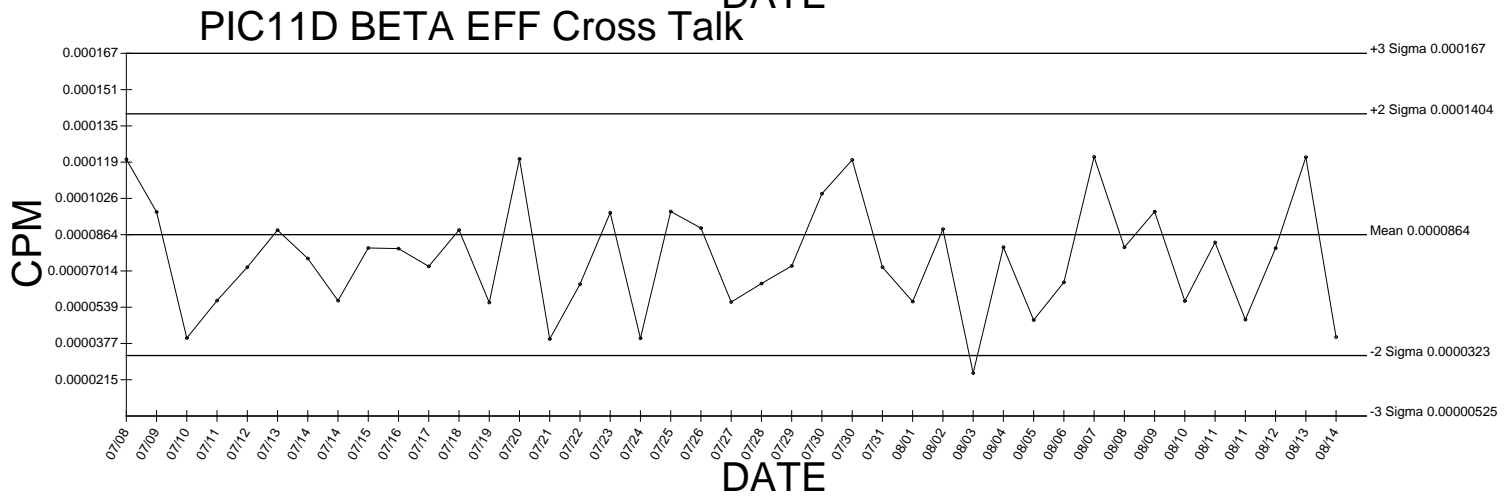
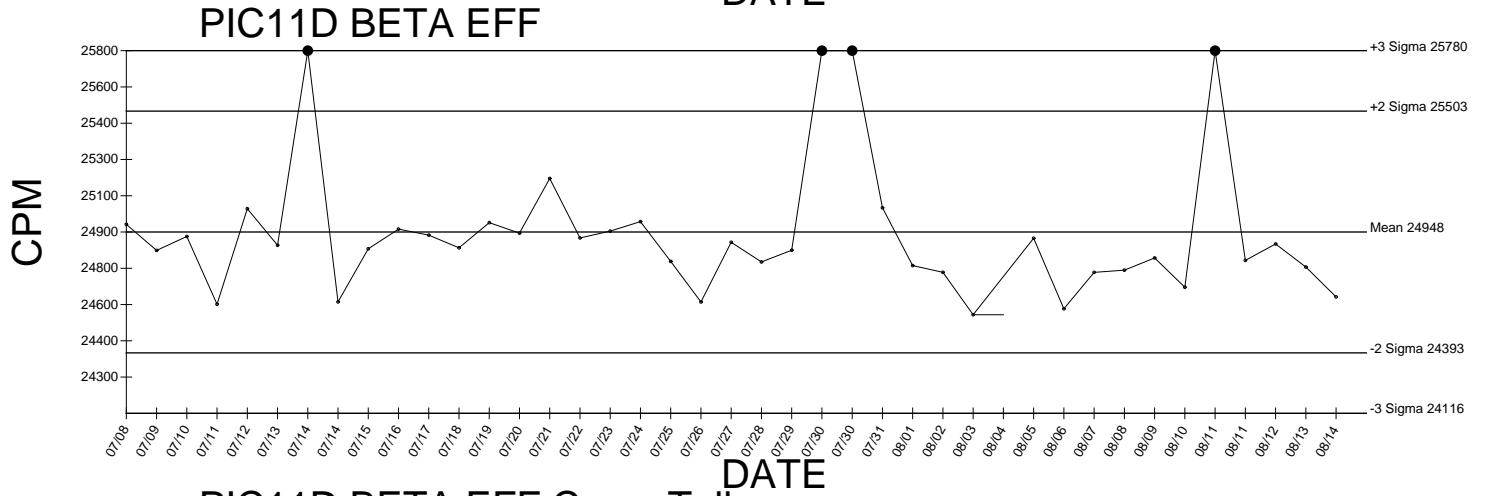
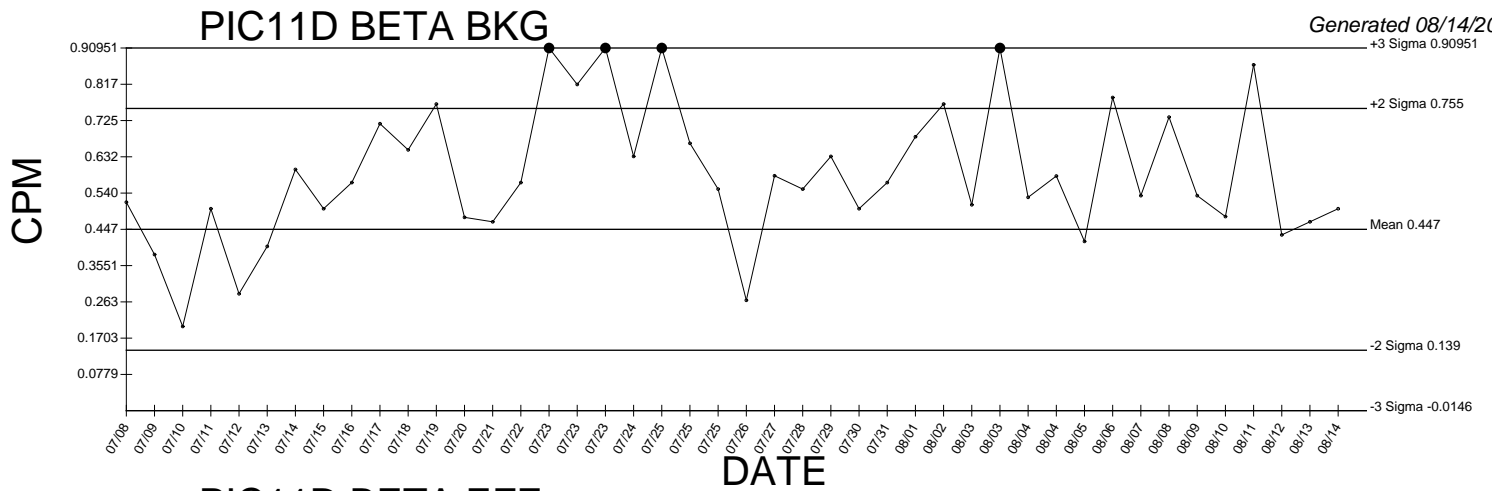
● Denotes Outlier



● Denotes Outlier

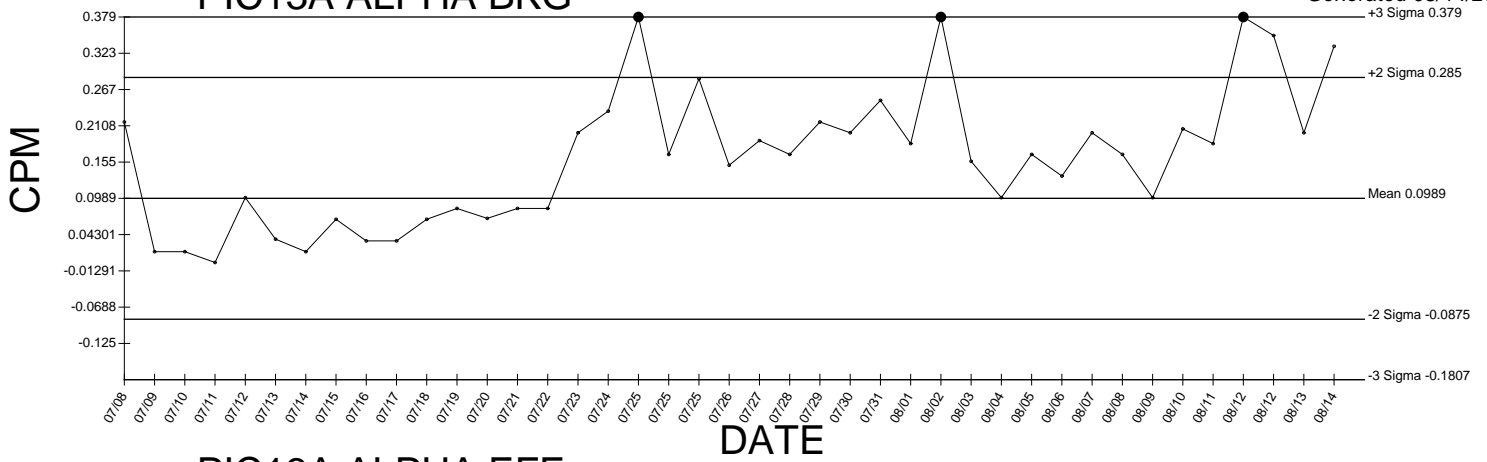


● Denotes Outlier

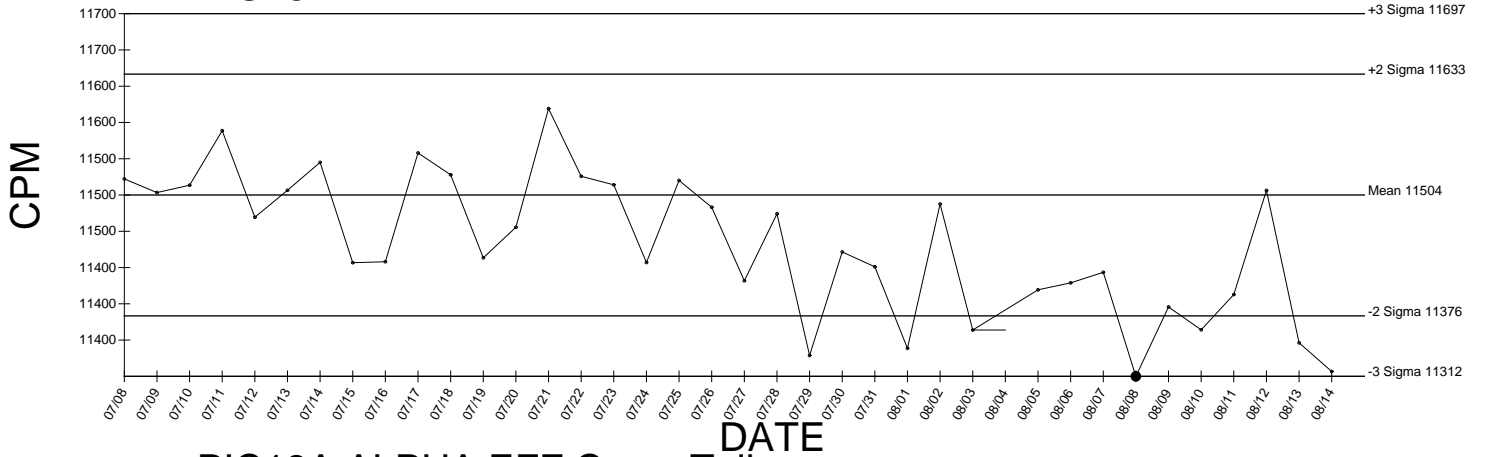


● Denotes Outlier

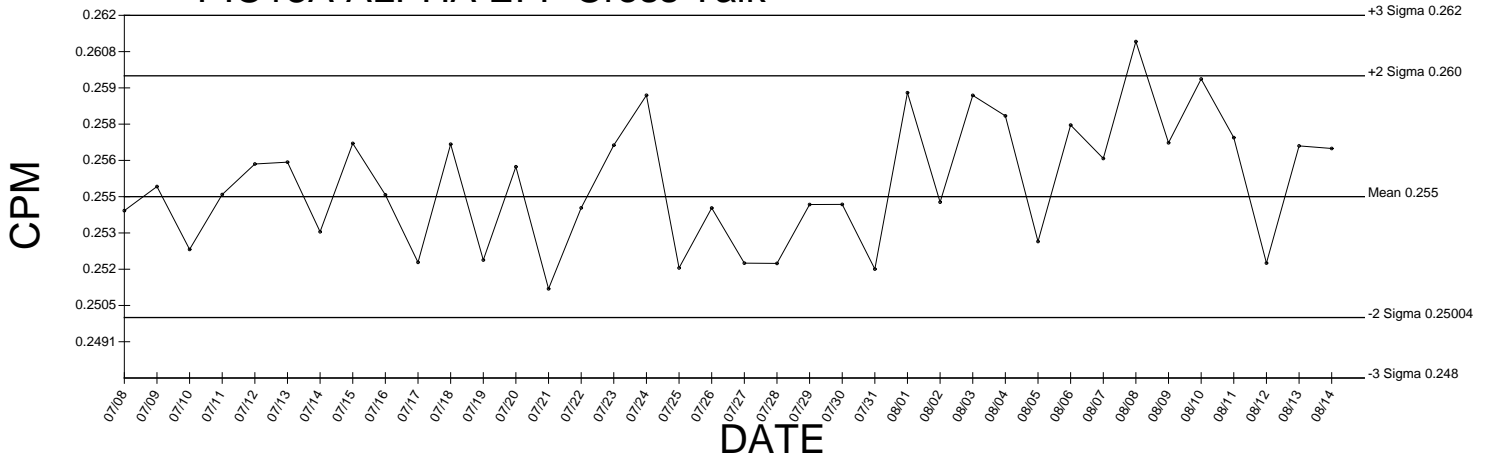
PIC13A ALPHA BKG



PIC13A ALPHA EFF

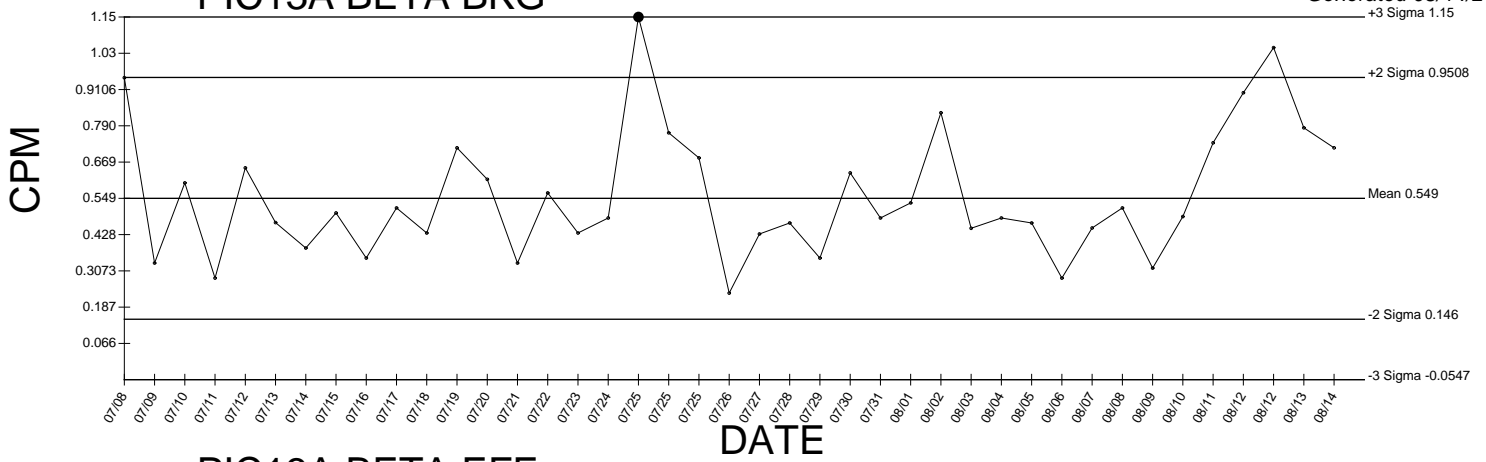


PIC13A ALPHA EFF Cross Talk

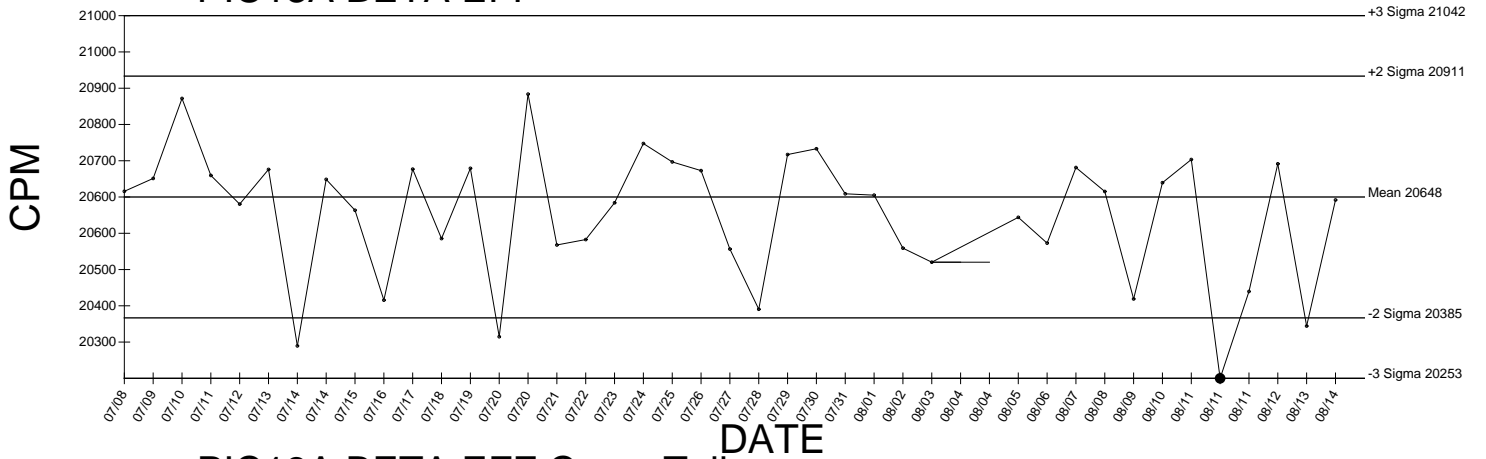


● Denotes Outlier

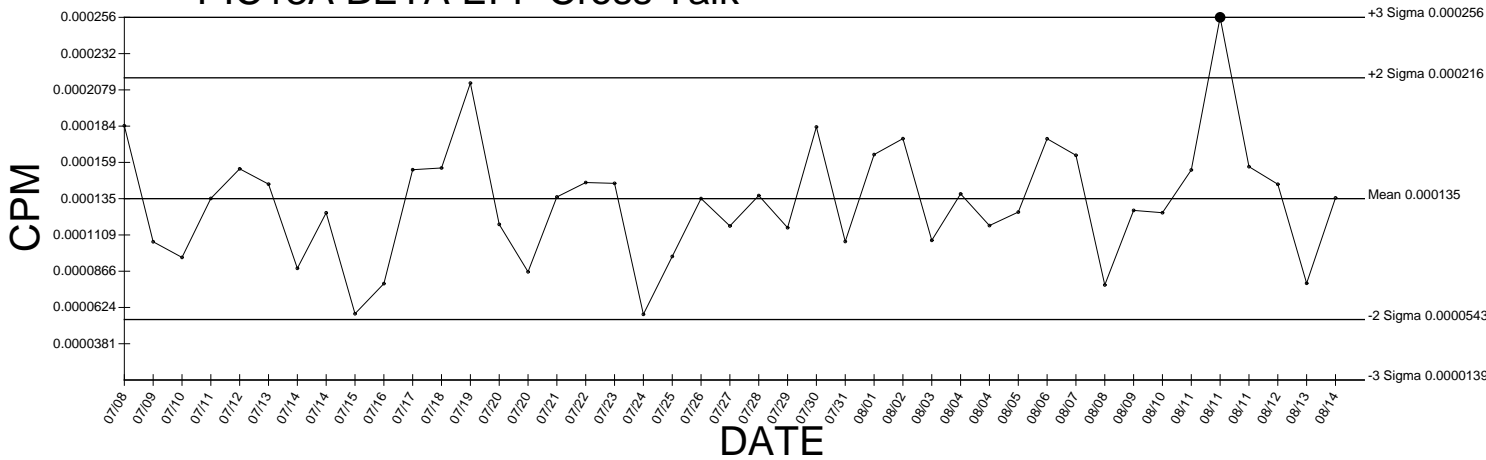
PIC13A BETA BKG



PIC13A BETA EFF

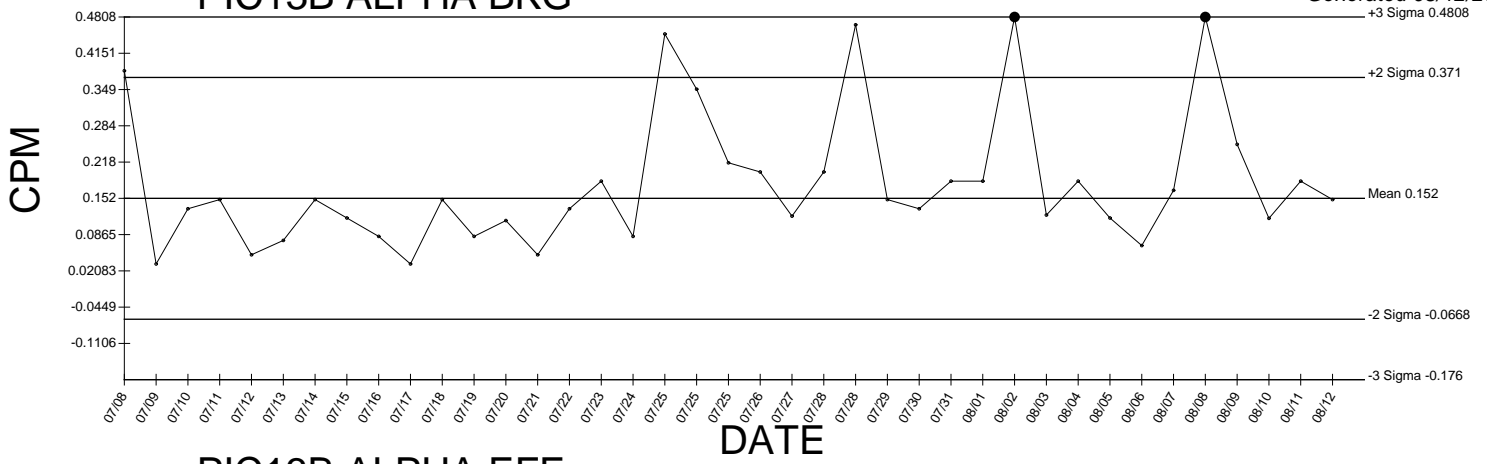


PIC13A BETA EFF Cross Talk

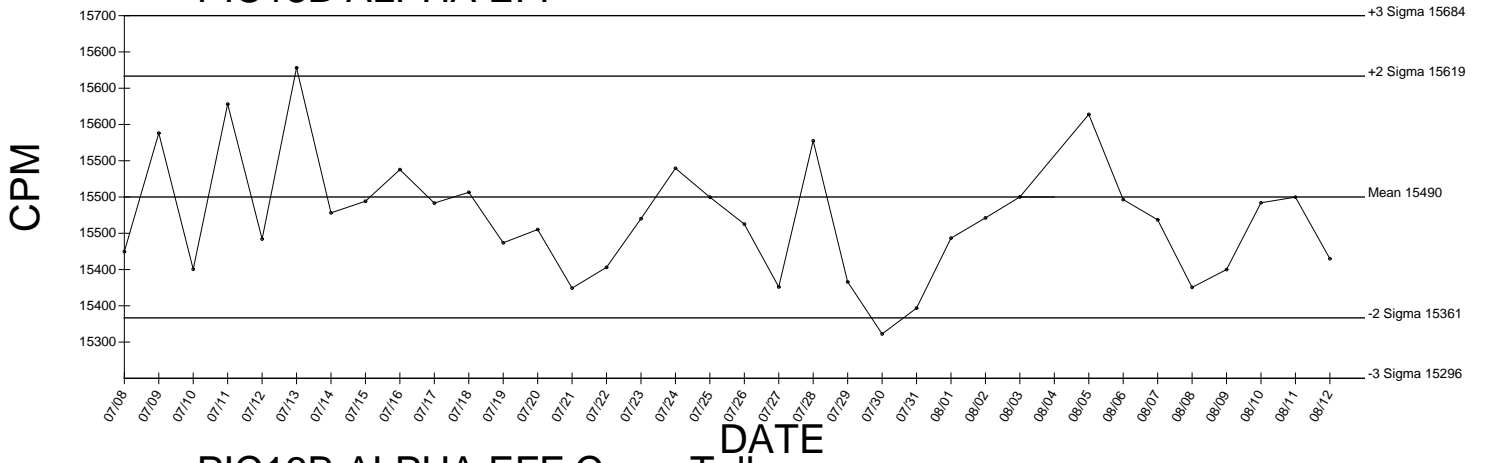


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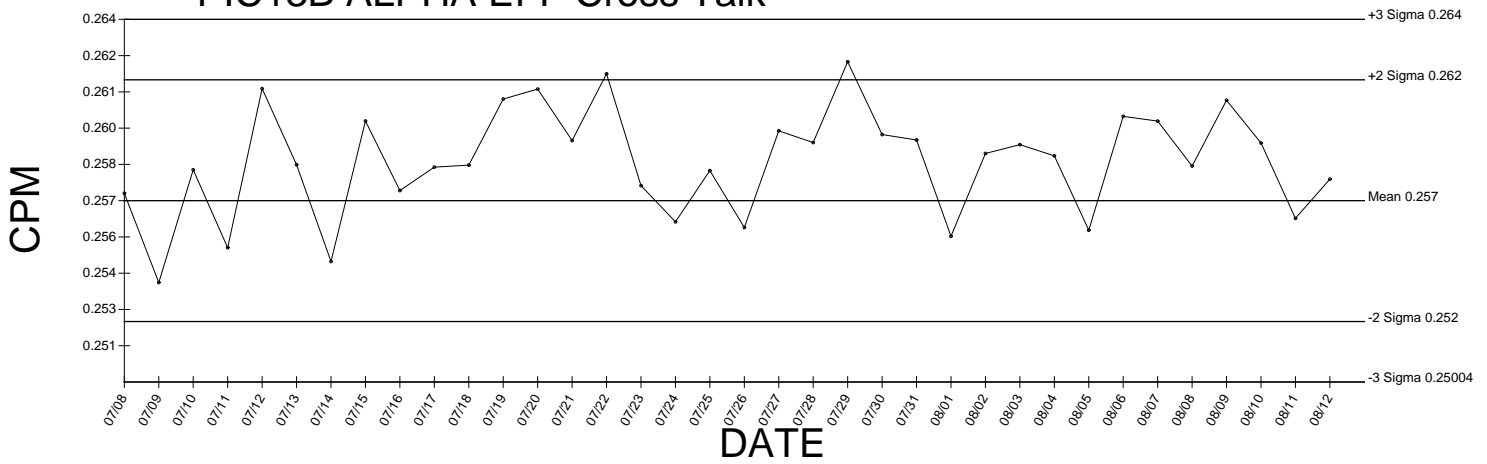
PIC13B ALPHA BKG



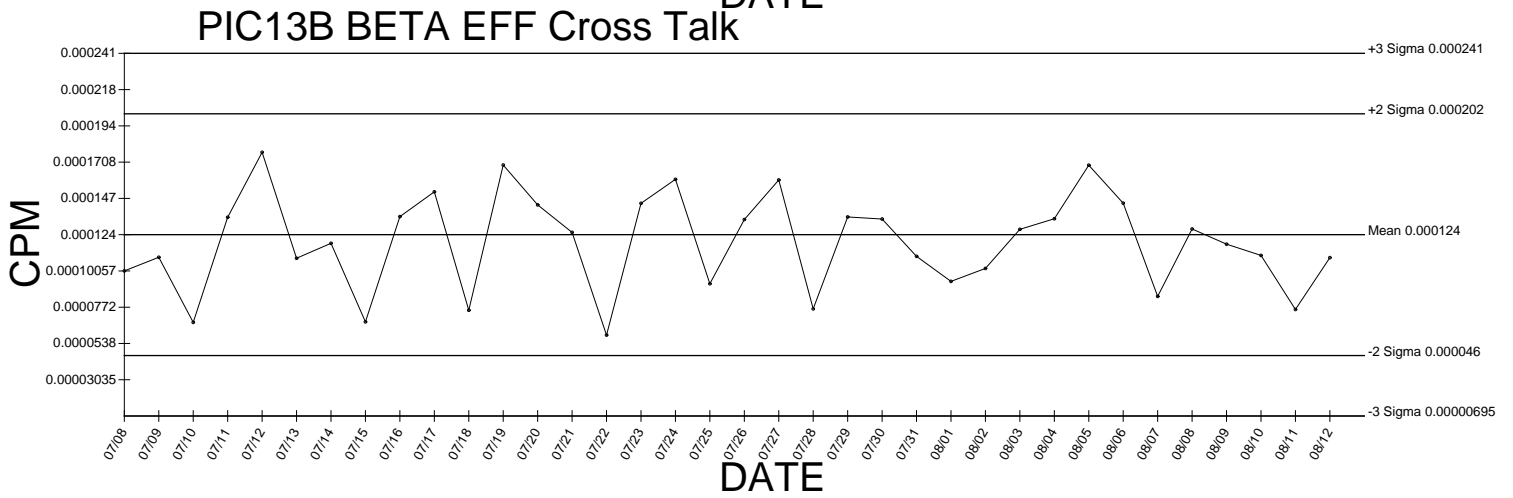
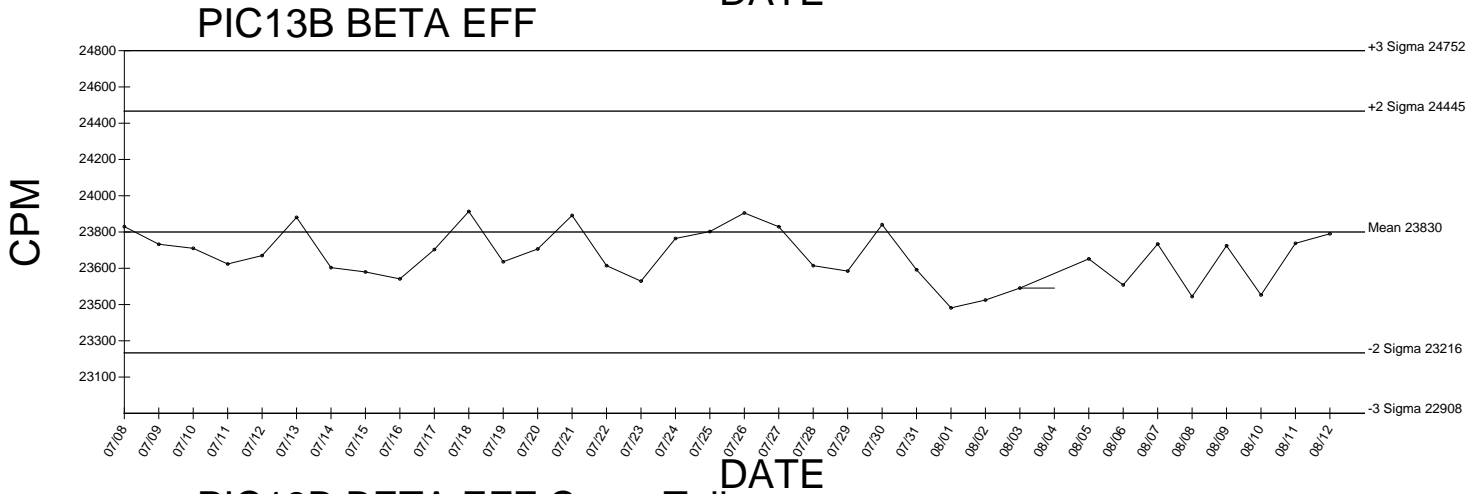
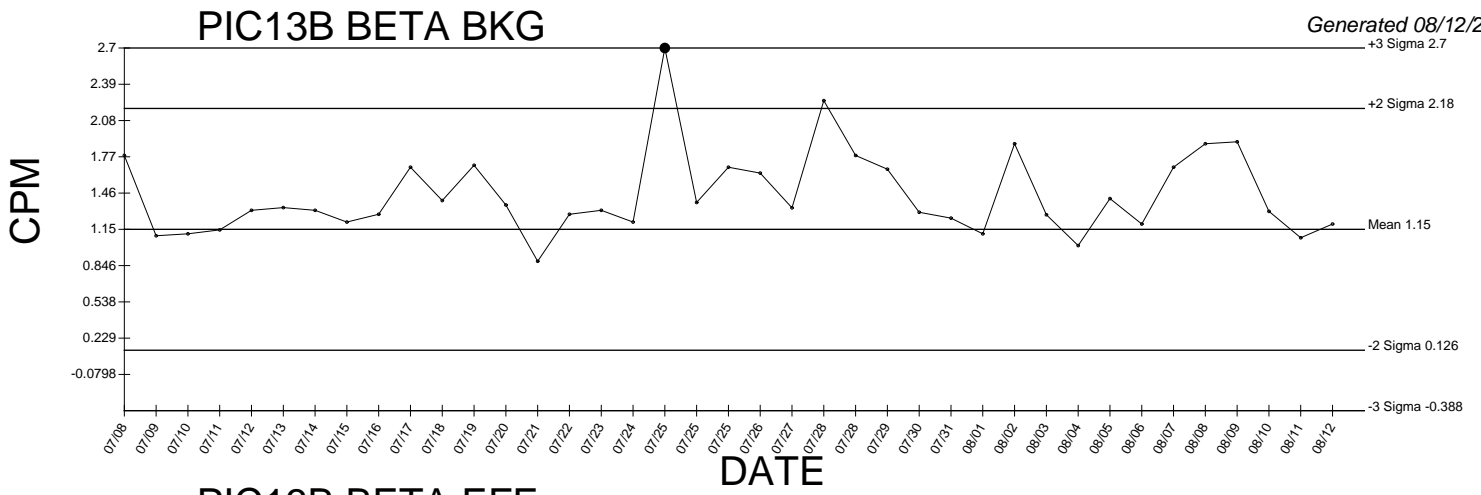
PIC13B ALPHA EFF



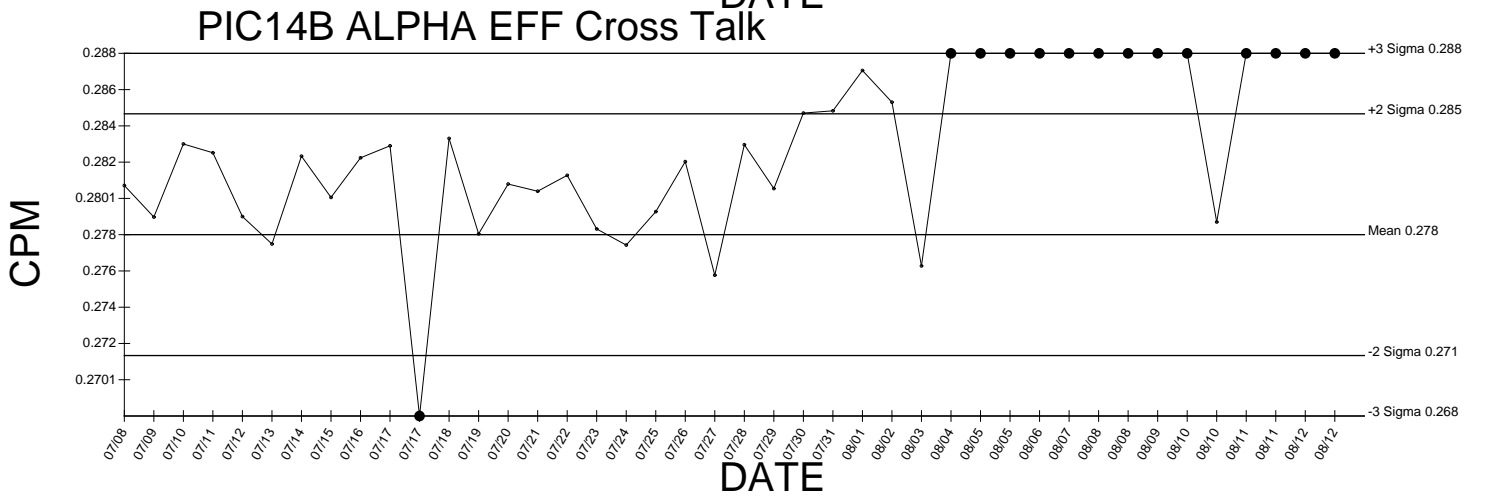
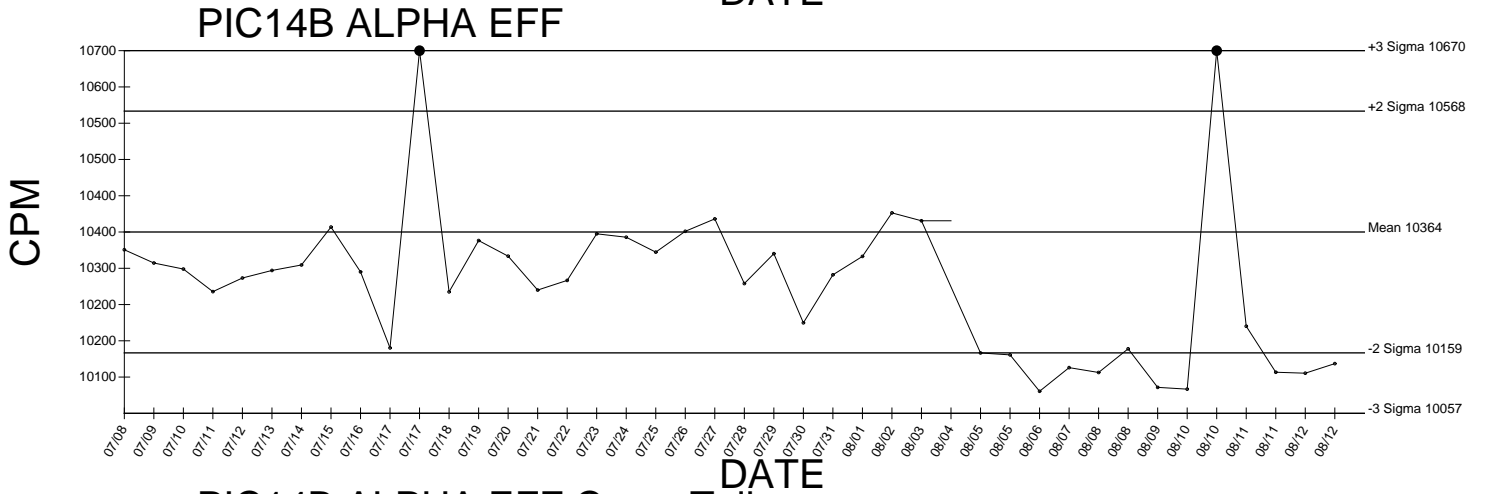
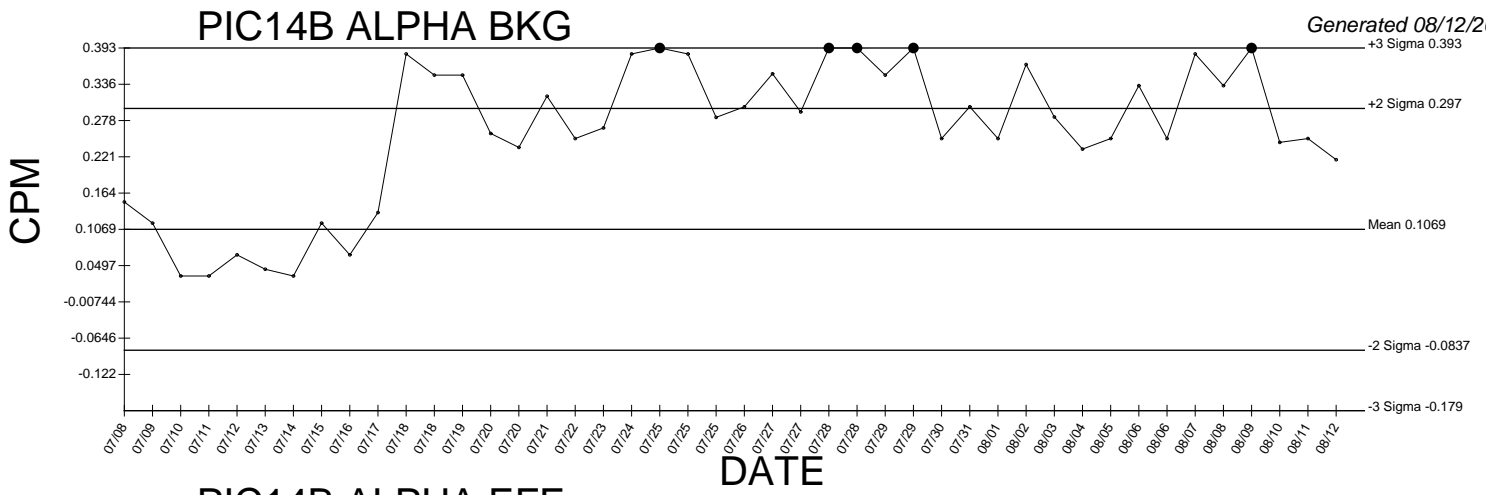
PIC13B ALPHA EFF Cross Talk



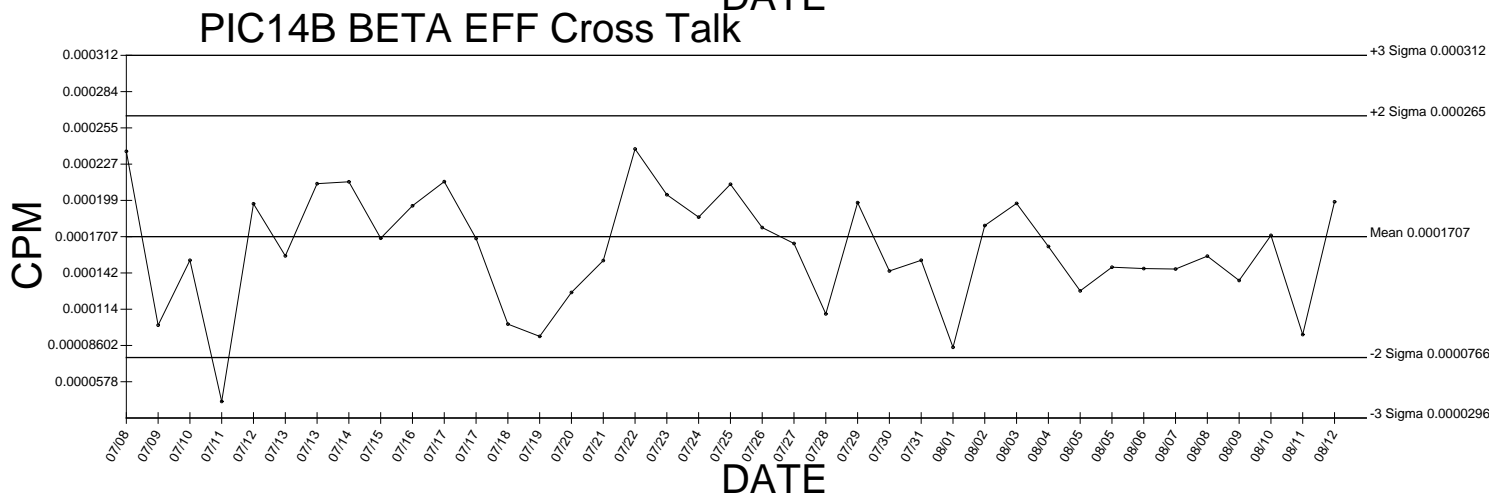
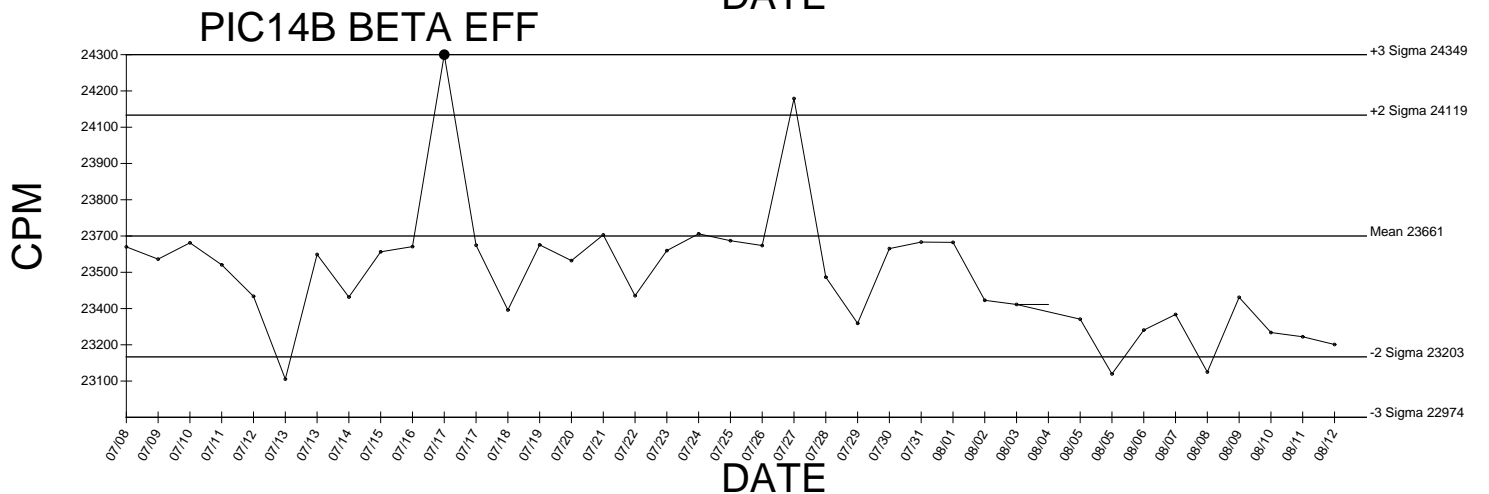
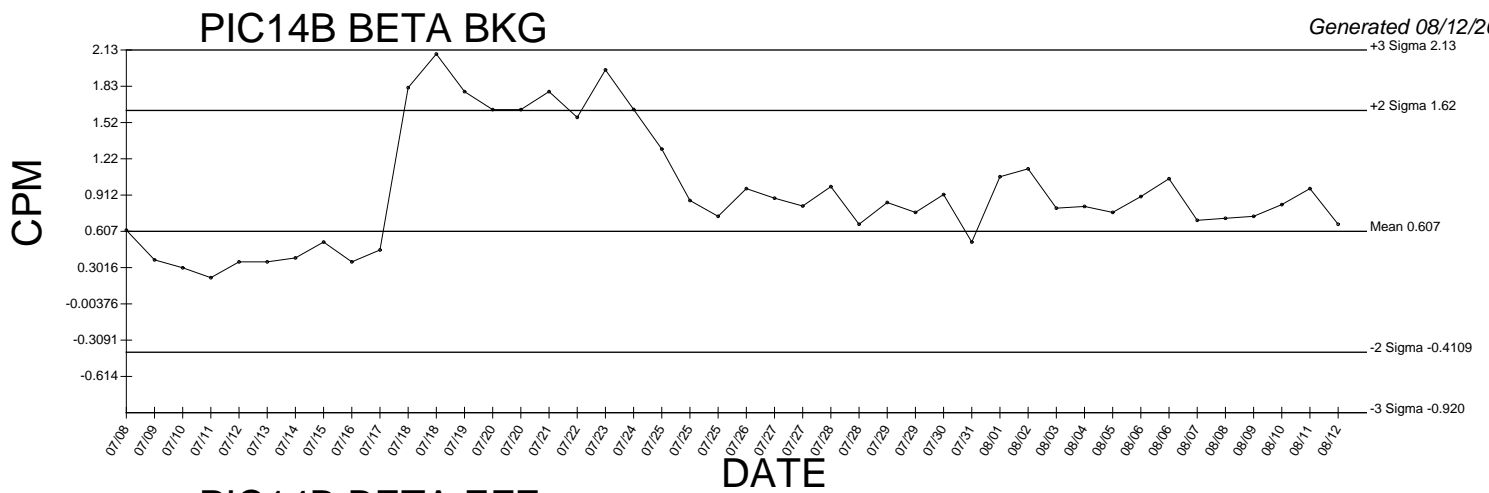
● Denotes Outlier



● Denotes Outlier

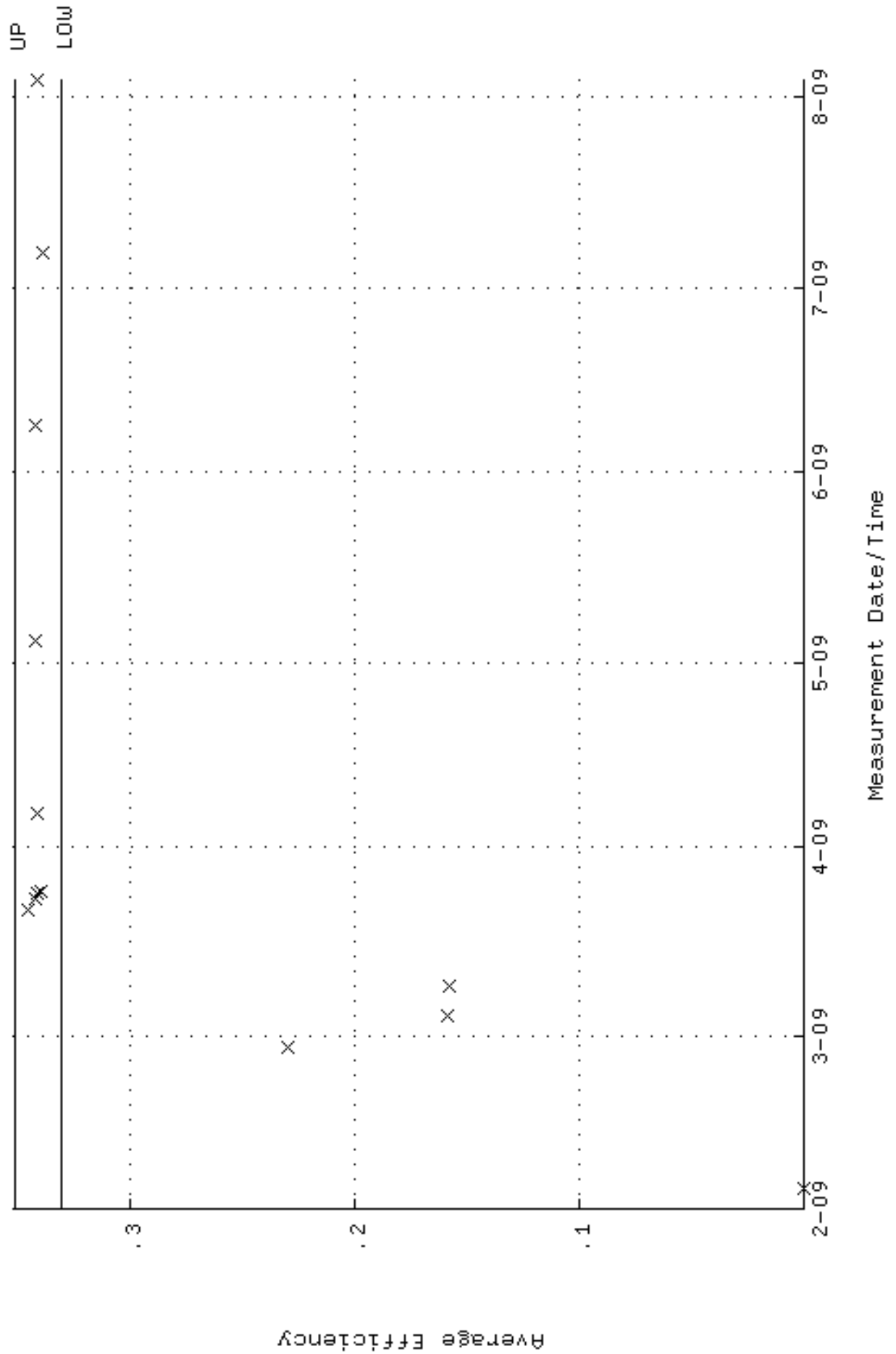


● Denotes Outlier

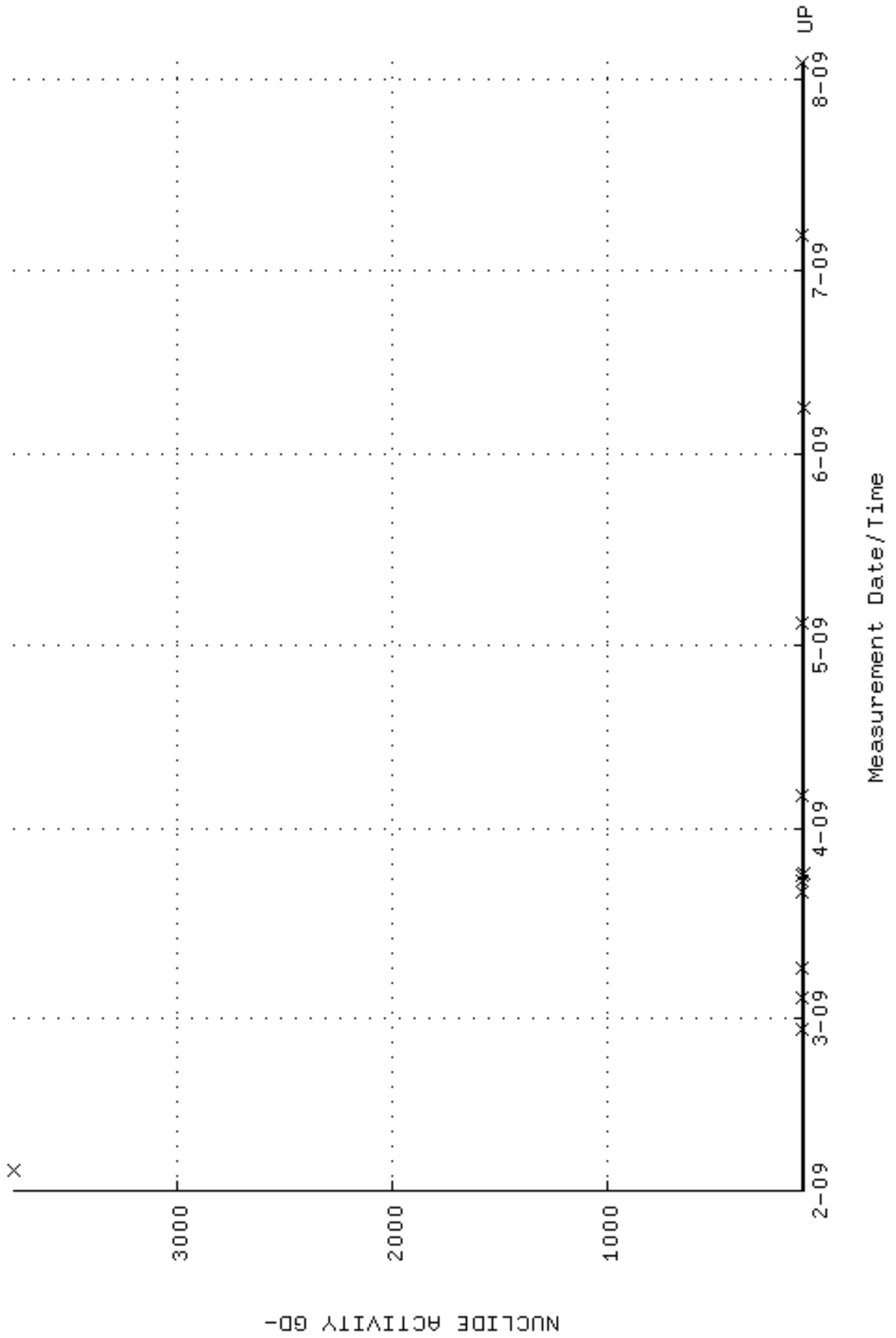


● Denotes Outlier

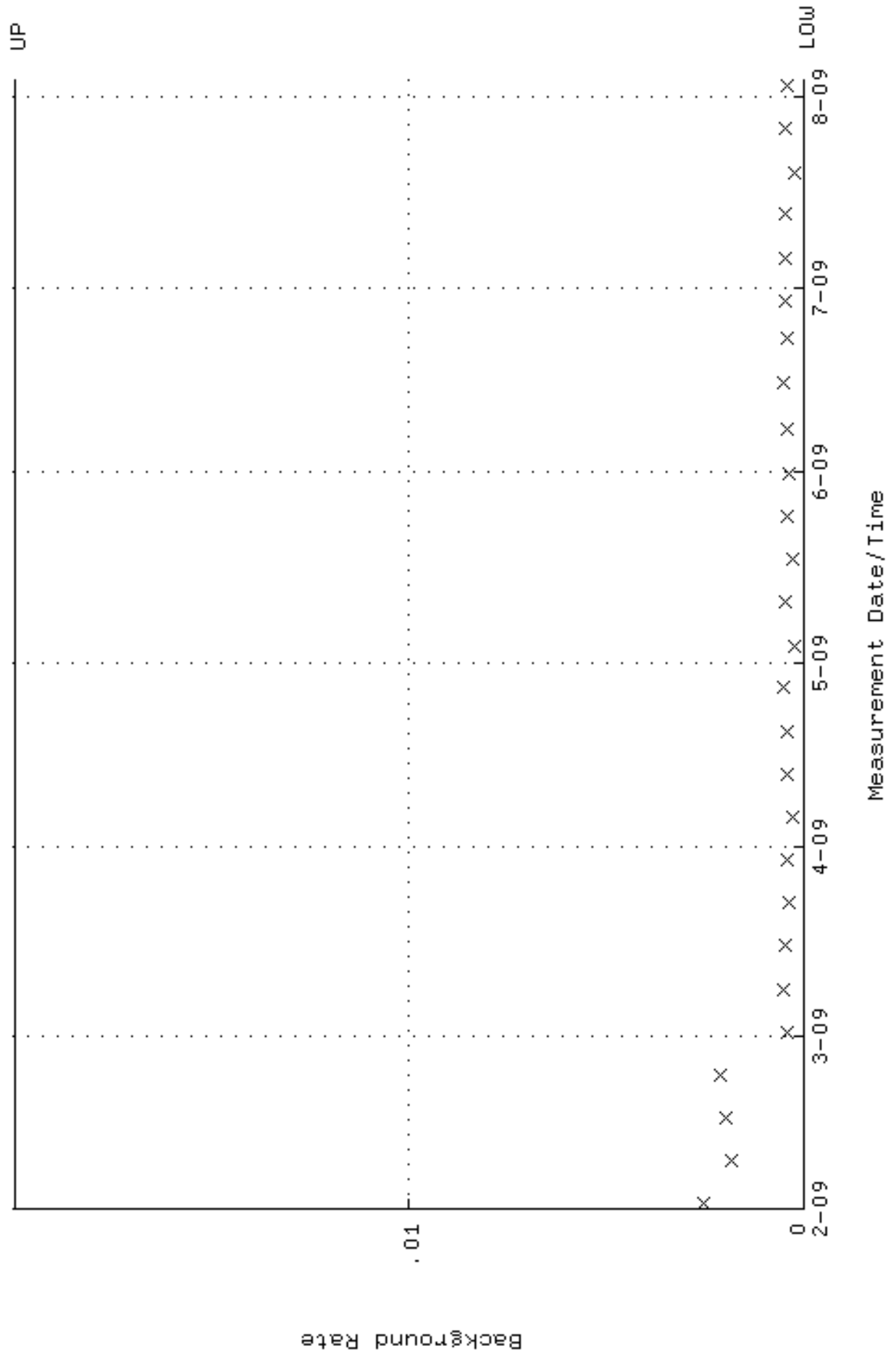
QA filename : DKA100:[ENV_ALPHA.QA.W]W013.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.331676 through 0.351676



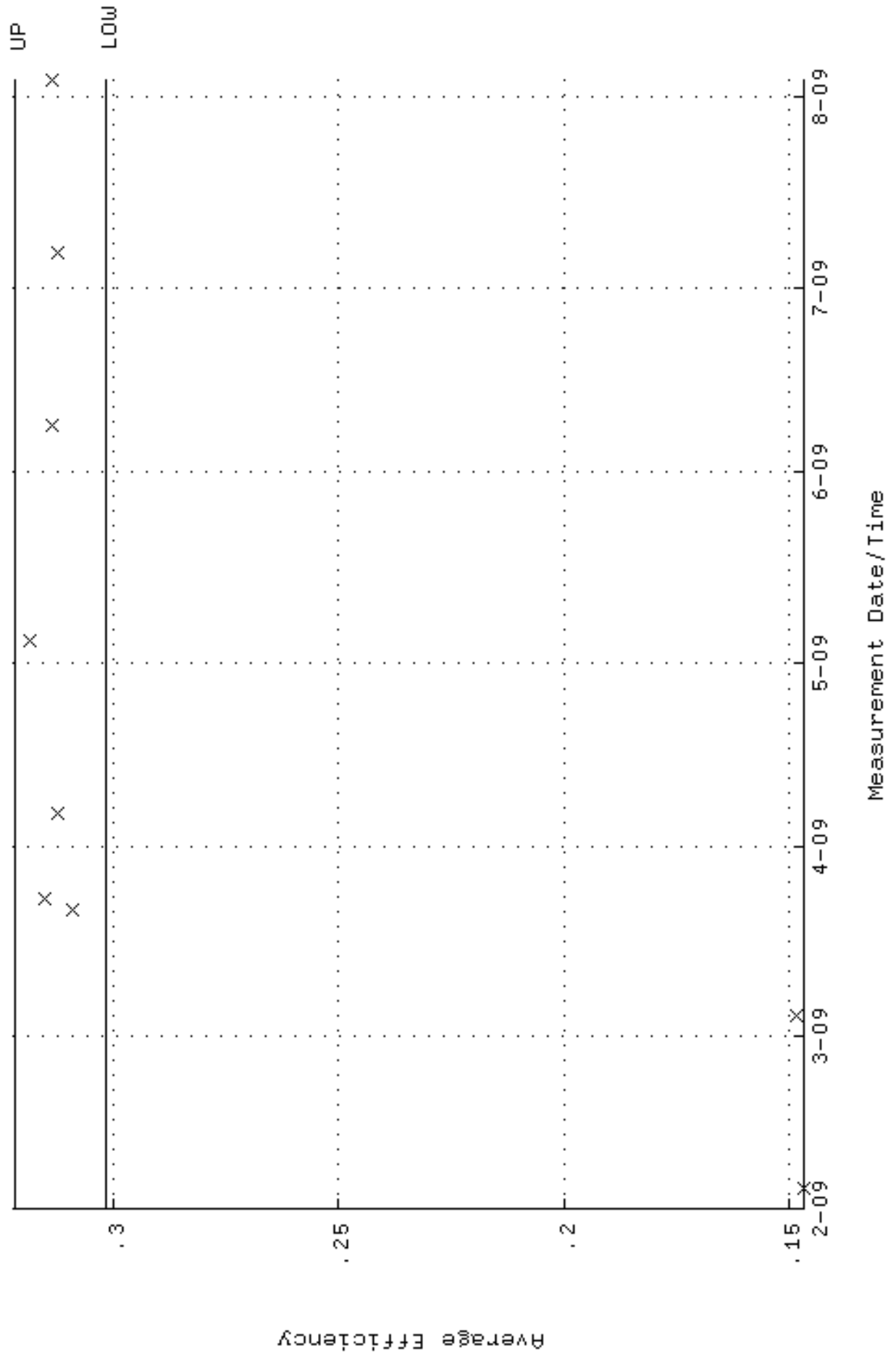
QA filename : DKA100:[ENV_ALPHA.QA.W]w013.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 87.7736 through 97.0130



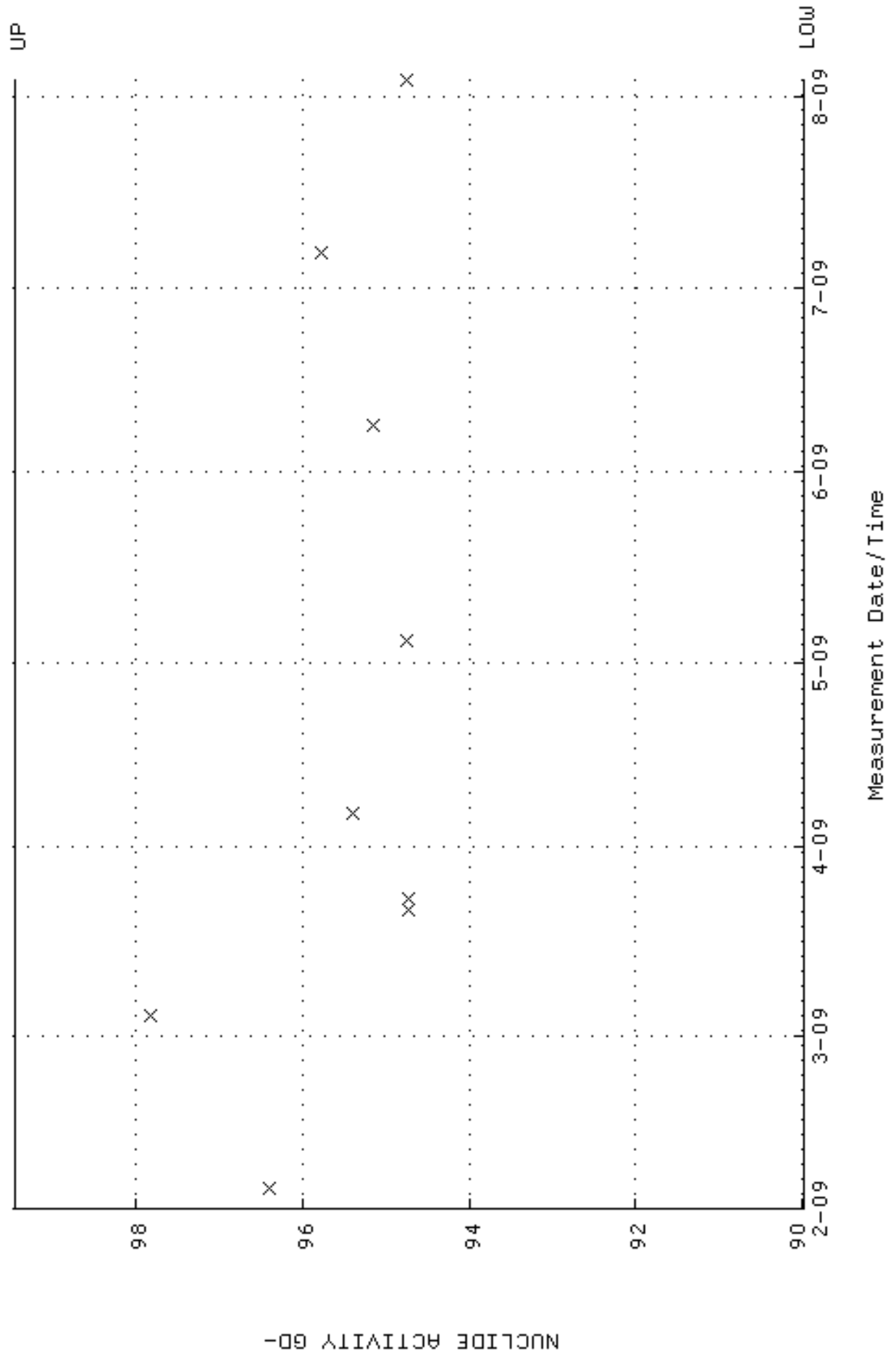
QA filename : DKA100:[ENV_ALPHA.QA.B]B013.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 20:04:48 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



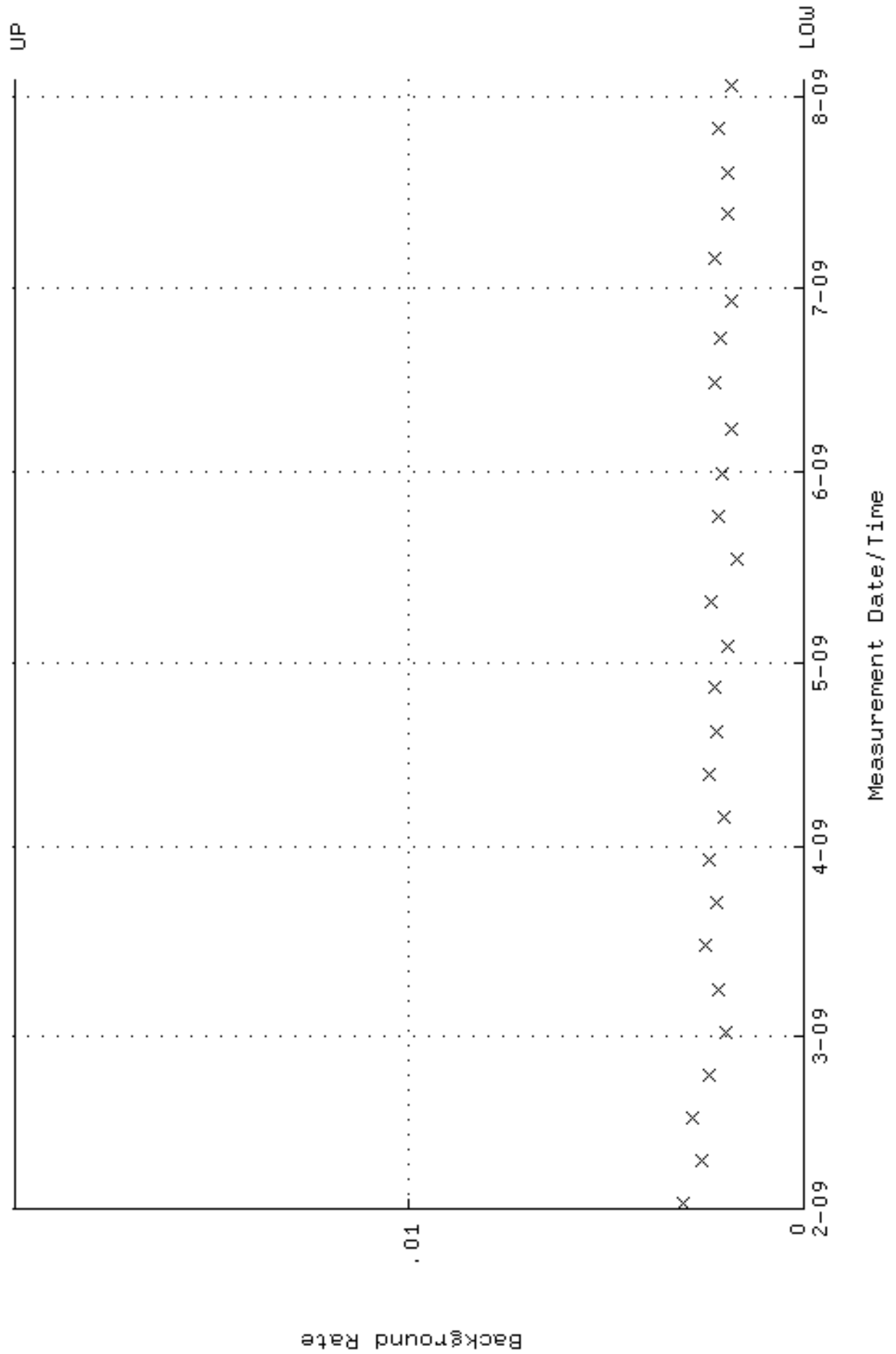
QA filename : DKA100:[ENV_ALPHA.QA.W]W014.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.301834 through 0.321834



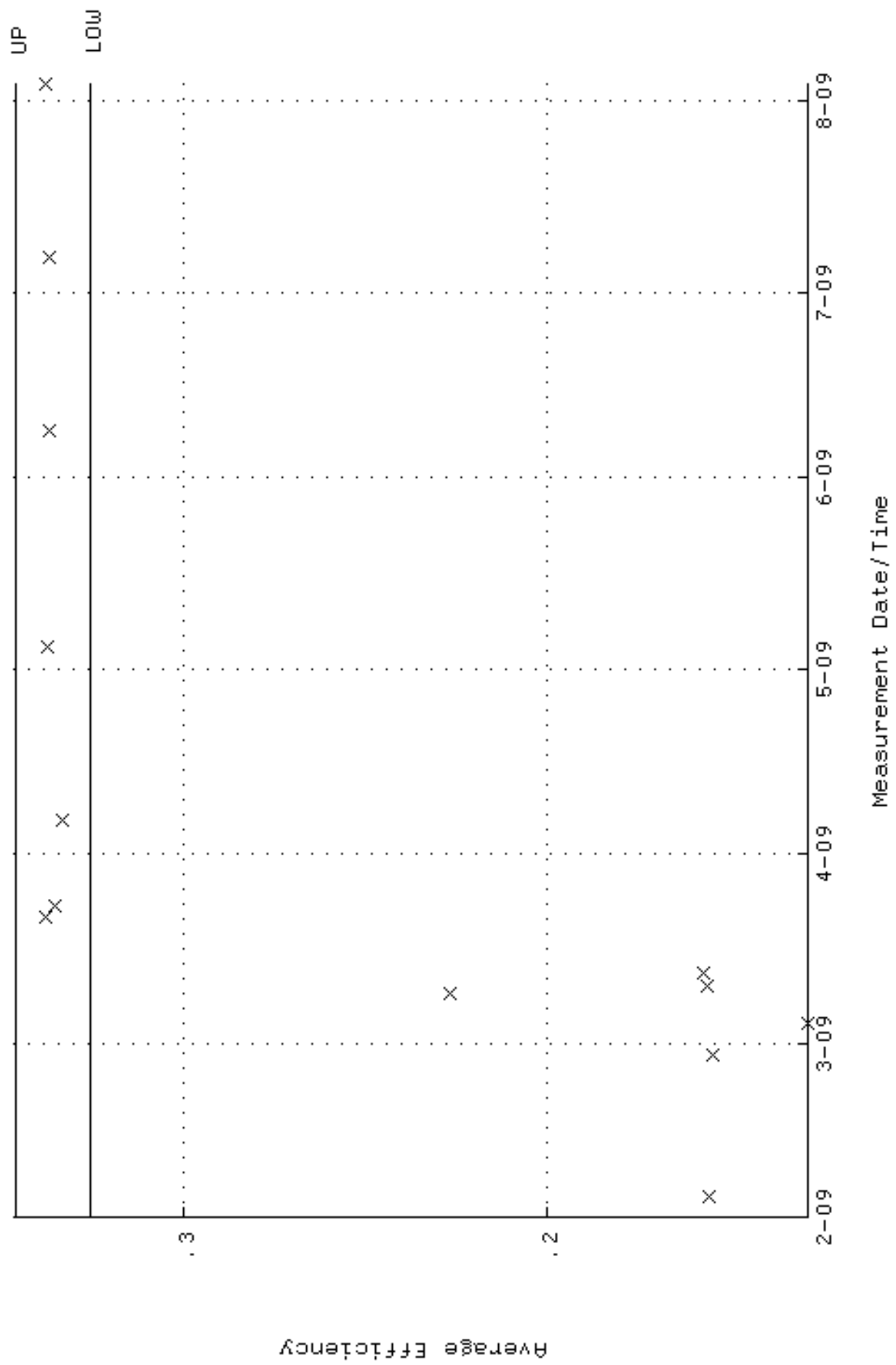
QA filename : DKA100:[ENV_ALPHA.QA.W]W014.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 89.9790 through 99.4504



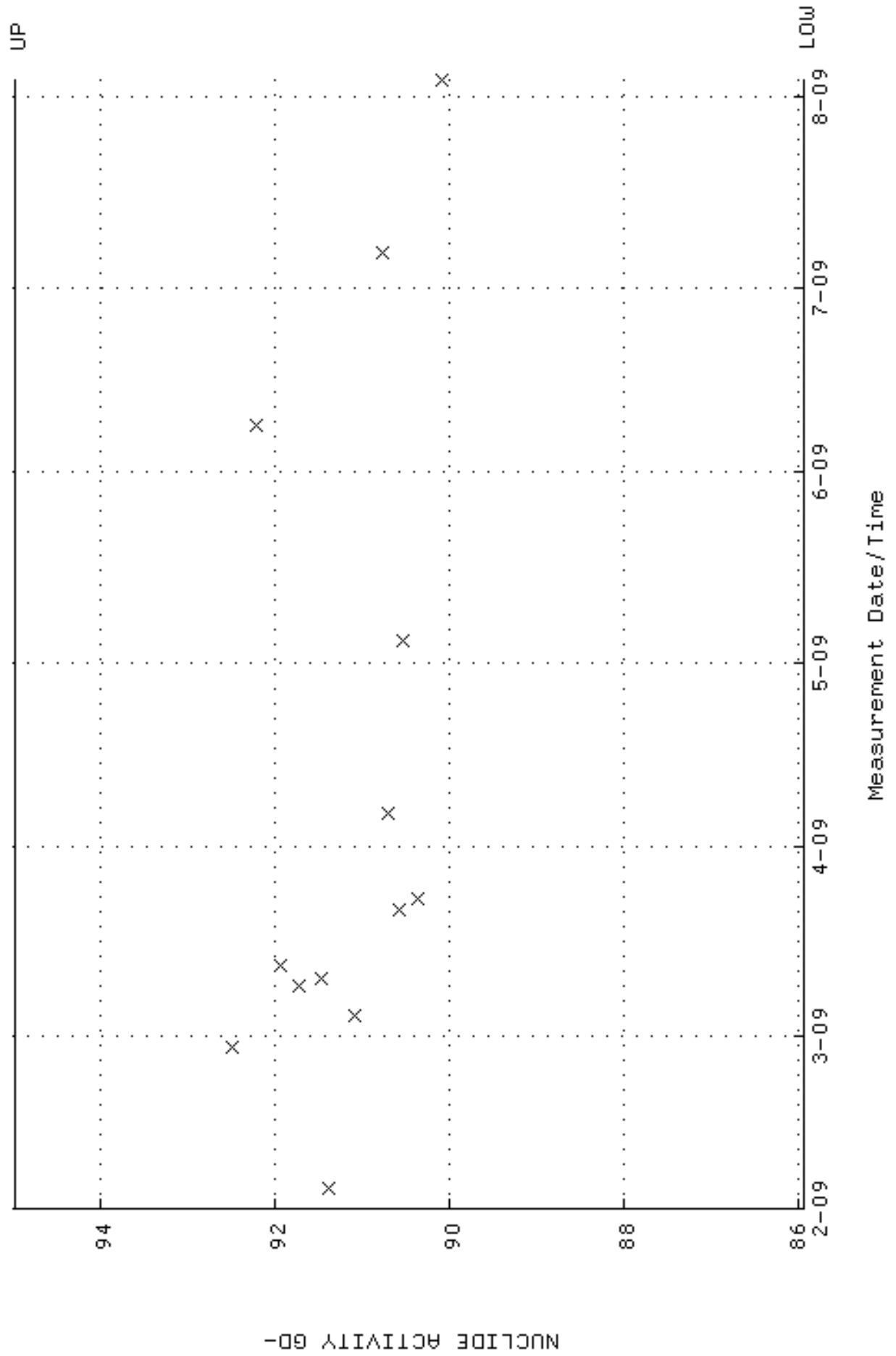
QA filename : DKA100:[ENV_ALPHA.QA.B]B014.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 20:04:48 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



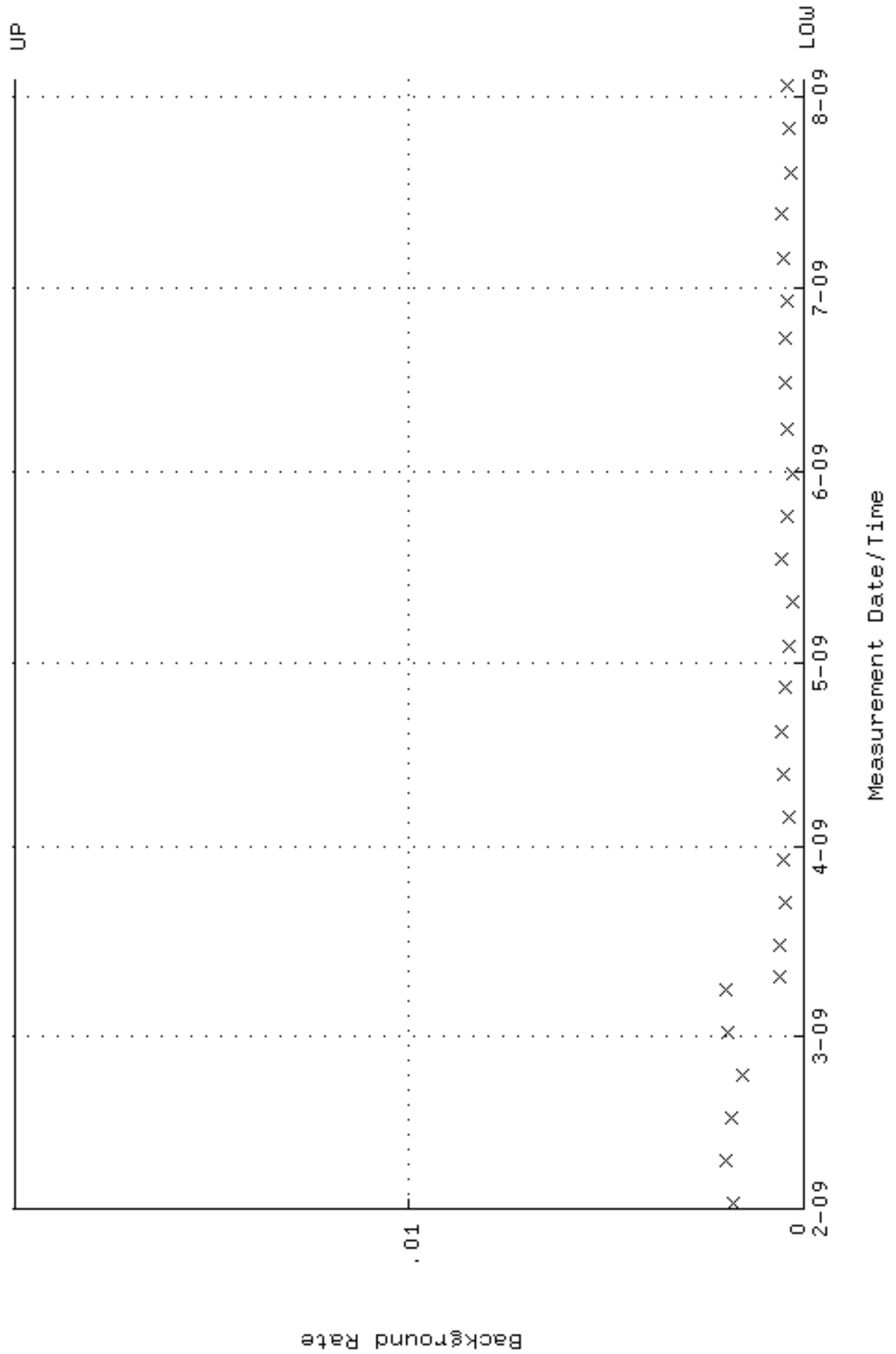
QA filename : DKA100:[ENV_ALPHA.QA.W]W016.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.326058 through 0.346058



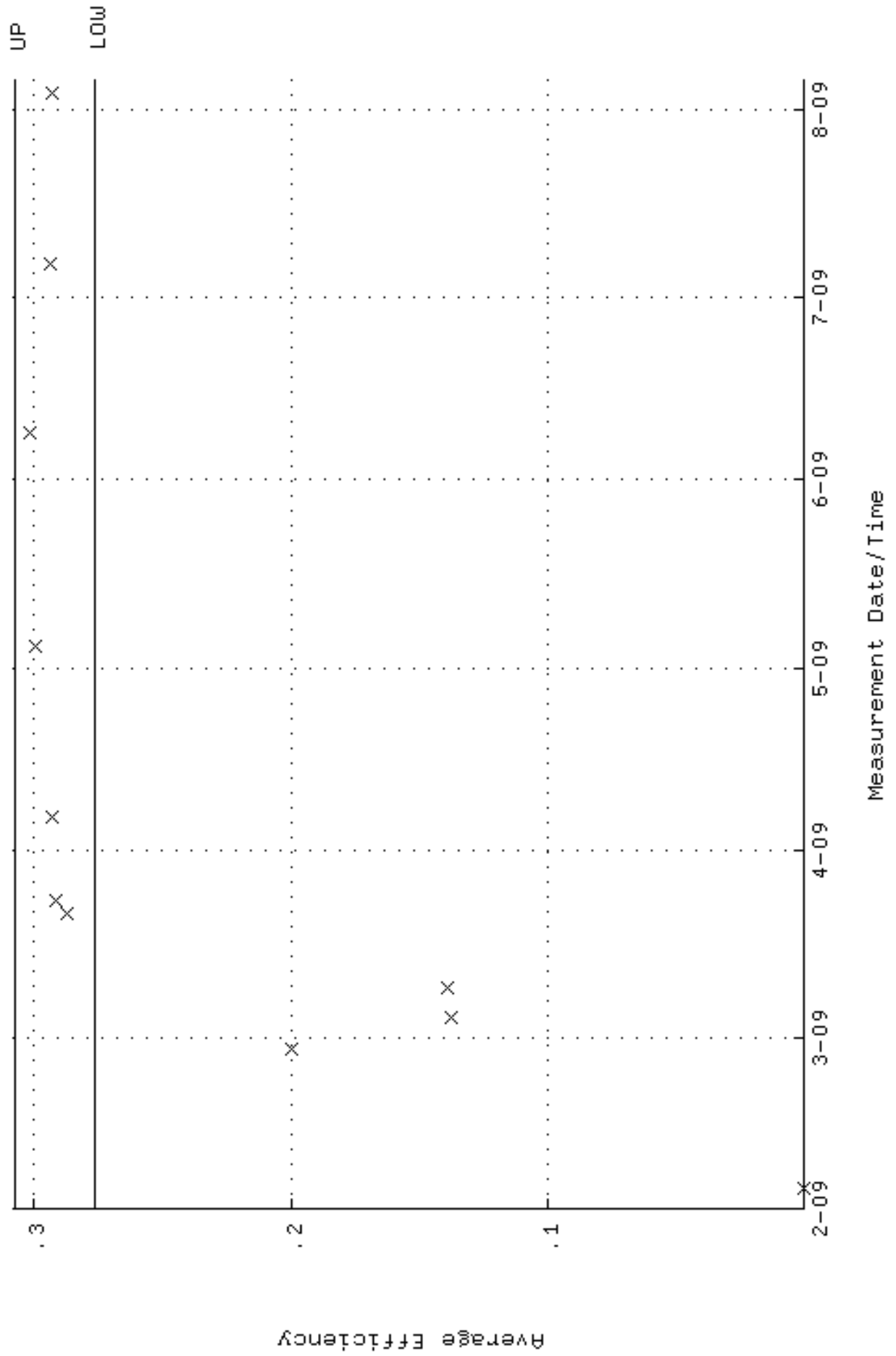
QA filename : DKA100:[ENV_ALPHA.QA.W]W016.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 85.9280 through 94.9730



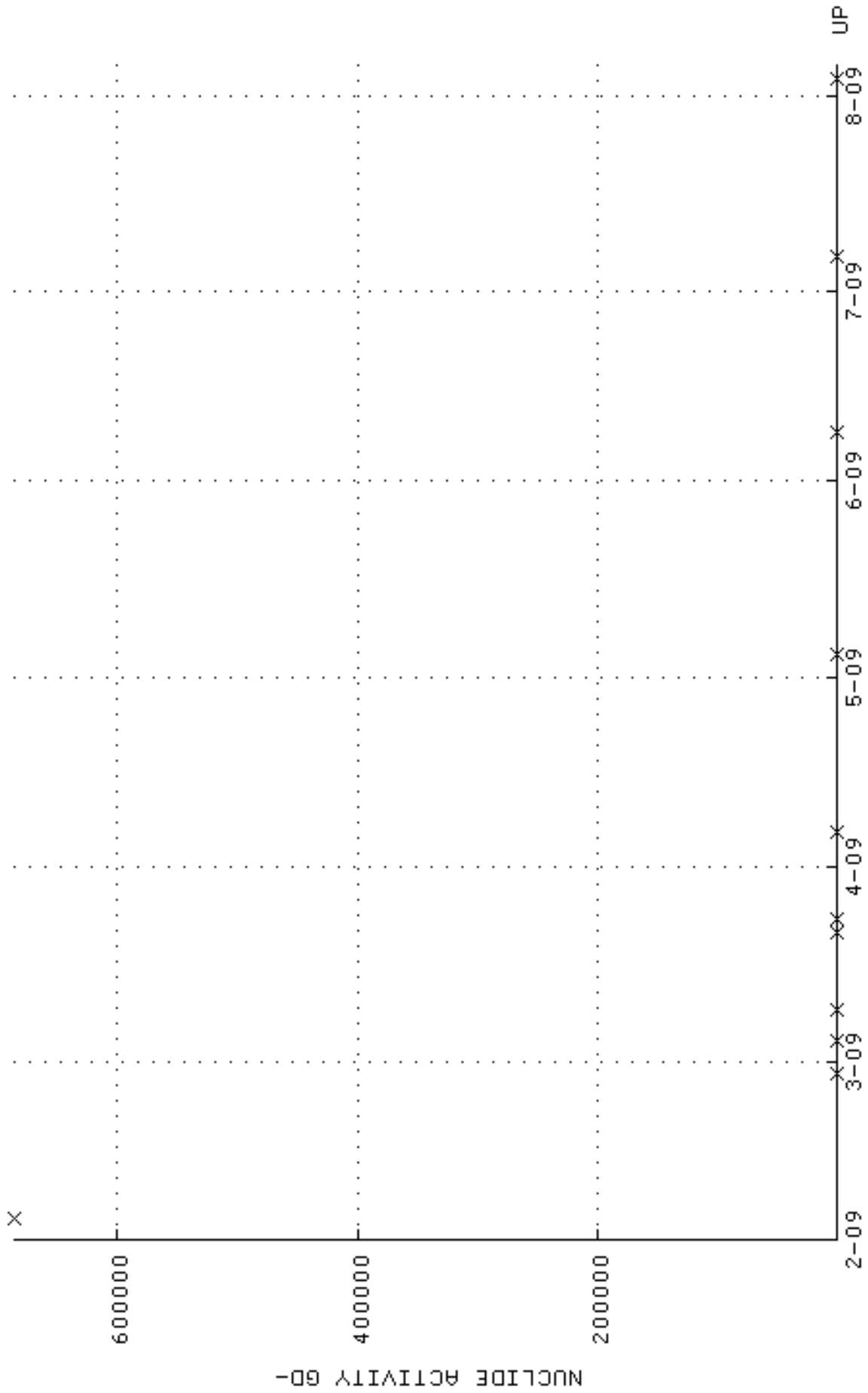
QA filename : DKA100:[ENV_ALPHA.QA.B]B016.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 20:04:48 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



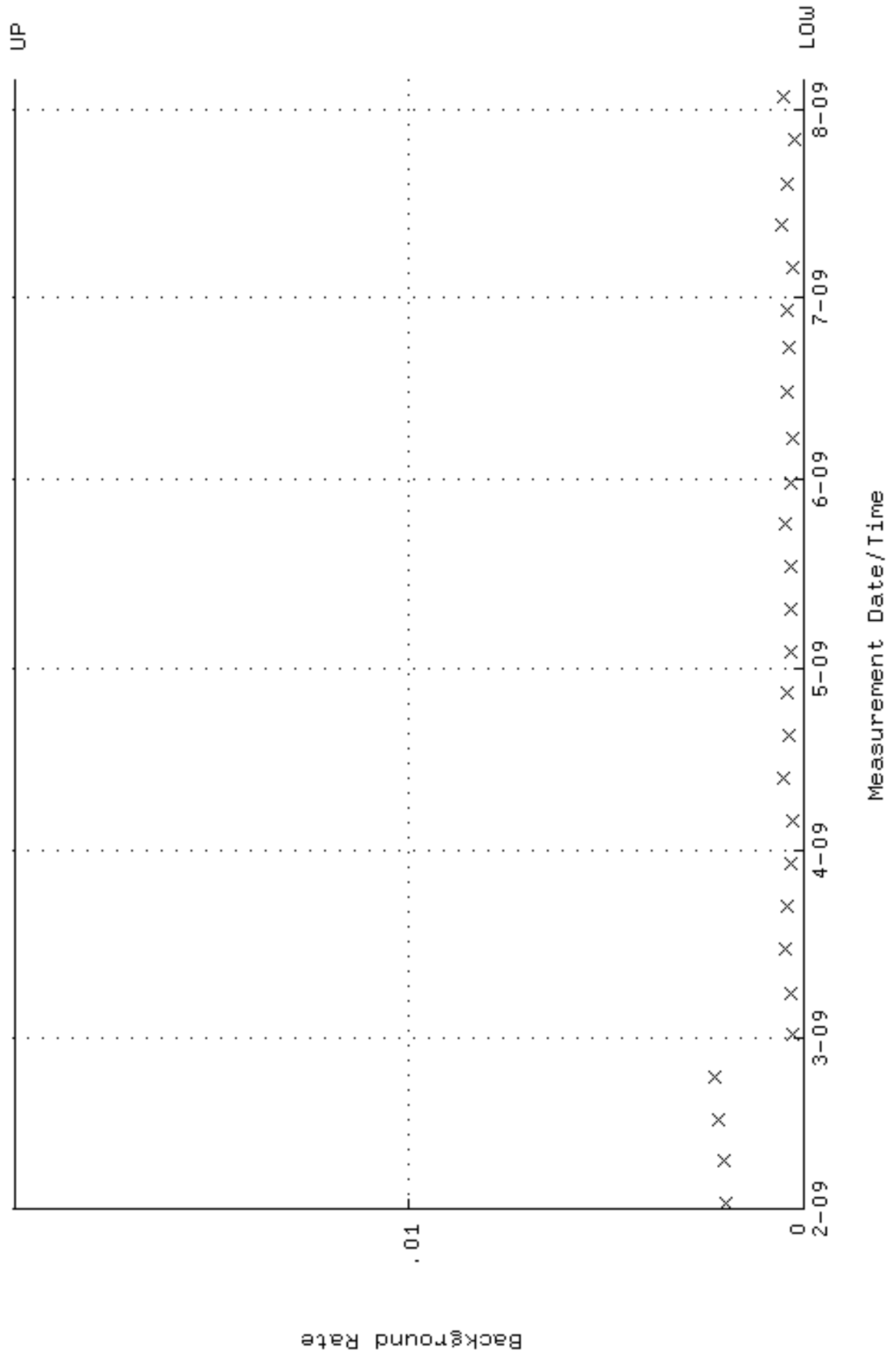
QA filename : DKA100:[ENV_ALPHA.QA.W]W017.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-FEB-2009 07:05:54 through 5-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.276771 through 0.307557



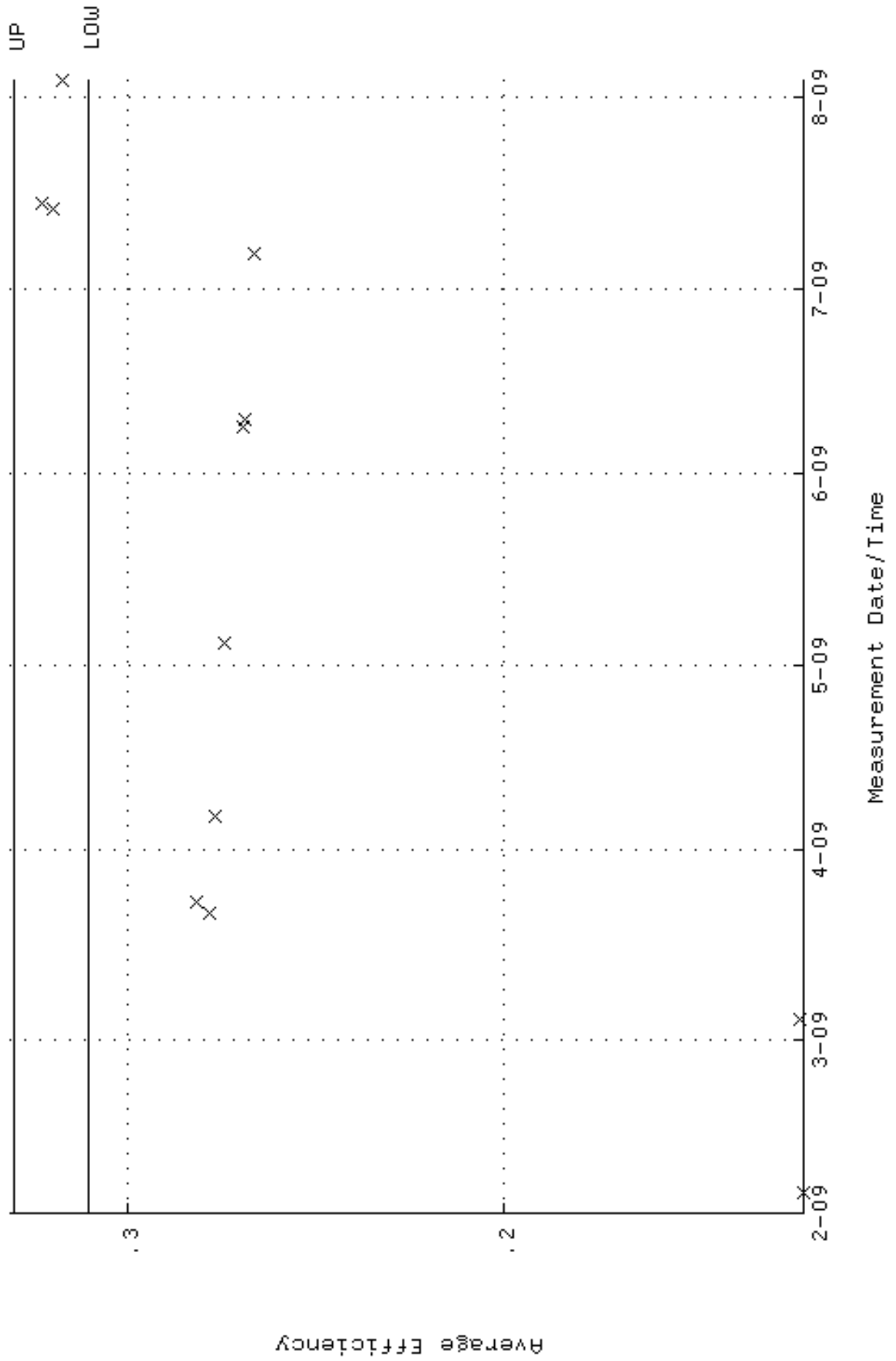
QA filename : DKA100:[ENV_ALPHA.QA.W]W017.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-FEB-2009 07:05:54 through 5-AUG-2009 12:00:00
 Lower/Upper Lmts: 90.6063 through 97.0149



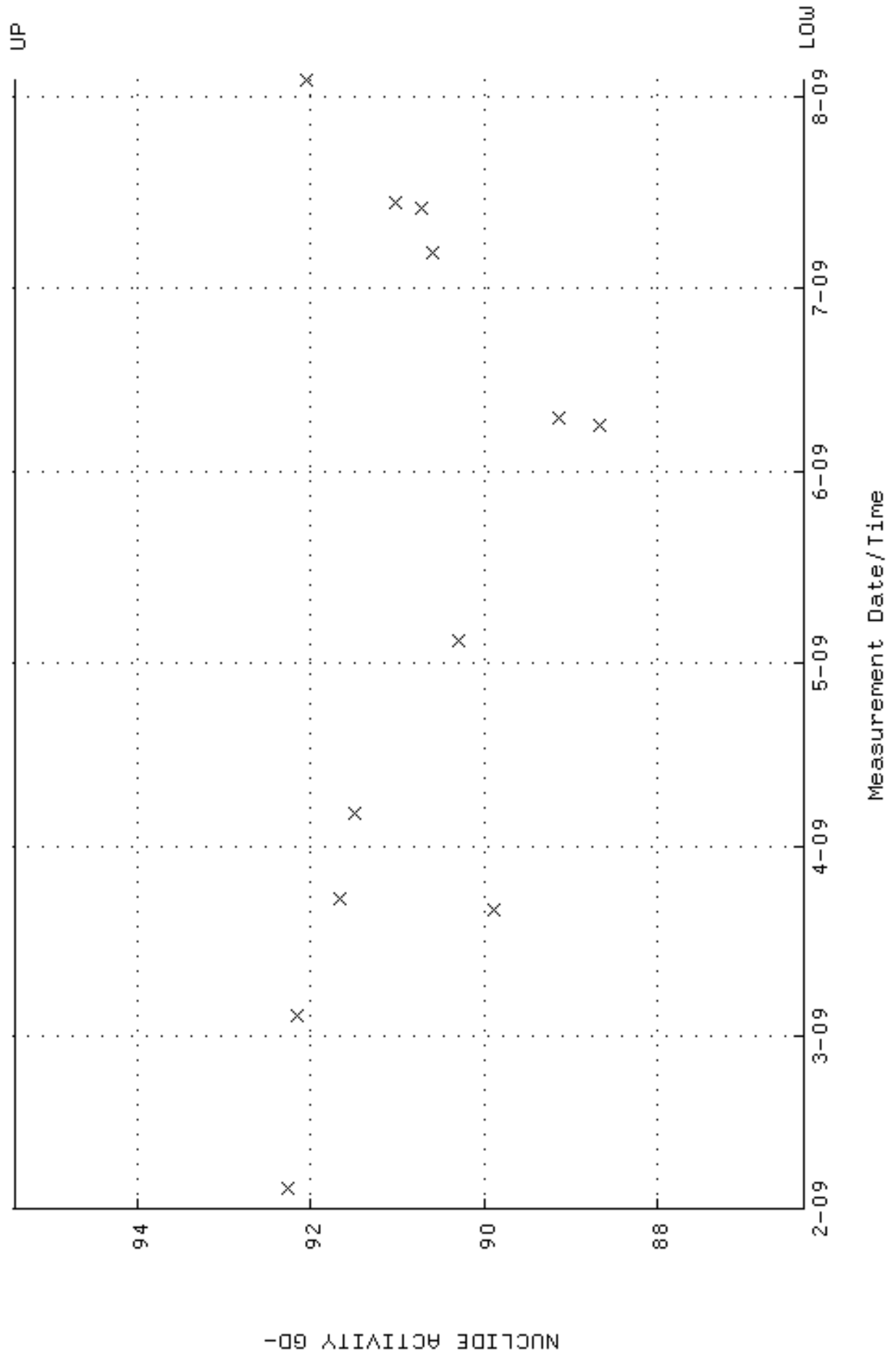
QA filename : DKA100:[ENV_ALPHA.QA.B]B017.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 20:04:48 through 5-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



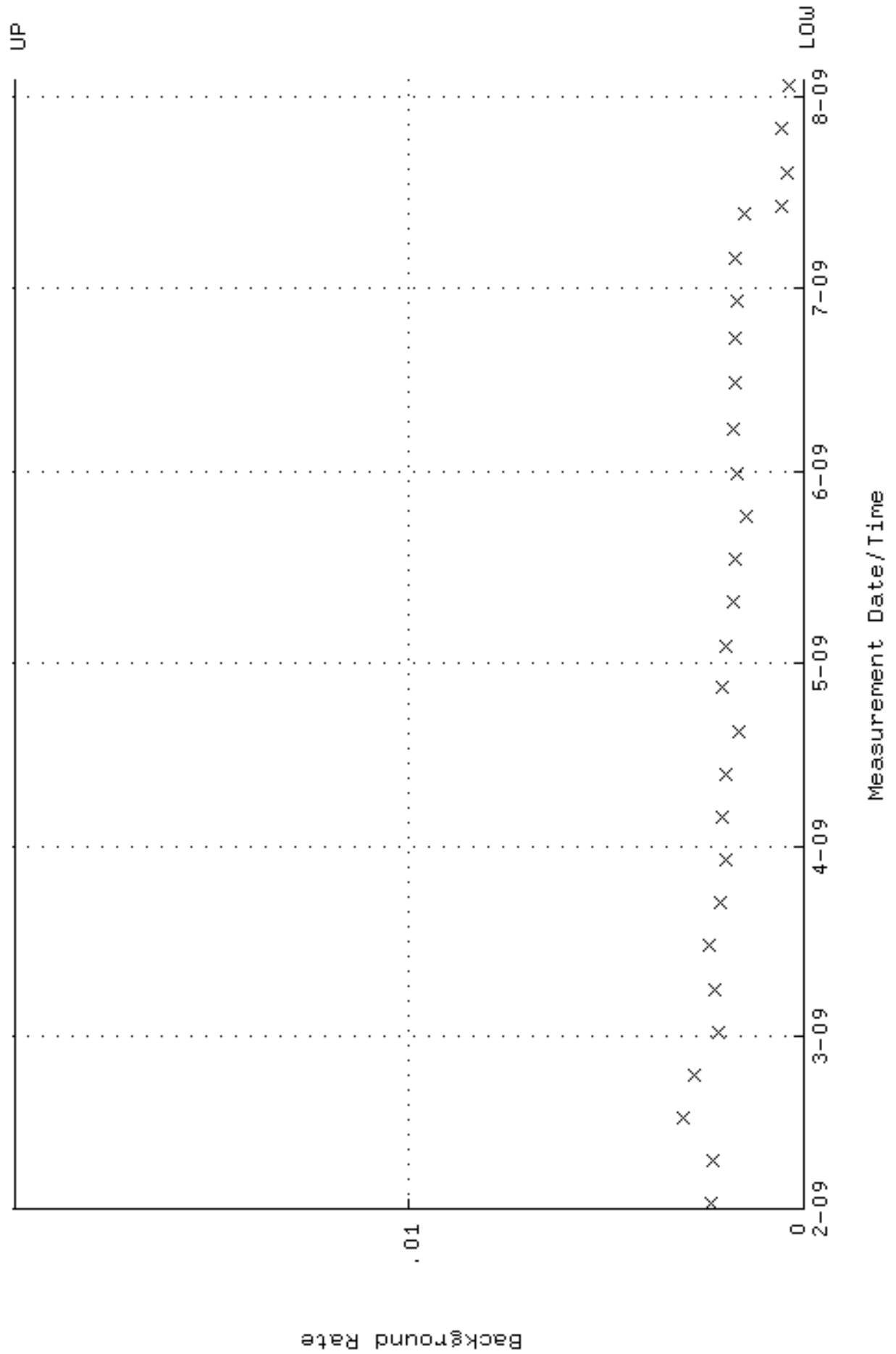
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.310950 through 0.330950



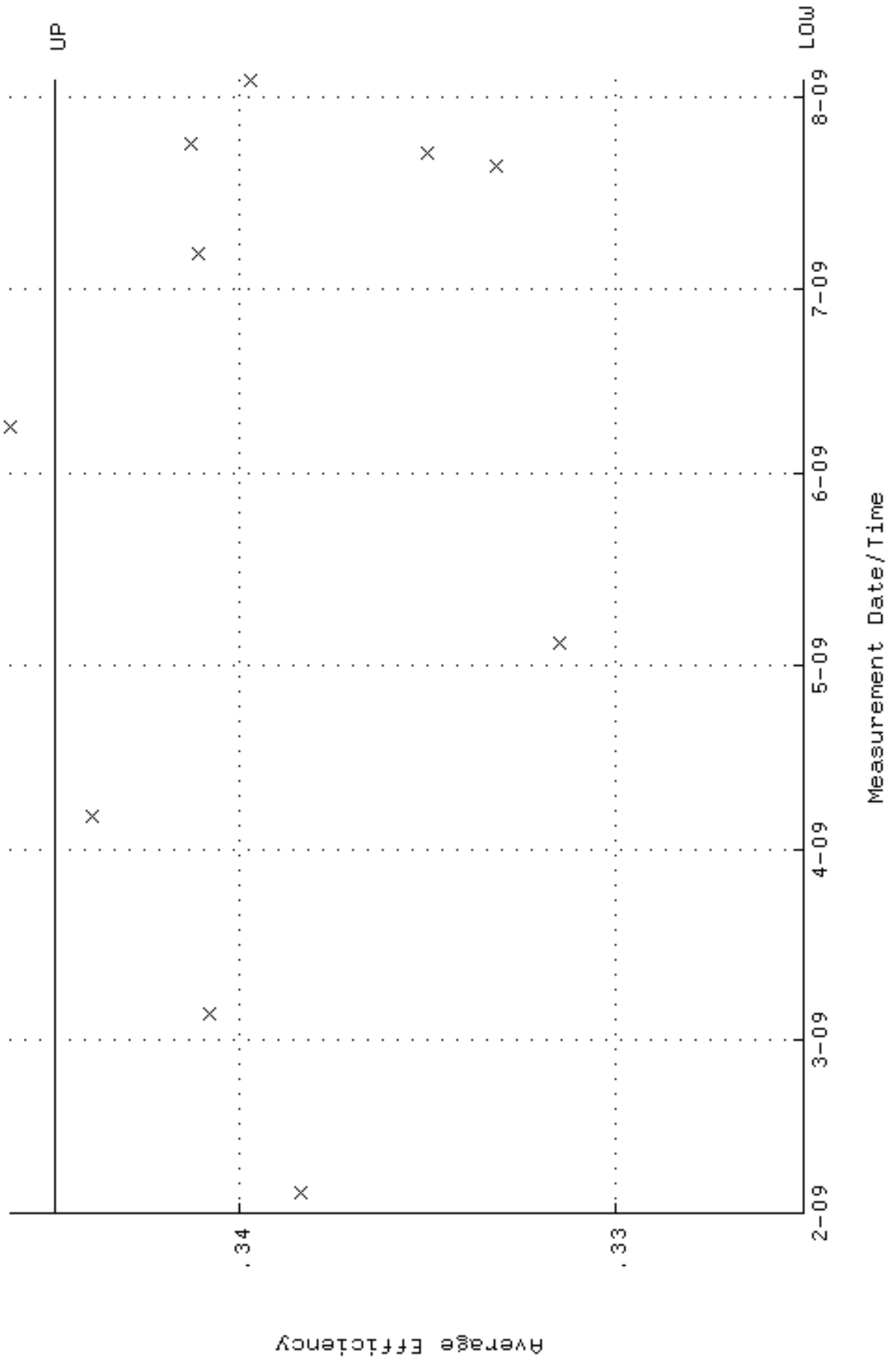
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-FEB-2009 07:05:54 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.3167 through 95.4027



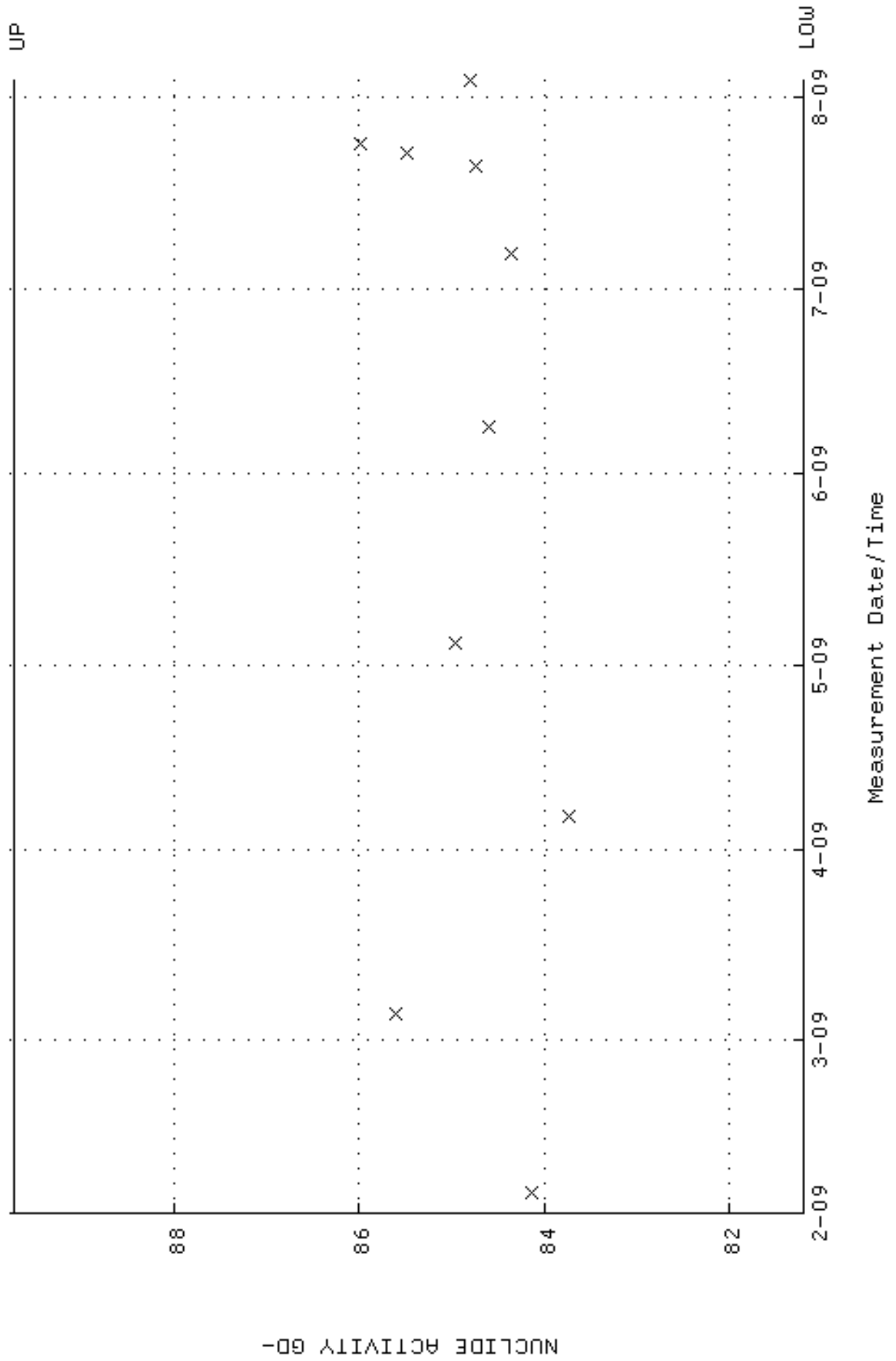
QA filename : DKA100:[ENV_ALPHA.QA.B]B018.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 20:04:48 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



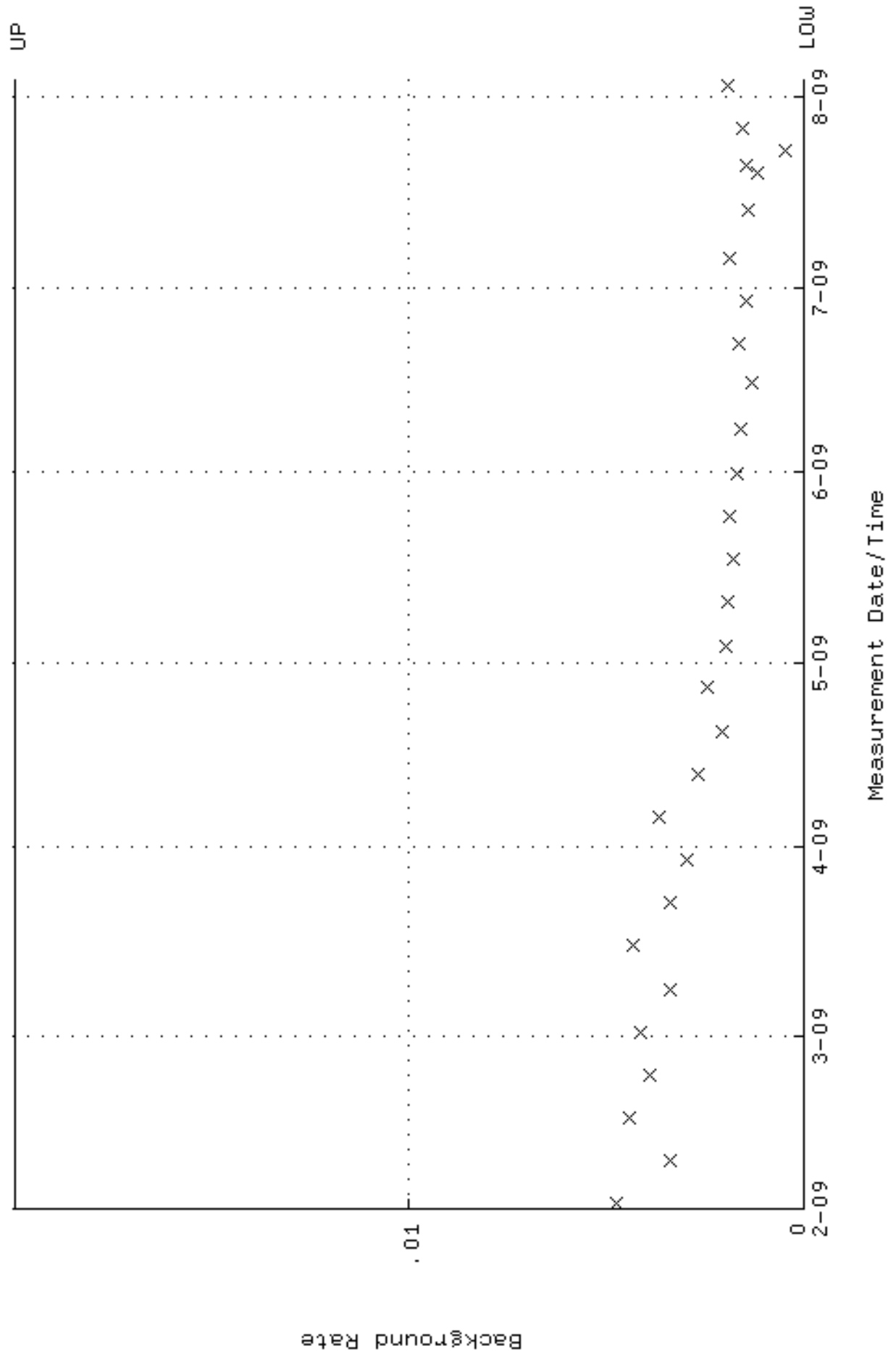
QA filename : DKA100:[ENV_ALPHA.QA.W]W027.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-FEB-2009 07:05:56 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.324980 through 0.344980



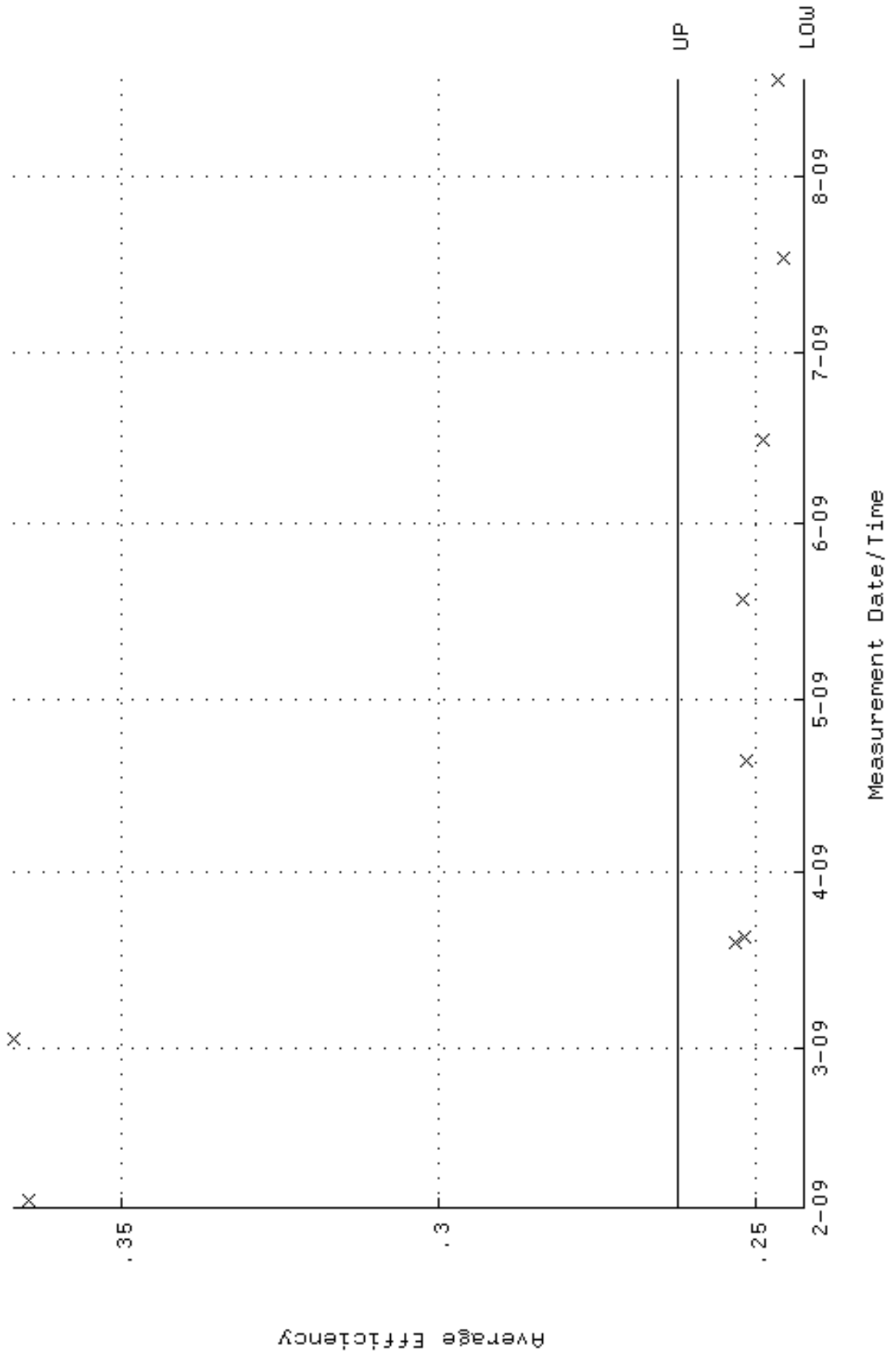
QA filename : DKA100:[ENV_ALPHA.QA.W]W027.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-FEB-2009 07:05:56 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 81.2030 through 89.7506



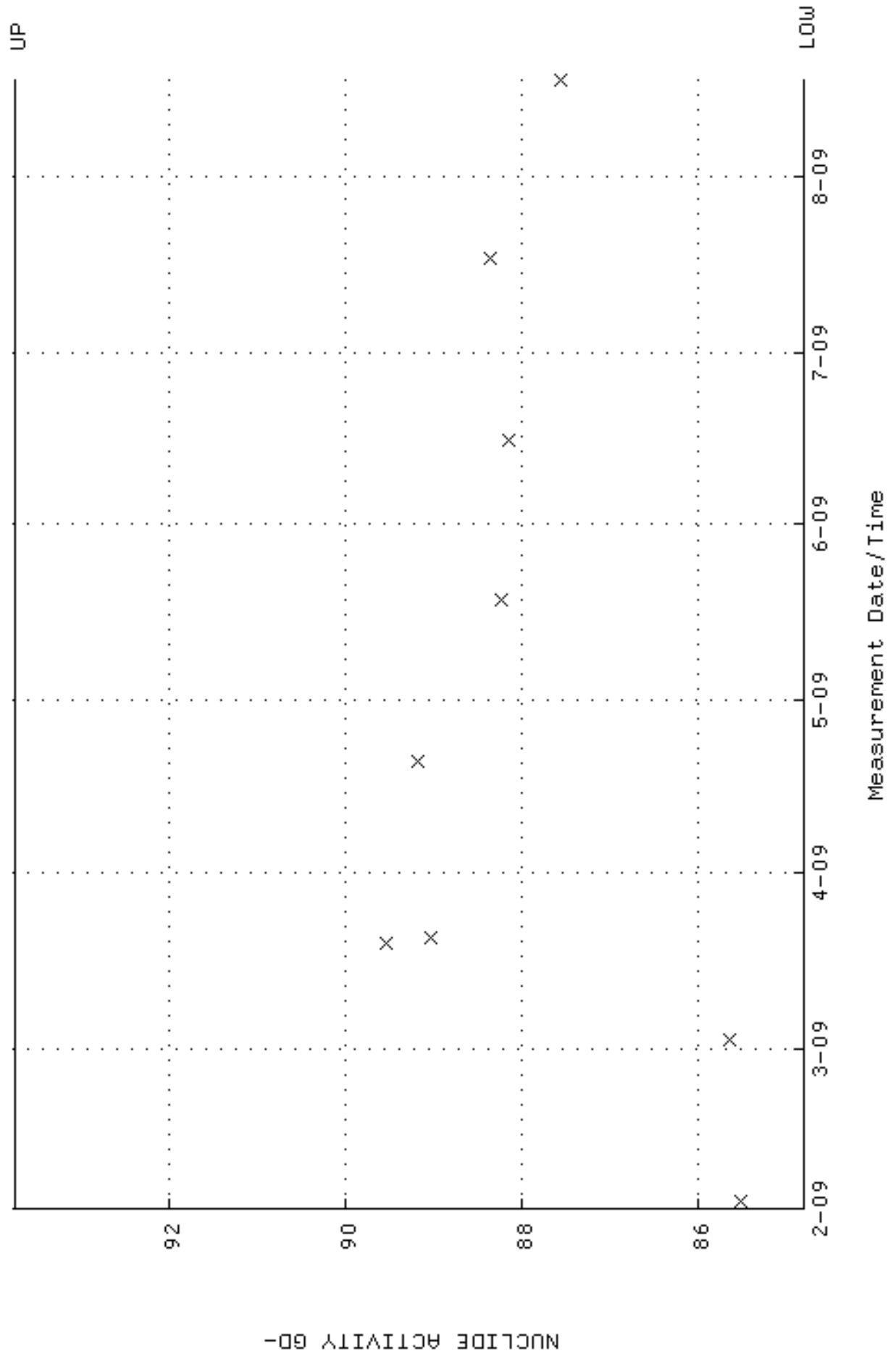
QA filename : DKA100:[ENV_ALPHA.QA.B]B027.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 20:04:55 through 3-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



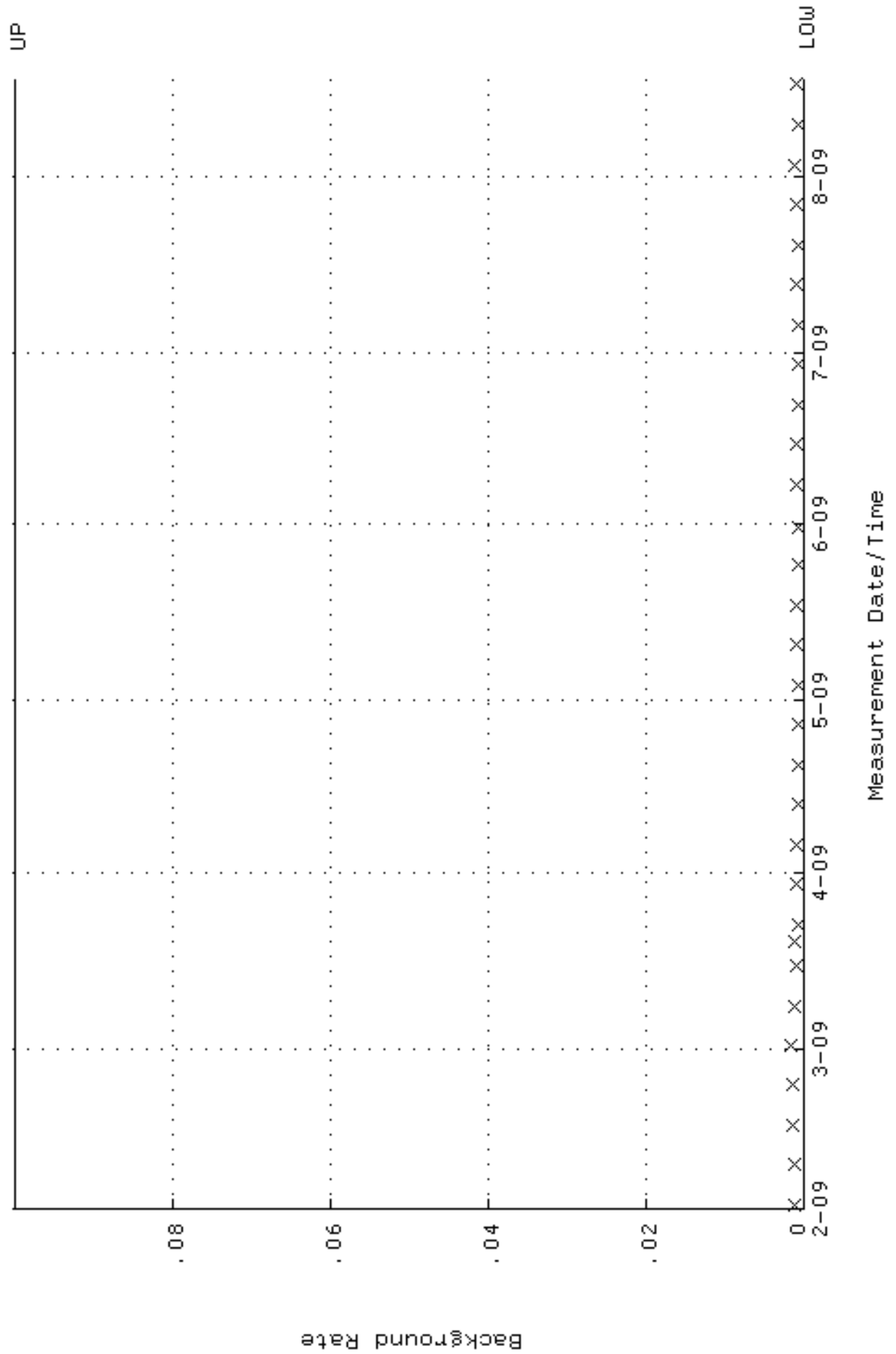
QA filename : DKA100:[ENV_ALPHA.QA.W]W149.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-FEB-2009 10:35:17 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.242495 through 0.262495



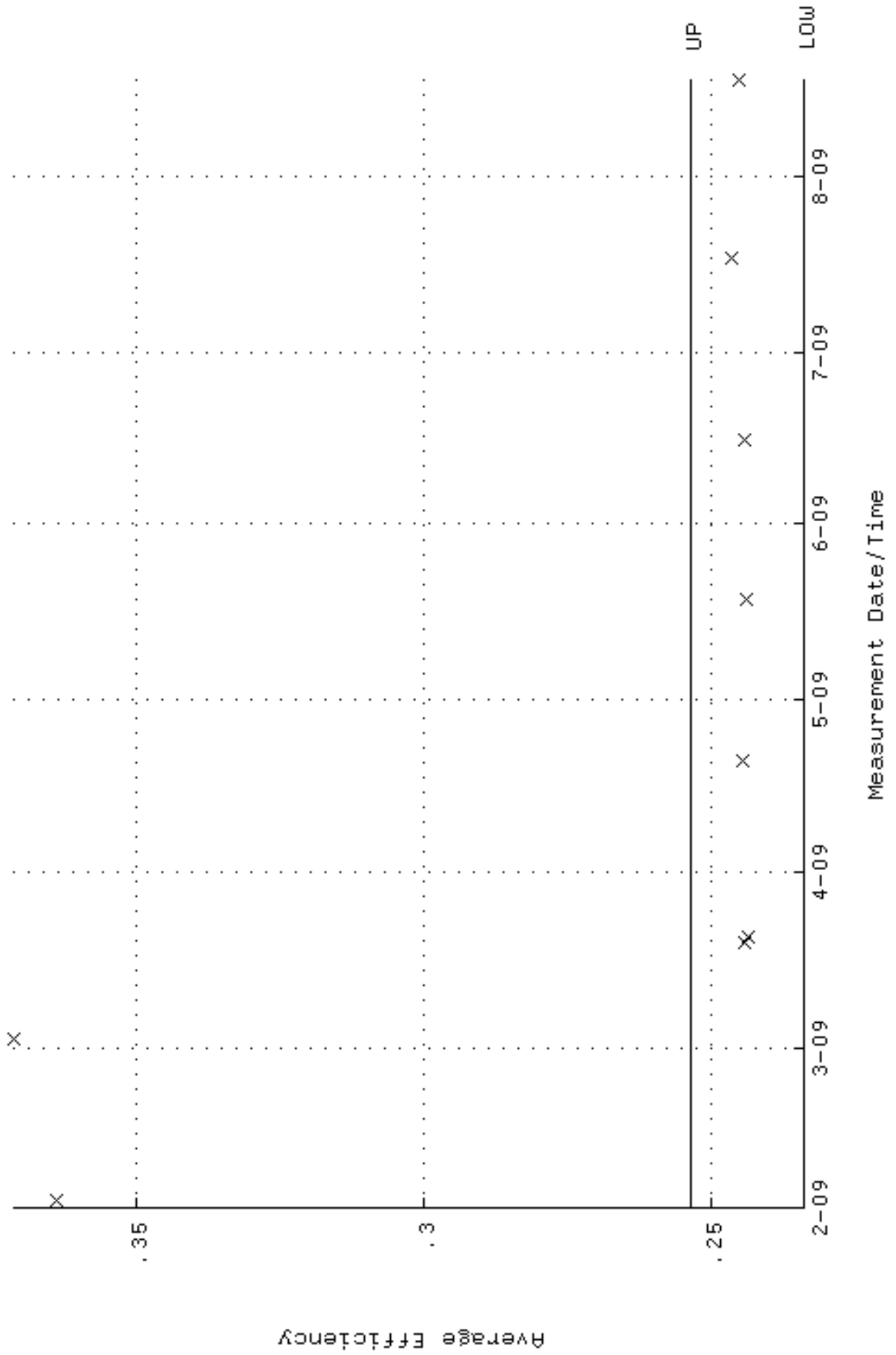
QA filename : DKA100:[ENV_ALPHA.QA.W]W149.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-FEB-2009 10:35:17 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 84.8126 through 93.7402



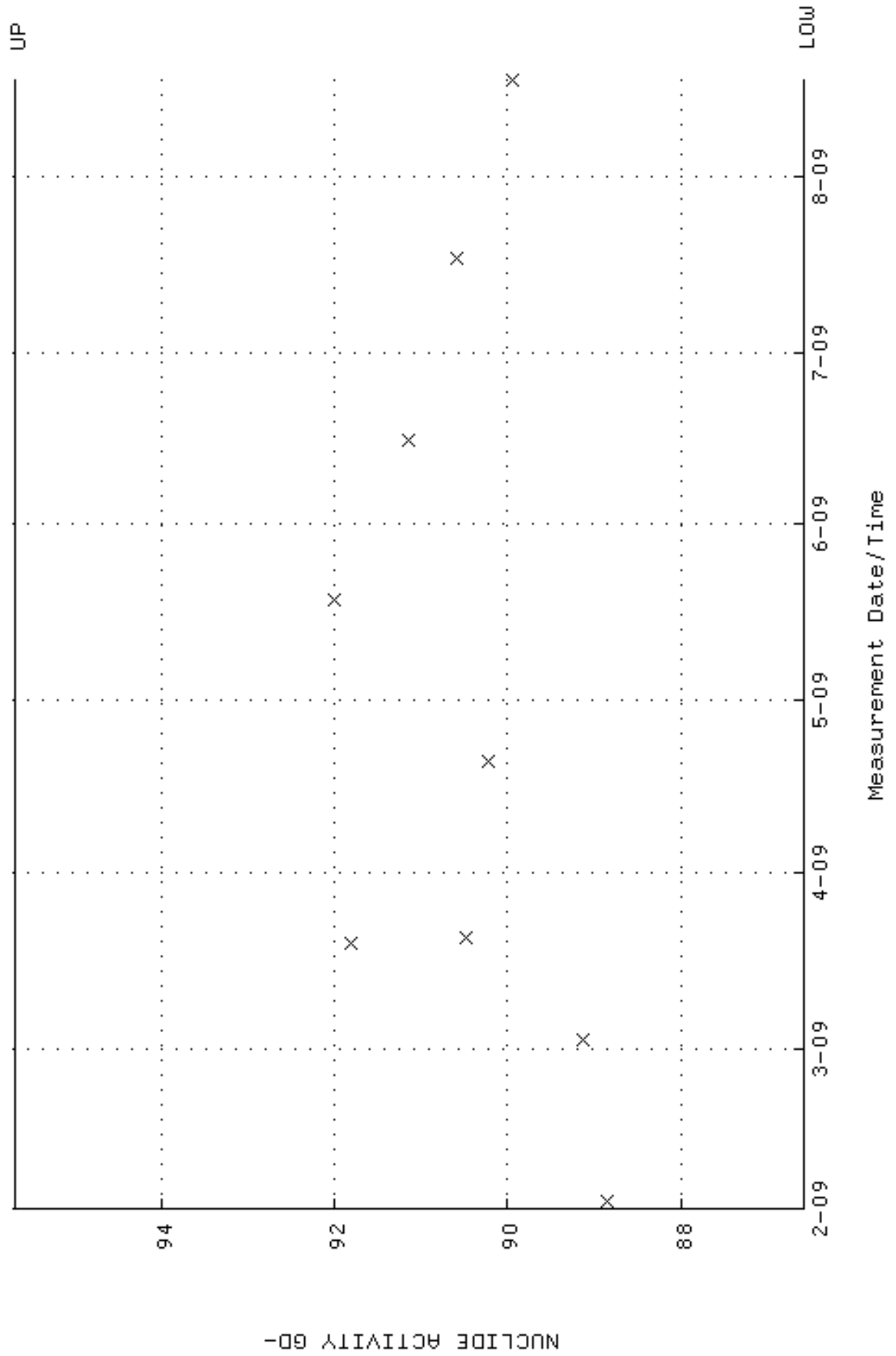
QA filename : DKA100:[ENV_ALPHA.QA.B]B149.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:09:07 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



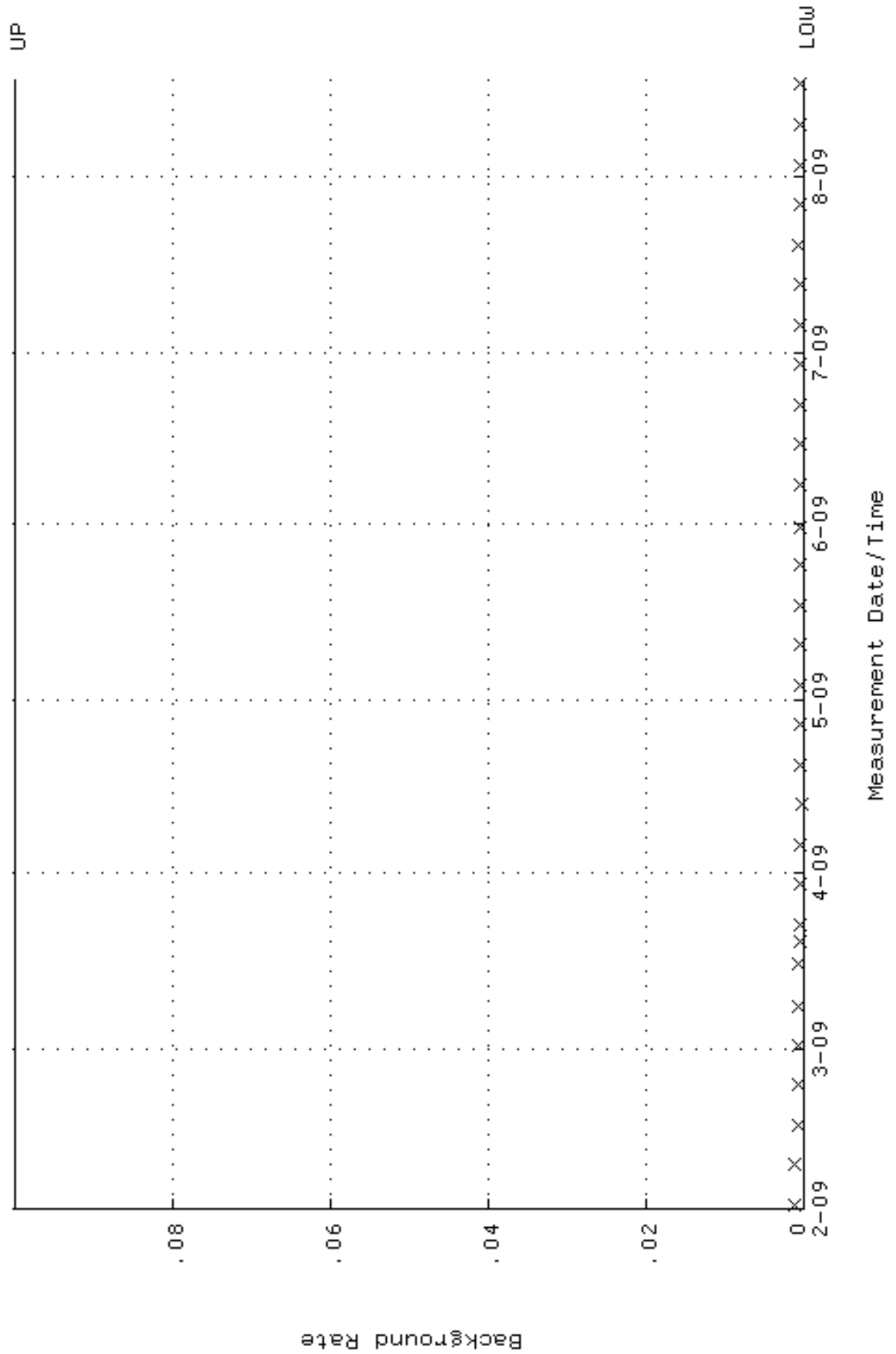
QA filename : DKA100:[ENV_ALPHA.QA.W]W151.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-FEB-2009 10:35:32 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.233693 through 0.253693



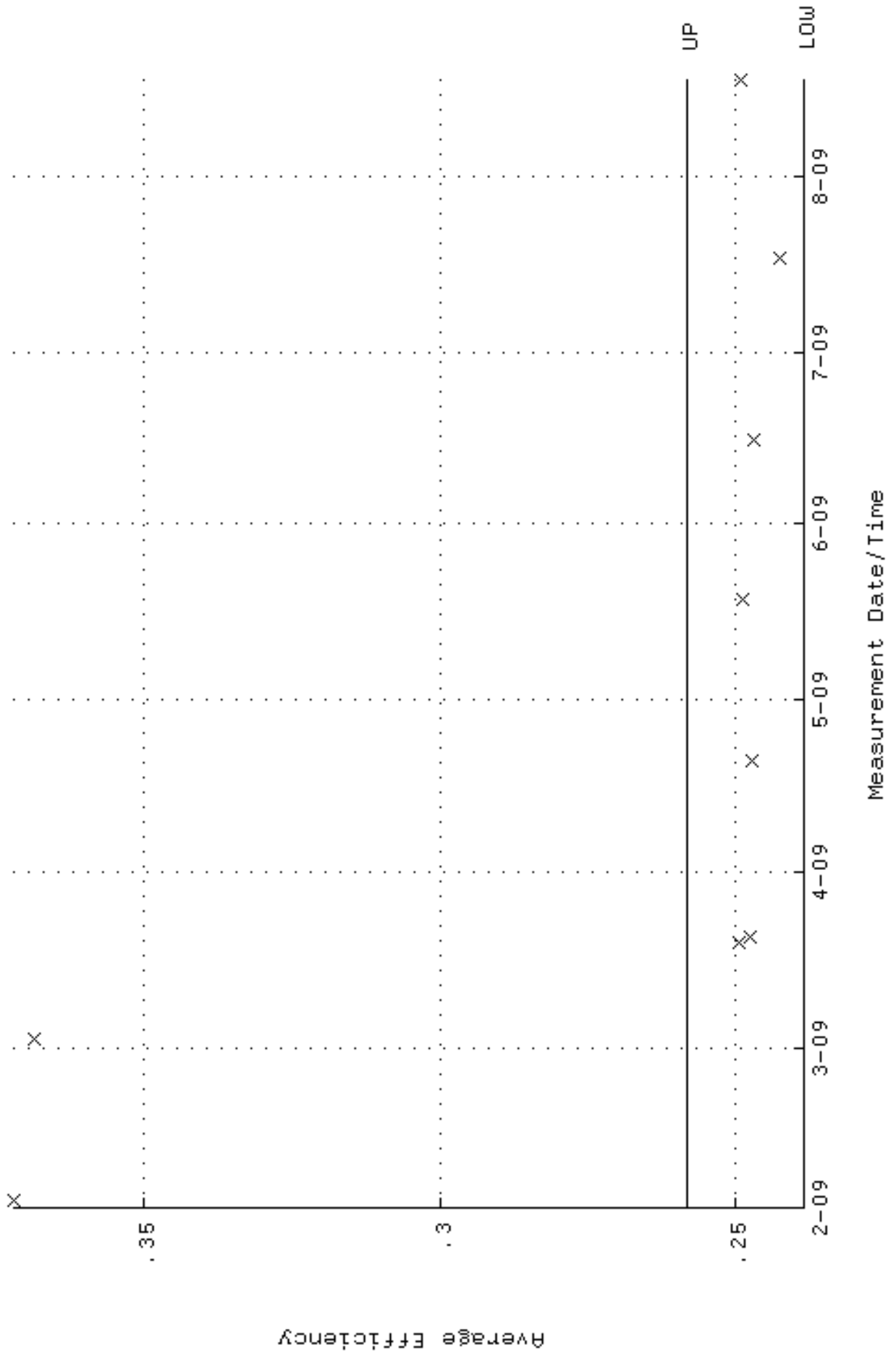
QA filename : DKA100:[ENV_ALPHA.QA.W]w151.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-FEB-2009 10:35:32 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.5749 through 95.6881



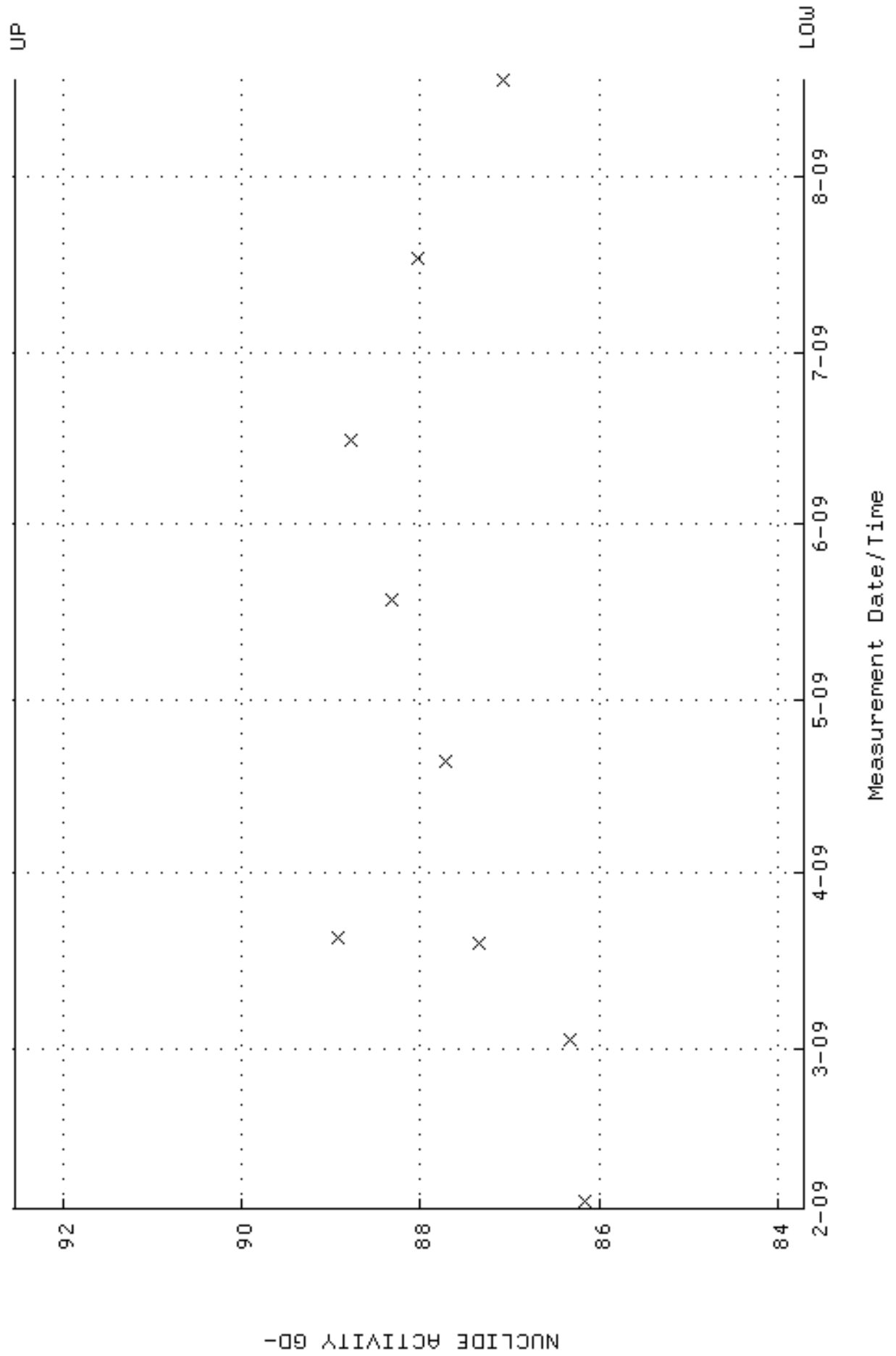
QA filename : DKA100:[ENV_ALPHA.QA.B]B151.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:09:32 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



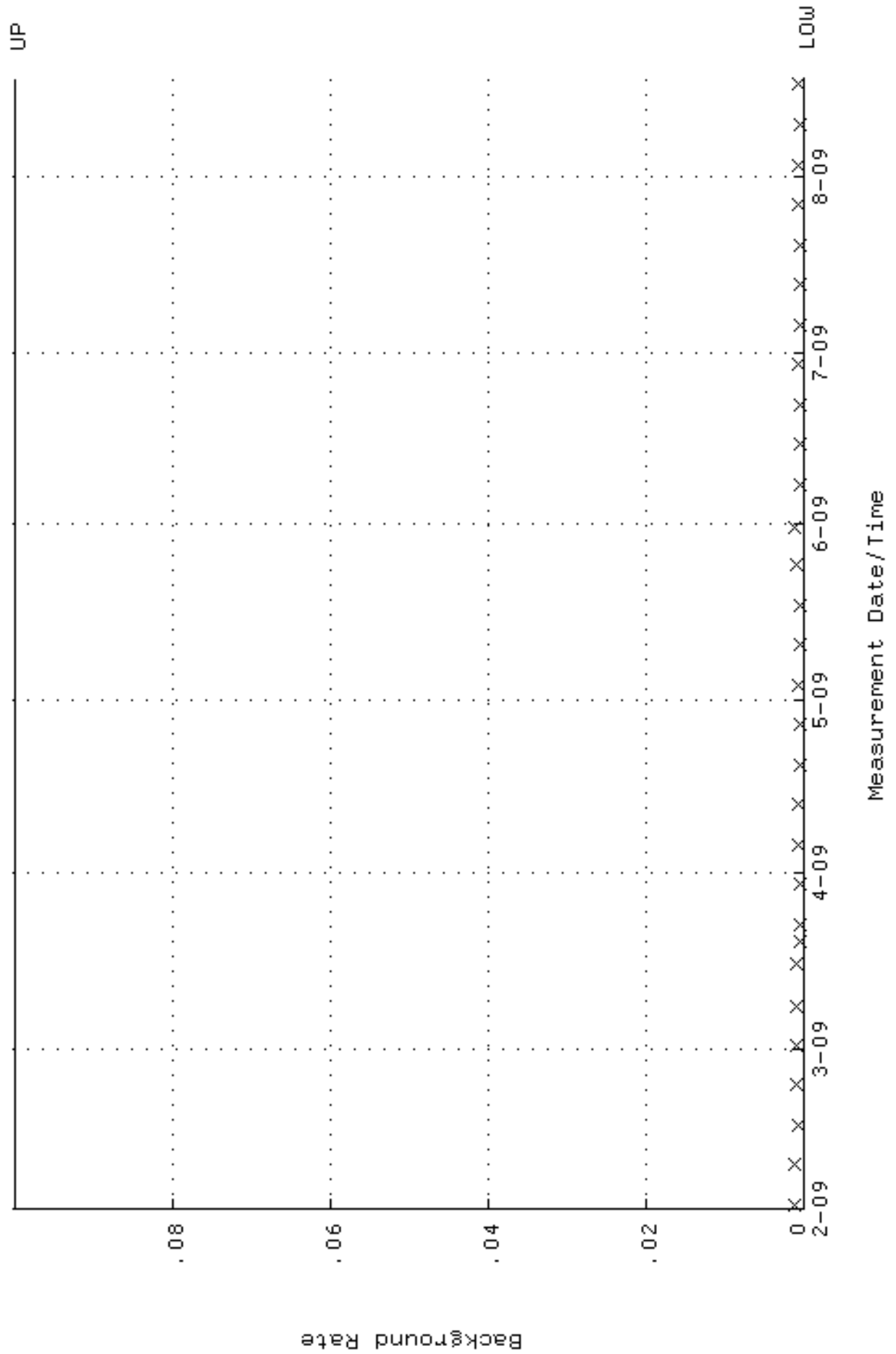
QA filename : DKA100:[ENV_ALPHA.QA.W]W152.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-FEB-2009 10:35:38 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.238479 through 0.258479



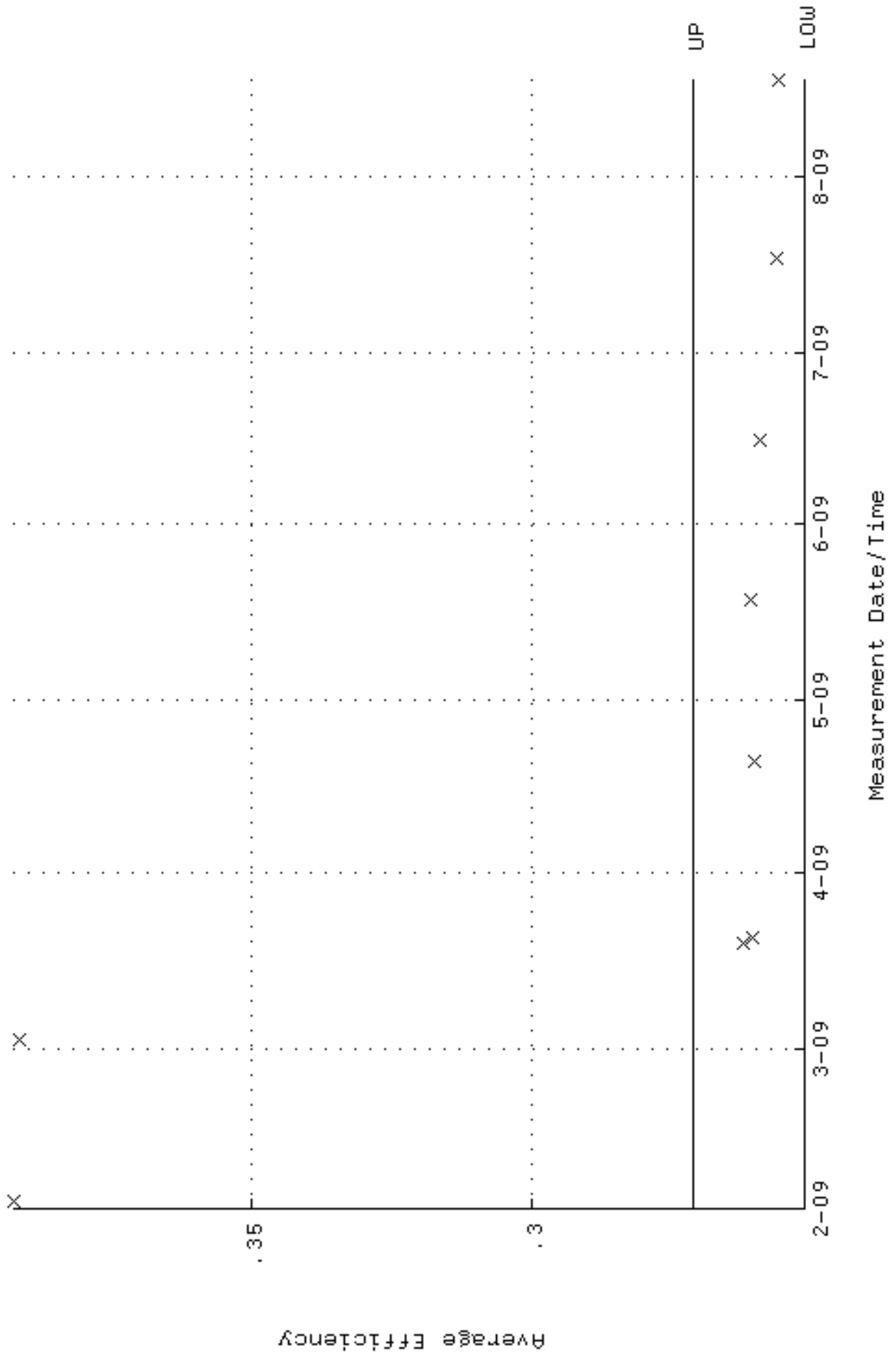
QA filename : DKA100:[ENV_ALPHA.QA.W]W152.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-FEB-2009 10:35:38 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 83.7180 through 92.5304



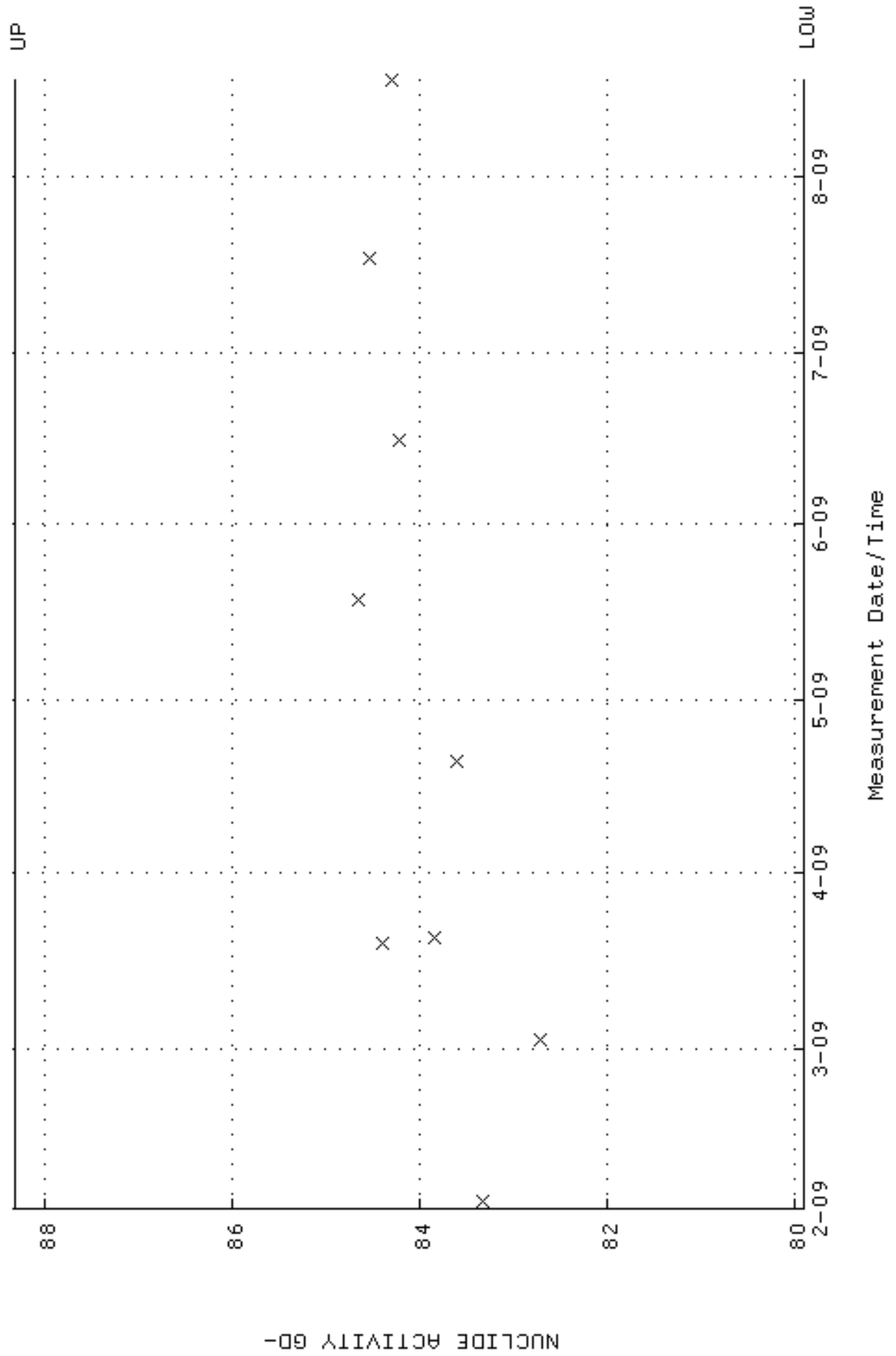
QA filename : DKA100:[ENV_ALPHA.QA.B]B152.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:09:52 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



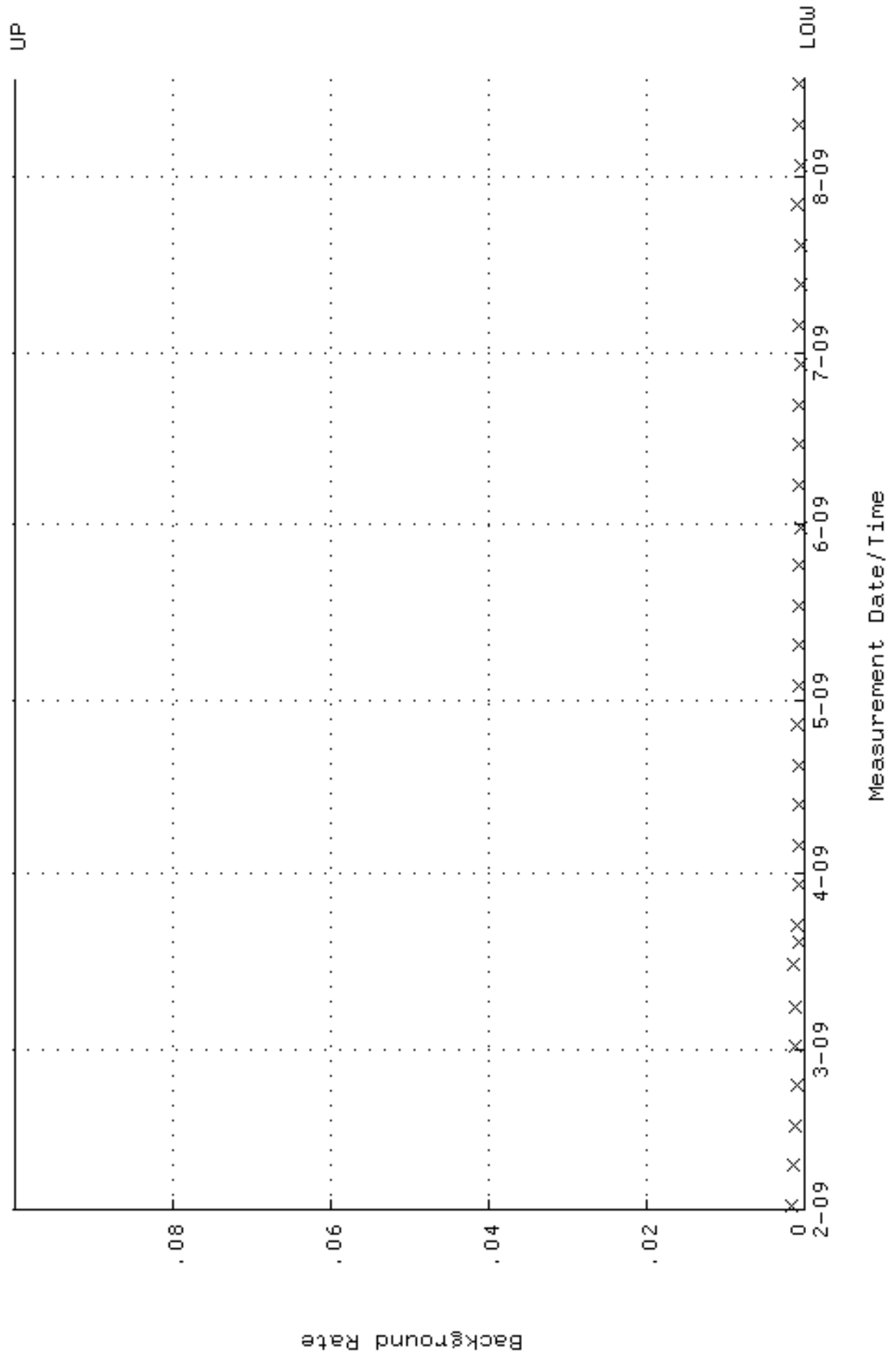
QA filename : DKA100:[ENV_ALPHA.QA.W]W154.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-FEB-2009 10:35:49 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.251386 through 0.271386



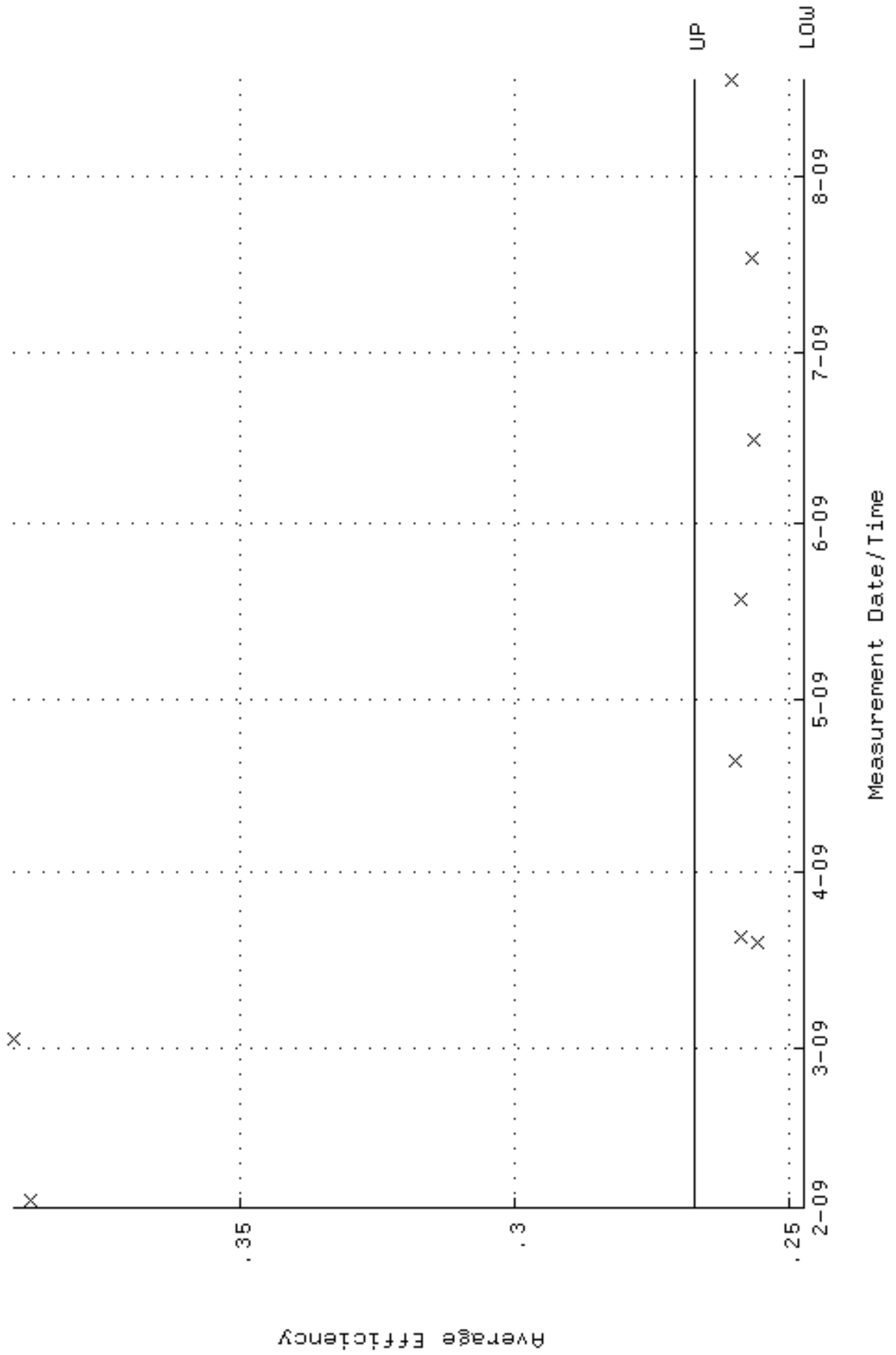
QA filename : DKA100:[ENV_ALPHA.QA.W]w154.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-FEB-2009 10:35:49 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 79.9003 through 88.3109



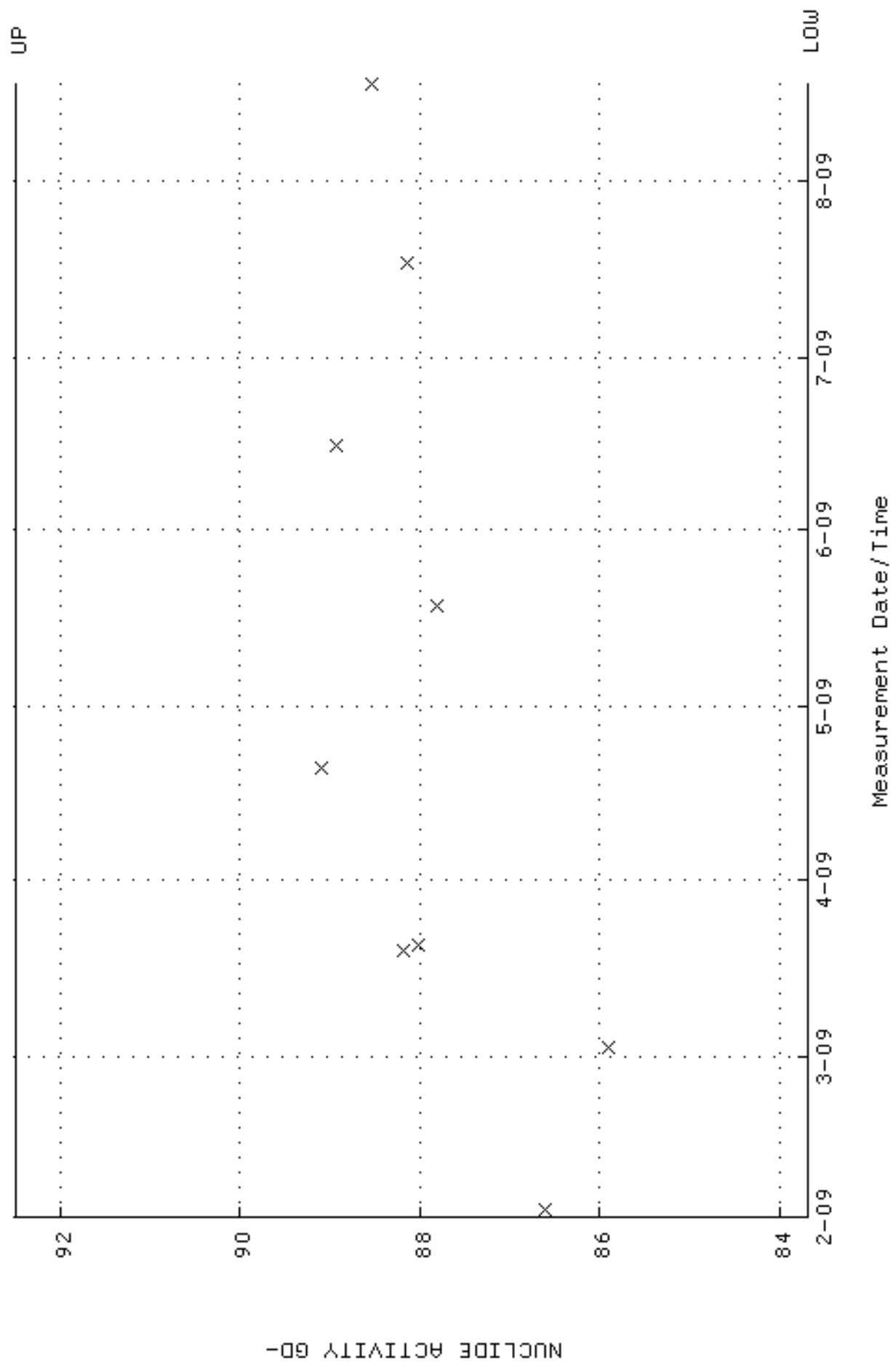
QA filename : DKA100:[ENV_ALPHA.QA.B]B154.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:10:23 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



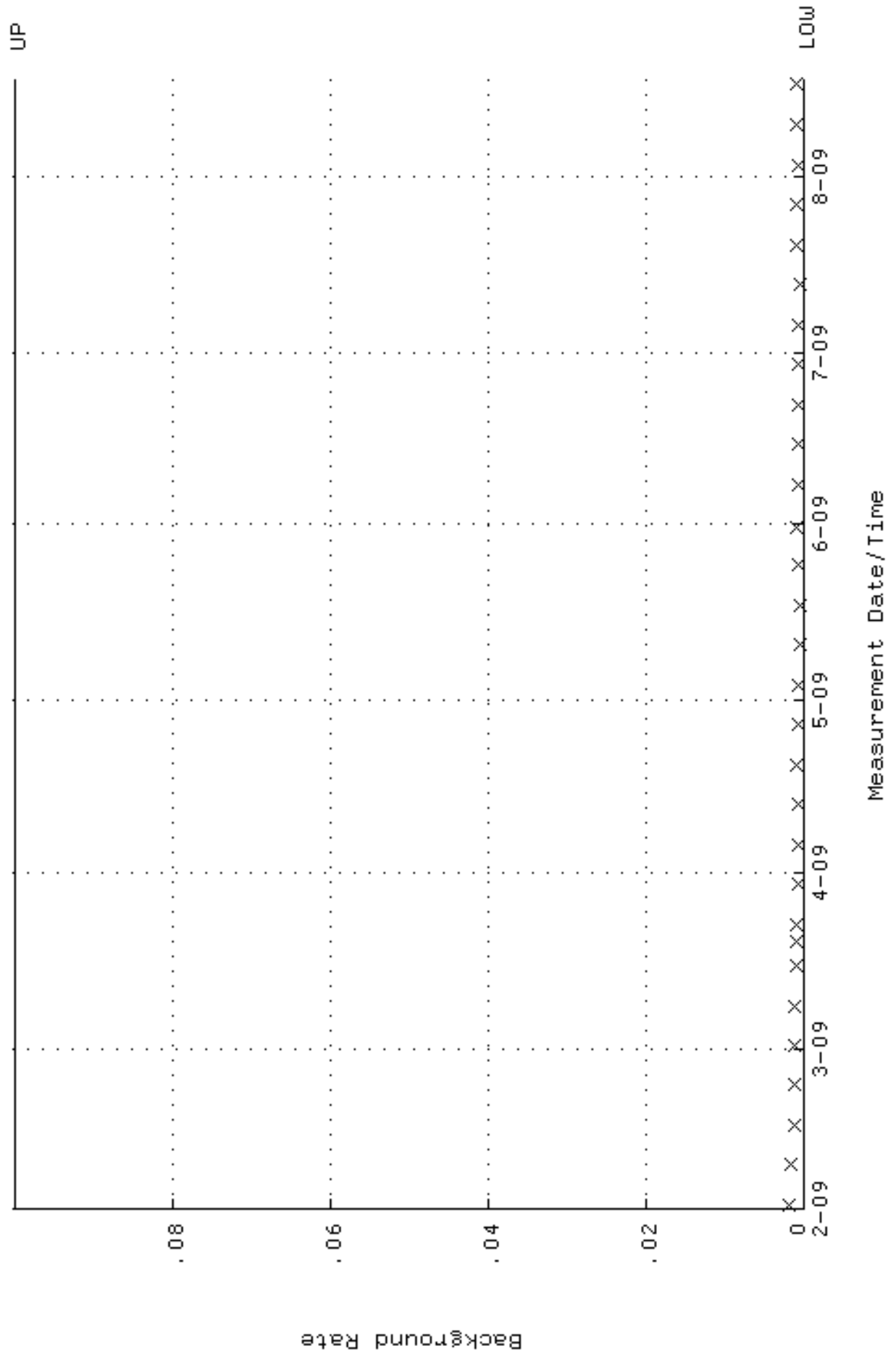
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-FEB-2009 10:35:54 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.247241 through 0.267241



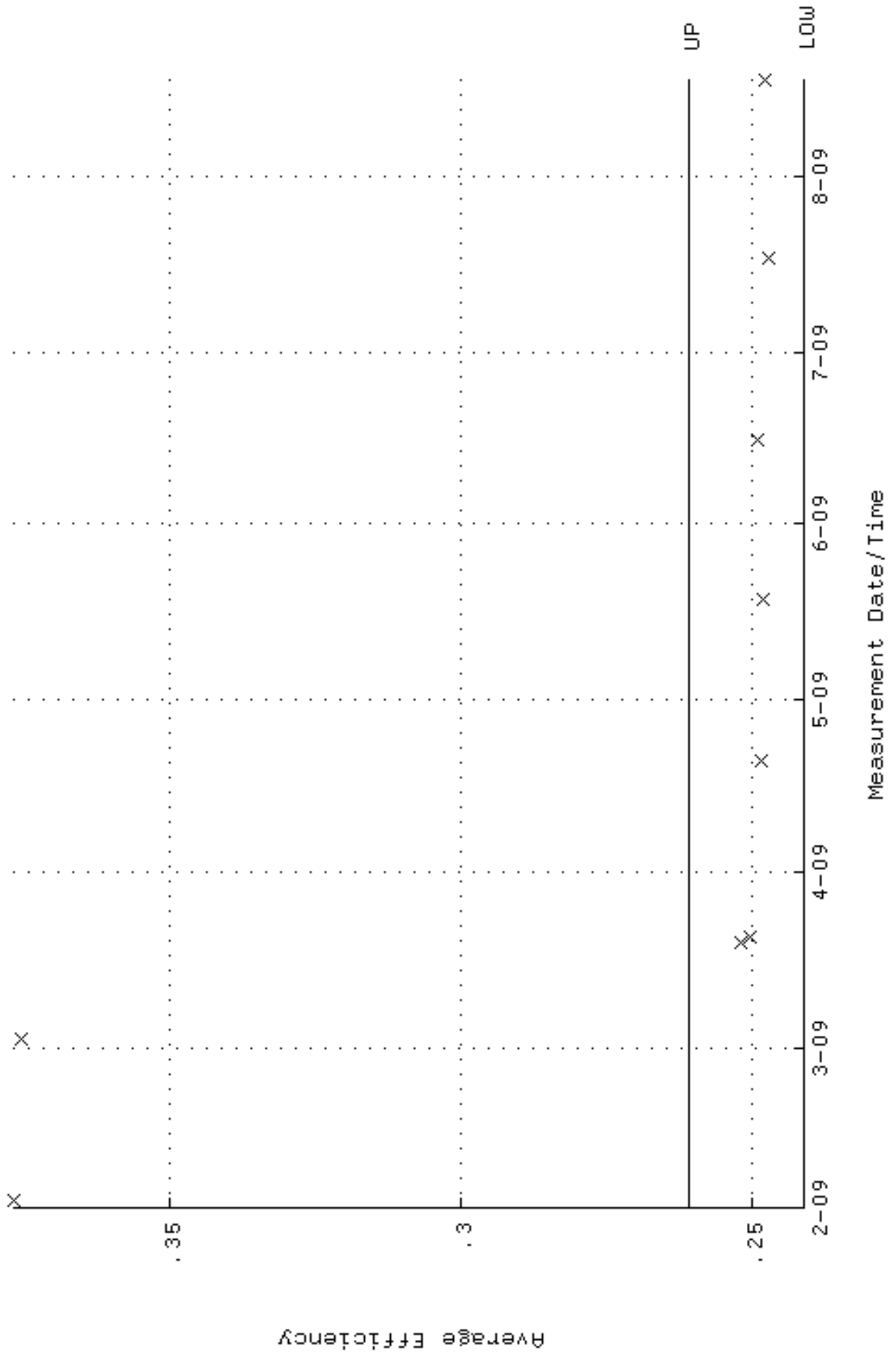
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-FEB-2009 10:35:54 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 83.6873 through 92.4965



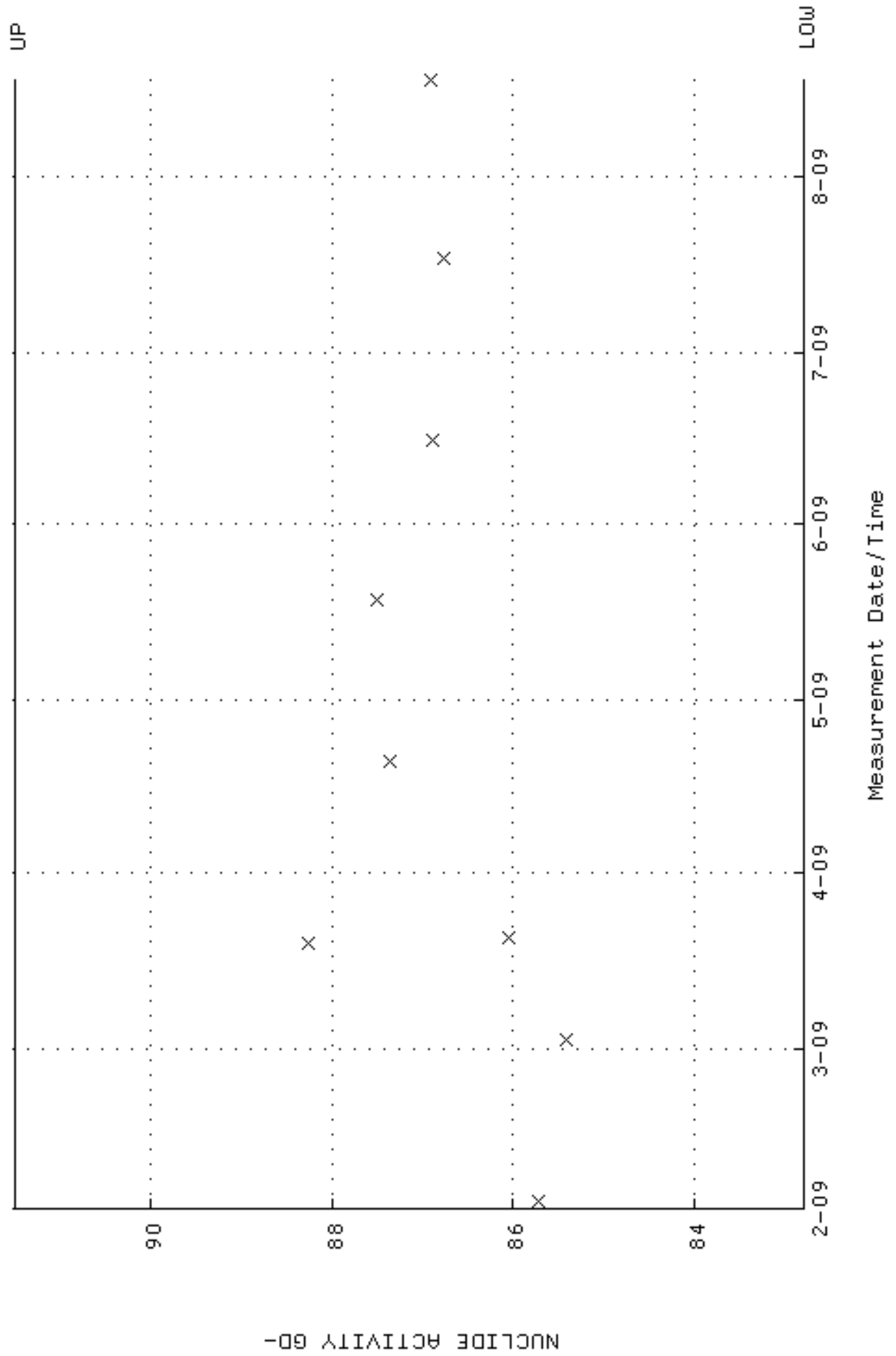
QA filename : DKA100:[ENV_ALPHA.QA.B]B155.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:10:33 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



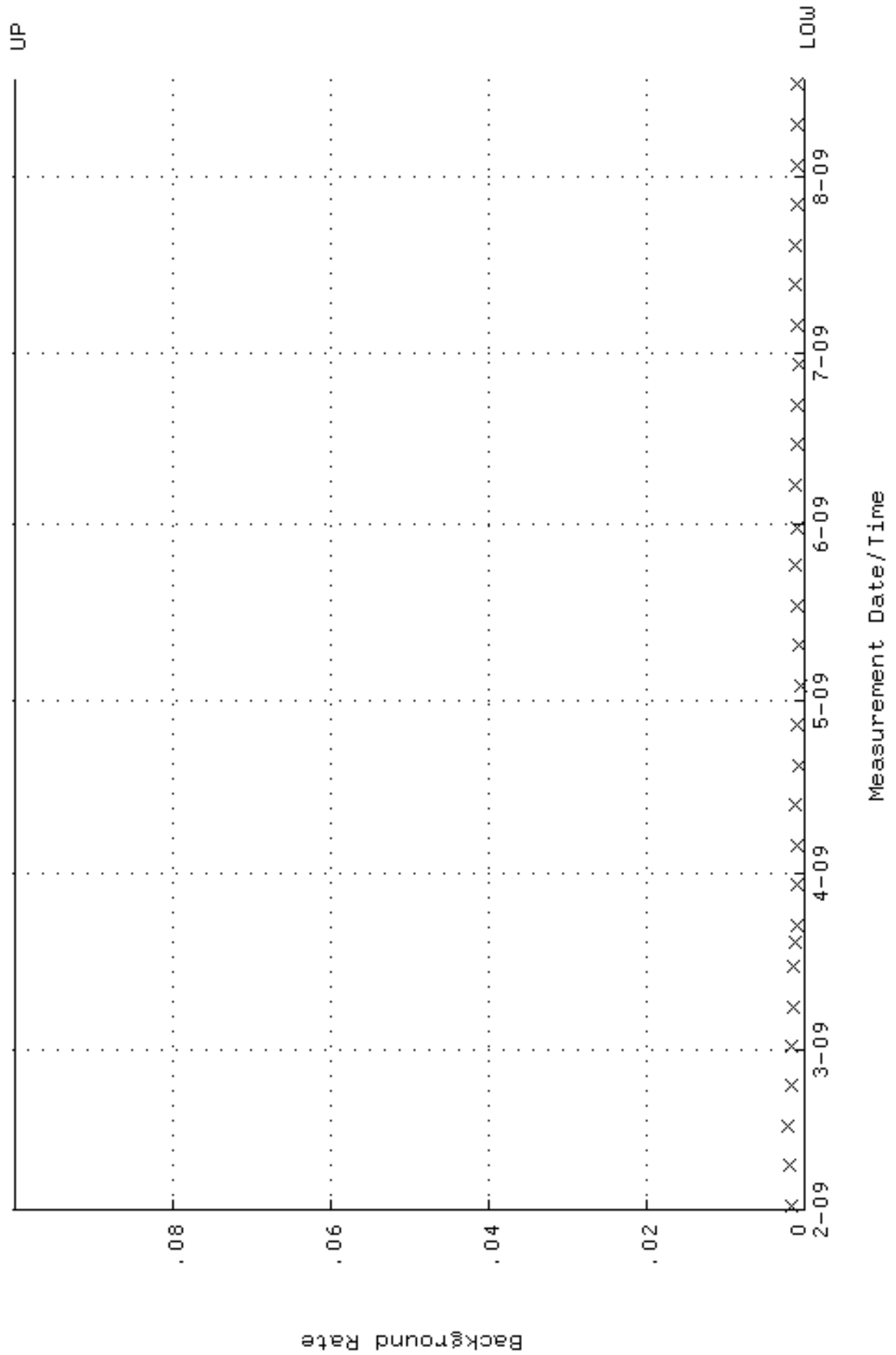
QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-FEB-2009 10:36:02 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.241250 through 0.261250



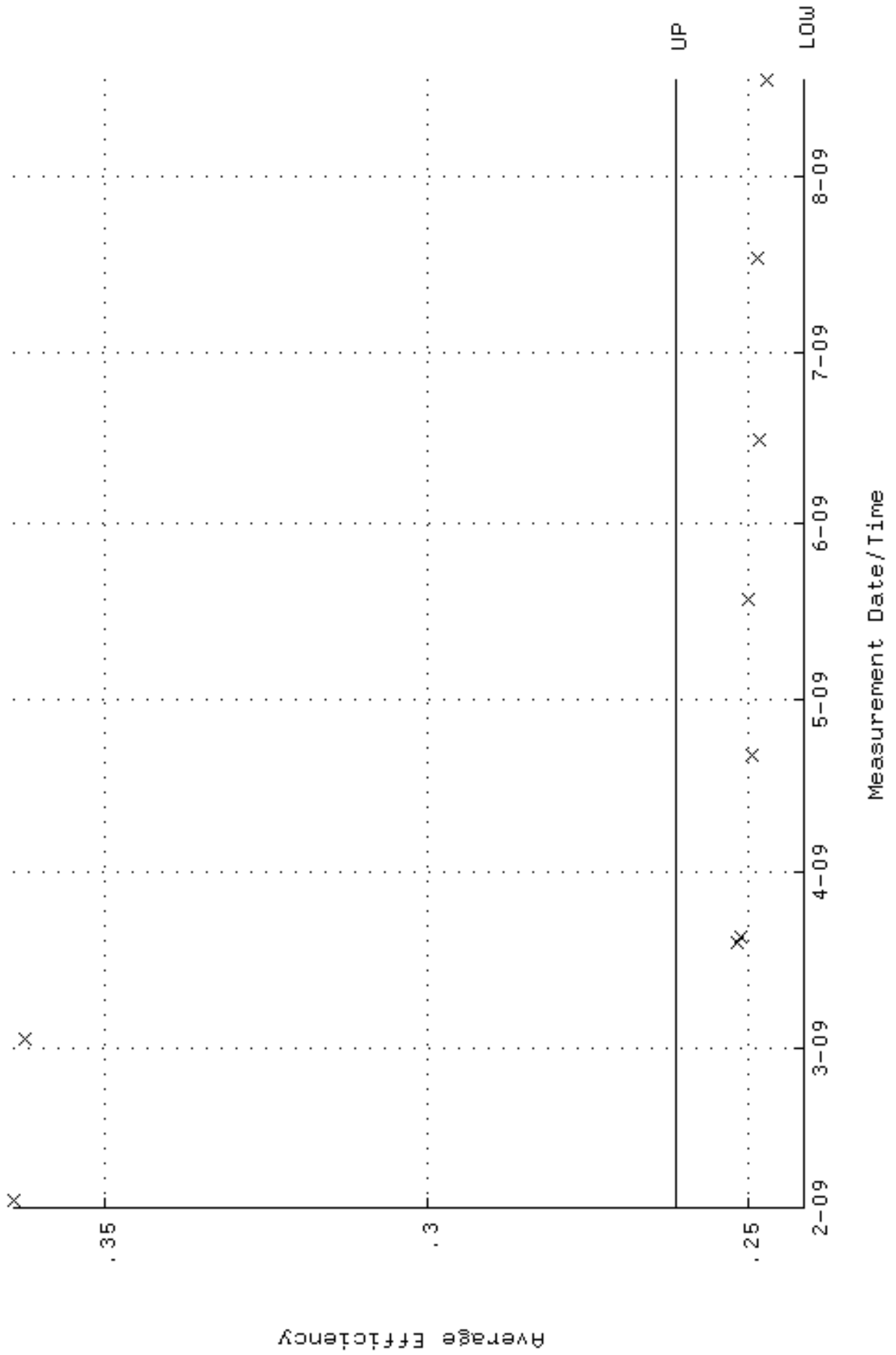
QA filename : DKA100:[ENV_ALPHA.QA.W]w156.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-FEB-2009 10:36:02 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 82.7847 through 91.4989



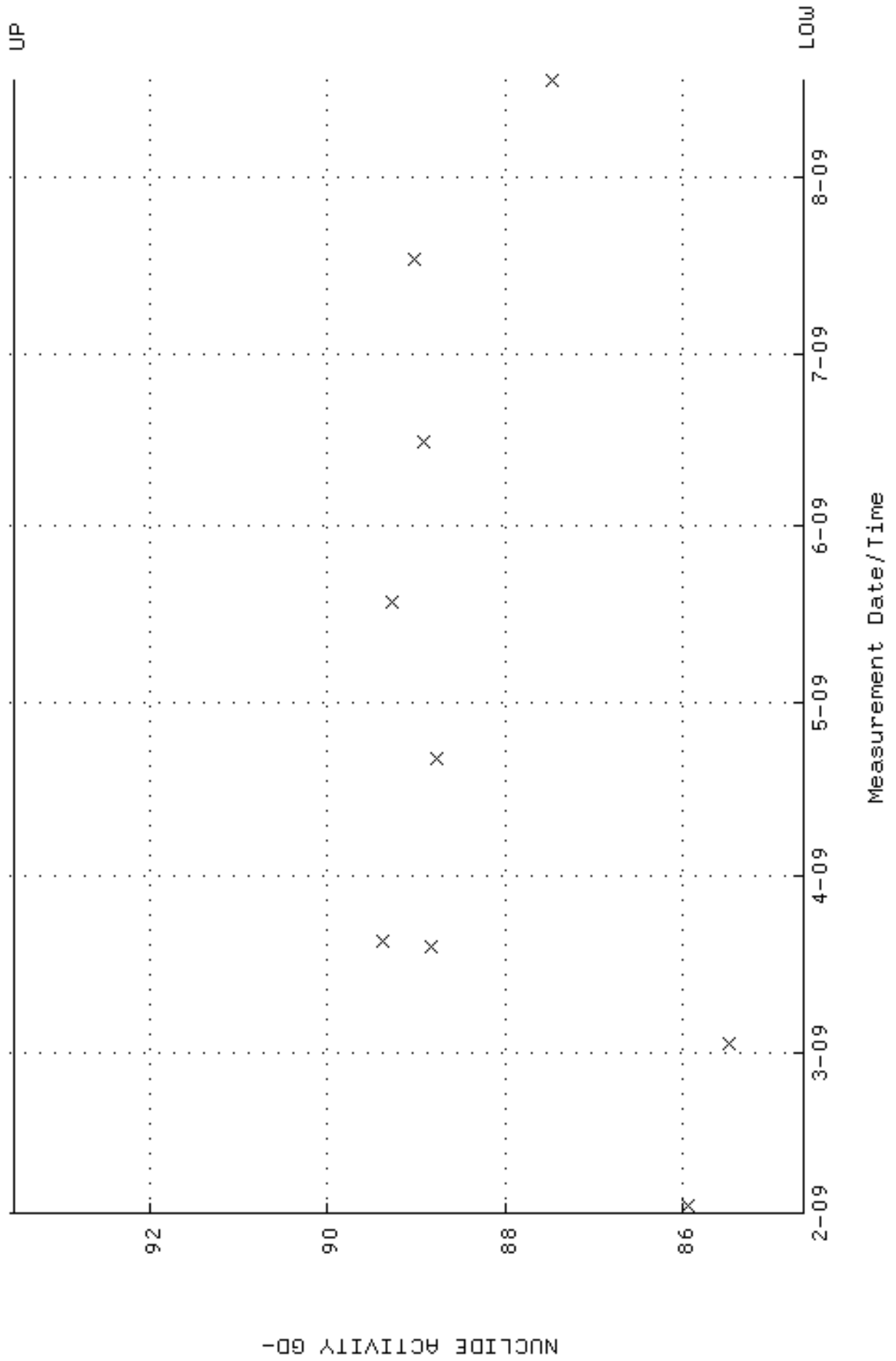
QA filename : DKA100:[ENV_ALPHA.QA.B]B156.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:10:49 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



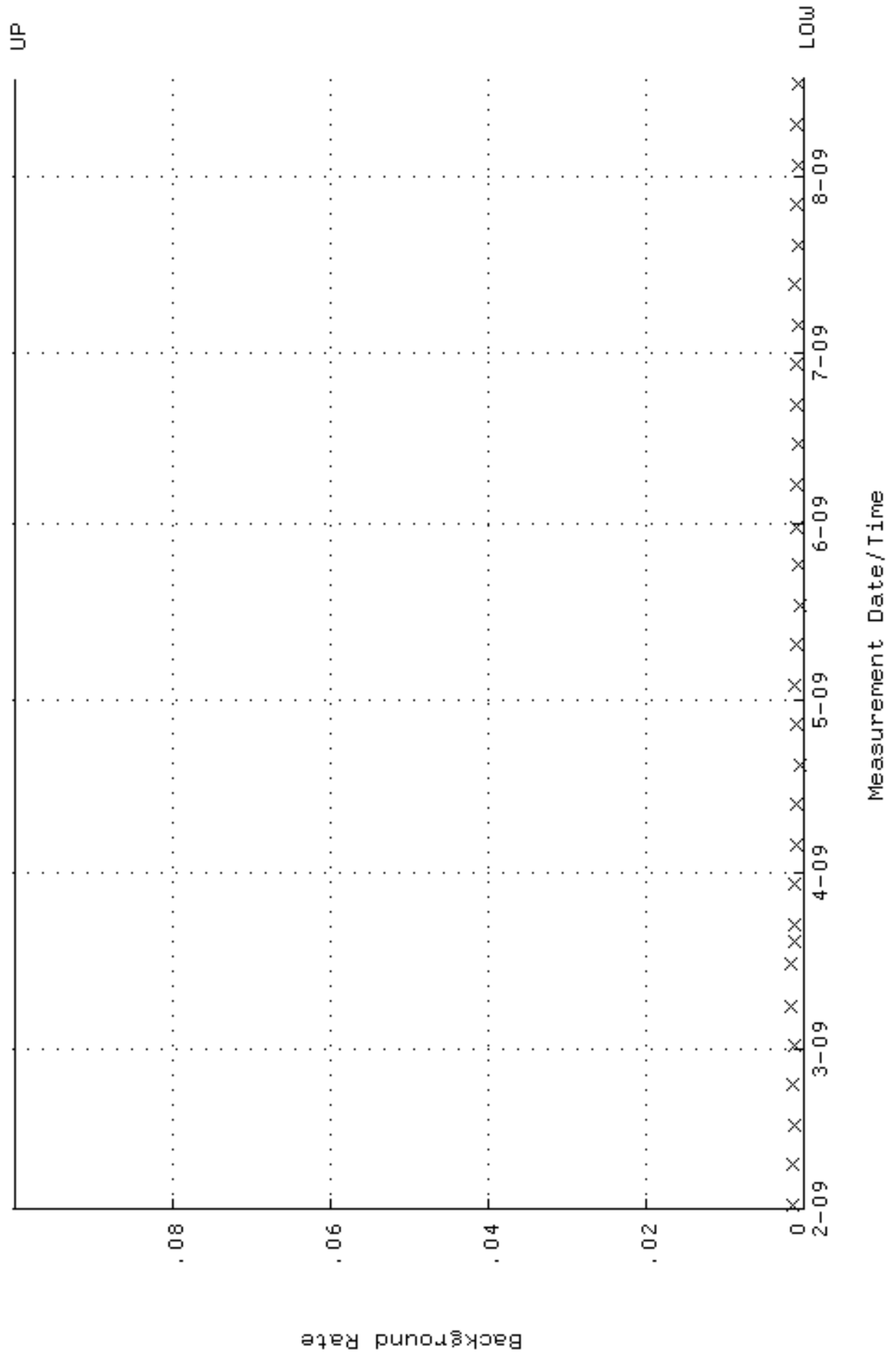
QA filename : DKA100:[ENV_ALPHA.QA.W]W158.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-FEB-2009 10:36:14 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.241466 through 0.261466



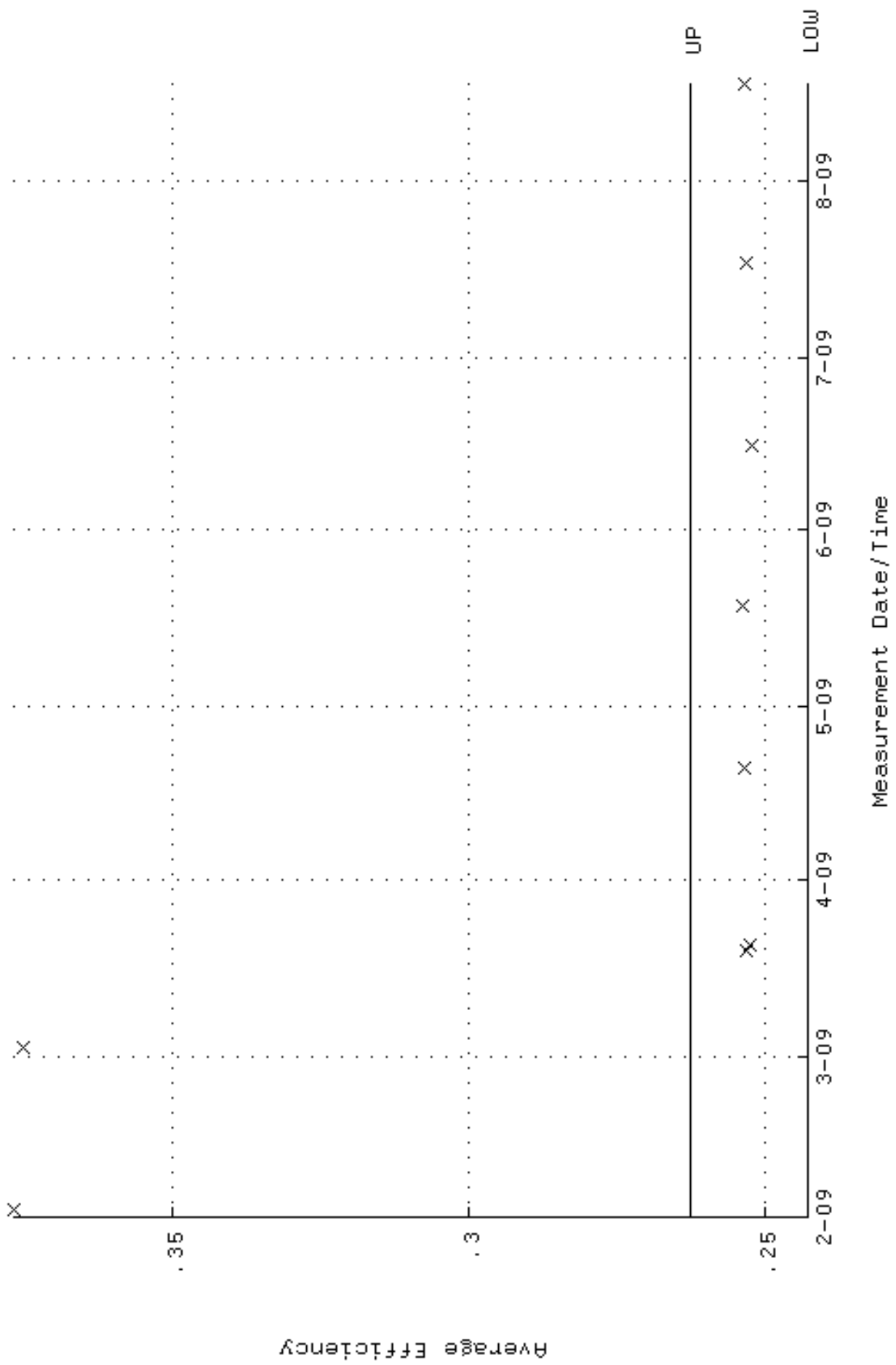
QA filename : DKA100:[ENV_ALPHA.QA.W]w158.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-FEB-2009 10:36:14 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 84.6414 through 93.5510



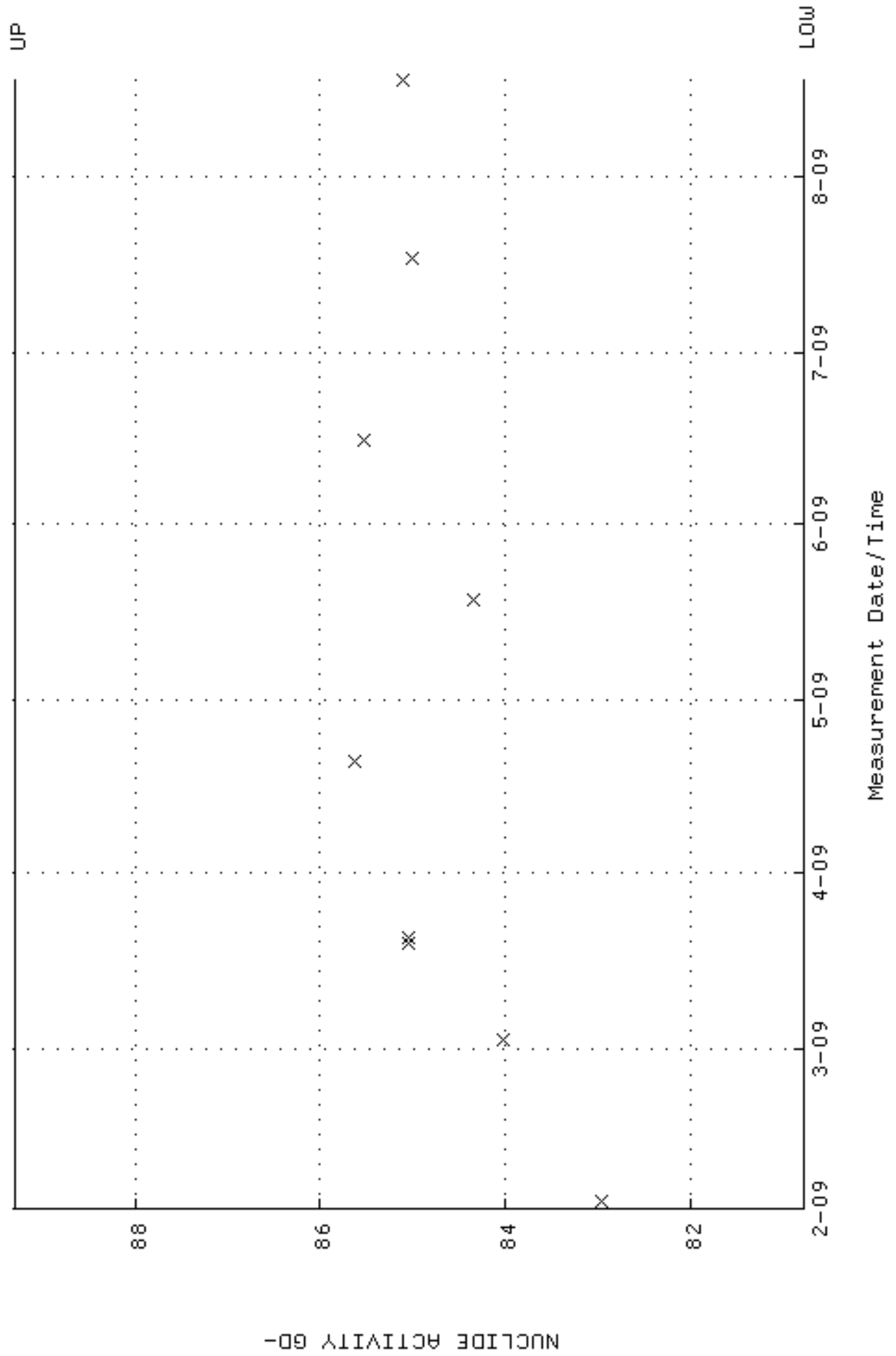
QA filename : DKA100:[ENV_ALPHA.QA.B]B158.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:11:24 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



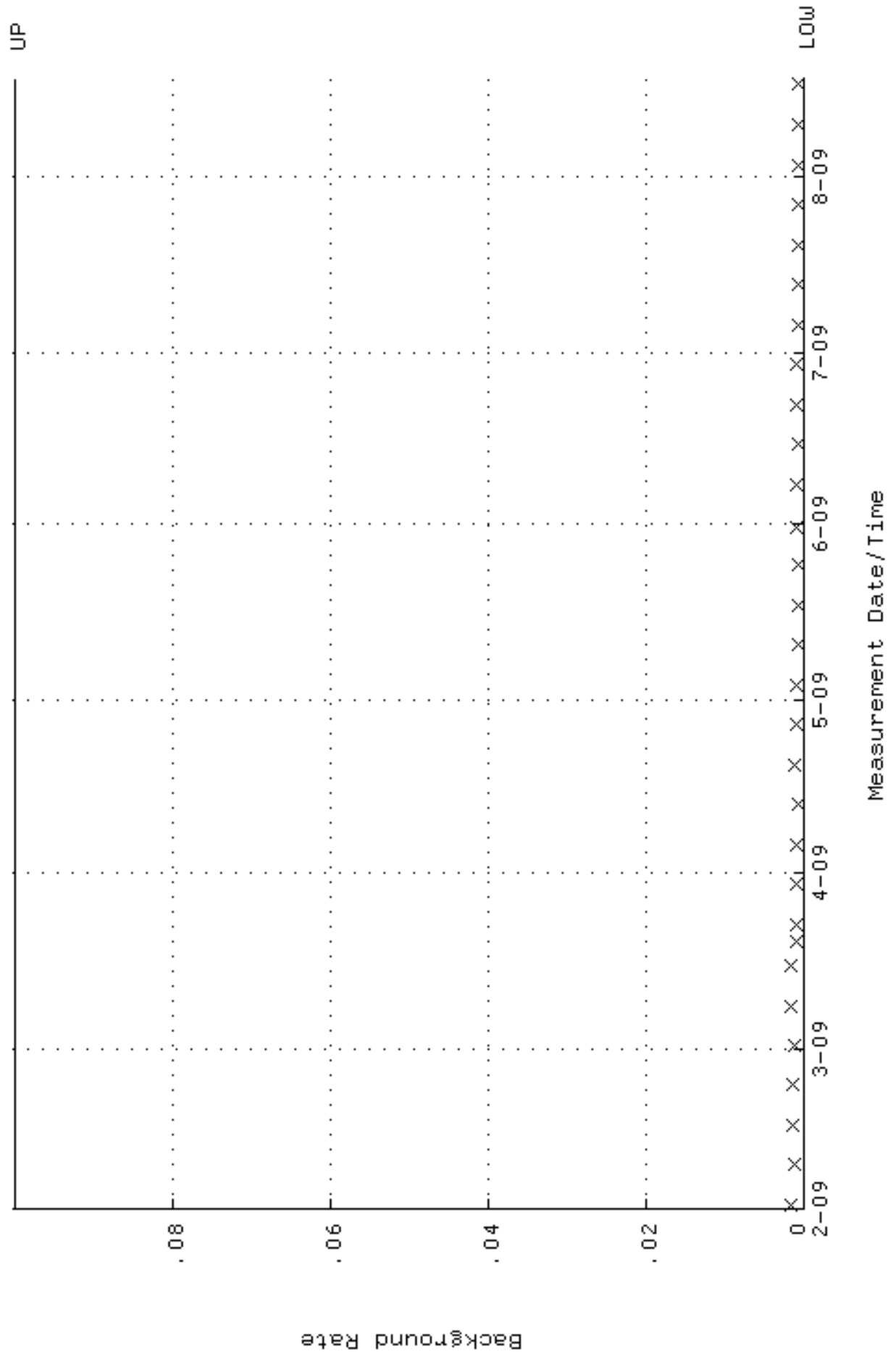
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-FEB-2009 10:36:22 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.242851 through 0.262851



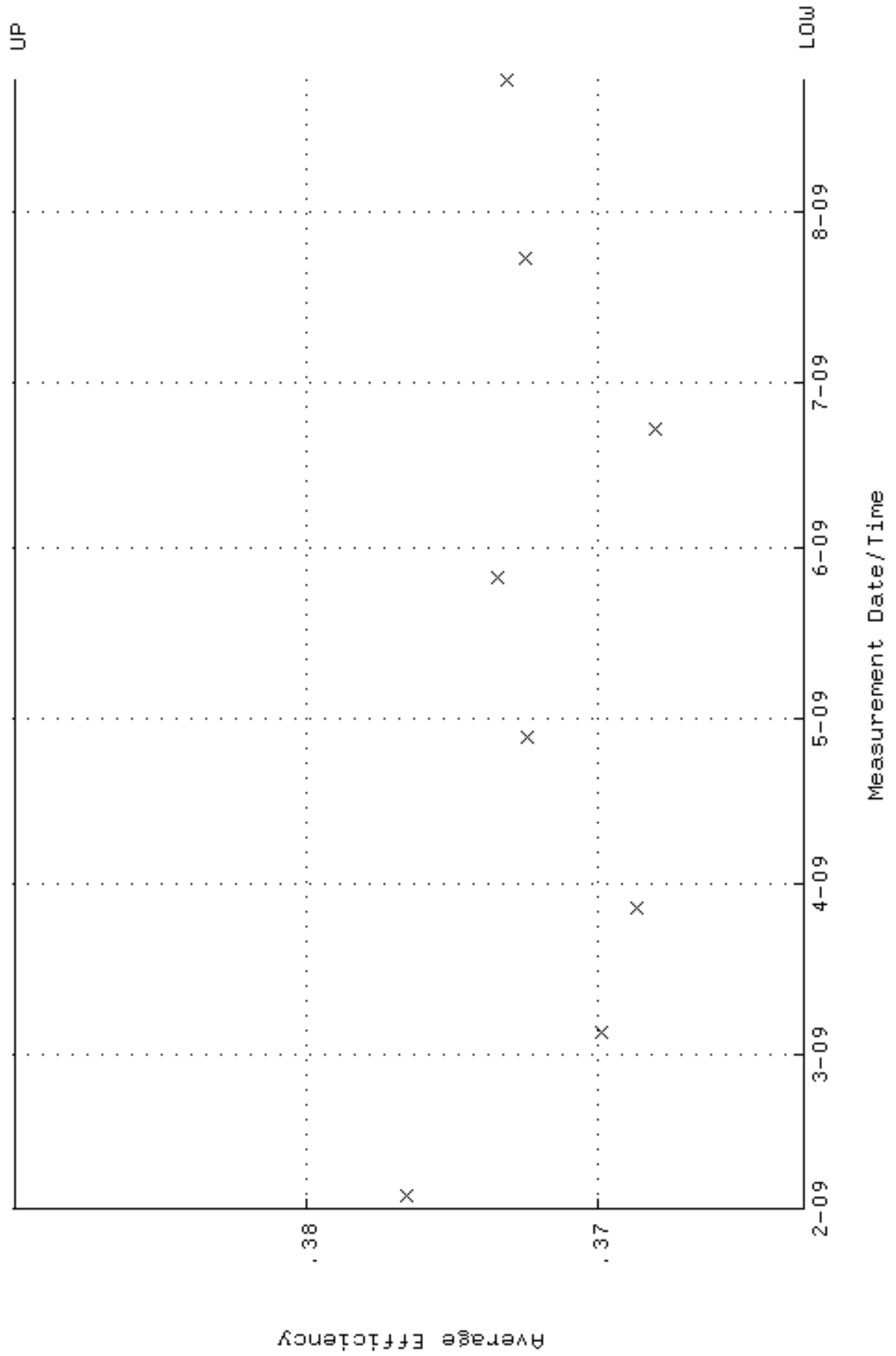
QA filename : DKA100:[ENV_ALPHA.QA.W]w159.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-FEB-2009 10:36:22 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 80.7870 through 89.2909



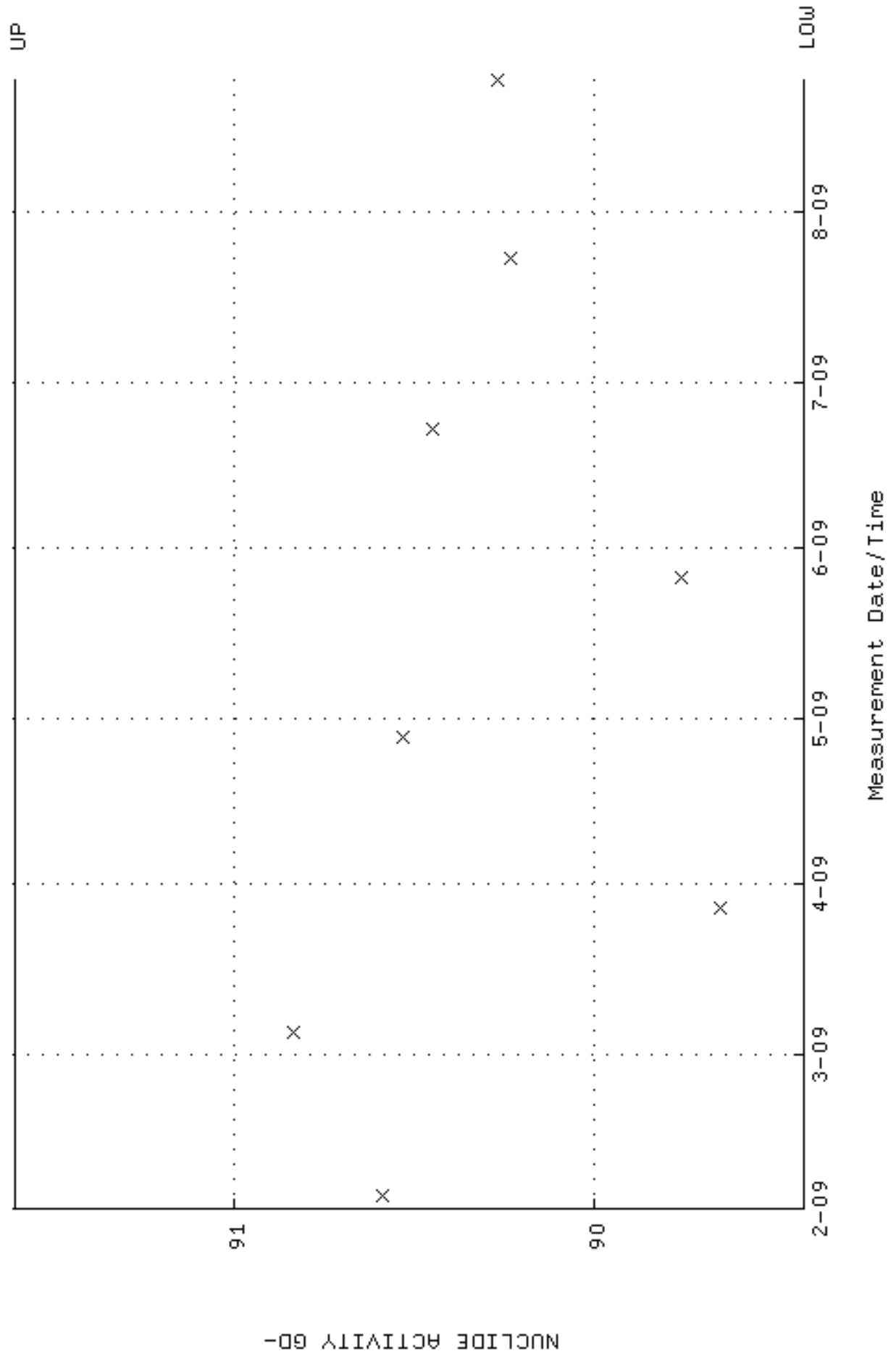
QA filename : DKA100:[ENV_ALPHA.QA.B]B159.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:11:35 through 17-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



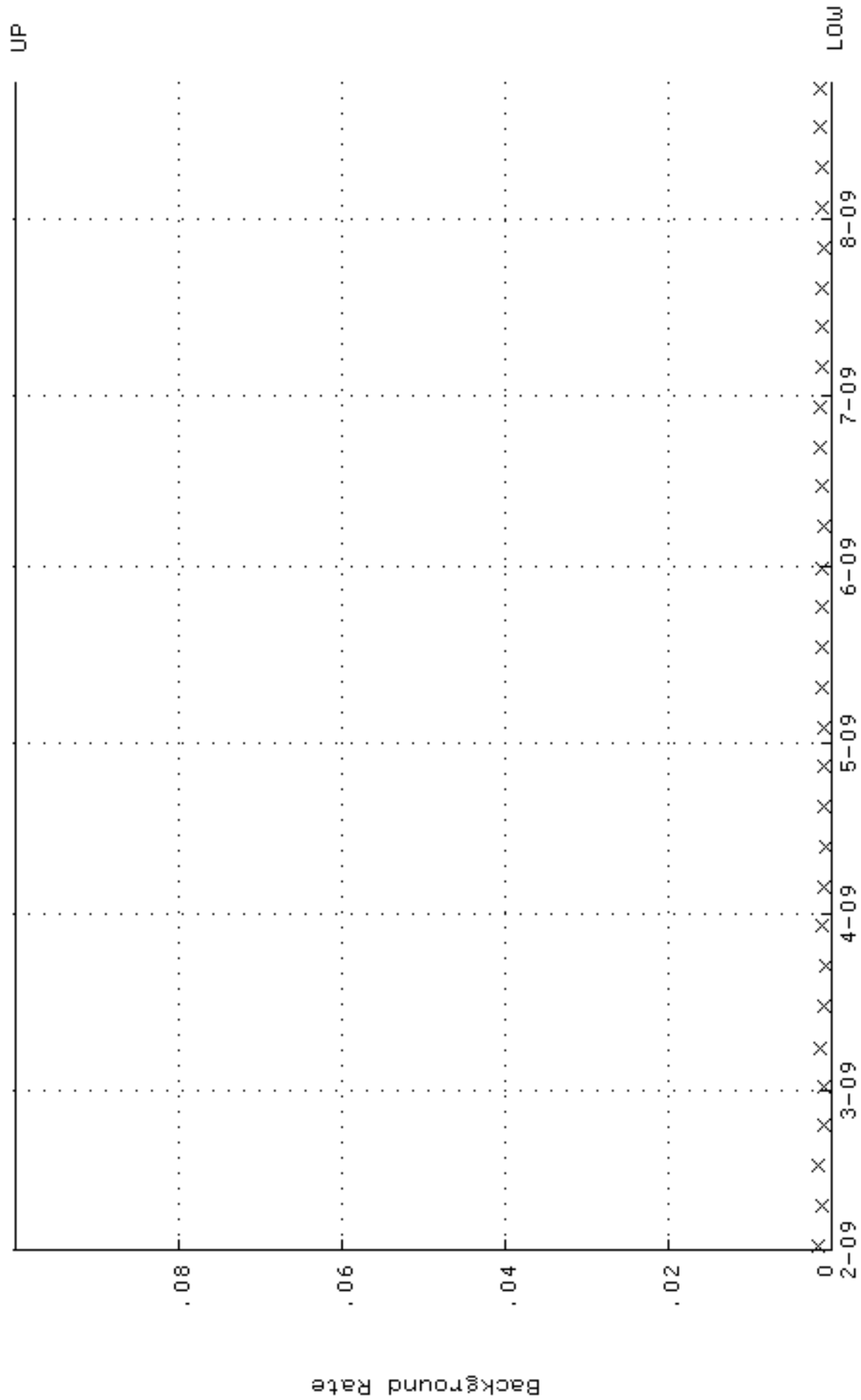
QA filename : DKA100:[ENV_ALPHA.QA.W]W161.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:29:38 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.362982 through 0.389932



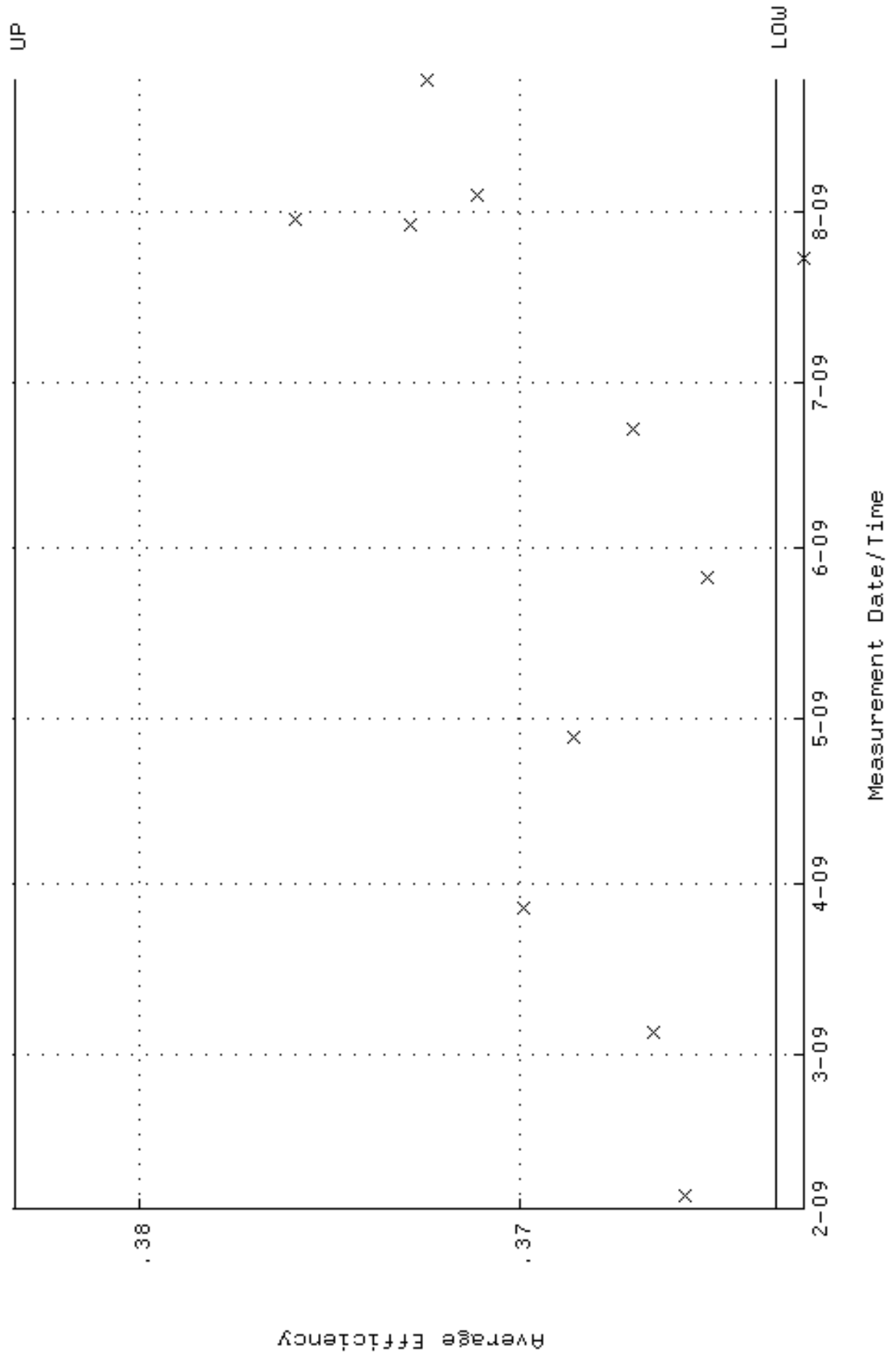
QA filename : DKA100:[ENV_ALPHA.QA.W]W161.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:29:38 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 89.4216 through 91.6054



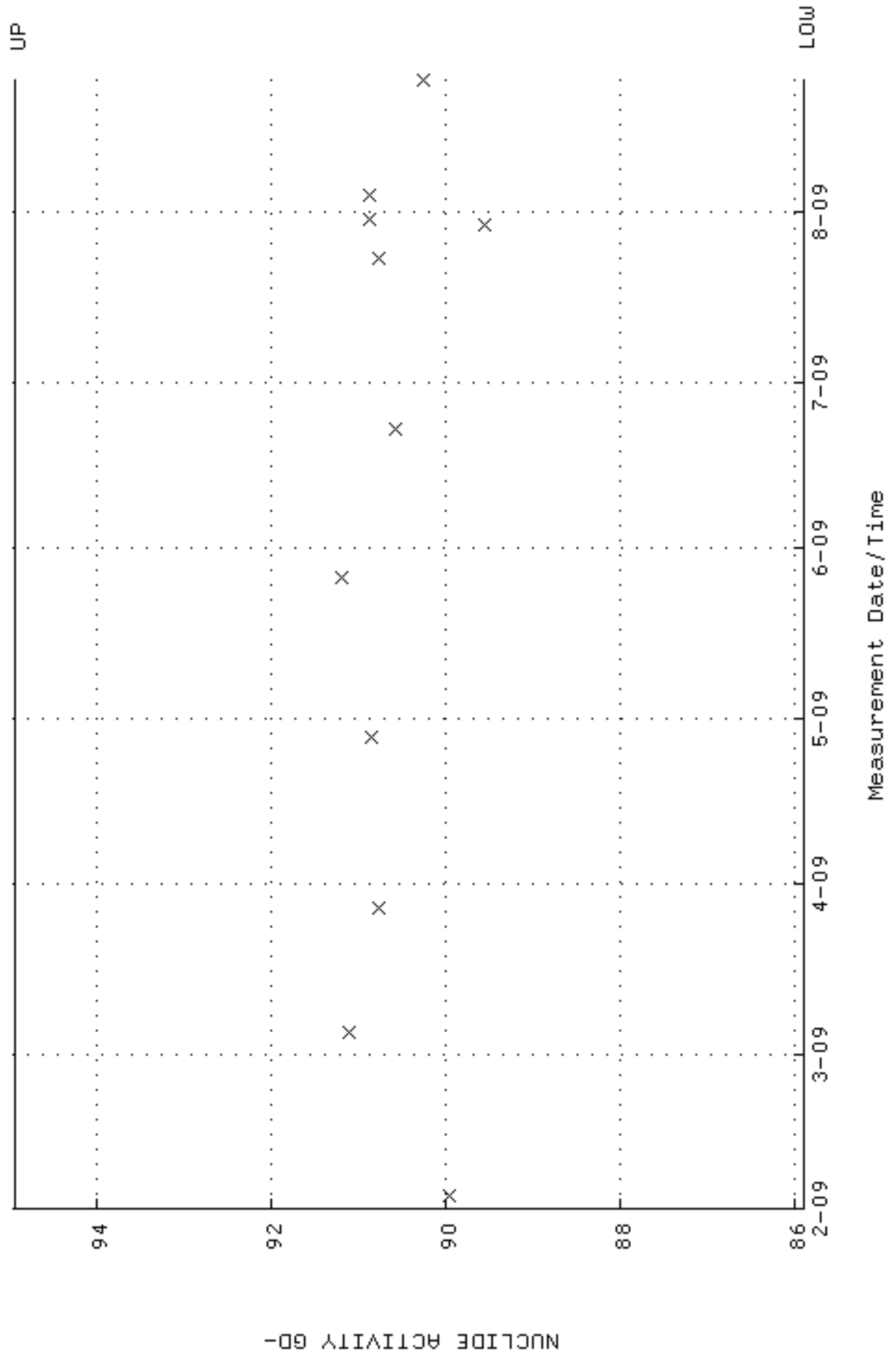
QA filename : DKA100:[ENV_ALPHA.QA.B]B161.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:12:04 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



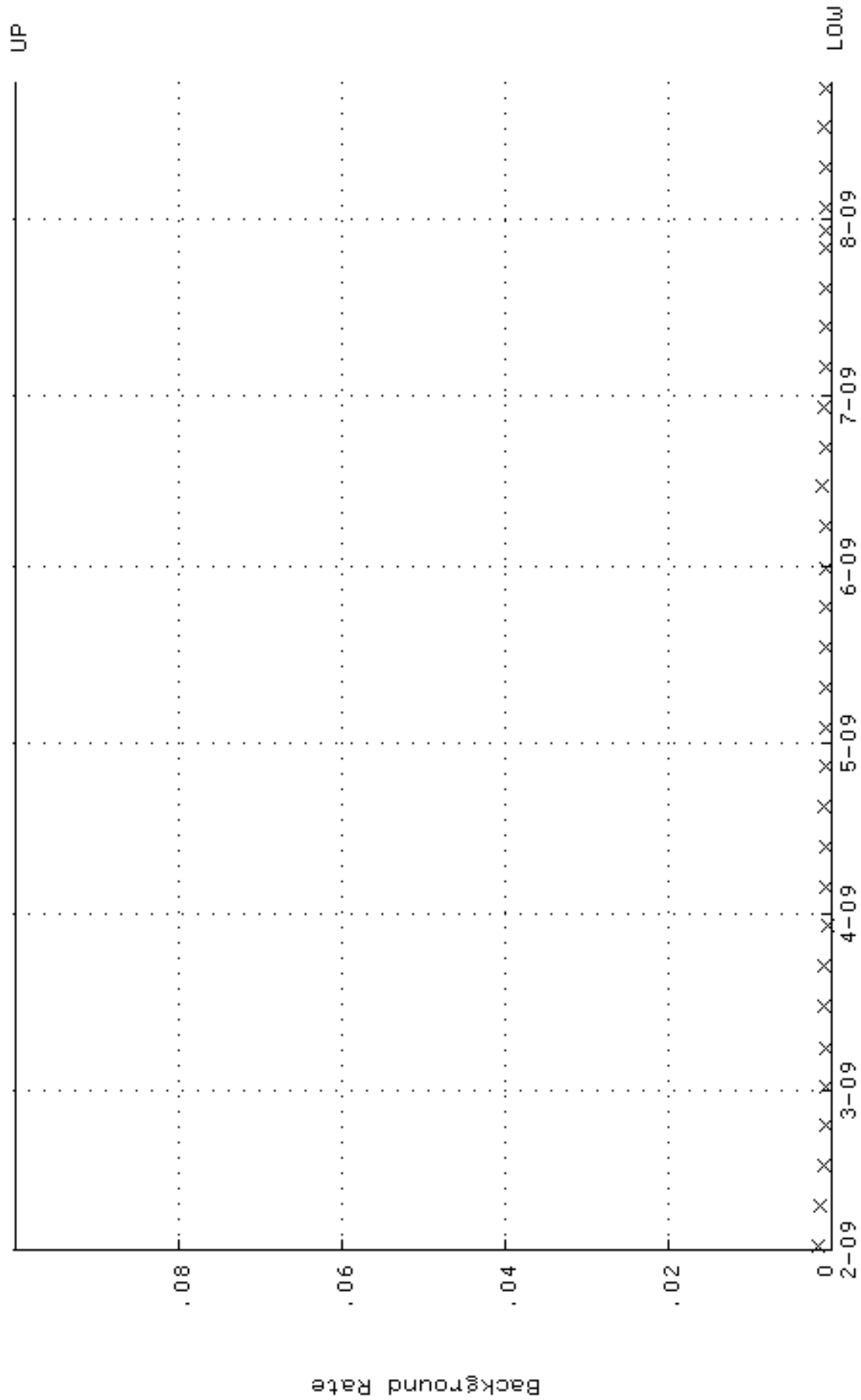
QA filename : DKA100:[ENV_ALPHA.QA.W]W162.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:29:45 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.363287 through 0.383287



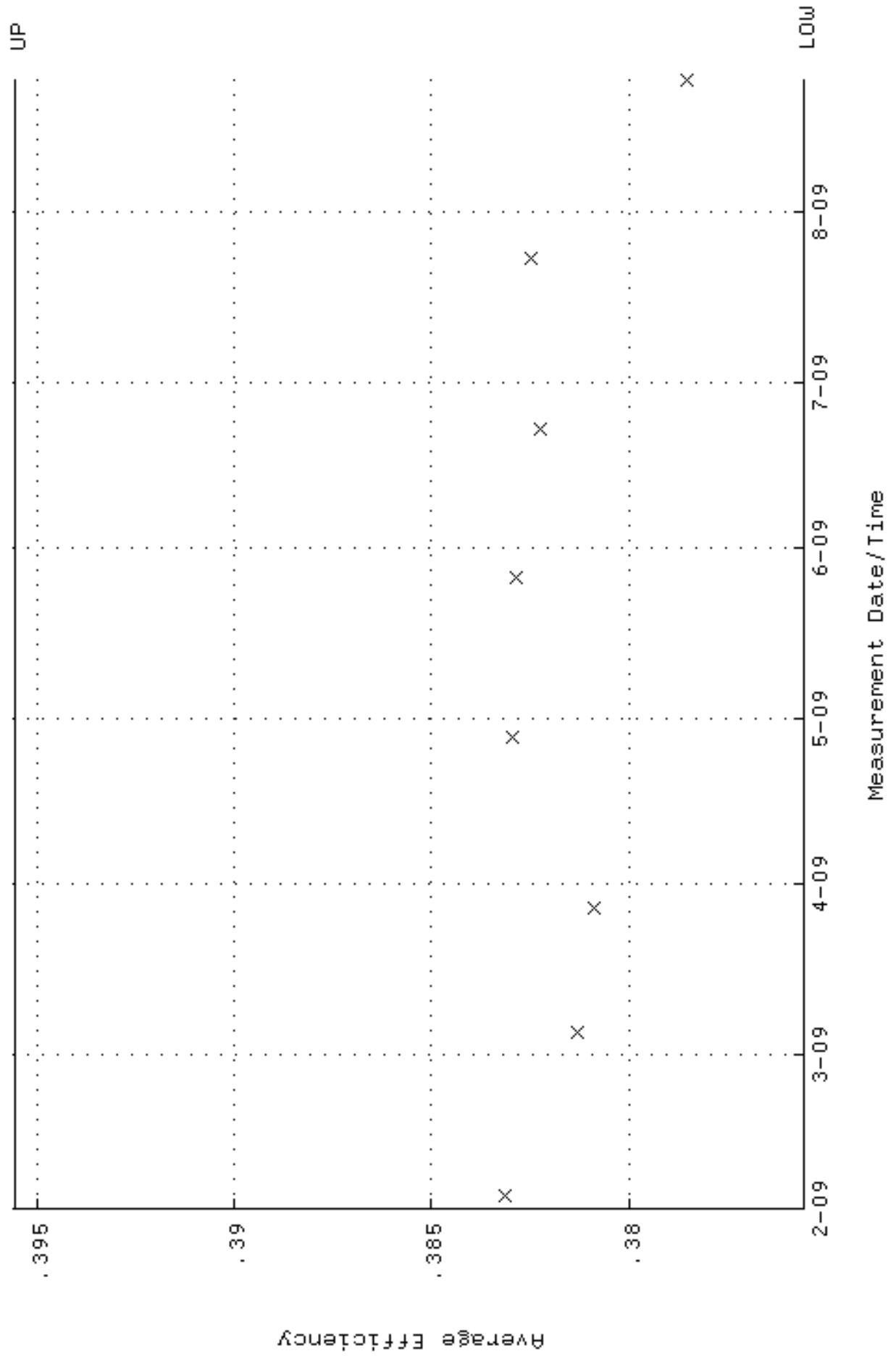
QA filename : DKA100:[ENV_ALPHA.QA.W]W162.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:29:45 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 85.8969 through 94.9387



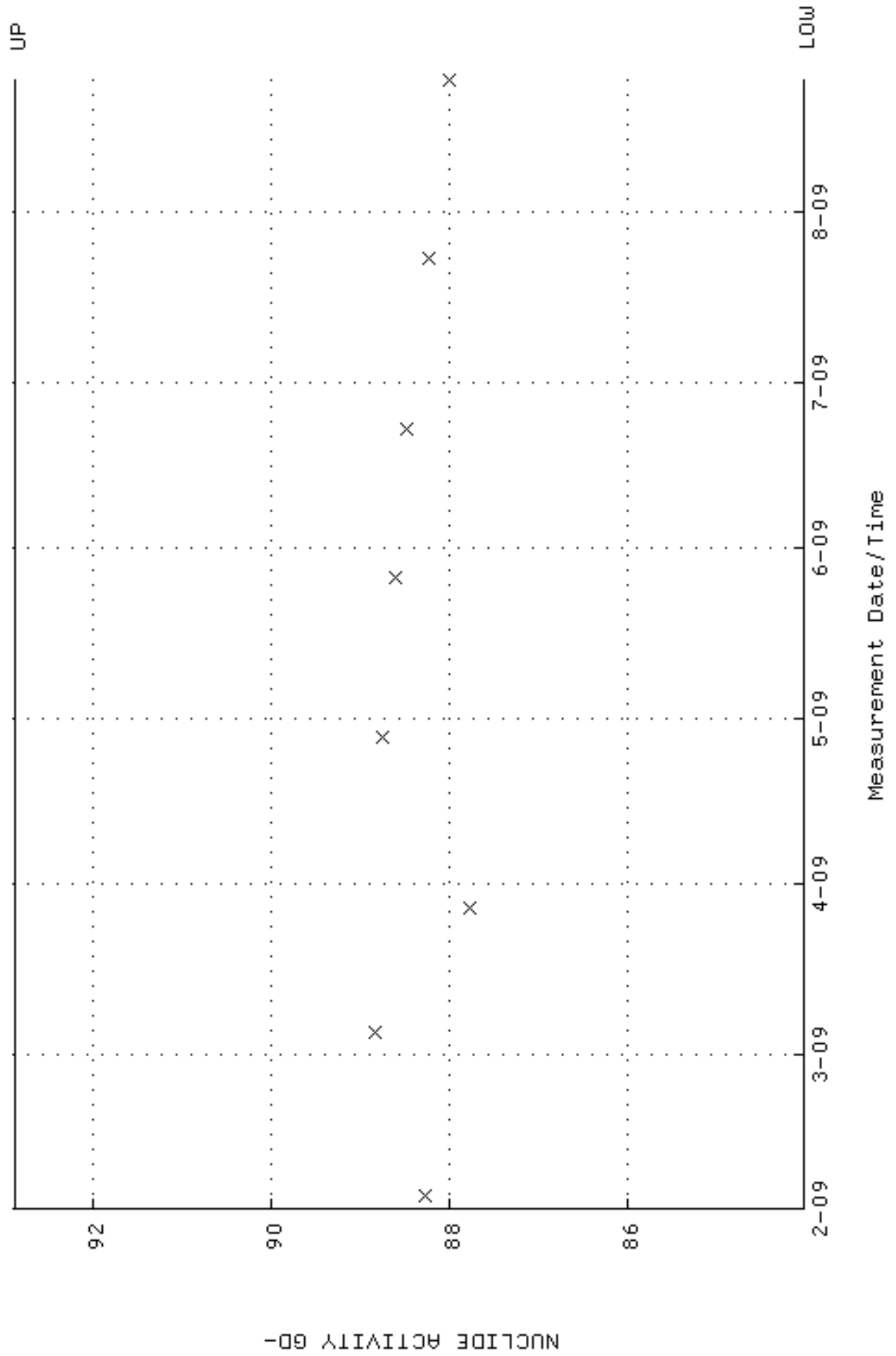
QA filename : DKA100:[ENV_ALPHA.QA.B]B162.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:12:19 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



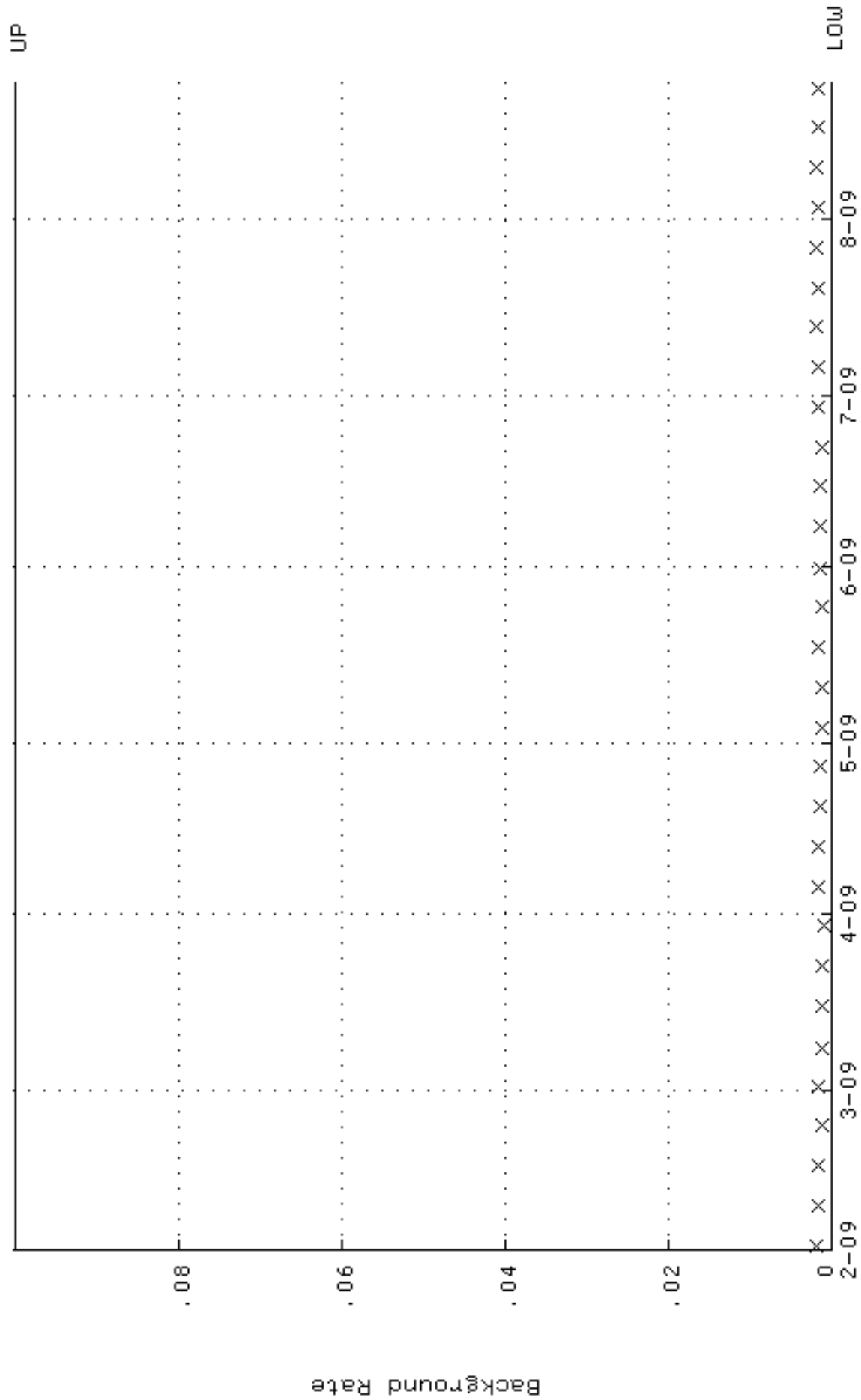
QA filename : DKA100:[ENV_ALPHA.QA.W]W163.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:29:52 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.375557 through 0.395557



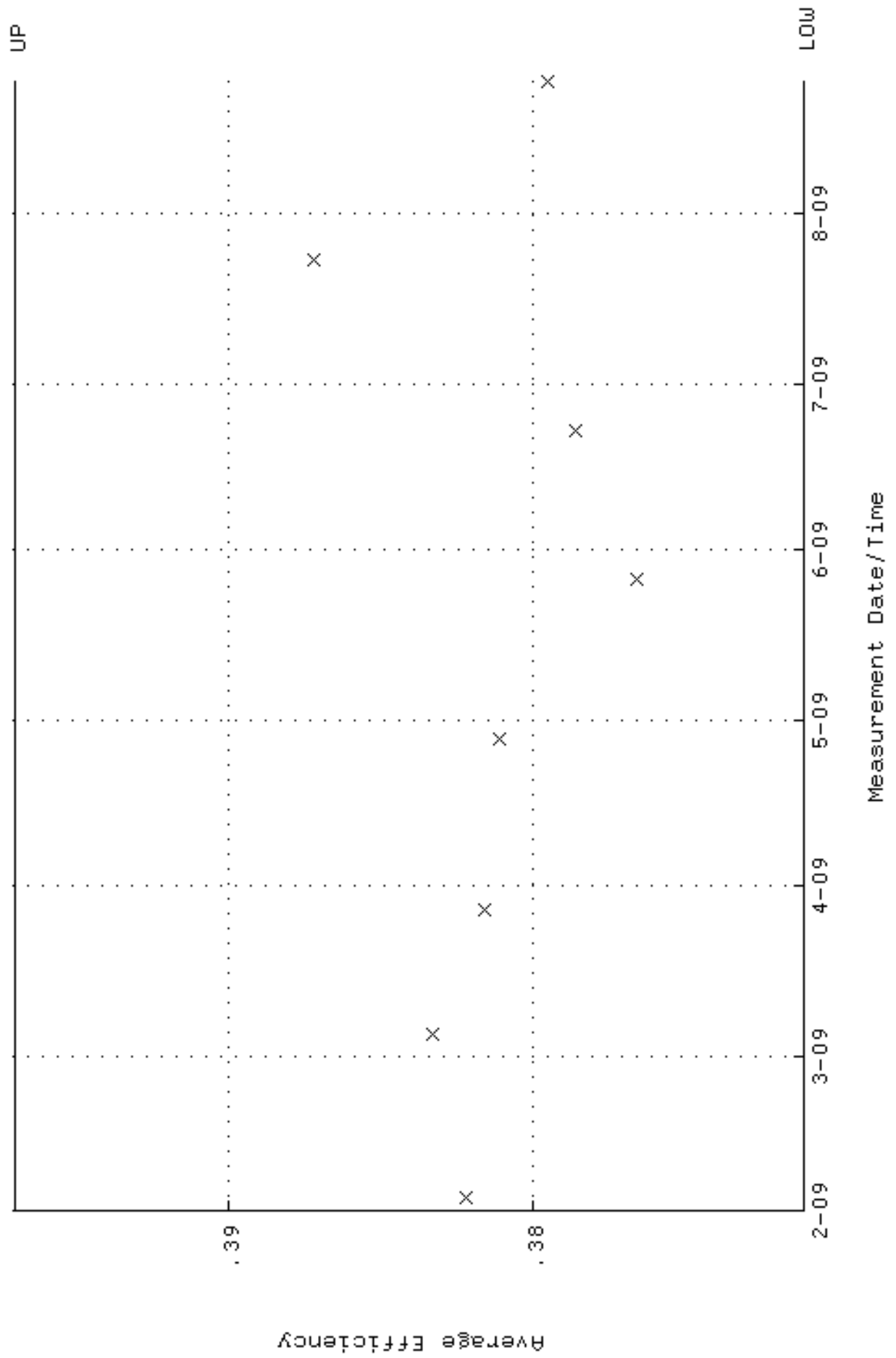
QA filename : DKA100:[ENV_ALPHA.QA.W]W163.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:29:52 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 84.0322 through 92.8777



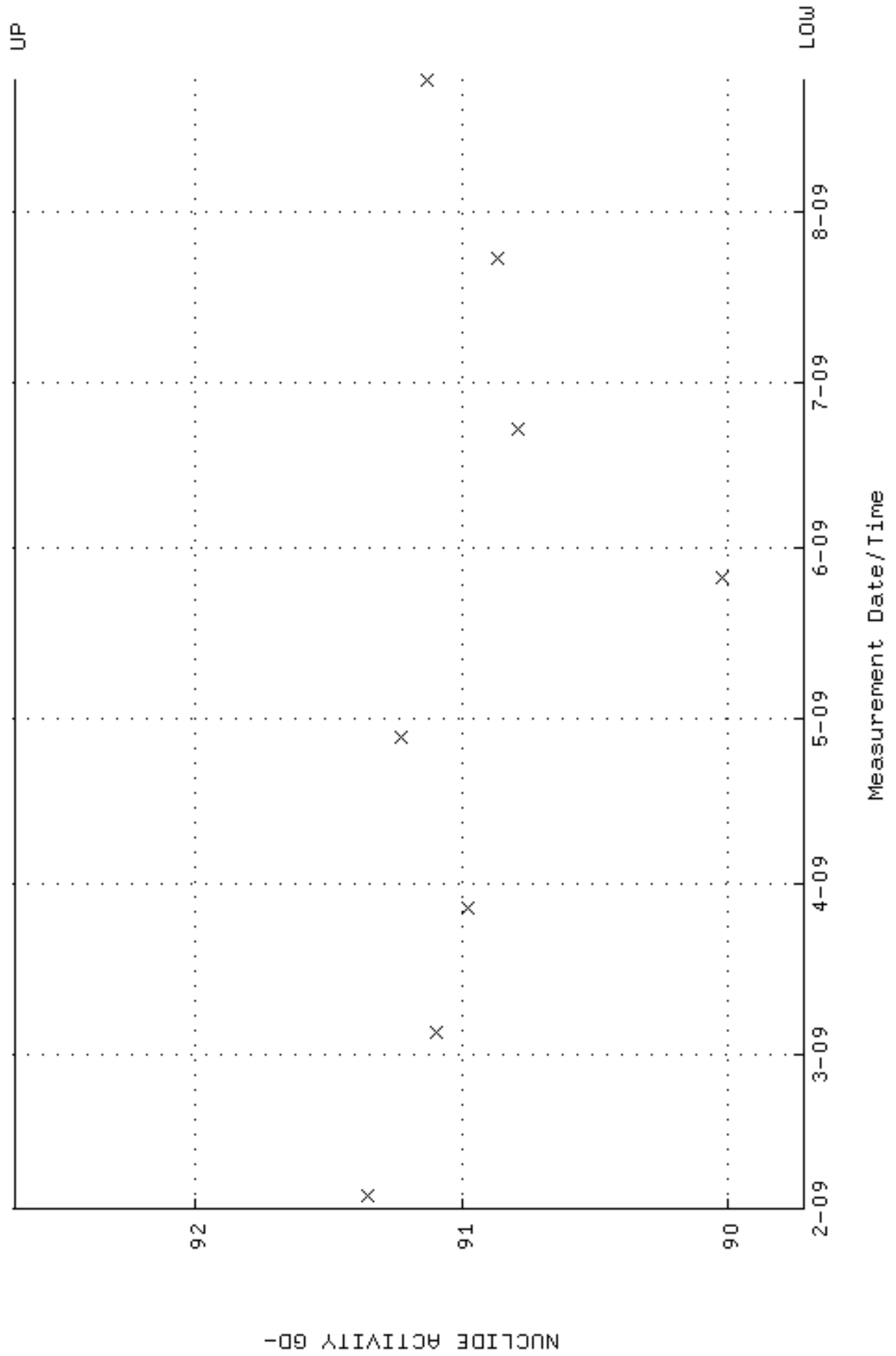
QA filename : DKA100:[ENV_ALPHA.QA.B]B163.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:12:33 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



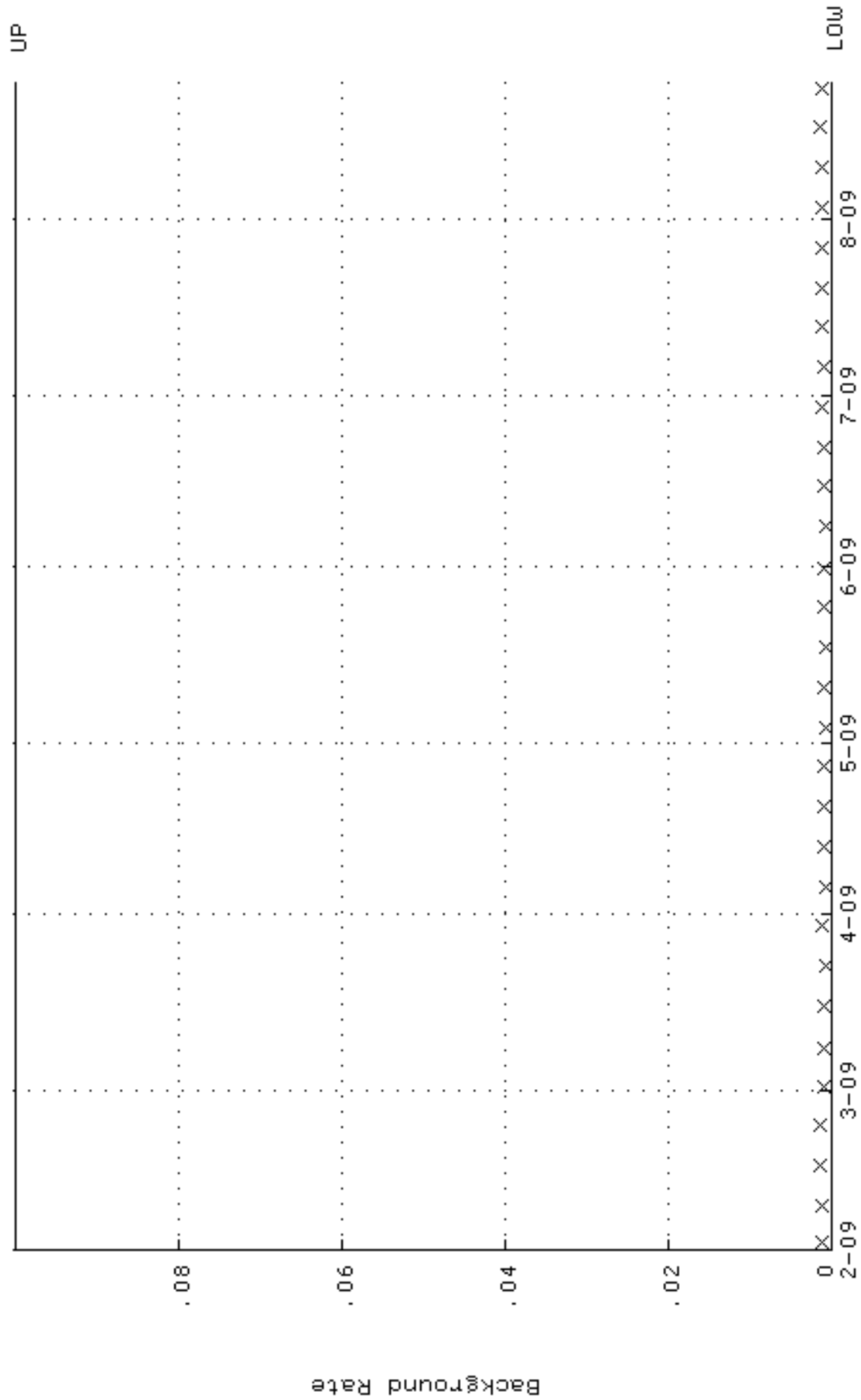
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:29:59 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.371107 through 0.397001



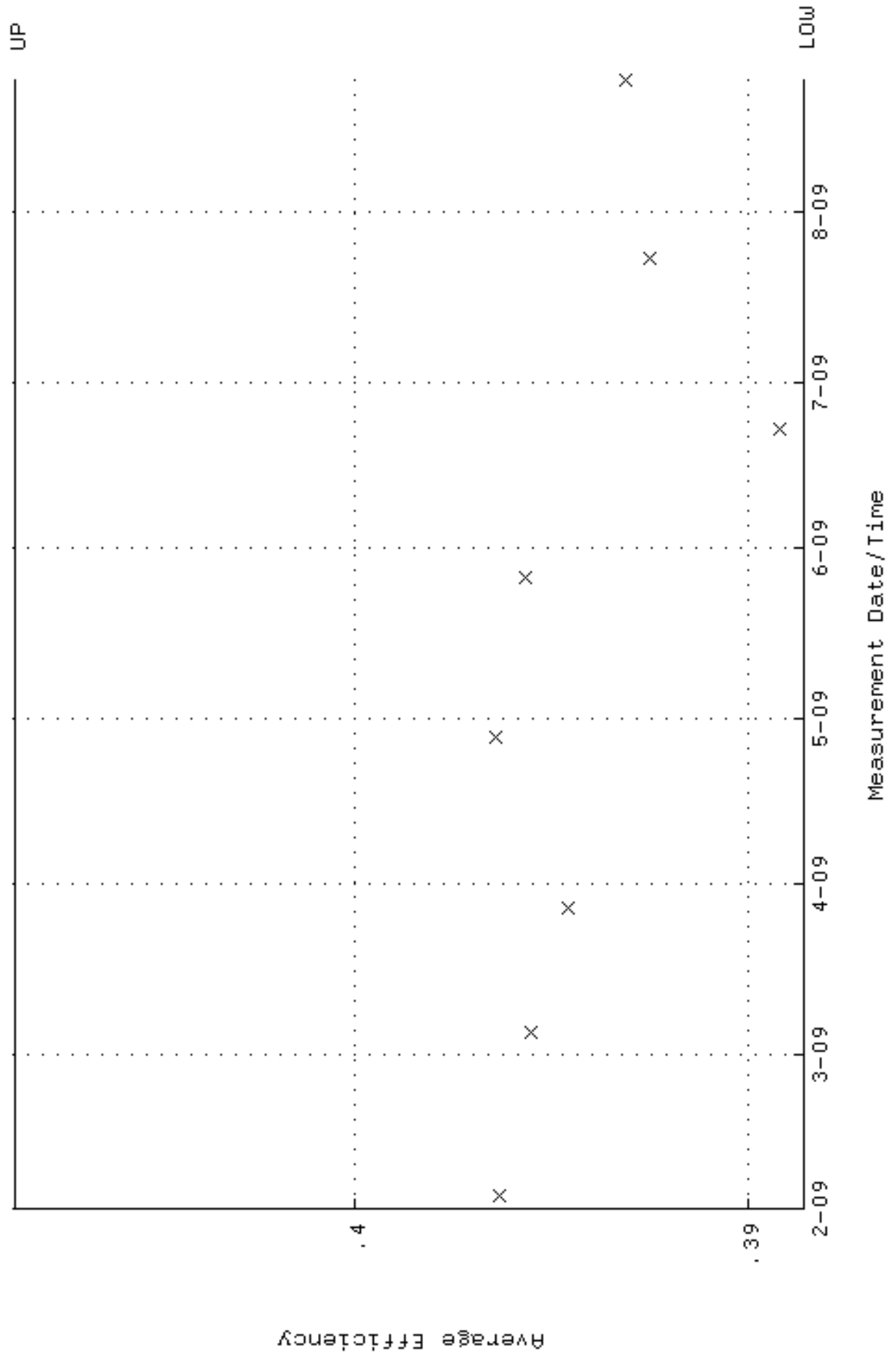
QA filename : DKA100:[ENV_ALPHA.QA.W]W164.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:29:59 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 89.7107 through 92.6809



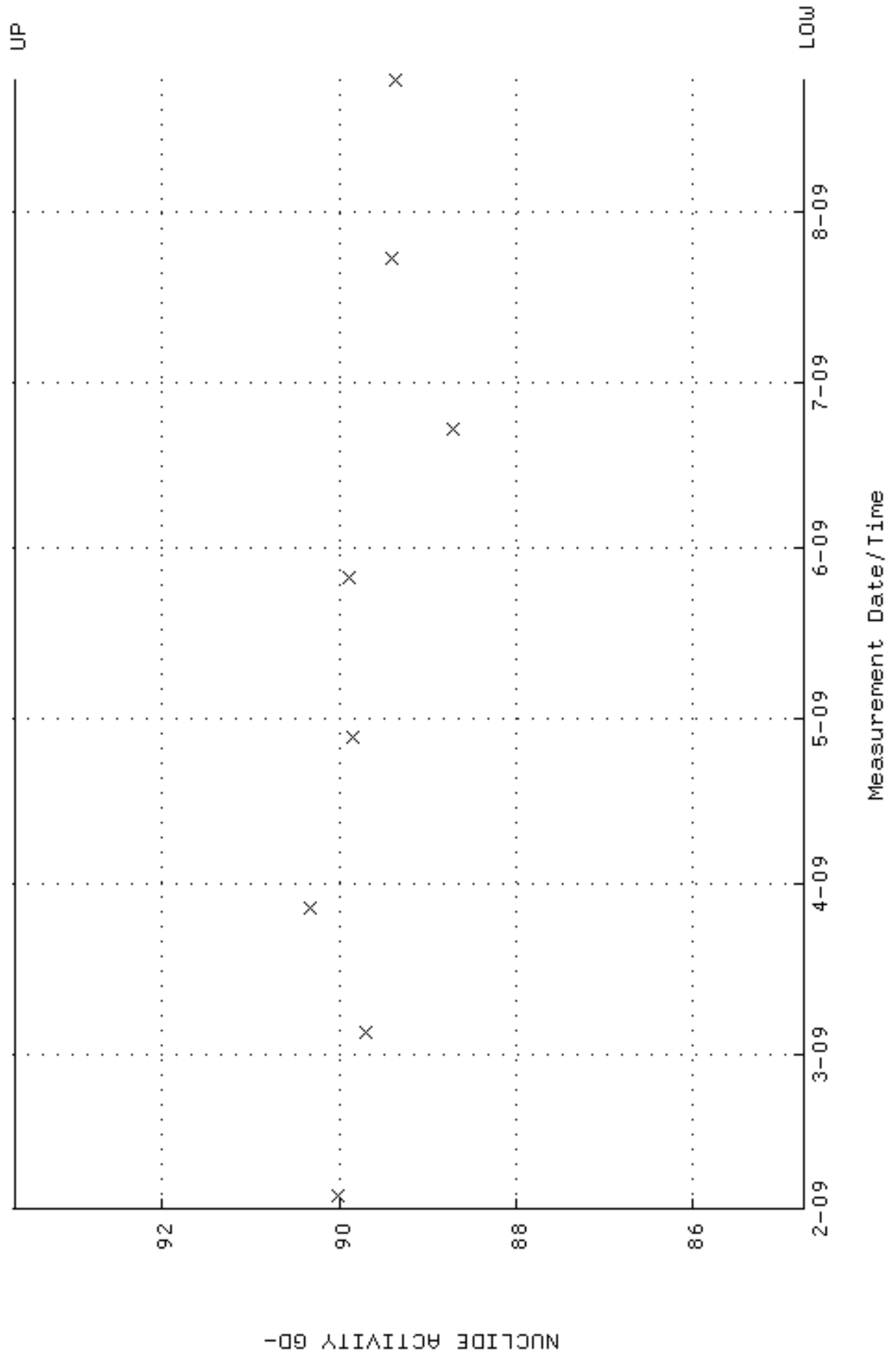
QA filename : DKA100:[ENV_ALPHA.QA.B]B164.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-FEB-2009 11:27:29 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



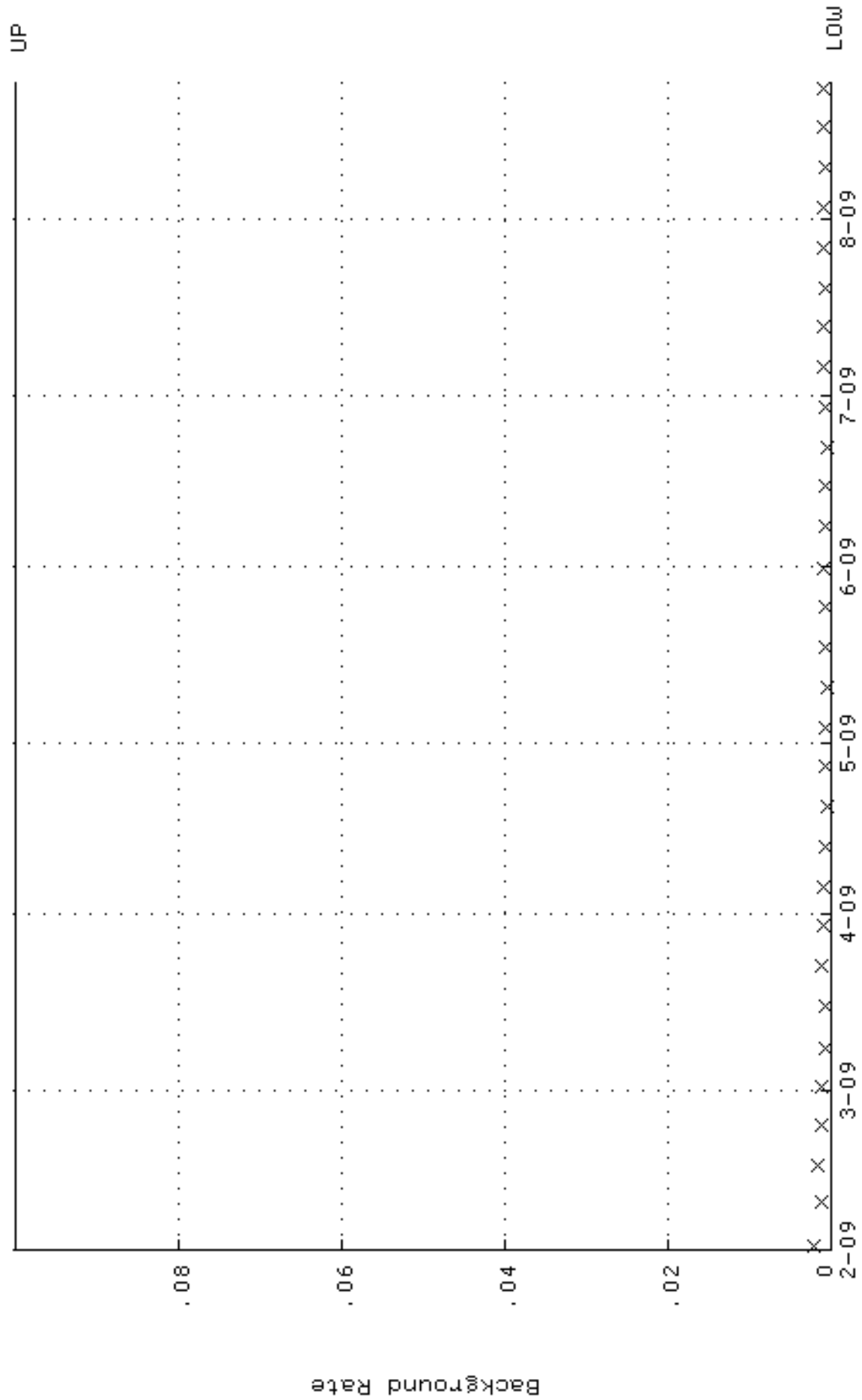
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:30:12 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.388604 through 0.408604



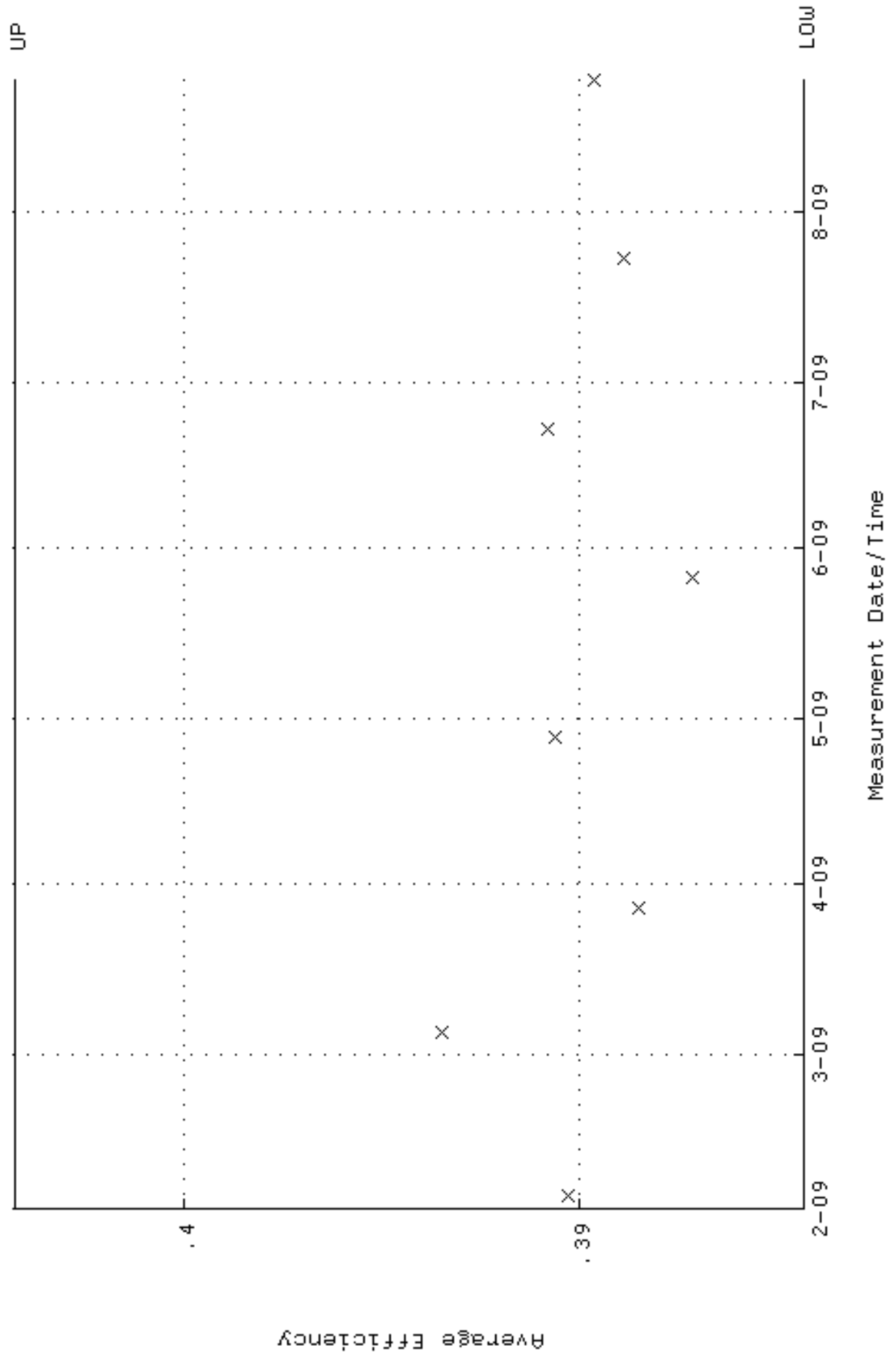
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:30:12 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 84.7448 through 93.6654



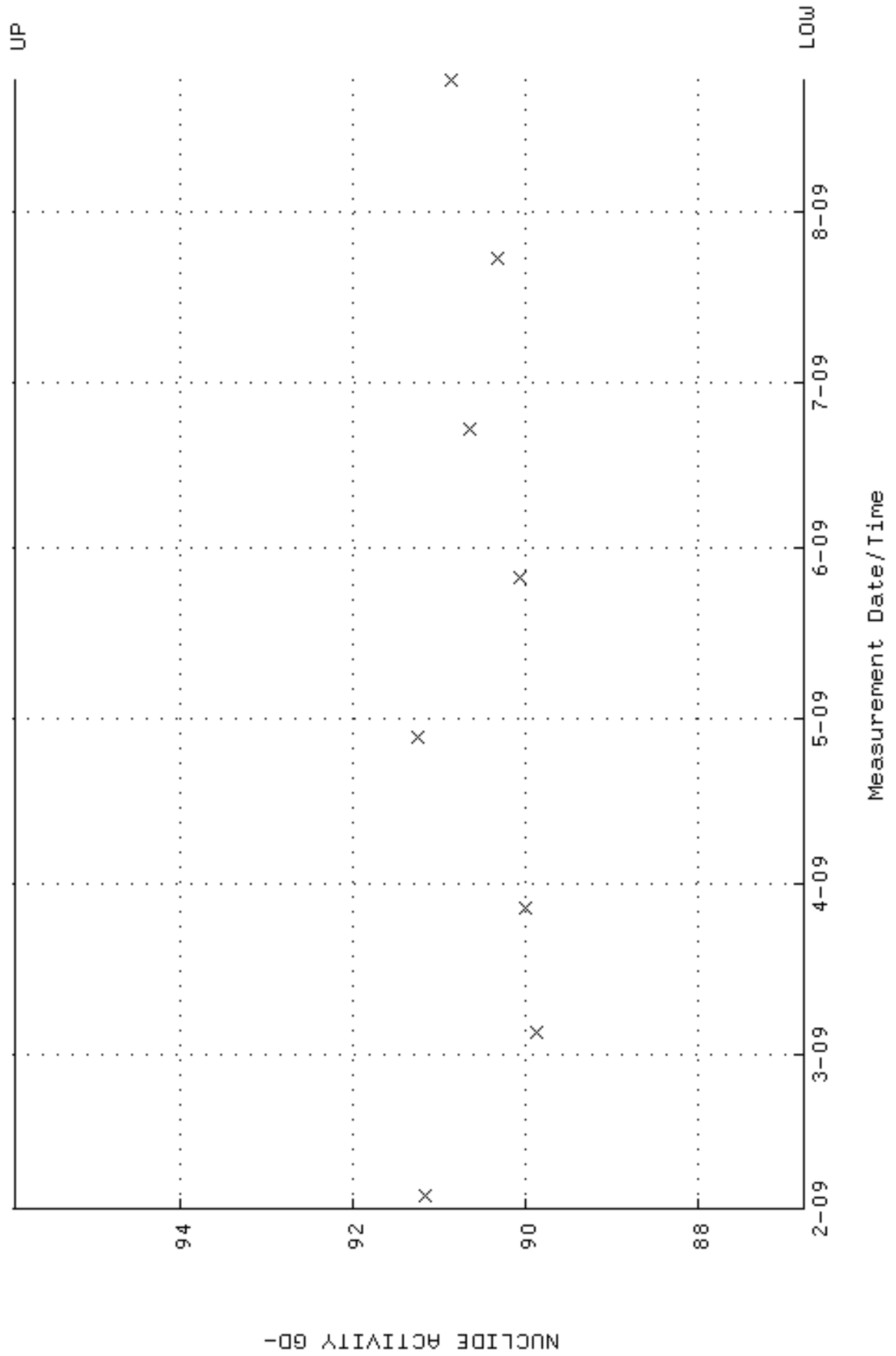
QA filename : DKA100:[ENV_ALPHA.QA.B]B166.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:13:07 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



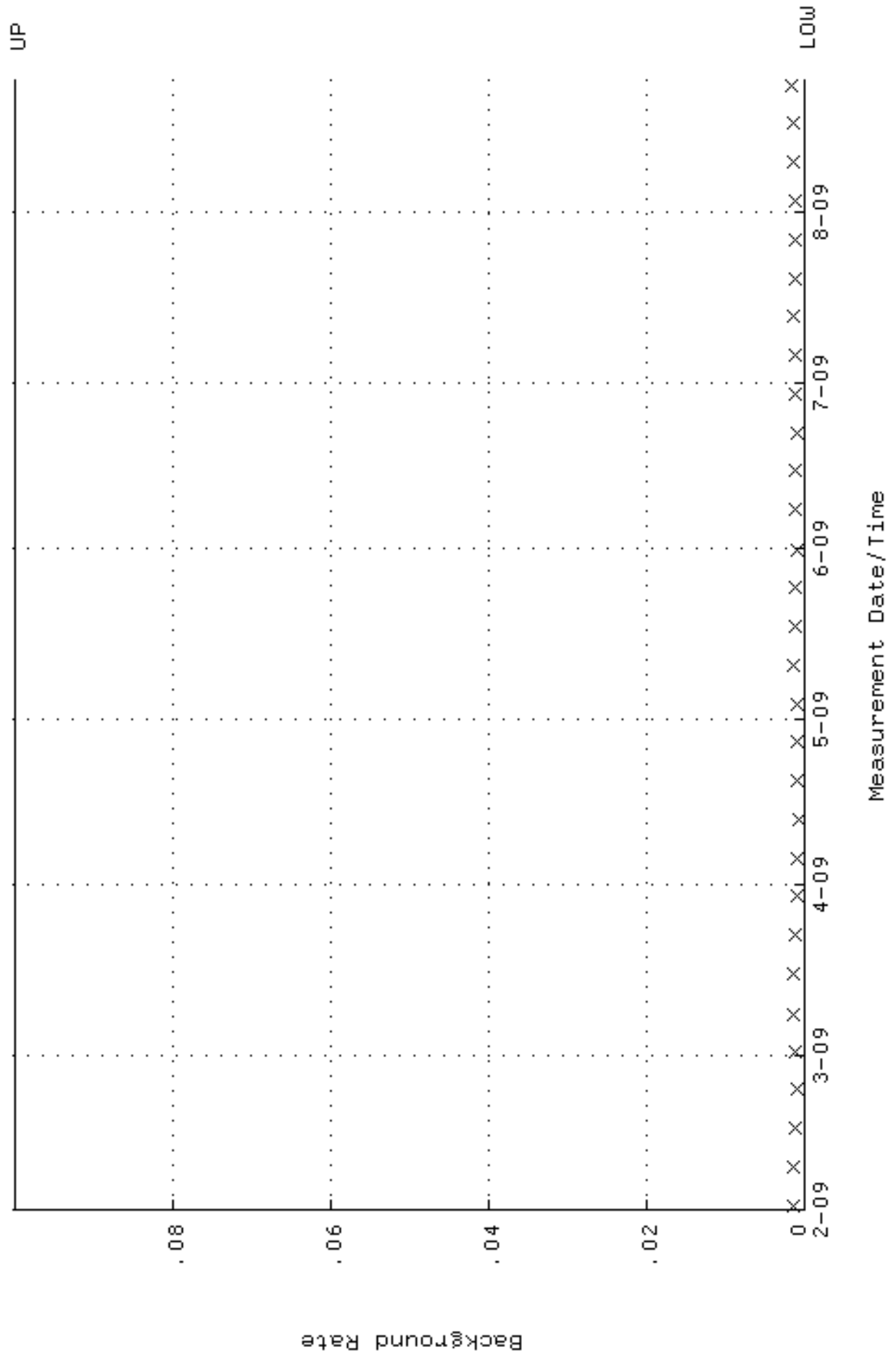
QA filename : DKA100:[ENV_ALPHA.QA.W]W167.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:30:19 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.384285 through 0.404285



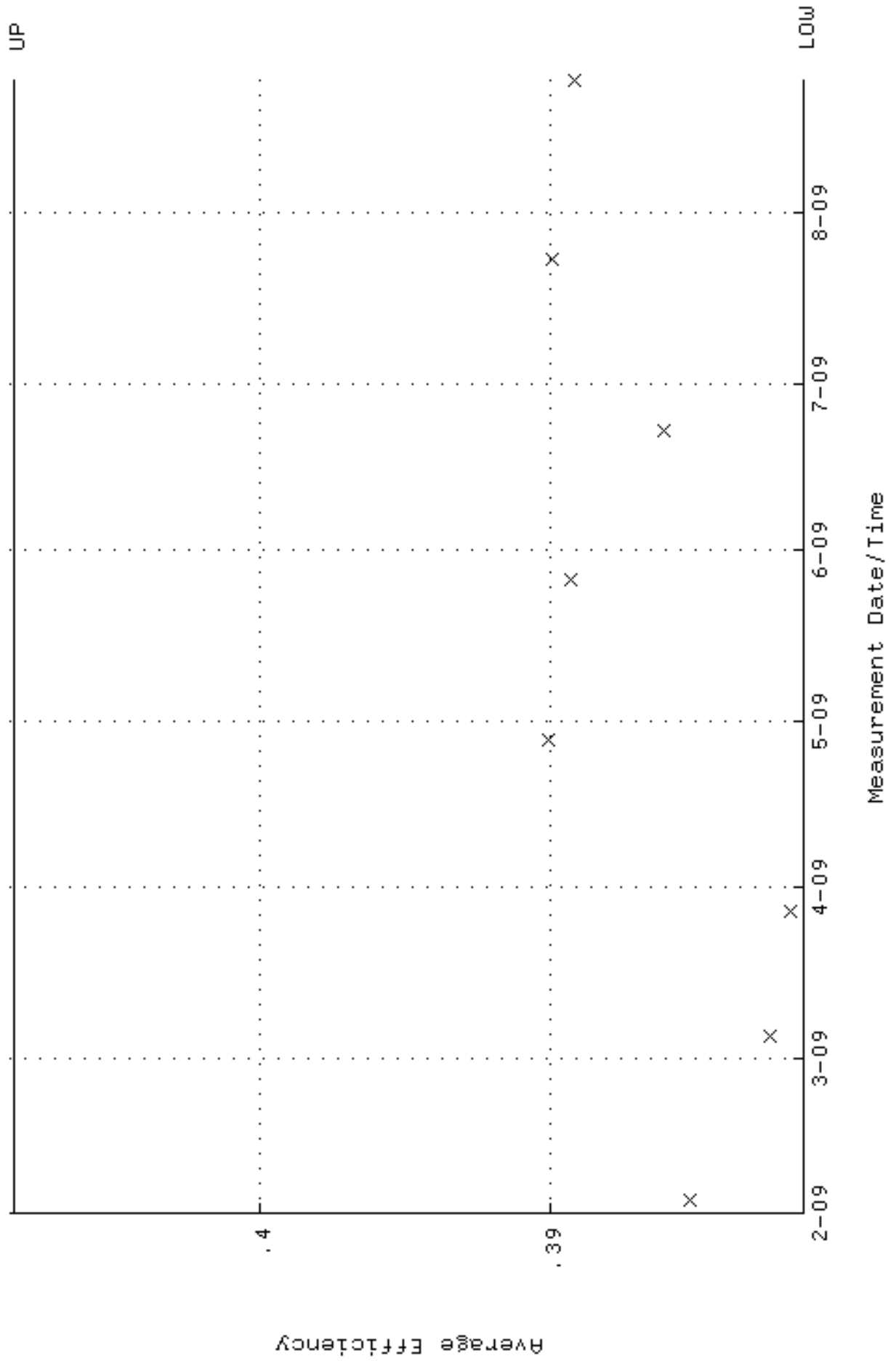
QA filename : DKA100:[ENV_ALPHA.QA.W]W167.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:30:19 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.7740 through 95.9082



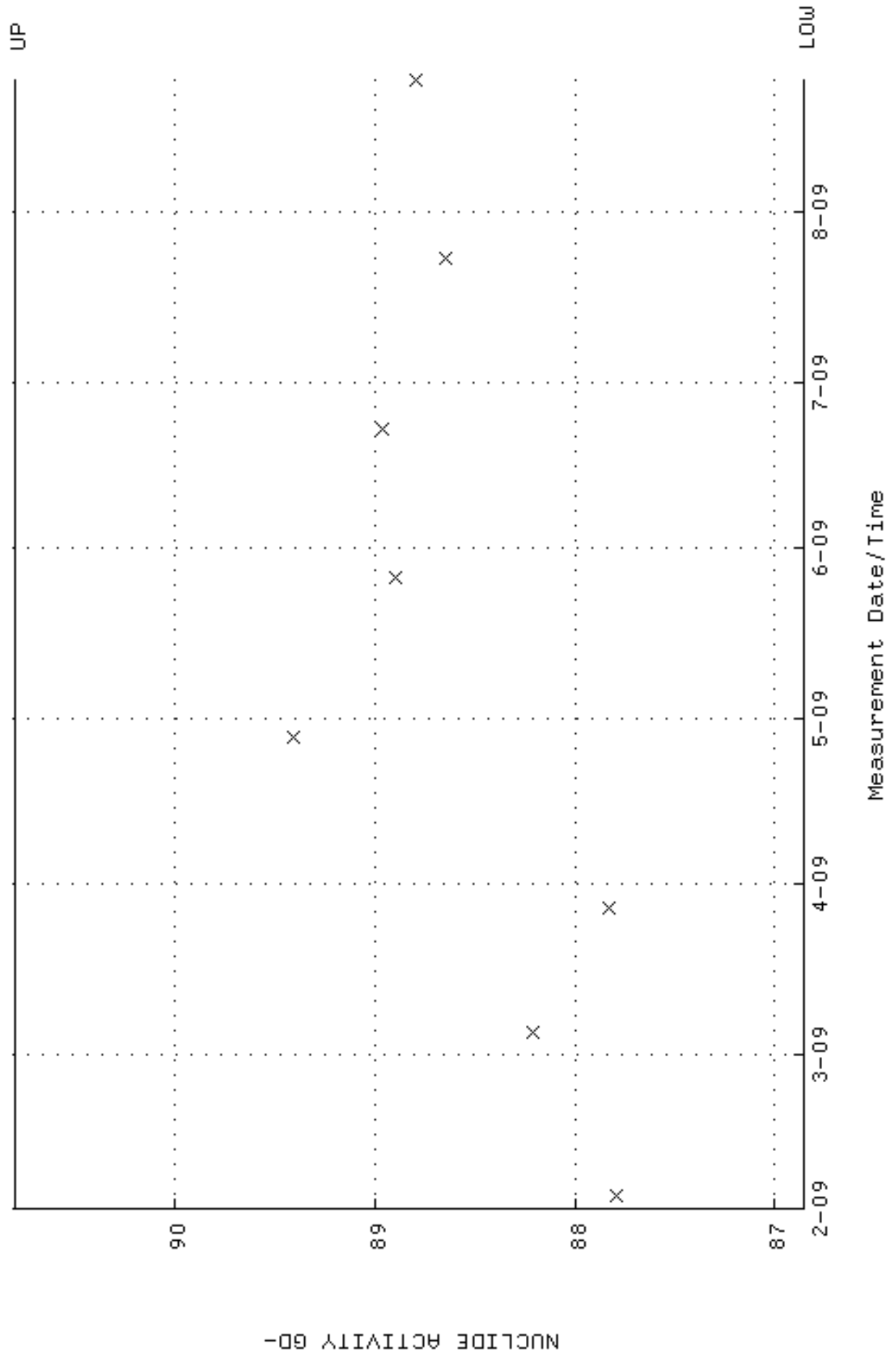
QA filename : DKA100:[ENV_ALPHA.QA.B]B167.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:13:22 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



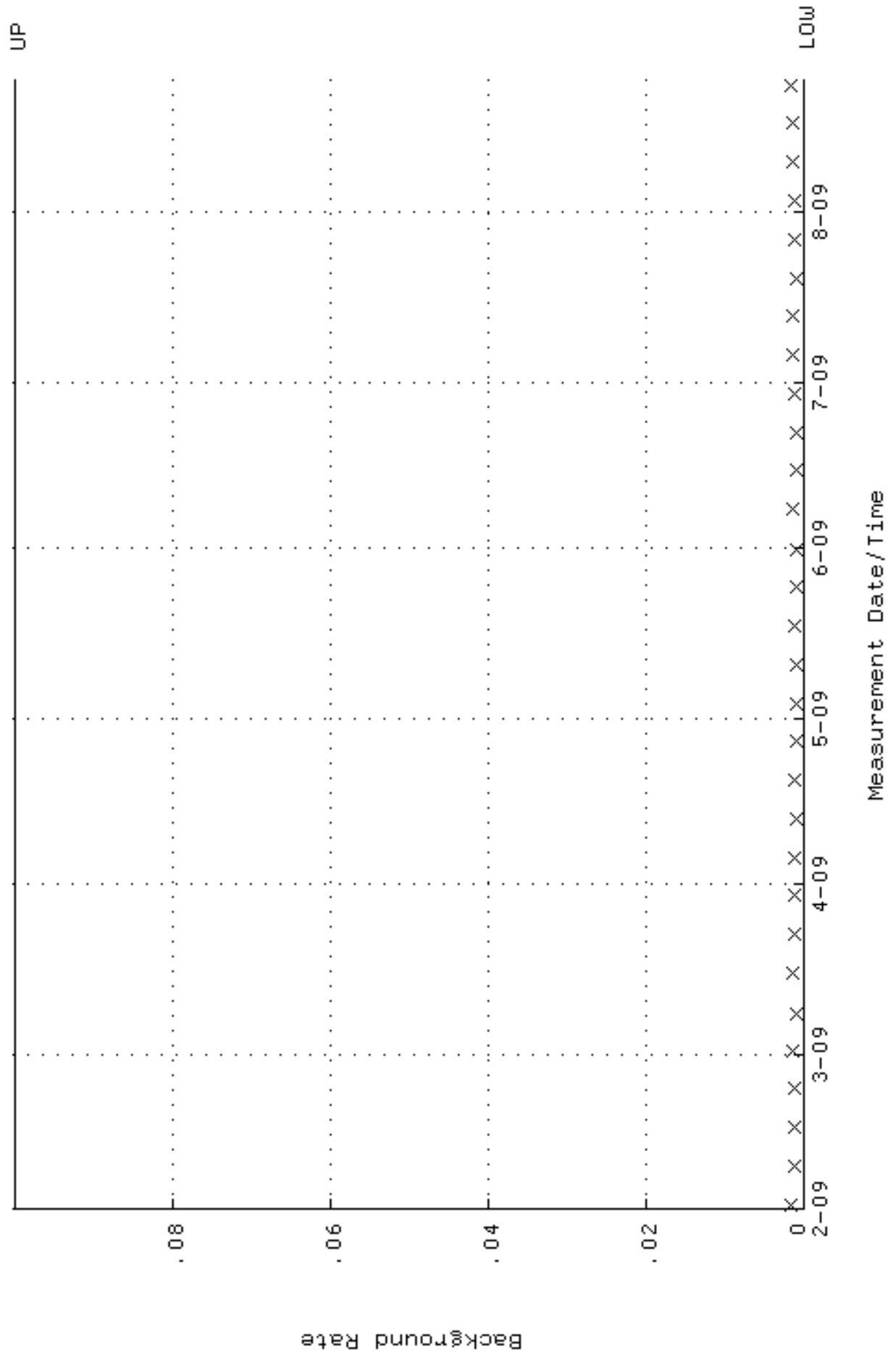
QA filename : DKA100:[ENV_ALPHA.QA.W]W168.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:30:25 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.381339 through 0.408495



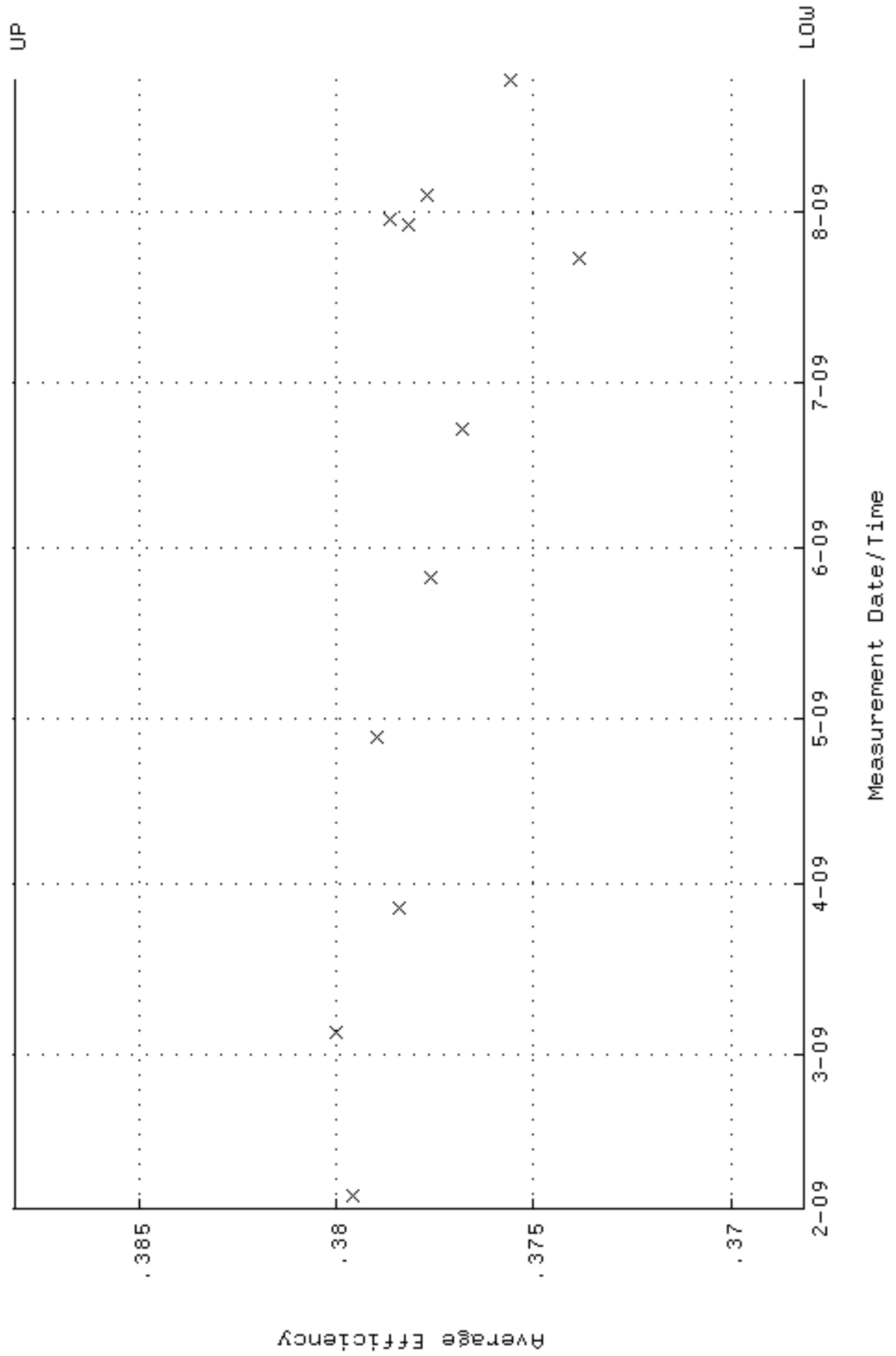
QA filename : DKA100:[ENV_ALPHA.QA.W]W168.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:30:25 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.8544 through 90.7976



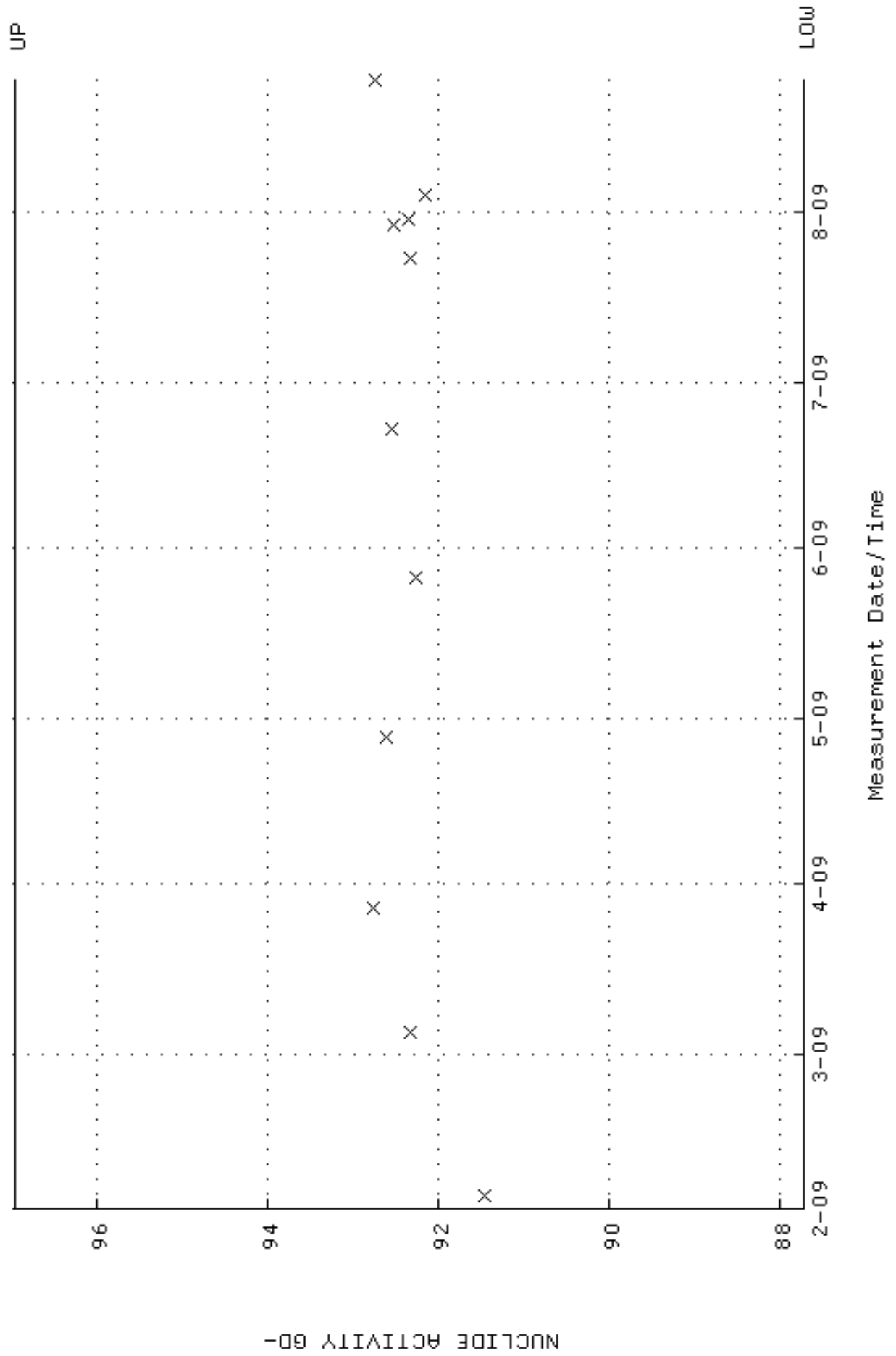
QA filename : DKA100:[ENV_ALPHA.QA.B]B168.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:13:31 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



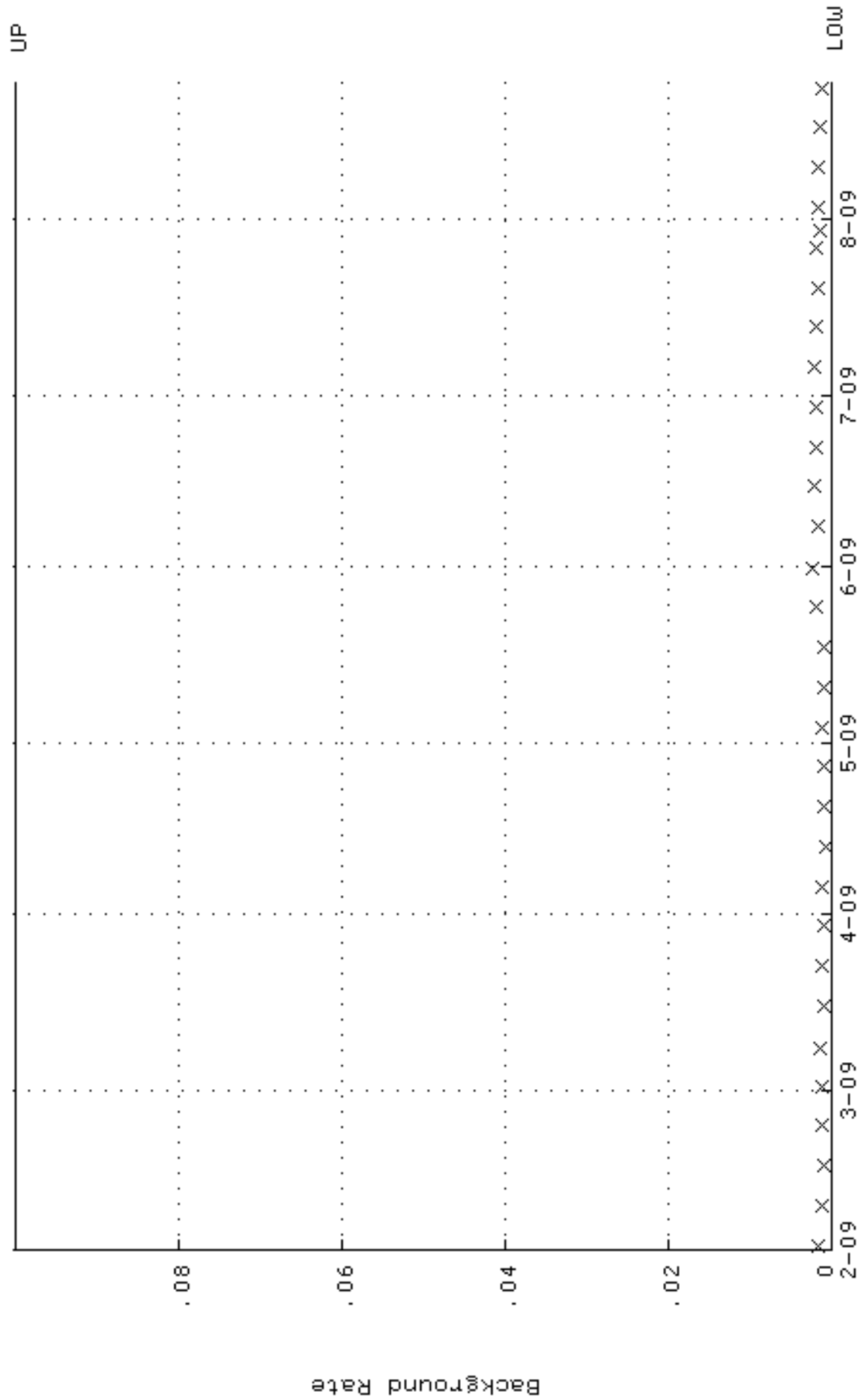
QA filename : DKA100:[ENV_ALPHA.QA.W]W169.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:30:32 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.368144 through 0.388144



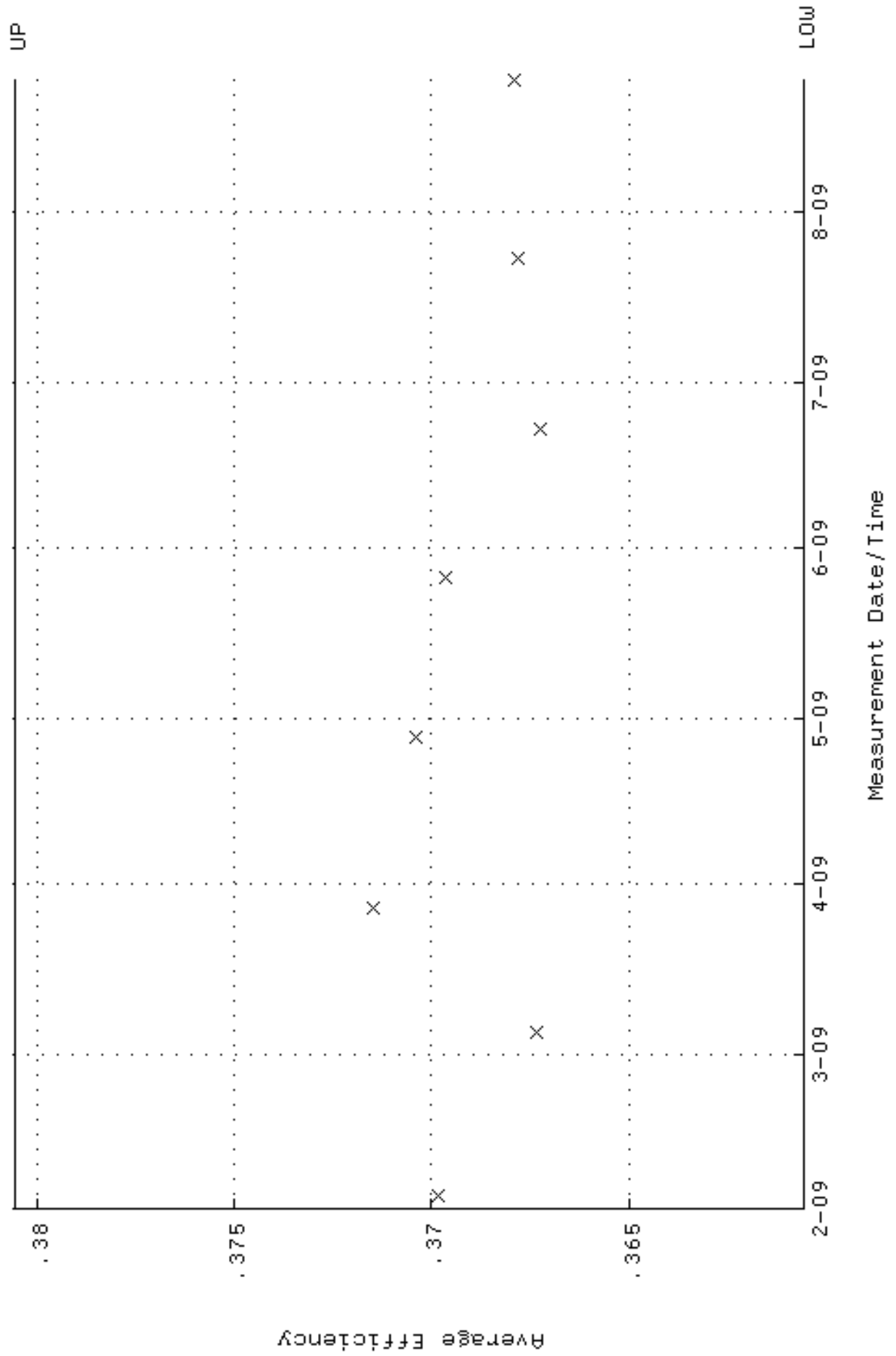
QA filename : DKA100:[ENV_ALPHA.QA.W]W169.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-FEB-2009 07:30:32 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 87.7141 through 96.9471



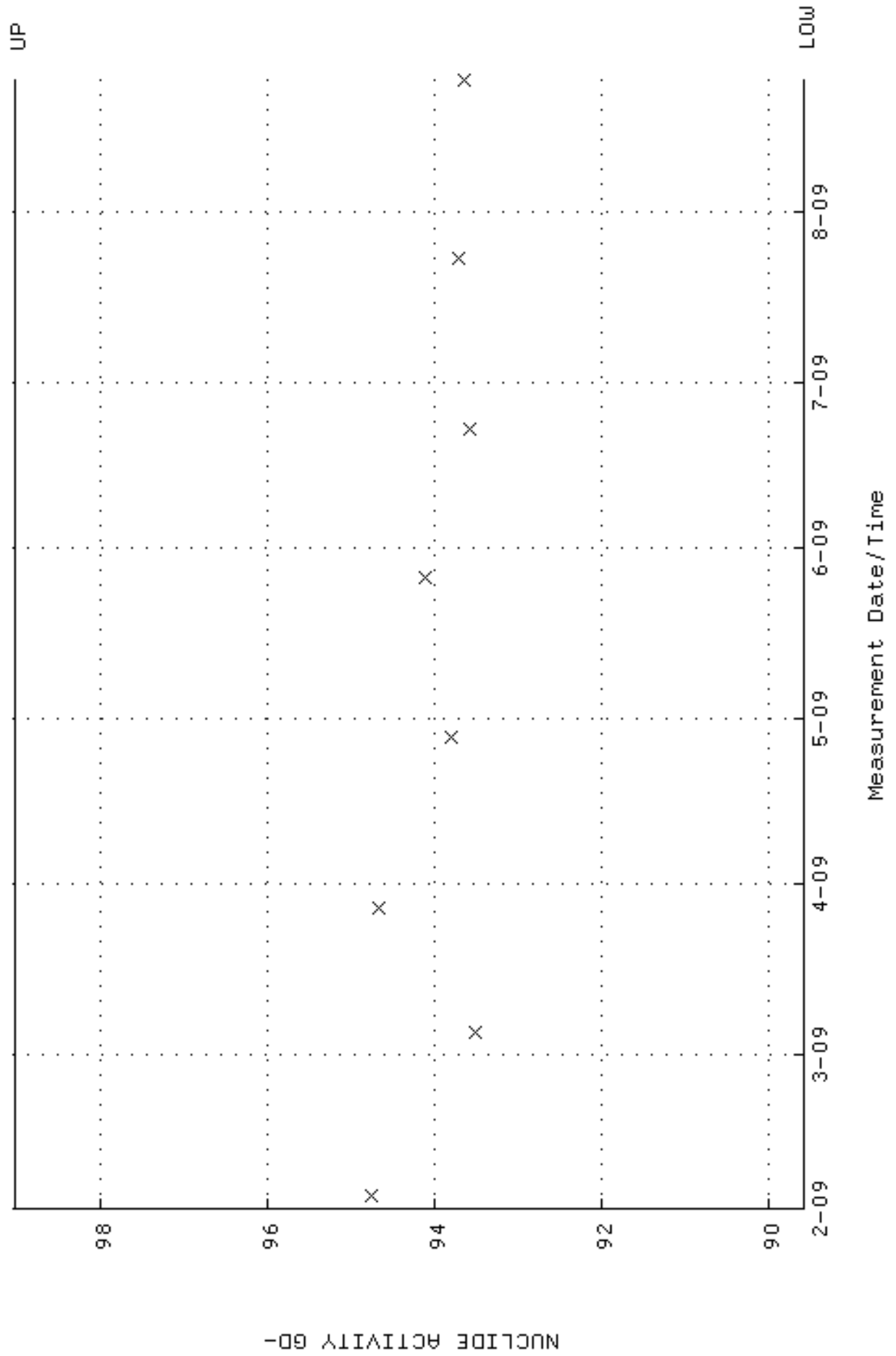
QA filename : DKA100:[ENV_ALPHA.QA.B]B169.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:13:46 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



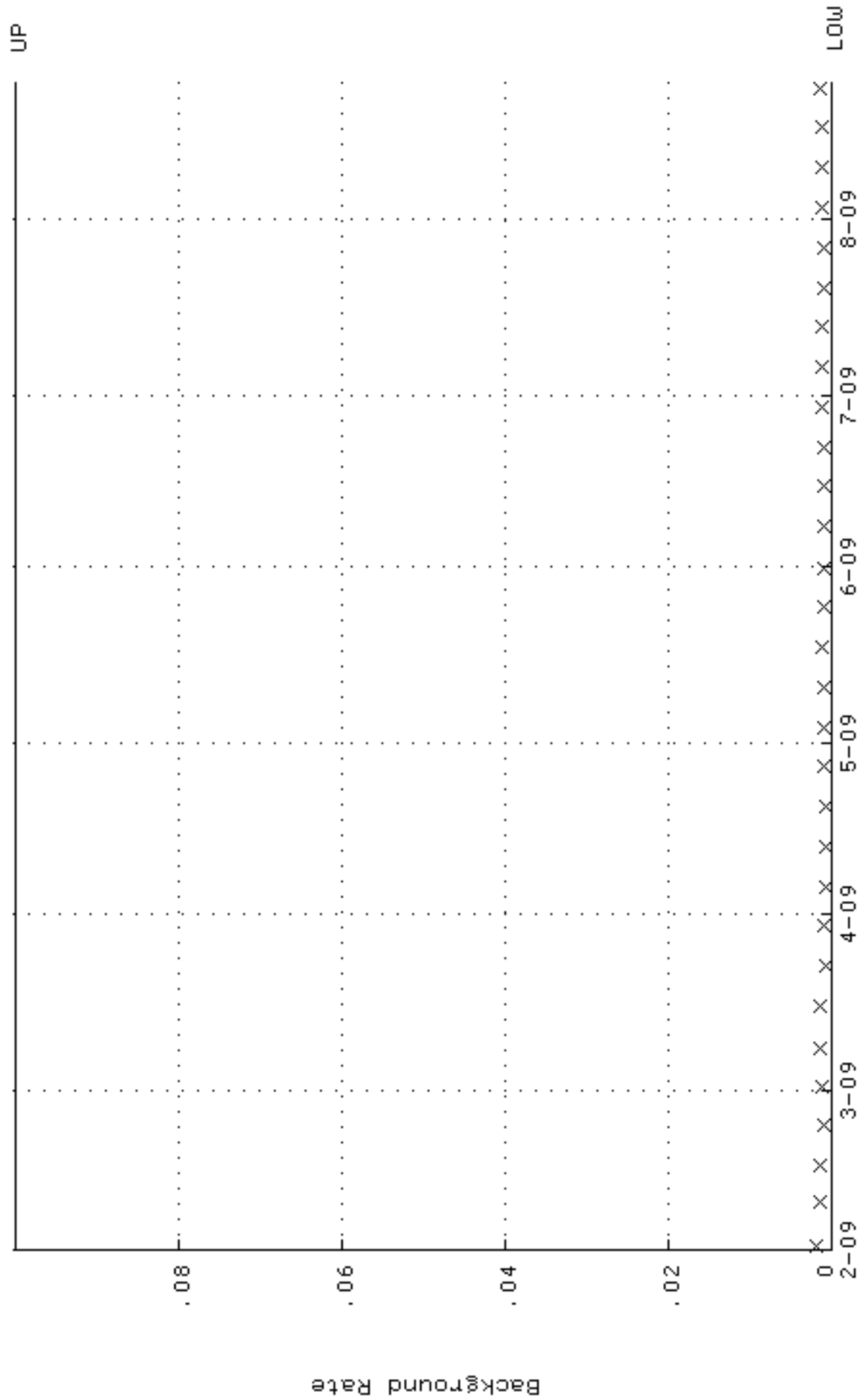
QA filename : DKA100:[ENV_ALPHA.QA.W]W170.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:30:39 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.360563 through 0.380563



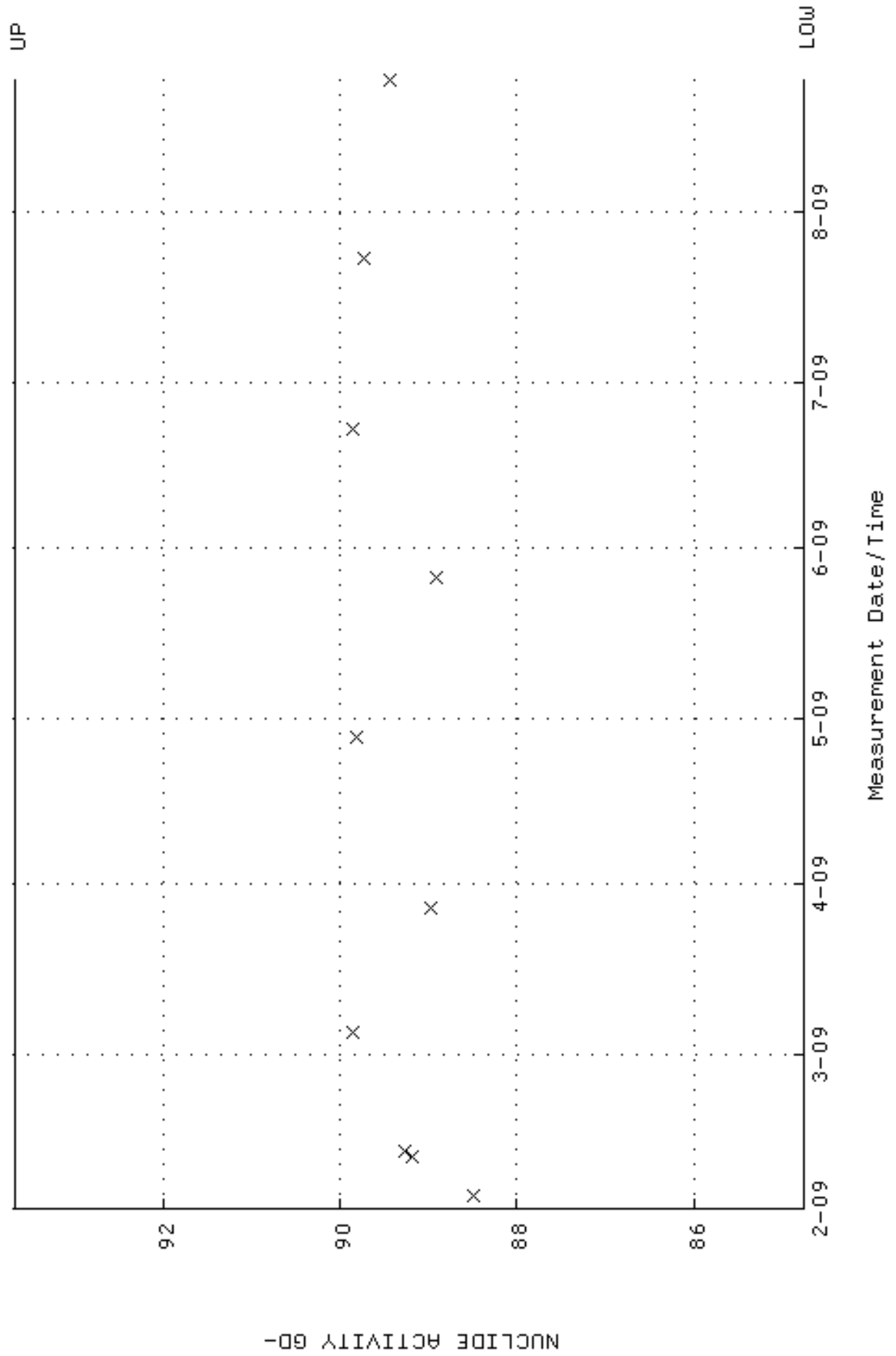
QA filename : DKA100:[ENV_ALPHA.QA.W]W170.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:30:39 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 89.5841 through 99.0139



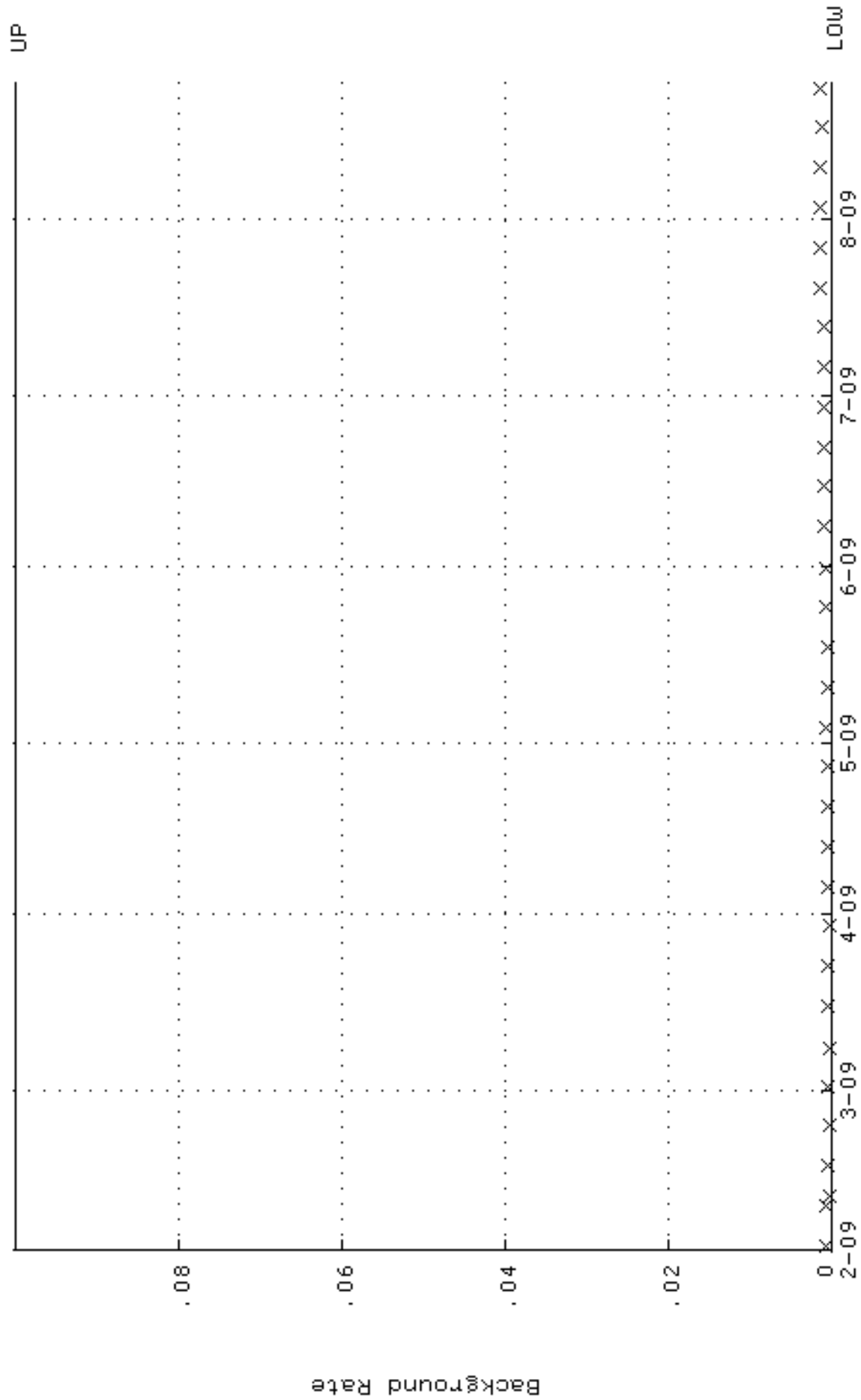
QA filename : DKA100:[ENV_ALPHA.QA.B]B170.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:14:01 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



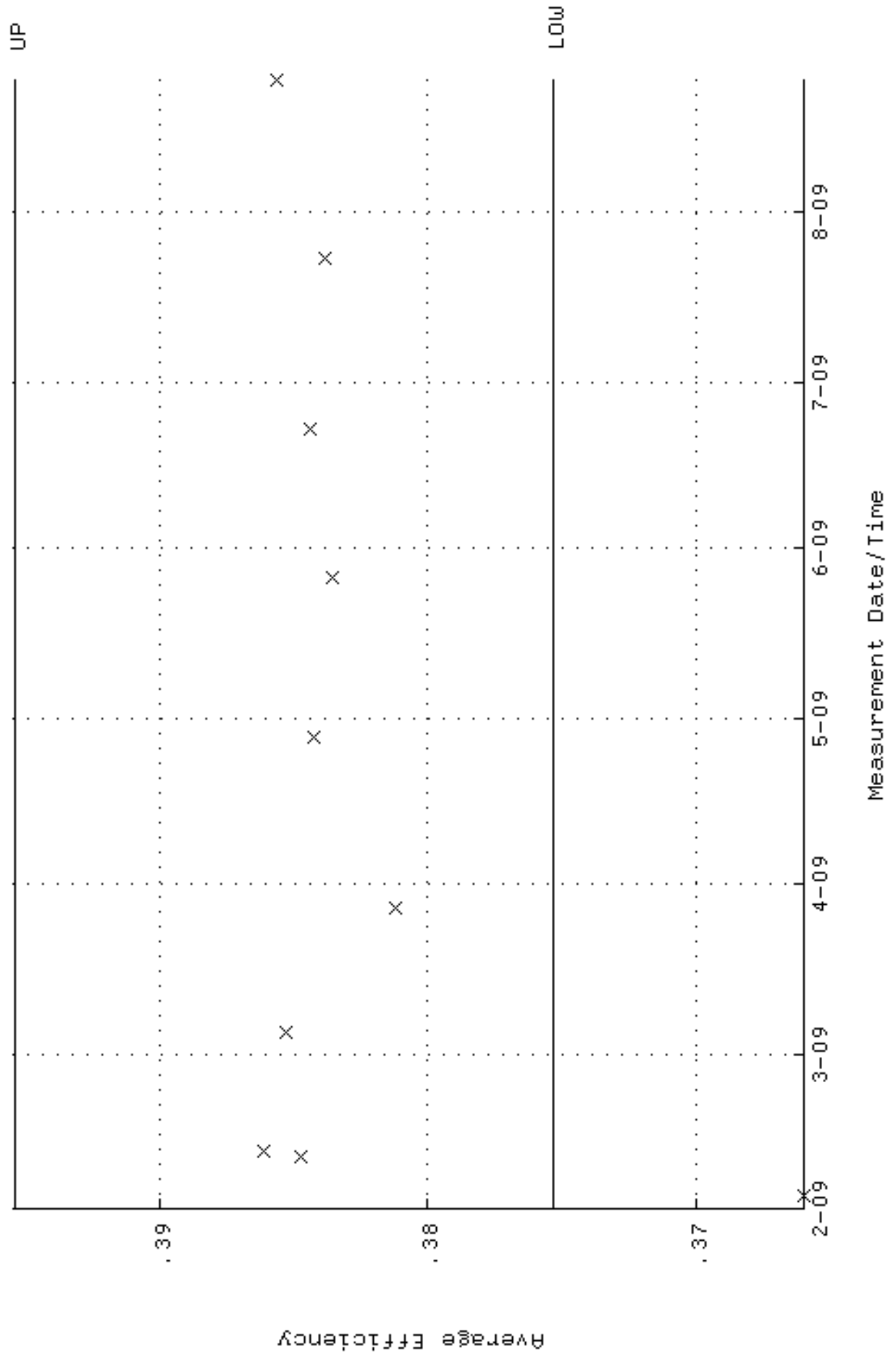
QA filename : DKA100:[ENV_ALPHA.QA.W]W171.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:30:46 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 84.7539 through 93.6753



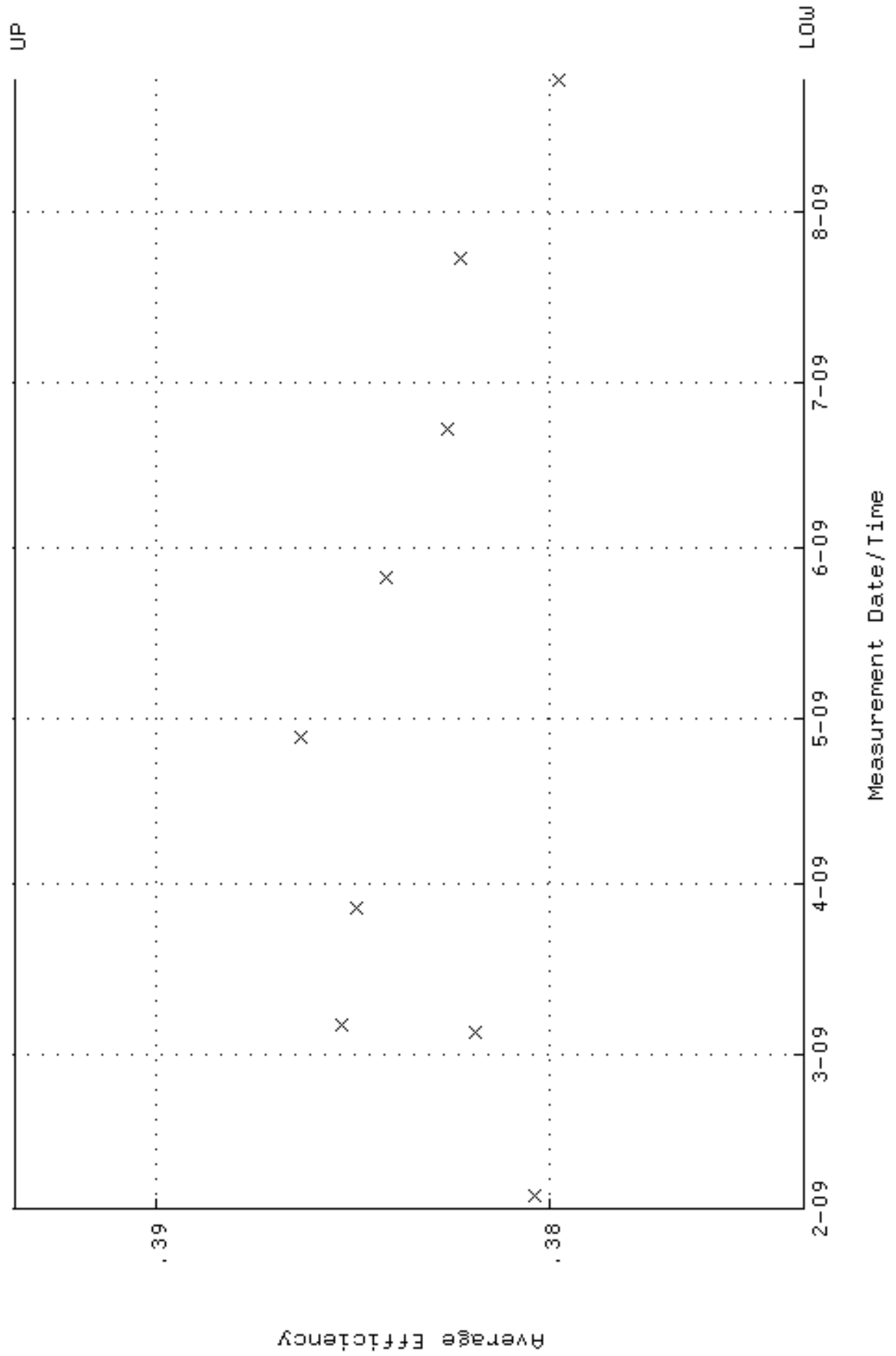
QA filename : DKA100:[ENV_ALPHA.QA.B]B171.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:14:16 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



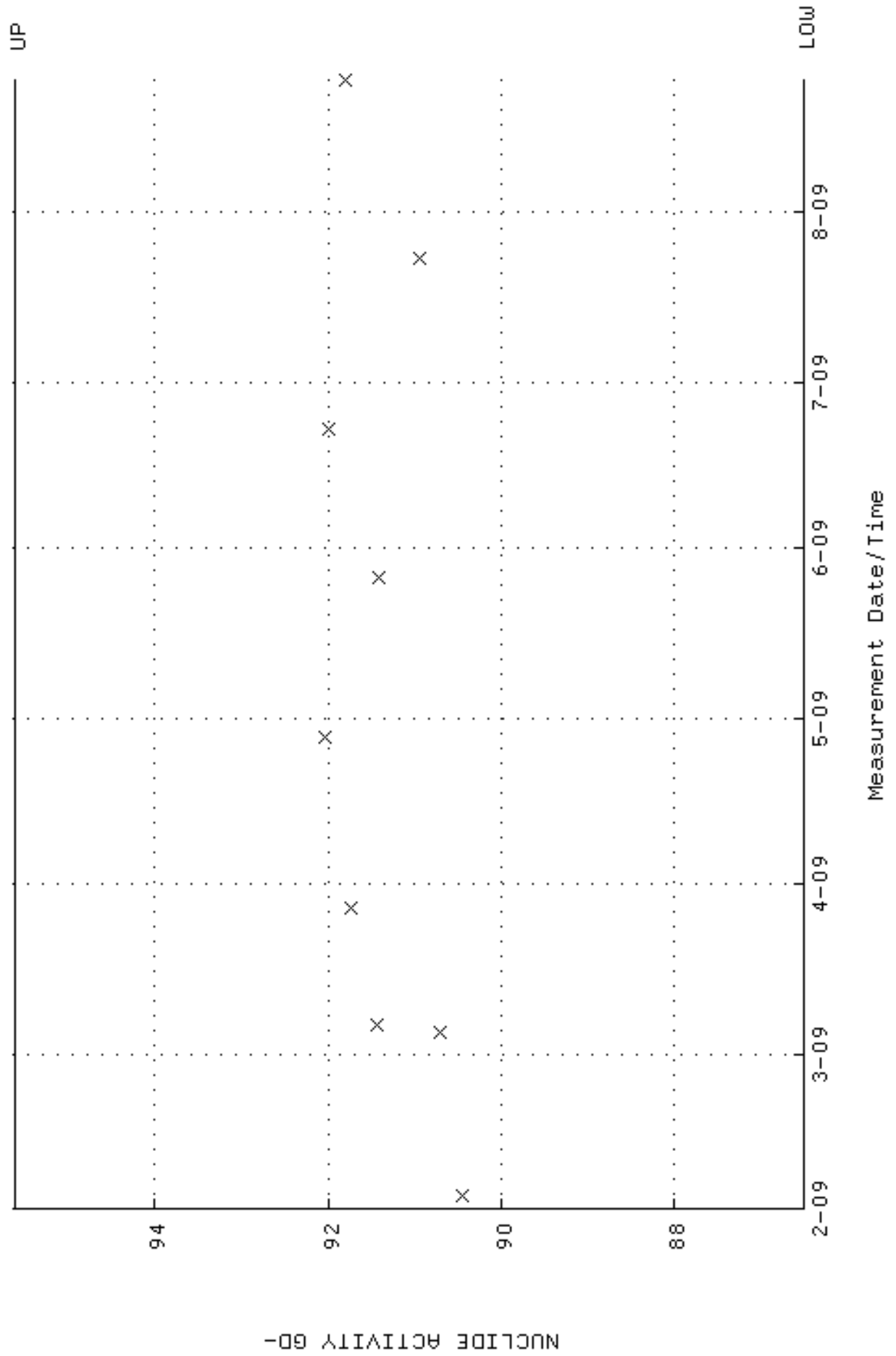
QA filename : DKA100:[ENV_ALPHA.QA.W]W171.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:30:46 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.375364 through 0.395364



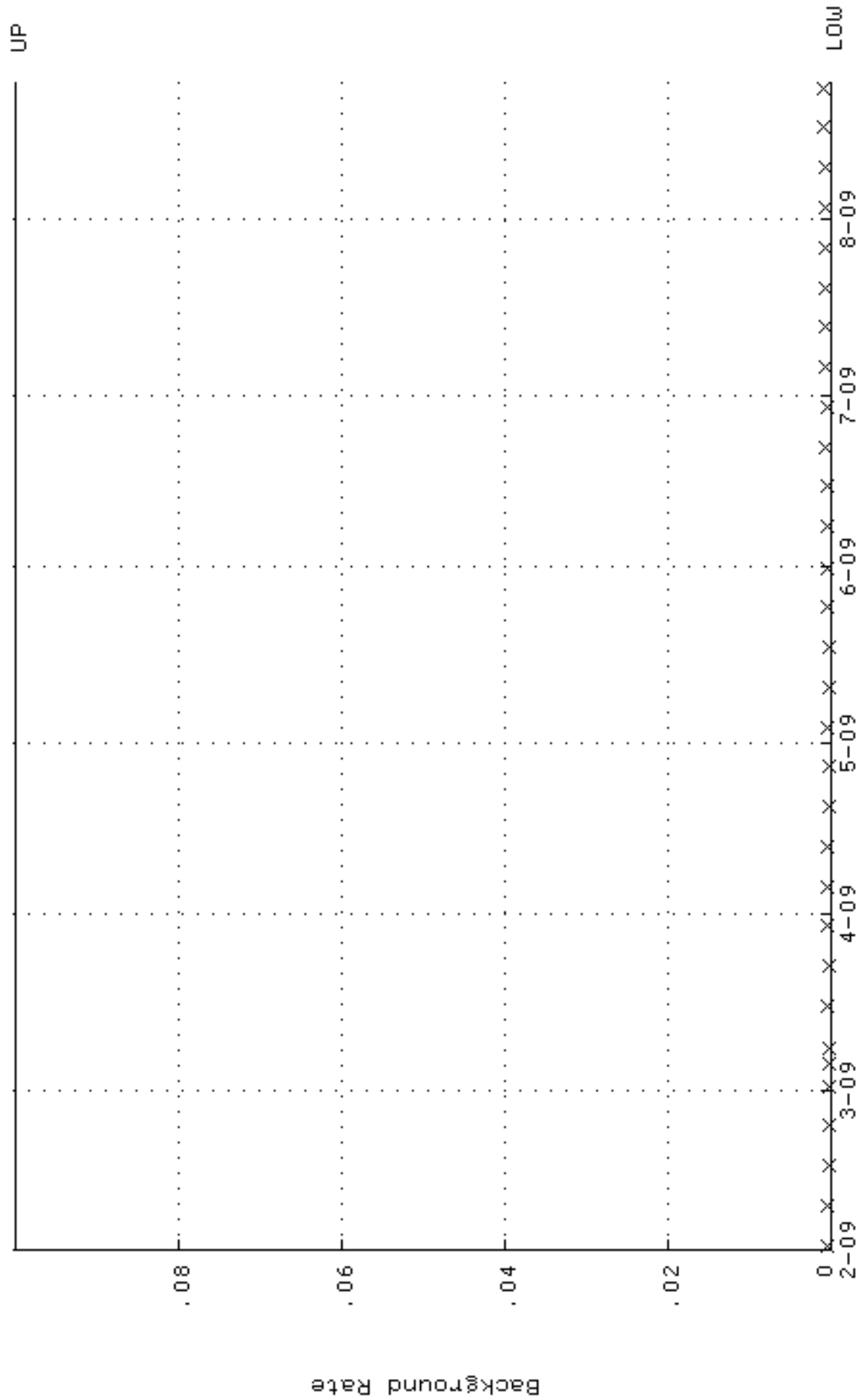
QA filename : DKA100:[ENV_ALPHA.QA.W]W172.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 07:30:53 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.373575 through 0.393575



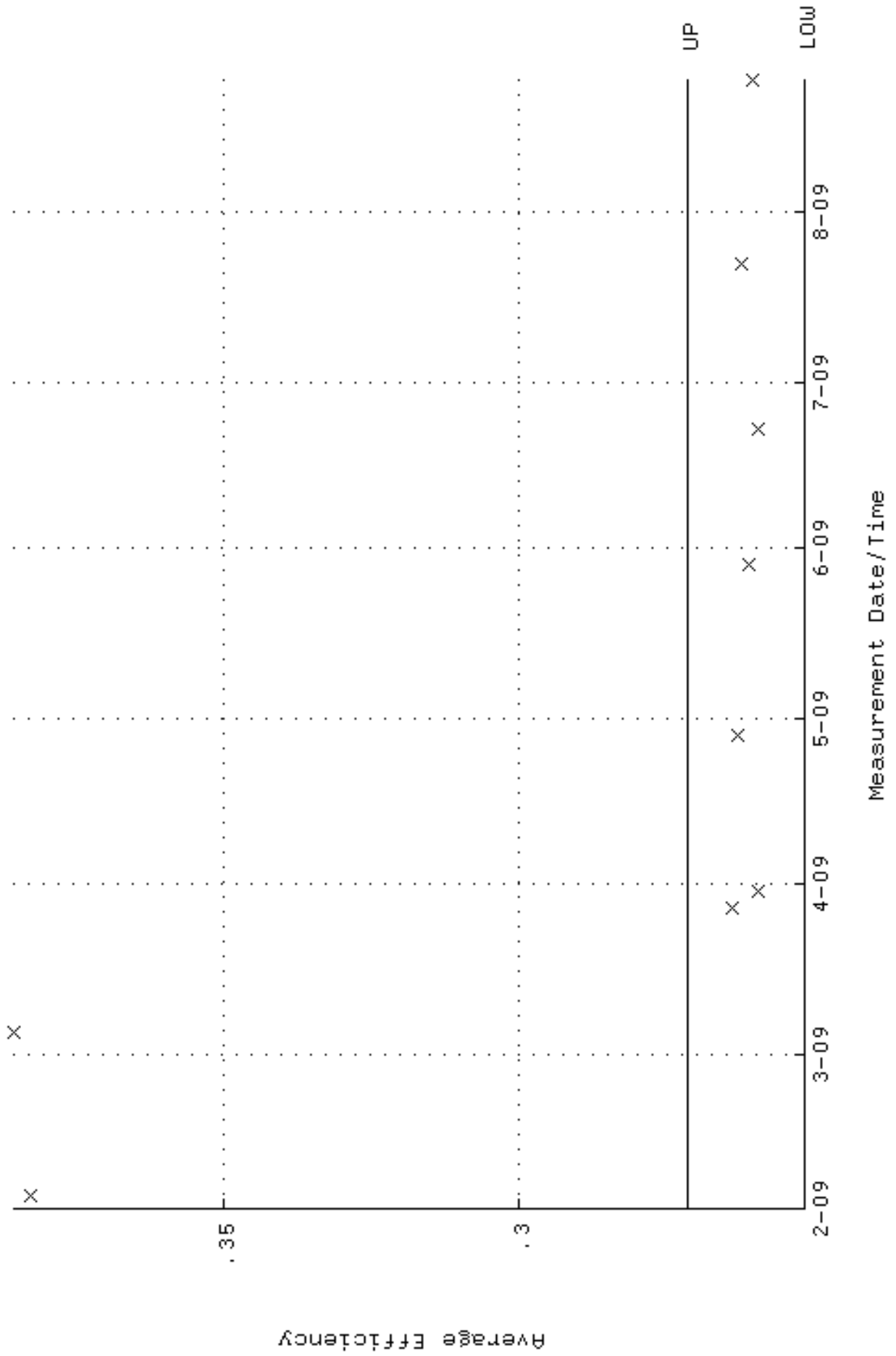
QA filename : DKA100:[ENV_ALPHA.QA.W]W172.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 07:30:53 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.5089 through 95.6151



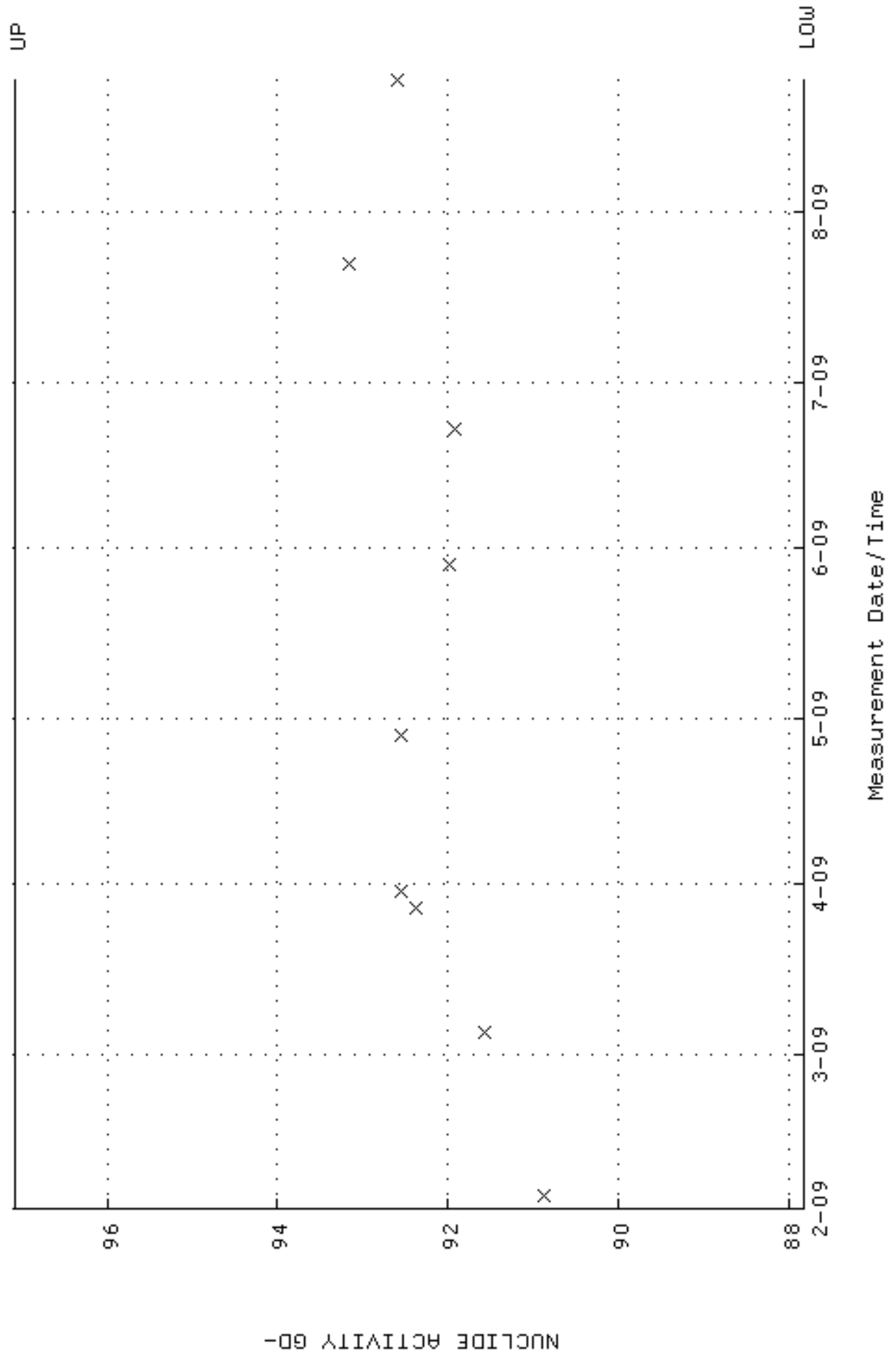
QA filename : DKA100:[ENV_ALPHA.QA.B]B172.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:14:33 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



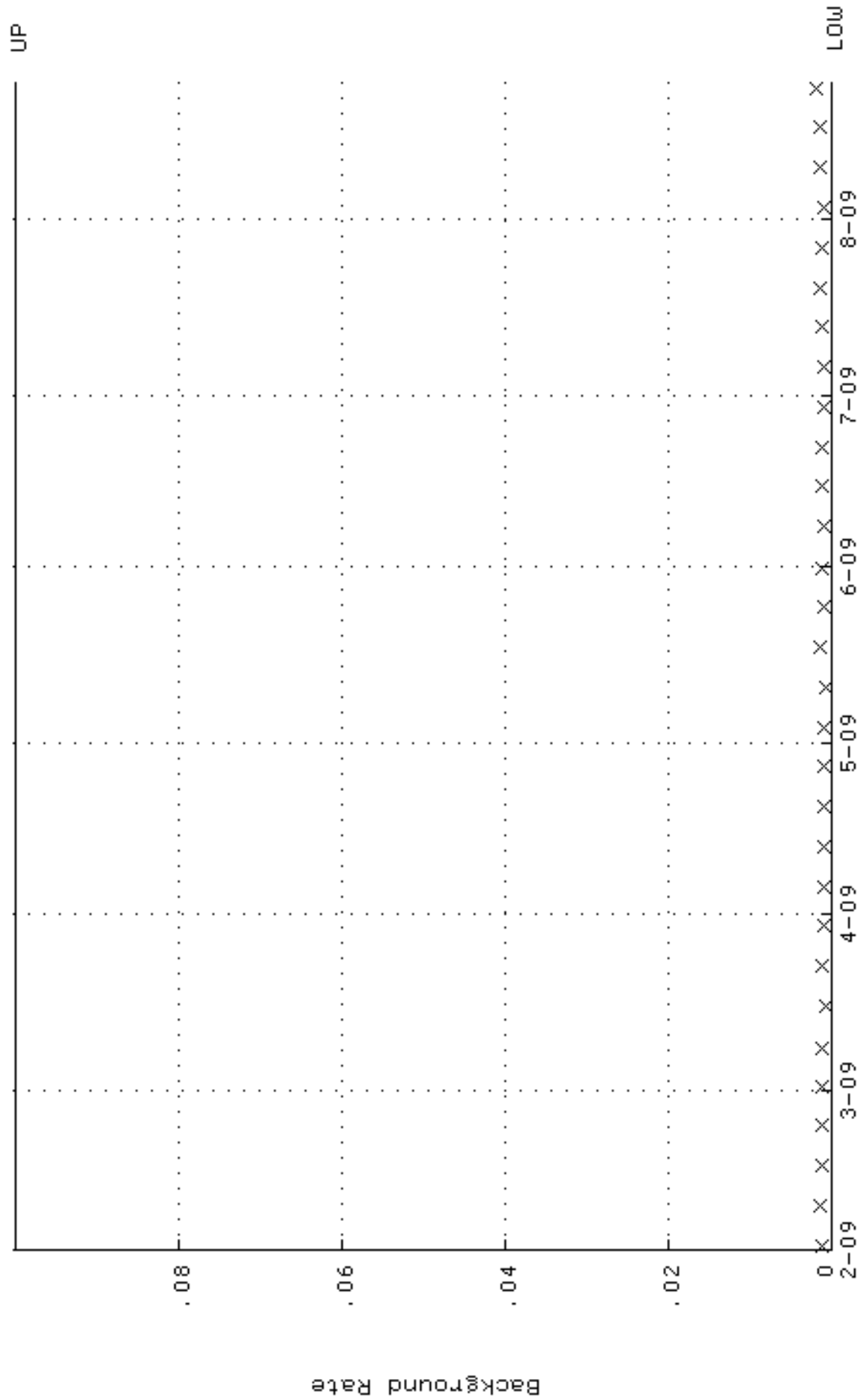
QA filename : DKA100:[ENV_ALPHA.QA.W]W173.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:05:35 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.251498 through 0.271498



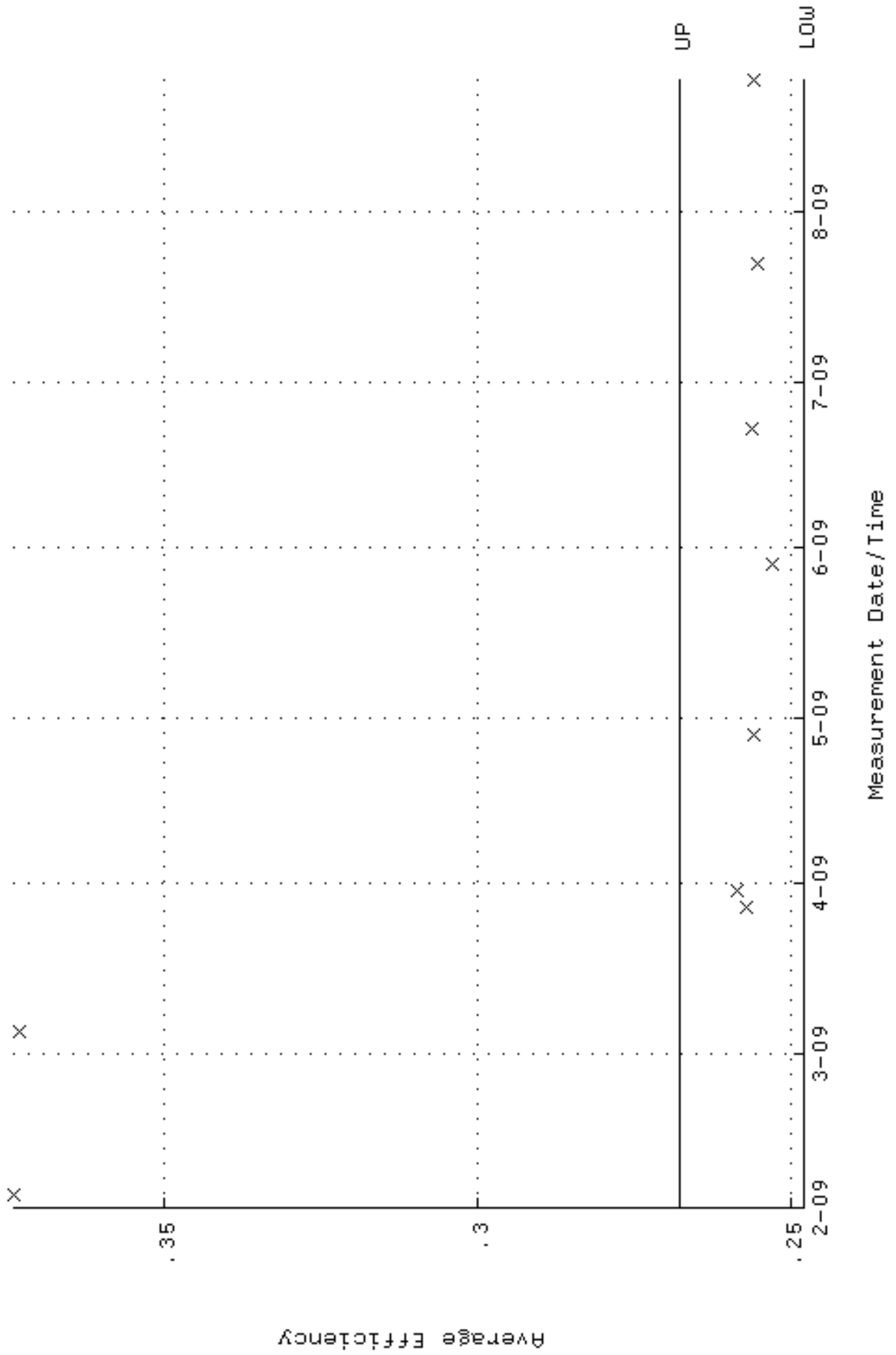
QA filename : DKA100:[ENV_ALPHA.QA.W]W173.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:05:35 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 87.8322 through 97.0776



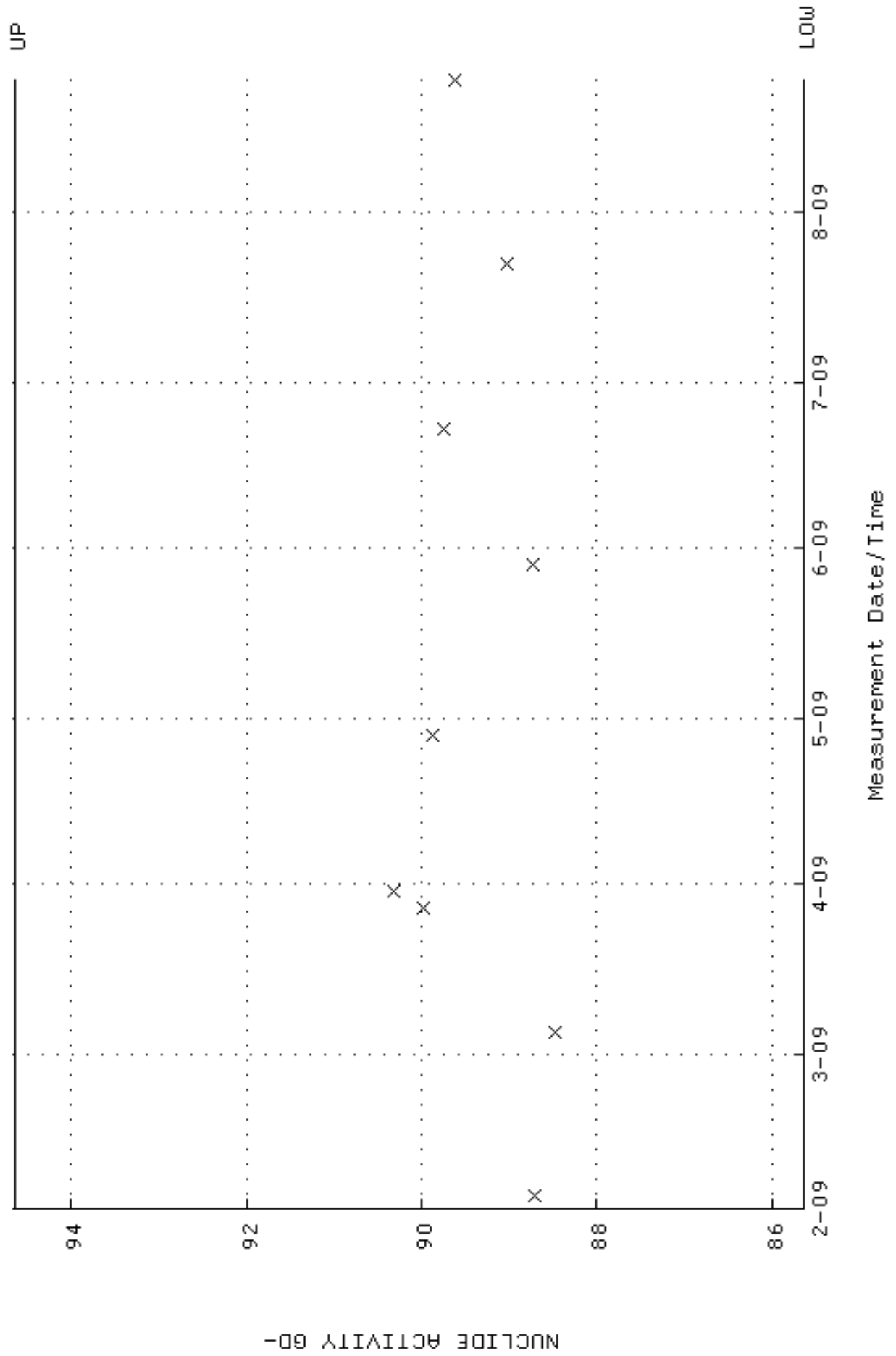
QA filename : DKA100:[ENV_ALPHA.QA.B]B173.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:14:48 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



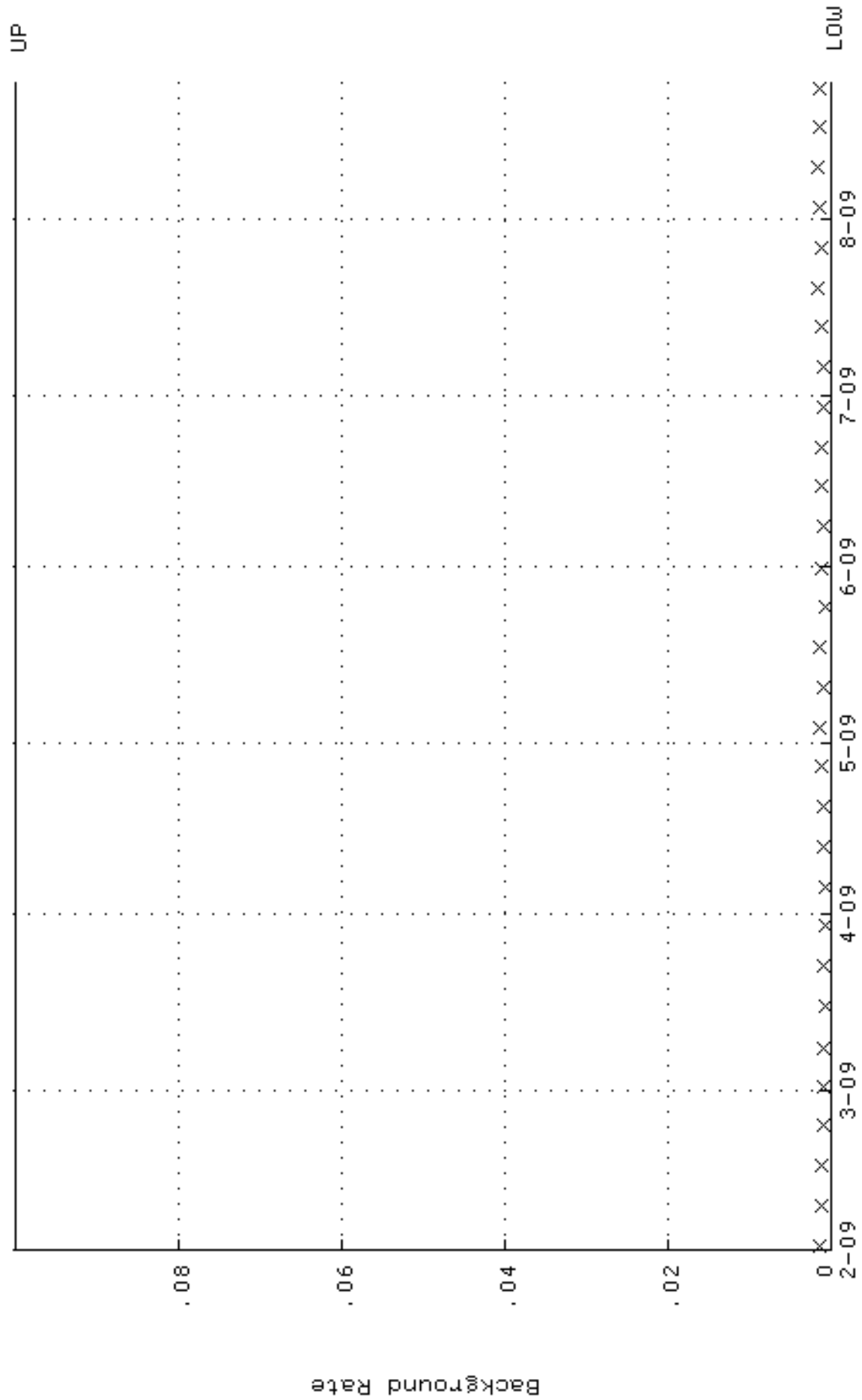
QA filename : DKA100:[ENV_ALPHA.QA.W]W174.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:06:05 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.248038 through 0.268038



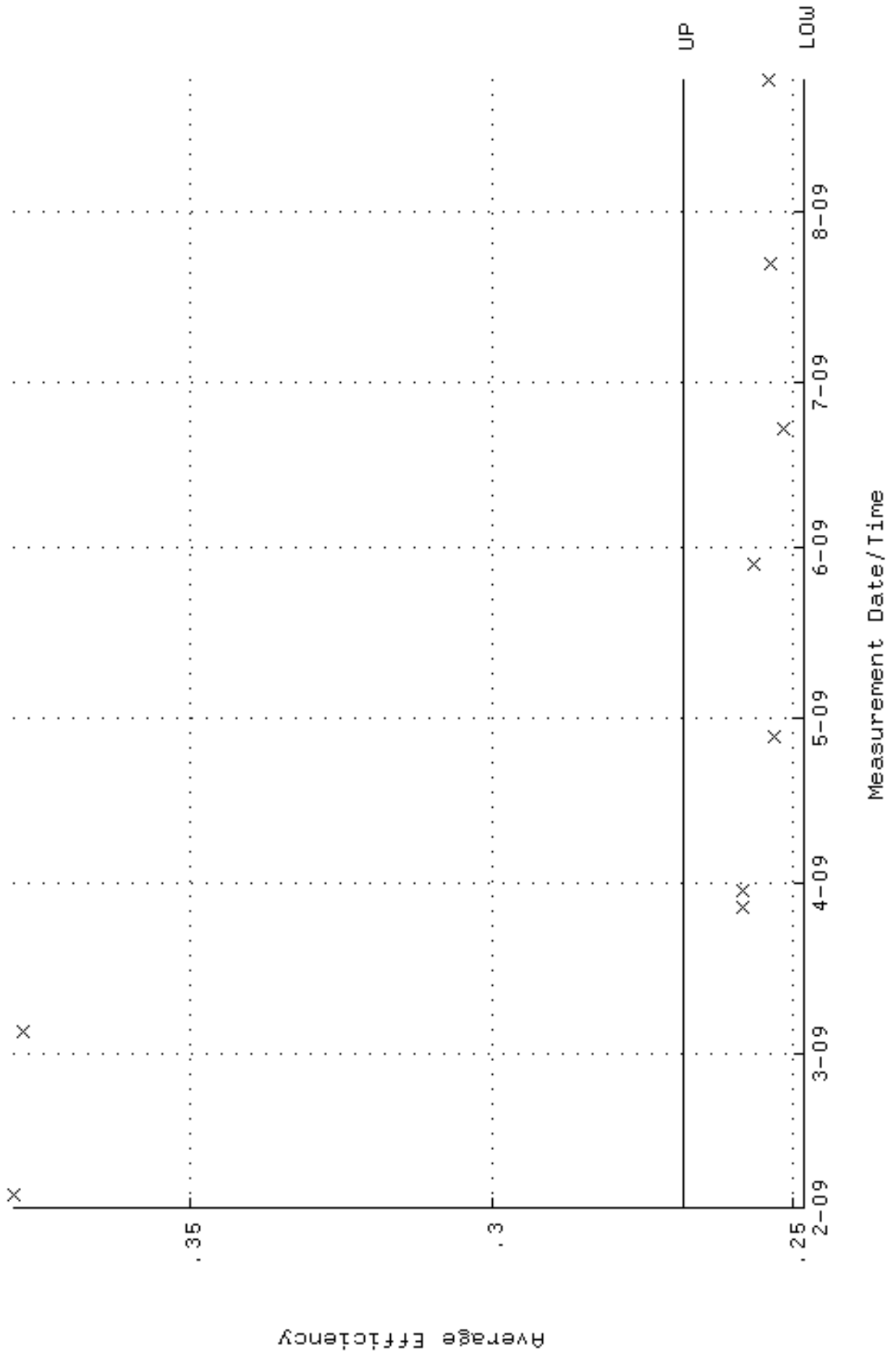
QA filename : DKA100:[ENV_ALPHA.QA.W]W174.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:06:05 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 85.6304 through 94.6442



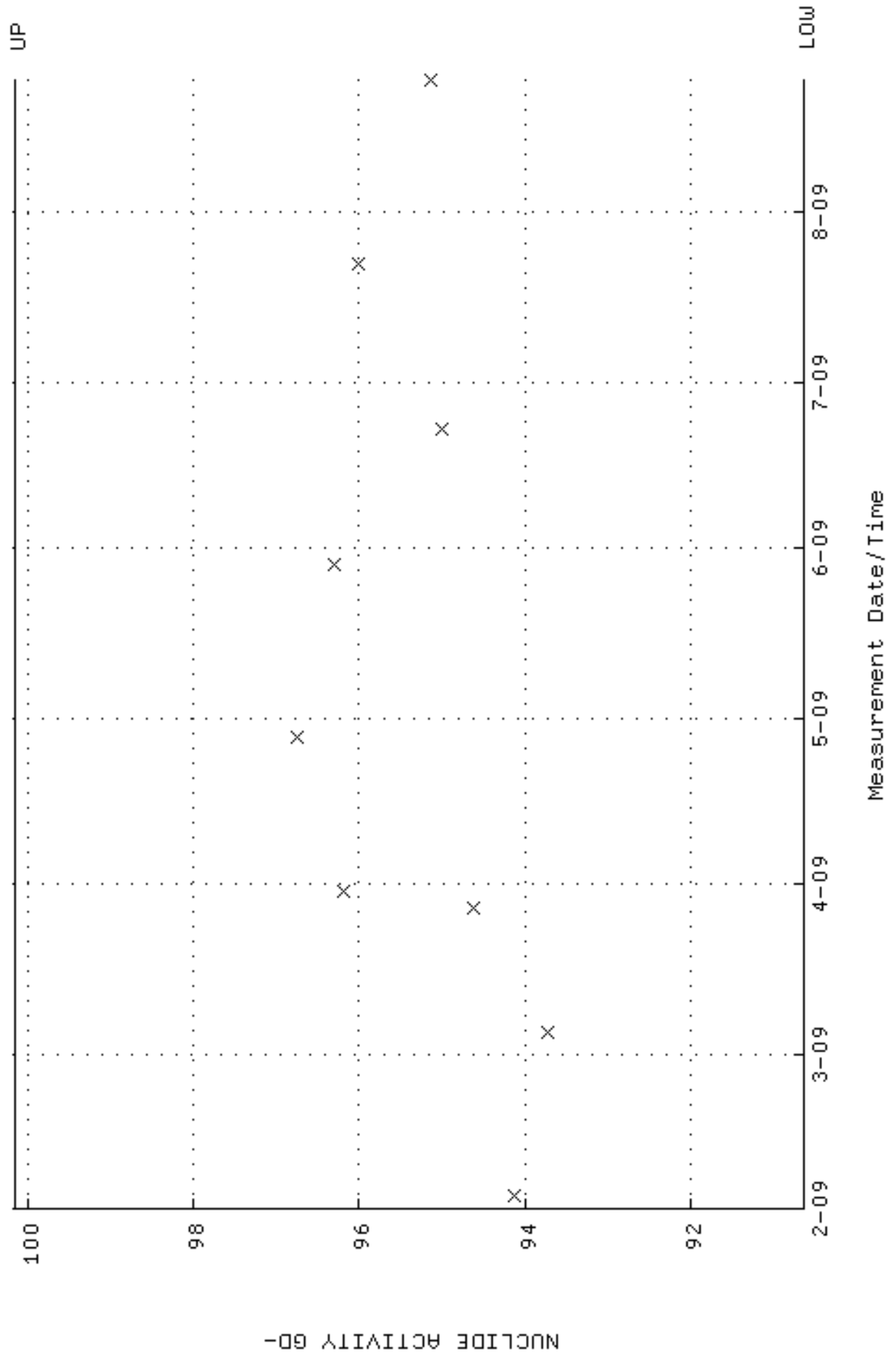
QA filename : DKA100:[ENV_ALPHA.QA.B]B174.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:15:01 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



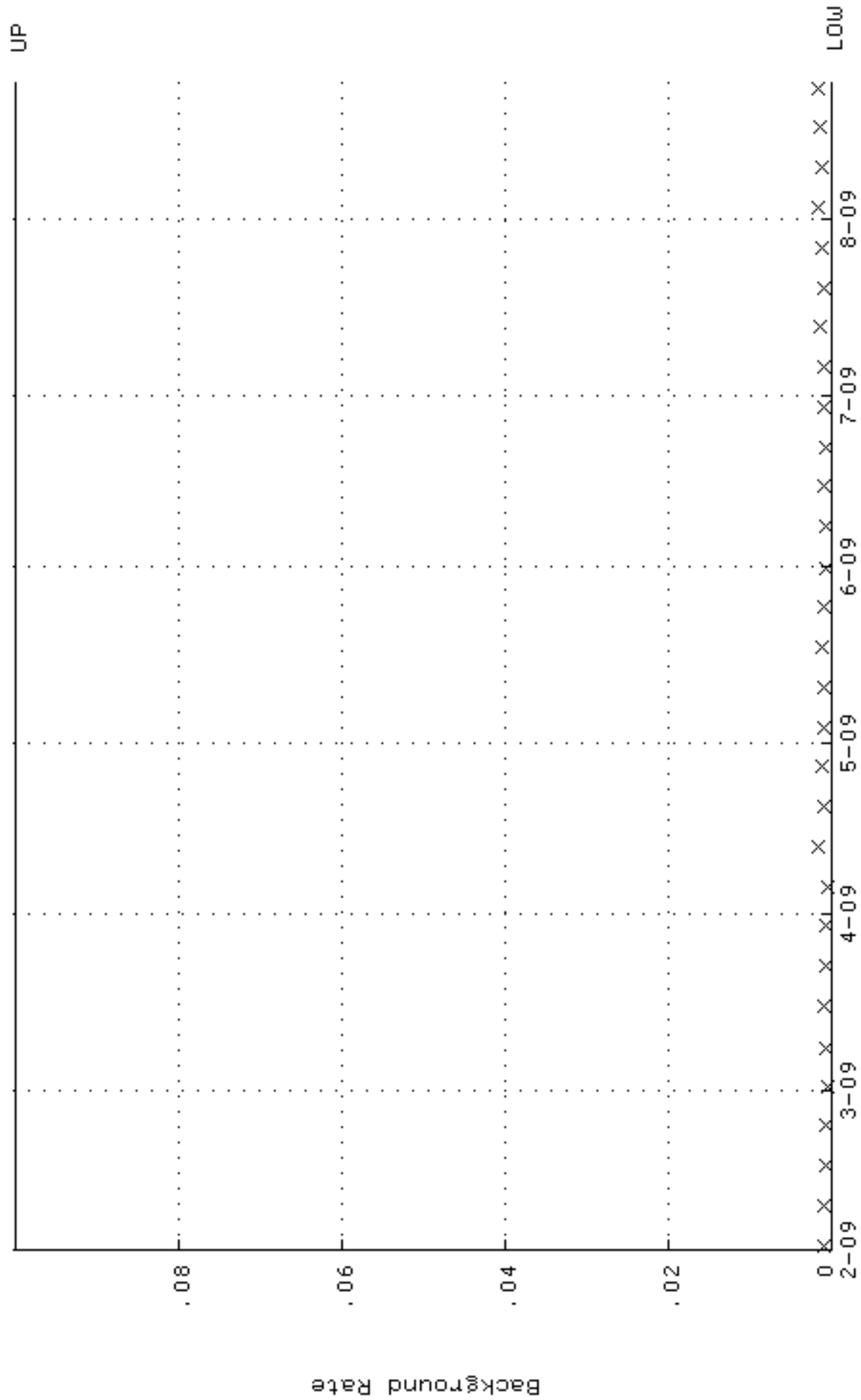
QA filename : DKA100:[ENV_ALPHA.QA.W]W175.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:06:46 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.248296 through 0.268296



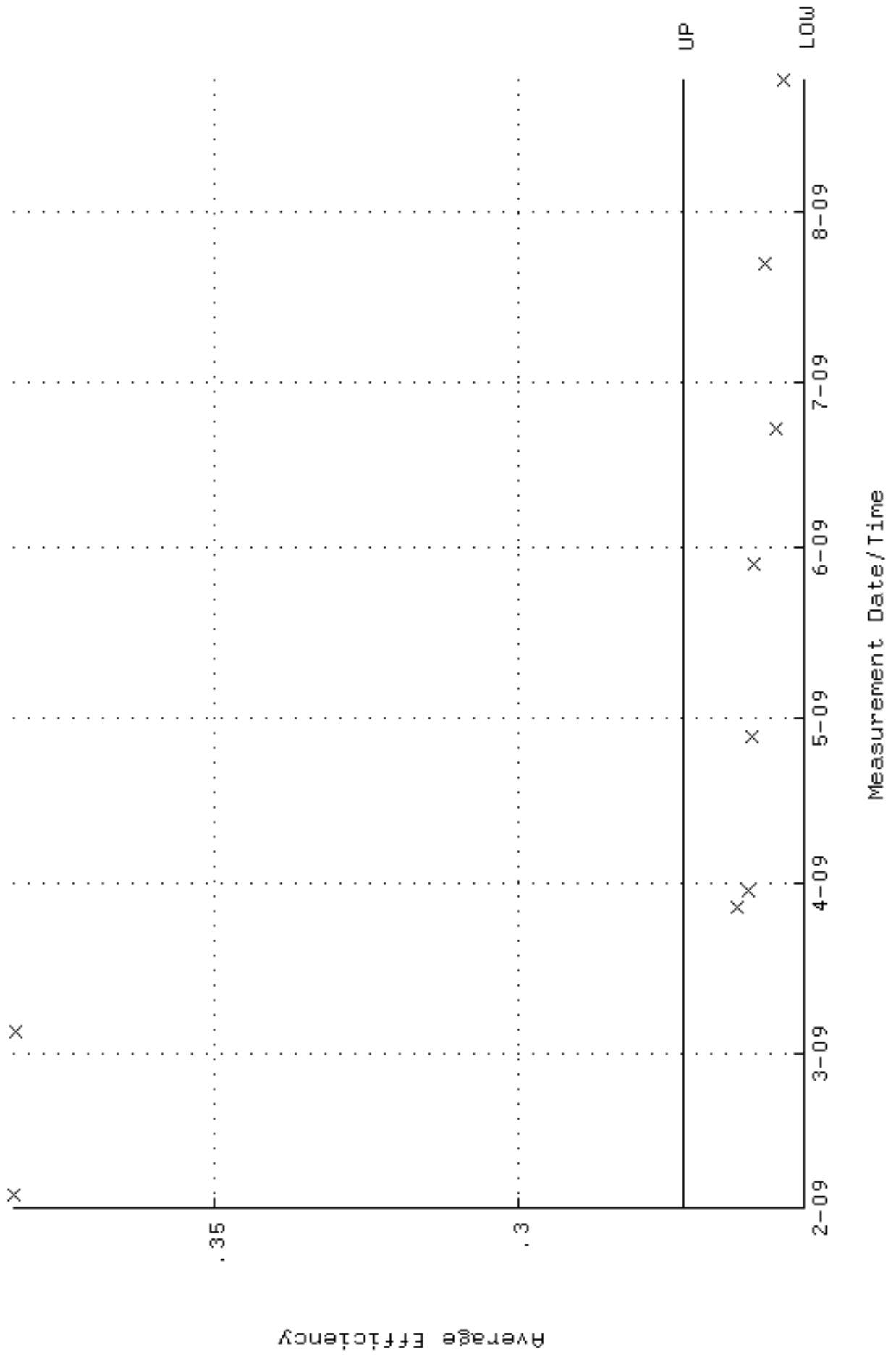
QA filename : DKA100:[ENV_ALPHA.QA.W]W175.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:06:46 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 90.6224 through 100.162



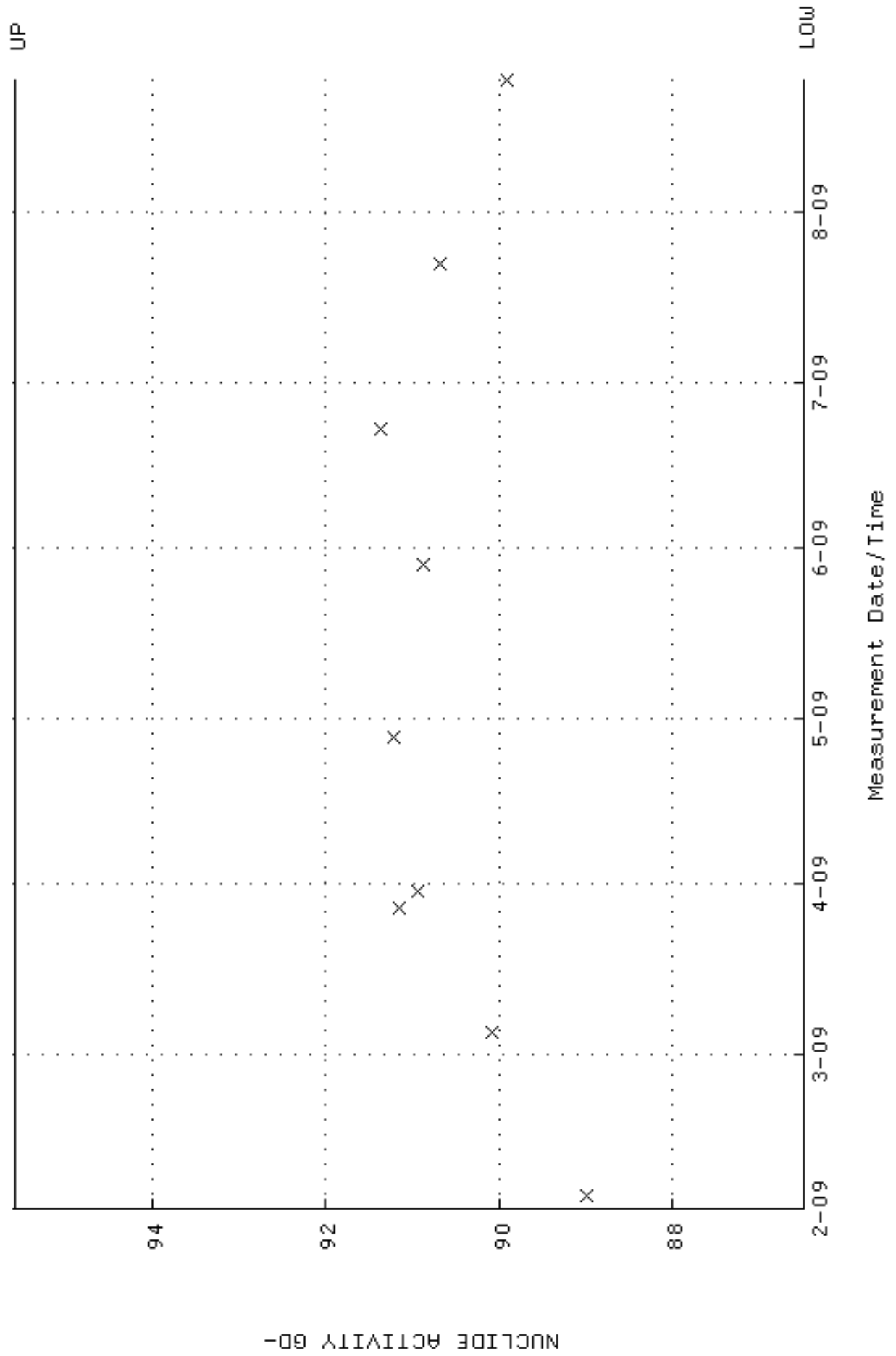
QA filename : DKA100:[ENV_ALPHA.QA.B]B175.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:15:19 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



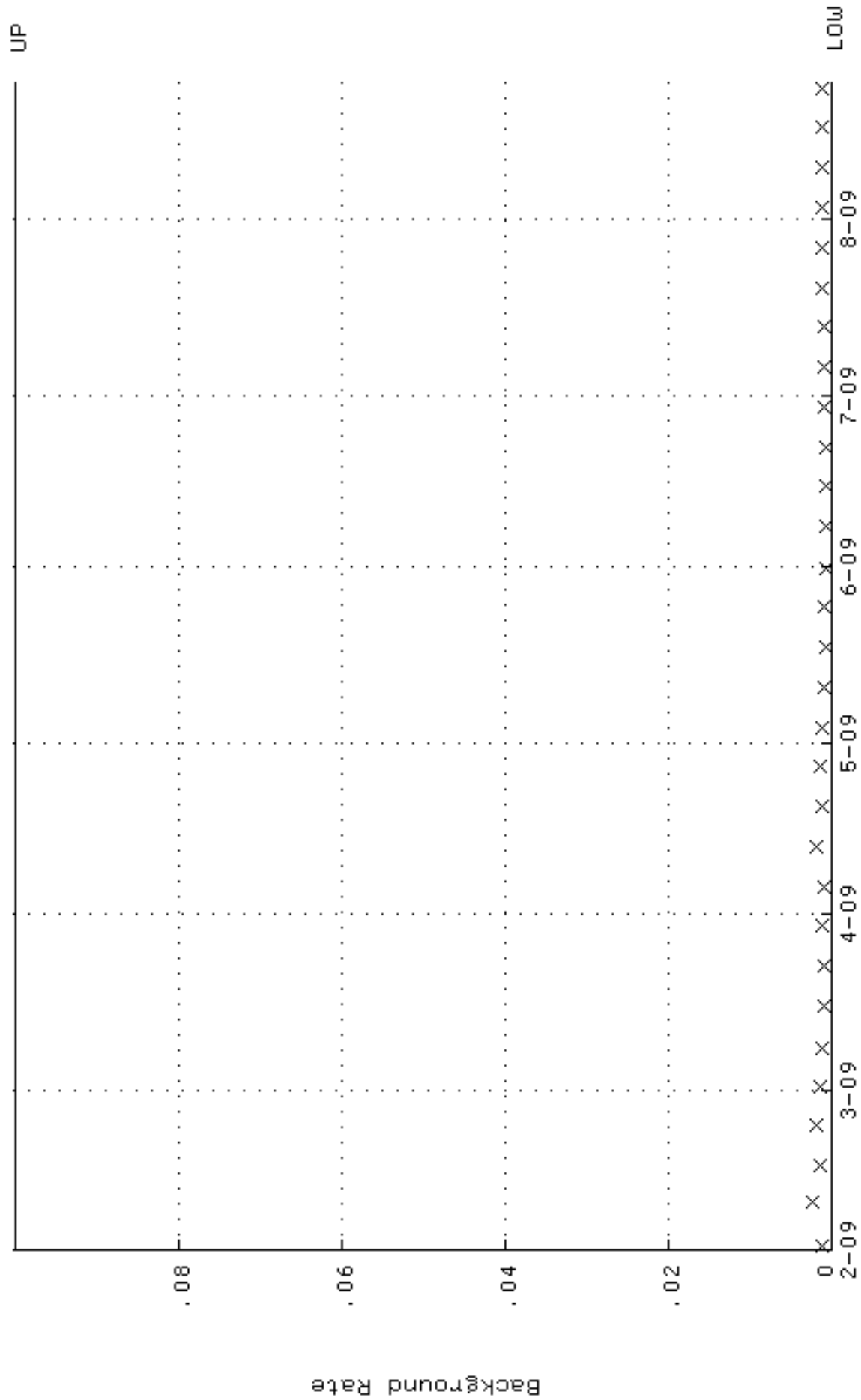
QA filename : DKA100:[ENV_ALPHA.QA.W]W176.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:07:37 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.253285 through 0.273285



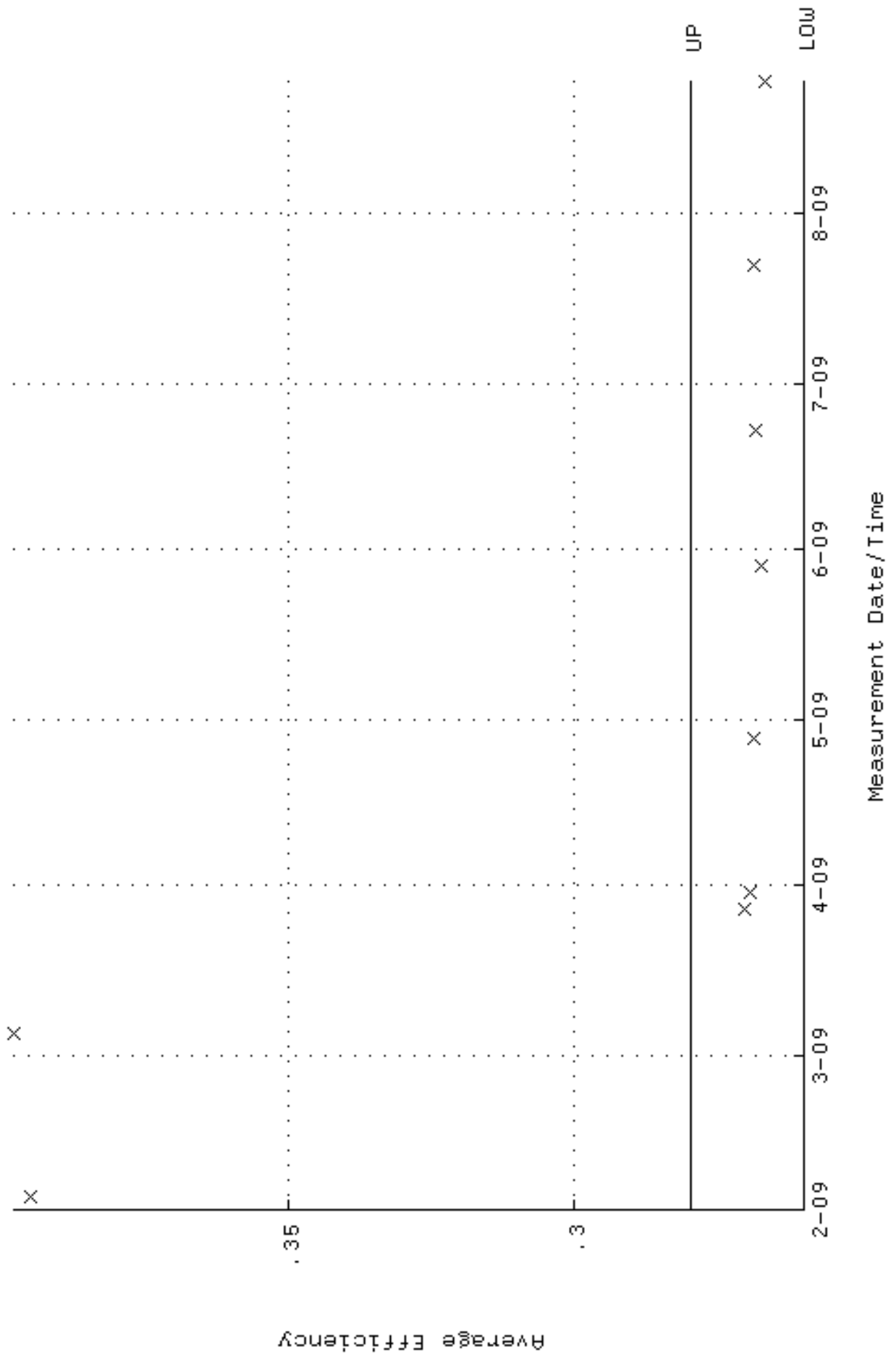
QA filename : DKA100:[ENV_ALPHA.QA.W]W176.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:07:37 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.4817 through 95.5851



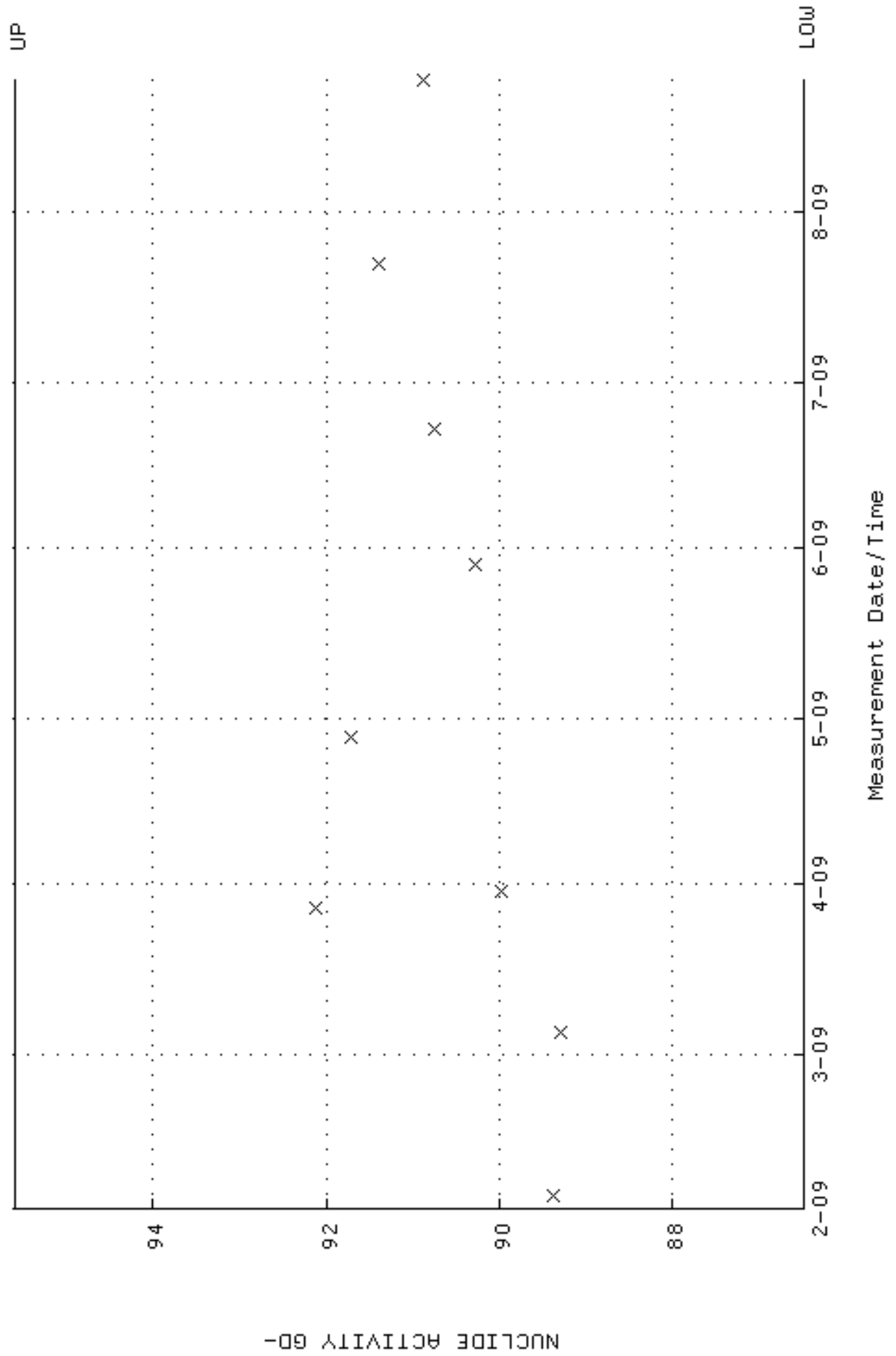
QA filename : DKA100:[ENV_ALPHA.QA.B]B176.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:15:34 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



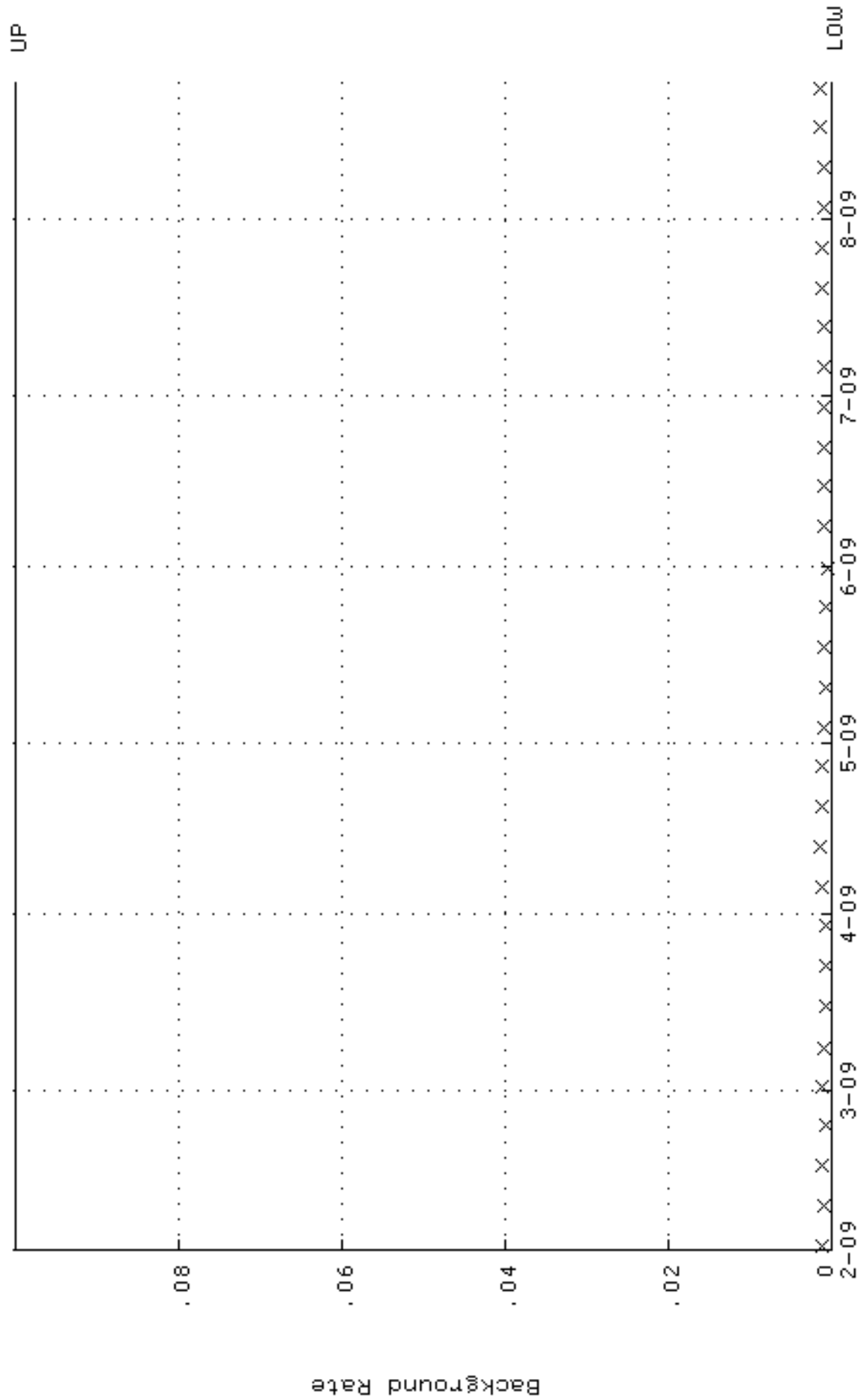
QA filename : DKA100:[ENV_ALPHA.QA.W]W177.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:08:31 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.259935 through 0.279935



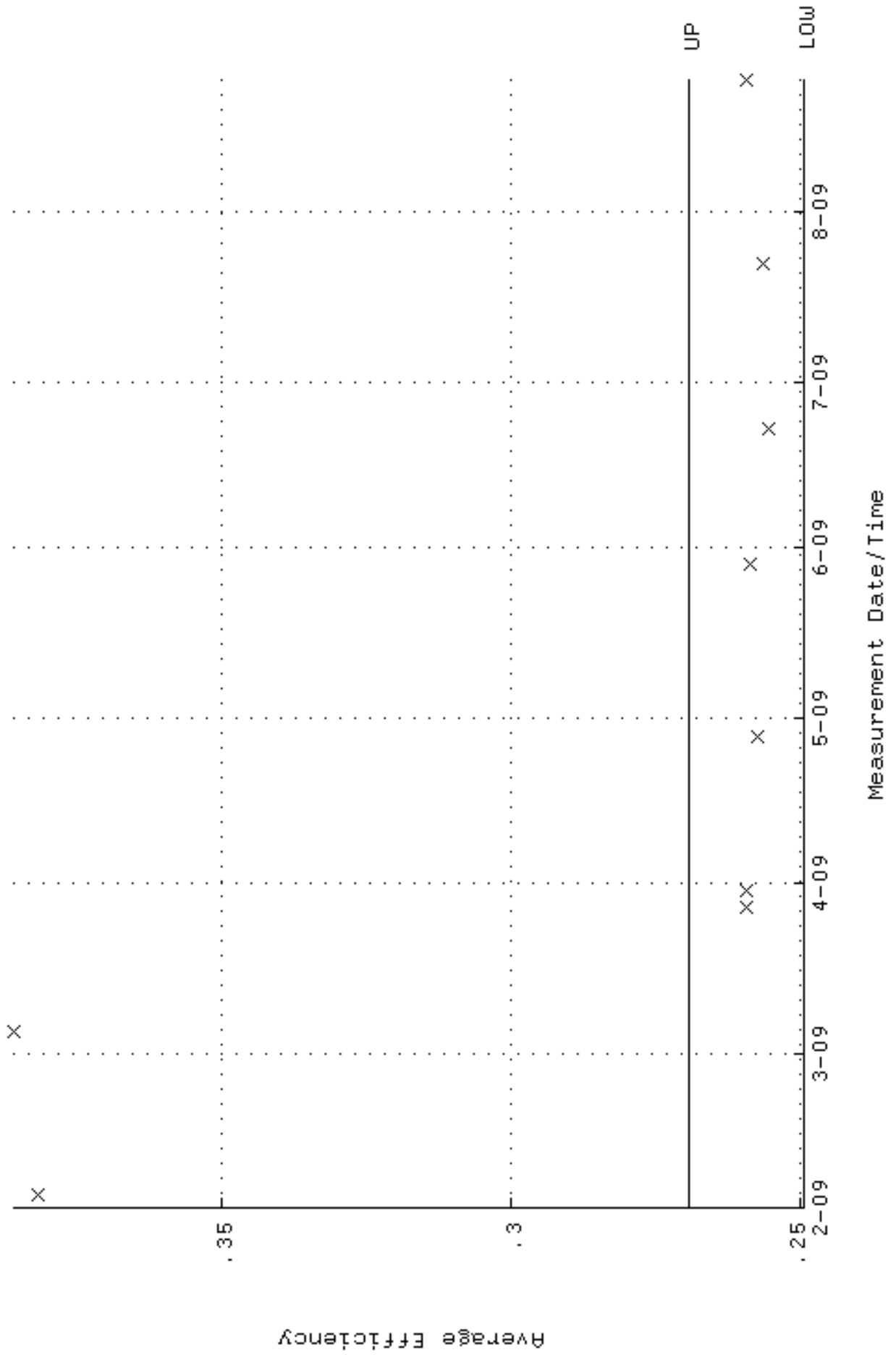
QA filename : DKA100:[ENV_ALPHA.QA.W]W177.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:08:31 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.4857 through 95.5895



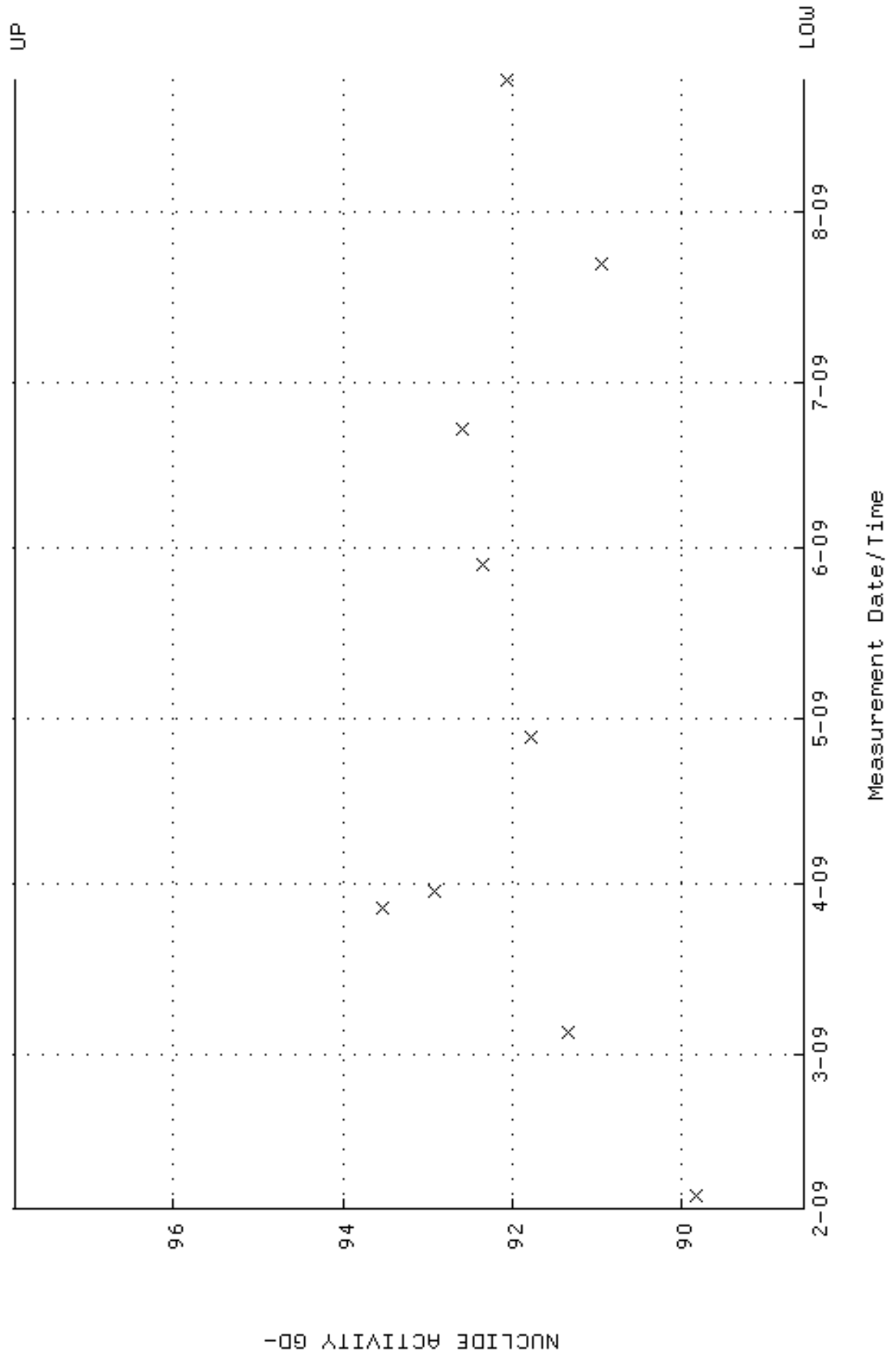
QA filename : DKA100:[ENV_ALPHA.QA.B]B177.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:15:46 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



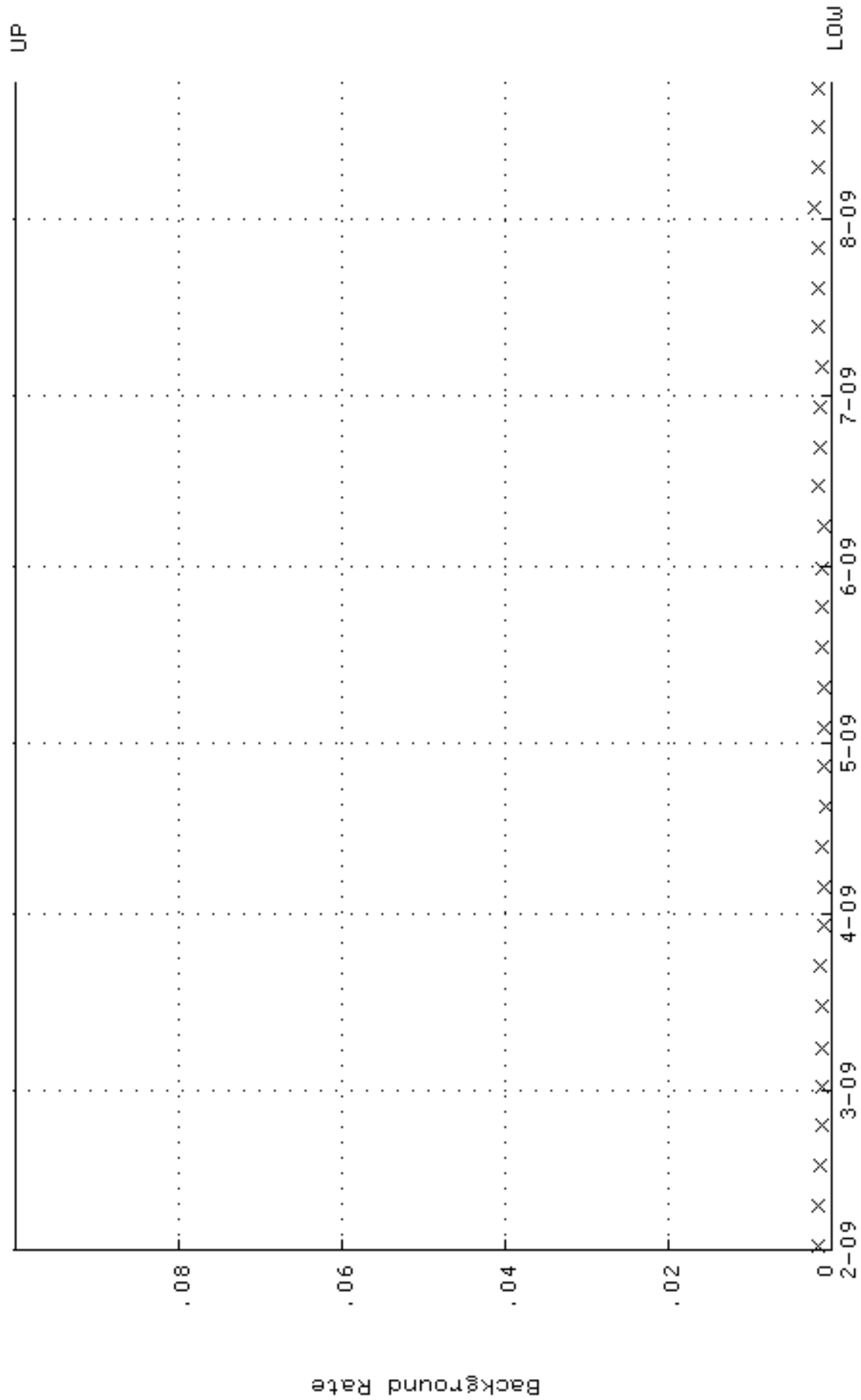
QA filename : DKA100:[ENV_ALPHA.QA.W]W178.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:08:38 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.249490 through 0.269490



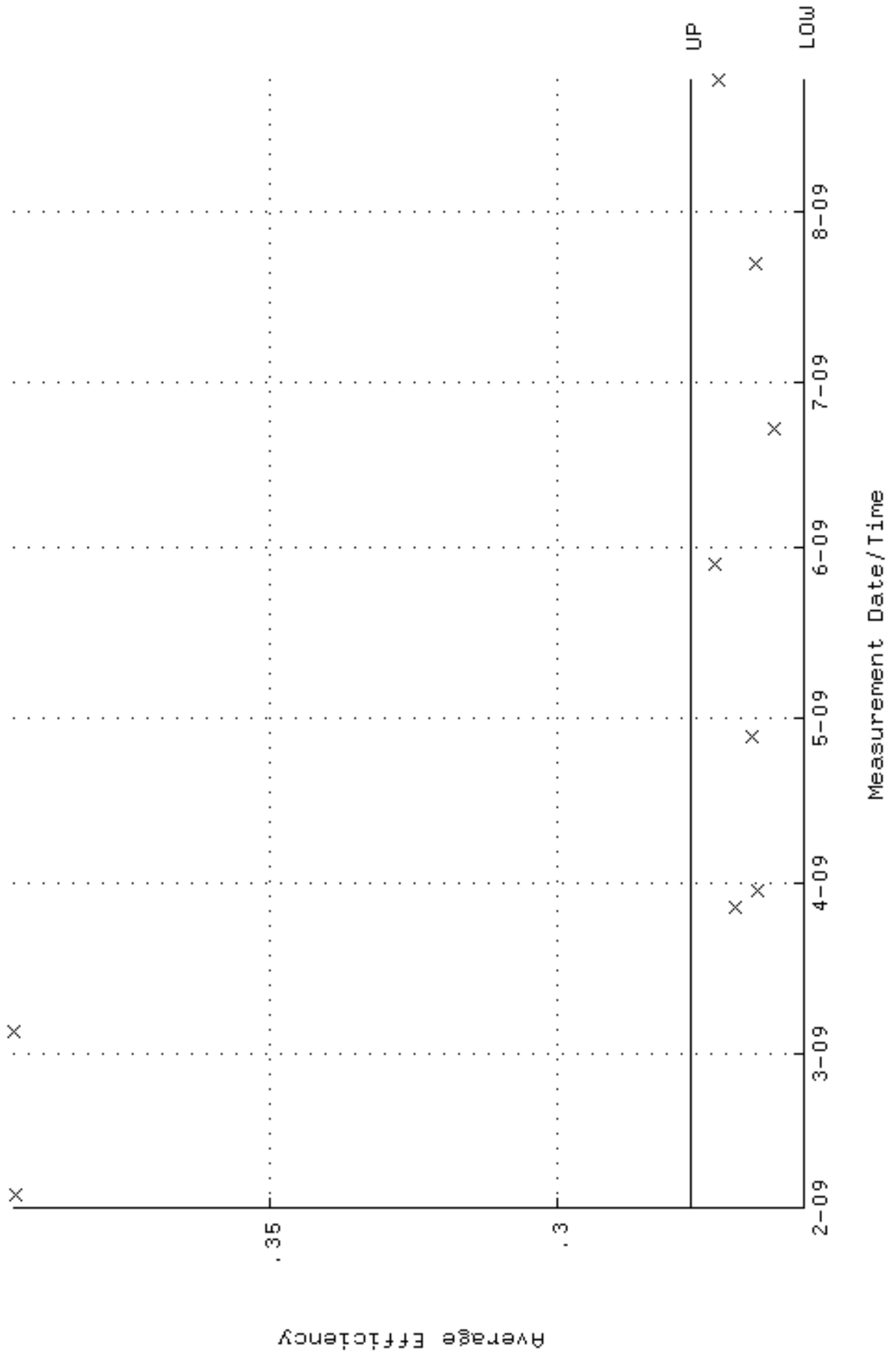
QA filename : DKA100:[ENV_ALPHA.QA.W]W178.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:08:38 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 88.5525 through 97.8739



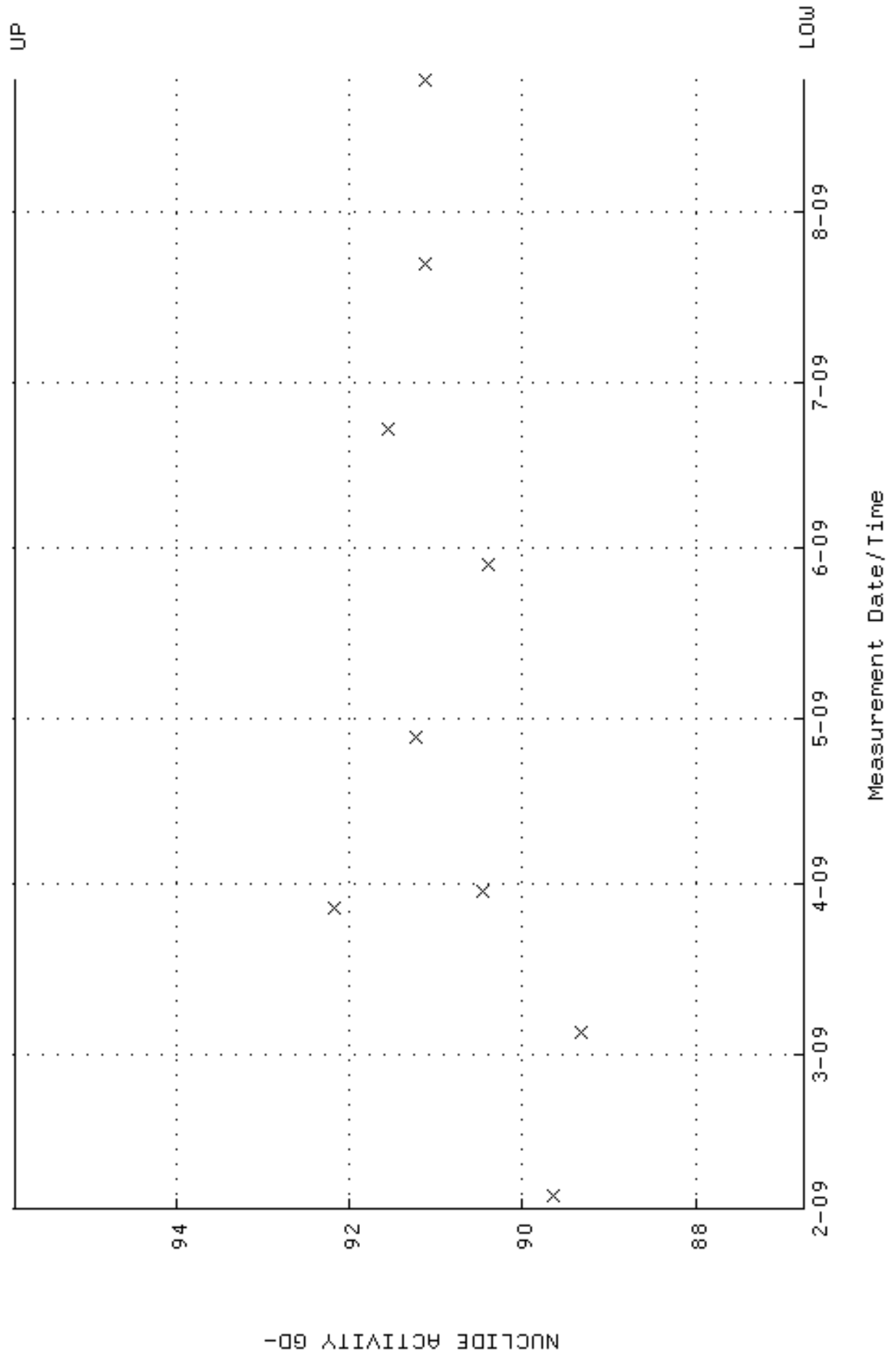
QA filename : DKA100:[ENV_ALPHA.QA.B]B178.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:16:01 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



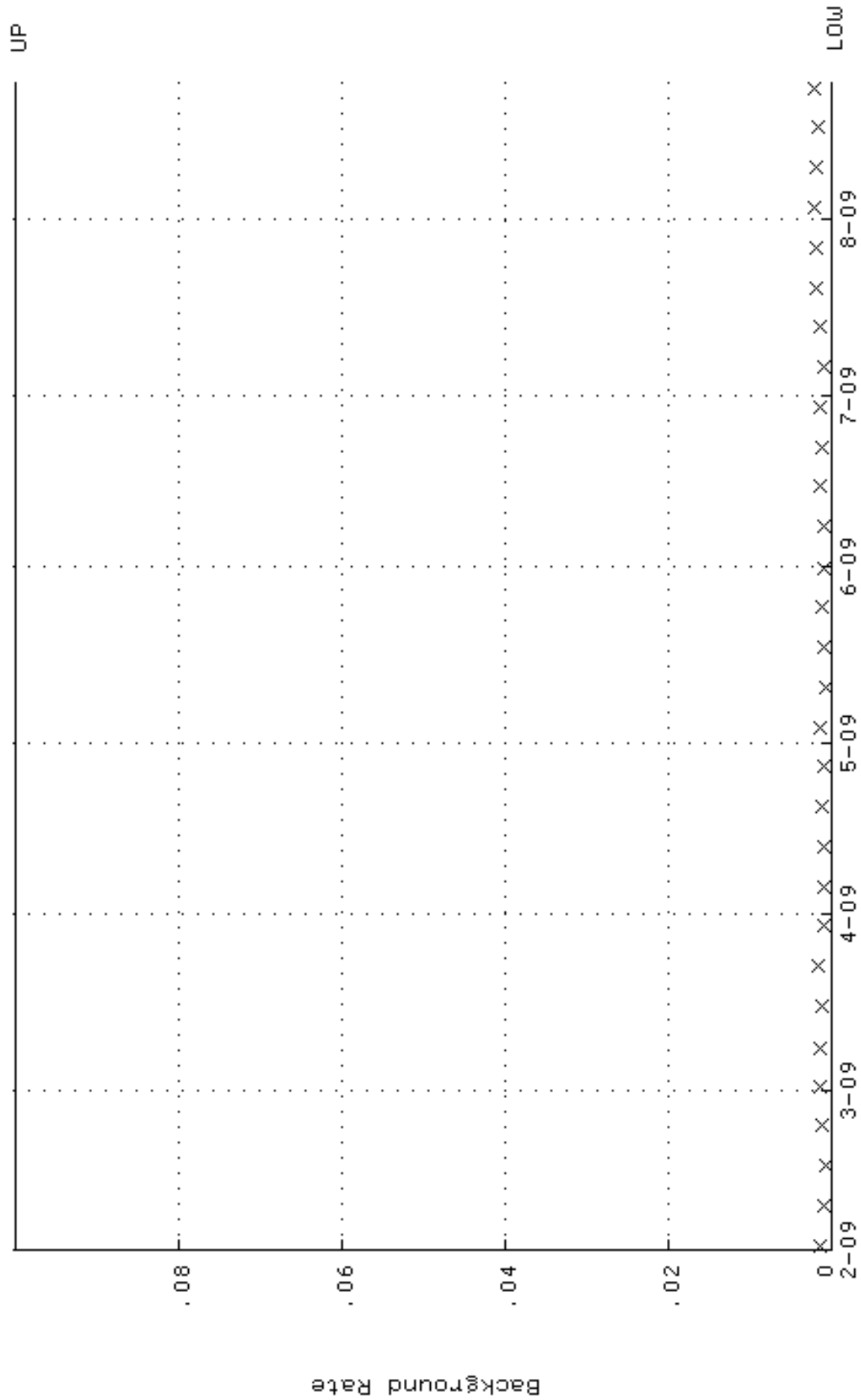
QA filename : DKA100:[ENV_ALPHA.QA.W]W179.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:08:44 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.256911 through 0.276911



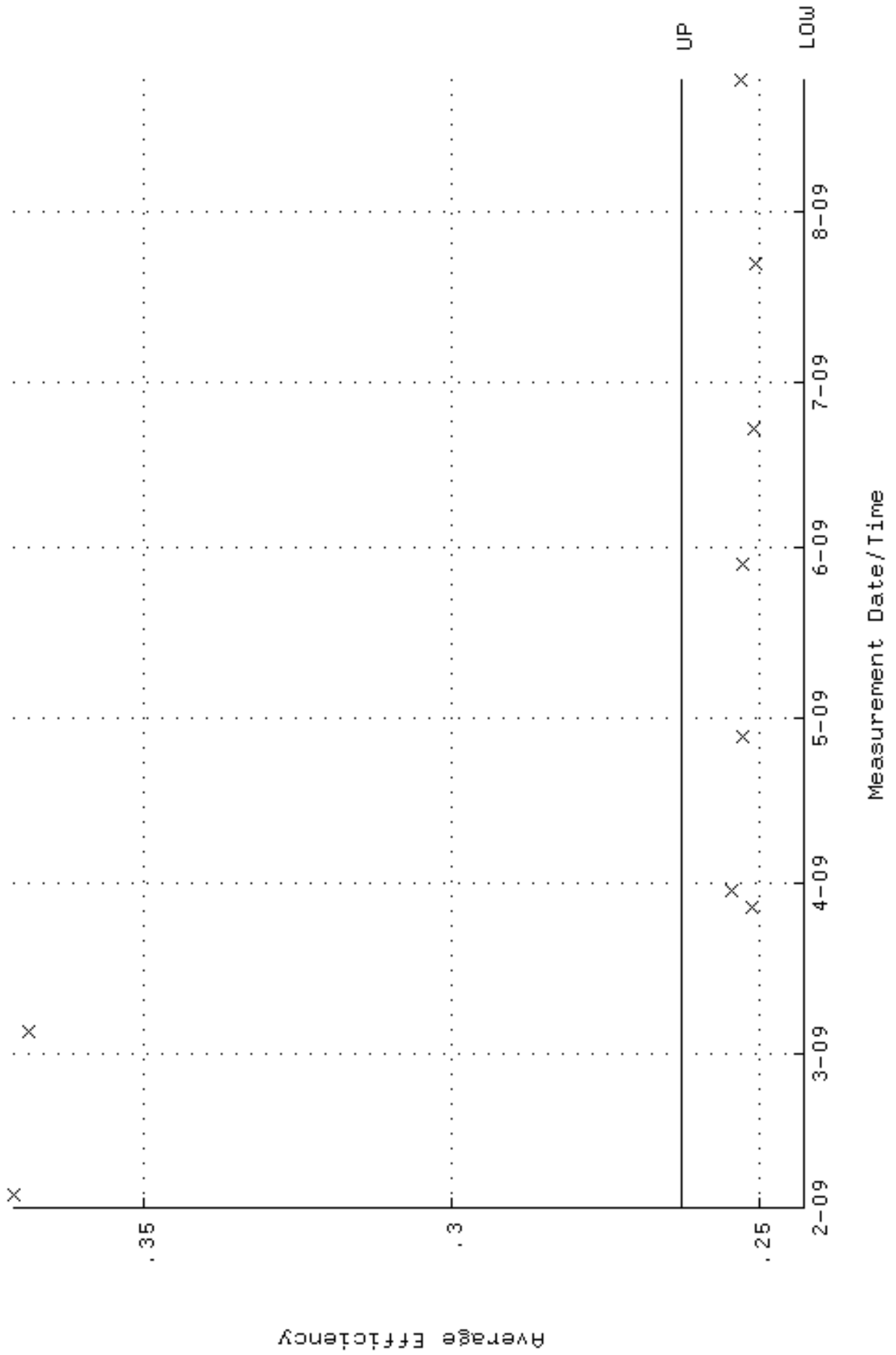
QA filename : DKA100:[ENV_ALPHA.QA.W]W179.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:08:44 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.7434 through 95.8742



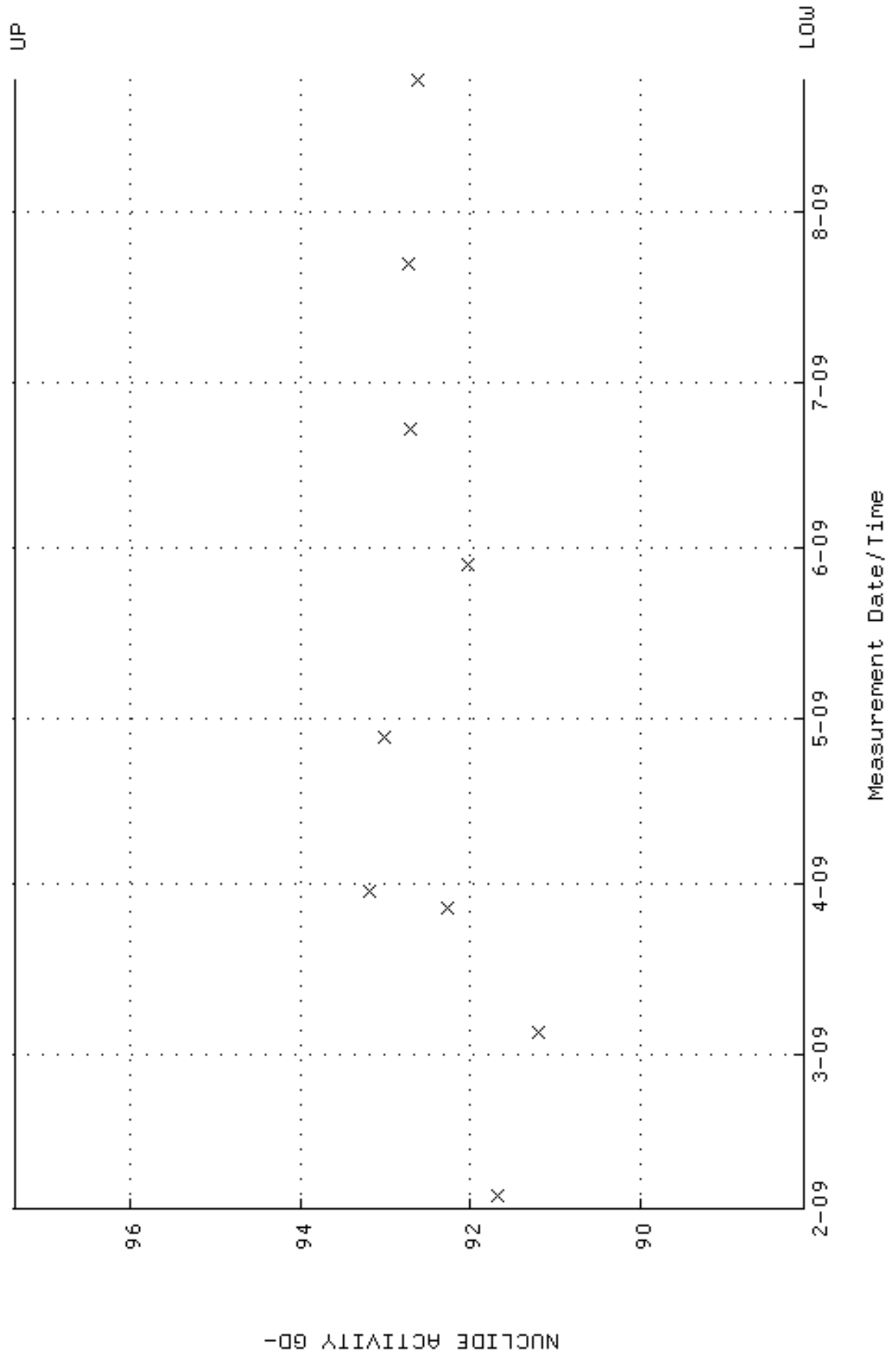
QA filename : DKA100:[ENV_ALPHA.QA.B]B179.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:16:16 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



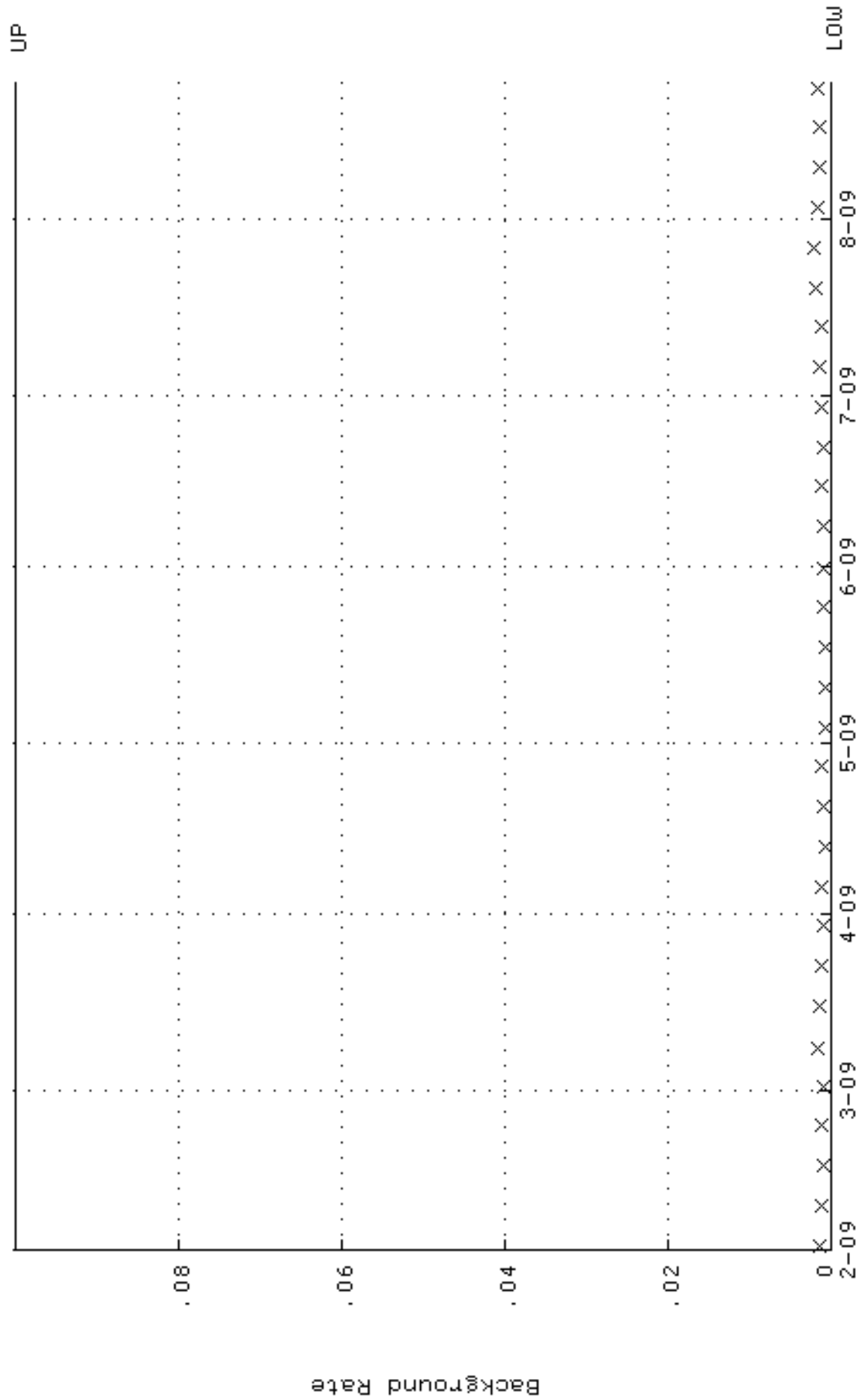
QA filename : DKA100:[ENV_ALPHA.QA.W]W180.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:08:50 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.242633 through 0.262633



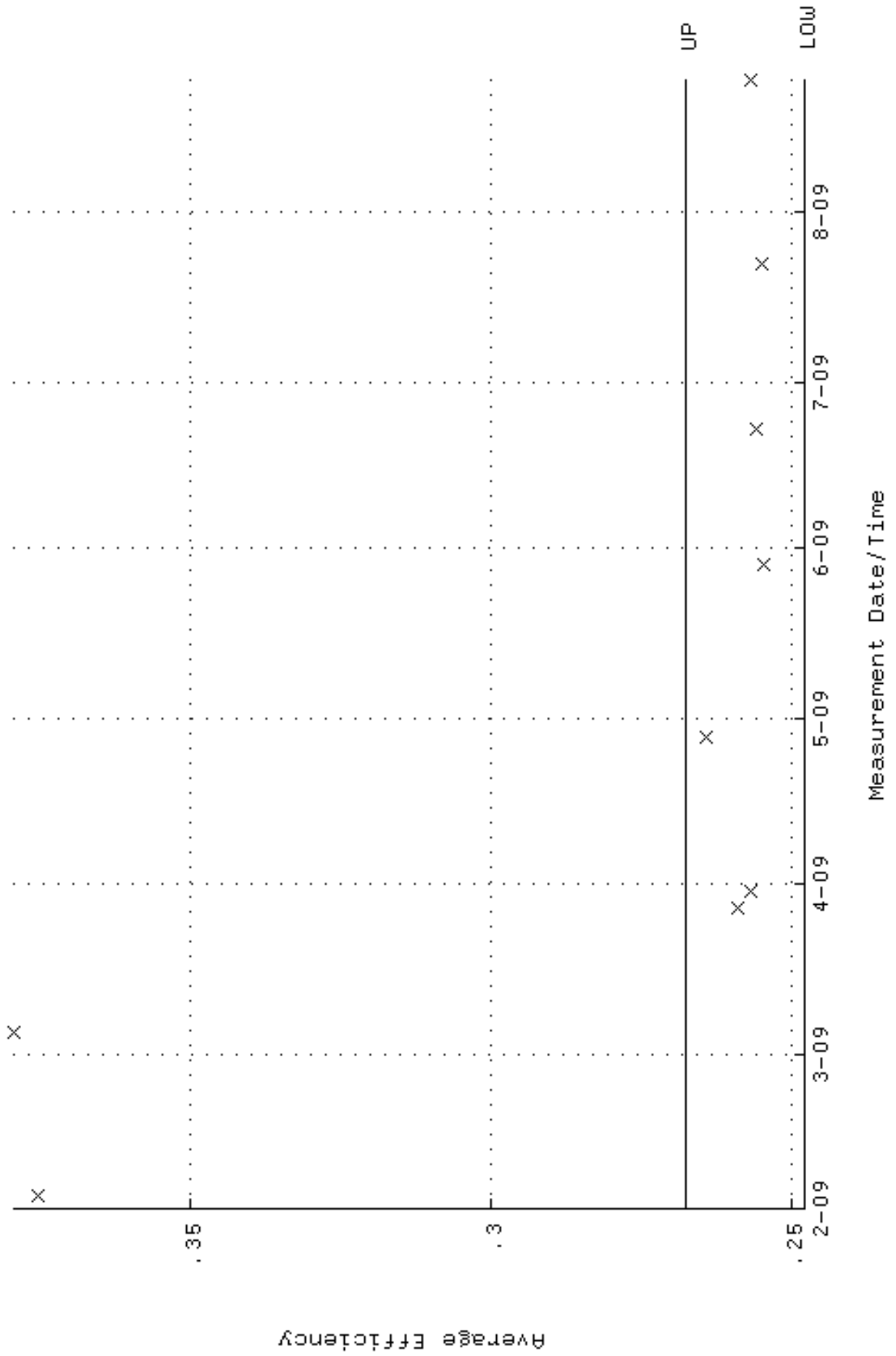
QA filename : DKA100:[ENV_ALPHA.QA.W]W180.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:08:50 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 88.0803 through 97.3519



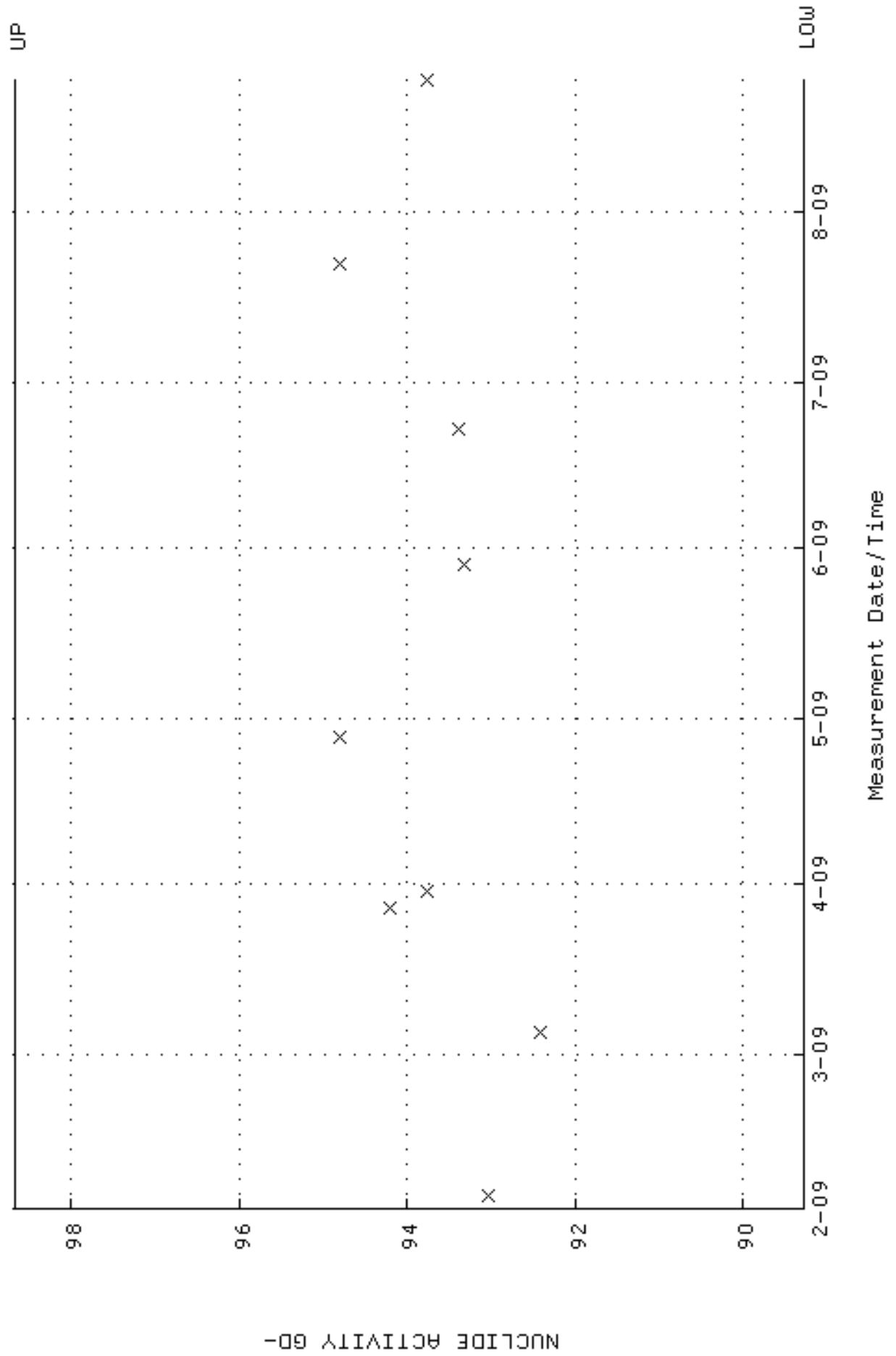
QA filename : DKA100:[ENV_ALPHA.QA.B]B180.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:16:32 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



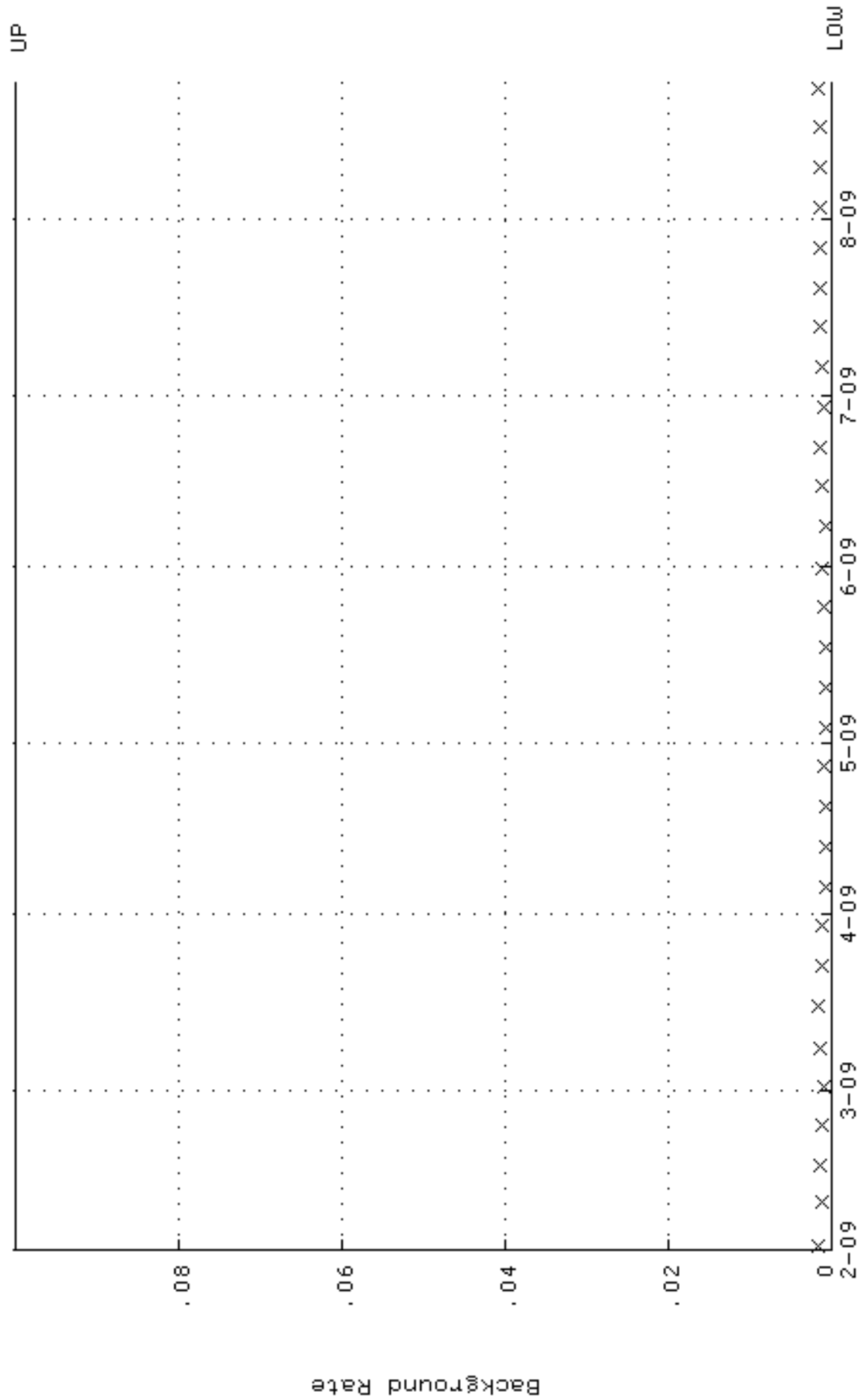
QA filename : DKA100:[ENV_ALPHA.QA.W]W181.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:08:56 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.247722 through 0.267722



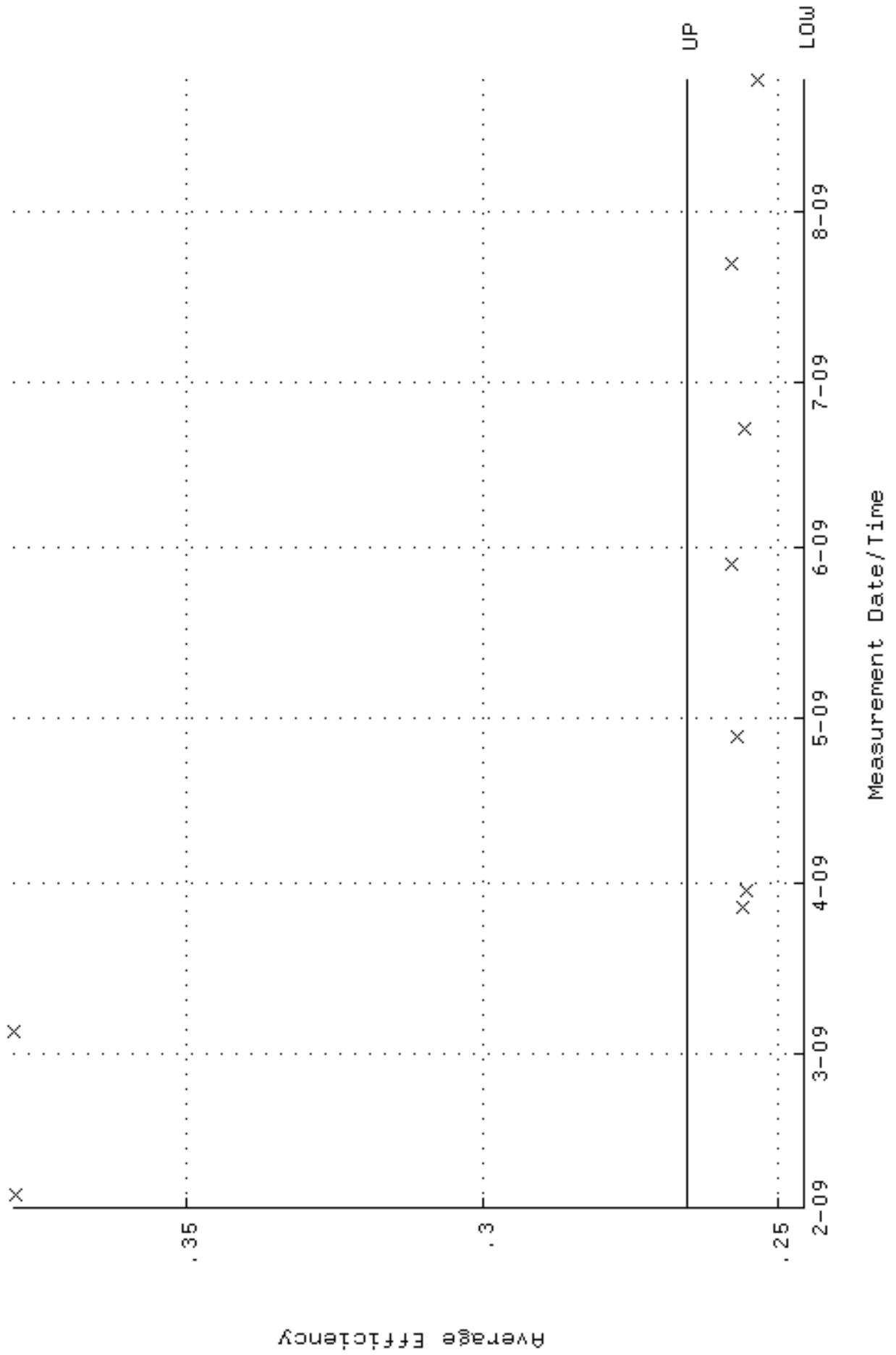
QA filename : DKA100:[ENV_ALPHA.QA.W]w181.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:08:56 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 89.2737 through 98.6709



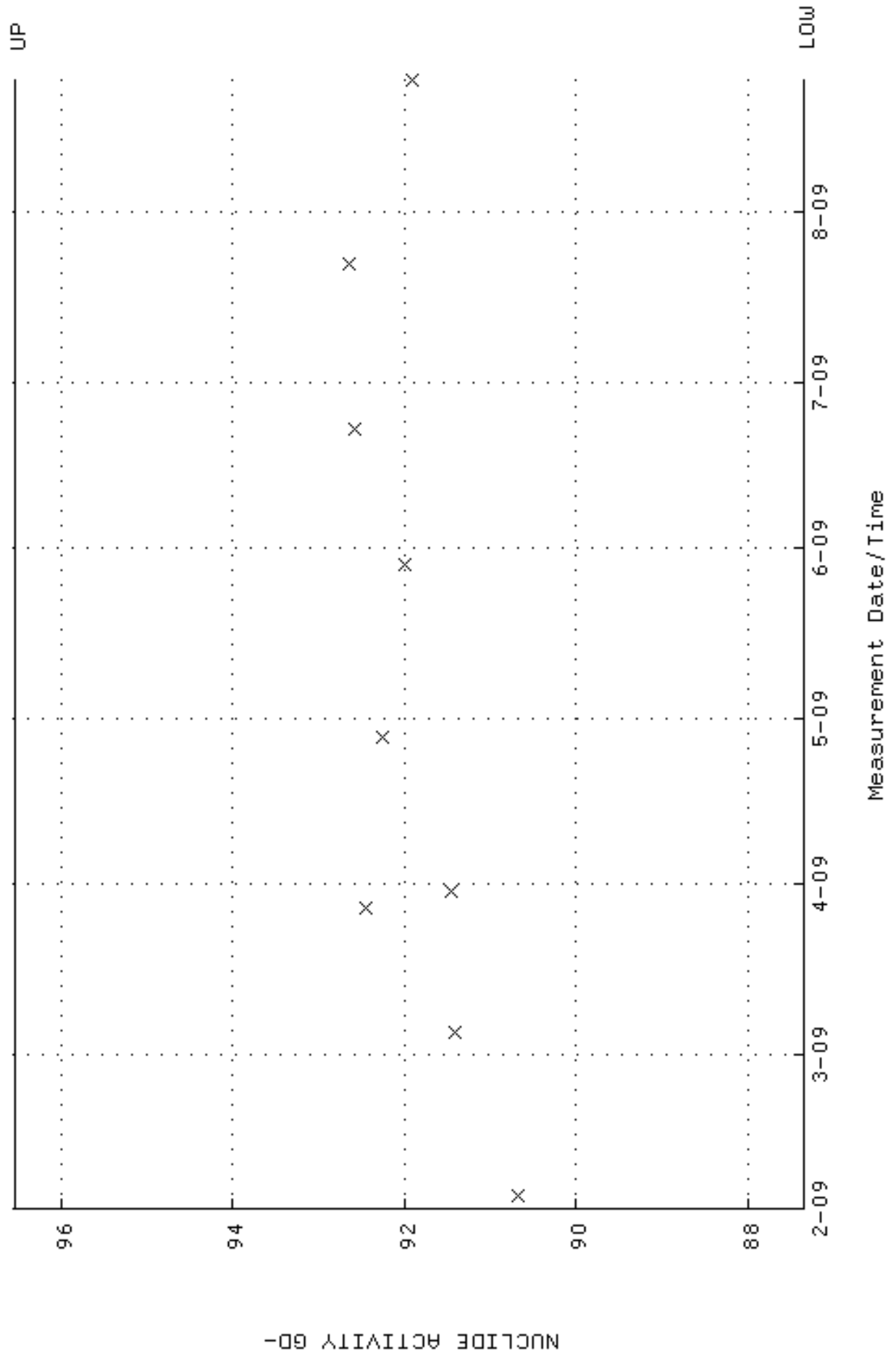
QA filename : DKA100:[ENV_ALPHA.QA.B]B181.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:16:47 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



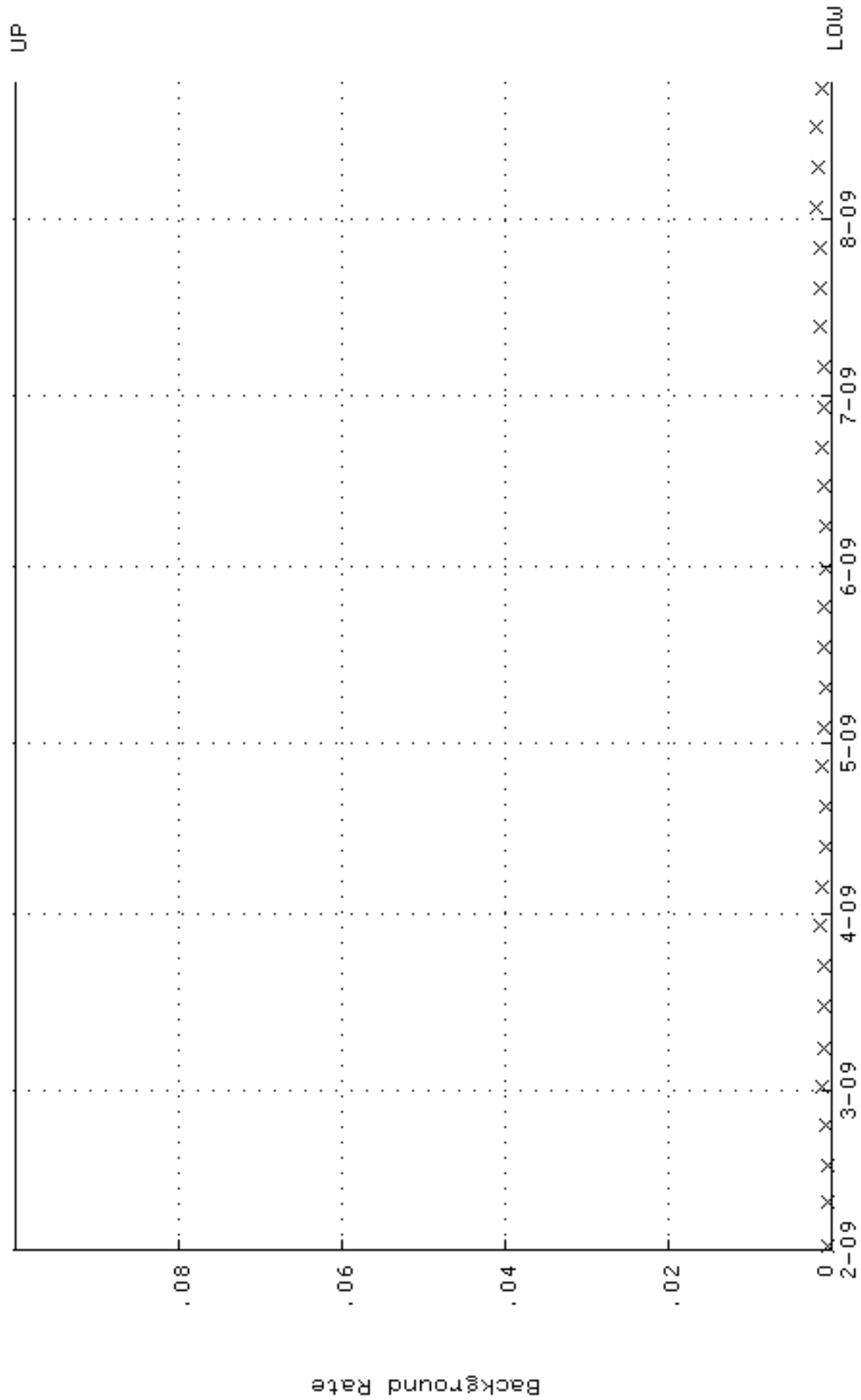
QA filename : DKA100:[ENV_ALPHA.QA.W]W182.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:09:03 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.245707 through 0.265707



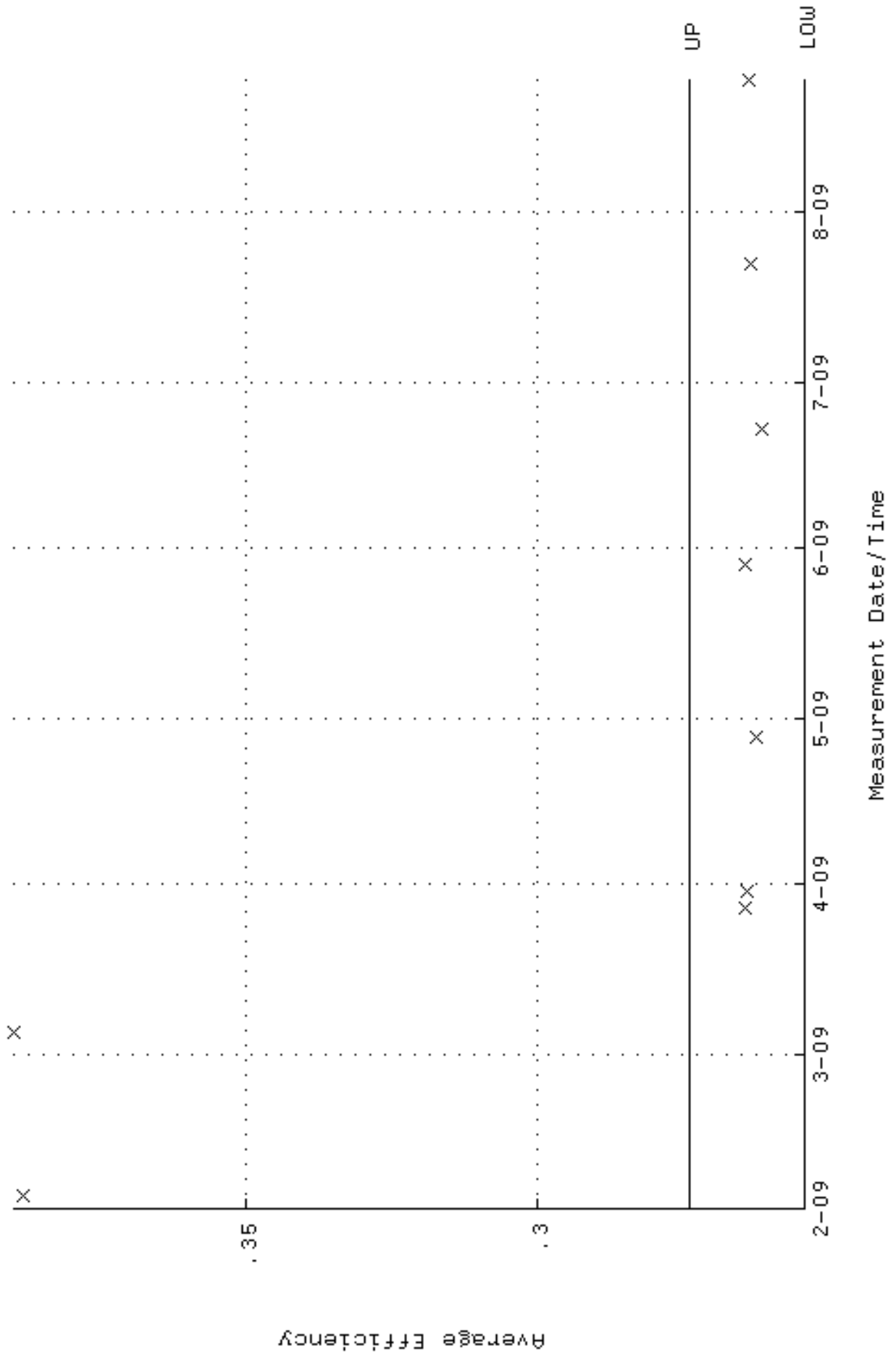
QA filename : DKA100:[ENV_ALPHA.QA.W]W182.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:09:03 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 87.3454 through 96.5396



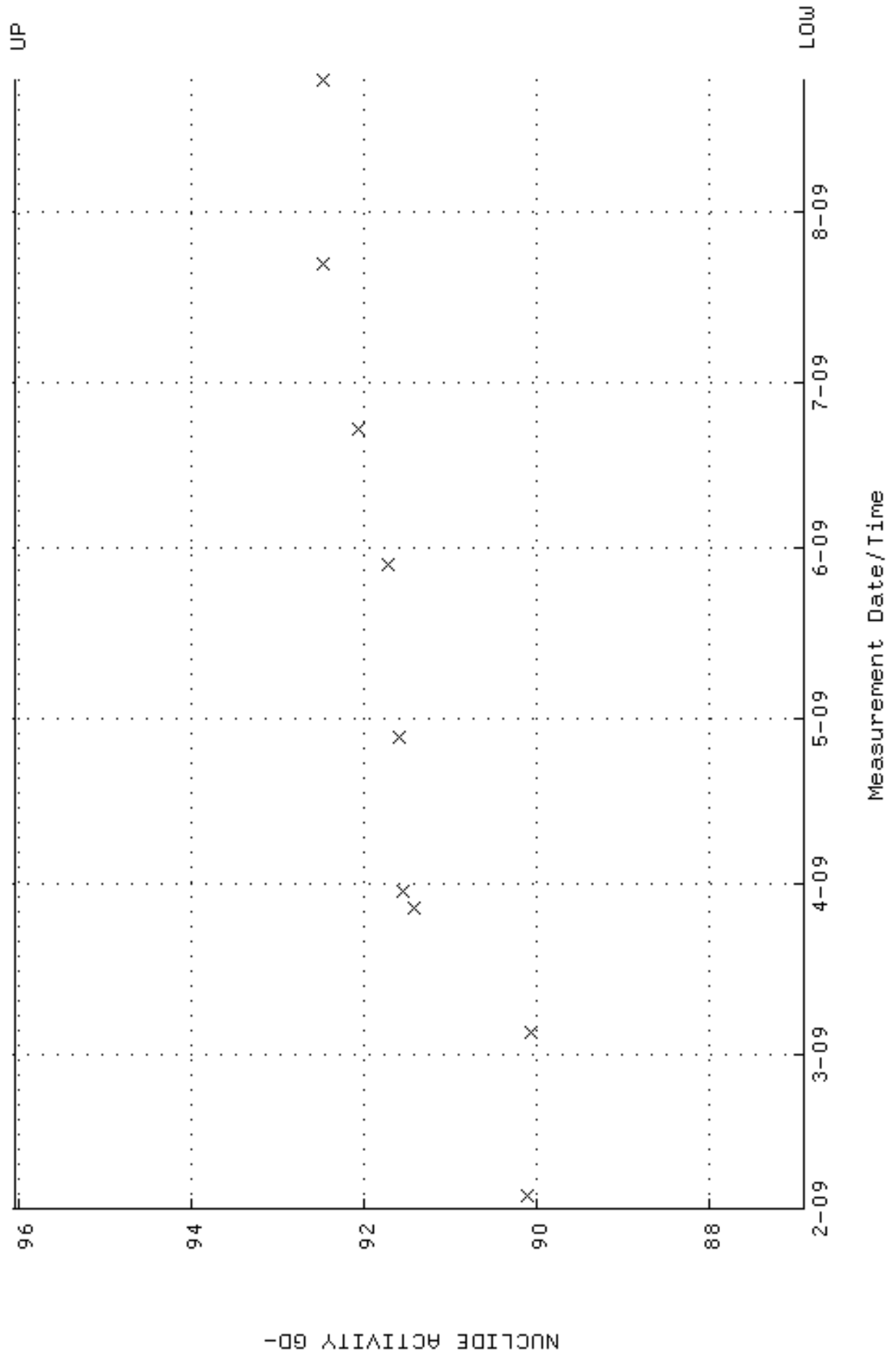
QA filename : DKA100:[ENV_ALPHA.QA.B]B182.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:17:02 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



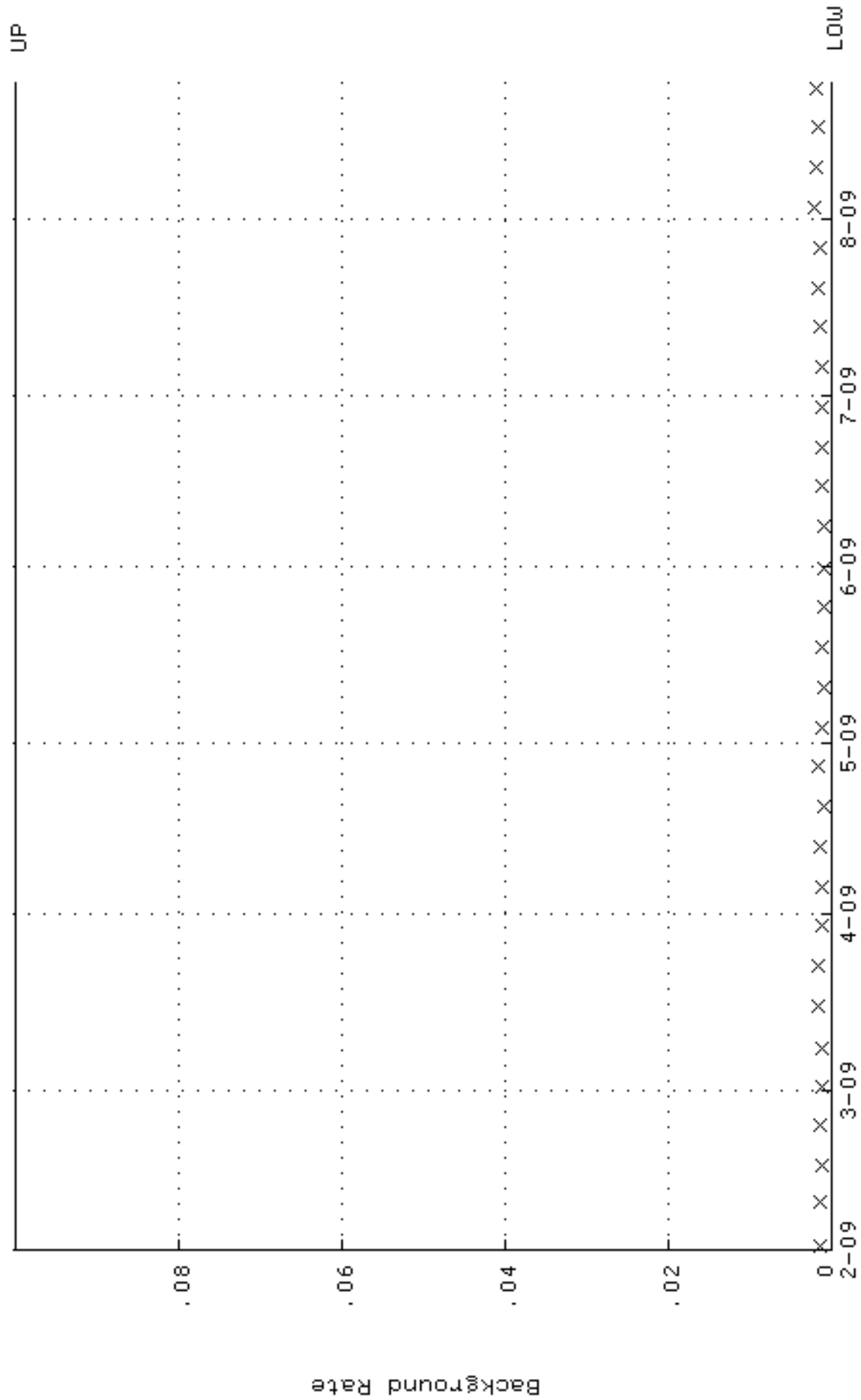
QA filename : DKA100:[ENV_ALPHA.QA.W]W183.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:09:10 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.254364 through 0.274364



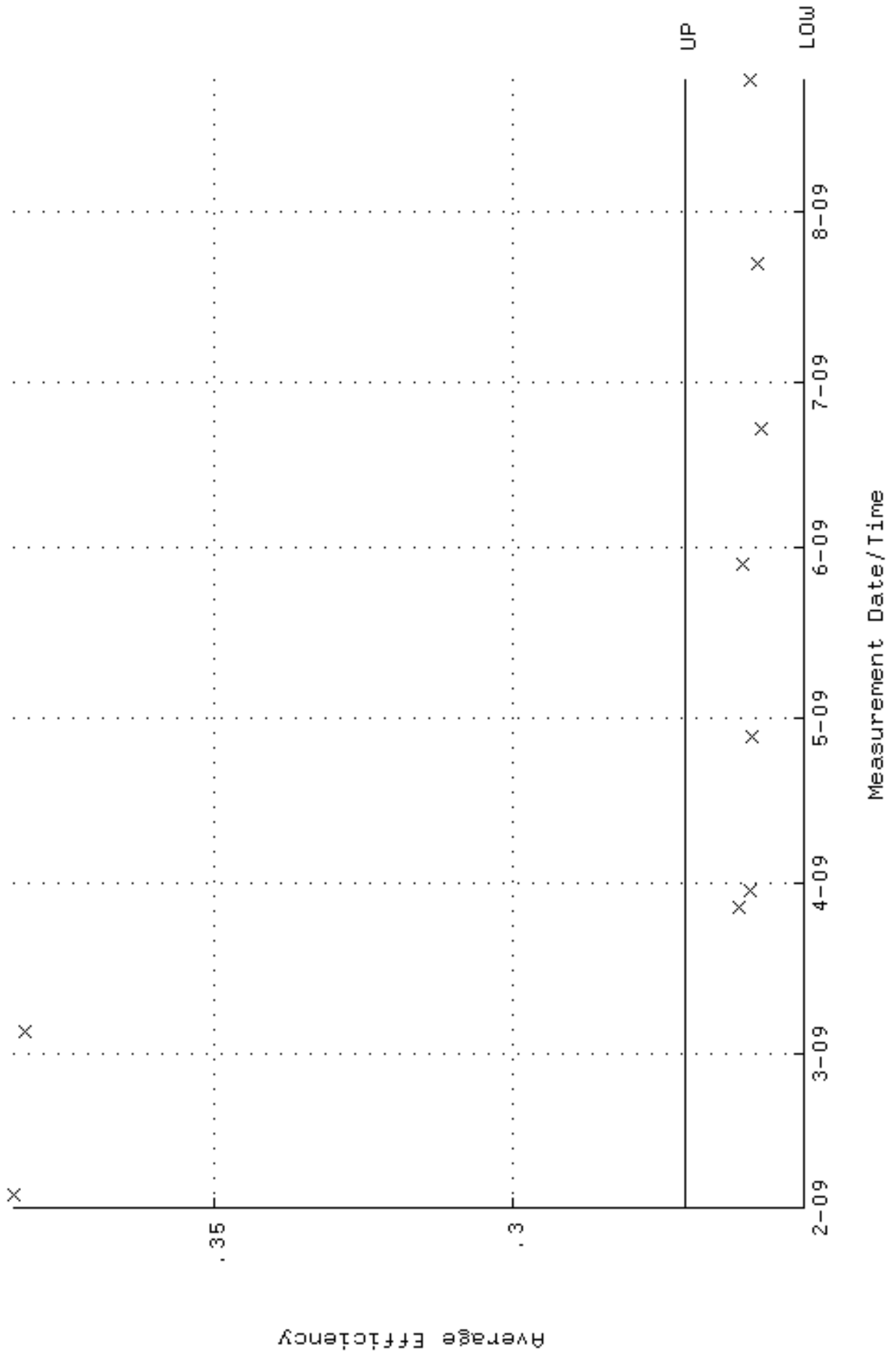
QA filename : DKA100:[ENV_ALPHA.QA.W]W183.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:09:10 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.8927 through 96.0393



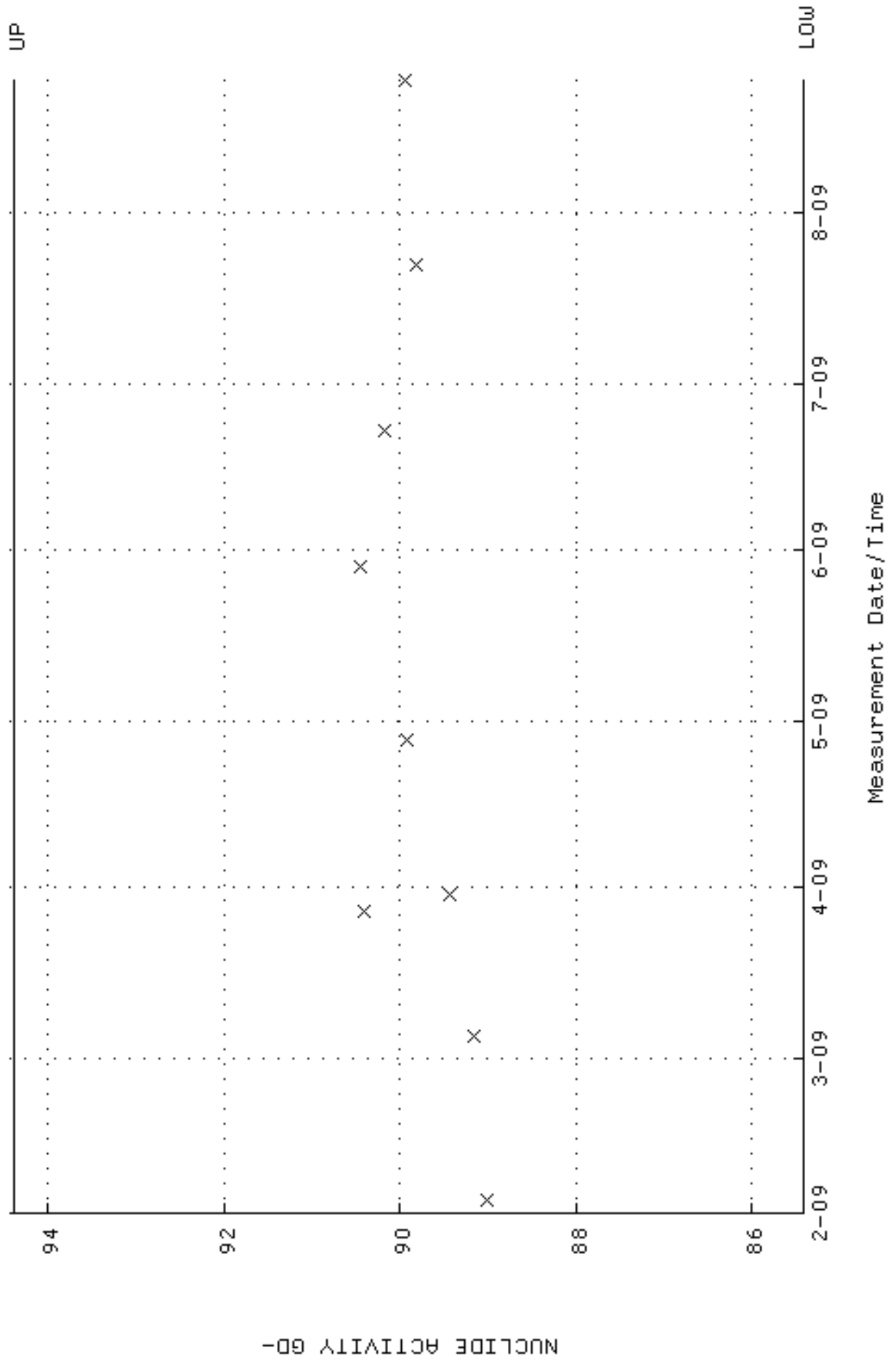
QA filename : DKA100:[ENV_ALPHA.QA.B]B183.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:17:17 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



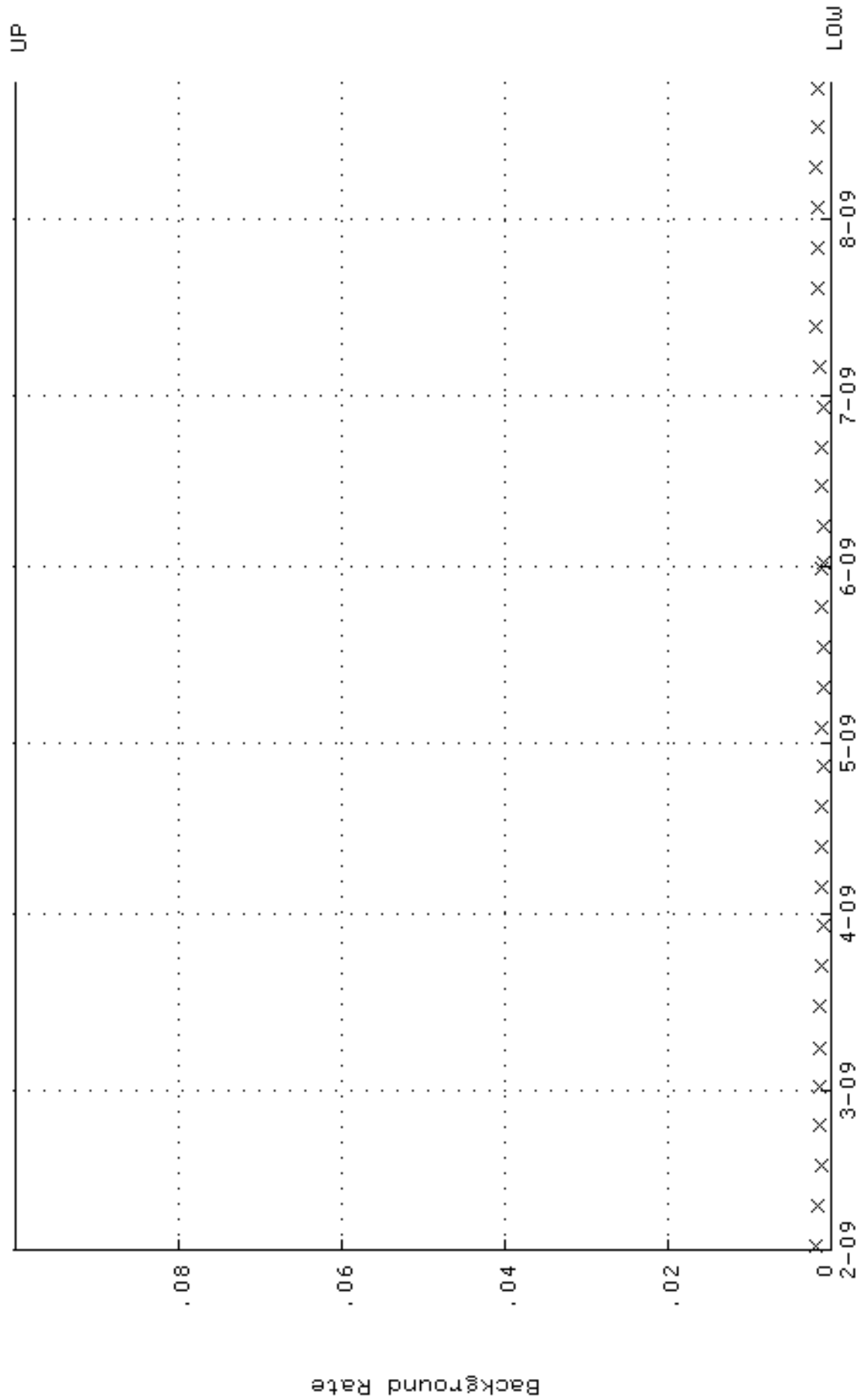
QA filename : DKA100:[ENV_ALPHA.QA.W]W184.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:09:17 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.251367 through 0.271367



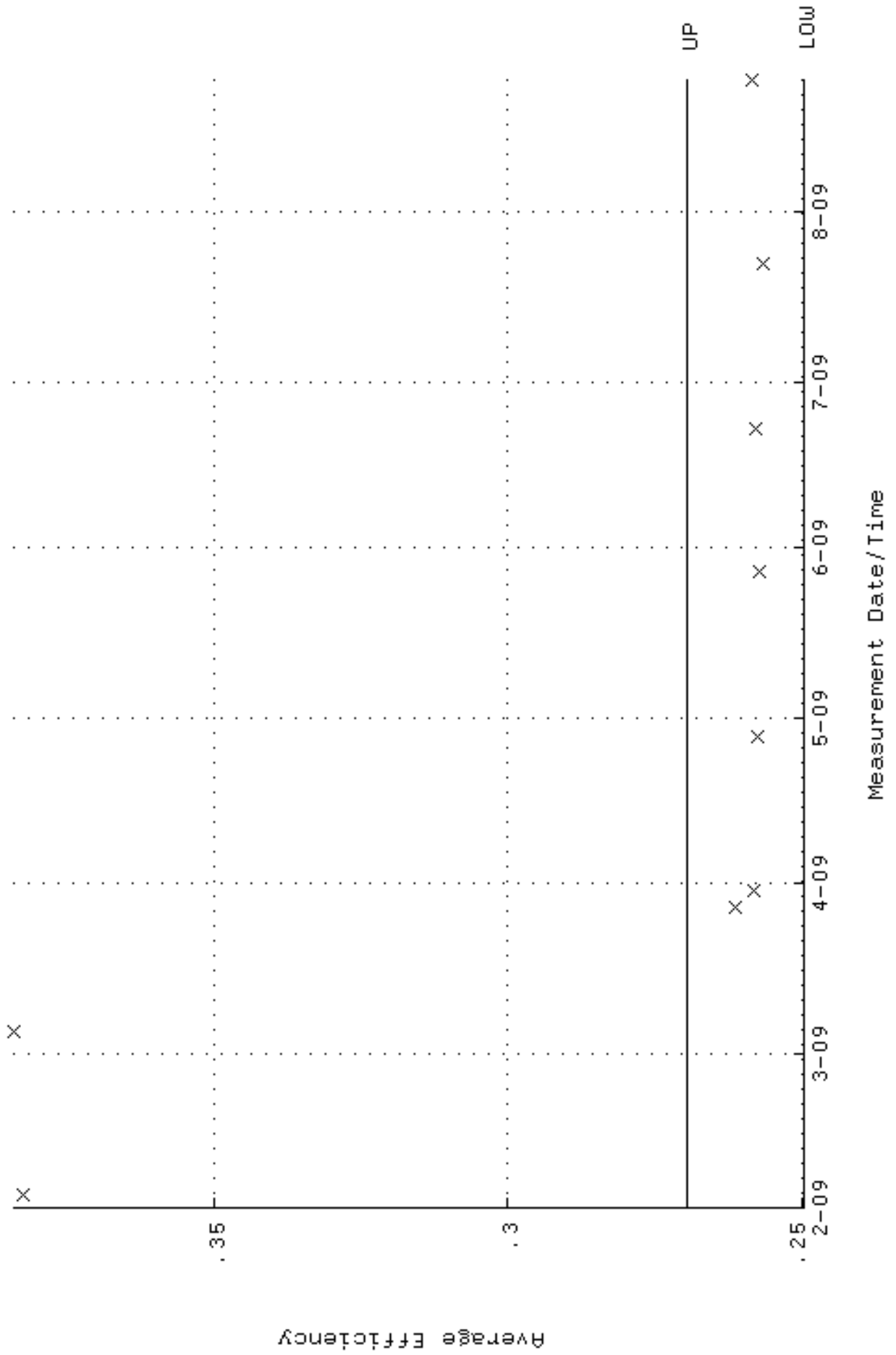
QA filename : DKA100:[ENV_ALPHA.QA.W]w184.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:09:17 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 85.4139 through 94.4049



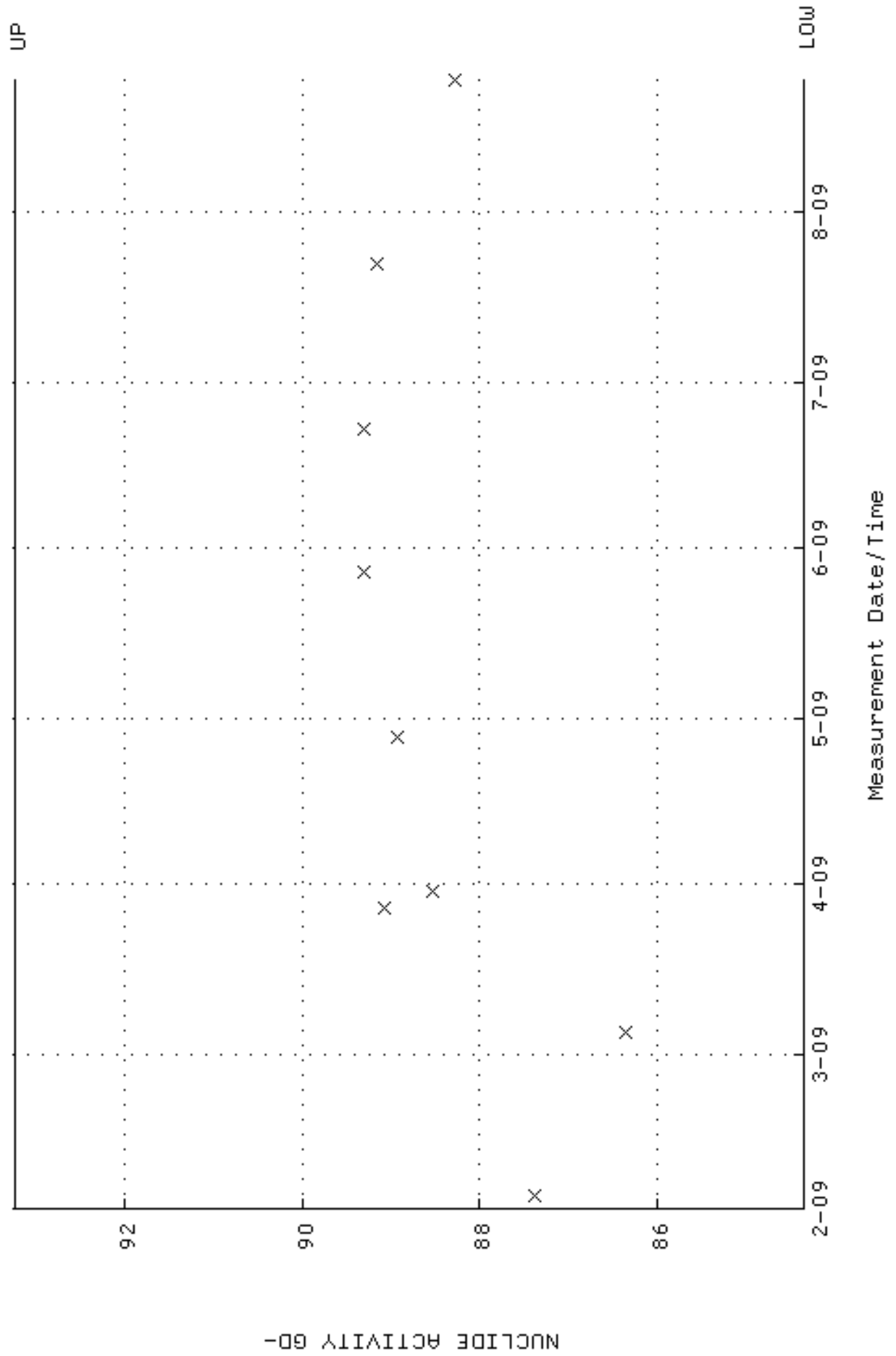
QA filename : DKA100:[ENV_ALPHA.QA.B]B184.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:17:31 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



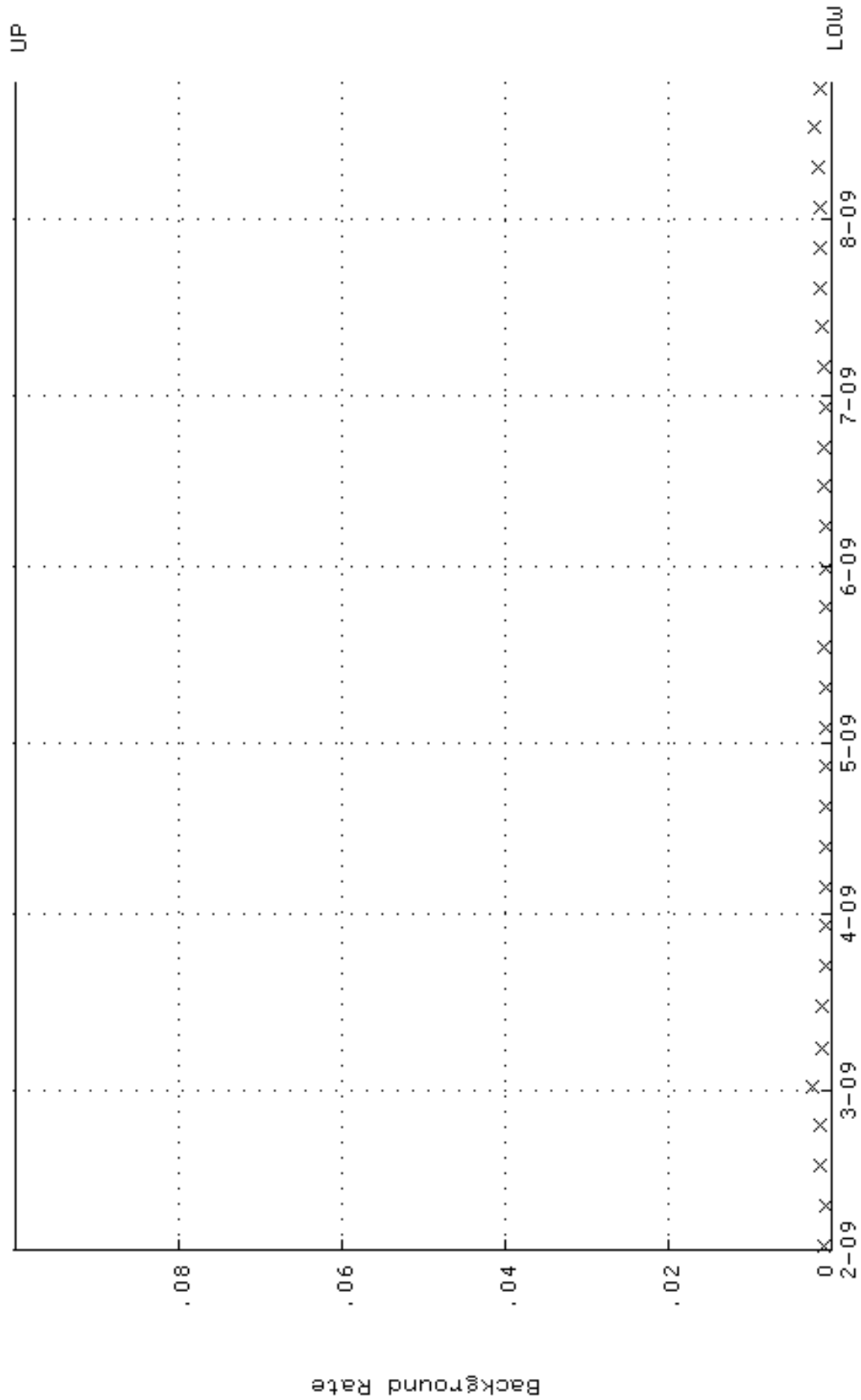
QA filename : DKA100:[ENV_ALPHA.QA.W]W185.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:09:23 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.249628 through 0.269628



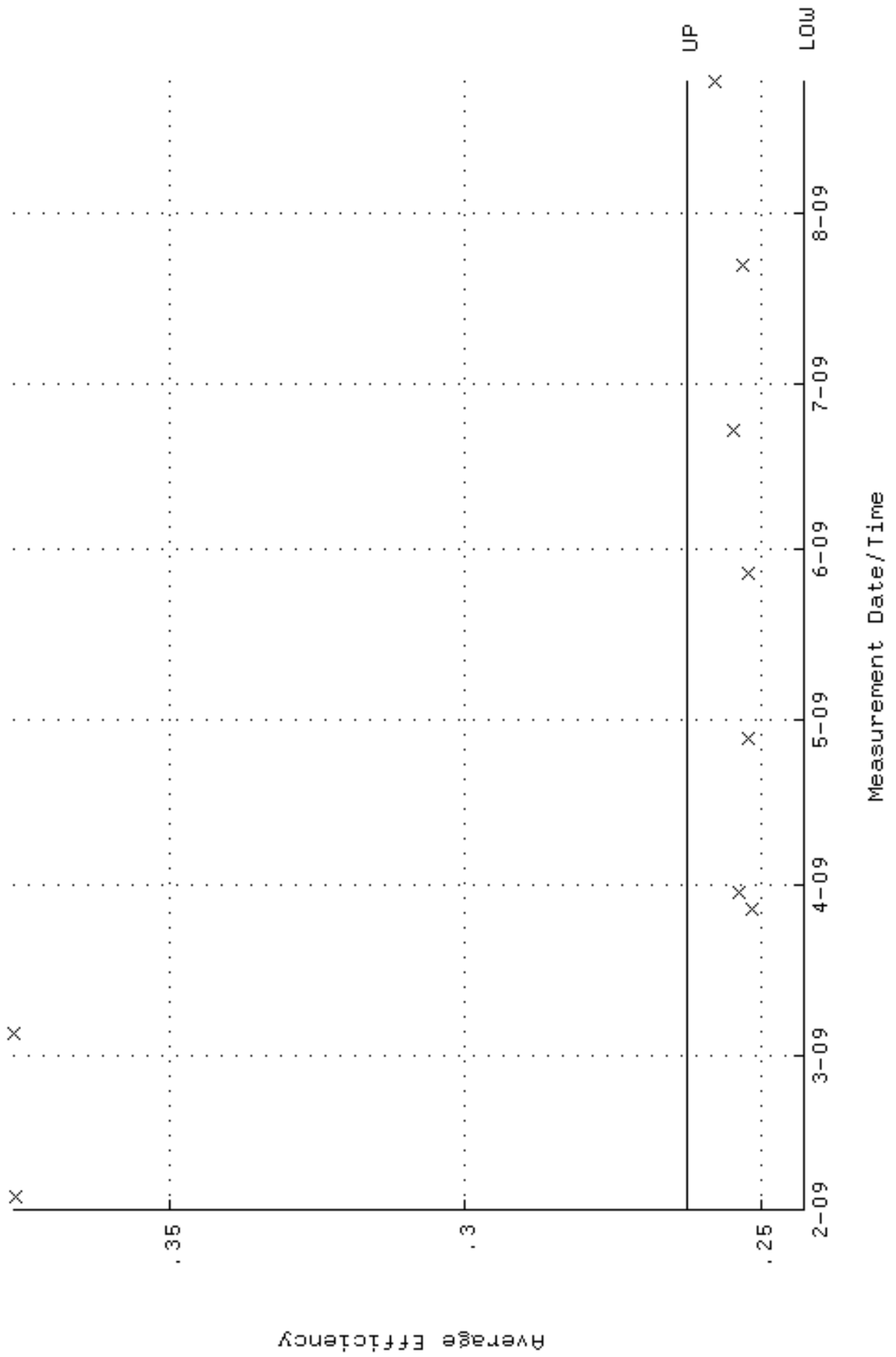
QA filename : DKA100:[ENV_ALPHA.QA.W]W185.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:09:23 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 84.3502 through 93.2292



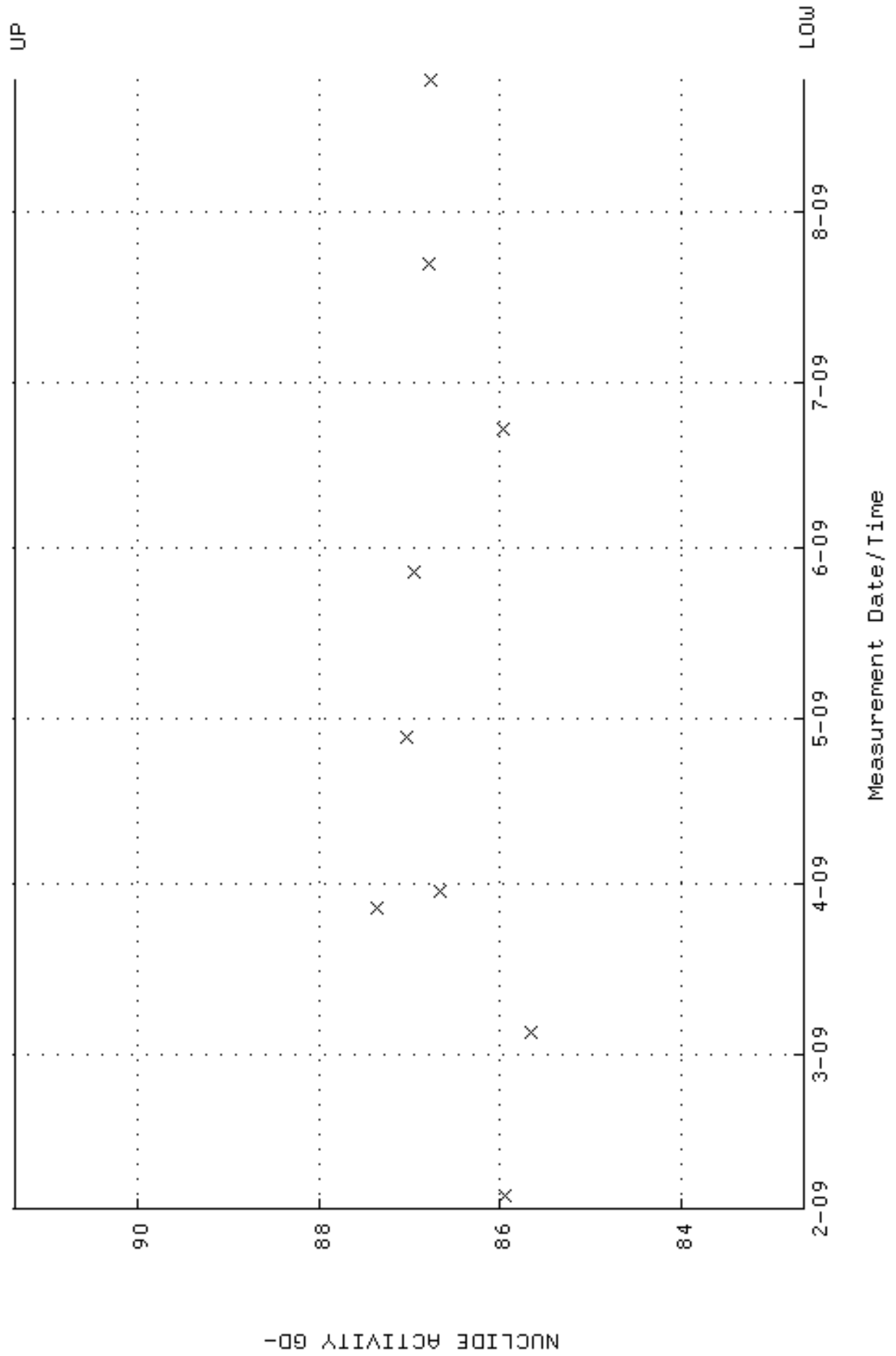
QA filename : DKA100:[ENV_ALPHA.QA.B]B185.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:17:47 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



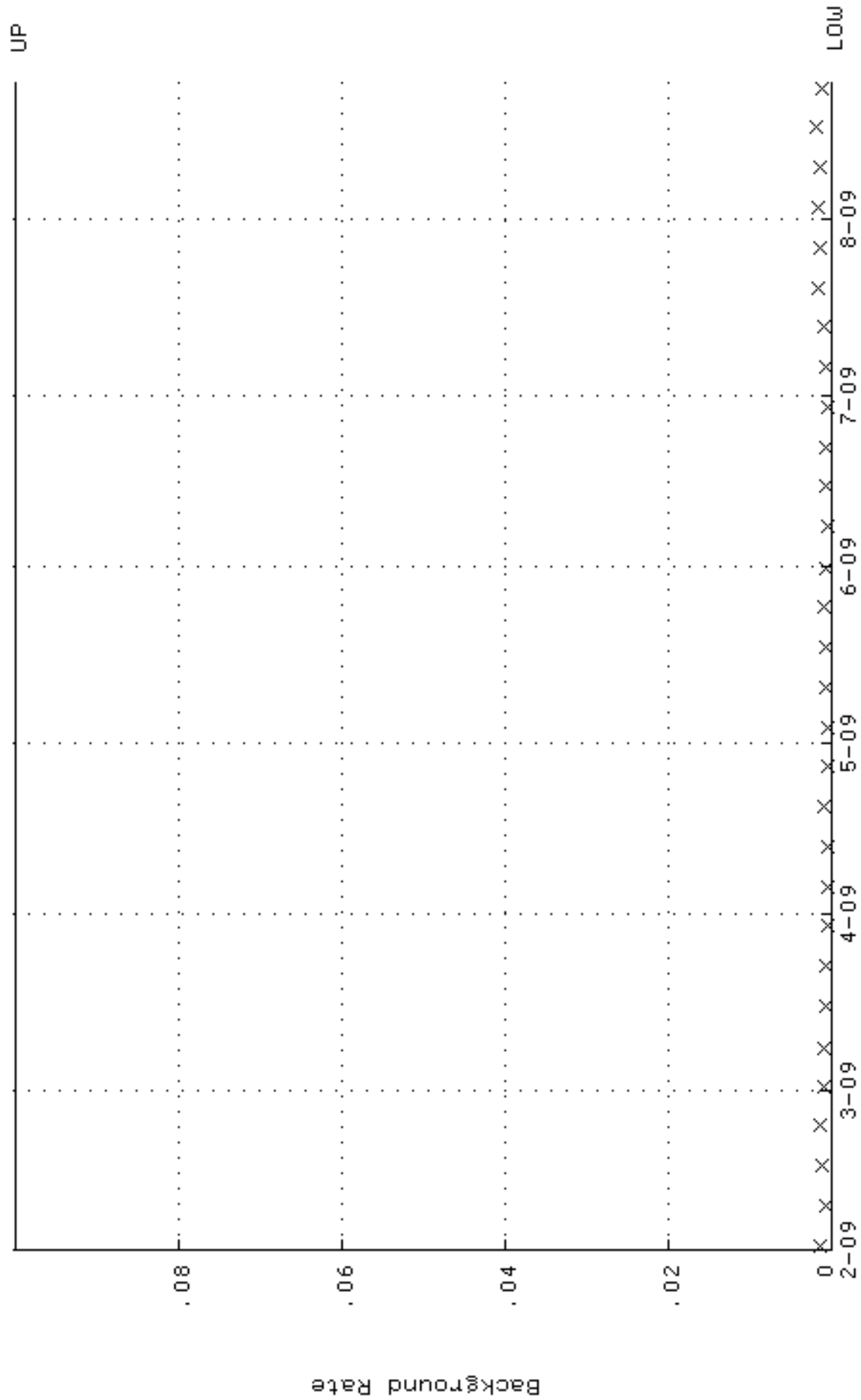
QA filename : DKA100:[ENV_ALPHA.QA.W]W186.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:09:29 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.242649 through 0.262649



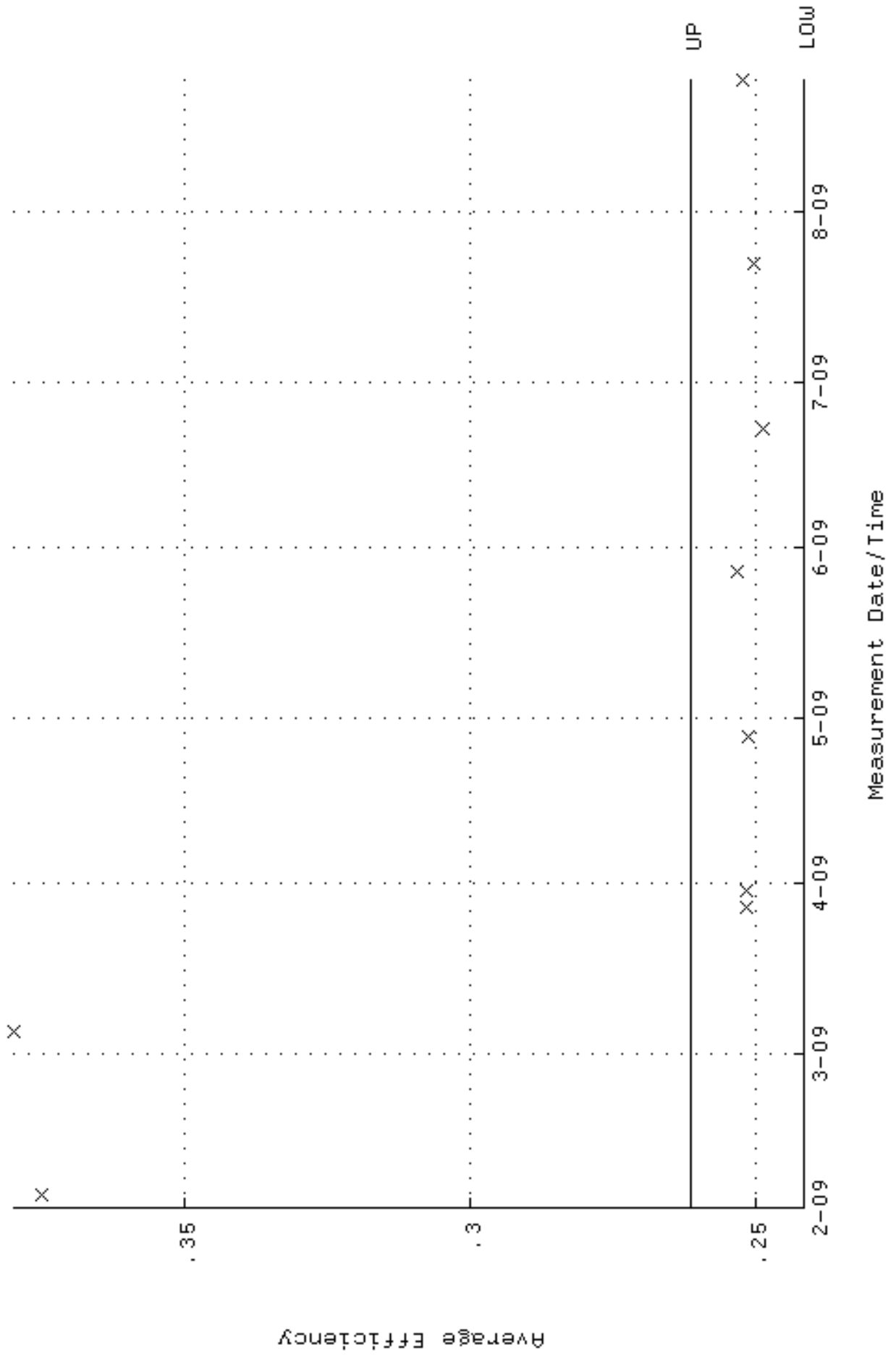
QA filename : DKA100:[ENV_ALPHA.QA.W]W186.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:09:29 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 82.6495 through 91.3495



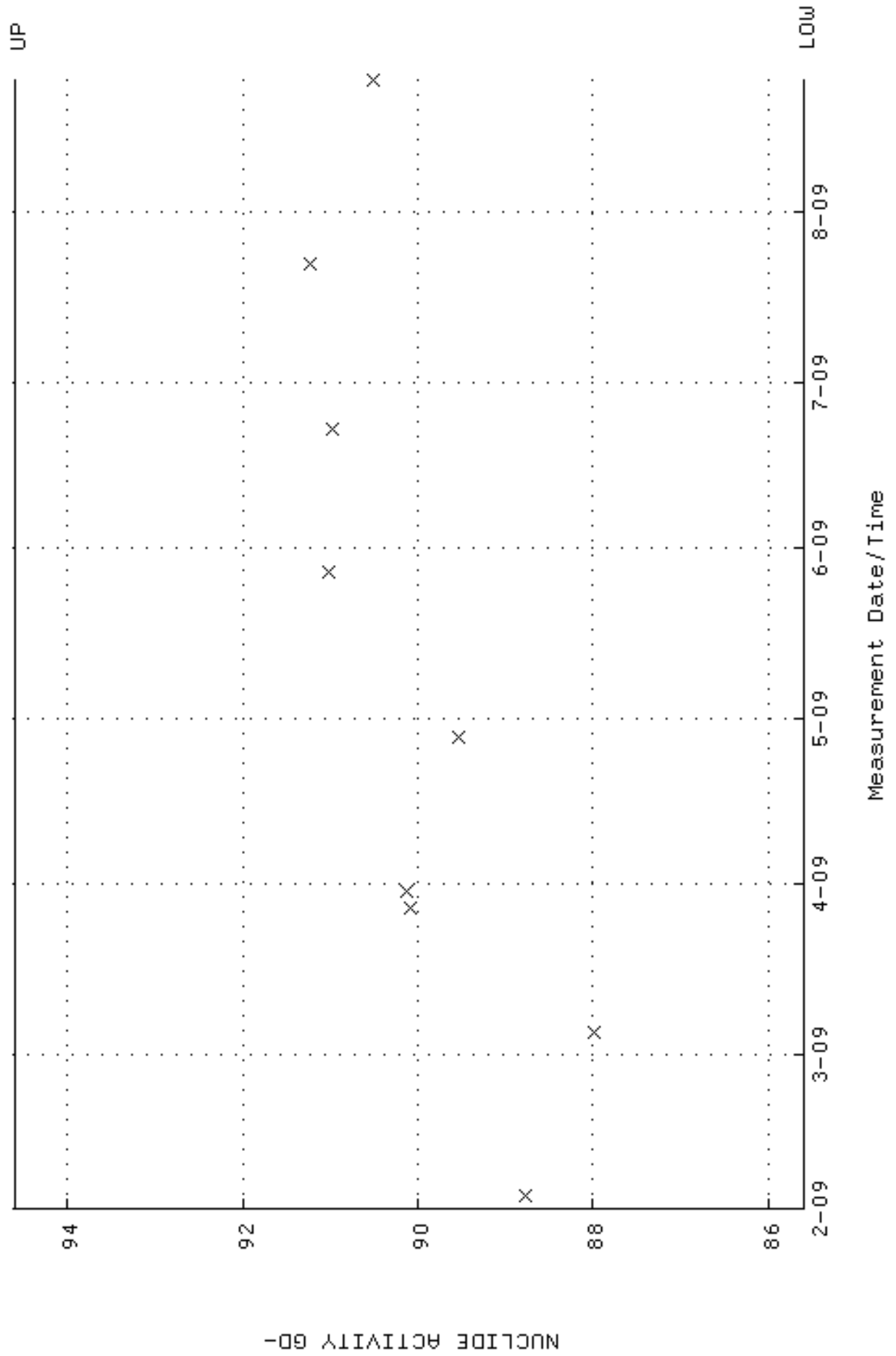
QA filename : DKA100:[ENV_ALPHA.QA.B]B186.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:18:02 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



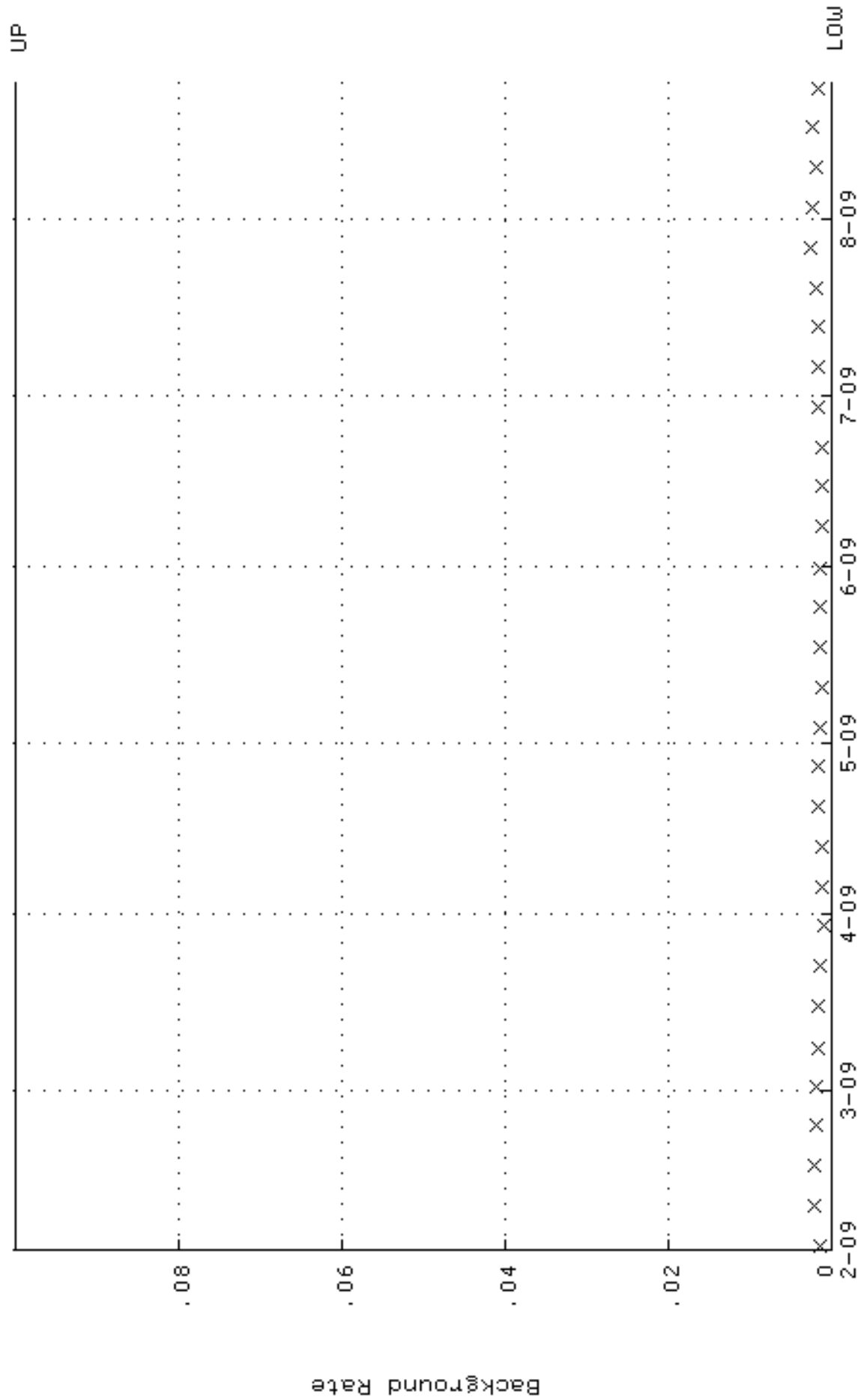
QA filename : DKA100:[ENV_ALPHA.QA.W]W187.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:09:35 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.241464 through 0.261464



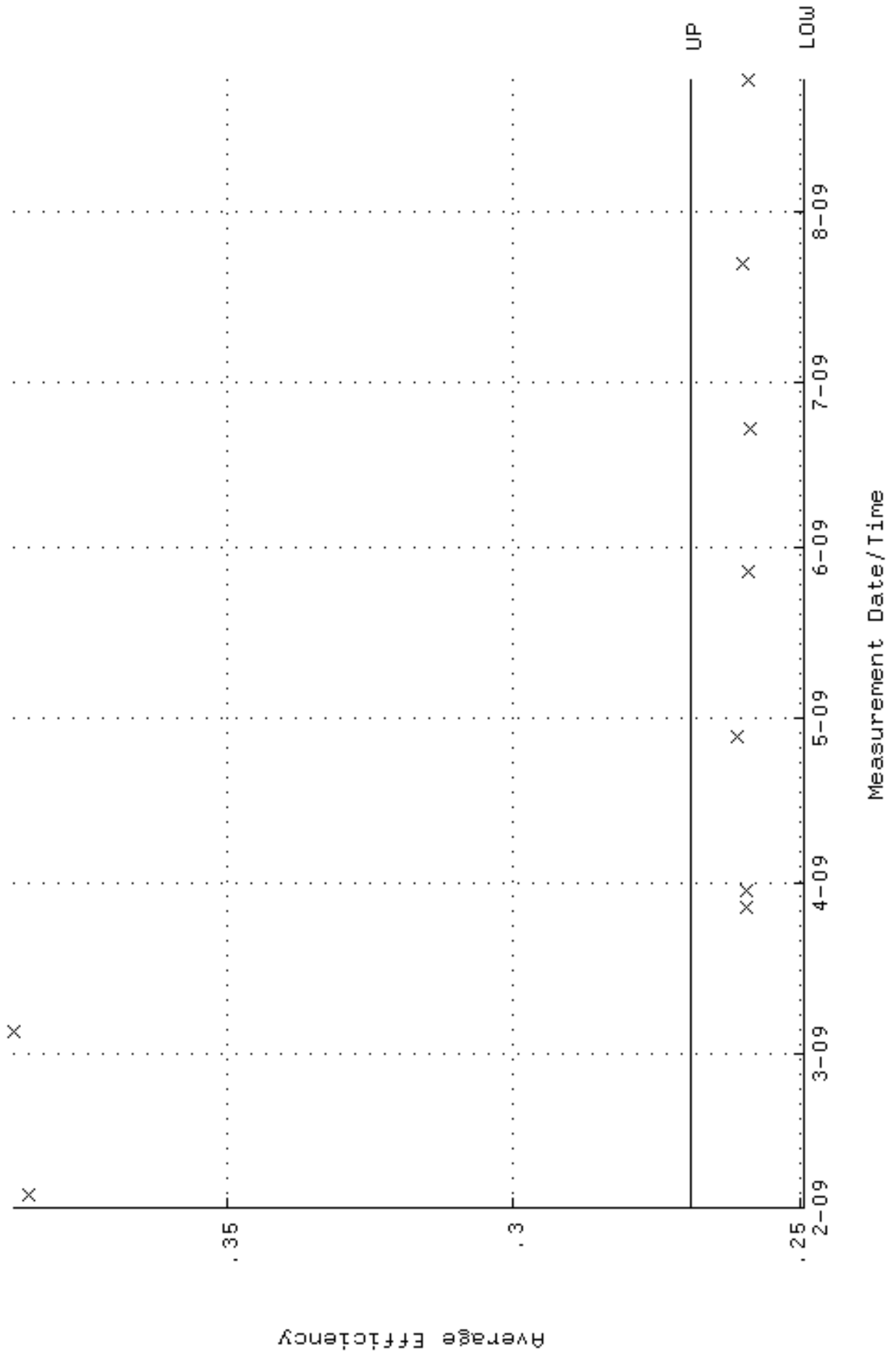
QA filename : DKA100:[ENV_ALPHA.QA.W]w187.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:09:35 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 85.5888 through 94.5982



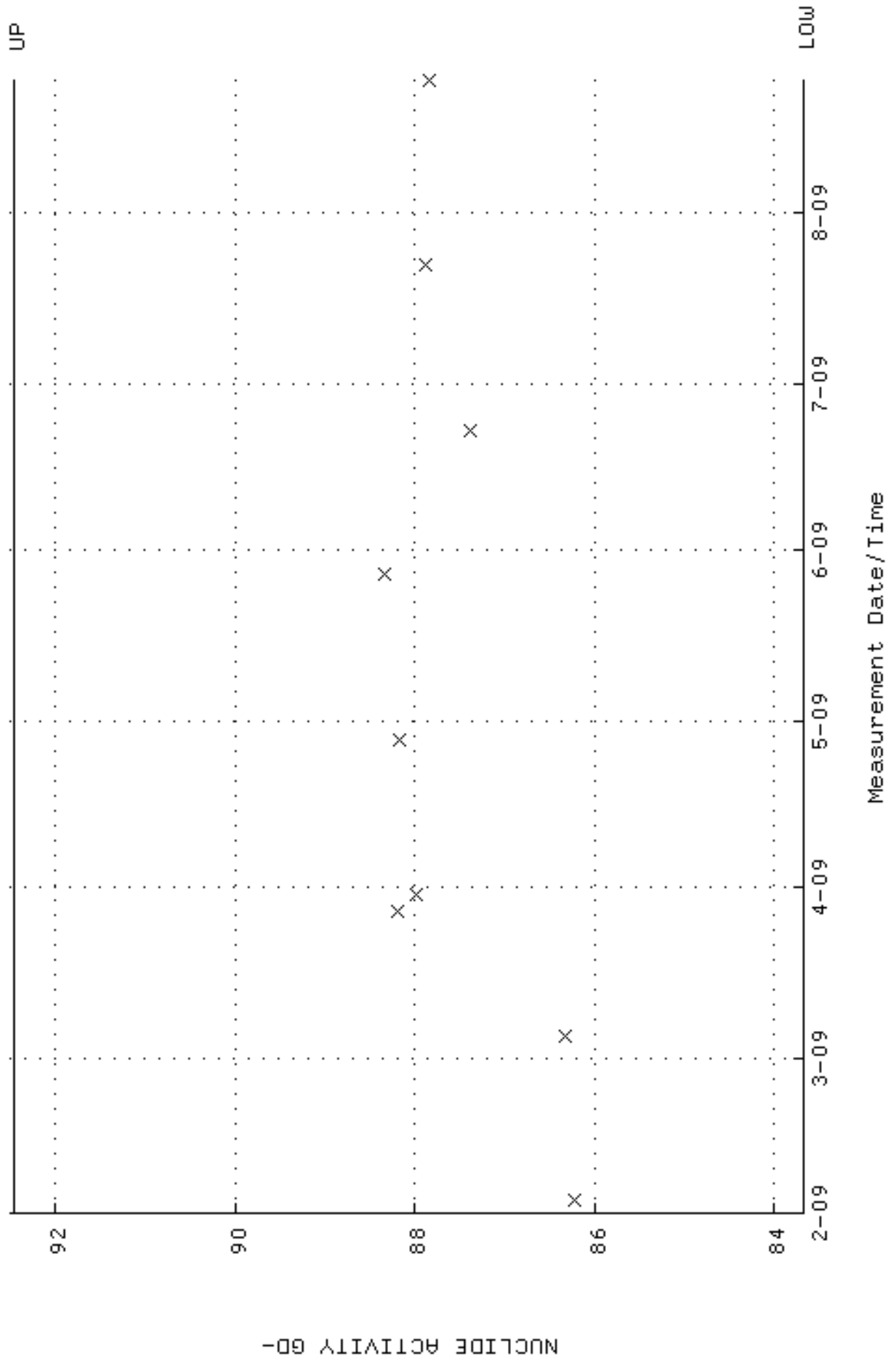
QA filename : DKA100:[ENV_ALPHA.QA.B]B187.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:18:17 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



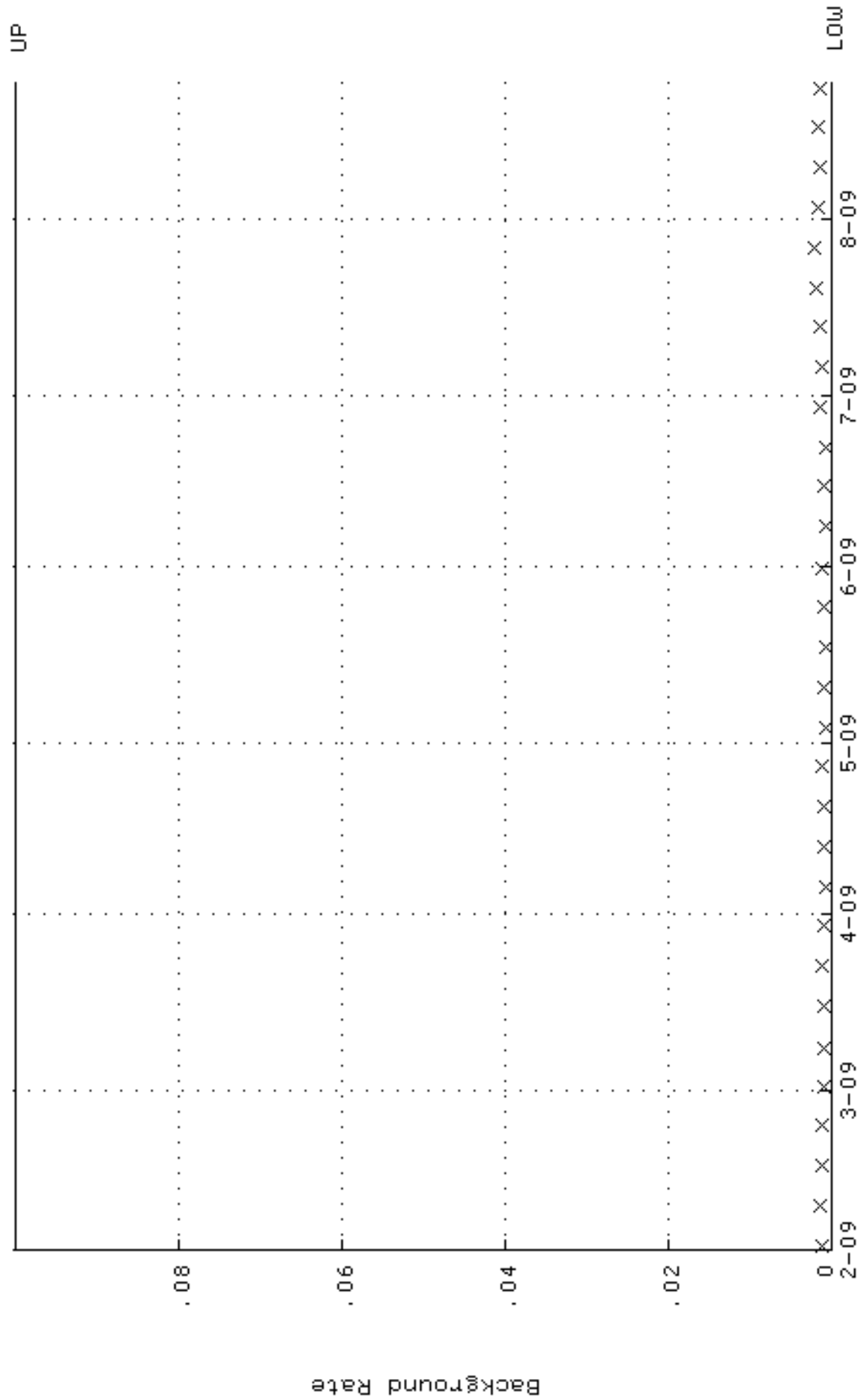
QA filename : DKA100:[ENV_ALPHA.QA.W]W188.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-FEB-2009 12:09:43 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.249341 through 0.269341



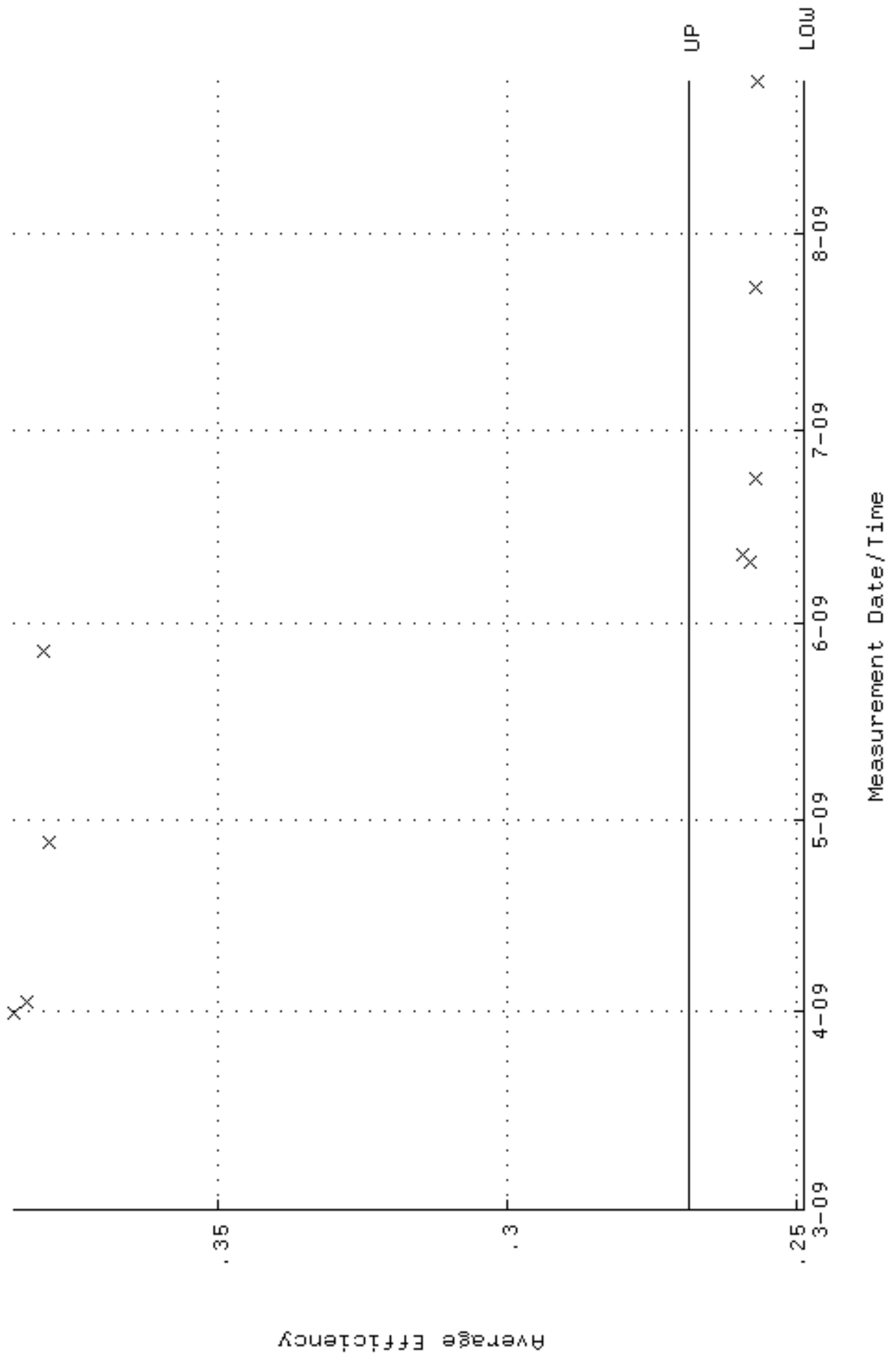
QA filename : DKA100:[ENV_ALPHA.QA.W]W188.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-FEB-2009 12:09:43 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 83.6747 through 92.4825



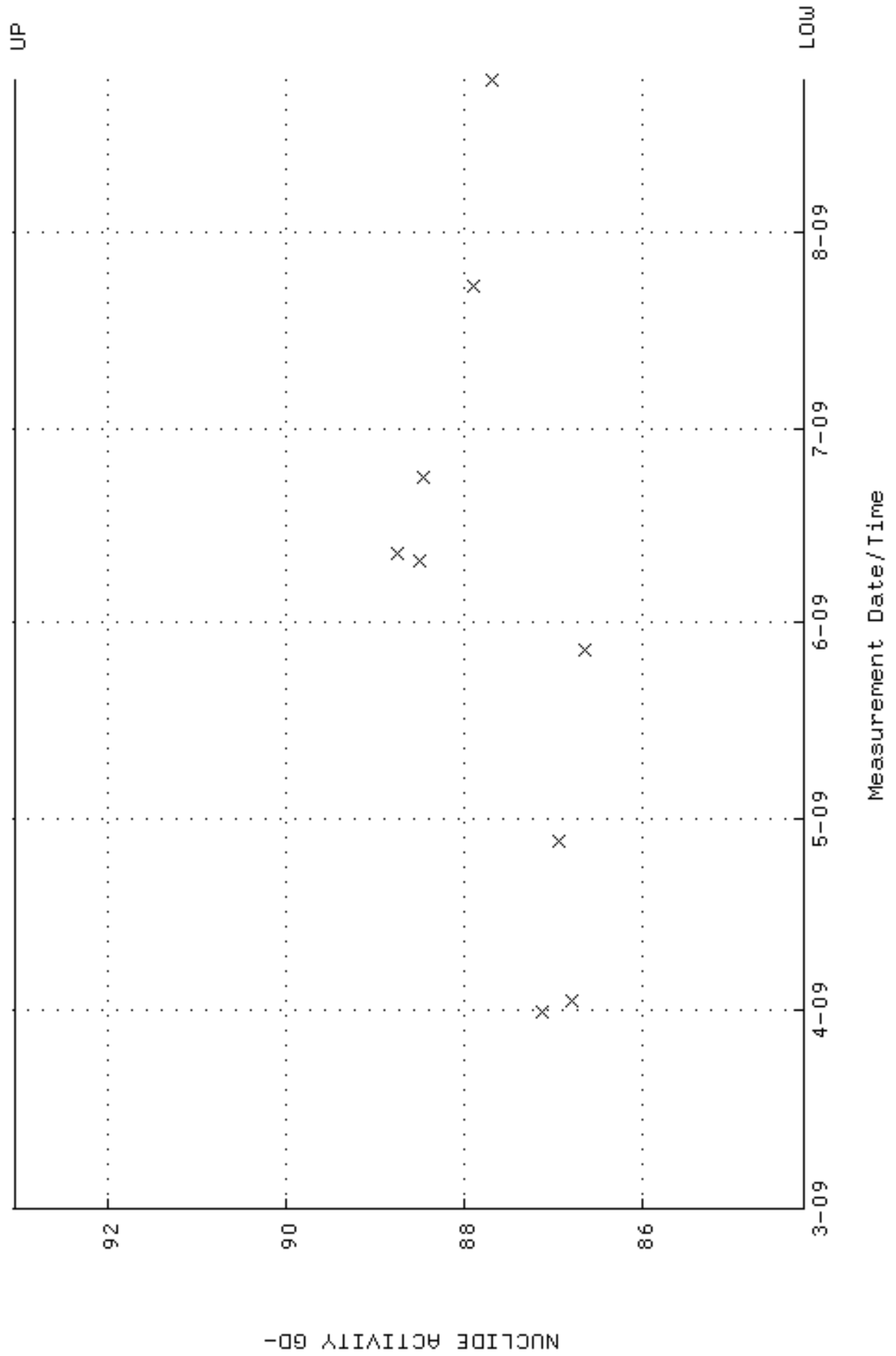
QA filename : DKA100:[ENV_ALPHA.QA.B]B188.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 17:18:33 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



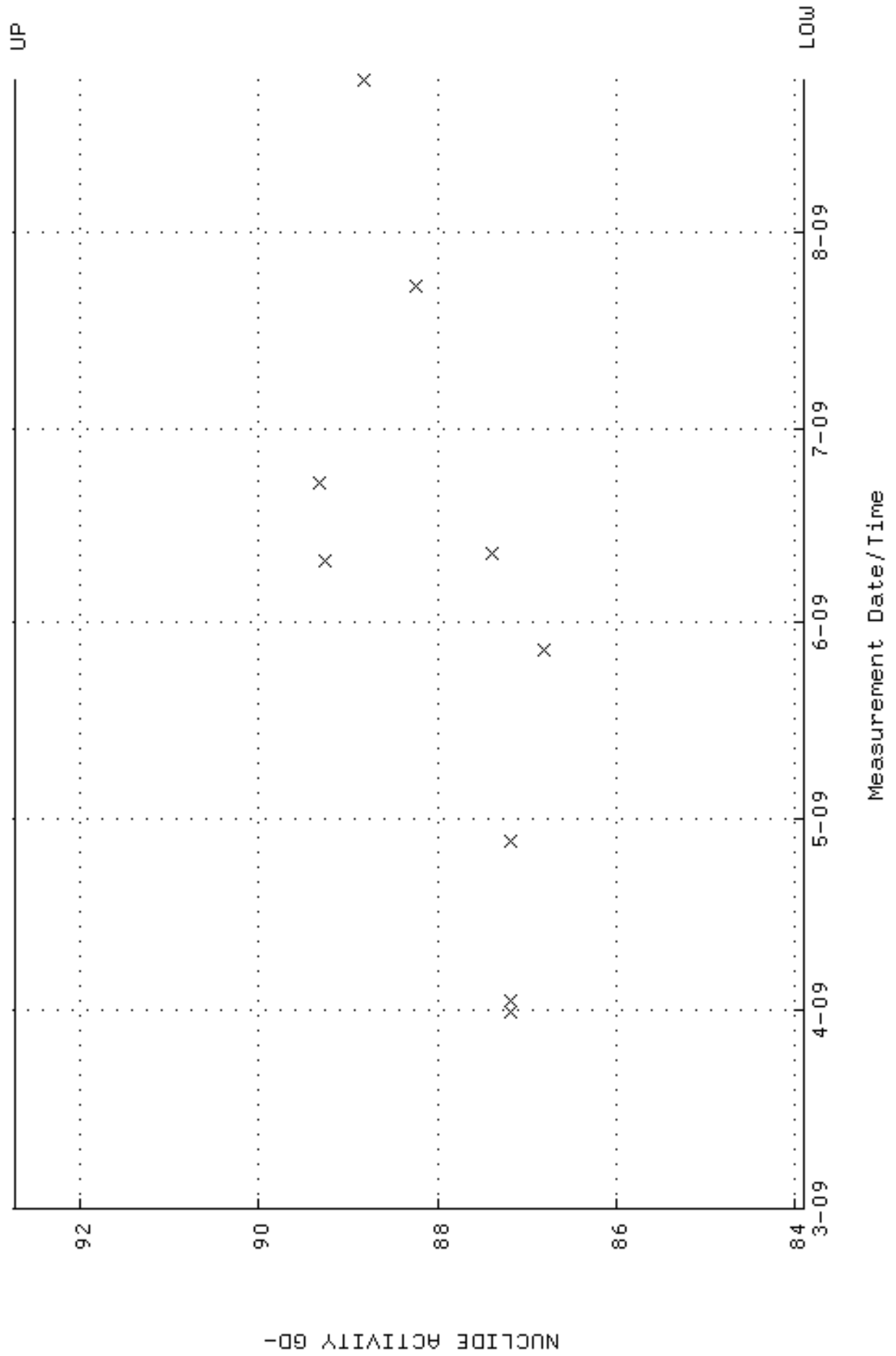
QA filename : DKA100:[ENV_ALPHA.QA.W]W197.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:03:56 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.248572 through 0.268572



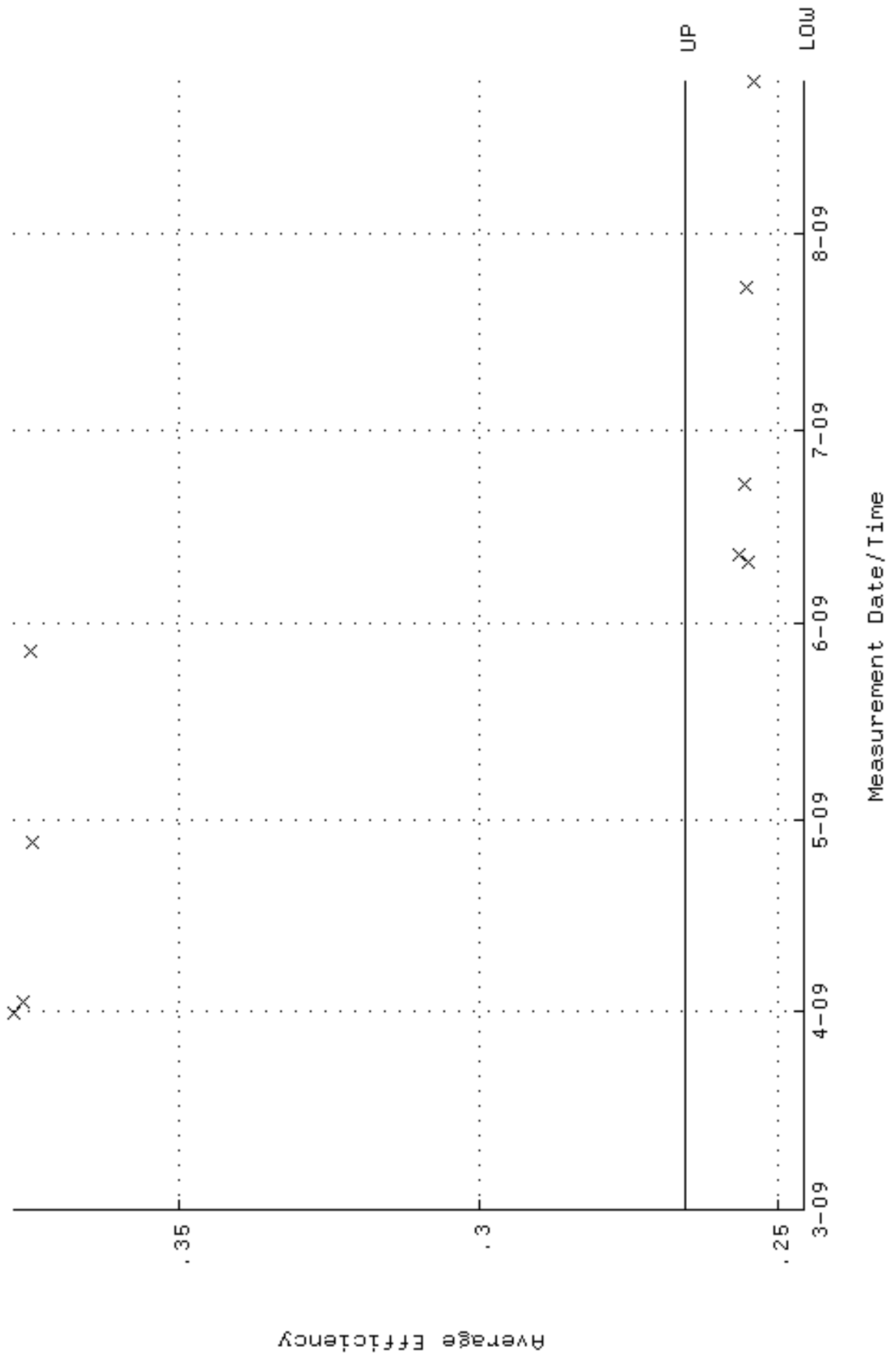
QA filename : DKA100:[ENV_ALPHA.QA.W]w197.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 31-MAR-2009 15:03:56 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 84.1772 through 93.0380



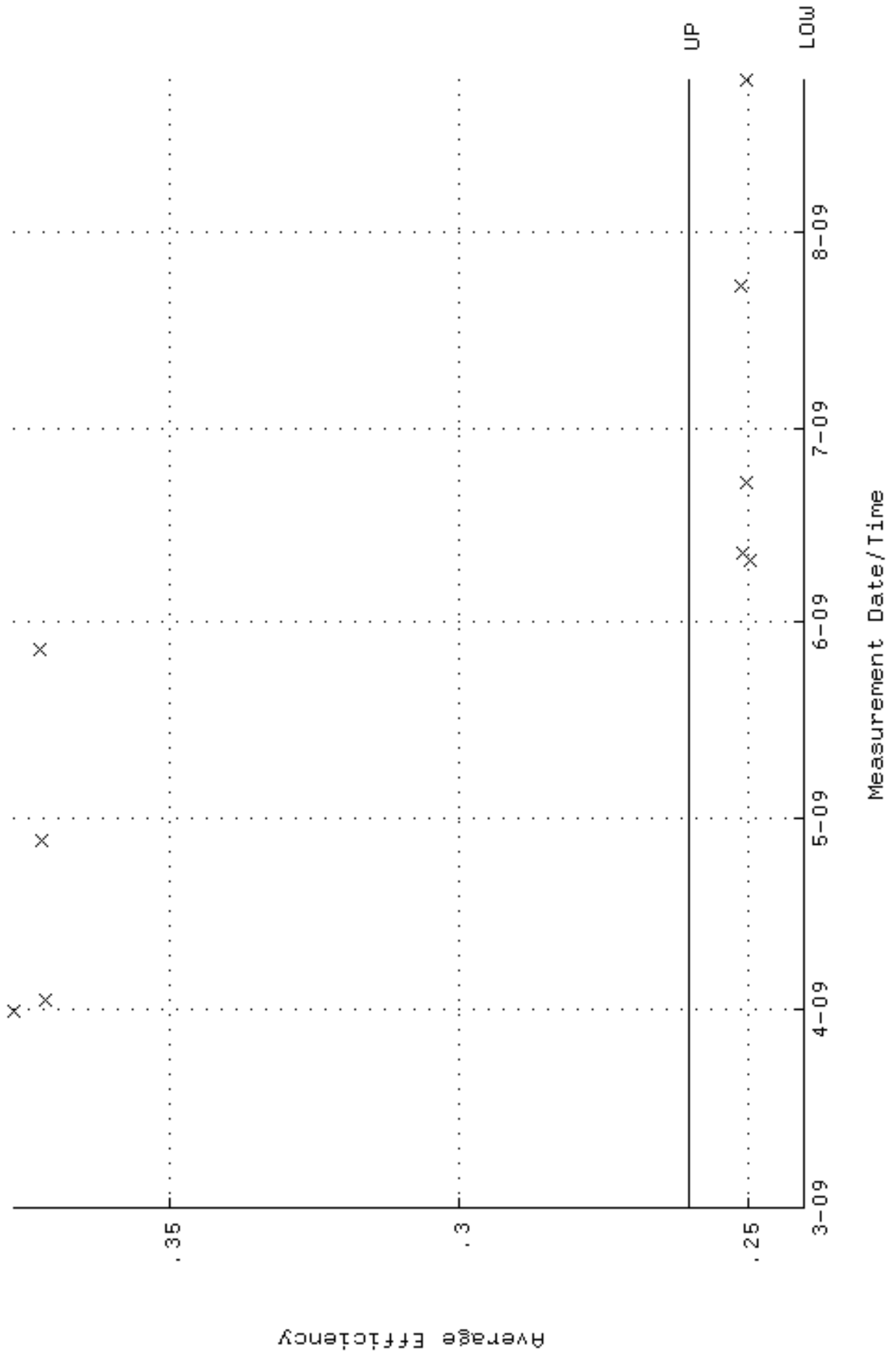
QA filename : DKA100:[ENV_ALPHA.QA.W]W198.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 31-MAR-2009 15:06:01 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 83.8978 through 92.7292



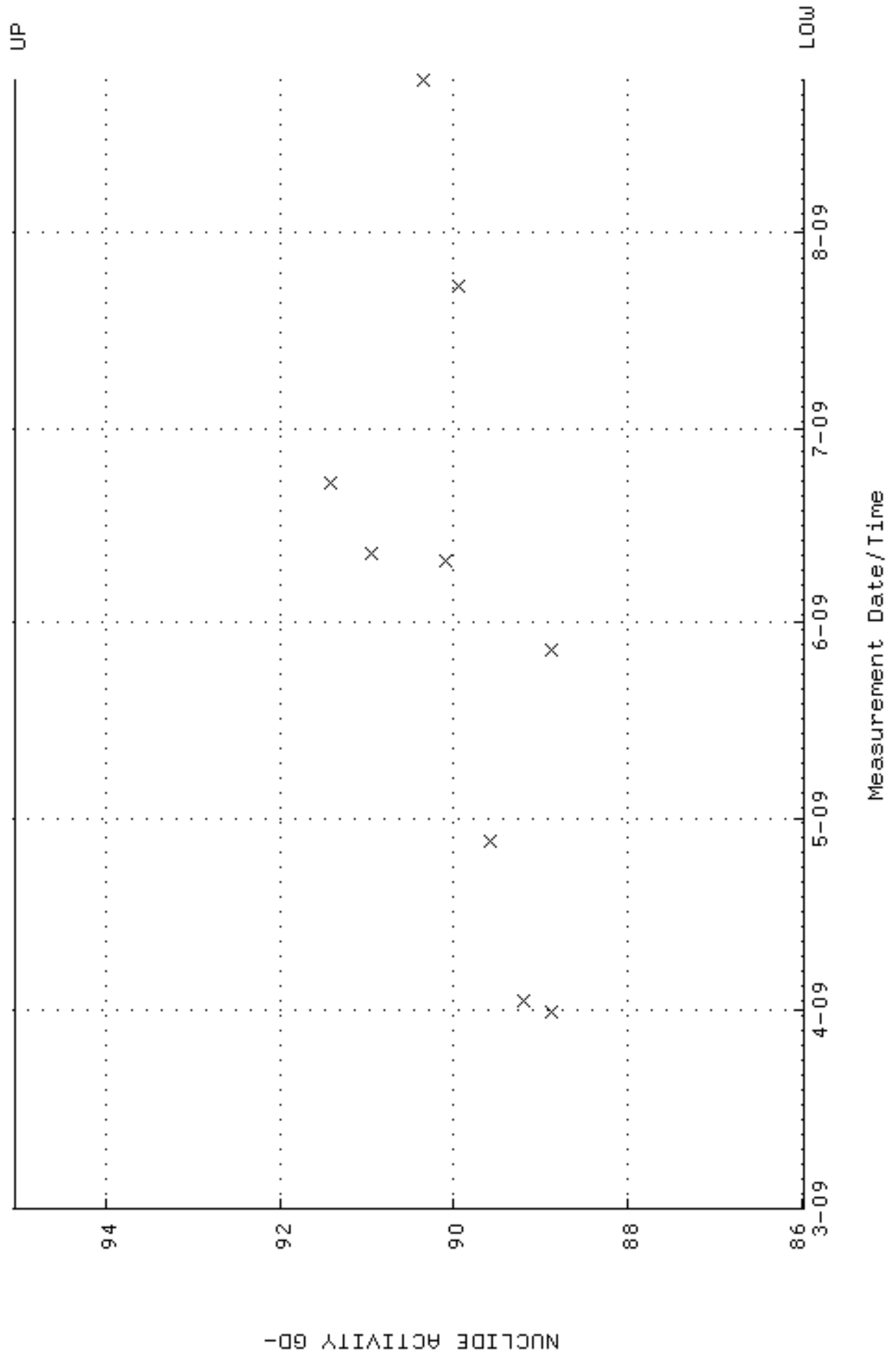
QA filename : DKA100:[ENV_ALPHA.QA.W]W198.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:06:01 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.245817 through 0.265817



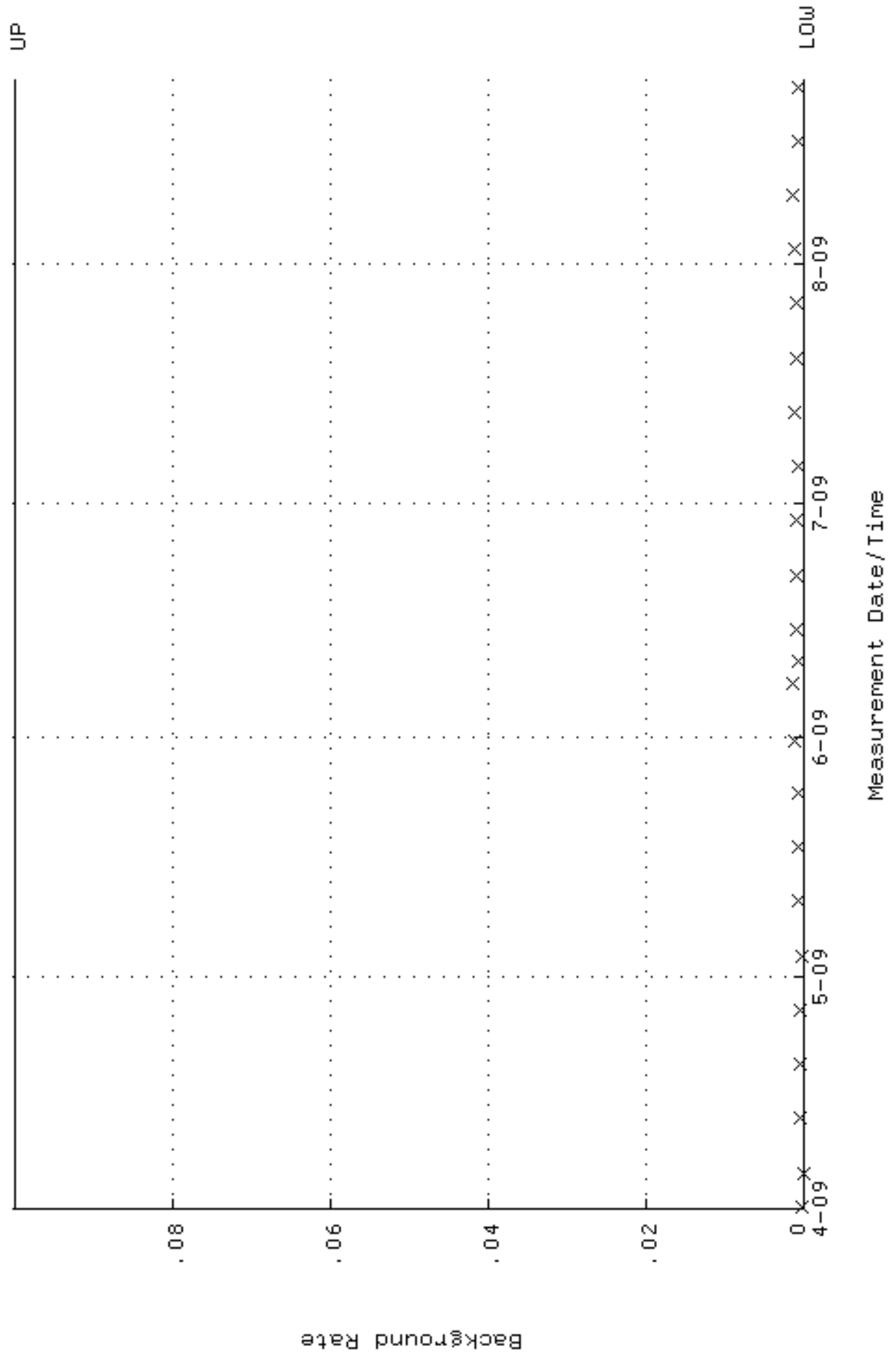
QA filename : DKA100:[ENV_ALPHA.QA.W]W199.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:10:22 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.240278 through 0.260278



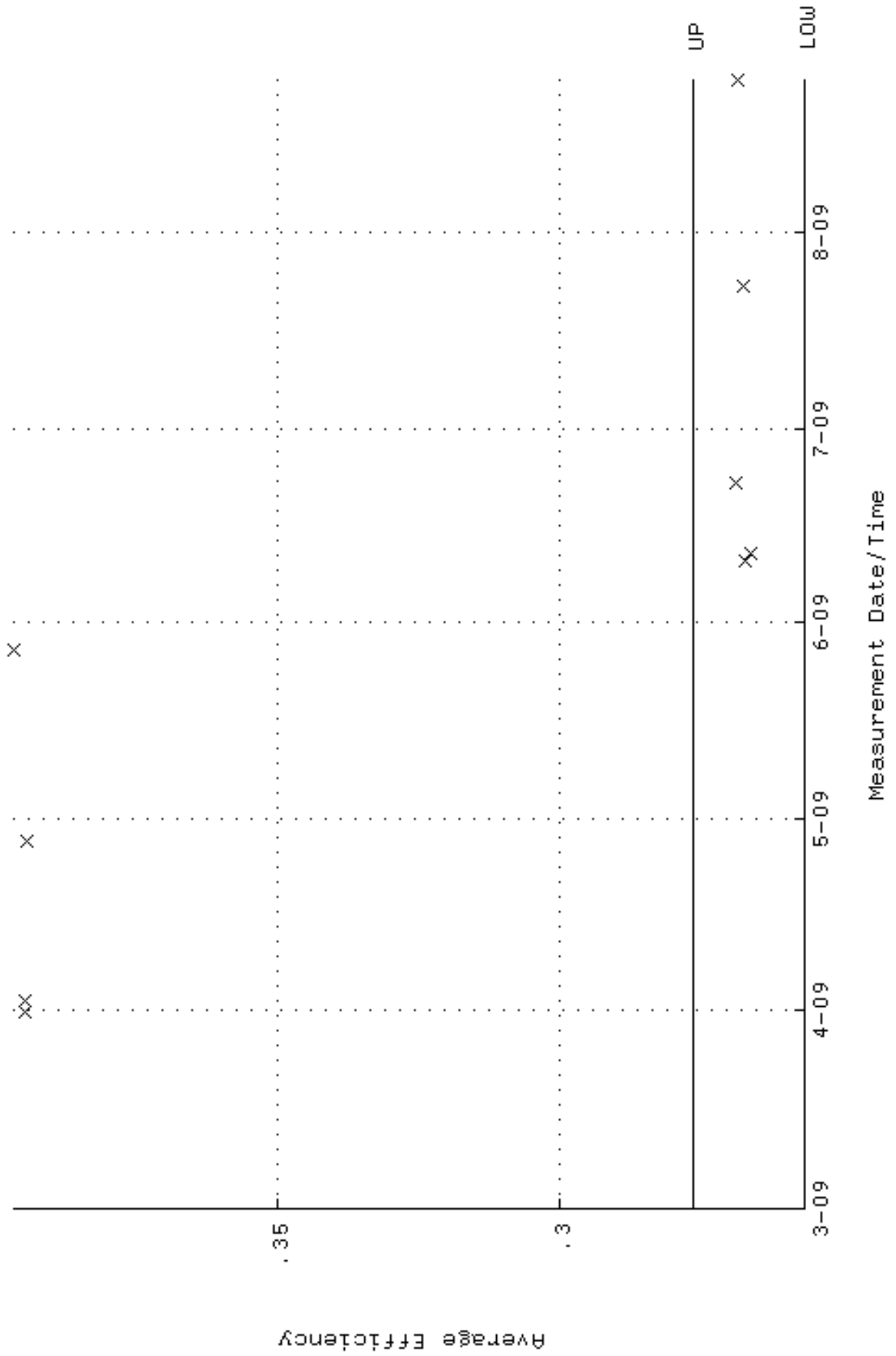
QA filename : DKA100:[ENV_ALPHA.QA.W]W199.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 31-MAR-2009 15:10:22 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 85.9853 through 95.0363



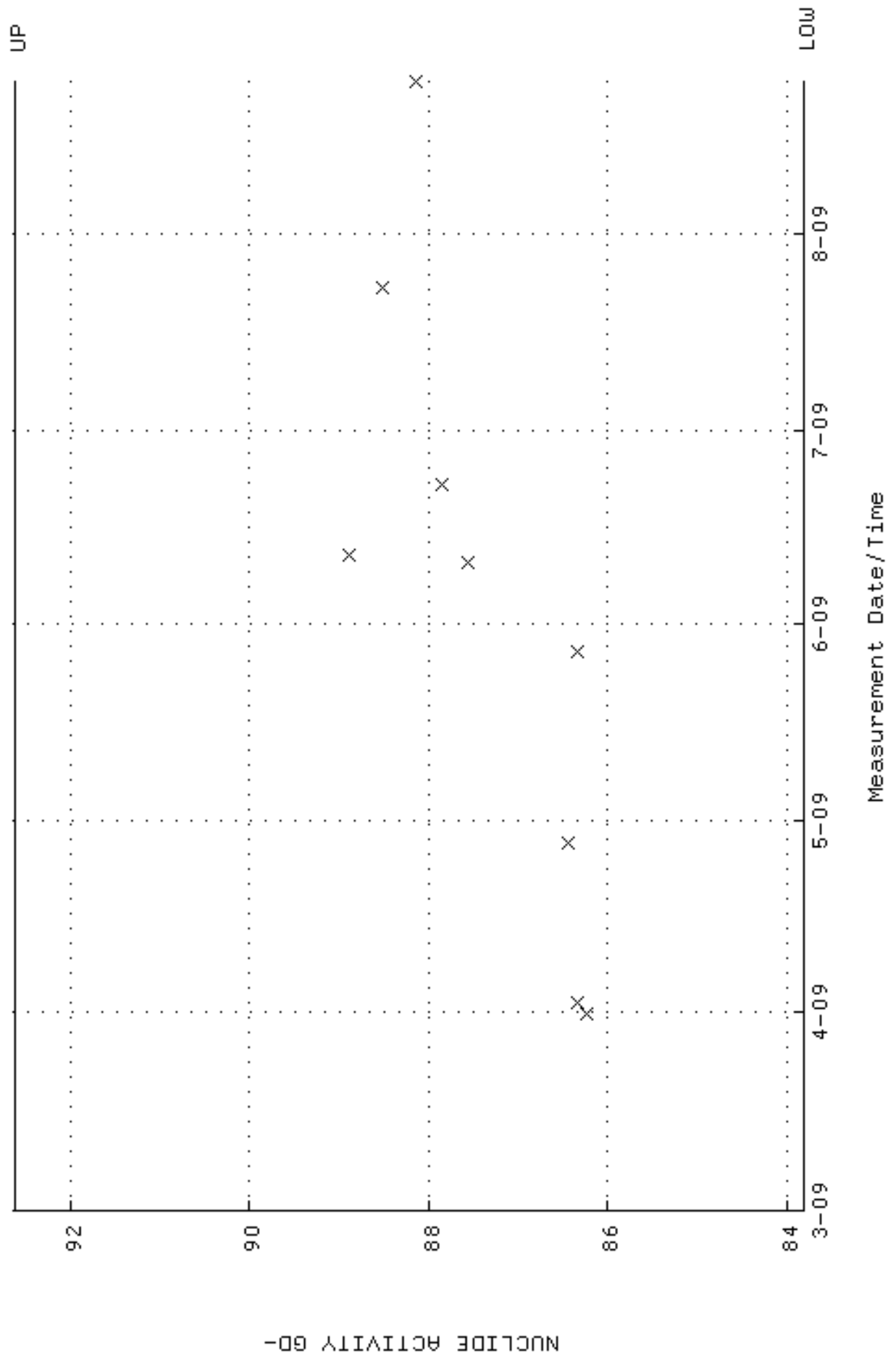
QA filename : DKA100:[ENV_ALPHA.QA.B]B199.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-APR-2009 08:02:28 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



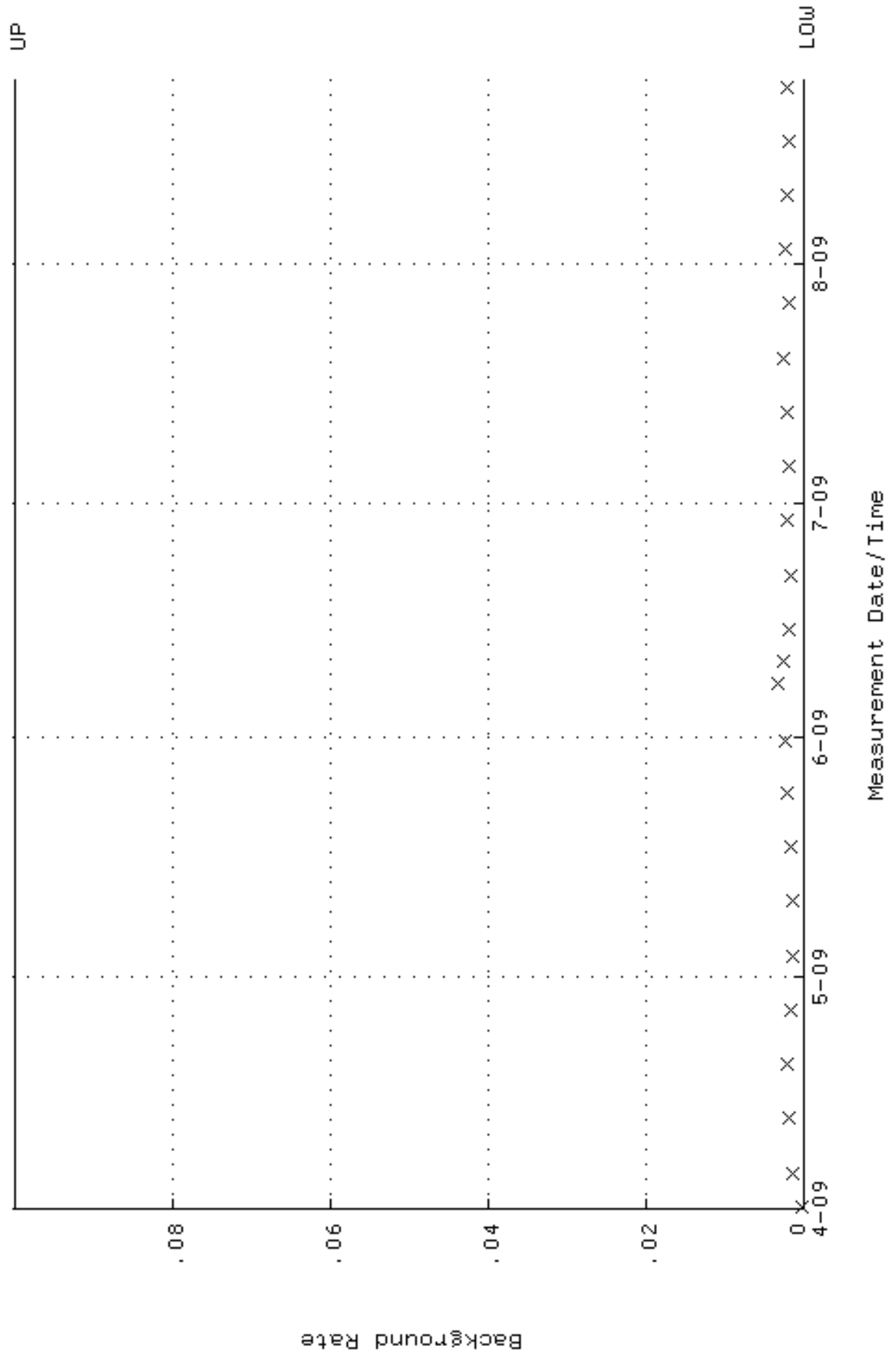
QA filename : DKA100:[ENV_ALPHA.QA.W]W200.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:10:24 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.256586 through 0.276586



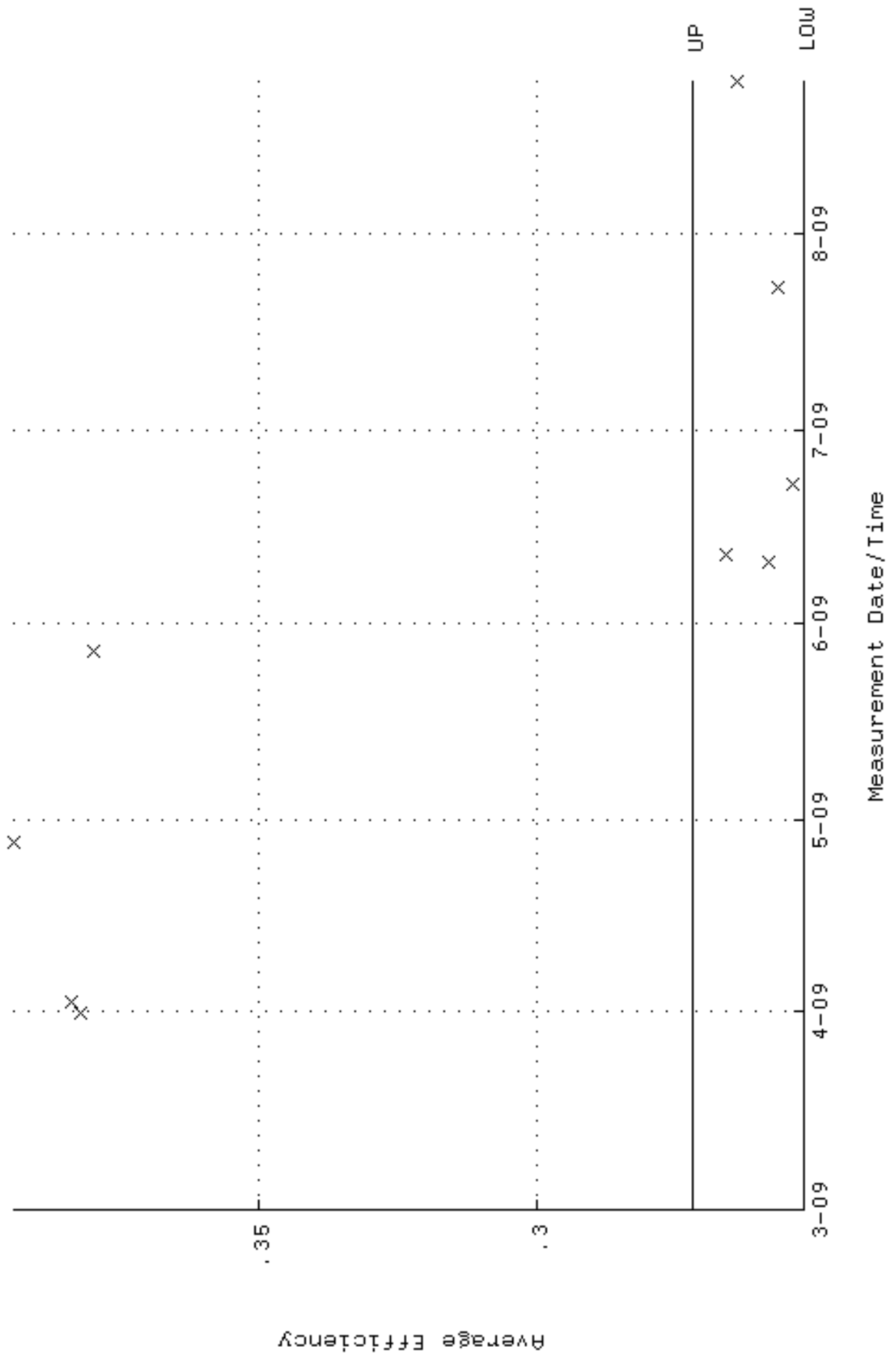
QA filename : DKA100:[ENV_ALPHA.QA.W]W200.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 31-MAR-2009 15:10:24 through 24-AUG-2009 12:00:00
Lower/Upper Lmts: 83.8028 through 92.6242



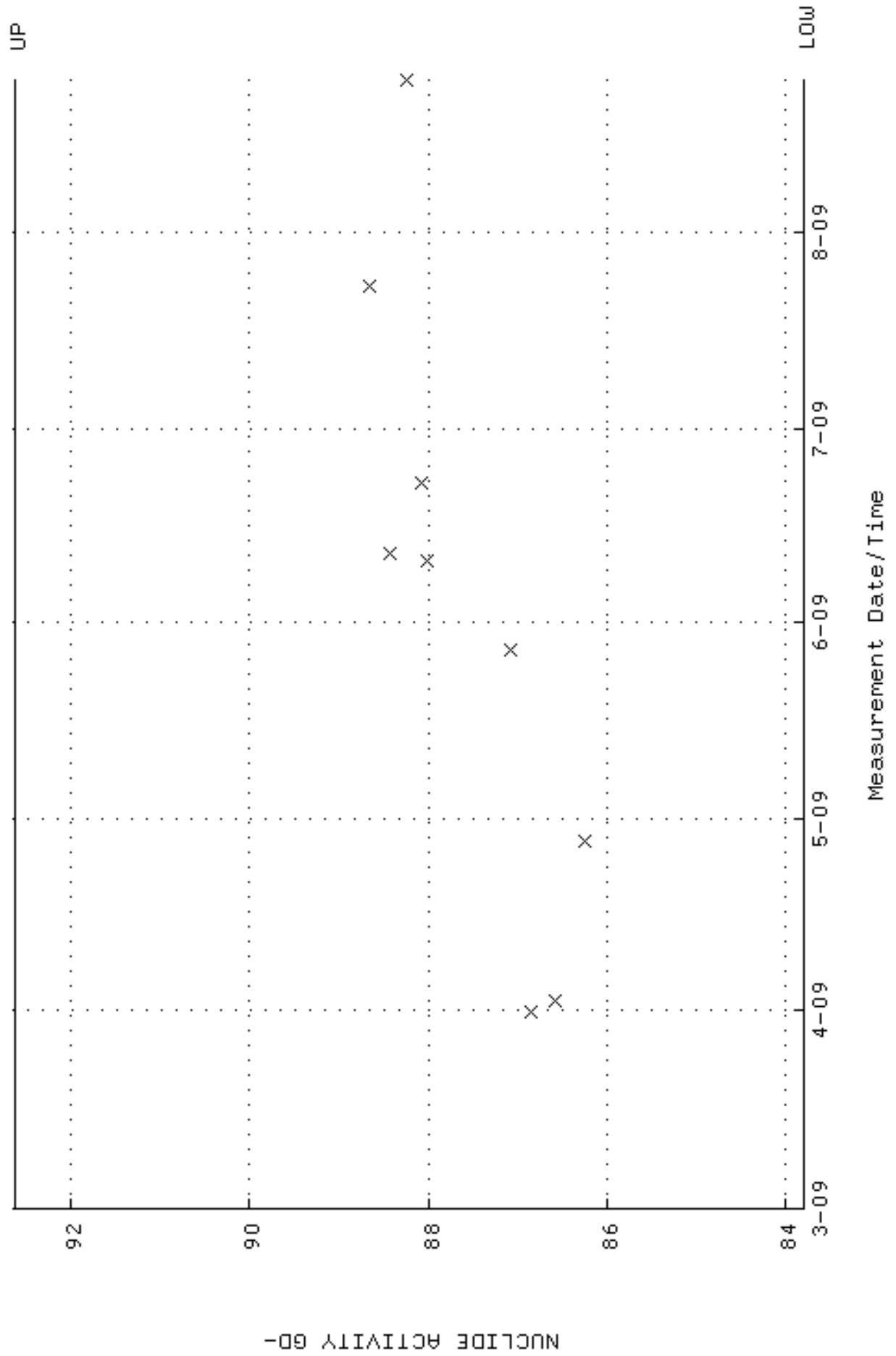
QA filename : DKA100:[ENV_ALPHA.QA.B]B200.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-APR-2009 08:02:33 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



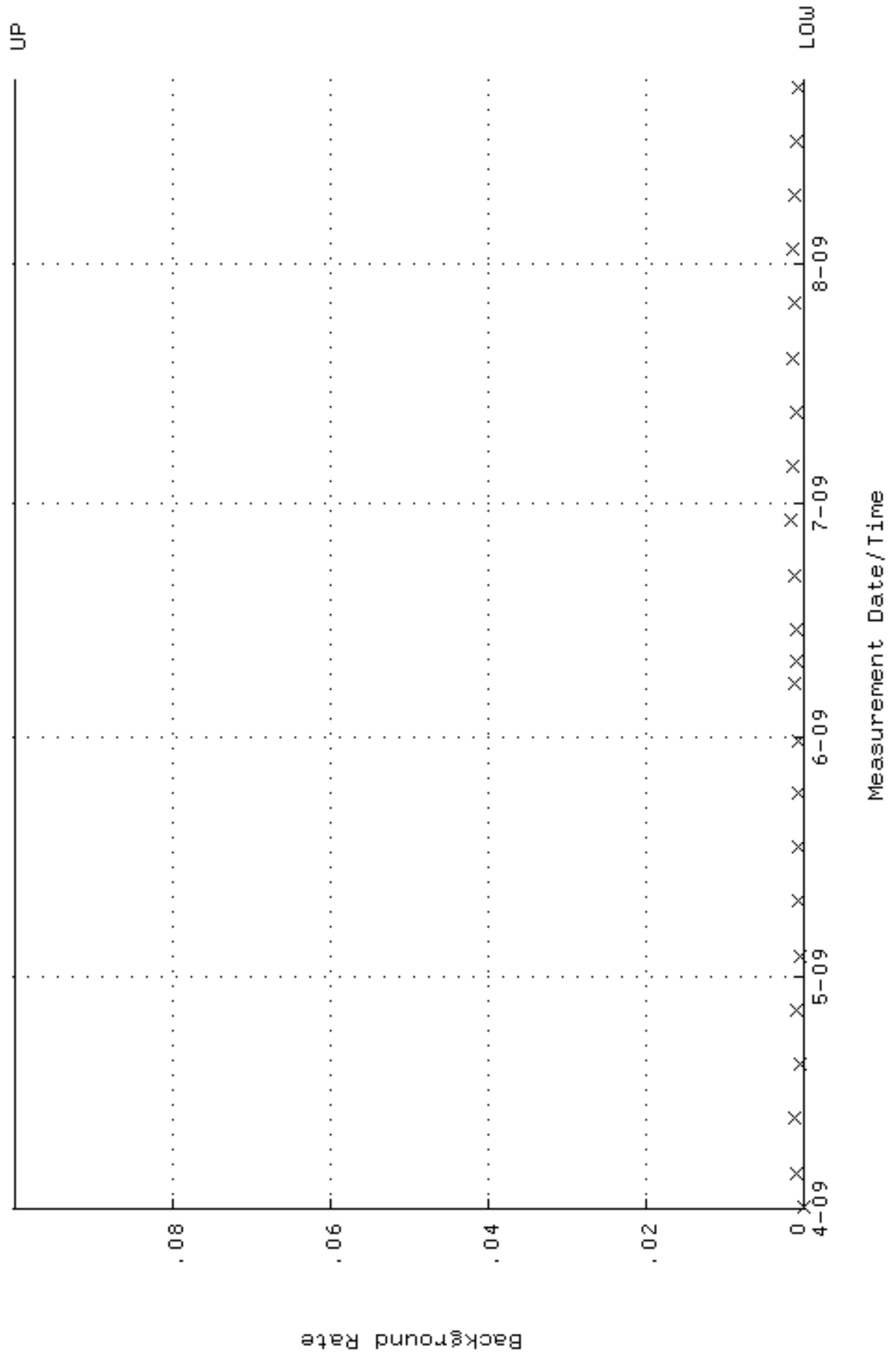
QA filename : DKA100:[ENV_ALPHA.QA.W]W203.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:10:29 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.252203 through 0.272203



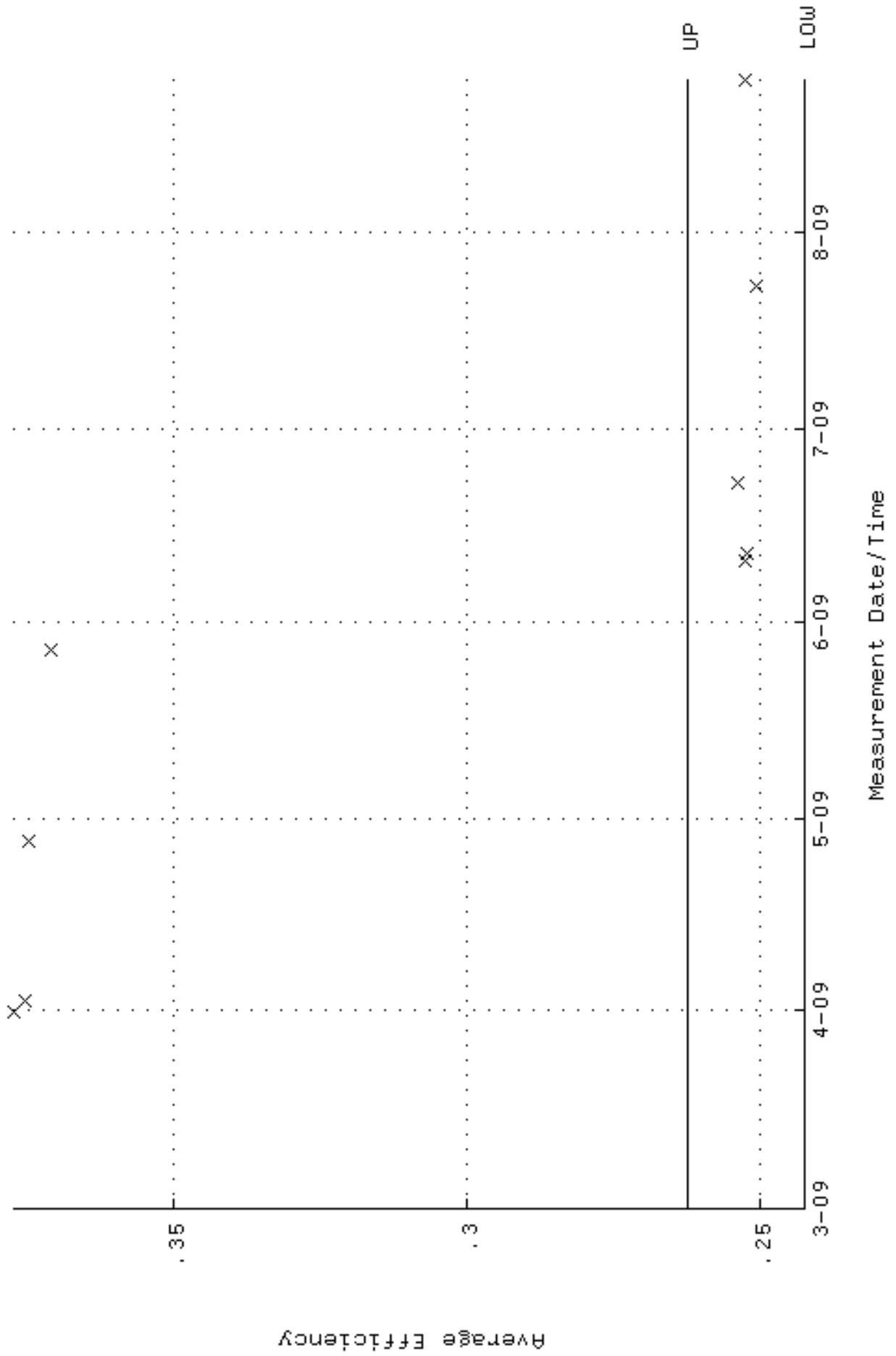
QA filename : DKA100:[ENV_ALPHA.QA.W]W203.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 31-MAR-2009 15:10:29 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 83.7993 through 92.6203



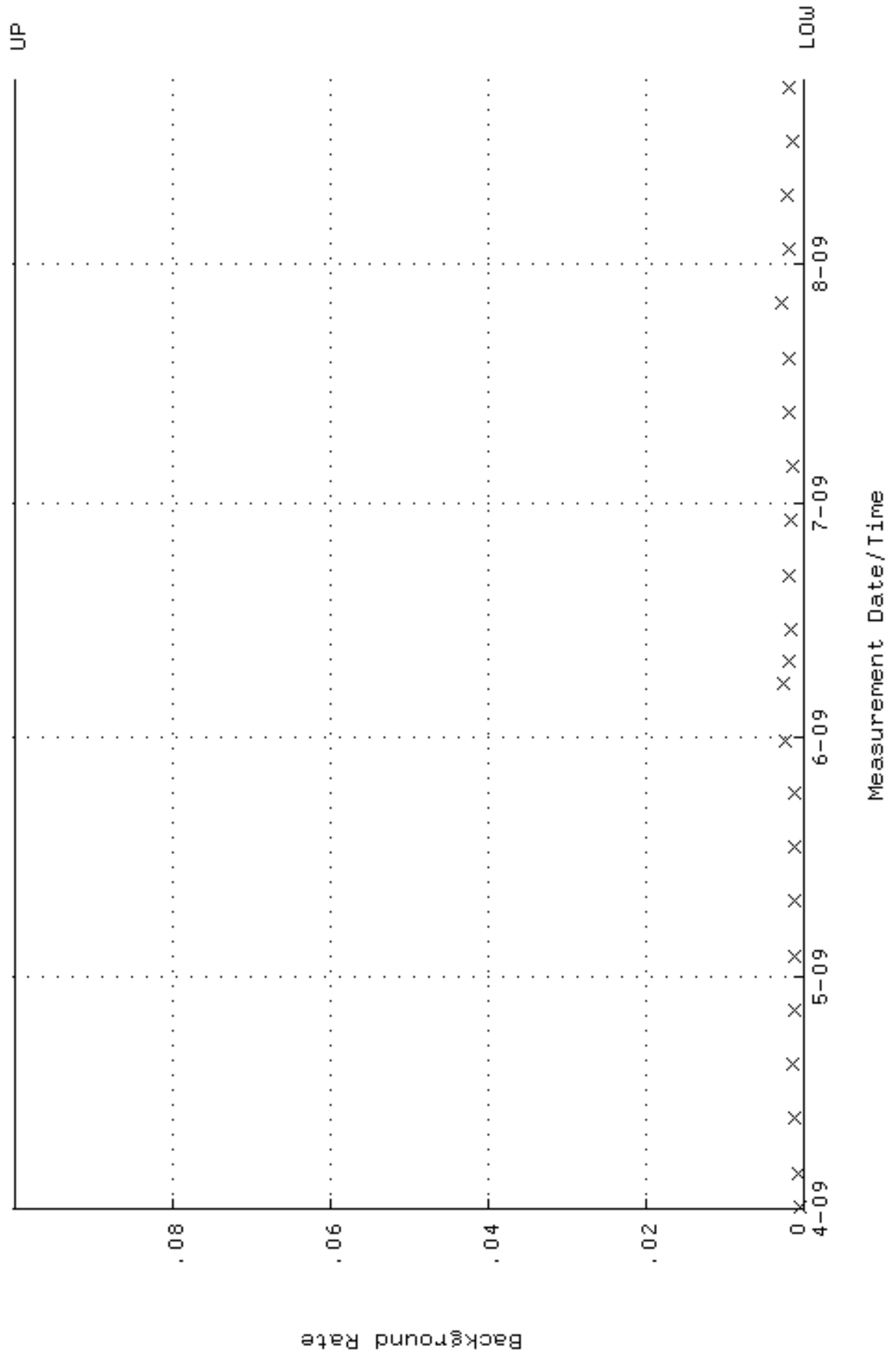
QA filename : DKA100:[ENV_ALPHA.QA.B]B203.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-APR-2009 08:02:49 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



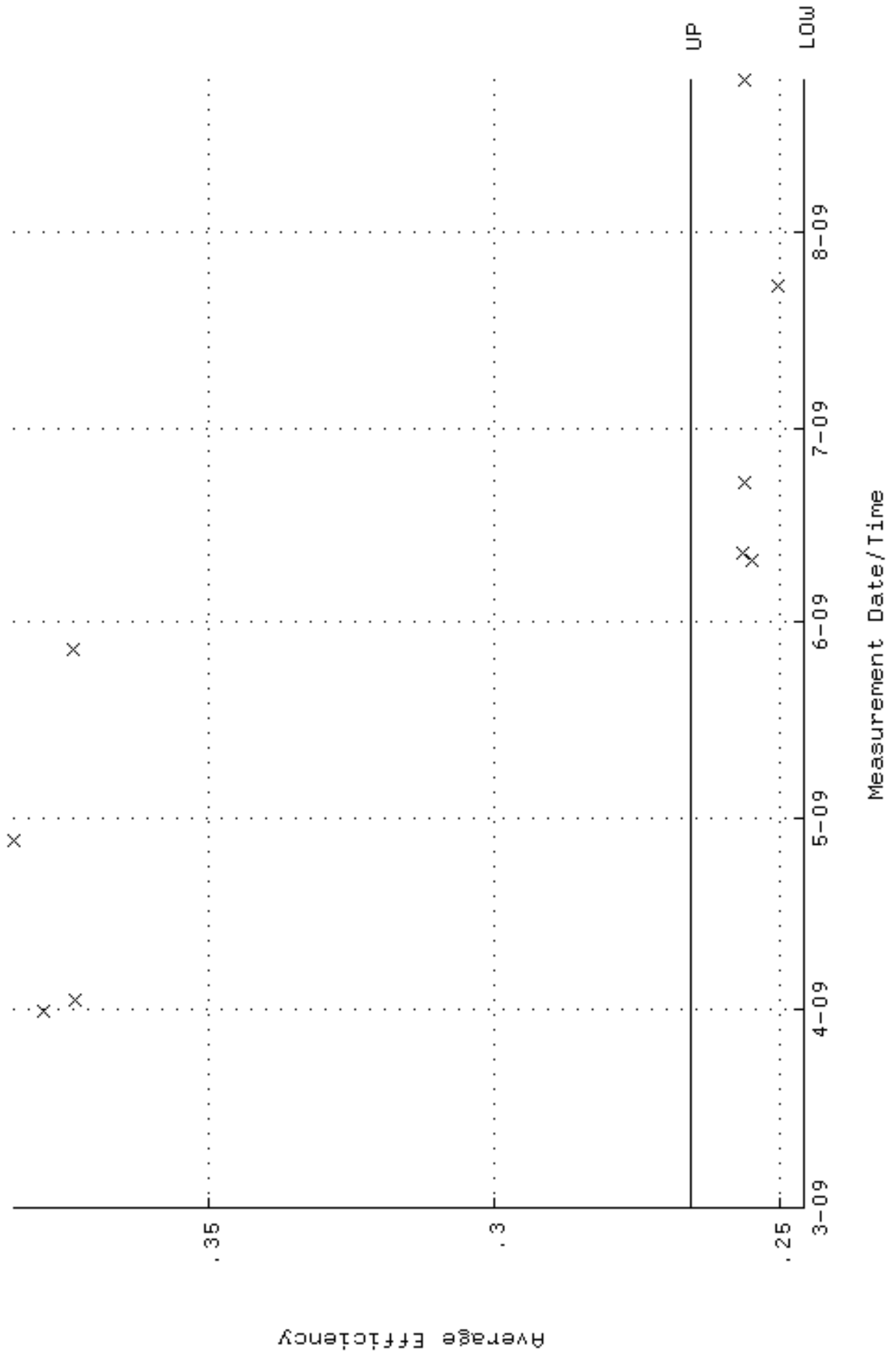
QA filename : DKA100:[ENV_ALPHA.QA.W]W204.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:10:31 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.242368 through 0.262368



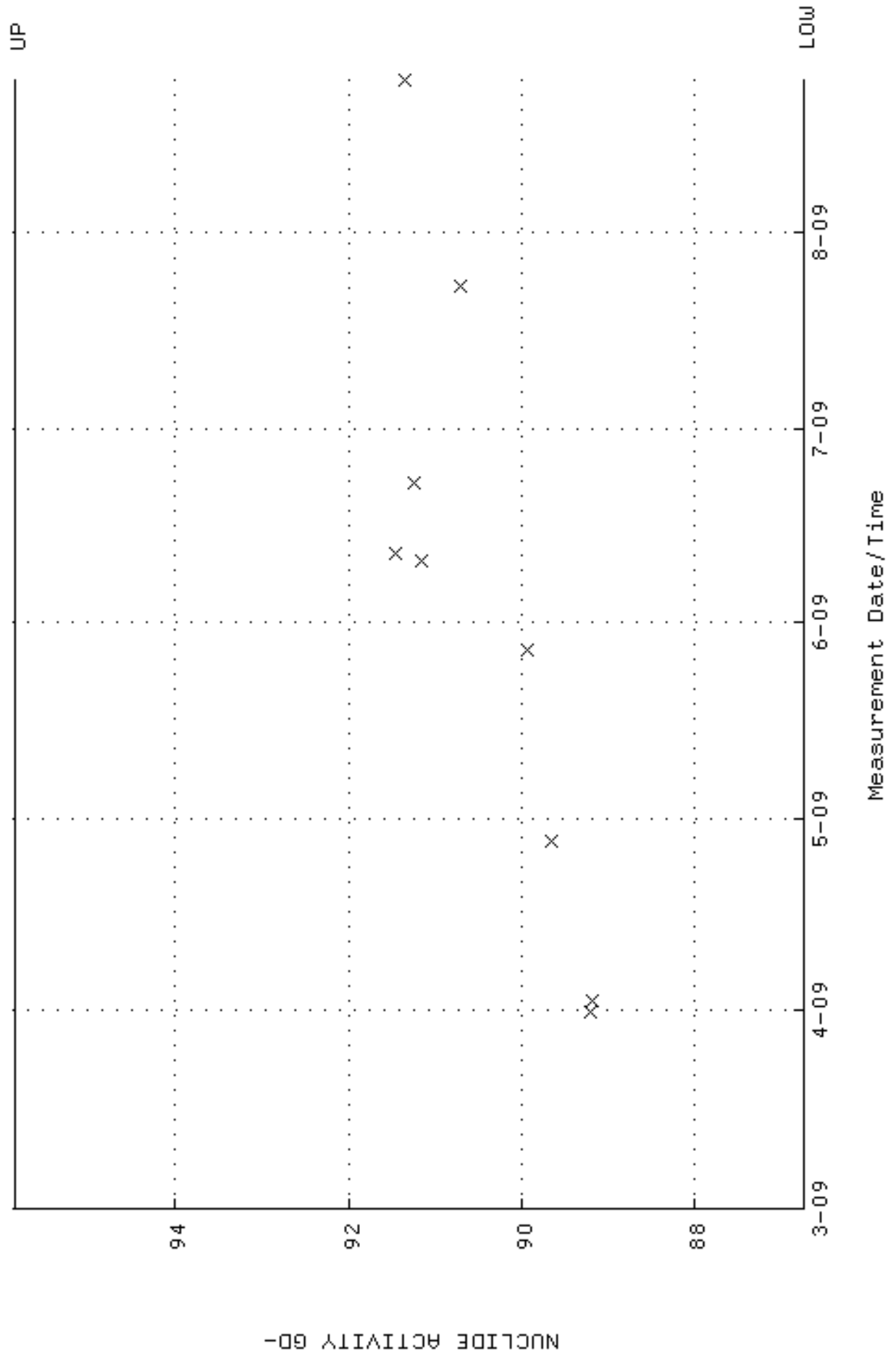
QA filename : DKA100:[ENV_ALPHA.QA.B]B204.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-APR-2009 08:02:55 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



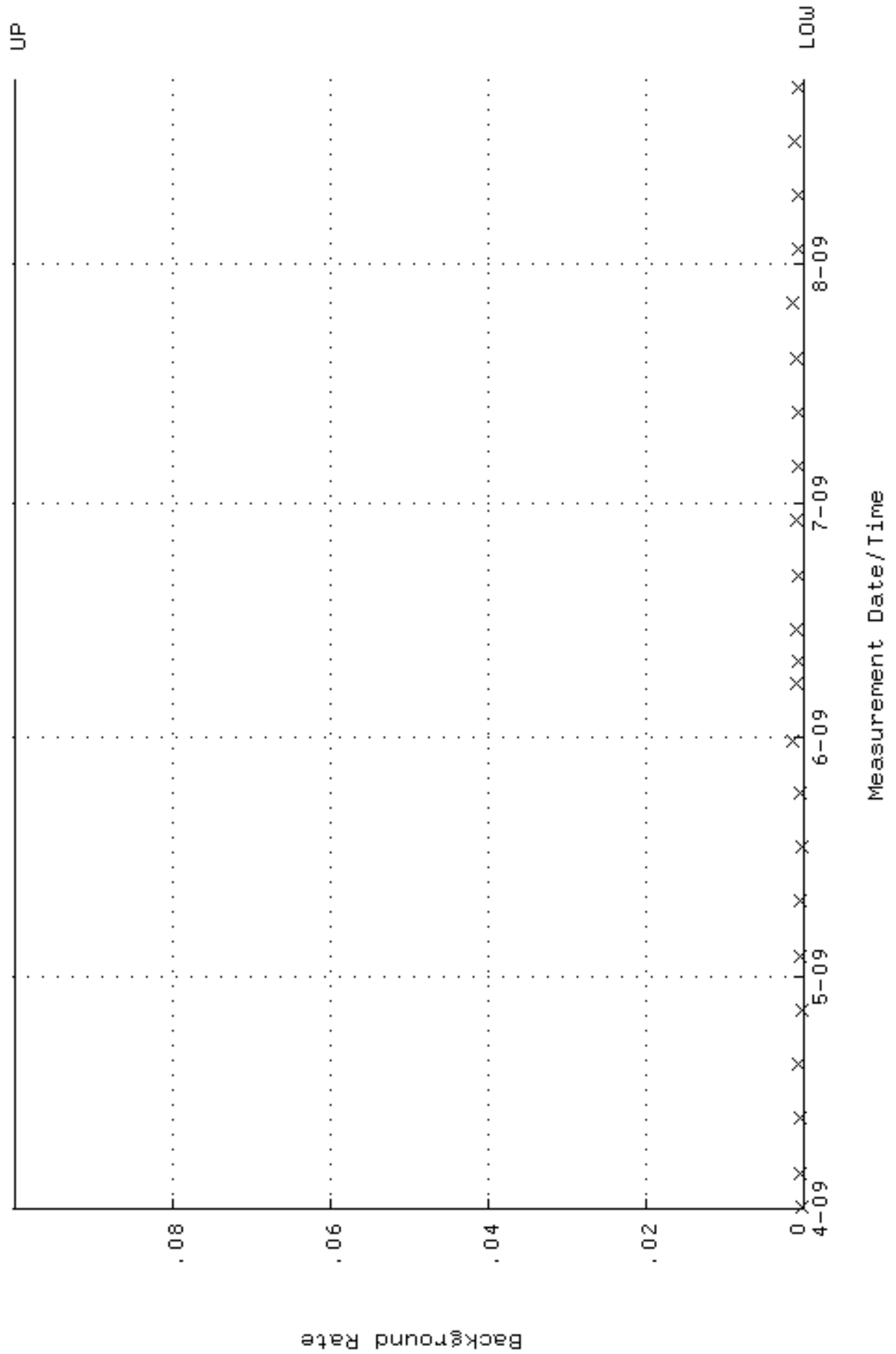
QA filename : DKA100:[ENV_ALPHA.QA.W]W205.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:10:33 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.245702 through 0.265702



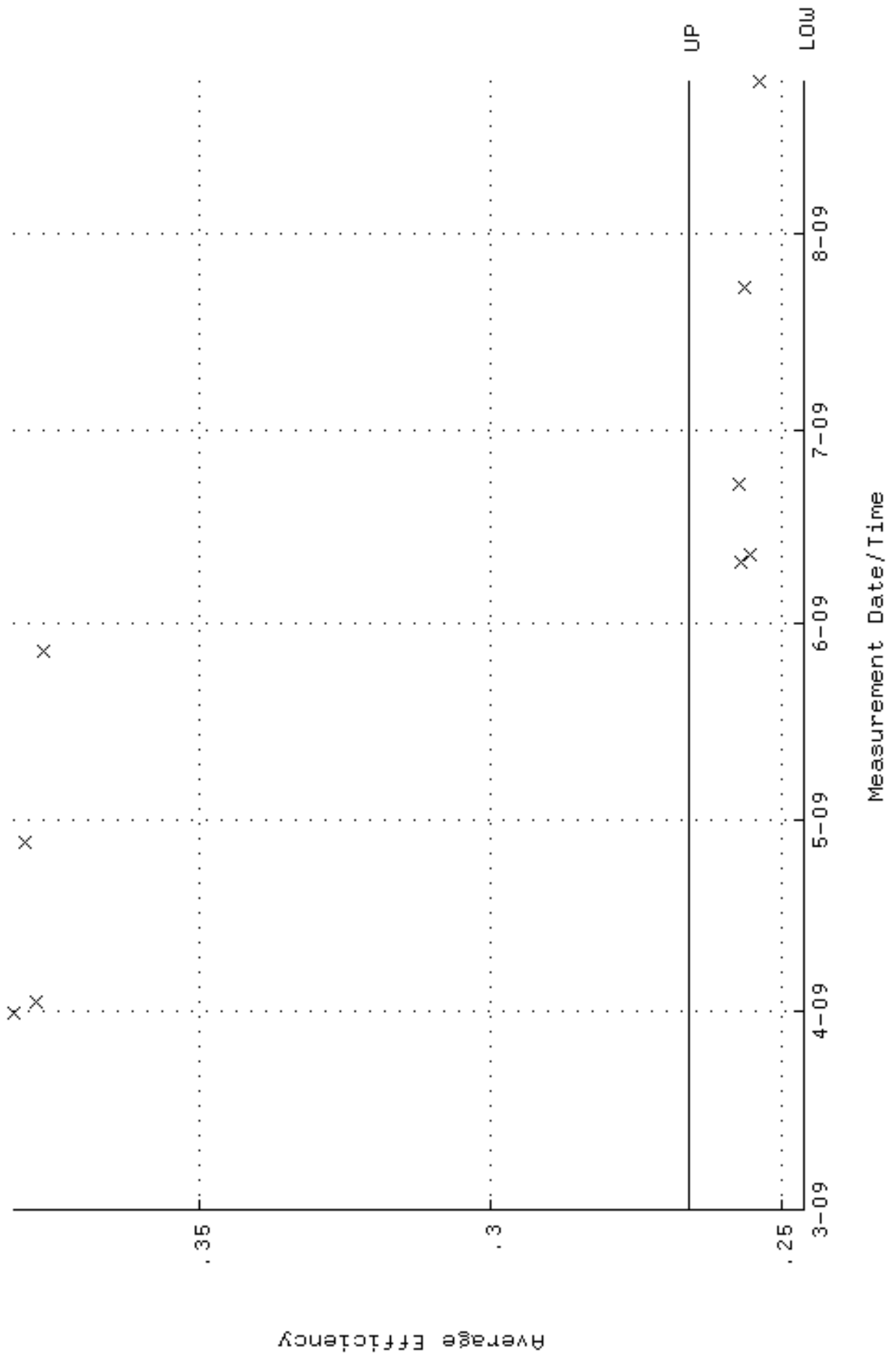
QA filename : DKA100:[ENV_ALPHA.QA.W]W205.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 31-MAR-2009 15:10:33 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 86.7285 through 95.8579



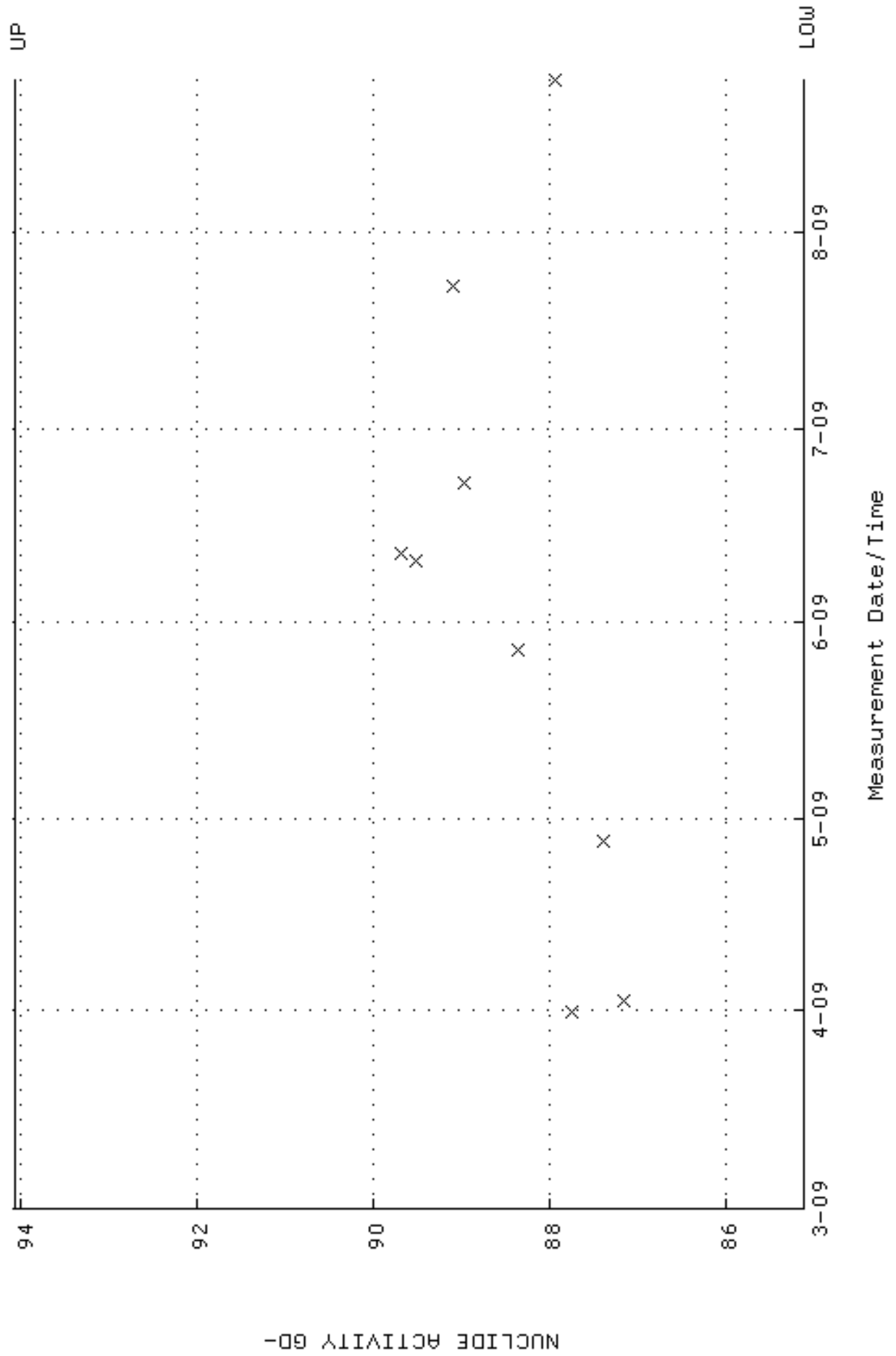
QA filename : DKA100:[ENV_ALPHA.QA.B]B205.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-APR-2009 08:03:01 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



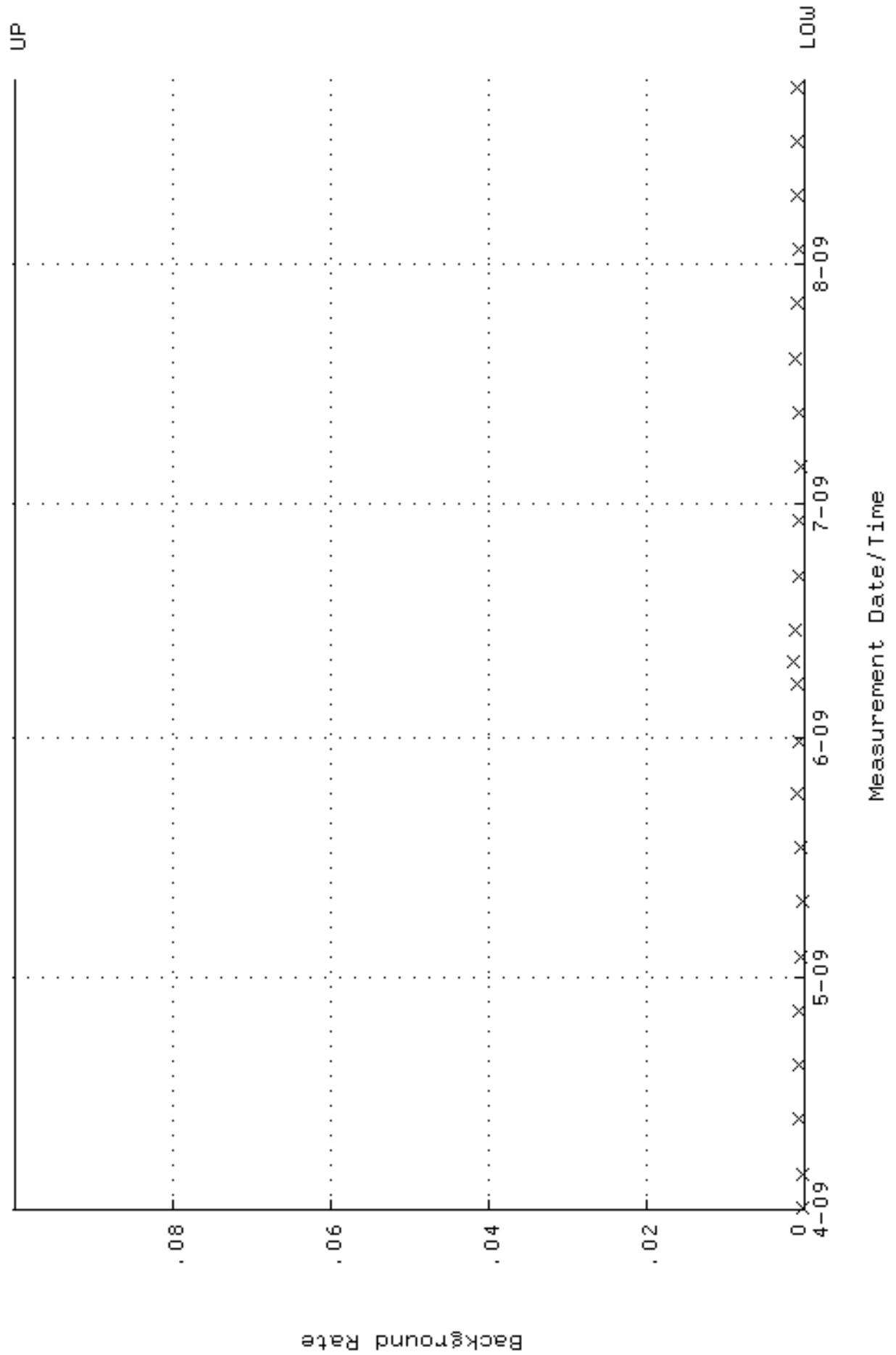
QA filename : DKA100:[ENV_ALPHA.QA.W]W206.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:10:35 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.246228 through 0.266228



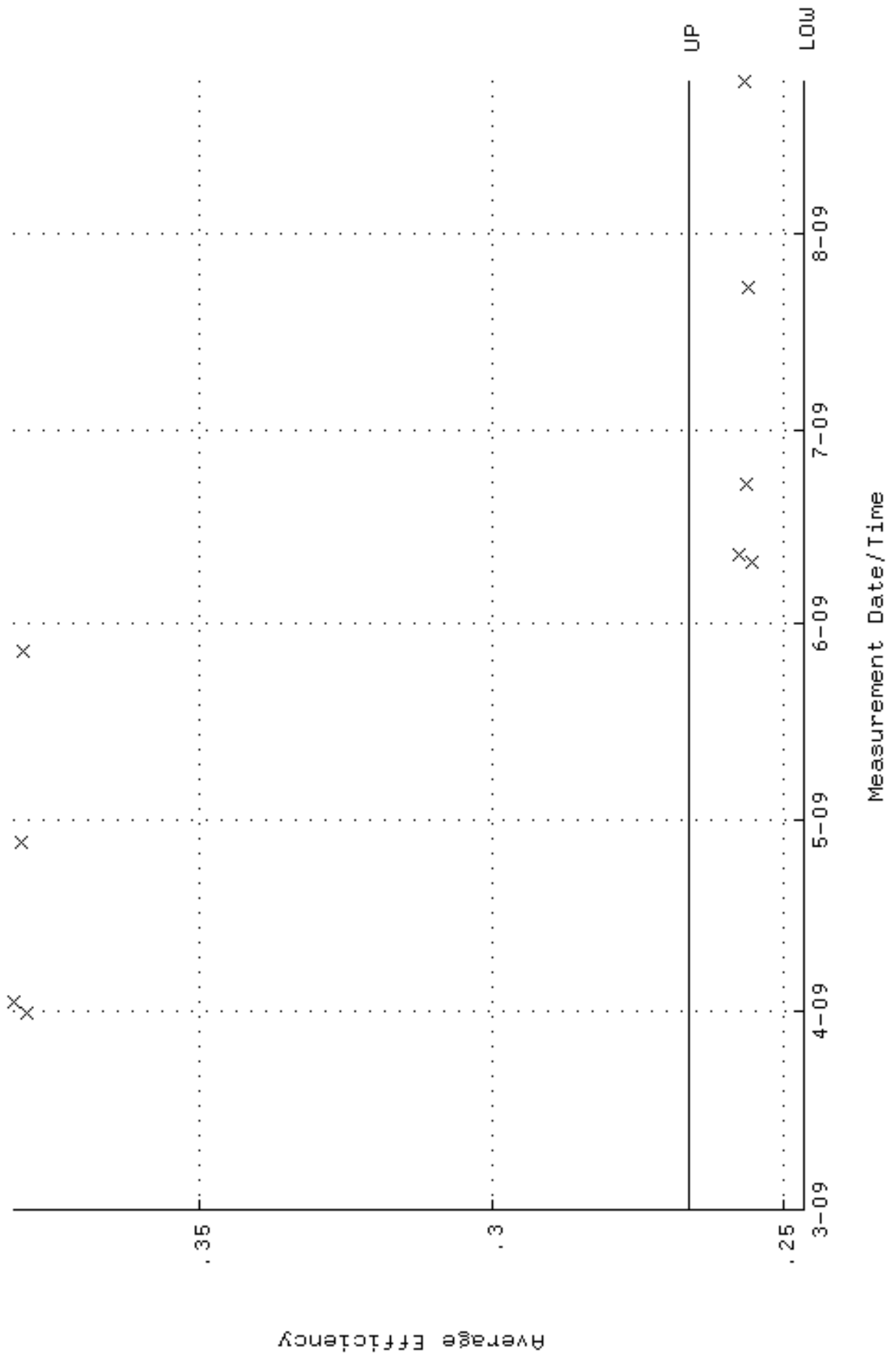
QA filename : DKA100:[ENV_ALPHA.QA.W]w206.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 31-MAR-2009 15:10:35 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 85.1104 through 94.0694



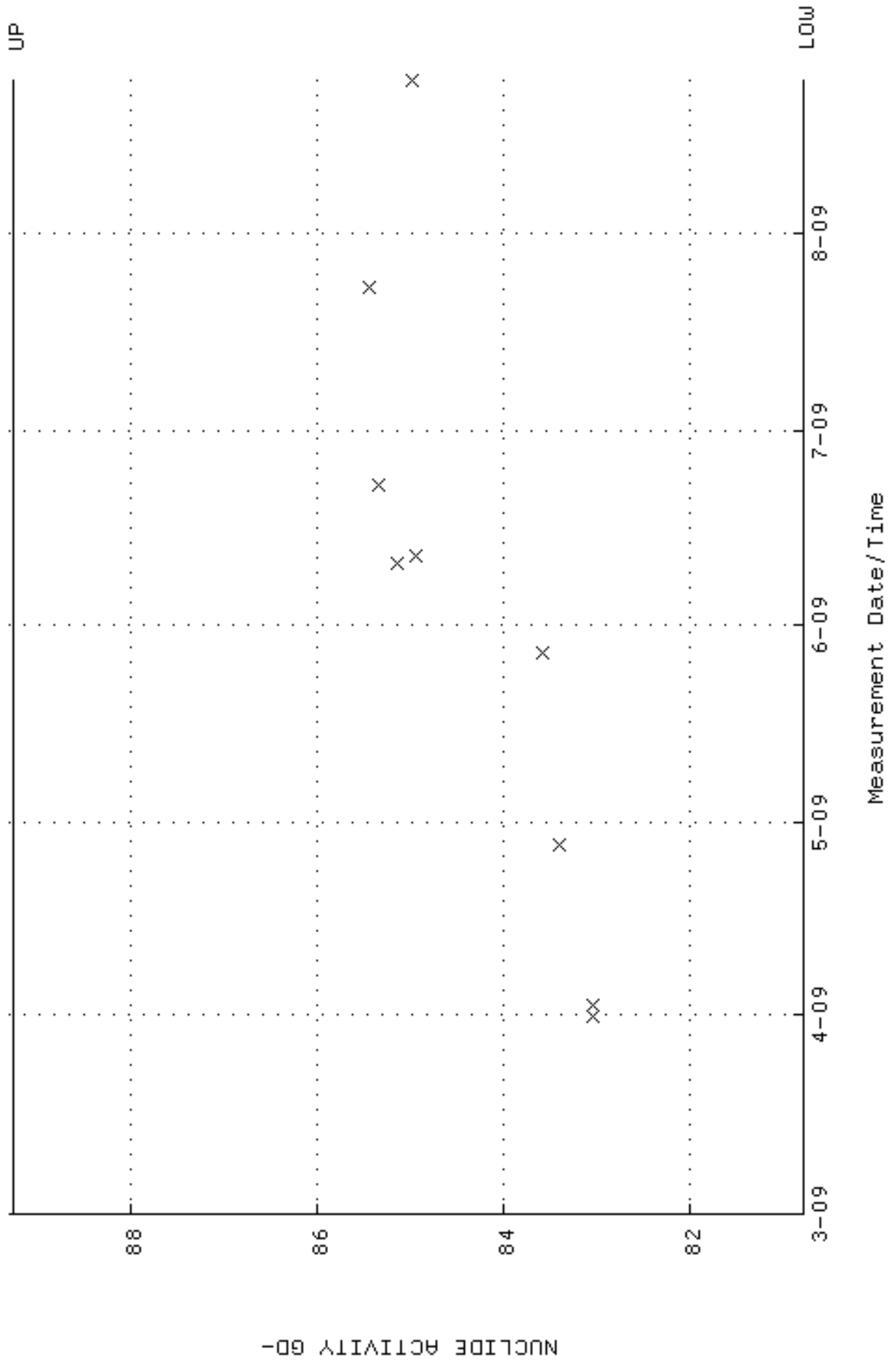
QA filename : DKA100:[ENV_ALPHA.QA.B]B206.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-APR-2009 08:03:06 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



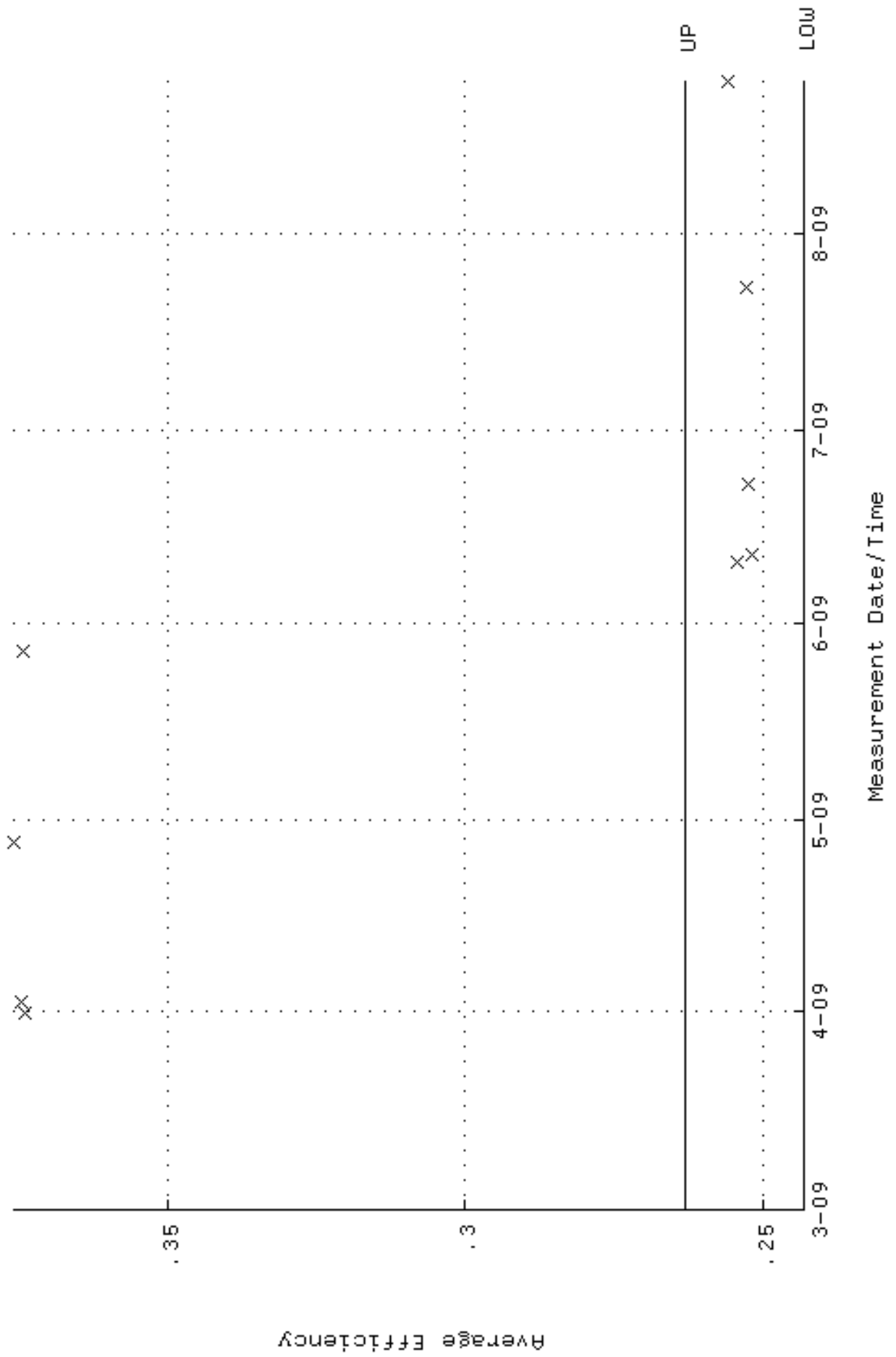
QA filename : DKA100:[ENV_ALPHA.QA.W]W207.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:10:38 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.246432 through 0.266432



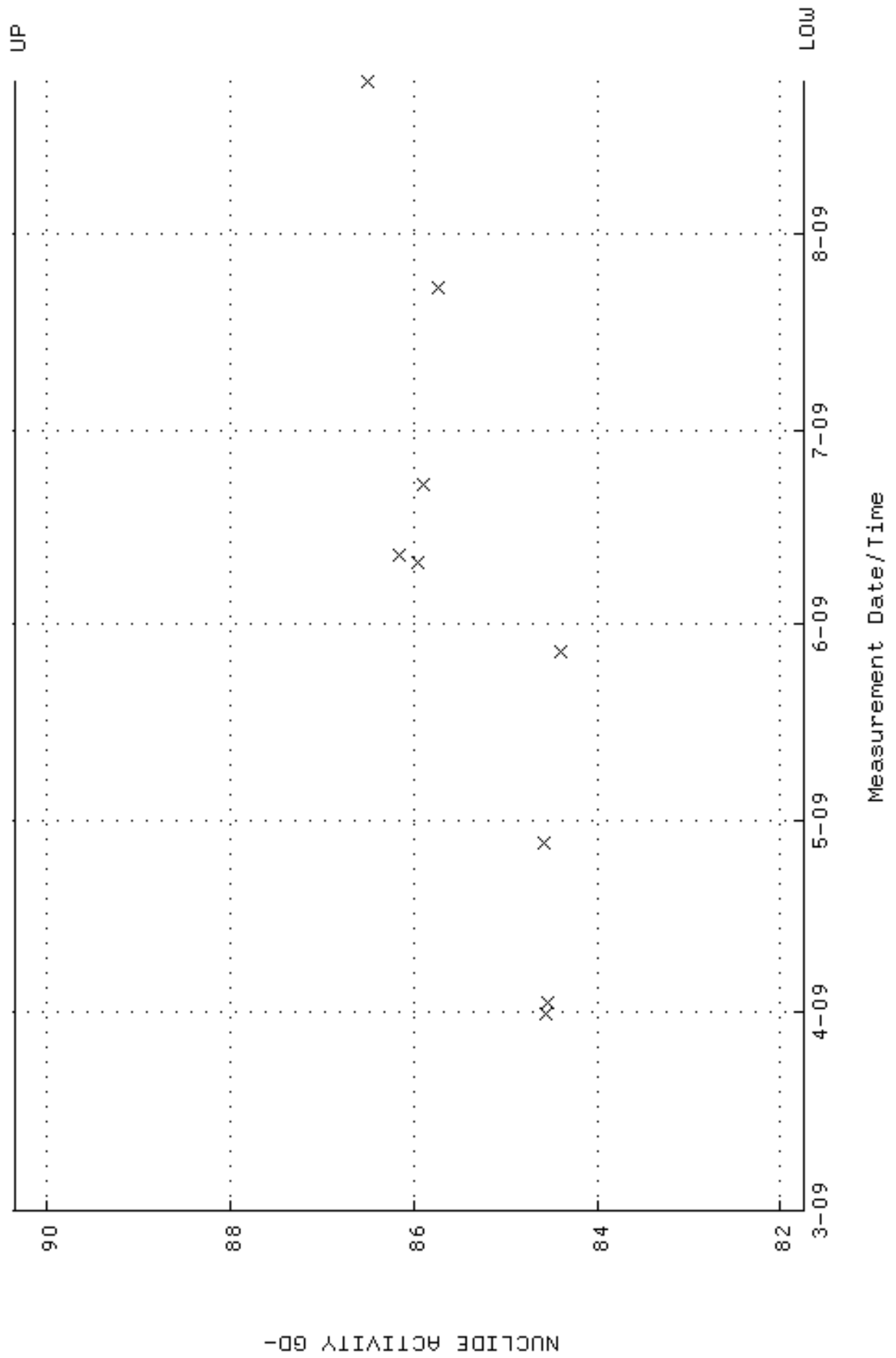
QA filename : DKA100:[ENV_ALPHA.QA.W]w207.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 31-MAR-2009 15:10:38 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 80.7759 through 89.2787



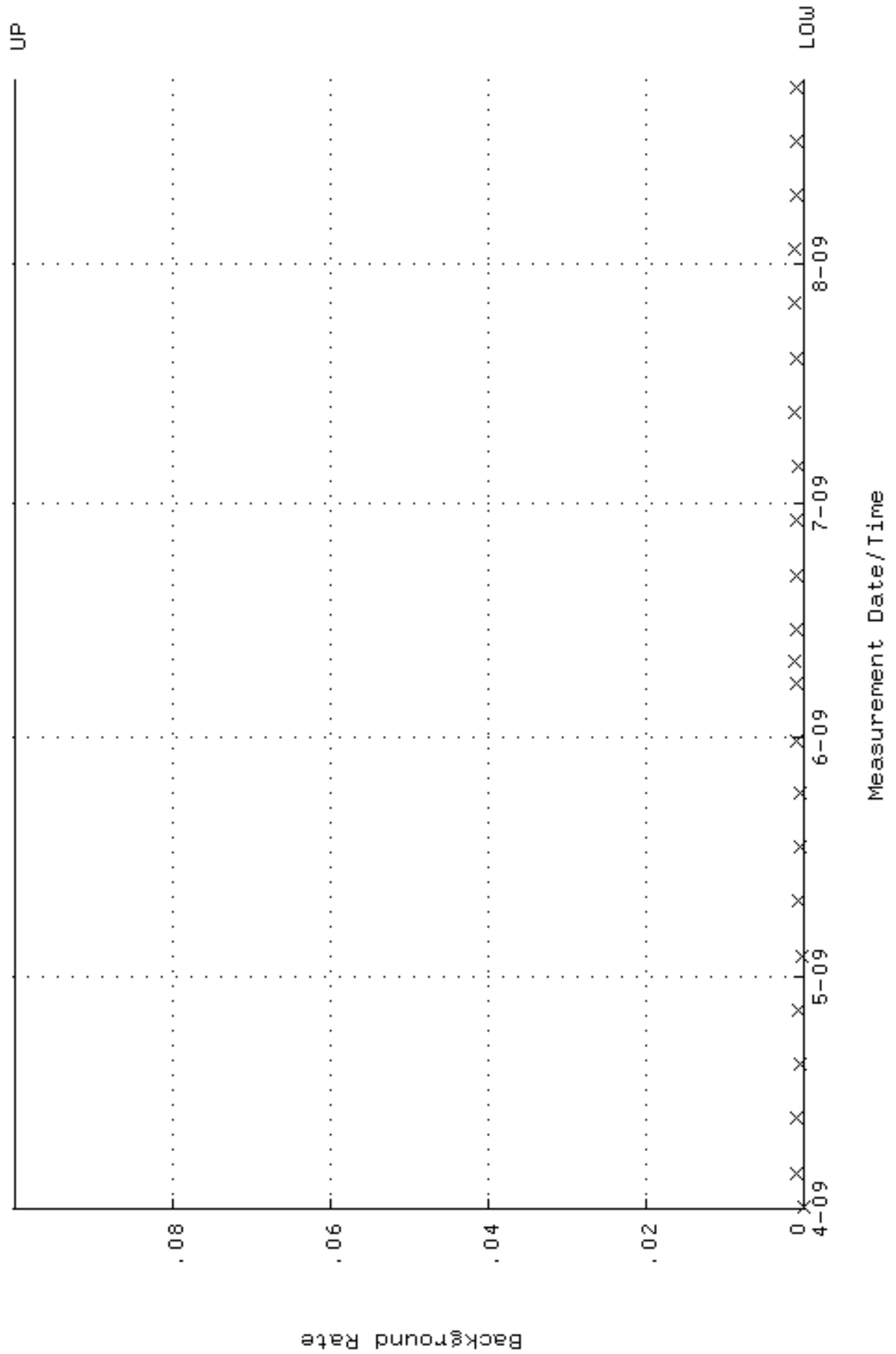
QA filename : DKA100:[ENV_ALPHA.QA.W]W208.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:10:40 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 0.243128 through 0.263128



QA filename : DKA100:[ENV_ALPHA.QA.W]w208.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 31-MAR-2009 15:10:40 through 24-AUG-2009 12:00:00
 Lower/Upper Lmts: 81.7467 through 90.3517



QA filename : DKA100:[ENV_ALPHA.QA.B]B208.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-APR-2009 08:03:15 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: 891149

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1201895427	MS	JXC5	PIC8B	12-AUG-09 13:04	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267001	SAMPLE	JXC5	PIC5A	12-AUG-09 14:02	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267009	SAMPLE	JXC5	PIC7D	12-AUG-09 14:02	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201895425	MB	JXC5	PIC9C	12-AUG-09 14:02	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267020	SAMPLE	JXC5	PIC9A	12-AUG-09 14:02	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267008	SAMPLE	JXC5	PIC13A	12-AUG-09 14:19	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267005	SAMPLE	JXC5	PIC8C	12-AUG-09 14:25	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267004	SAMPLE	JXC5	PIC2A	12-AUG-09 14:25	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267006	SAMPLE	JXC5	PIC8A	12-AUG-09 14:32	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267002	SAMPLE	JXC5	PIC2D	12-AUG-09 14:32	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267010	SAMPLE	JXC5	PIC6D	12-AUG-09 14:41	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267011	SAMPLE	JXC5	PIC1A	12-AUG-09 14:55	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201895428	LCS	JXC5	PIC10D	12-AUG-09 15:15	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267003	SAMPLE	JXC5	PIC11D	12-AUG-09 19:24	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267007	SAMPLE	JXC5	PIC13A	12-AUG-09 19:25	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267012	SAMPLE	JXC5	PIC13B	12-AUG-09 19:25	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267015	SAMPLE	JXC5	PIC14B	12-AUG-09 19:25	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201895426	DUP	JXC5	PIC10D	12-AUG-09 19:28	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267016	SAMPLE	JXC5	PIC9A	12-AUG-09 19:28	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267017	SAMPLE	JXC5	PIC10B	12-AUG-09 19:29	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267019	SAMPLE	JXC5	PIC10C	12-AUG-09 19:29	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267013	SAMPLE	JXC5	PIC11D	14-AUG-09 09:59	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267014	SAMPLE	JXC5	PIC13A	14-AUG-09 10:00	DONE	CeF on 25mm Filter	02-JUL-09 00:00

Instrument Run Log

Instrument Type: GFPC

Batch ID: 891394

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
234120018	SAMPLE	MXS2	PIC2A	12-AUG-09 10:07	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234267018	SAMPLE	MXS2	PIC2D	12-AUG-09 10:07	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234414019	SAMPLE	MXS2	PIC5A	12-AUG-09 10:08	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234414020	SAMPLE	MXS2	PIC5C	12-AUG-09 10:08	DONE	CeF on 25mm Filter	02-JUL-09 00:00
234414021	SAMPLE	MXS2	PIC6B	12-AUG-09 10:08	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201896008	MB	MXS2	PIC6D	12-AUG-09 10:08	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201896009	LCS	MXS2	PIC2B	12-AUG-09 10:08	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201896010	LCSD	MXS2	PIC3A	12-AUG-09 10:08	DONE	CeF on 25mm Filter	02-JUL-09 00:00

Instrument Run Log

Instrument Type: LUCAS CELL DETECTOR

Batch ID: 892760

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
234267018	SAMPLE	KSD1	LUCAS4	22-AUG-09 13:30	DONE	Lucas Cell	02-MAR-09 00:00
234414021	SAMPLE	KSD1	LUCAS2	22-AUG-09 14:05	DONE	Lucas Cell	19-DEC-08 00:00
234120018	SAMPLE	KSD1	LUCAS3	22-AUG-09 14:05	DONE	Lucas Cell	04-FEB-09 00:00
1201899207	LCS	KSD1	LUCAS4	22-AUG-09 14:05	DONE	Lucas Cell	02-MAR-09 00:00
234414019	SAMPLE	KSD1	LUCAS5	22-AUG-09 14:05	DONE	Lucas Cell	25-MAR-09 00:00
234414020	SAMPLE	KSD1	LUCAS6	22-AUG-09 14:05	DONE	Lucas Cell	04-AUG-09 00:00
1201899206	MB	KSD1	LUCAS3	22-AUG-09 15:05	DONE	Lucas Cell	04-FEB-09 00:00
1201899208	LCSD	KSD1	LUCAS5	22-AUG-09 15:05	DONE	Lucas Cell	25-MAR-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 892899

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
234267001	SAMPLE	KXM4	1197	19-AUG-09 12:29	DONE		
234267002	SAMPLE	KXM4	1199	19-AUG-09 12:29	DONE		
234267003	SAMPLE	KXM4	1200	19-AUG-09 12:29	DONE		
234267004	SAMPLE	KXM4	1203	19-AUG-09 12:29	DONE		
234267005	SAMPLE	KXM4	1204	19-AUG-09 12:29	DONE		
234267006	SAMPLE	KXM4	1207	19-AUG-09 12:29	DONE		
234267007	SAMPLE	KXM4	1208	19-AUG-09 12:29	DONE		
234267008	SAMPLE	KXM4	1173	19-AUG-09 16:18	DONE		
234267009	SAMPLE	KXM4	1174	19-AUG-09 16:19	DONE		
234267010	SAMPLE	KXM4	1175	19-AUG-09 16:19	DONE		
234267011	SAMPLE	KXM4	1176	19-AUG-09 16:19	DONE		
234267012	SAMPLE	KXM4	1177	19-AUG-09 16:19	DONE		
234267013	SAMPLE	KXM4	1178	19-AUG-09 16:19	DONE		
234267014	SAMPLE	KXM4	1179	19-AUG-09 16:19	DONE		
234267015	SAMPLE	KXM4	1180	19-AUG-09 16:19	DONE		
234267016	SAMPLE	KXM4	1181	19-AUG-09 16:19	DONE		
234267017	SAMPLE	KXM4	1182	19-AUG-09 16:19	DONE		
234267019	SAMPLE	KXM4	1183	19-AUG-09 16:19	DONE		
234267020	SAMPLE	KXM4	1184	19-AUG-09 16:19	DONE		
1201899547	MB	KXM4	1185	19-AUG-09 16:19	DONE		
1201899548	DUP	KXM4	1186	19-AUG-09 16:19	DONE		
1201899549	MS	KXM4	1187	19-AUG-09 16:19	DONE		
1201899550	LCS	KXM4	1188	19-AUG-09 16:19	DONE		
1201899547	MB	KXM4	1205	25-AUG-09 16:33	DUSE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 892901

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
234267001	SAMPLE	KXM4	1149	19-AUG-09 21:20	DONE		
234267002	SAMPLE	KXM4	1150	19-AUG-09 21:20	DUSE		
234267003	SAMPLE	KXM4	1151	19-AUG-09 21:20	DONE		
234267004	SAMPLE	KXM4	1152	19-AUG-09 21:20	DONE		
234267005	SAMPLE	KXM4	1153	19-AUG-09 21:20	DUSE		
234267006	SAMPLE	KXM4	1154	19-AUG-09 21:20	DONE		
234267007	SAMPLE	KXM4	1155	19-AUG-09 21:20	DONE		
234267008	SAMPLE	KXM4	1156	19-AUG-09 21:20	DONE		
234267009	SAMPLE	KXM4	1157	19-AUG-09 21:20	DUSE		
234267010	SAMPLE	KXM4	1158	19-AUG-09 21:20	DONE		
234267011	SAMPLE	KXM4	1159	19-AUG-09 21:20	DONE		
234267012	SAMPLE	KXM4	1161	19-AUG-09 21:20	DONE		
234267013	SAMPLE	KXM4	1162	19-AUG-09 21:20	DONE		
234267014	SAMPLE	KXM4	1163	19-AUG-09 21:20	DONE		
234267015	SAMPLE	KXM4	1164	19-AUG-09 21:20	DONE		
234267016	SAMPLE	KXM4	1165	19-AUG-09 21:20	DUSE		
234267017	SAMPLE	KXM4	1166	19-AUG-09 21:21	DONE		
234267019	SAMPLE	KXM4	1167	19-AUG-09 21:21	DONE		
234267020	SAMPLE	KXM4	1168	19-AUG-09 21:21	DONE		
1201899551	MB	KXM4	1169	19-AUG-09 21:21	DONE		
1201899552	DUP	KXM4	1170	19-AUG-09 21:21	DONE		
1201899553	MS	KXM4	1171	19-AUG-09 21:21	DONE		
1201899554	LCS	KXM4	1172	19-AUG-09 21:21	DONE		
234267002	SAMPLE	KXM4	1013	25-AUG-09 14:07	DONE		
234267005	SAMPLE	KXM4	1014	25-AUG-09 14:07	DONE		
234267009	SAMPLE	KXM4	1016	25-AUG-09 14:07	DONE		
234267016	SAMPLE	KXM4	1018	25-AUG-09 14:07	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 892925

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
234267018	SAMPLE	JXD2	1013	15-AUG-09 17:48	DONE		
234414019	SAMPLE	JXD2	1015	15-AUG-09 17:48	DONE		
234414020	SAMPLE	JXD2	1016	15-AUG-09 17:48	DONE		
1201899629	LCS	JXD2	1017	15-AUG-09 17:48	DONE		
1201899630	LCSD	JXD2	1018	15-AUG-09 17:48	DONE		
234120018	SAMPLE	JXD2	1009	15-AUG-09 17:52	DONE		
234414021	SAMPLE	JXD2	1161	15-AUG-09 18:00	DONE		
1201899628	MB	JXD2	1162	15-AUG-09 18:00	DONE		

Instrument Run Log

Instrument Type: LUCAS CELL DETECTOR

Batch ID: 893450

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
234267001	SAMPLE	KSD1	LUCAS1	26-AUG-09 12:50	DONE	Lucas Cell	29-AUG-08 00:00
234267002	SAMPLE	KSD1	LUCAS2	26-AUG-09 12:50	DONE	Lucas Cell	19-DEC-08 00:00
234267003	SAMPLE	KSD1	LUCAS3	26-AUG-09 12:50	DONE	Lucas Cell	04-FEB-09 00:00
234267004	SAMPLE	KSD1	LUCAS4	26-AUG-09 12:50	DONE	Lucas Cell	02-MAR-09 00:00
234267005	SAMPLE	KSD1	LUCAS5	26-AUG-09 12:50	DONE	Lucas Cell	25-MAR-09 00:00
234267006	SAMPLE	KSD1	LUCAS6	26-AUG-09 12:50	DONE	Lucas Cell	04-AUG-09 00:00
234267007	SAMPLE	KSD1	LUCAS1	26-AUG-09 13:20	DONE	Lucas Cell	29-AUG-08 00:00
234267008	SAMPLE	KSD1	LUCAS2	26-AUG-09 13:20	DONE	Lucas Cell	19-DEC-08 00:00
234267009	SAMPLE	KSD1	LUCAS3	26-AUG-09 13:20	DONE	Lucas Cell	04-FEB-09 00:00
234267010	SAMPLE	KSD1	LUCAS4	26-AUG-09 13:20	DONE	Lucas Cell	02-MAR-09 00:00
234267011	SAMPLE	KSD1	LUCAS5	26-AUG-09 13:20	DONE	Lucas Cell	25-MAR-09 00:00
234267012	SAMPLE	KSD1	LUCAS6	26-AUG-09 13:20	DONE	Lucas Cell	04-AUG-09 00:00
234267013	SAMPLE	KSD1	LUCAS1	26-AUG-09 13:55	DONE	Lucas Cell	29-AUG-08 00:00
234267014	SAMPLE	KSD1	LUCAS2	26-AUG-09 13:55	DONE	Lucas Cell	19-DEC-08 00:00
234267015	SAMPLE	KSD1	LUCAS3	26-AUG-09 13:55	DONE	Lucas Cell	04-FEB-09 00:00
234267016	SAMPLE	KSD1	LUCAS4	26-AUG-09 13:55	DONE	Lucas Cell	02-MAR-09 00:00
234267017	SAMPLE	KSD1	LUCAS5	26-AUG-09 13:55	DONE	Lucas Cell	25-MAR-09 00:00
234267019	SAMPLE	KSD1	LUCAS6	26-AUG-09 13:55	DONE	Lucas Cell	04-AUG-09 00:00
234267020	SAMPLE	KSD1	LUCAS1	26-AUG-09 14:25	DONE	Lucas Cell	29-AUG-08 00:00
1201900978	MB	KSD1	LUCAS2	26-AUG-09 14:25	DONE	Lucas Cell	19-DEC-08 00:00
1201900979	DUP	KSD1	LUCAS3	26-AUG-09 14:25	DONE	Lucas Cell	04-FEB-09 00:00
1201900980	MS	KSD1	LUCAS4	26-AUG-09 14:25	DONE	Lucas Cell	02-MAR-09 00:00
1201900981	LCS	KSD1	LUCAS5	26-AUG-09 17:30	DONE	Lucas Cell	25-MAR-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 897494

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
234267018	SAMPLE	JXD2	1027	27-AUG-09 08:05	DONE		
234414019	SAMPLE	JXD2	1036	27-AUG-09 08:05	DONE		
234414020	SAMPLE	JXD2	1043	27-AUG-09 08:05	DONE		
234414021	SAMPLE	JXD2	1197	27-AUG-09 08:08	DONE		
1201911149	MB	JXD2	1198	27-AUG-09 08:08	DONE		
1201911150	LCS	JXD2	1205	27-AUG-09 08:08	DONE		
1201911151	LCSD	JXD2	1206	27-AUG-09 08:08	DONE		