



July 29, 2009

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

Re: Tronox Henderson
Work Order: 232395

Dear Mr. Hagar:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 01, 2009, June 25, 2009, June 26, 2009 and June 27, 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,

for Edith Kent
Project Manager

Chain of Custody: 2027.001.00129, 2027.001.00134, 2027.001.00143, 2027.001.00147, 2027.001.00150 and
2027.001.00176
Enclosures

Tronox LLC
Tronox Henderson
SDG:232395

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Case Narrative

CASE NARRATIVE
for
Tronox LLC
Tronox Henderson
SDG:232395

July 29, 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 01, 2009, June 25, 2009, June 26, 2009 and June 27, 2009 for analysis. Shipping container temperatures were checked, documented, and within specifications. There was a discrepancy between the collect date on the chain of custody and the containers for sample IDs SA201-10B, SA201-28B, and SA201009-28B. The client sent a corrected COC. All sample containers arrived without any visible signs of tampering or breakage. The client advised the lab as to which equipment and field blanks were associated with specific soil IDs. Sample EB062609-SO was added to this SDG. Please refer to the attached e-mails for further details. The last sample of this SDG was received on July 1, 2009 at which time the SDG was closed. The client was notified through receipt of login review checklist and in the weekly status report.

Items of Note

For additional details, please refer to the attached e-mails for reference. For Alpha Spec Thorium, the following samples exceeded the Tronox QA program sample result uncertainty limit of 30% with an activity greater than 5 times the MDA with samples counting the maximum count time: 232395020. For Alpha Spec Thorium sample 232395021 did not the Tronox QC program required detection due to aliquot size. For Alpha Spec Thorium, the following samples do not meet the Tronox QA program tracer yield requirements of 70-120% due to the sample matrix: 232935021 and the lab duplicate. For Ra-228, the following samples exceeded the Tronox QA program sample result uncertainty limit of 30% with an activity greater than 5 times the MDA with samples counting the maximum count time: 232395001, 232395002, 232395003, 232395006, 232395007, 232395008, 232395013, 232395014, 232395016, 232395017, 232395018, 232395019. For Ra-228, the following samples exceeded the Tronox QA program sample result uncertainty limit of 30% with an activity between 2 and 5 times the MDA with samples counting the maximum count time: 232395002, 232395010, 232395011, 232395012, 232395015. For Alpha Spec Uranium, the following samples exceeded the Tronox QA program sample result uncertainty limit of 30% with an activity greater than 5 times the MDA with samples counting the maximum count time: 232395007, 232395008, 232395010, 232395011, 232395012, 232395015. For Alpha Spec Uranium, the following samples exceeded the Tronox QA program sample result uncertainty limit of 30% with an activity between 2 and 5 times the MDA with samples counting the maximum count time: 232395003, 232395009, 232395016. For Alpha Spec Uranium, the following samples do not meet the Tronox QA program tracer yield requirements of 70-120% due to the sample matrix: 232395020, the matrix spike, and the lab duplicate sample. For Alpha Spec Uranium samples 232395006, 232395020 and 232395021 did not the Tronox QC program required detection due to aliquot size.

Sample Identification

The laboratory received the following samples:

<u>Laboratory ID</u>	<u>Client ID</u>
232395001	SA200-0.5B
232395002	RSAO6-0.5B
232395003	SA51-0.5B
232395004	SA43-0.5B
232395005	SA43009-0.5B
232395006	SA40-0.5B
232395007	SA201-10B
232395008	SA201-28B
232395009	SA201009-28B
232395010	SA202-10B
232395011	SA202-28B
232395012	RSAl3-10B
232395013	RSAl3-20B
232395014	RSAl3-32B
232395015	SA188-0.5B
232395016	SA172-0.5B
232395017	SA41-0.5B
232395018	SA44-0.5B
232395019	SA42-0.5B
232395020	SA106-0.5B
232395021	EB062609-SO

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.

Deatter Shaffer

for Edith Kent

Project Manager

**Chain of Custody
and
Supporting
Documentation**



Client: <u>Kerr/NorKate</u>		SDG/ARCO/Work Order: <u>2027.001.00134</u>	
Received By: <u>MK</u>		Date Received: <u>6-25-09</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>ofm 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>23°</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 7967 2354, 9880

PM (or PMA) review: Initials EM Date 6/25/09



SAMPLE RECEIPT & REVIEW FORM

Client: <u>KERR/NORTHGATE</u>		SDG/ARCOC/Work Order: <u>2027.001.00129</u>	
Received By: <u>MK</u>		Date Received: <u>6-25-09</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>d/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: <u>* see BELOW</u>
11	Number of containers received match number indicated on COC?				Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?				

Comments: * DATE ON CHAIN = 6-23-09
DATE ON CONTAINERS = 6-24-09
FX 7977 1062 8045

PM (or PMA) review: Initials ER Date 6/25/09



Client: <u>Kerr/NORTHGATE</u>		SDG/ARCO/Work Order: <u>2027.001.00143</u>	
Received By: <u>MK</u>		Date Received: <u>6-26-09</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>doc</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 7977 1450 7635

PM (or PMA) review: Initials EM

Date 6/26/09



Client: <u>Kerr/Northgate</u>		SDG/ARCOC/Work Order: <u>2027.001.00147</u>	
Received By: <u>MK</u>		Date Received: <u>6-27-09</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 30</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>dd^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 7967 3159 4788

PM (or PMA) review: Initials EM Date 6/29/09

232395/1



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. 2027.001.00176
Page: 1 of 1
Cooler # 1 of 1

Required Ship to Lab:			Required Project Information:			Required Invoice Information:			TAT: Standard 30 day <input checked="" type="checkbox"/> Rush			Mark One					
Lab Name: GEL Laboratories, LLC			Site ID #: TRONOX LLC, HENDERSON			Send Invoice to: Susan Crowley Trexox LLC			If Rush, Date due								
Address: 2040 Savage Road Charleston, SC 29407			Project #: 2027.001			Address: PO Box 55 Henderson, NV 89009			Phone #: (949)260-9293			Special EPA Stage 4 Mark one					
Lab PM: Edith M. Kent			City: Henderson State: NV			Reimbursement project? <input checked="" type="checkbox"/>			Non-reimbursement project? <input type="checkbox"/>			Mark one					
Phone/Fax: (843)558-6171			Site Address: 560 W. Lake Mead Drive			Send EDD to: Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com			MA MCP Cert? <input type="checkbox"/>			CT RCP Cert? <input type="checkbox"/>					
Lab PM email: emk@gel.com			Site PM Name: Derrick Willis			CC Hardcopy report to: pdf Electronic Version Only			Lab Project ID (lab use)								
Applicable Lab Quote #:			Site PM Email: derrick.willis@ngem.com			CC Hardcopy report to: see additional comments below			Requested								
ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , ,) Samples IDs MUST BE UNIQUE	Matrix Codes W1: WASTE WATER W2: SURFACE WATER W3: GROUND WATER W4: WASTEWATER W5: WASTEWATER W6: WASTEWATER W7: WASTEWATER W8: WASTEWATER W9: WASTEWATER W10: WASTEWATER W11: WASTEWATER W12: WASTEWATER W13: WASTEWATER W14: WASTEWATER W15: WASTEWATER W16: WASTEWATER W17: WASTEWATER W18: WASTEWATER W19: WASTEWATER W20: WASTEWATER W21: WASTEWATER W22: WASTEWATER W23: WASTEWATER W24: WASTEWATER W25: WASTEWATER W26: WASTEWATER W27: WASTEWATER W28: WASTEWATER W29: WASTEWATER W30: WASTEWATER W31: WASTEWATER W32: WASTEWATER W33: WASTEWATER W34: WASTEWATER W35: WASTEWATER W36: WASTEWATER W37: WASTEWATER W38: WASTEWATER W39: WASTEWATER W40: WASTEWATER W41: WASTEWATER W42: WASTEWATER W43: WASTEWATER W44: WASTEWATER W45: WASTEWATER W46: WASTEWATER W47: WASTEWATER W48: WASTEWATER W49: WASTEWATER W50: WASTEWATER W51: WASTEWATER W52: WASTEWATER W53: WASTEWATER W54: WASTEWATER W55: WASTEWATER W56: WASTEWATER W57: WASTEWATER W58: WASTEWATER W59: WASTEWATER W60: WASTEWATER W61: WASTEWATER W62: WASTEWATER W63: WASTEWATER W64: WASTEWATER W65: WASTEWATER W66: WASTEWATER W67: WASTEWATER W68: WASTEWATER W69: WASTEWATER W70: WASTEWATER W71: WASTEWATER W72: WASTEWATER W73: WASTEWATER W74: WASTEWATER W75: WASTEWATER W76: WASTEWATER W77: WASTEWATER W78: WASTEWATER W79: WASTEWATER W80: WASTEWATER W81: WASTEWATER W82: WASTEWATER W83: WASTEWATER W84: WASTEWATER W85: WASTEWATER W86: WASTEWATER W87: WASTEWATER W88: WASTEWATER W89: WASTEWATER W90: WASTEWATER W91: WASTEWATER W92: WASTEWATER W93: WASTEWATER W94: WASTEWATER W95: WASTEWATER W96: WASTEWATER W97: WASTEWATER W98: WASTEWATER W99: WASTEWATER W100: WASTEWATER S1: SOIL S2: SOIL S3: SOIL S4: SOIL S5: SOIL S6: SOIL S7: SOIL S8: SOIL S9: SOIL S10: SOIL S11: SOIL S12: SOIL S13: SOIL S14: SOIL S15: SOIL S16: SOIL S17: SOIL S18: SOIL S19: SOIL S20: SOIL S21: SOIL S22: SOIL S23: SOIL S24: SOIL S25: SOIL S26: SOIL S27: SOIL S28: SOIL S29: SOIL S30: SOIL S31: SOIL S32: SOIL S33: SOIL S34: SOIL S35: SOIL S36: SOIL S37: SOIL S38: SOIL S39: SOIL S40: SOIL S41: SOIL S42: SOIL S43: SOIL S44: SOIL S45: SOIL S46: SOIL S47: SOIL S48: SOIL S49: SOIL S50: SOIL S51: SOIL S52: SOIL S53: SOIL S54: SOIL S55: SOIL S56: SOIL S57: SOIL S58: SOIL S59: SOIL S60: SOIL S61: SOIL S62: SOIL S63: SOIL S64: SOIL S65: SOIL S66: SOIL S67: SOIL S68: SOIL S69: SOIL S70: SOIL S71: SOIL S72: SOIL S73: SOIL S74: SOIL S75: SOIL S76: SOIL S77: SOIL S78: SOIL S79: SOIL S80: SOIL S81: SOIL S82: SOIL S83: SOIL S84: SOIL S85: SOIL S86: SOIL S87: SOIL S88: SOIL S89: SOIL S90: SOIL S91: SOIL S92: SOIL S93: SOIL S94: SOIL S95: SOIL S96: SOIL S97: SOIL S98: SOIL S99: SOIL S100: SOIL A1: AIR A2: AIR A3: AIR A4: AIR A5: AIR A6: AIR A7: AIR A8: AIR A9: AIR A10: AIR A11: AIR A12: AIR A13: AIR A14: AIR A15: AIR A16: AIR A17: AIR A18: AIR A19: AIR A20: AIR A21: AIR A22: AIR A23: AIR A24: AIR A25: AIR A26: AIR A27: AIR A28: AIR A29: AIR A30: AIR A31: AIR A32: AIR A33: AIR A34: AIR A35: AIR A36: AIR A37: AIR A38: AIR A39: AIR A40: AIR A41: AIR A42: AIR A43: AIR A44: AIR A45: AIR A46: AIR A47: AIR A48: AIR A49: AIR A50: AIR A51: AIR A52: AIR A53: AIR A54: AIR A55: AIR A56: AIR A57: AIR A58: AIR A59: AIR A60: AIR A61: AIR A62: AIR A63: AIR A64: AIR A65: AIR A66: AIR A67: AIR A68: AIR A69: AIR A70: AIR A71: AIR A72: AIR A73: AIR A74: AIR A75: AIR A76: AIR A77: AIR A78: AIR A79: AIR A80: AIR A81: AIR A82: AIR A83: AIR A84: AIR A85: AIR A86: AIR A87: AIR A88: AIR A89: AIR A90: AIR A91: AIR A92: AIR A93: AIR A94: AIR A95: AIR A96: AIR A97: AIR A98: AIR A99: AIR A100: AIR F1: FOOD F2: FOOD F3: FOOD F4: FOOD F5: FOOD F6: FOOD F7: FOOD F8: FOOD F9: FOOD F10: FOOD F11: FOOD F12: FOOD F13: FOOD F14: FOOD F15: FOOD F16: FOOD F17: FOOD F18: FOOD F19: FOOD F20: FOOD F21: FOOD F22: FOOD F23: FOOD F24: FOOD F25: FOOD F26: FOOD F27: FOOD F28: FOOD F29: FOOD F30: FOOD F31: FOOD F32: FOOD F33: FOOD F34: FOOD F35: FOOD F36: FOOD F37: FOOD F38: FOOD F39: FOOD F40: FOOD F41: FOOD F42: FOOD F43: FOOD F44: FOOD F45: FOOD F46: FOOD F47: FOOD F48: FOOD F49: FOOD F50: FOOD F51: FOOD F52: FOOD F53: FOOD F54: FOOD F55: FOOD F56: FOOD F57: FOOD F58: FOOD F59: FOOD F60: FOOD F61: FOOD F62: FOOD F63: FOOD F64: FOOD F65: FOOD F66: FOOD F67: FOOD F68: FOOD F69: FOOD F70: FOOD F71: FOOD F72: FOOD F73: FOOD F74: FOOD F75: FOOD F76: FOOD F77: FOOD F78: FOOD F79: FOOD F80: FOOD F81: FOOD F82: FOOD F83: FOOD F84: FOOD F85: FOOD F86: FOOD F87: FOOD F88: FOOD F89: FOOD F90: FOOD F91: FOOD F92: FOOD F93: FOOD F94: FOOD F95: FOOD F96: FOOD F97: FOOD F98: FOOD F99: FOOD F100: FOOD O1: OTHER O2: OTHER O3: OTHER O4: OTHER O5: OTHER O6: OTHER O7: OTHER O8: OTHER O9: OTHER O10: OTHER O11: OTHER O12: OTHER O13: OTHER O14: OTHER O15: OTHER O16: OTHER O17: OTHER O18: OTHER O19: OTHER O20: OTHER O21: OTHER O22: OTHER O23: OTHER O24: OTHER O25: OTHER O26: OTHER O27: OTHER O28: OTHER O29: OTHER O30: OTHER O31: OTHER O32: OTHER O33: OTHER O34: OTHER O35: OTHER O36: OTHER O37: OTHER O38: OTHER O39: OTHER O40: OTHER O41: OTHER O42: OTHER O43: OTHER O44: OTHER O45: OTHER O46: OTHER O47: OTHER O48: OTHER O49: OTHER O50: OTHER O51: OTHER O52: OTHER O53: OTHER O54: OTHER O55: OTHER O56: OTHER O57: OTHER O58: OTHER O59: OTHER O60: OTHER O61: OTHER O62: OTHER O63: OTHER O64: OTHER O65: OTHER O66: OTHER O67: OTHER O68: OTHER O69: OTHER O70: OTHER O71: OTHER O72: OTHER O73: OTHER O74: OTHER O75: OTHER O76: OTHER O77: OTHER O78: OTHER O79: OTHER O80: OTHER O81: OTHER O82: OTHER O83: OTHER O84: OTHER O85: OTHER O86: OTHER O87: OTHER O88: OTHER O89: OTHER O90: OTHER O91: OTHER O92: OTHER O93: OTHER O94: OTHER O95: OTHER O96: OTHER O97: OTHER O98: OTHER O99: OTHER O100: OTHER	Valid Matrix Codes	MATRIX TYPE	G-RAB C-COMP	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives H2SO4 HNO3 HCl NaOH Na2SO3 Methanol Other	Requested	DATE	TIME	Temp in OC	Samples on Ice?	Sample Intact?	Temp Blank?
			1	SA50-0.5B	SO	G	6/30/2009	12:30	1	N		X	X	X			
2	SA54-0.5B	SO	G	6/30/2009	13:20	1	N		X	X							
3	SA106-0.5B	SO	G	6/30/2009	9:10	1	N		X	X							
4	SA106-0.5BMS	SO	G	6/30/2009	8:10	1	N		X	X							
5	SA106-0.5BMSD	SO	G	6/30/2009	8:10	1	N		X	X							
6	SA102-0.5B	SO	G	6/30/2009	11:05	1	N		X	X							
7	SA109-0.5B	SO	G	6/30/2009	10:40	1	N		X	X							
8																	
9																	
10																	
11																	
12																	

* * *



SAMPLE RECEIPT & REVIEW FORM

Client: <u>Kerr/Northeast</u>		SDG/ARCOC/Work Order: <u>232395-1</u>	
Received By: <u>MK</u>		Date Received: <u>7-1-09</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>CR-30</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) <i>ddc</i>
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 7967 3976 8890

232395%



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. 2027.001.00150
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																	
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															
Lab PM:	Edith M. Kent	City:	Henderson	State:	NV	Reimbursement project?	<input checked="" type="checkbox"/>	Non-reimbursement project?	<input type="checkbox"/>													
Phone/Fax:	(843)556-8171	Site PM Name:	Derrick Willis	Send EDD to:	frank.hagar@ngem.com																	
Lab PM email:	emk@gel.com	Phone/Fax:	949-375-7004	CC Hardcopy report to:	PDF Electronic Version Only																	
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to:	see additional comments below																	
Valid Matrix Codes	MATRIX Codes																					
	WP SURFACE WATER WG GROUND WATER WW WASTE WATER WS SOLID PRODUCT SW SOIL AW AMBIENT AIR AS AIR GS SOLID GAS	MW METAL MISC WS SURFACE WATER WG GROUND WATER WW WASTE WATER WS WATER LOC WL WASTE LIQUID SO OTHER OL OIL AN ANIMAL TISSUE																				
SAMPLE ID Character per box. (A-Z, 0-9 / -) Samples IDs MUST BE UNIQUE	One	SAMPLE TYPE		MATRIX CODE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	PRESERVATIVES													
		G-GRAB	C-COMP						Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other						
1	EB062609-SO	W	G	W	6/26/2009	13:30	1	N	X	X												
2	EB062609-SO	W	G	W	6/26/2009	13:30	1	N	X	X												
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
Additional Comments/Special Instructions:		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION				DATE		TIME		SAMPLE RECEIPT CONDITIONS						
FULL DIGESTION SPECIFICATION EMSL HASL 300* - DOE EMSL HASL 300 modified (alpha spectroscopy) Thorium (isotopic) and Uranium (isotopic)		Phil Brinkerhoff		6-26-09		1555		Phil Brinkerhoff				6-27-09		090530		Y/N		Y/N		Y/N		
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)		DATE SIGNED		SIGNATURE OF SAMPLER				DATE SIGNED		TIME										
		US COURIER		PEDEX		Phil Brinkerhoff		Phil Brinkerhoff				6-26-09		1500								
		US MAIL																				



Client: <u>Keep/NORTHGATE</u>		SDG/ARCOC/Work Order: <u>2321351</u>	
Received By: <u>ML</u>		Date Received: <u>6-27-09</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>CM 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>20°</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 7977 1861 8571

PM (or PMA) review: Initials ML

Date 6/29/09

Subject: [Fwd: Re: COC ammendment]
From: Edie Kent <emk@gel.com>
Date: Fri, 26 Jun 2009 14:10:55 -0400
To: "team.kent" <team.kent@gel.com>

--

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

Subject: RE: COC ammendment
From: "Victoria Hansen" <Victoria.Hansen@gesnevada.com>
Date: Fri, 26 Jun 2009 09:50:38 -0700
To: "Edith Kent, GEL" <emk@gel.com>
CC: "Cindy Arnold" <Cindy.Arnold@ngem.com>, "Derrick Willis" <dwillisgeo@yahoo.com>, "Vivian Willis" <vivian.willis@verdant-solutions.com>, <frank.hagar@ngem.com>, "Richard Cooke" <richard.cooke@gesnevada.com>

Hi Everyone,

Here is the amended COC for GEL, please note there is only one page.

-Victoria Hansen-

GES - Geotechnical & Environmental Services, Inc.
Environmental Staff Scientist
Office: 702.365.1001
Cell: 702.275.8386
Fax: 702.341.7120
Email: victoria.hansen@gesnevada.com
www.gesnevada.com



We make the ground work for you...SM

From: frank.hagar@ngem.com [mailto:frank.hagar@ngem.com]
Sent: Friday, June 26, 2009 7:01 AM
To: Victoria Hansen; Richard Cooke
Cc: 'Cindy Arnold'; 'Derrick Willis'; 'Vivian Willis'
Subject: COC ammendment

Just wanted to follow up on my email yesterday regarding the COC sent to GEL with the COC date and label date

mismatch.

Please amend the COC and send all pages back around to the group particularly one to Edie at GEL



Frank Hagar, C.Hg., C.E.G.
Hydrogeologist

Northgate Environmental Management, Inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
main (949) 260-9293; cell (949) 689-9987;
fax (949) 315-3365
<http://www.ngem.com/>

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Re: COC ammendment	Content-Type: message/rfc822 Content-Encoding: 7bit
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GEL CoC 2027.001.00129 amended.pdf	Content-Description: GEL CoC 2027.001.00129 amended.pdf Content-Type: application/octet-stream Content-Encoding: base64
---	--

Subject: [Fwd: Re: Henderson Samples Received Today, COC# 2027.001.00129 - Please Verify Collection Dates]

From: Edie Kent <emk@gel.com>

Date: Thu, 02 Jul 2009 14:35:38 -0400

To: Heather Shaffer <heather.shaffer@gel.com>

--
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

Subject: RE: Henderson Samples Received Today, COC# 2027.001.00129 - Please Verify Collection Dates

From: <frank.hagar@ngem.com>

Date: Thu, 25 Jun 2009 10:32:42 -0700

To: "'Edie Kent'" <emk@gel.com>

CC: "'Victoria Hansen'" <Victoria.Hansen@gesnevada.com>, <dana.brown@ngem.com>, "'Cindy Arnold'" <Cindy.Arnold@ngem.com>, "'Derrick Willis'" <derrick.willis@ngem.com>

Edie,

I will have GES amend the COC and send it to you. For information, the correct collection date is 6/24/2009

Frank Hagar

Victoria,

Please amend the COC and provide it by email to Edie/

Frank

-----Original Message-----

From: Edie Kent [<mailto:emk@gel.com>]

Sent: Thursday, June 25, 2009 10:02 AM

To: Cindy Arnold; Frank Hagar; Derrick Willis; Team Kent

Subject: Henderson Samples Received Today, COC# 2027.001.00129 - Please Verify Collection Dates

The collection date for samples SA201-10B, SA201-28B, and SA201009-28B on the chain is 6/23/09. The collection date on the containers is 6/24/09. Please verify the correct collection date.

Thanks, 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

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Re: Henderson Samples Received Today, COC# 2027.001.00129 - Please VerifyCollection Dates	Content-Type: message/rfc822 Content-Encoding: 7bit
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Subject: RE: Equipment Blanks and Field Blanks

From: <frank.hagar@ngem.com>

Date: Thu, 16 Jul 2009 09:22:37 -0700

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

CC: "Cindy Arnold" <Cindy.Arnold@ngem.com>

FB060409 is a GW Field blank

EB062609-SO, COC# 2027.001.00150	SA172-0.5B	232135014	232395016
EB070109-SO1, COC# 2027.001.00184	SA114-0.5B	232135020	232727008
EB070809-SO, COC# 2027.001.00216	RSAN3009-20B	232764006	233107004 relogged
EB071009-SO, COC# 2027.001.00232	RSAM2-35B	232764012	233107017 relogged
EB071509-SO, COC# 2027.001.00281	SA74-29B		

-----Original Message-----

From: Edie Kent [mailto:emk@gel.com]

Sent: Thursday, July 16, 2009 8:47 AM

To: Frank Hagar

Cc: Cindy Arnold

Subject: Equipment Blanks and Field Blanks

Frank:

Can you tell me whether field blank FB060409 (COC# 2027.001.00042) is a soil or a groundwater field blank? The sample was on a single chain with no other samples listed on that chain. Also, can you tell me what samples the field blank is associated with?

The following soil equipment blank samples were on single chains with no other samples listed on the chain. Can you tell me which samples these equipment blanks are associated with?

EB062609-SO, COC# 2027.001.00150
 EB070109-SO1, COC# 2027.001.00184
 EB070809-SO, COC# 2027.001.00216
 EB071009-SO, COC# 2027.001.00232
 EB071509-SO, COC# 2027.001.00281

For reporting purposes, since we need to make sure that the soil equipment blanks and field blanks are reported in the same SDGs as the samples they are associated with, would it be possible for future samples to put the soil equipment and field blanks on the same chain as the soil samples they are associated with?

Edie

--

Edith M. Kent
 Project Manager
 GEL Laboratories, LLC
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 Fax: 843.766.1178
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 Web: www.gel.com

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Subject: RE: Re: SDG 232395 Alpha Spec Thorium Issues - Additional Information/ Package will be late
From: carnold@ngem.com
Date: Tue, 28 Jul 2009 14:20:20 +0000
To: Heather.Shaffer@gel.com

Thanks Heather...that's all I need to know.

----- Original Message ----- On 7/28/2009 2:18 PM Heather Shaffer wrote:
Sample EB062609-SO (232395021) did not meet the required detection limit for U233/234, U235 or U238 due to aliquot size. The aliquot size was reduced for the reprep due to low tracer yields.

Thanks,
Heather

carnold@ngem.com wrote:

Heather, Why didn't the EB meet the RDL? You need to say
Late delivery - provide updates, thanks Cindy

----- Original Message ----- On 7/28/2009 2:00 PM Heather Shaffer wrote:
In addition, Sample EB062609-SO (232395021) did not meet the required detection limit for U233/234, U235 or U238.

Also,
Due to difficulties with the matrix the lab is delayed in counting the samples. This work order is due to you tomorrow (7/29) and there is a possibility it may be late. I will keep you updated as I am.

Thank you,
Heather

Heather Shaffer wrote:

The following samples do not meet the Tronox QA program sample result uncertainty limit of <30% with results greater than 5 times the MDA for Th232: SA106-0.5B (232395020). The samples were counted for the maximum count time of 1000 minutes.

Thank you,
Heather

-- Heather Shaffer Project Manager Assistant GEL Laboratories, LLC 2040 Savage Road Charleston, SC (USA) 29407 Main: 843.556.8171 x 4505 Fax: 843.766.1171

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-- Heather Shaffer Project Manager Assistant GEL Laboratories, LLC 2040 Savage Road Charleston, SC (USA) 29407 Main: 843.556.8171 x 4505 Fax: 843.766.1171

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Subject: RE: SDG 232395 Alpha Spec Thorium Issues

From: carnold@ngem.com

Date: Tue, 28 Jul 2009 13:30:02 +0000

To: Heather.Shaffer@gel.com, Cindy.Arnold@ngem.com, Derrick.Willis@ngem.com

CC: emk@gel.com

Please add this notation to the Section Case Narrative.

Also, you do not need to send/e-mail analytical technical issues to Derrick or Frank. Sample receipt and COC issues need to be sent to all. Thanks, Cindy

----- Original Message ----- On 7/28/2009 1:24 PM Heather Shaffer wrote:

The following samples do not meet the Tronox QA program sample result uncertainty limit of <30% with results greater than 5 times the MDA for Th232: SA106-0.5B (232395020). The samples were counted for the maximum count time of 1000 minutes.

Thank you,
Heather

--

Heather Shaffer

Project Manager Assistant

GEL Laboratories, LLC

2040 Savage Road

Charleston, SC (USA) 29407

Main: 843.556.8171 x 4505

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E-mail: heather.shaffer@gel.com

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Subject: SDG 232395 QC Issues -Ra228, Alpha spec Th and Alpha spec U
From: Heather Shaffer <Heather.Shaffer@gel.com>
Date: Wed, 29 Jul 2009 12:08:13 -0400
To: Cindy Arnold <Cindy.Arnold@ngem.com>
CC: Edie Kent <emk@gel.com>

The following are the QC issues regarding this SDG for Ra-228, Alpha Spec Th, and Alpha Spec U:

RA 228 ISSUES:

The following samples do not meet the Tronox QA program sample result uncertainty limit of <30% with results between 2 and 5 times the MDA for Ra 228: SA-43009-0.5B (005), SA202-10B (010), SA202-28B (011), RSAI3-10B (012), SA188-0.5B (015).

The following samples do not meet the Tronox QA program sample result uncertainty limit of <30% with results greater than 5 times the MDA for Ra228: SA200-0.5B(001), RSA06-0.5B (002), SA51-0.5B (003), SA40-0.5B (006), SA201-10B (007), SA201-28B (008), RSAI3-20B (013), RSAI3-32B (014), SAI72-0.5B (016), SA41-0.5B (017), SA44-0.5B (018), and SA42-0.5B (019).

THORIUM ISSUES: (additional issues, should be used in conjunction with email sent on 7/28)

The following samples do not meet the Tronox QA program required detection limits for Th228 or Th232 analysis due to reduced aliquot size: EB062609-SO(021).

The following samples do not meet the Tronox QA program tracer yield requirements of 70-120% due to matrix issues: EB062609-SO(021) and the lab duplicate.

Also the lab has noted that the Th230 result for EB062609-SO(021) is a negative result greater than three times the error, however the result from the original prep confirm that there is no reportable activity for Th230 in this sample.

URANIUM ISSUES:(additional issues, should be used in conjunction with email sent on 7/28)

The following samples do not meet the Tronox QA program sample result uncertainty limit of <30% with results between 2 and 5 times the MDA for U235: SA201-10B(007), SA201-28B(008), SA202-10B(010), SA202-28B(011), RSAI3-10B(012), and SA188-0.5B(015)

The following samples do not meet the Tronox QA program sample result uncertainty limit of <30% with results greater than 5 times the MDA for U235: SAa51-0.5B(003). SA201009-28B (009), SA172-0.5B(016).

The following samples do not meet the Tronox QA program tracer yield requirements of 70-120% due to matrix issues: SA106-0.5B (232395020), the matrix spike, and the lab duplicate sample.

The following samples do not meet the Tronox QA program required detection limits for U235 analysis due to reduced aliquot size: SA40-0.5B(006), SA106-0.5B(020) and the lab duplicate sample.

GEL has counted each sample being reported for the maximum possible count time.

This will be noted in the case narrative.

--

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

Subject: Soil SDG 232395 to be closed

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

Date: Thu, 02 Jul 2009 07:47:56 -0400

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

CC: Edie Kent <emk@gel.com>, Mercedes Simmons <mer01583@gel.com>

The SDG 232395 for soils was closed as of yesterday, July 1. As soon as the chains have been reviewed you will receive a final LRR and chains of custody.

Thank you,
Heather

--

Heather Shaffer
Project Manager Assistant
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Main: 843.556.8171 x 4505
Fax: 843.766.1178
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Laboratory Certifications

List of current GEL Certifications as of 29 July 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 232395**

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: 883418
Prep Batch Number: 882176

Sample ID	Client ID
232395001	SA200-0.5B
232395002	RSA06-0.5B
232395003	SA51-0.5B
232395004	SA43-0.5B
232395005	SA43009-0.5B
232395006	SA40-0.5B
232395007	SA201-10B
232395008	SA201-28B
232395009	SA201009-28B
232395010	SA202-10B
232395011	SA202-28B
232395012	RSI3-10B
232395013	RSI3-20B
232395014	RSI3-32B
232395015	SA188-0.5B
232395016	SA172-0.5B
232395017	SA41-0.5B
232395018	SA44-0.5B
232395019	SA42-0.5B
232395020	SA106-0.5B
1201876621	Method Blank (MB)
1201876622	232395020(SA106-0.5B) Sample Duplicate (DUP)
1201876623	232395020(SA106-0.5B) Matrix Spike (MS)
1201876624	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: 232395020 (SA106-0.5B).

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 1201876621 (MB) was recounted due to a suspected blank false positive. Samples 1201876621 (MB), 1201876622 (SA106-0.5B), 232395001 (SA200-0.5B), 232395002 (RSAO6-0.5B), 232395003 (SA51-0.5B), 232395004 (SA43-0.5B), 232395005 (SA43009-0.5B), 232395006 (SA40-0.5B), 232395007 (SA201-10B), 232395008 (SA201-28B), 232395009 (SA201009-28B), 232395010 (SA202-10B), 232395011 (SA202-28B), 232395012 (RSAI3-10B), 232395013 (RSAI3-20B), 232395014 (RSAI3-32B), 232395015 (SA188-0.5B), 232395016 (SA172-0.5B), 232395017 (SA41-0.5B), 232395018 (SA44-0.5B), 232395019 (SA42-0.5B) and 232395020 (SA106-0.5B) were recounted for the maximum count time to reduce uncertainty.

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 714829 was generated due to Other. 1. The uncertainty for Th232 for sample 232395020 is greater than 30% of the activity and activity is greater than 5X the MDA. 1. Project manager notified. Reporting results.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and the duplicate, 1201876622 (SA106-0.5B) and 232395020 (SA106-0.5B), did not meet the relative percent difference requirement for Th-230, however they do meet the relative error ratio requirement with a value of 2.95.

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: 888328

Sample ID	Client ID
232395021	EB062609-SO
1201888813	Method Blank (MB)
1201888814	232135004(M-125BDISS) Sample Duplicate (DUP)
1201888818	232135004(M-125BDISS) Matrix Spike (MS)
1201888822	Laboratory Control Sample (LCS)

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

SOP Reference

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

Calibration Information:**Calibration Information**

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 232135004 (M-125BDISS).

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 high blank activity.

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 716082 was generated due to RDL less than MDA, Failed Recovery for Surrogate or Tracer, Other and Result is more negative than the three sigma TPU. 1. Uncertainty is greater than 30% of the Th232 result and activity is between two times the MDA and five times the MDA for sample 232135015. 2. The following samples do not meet the client tracer yield requirements of 70 to 120% on the KERR Thorium soil analysis for work orders 232135, 232395 and 233587: 232135001, 232135002, 232135004, 232135005, 232135013, 232135017, 232135018, 232135019, 232395021, 233587015 and 1201888814. These yields are not meeting the client requirements due to the matrix of the samples. This is supported by the fact that the Method Blank and LCS on the reanalysis do meet the tracer yield requirements. It should also be noted that the yields which are not meeting the client tracer yield requirements are within the range of 23.4 to 68.3%, which does meet the GEL standard tracer yield requirements. 3. Samples 232135001, 232135002, 232135004, 232135006, 232135007, 232135010, 232135011 and 233587015 do not meet the required detection limit for Th228, Th230 or Th232 due to limited sample volume. Samples 232135005, 232135009, 232135016, 232135019 and 1201888814 do not meet the required detection limit for Th228 or Th230 due to limited sample volume. Samples 232135008 and 232727021 do not meet the required detection limit for Th228 due to limited sample volume. Samples 232135012, 232135013, 232135017 and 232395021 do not meet the required detection limit for Th228 or Th232 due to limited sample volume. The blank, 1201888813, does not meet the required detection limit for Th228 or Th230 due to keeping the blank aliquot size consistent with the sample aliquots. 4. The Th230 result for sample 232395021 is a negative result greater than three times the error, however the result from the original prep confirm that there is no reportable activity for Th230 in this sample. 1. Samples counted for the maximum count time to reduce uncertainty. Project manager notified. Reporting results. 2. Project manager notified. Reporting results. 3. Samples counted for the maximum count time. Project manager notified. Reporting results. 4. Project manager notified. Reporting results.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The aliquot for the Matrix Spike was reduced due to limited sample volume.

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: 886690
Prep Batch Number: 882176

Sample ID	Client ID
232395001	SA200-0.5B
232395002	RSAO6-0.5B
232395003	SA51-0.5B
232395004	SA43-0.5B
232395005	SA43009-0.5B
232395006	SA40-0.5B
232395007	SA201-10B
232395008	SA201-28B
232395009	SA201009-28B
232395010	SA202-10B
232395011	SA202-28B
232395012	RS AI3-10B
232395013	RS AI3-20B
232395014	RS AI3-32B
232395015	SA188-0.5B
232395016	SA172-0.5B
232395017	SA41-0.5B
232395018	SA44-0.5B
232395019	SA42-0.5B
232395020	SA106-0.5B
1201884685	Method Blank (MB)
1201884686	232395020(SA106-0.5B) Sample Duplicate (DUP)
1201884687	232395020(SA106-0.5B) Matrix Spike (MS)
1201884688	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: 232395020 (SA106-0.5B).

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 232395006 (SA40-0.5B) was recounted due to high MDA. Sample 232395004 (SA43-0.5B) was recounted due to detector error. Samples were reprepared due to low 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 715767 was generated due to RDL less than MDA, Failed Recovery for Surrogate or Tracer and Other. 1. The uncertainty is greater than 30% of the U235 result and activity is greater than five times the MDA for samples 232395003, 232395009 and 232395016. Uncertainty is greater than 30% of the U235 result and activity is between two times the MDA and five times the MDA for samples 232395007, 232395008, 232395010, 232395011, 232395012 and 232395015. 2. The following samples do not meet the client tracer yield requirements of 70 to 120% on the KERR Thorium soil analysis for work order 232395: Samples 232395020, the duplicate, 1201884686, and the matrix spike,

1201884687 . These yields are not meeting the client requirements due to the matrix of the samples. This is supported by the fact that the samples were originally reprep'd due to low tracer yields and because the Method Blank and LCS on the reanalysis do meet the tracer yield requirements. It should also be noted that the yields which are not meeting the client tracer yield requirements are within the range of 32.1 to 41.1%, which does meet the GEL standard tracer yield requirements. 3. Samples 232395006, 232395020 and 1201884686 do not meet the required detection limit for U235 due to the reduced aliquot size. The aliquot size was reduced for the reprep due to low tracer yields. 1. Samples counted for the maximum count time to reduce uncertainty. Project manager notified. Reporting results. 2. Project manager notified. Reporting results. 3. Samples counted for the maximum count time. Project manager notified. Reporting results.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and the duplicate, 1201884686 (SA106-0.5B) and 232395020 (SA106-0.5B), did not meet the relative percent difference requirement for U233/234, however they do meet the relative error ratio requirement with a value of 1.87. Samples 232395013, 232395014, 232395015, 232395016, 232395017 and 232395018 were suspected to have been switched during the filtering process with samples 232395019, 232395020, 1201884685, 1201884686, 1201884687 and 1201884688. The results confirmed this suspicion and are being reported.

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: 886957

Sample ID	Client ID
232395021	EB062609-SO
1201885396	Method Blank (MB)
1201885397	232135004(M-125BDISS) Sample Duplicate (DUP)
1201885400	232135004(M-125BDISS) Matrix Spike (MS)
1201885403	Laboratory Control Sample (LCS)

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

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 232135004 (M-125BDISS).

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 1201885396 (MB) was recounted due to low carrier/tracer yield. Samples were reprepared due to low 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 715635 was generated due to RDL less than MDA, Failed Recovery for Surrogate or Tracer and Other. 1. The uncertainty is greater than 30% of the U235 result and activity is greater than five times the MDA for samples 232135001 and 232135012. Uncertainty is greater than 30% of the U235 result and activity is between two times the MDA and five times the MDA for samples 232135002, 232135004, 232135007, 232135008 and 232135011. 2. The following samples do not meet the client tracer yield requirements of 70 to 120% on the KERR Thorium soil analysis for work order 232135: Samples 232135001, 232135002, 232135006, 232135007, 232135011 and 232135018. These yields are not meeting the client requirements due to the matrix of the samples. This is supported by the fact that the samples were originally reprepared due to low tracer yields and because the Method Blank and LCS on the reanalysis do meet the tracer yield requirements. It should also be noted that the yields which are not meeting the client tracer yield requirements are within the range of 36.6 to 67.5%, which does meet the GEL standard tracer yield requirements. 3. Sample 232135016 does not meet the required detection limit for U233/234 and, samples 232395021 and 232727021 do not meet the required detection limit for U233/234, U235 or U238 due to the reduced aliquot size. The blank, 1201885396, does not meet the required detection limit for U233/234, U235 or U238 due to keeping

the blank aliquot size consistent with the samples. The aliquot size was reduced for the reprep due to low tracer yields. 1. Samples were counted for the maximum count time to reduce uncertainty. Project manager notified. Reporting results. 2. Project manager notified. Reporting results. 3. Project manager notified. Reporting results.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and the duplicate, 1201885397 (M-125BDISS), did not meet the relative percent difference requirement for U235, however they do meet the relative error ratio requirement with a value of 2.24.

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:	882959
Prep Batch Number:	882176

Sample ID	Client ID
232395001	SA200-0.5B
232395002	RSAO6-0.5B
232395003	SA51-0.5B
232395004	SA43-0.5B
232395005	SA43009-0.5B
232395006	SA40-0.5B
232395007	SA201-10B
232395008	SA201-28B
232395009	SA201009-28B
232395010	SA202-10B
232395011	SA202-28B
232395012	RS AI3-10B
232395013	RS AI3-20B
232395014	RS AI3-32B
232395015	SA188-0.5B
232395016	SA172-0.5B
232395017	SA41-0.5B
232395018	SA44-0.5B
232395019	SA42-0.5B
232395020	SA106-0.5B
1201875397	Method Blank (MB)
1201875398	232395020(SA106-0.5B) Sample Duplicate (DUP)
1201875399	232395020(SA106-0.5B) Matrix Spike (MS)
1201875400	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: 232395020 (SA106-0.5B).

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 1201875400 (LCS) was recounted due to low recovery. Samples, 232395005 (SA43009-0.5B), 232395006 (SA40-0.5B) and 232395018 (SA44-0.5B), were recounted for the maximum allowed count time in order to meet client's uncertainty requirement. Sample, 232395005 (SA43009-0.5B), was re-eluted along with the method blank and laboratory control sample due to high MDA.

Chemical Recoveries

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

Miscellaneous Information:**NCR Documentation**

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

Additional Comments

Additional comments were not required for this sample set.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	GFPC, Ra228, Liquid
Analytical Method:	EPA 904.0/SW846 9320 Modified
Analytical Batch Number:	885330

Sample ID	Client ID
232395021	EB062609-SO
1201881212	Method Blank (MB)
1201881213	232135004(M-125BDISS) Sample Duplicate (DUP)
1201881214	232135004(M-125BDISS) Matrix Spike (MS)
1201881215	Laboratory Control Sample (LCS)

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

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 232135004 (M-125BDISS).

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 1201881214 (M-125BDISS) was recounted due to low recovery. Samples were reprecipitated due to low recovery.

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

Container scanning event for custody for 232395021 and 232727021 is located under 232135014 and 232135020. Samples were originally logged as 232135014 and 232135020 and tracked as such. GEL Sample IDs were updated to report liquids and solids under the same workorder per client request during the middle of the sample analysis. 232395021 (EB062609-SO).

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:	882996
Prep Batch Number:	882176

Sample ID	Client ID
232395001	SA200-0.5B
232395002	RSAO6-0.5B
232395003	SA51-0.5B
232395004	SA43-0.5B
232395005	SA43009-0.5B
232395006	SA40-0.5B
232395007	SA201-10B
232395008	SA201-28B
232395009	SA201009-28B
232395010	SA202-10B
232395011	SA202-28B
232395012	RSAI3-10B
232395013	RSAI3-20B
232395014	RSAI3-32B
232395015	SA188-0.5B
232395016	SA172-0.5B
232395017	SA41-0.5B
232395018	SA44-0.5B
232395019	SA42-0.5B
232395020	SA106-0.5B
1201875525	Method Blank (MB)
1201875526	232395020(SA106-0.5B) Sample Duplicate (DUP)
1201875527	232395020(SA106-0.5B) Matrix Spike (MS)
1201875528	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: 232395020 (SA106-0.5B).

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 1201875525 (MB), 1201875528 (LCS), 232395008 (SA201-28B), 232395011 (SA202-28B) and 232395013 (RSAI3-20B) were degassed and recounted to verify sample results. Second counts being reported.

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 715588 was generated due to Other. 1. Samples 232395005, 232395010, and 232395015 have activity between 2 and 5 times the MDA. Uncertainty is greater than 30 percent and 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.

Method/Analysis Information

Product:	Lucas Cell, Ra226, liquid
Analytical Method:	EPA 903.1 Modified
Analytical Batch Number:	883675

Sample ID	Client ID
232395021	EB062609-SO
1201877244	Method Blank (MB)
1201877245	232135004(M-125BDISS) Sample Duplicate (DUP)
1201877246	232135004(M-125BDISS) Matrix Spike (MS)
1201877247	Laboratory Control Sample (LCS)

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

SOP Reference

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

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 232135004 (M-125BDISS).

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 1201877246 (M-125BDISS) 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. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

Container scanning event for custody for 232395021 and 232727021 is located under 232135014 and 232135020. Samples were originally logged as 232135014 and 232135020 and tracked as such. GEL Sample IDs were updated to report liquids and solids under the same workorder per client request during the middle of the sample analysis. 232395021 (EB062609-SO).

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: _____  7/29/09

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 24-JUL-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: 883418	Sample Numbers: See below		
Potentially affected work order(s)(SDG): 232395			
Application Issues: Other			
Specification and Requirements Nonconformance Description:		NRG Disposition:	
1. The uncertainty for Th232 for sample 232395020 is greater than 30% of the activity and activity is greater than 5X the MDA.		1. Project manager notified. Reporting results.	

Originator's Name:

Joseph Moulden 24-JUL-09

Data Validator/Group Leader:

Joseph Moulden

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 27-JUL-09	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process
Instrument Type: LUCAS CELL DETECTOR	Test / Method: EPA 903.1 Modified	Matrix Type: Solid	Client Code: KERR
Batch ID: 882996	Sample Numbers: See Below		
Potentially affected work order(s)(SDG): 232395			
Application Issues: Other			
Specification and Requirements		NRG Disposition:	
Nonconformance Description: 1. Samples 232395005, 232395010, and 232395015 have activity between 2 and 5 times the MDA. Uncertainty is greater than 30 percent and counted the maximum count time.		1. Reporting results	

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

Data Validator/Group Leader:
Theresa Austin 29-JUL-09

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 28-JUL-09	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process
Instrument Type: ALPHA SPECTROMETER	Test / Method: DOE EML HASL-300, U-02-RC Modified	Matrix Type: Liquid	Client Code: KERR
Batch ID: 886957	Sample Numbers: See Below		

Potentially affected work order(s)(SDG): 232135,232395,232727

Application Issues:

- RDL less than MDA
- Failed Recovery for Surrogate or Tracer
- Other

**Specification and Requirements
Nonconformance Description:**

NRG Disposition:

1. The uncertainty is greater than 30% of the U235 result and activity is greater than five times the MDA for samples 232135001 and 232135012. Uncertainty is greater than 30% of the U235 result and activity is between two times the MDA and five times the MDA for samples 232135002, 232135004, 232135007, 232135008 and 232135011.
2. The following samples do not meet the client tracer yield requirements of 70 to 120% on the KERR Thorium soil analysis for work order 232135: Samples 232135001, 232135002, 232135006, 232135007, 232135011 and 232135018 . These yields are not meeting the client requirements due to the matrix of the samples. This is supported by the fact that the samples were originally repped due to low tracer yields and because the Method Blank and LCS on the reanalysis do meet the tracer yield requirements. It should also be noted that the yields which are not meeting the client tracer yield requirements are within the range of 36.6 to 67.5%, which does meet the GEL standard tracer yield requirements.
3. Sample 232135016 does not meet the required detection limit for U233/234 and, samples 232395021 and 232727021 do not meet the required detection limit for U233/234, U235 or U238 due to the reduced aliquot size. The blank, 1201885396, does not meet the required detection limit for U233/234, U235 or U238 due to keeping the blank aliquot size consistent with the samples. The aliquot size was reduced for the reprep due to low tracer yields.

1. Samples were counted for the maximum count time to reduce uncertainty. Project manager notified. Reporting results.
2. Project manager notified. Reporting results.
3. Project manager notified. Reporting results.

Originator's Name:

Joseph Moulden 28-JUL-09

Data Validator/Group Leader:

Eric Brimstin 28-JUL-09

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 28-JUL-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: 886690	Sample Numbers: See Below		

Potentially affected work order(s)(SDG): 232395

Application Issues:

- RDL less than MDA
- Failed Recovery for Surrogate or Tracer
- Other

**Specification and Requirements
Nonconformance Description:**

NRG Disposition:

1. The uncertainty is greater than 30% of the U235 result and activity is greater than five times the MDA for samples 232395003, 232395009 and 232395016. Uncertainty is greater than 30% of the U235 result and activity is between two times the MDA and five times the MDA for samples 232395007, 232395008, 232395010, 232395011, 232395012 and 232395015.
2. The following samples do not meet the client tracer yield requirements of 70 to 120% on the KERR Thorium soil analysis for work order 232395: Samples 232395020, the duplicate, 1201884686, and the matrix spike, 1201884687. These yields are not meeting the client requirements due to the matrix of the samples. This is supported by the fact that the samples were originally repped due to low tracer yields and because the Method Blank and LCS on the reanalysis do meet the tracer yield requirements. It should also be noted that the yields which are not meeting the client tracer yield requirements are within the range of 32.1 to 41.1%, which does meet the GEL standard tracer yield requirements.
3. Samples 232395006, 232395020 and 1201884686 do not meet the required detection limit for U235 due to the reduced aliquot size. The aliquot size was reduced for the reprep due to low tracer yields.

1. Samples counted for the maximum count time to reduce uncertainty. Project manager notified. Reporting results.
2. Project manager notified. Reporting results.
3. Samples counted for the maximum count time. Project manager notified. Reporting results.

Originator's Name:

Joseph Moulden 28-JUL-09

Data Validator/Group Leader:

Eric Brimstin 28-JUL-09

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 29-JUL-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: 888328	Sample Numbers: See Below		

Potentially affected work order(s)(SDG): 232135,232395,232727,233587

Application Issues:

- RDL less than MDA
- Failed Recovery for Surrogate or Tracer
- Other
- Result is more negative than the three sigma TPU

**Specification and Requirements
Nonconformance Description:**

1. Uncertainty is greater than 30% of the Th232 result and activity is between two times the MDA and five times the MDA for sample 232135015.
2. The following samples do not meet the client tracer yield requirements of 70 to 120% on the KERR Thorium soil analysis for work orders 232135, 232395 and 233587: 232135001, 232135002, 232135004, 232135005, 232135013, 232135017, 232135018, 232135019, 232395021, 233587015 and 1201888814. These yields are not meeting the client requirements due to the matrix of the samples. This is supported by the fact that the Method Blank and LCS on the reanalysis do meet the tracer yield requirements. It should also be noted that the yields which are not meeting the client tracer yield requirements are within the range of 23.4 to 68.3%, which does meet the GEL standard tracer yield requirements.
3. Samples 232135001, 232135002, 232135004, 232135006, 232135007, 232135010, 232135011 and 233587015 do not meet the required detection limit for Th228, Th230 or Th232 due to limited sample volume. Samples 232135005, 232135009, 232135016, 232135019 and 1201888814 do not meet the required detection limit for Th228 or Th230 due to limited sample volume. Samples 232135008 and 232727021 do not meet the required detection limit for Th228 due to limited sample volume. Samples 232135012, 232135013, 232135017 and 232395021 do not meet the required detection limit for Th228 or Th232 due to limited sample volume. The blank, 1201888813, does not meet the required detection limit for Th228 or Th230 due to keeping the blank aliquot size consistent with the sample aliquots.
4. The Th230 result for sample 232395021 is a negative result greater than three times the error, however the result from the original prep confirm that there is no reportable activity for Th230 in this sample.

NRG Disposition:

1. Samples counted for the maximum count time to reduce uncertainty. Project manager notified. Reporting results.
2. Project manager notified. Reporting results.
3. Samples counted for the maximum count time. Project manager notified. Reporting results.
4. Project manager notified. Reporting results.

Originator's Name:

Joseph Moulden 29-JUL-09

Data Validator/Group Leader:

Scott Moreland 29-JUL-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: 232395 GEL Work Order: 232395

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.

 7/29/07

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: July 29, 2009

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

Client Sample ID:	SA200-0.5B	Project:	KERRHenderson
Sample ID:	232395001	Client ID:	KERR003
Matrix:	SO		
Collect Date:	24-JUN-09 08:10		
Receive Date:	25-JUN-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		2.10	+/-0.247	0.0978	0.050	pCi/g		CXM	207/21/09	1459	883418	1
Thorium-230		1.14	+/-0.180	0.0694	0.050	pCi/g						
Thorium-232		1.59	+/-0.212	0.0555	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.901	+/-0.108	0.058	0.040	pCi/g		CXM	207/23/09	0737	886690	2
Uranium-235/236	U	0.035	+/-0.0275	0.0373	0.040	pCi/g						
Uranium-238		0.994	+/-0.112	0.0509	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.46	+/-0.358	0.430	0.500	pCi/g		DXM	07/15/09	0845	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.65	+/-0.382	0.313	0.500	pCi/g		KSD1	07/21/09	1340	882996	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	07/02/09	1212	882176

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"			90.5	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			96.2	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			85.7	(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: July 29, 2009

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

Client Sample ID:	RSAO6-0.5B	Project:	KERRHenderson
Sample ID:	232395002	Client ID:	KERR003
Matrix:	SO		
Collect Date:	24-JUN-09 08:50		
Receive Date:	25-JUN-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		2.25	+/-0.265	0.139	0.050	pCi/g		CXM	207/21/09	1459	883418	1
Thorium-230		1.05	+/-0.180	0.101	0.050	pCi/g						
Thorium-232		1.69	+/-0.223	0.0719	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.804	+/-0.0929	0.0212	0.040	pCi/g		CXM	207/23/09	0737	886690	2
Uranium-235/236		0.0343	+/-0.0251	0.0329	0.040	pCi/g						
Uranium-238		0.838	+/-0.0957	0.0341	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.99	+/-0.376	0.456	0.500	pCi/g		DXM	07/15/09	0848	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.964	+/-0.223	0.0402	0.500	pCi/g		KSD1	07/21/09	1340	882996	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	07/02/09	1212	882176

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"			93.5	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			99.3	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			86.3	(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: July 29, 2009

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

Client Sample ID:	SA51-0.5B	Project:	KERRHenderson
Sample ID:	232395003	Client ID:	KERR003
Matrix:	SO		
Collect Date:	24-JUN-09 09:25		
Receive Date:	25-JUN-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		2.33	+/-0.268	0.167	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		1.41	+/-0.199	0.0789	0.050	pCi/g						
Thorium-232		1.87	+/-0.227	0.0546	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.39	+/-0.123	0.0345	0.040	pCi/g		CXM	207/23/09	0737	886690	2
Uranium-235/236		0.0797	+/-0.0326	0.0104	0.040	pCi/g						
Uranium-238		1.25	+/-0.117	0.0269	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.88	+/-0.364	0.400	0.500	pCi/g		DXM	07/15/09	0848	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.39	+/-0.298	0.231	0.500	pCi/g		KSD1	07/21/09	1340	882996	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	07/02/09	1212	882176

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"			93.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			93.6	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			94.4	(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: July 29, 2009

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

Client Sample ID:	SA43-0.5B	Project:	KERRHenderson
Sample ID:	232395004	Client ID:	KERR003
Matrix:	SO		
Collect Date:	24-JUN-09 10:55		
Receive Date:	25-JUN-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		0.625	+/-0.161	0.167	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		0.659	+/-0.144	0.0847	0.050	pCi/g						
Thorium-232		0.605	+/-0.135	0.0586	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.538	+/-0.0889	0.0407	0.040	pCi/g		CXM	207/24/09	0924	886690	2
Uranium-235/236		0.0455	+/-0.0309	0.0348	0.040	pCi/g						
Uranium-238		0.445	+/-0.0793	0.011	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.41	+/-0.360	0.487	0.500	pCi/g		DXM	07/15/09	0848	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226	U	0.195	+/-0.159	0.243	0.500	pCi/g		KSD1	07/21/09	1340	882996	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	07/02/09	1212	882176

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"			92.7	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			94.8	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			84.4	(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: July 29, 2009

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

Client Sample ID:	SA43009-0.5B	Project:	KERRHenderson
Sample ID:	232395005	Client ID:	KERR003
Matrix:	SO		
Collect Date:	24-JUN-09 10:55		
Receive Date:	25-JUN-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		1.02	+/-0.180	0.120	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		0.605	+/-0.133	0.0565	0.050	pCi/g						
Thorium-232		0.790	+/-0.151	0.0565	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.430	+/-0.0709	0.023	0.040	pCi/g		CXM	207/23/09	0737	886690	2
Uranium-235/236		0.0445	+/-0.0291	0.0355	0.040	pCi/g						
Uranium-238		0.480	+/-0.0794	0.0553	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		0.752	+/-0.287	0.401	0.500	pCi/g		DXM	07/16/09	1655	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.941	+/-0.289	0.226	0.500	pCi/g		KSD1	07/21/09	1340	882996	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	07/02/09	1212	882176

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"			91.5	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			99.9	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			85.2	(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: July 29, 2009

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

Client Sample ID:	SA40-0.5B	Project:	KERRHenderson
Sample ID:	232395006	Client ID:	KERR003
Matrix:	SO		
Collect Date:	24-JUN-09 12:00		
Receive Date:	25-JUN-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		0.973	+/-0.168	0.105	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		0.783	+/-0.146	0.0652	0.050	pCi/g						
Thorium-232		0.722	+/-0.139	0.0521	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.629	+/-0.102	0.0638	0.040	pCi/g		CXM	207/24/09	0924	886690	2
Uranium-235/236	U	0.0146	+/-0.0317	0.060	0.040	pCi/g						
Uranium-238		0.549	+/-0.0932	0.0437	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.02	+/-0.270	0.401	0.500	pCi/g		DXM	07/15/09	1206	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.896	+/-0.229	0.167	0.500	pCi/g		KSD1	07/21/09	1340	882996	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	07/02/09	1212	882176

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"			98.7	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			88.1	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			93.9	(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: July 29, 2009

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

Client Sample ID:	SA201-10B	Project:	KERRHenderson
Sample ID:	232395007	Client ID:	KERR003
Matrix:	SO		
Collect Date:	24-JUN-09 08:21		
Receive Date:	25-JUN-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		2.05	+/-0.242	0.114	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		1.27	+/-0.188	0.0772	0.050	pCi/g						
Thorium-232		1.77	+/-0.219	0.0535	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.04	+/-0.104	0.0294	0.040	pCi/g		CXM	207/23/09	0737	886690	2
Uranium-235/236		0.0493	+/-0.0249	0.00985	0.040	pCi/g						
Uranium-238		1.01	+/-0.102	0.00797	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.57	+/-0.327	0.317	0.500	pCi/g		DXM	07/15/09	0848	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.59	+/-0.352	0.279	0.500	pCi/g		KSD1	07/21/09	1410	882996	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	07/02/09	1212	882176

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"			97.4	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			100	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			84.7	(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: July 29, 2009

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

Client Sample ID:	SA201-28B	Project:	KERRHenderson
Sample ID:	232395008	Client ID:	KERR003
Matrix:	SO		
Collect Date:	24-JUN-09 09:18		
Receive Date:	25-JUN-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		1.34	+/-0.198	0.127	0.050	pCi/g		CXM	07/21/09	1500	883418	1
Thorium-230		2.22	+/-0.243	0.0524	0.050	pCi/g						
Thorium-232		1.21	+/-0.180	0.0656	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		2.03	+/-0.149	0.0311	0.040	pCi/g		CXM	07/23/09	0737	886690	2
Uranium-235/236		0.129	+/-0.0426	0.0266	0.040	pCi/g						
Uranium-238		1.96	+/-0.146	0.027	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.57	+/-0.313	0.265	0.500	pCi/g		DXM	07/15/09	0848	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		2.89	+/-0.470	0.292	0.500	pCi/g		KSD1	07/25/09	1100	882996	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	07/02/09	1212	882176

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"			102	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			86.9	(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: July 29, 2009

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

Client Sample ID:	SA201009-28B	Project:	KERRHenderson
Sample ID:	232395009	Client ID:	KERR003
Matrix:	SO		
Collect Date:	24-JUN-09 09:18		
Receive Date:	25-JUN-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		1.54	+/-0.218	0.0859	0.050	pCi/g		CXM	07/21/09	1500	883418	1
Thorium-230		2.29	+/-0.260	0.0232	0.050	pCi/g						
Thorium-232		1.27	+/-0.196	0.0591	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		2.06	+/-0.147	0.0331	0.040	pCi/g		CXM	07/23/09	0737	886690	2
Uranium-235/236		0.130	+/-0.0407	0.00997	0.040	pCi/g						
Uranium-238		1.92	+/-0.141	0.0297	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.35	+/-0.312	0.320	0.500	pCi/g		DXM	07/15/09	0849	882959	3
										2		
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		2.52	+/-0.395	0.238	0.500	pCi/g		KSD1	07/21/09	1410	882996	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	07/02/09	1212	882176

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"			90.5	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			101	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			84.8	(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: July 29, 2009

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

Client Sample ID:	SA202-10B	Project:	KERRHenderson
Sample ID:	232395010	Client ID:	KERR003
Matrix:	SO		
Collect Date:	25-JUN-09 07:15		
Receive Date:	26-JUN-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		1.86	+/-0.237	0.0939	0.050	pCi/g		CXM	07/21/09	1500	883418	1
Thorium-230		1.11	+/-0.181	0.058	0.050	pCi/g						
Thorium-232		1.54	+/-0.213	0.058	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.35	+/-0.118	0.0352	0.040	pCi/g		CXM	07/23/09	0737	886690	2
Uranium-235/236		0.065	+/-0.0299	0.0249	0.040	pCi/g						
Uranium-238		0.996	+/-0.100	0.00788	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.67	+/-0.365	0.401	0.500	pCi/g		DXM	07/15/09	0849	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.778	+/-0.289	0.313	0.500	pCi/g		KSD1	07/21/09	1410	882996	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	07/02/09	1212	882176

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"			92.6	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			101	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			82.1	(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: July 29, 2009

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

Client Sample ID:	SA202-28B	Project:	KERRHenderson
Sample ID:	232395011	Client ID:	KERR003
Matrix:	SO		
Collect Date:	25-JUN-09 08:30		
Receive Date:	26-JUN-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		1.37	+/-0.203	0.125	0.050	pCi/g		CXM	07/21/09	1500	883418	1
Thorium-230		2.19	+/-0.247	0.0942	0.050	pCi/g						
Thorium-232		1.04	+/-0.170	0.0674	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		2.30	+/-0.168	0.0349	0.040	pCi/g		CXM	07/23/09	0737	886690	2
Uranium-235/236		0.129	+/-0.0466	0.0374	0.040	pCi/g						
Uranium-238		2.23	+/-0.165	0.0242	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.98	+/-0.403	0.420	0.500	pCi/g		DXM	07/15/09	0849	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.10	+/-0.306	0.286	0.500	pCi/g		KSD1	07/25/09	1100	882996	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	07/02/09	1212	882176

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"			99.9	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			97.0	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			76.3	(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: July 29, 2009

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

Client Sample ID:	RSAI3-10B	Project:	KERRHenderson
Sample ID:	232395012	Client ID:	KERR003
Matrix:	SO		
Collect Date:	25-JUN-09 10:55		
Receive Date:	26-JUN-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		1.64	+/-0.221	0.121	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		1.48	+/-0.203	0.068	0.050	pCi/g						
Thorium-232		1.53	+/-0.206	0.068	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.99	+/-0.149	0.0277	0.040	pCi/g		CXM	207/23/09	0737	886690	2
Uranium-235/236		0.125	+/-0.0438	0.0343	0.040	pCi/g						
Uranium-238		1.53	+/-0.131	0.0221	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.45	+/-0.306	0.306	0.500	pCi/g		DXM	07/15/09	0849	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.819	+/-0.242	0.198	0.500	pCi/g		KSD1	07/21/09	1410	882996	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	07/02/09	1212	882176

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"			94.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			94.9	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			88.5	(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: July 29, 2009

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

Client Sample ID:	RSAI3-20B	Project:	KERRHenderson
Sample ID:	232395013	Client ID:	KERR003
Matrix:	SO		
Collect Date:	25-JUN-09 11:27		
Receive Date:	26-JUN-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		1.35	+/-0.195	0.105	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		10.8	+/-0.533	0.084	0.050	pCi/g						
Thorium-232		1.07	+/-0.168	0.0205	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		14.3	+/-0.441	0.0391	0.040	pCi/g		CXM	207/23/09	0823	886690	2
Uranium-235/236		0.568	+/-0.0985	0.0335	0.040	pCi/g						
Uranium-238		12.5	+/-0.413	0.0106	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.36	+/-0.306	0.299	0.500	pCi/g		DXM	07/15/09	0849	882959	3
										2		
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		11.0	+/-0.877	0.287	0.500	pCi/g		KSD1	07/25/09	1100	882996	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	07/02/09	1212	882176

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"			99.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			98.6	(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: July 29, 2009

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

Client Sample ID:	RSAI3-32B	Project:	KERRHenderson
Sample ID:	232395014	Client ID:	KERR003
Matrix:	SO		
Collect Date:	25-JUN-09 12:06		
Receive Date:	26-JUN-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		1.40	+/-0.199	0.126	0.050	pCi/g		CXM	07/21/09	1500	883418	1
Thorium-230		1.56	+/-0.204	0.106	0.050	pCi/g						
Thorium-232		1.14	+/-0.170	0.050	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.37	+/-0.139	0.0573	0.040	pCi/g		CXM	07/23/09	0823	886690	2
Uranium-235/236		0.057	+/-0.0394	0.054	0.040	pCi/g						
Uranium-238		1.50	+/-0.144	0.0392	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.69	+/-0.320	0.269	0.500	pCi/g		DXM	07/15/09	0849	882959	3
										2		
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.28	+/-0.270	0.168	0.500	pCi/g		KSD1	07/21/09	1440	882996	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	07/02/09	1212	882176

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"			102	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			99.1	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			85.9	(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: July 29, 2009

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

Client Sample ID:	SA188-0.5B	Project:	KERRHenderson
Sample ID:	232395015	Client ID:	KERR003
Matrix:	SO		
Collect Date:	26-JUN-09 10:58		
Receive Date:	27-JUN-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		0.874	+/-0.162	0.107	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		0.708	+/-0.137	0.0208	0.050	pCi/g						
Thorium-232		0.785	+/-0.147	0.0665	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.693	+/-0.0993	0.0111	0.040	pCi/g		CXM	207/23/09	0823	886690	2
Uranium-235/236		0.032	+/-0.0237	0.0137	0.040	pCi/g						
Uranium-238		0.693	+/-0.100	0.0355	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		0.925	+/-0.247	0.266	0.500	pCi/g		DXM	07/15/09	0849	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.650	+/-0.235	0.256	0.500	pCi/g		KSD1	07/21/09	1440	882996	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	07/02/09	1212	882176

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"			96.9	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			97.5	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			96.0	(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: July 29, 2009

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

Client Sample ID:	SA172-0.5B	Project:	KERRHenderson
Sample ID:	232395016	Client ID:	KERR003
Matrix:	SO		
Collect Date:	26-JUN-09 12:50		
Receive Date:	27-JUN-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		3.12	+/-0.289	0.104	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		1.08	+/-0.168	0.0515	0.050	pCi/g						
Thorium-232		1.74	+/-0.214	0.0644	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.981	+/-0.115	0.0105	0.040	pCi/g		CXM	207/23/09	0823	886690	2
Uranium-235/236		0.0695	+/-0.0341	0.013	0.040	pCi/g						
Uranium-238		0.988	+/-0.116	0.0337	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.86	+/-0.338	0.302	0.500	pCi/g		DXM	07/15/09	0849	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.38	+/-0.303	0.230	0.500	pCi/g		KSD1	07/21/09	1440	882996	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	07/02/09	1212	882176

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"			104	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			98.2	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			89.4	(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: July 29, 2009

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

Client Sample ID:	SA41-0.5B	Project:	KERRHenderson
Sample ID:	232395017	Client ID:	KERR003
Matrix:	SO		
Collect Date:	26-JUN-09 09:21		
Receive Date:	27-JUN-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		1.17	+/-0.203	0.157	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		0.895	+/-0.166	0.0846	0.050	pCi/g						
Thorium-232		0.949	+/-0.167	0.023	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.883	+/-0.119	0.0499	0.040	pCi/g		CXM	207/23/09	0823	886690	2
Uranium-235/236	U	0.0201	+/-0.0241	0.0384	0.040	pCi/g						
Uranium-238		0.686	+/-0.105	0.0449	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.14	+/-0.285	0.363	0.500	pCi/g		DXM	07/15/09	0851	882959	3
										2		
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.05	+/-0.241	0.197	0.500	pCi/g		KSD1	07/21/09	1440	882996	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	07/02/09	1212	882176

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"			86.9	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			82.5	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			89.4	(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: July 29, 2009

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

Client Sample ID: SA44-0.5B
Sample ID: 232395018
Matrix: SO
Collect Date: 26-JUN-09 09:50
Receive Date: 27-JUN-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		1.93	+/-0.249	0.142	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		1.06	+/-0.176	0.0229	0.050	pCi/g						
Thorium-232		1.52	+/-0.212	0.0584	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.664	+/-0.102	0.0546	0.040	pCi/g		CXM	207/23/09	0823	886690	2
Uranium-235/236	U	0.0328	+/-0.0275	0.0358	0.040	pCi/g						
Uranium-238		0.743	+/-0.106	0.0419	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.69	+/-0.302	0.385	0.500	pCi/g		DXM	07/15/09	1206	882959	3
										2		
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.684	+/-0.197	0.131	0.500	pCi/g		KSD1	07/21/09	1440	882996	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	07/02/09	1212	882176

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"			87.8	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			94.6	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			71.8	(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: July 29, 2009

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

Client Sample ID:	SA42-0.5B	Project:	KERRHenderson
Sample ID:	232395019	Client ID:	KERR003
Matrix:	SO		
Collect Date:	26-JUN-09 10:21		
Receive Date:	27-JUN-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		2.09	+/-0.245	0.139	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		0.862	+/-0.185	0.202	0.050	pCi/g						
Thorium-232		1.46	+/-0.206	0.130	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		1.16	+/-0.118	0.0437	0.040	pCi/g		CXM	207/23/09	0737	886690	2
Uranium-235/236		0.0638	+/-0.0337	0.036	0.040	pCi/g						
Uranium-238		1.03	+/-0.111	0.0336	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228		1.58	+/-0.321	0.309	0.500	pCi/g		DXM	07/15/09	0851	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		1.24	+/-0.287	0.236	0.500	pCi/g		KSD1	07/21/09	1515	882996	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	07/02/09	1212	882176

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"			103	(15%-125%)
Barium-133 Tracer	Gas Flow Radium 228 "Dry Weight Corrected"			89.2	(25%-125%)

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Certificate of Analysis

Company : Northgate Environmental
Management, Inc.
Address : 1100 Quail St., Suite 102
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Report Date: July 29, 2009

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

Client Sample ID:	SA106-0.5B	Project:	KERRHenderson
Sample ID:	232395020	Client ID:	KERR003
Matrix:	SO		
Collect Date:	30-JUN-09 09:10		
Receive Date:	01-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		0.527	+/-0.146	0.148	0.050	pCi/g		CXM	207/21/09	1500	883418	1
Thorium-230		0.863	+/-0.160	0.0231	0.050	pCi/g						
Thorium-232		0.308	+/-0.0979	0.059	0.100	pCi/g						
<i>Alphaspec U, Solid "Dry Weight Corrected"</i>												
Uranium-233/234		0.543	+/-0.123	0.0912	0.040	pCi/g		CXM	207/23/09	0737	886690	2
Uranium-235/236	U	0.0235	+/-0.0343	0.0599	0.040	pCi/g						
Uranium-238		0.589	+/-0.122	0.0607	0.040	pCi/g						
Rad Gas Flow Proportional Counting												
<i>Gas Flow Radium 228 "Dry Weight Corrected"</i>												
Radium-228	U	0.319	+/-0.218	0.339	0.500	pCi/g		DXM	07/15/09	0851	882959	3
												2
Rad Radium-226												
<i>Lucas Cell, Ra226, solid "Dry Weight Corrected"</i>												
Radium-226		0.283	+/-0.166	0.229	0.500	pCi/g		KSD1	07/21/09	1515	882996	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	07/02/09	1212	882176

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"			90.7	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"			41.1	(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: July 29, 2009

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

Client Sample ID:	EB062609-SO	Project:	KERRHenderson
Sample ID:	232395021	Client ID:	KERR003
Matrix:	W		
Collect Date:	26-JUN-09 13:30		
Receive Date:	27-JUN-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		0.105	+/-0.0573	0.0774	0.030	pCi/L		CXM207/28/09	1157	888328	1	
Thorium-230	U	-0.123	+/-0.0674	0.151	0.030	pCi/L						
Thorium-232	U	-0.00456	+/-0.0368	0.0773	0.030	pCi/L						
<i>Alphaspec U, Liquid "As Received"</i>												
Uranium-233/234	U	-0.000196	+/-0.0328	0.073	0.030	pCi/L		CXM207/23/09	2152	886957	2	
Uranium-235/236	U	-0.00733	+/-0.0203	0.0561	0.030	pCi/L						
Uranium-238	U	0.00593	+/-0.0349	0.073	0.030	pCi/L						
Rad Gas Flow Proportional Counting												
<i>GFPC, Ra228, Liquid "As Received"</i>												
Radium-228		2.07	+/-1.03	1.57	3.00	pCi/L		MXS207/27/09	0747	885330	3	
Rad Radium-226												
<i>Lucas Cell, Ra226, liquid "As Received"</i>												
Radium-226	U	0.271	+/-0.270	0.437	1.00	pCi/L		KSD107/14/09	1430	883675	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"			64.0	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Liquid "As Received"			74.0	(15%-125%)
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			79.6	(15%-125%)

QUALITY CONTROL DATA

GEL LABORATORIES LLC

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QC Summary

Report Date: July 29, 2009
Page 1 of 5

Northgate Environmental Management, Inc.

1100 Quail St., Suite 102
Newport Beach, California

Contact: Mr. Frank Hagar

Workorder: 232395

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	883418										
QC1201876622	232395020	DUP									
Thorium-228		0.527		0.465	pCi/g	12.5		(0% - 100%)	CXM2	07/21/09	17:11
		+/-0.146		+/-0.121							
Thorium-230		0.863		0.538	pCi/g	46.4*		(0% - 20%)			
		+/-0.160		+/-0.132							
Thorium-232		0.308		0.364	pCi/g	16.5		(0% - 20%)			
		+/-0.0979		+/-0.103							
QC1201876624	LCS										
Thorium-228			U	0.135	pCi/g					07/17/09	13:33
				+/-0.190							
Thorium-230	8.20			9.78	pCi/g		119	(75%-125%)			
				+/-1.15							
Thorium-232			U	0.071	pCi/g			(75%-125%)			
				+/-0.123							
QC1201876621	MB										
Thorium-228			U	0.112	pCi/g					07/23/09	08:45
				+/-0.0912							
Thorium-230			U	-0.0238	pCi/g						
				+/-0.0411							
Thorium-232			U	-0.00792	pCi/g						
				+/-0.0269							
QC1201876623	232395020	MS									
Thorium-228		0.527		0.450	pCi/g					07/17/09	13:33
		+/-0.146		+/-0.245							
Thorium-230	8.39	0.863		8.96	pCi/g		96.5	(75%-125%)			
		+/-0.160		+/-1.01							
Thorium-232		0.308		0.328	pCi/g			(75%-125%)			
		+/-0.0979		+/-0.194							
Batch	886690										
QC1201884686	232395020	DUP									
Uranium-233/234		0.543		0.784	pCi/g	36.3*		(0% - 20%)	CXM2	07/23/09	07:37
		+/-0.123		+/-0.168							
Uranium-235/236		0.0235	U	0.0217	pCi/g	7.96			N/A		
		+/-0.0343		+/-0.0425							
Uranium-238		0.589		0.641	pCi/g	8.46		(0% - 20%)			
		+/-0.122		+/-0.151							
QC1201884688	LCS										
Uranium-233/234				4.69	pCi/g					07/23/09	07:37
				+/-0.217							
Uranium-235/236				0.302	pCi/g						
				+/-0.0621							
Uranium-238	4.88			4.87	pCi/g		99.8	(75%-125%)			

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QC Summary

Workorder: 232395

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	886690										
QC1201884685	MB			+/-0.220							
Uranium-233/234			U	0.00868	pCi/g				CXM2	07/23/09	07:37
				+/-0.0167							
Uranium-235/236			U	-0.00349	pCi/g						
				+/-0.0153							
Uranium-238			U	0.00283	pCi/g						
				+/-0.020							
QC1201884687	232395020	MS									
Uranium-233/234				0.543	5.33	pCi/g				07/23/09	07:37
				+/-0.123	+/-0.376						
Uranium-235/236		U		0.0235	0.242	pCi/g					
				+/-0.0343	+/-0.0882						
Uranium-238	4.98			0.589	5.70	pCi/g	103	(75%-125%)			
				+/-0.122	+/-0.387						
Batch	886957										
QC1201885397	232135004	DUP									
Uranium-233/234				7.81	8.84	pCi/L	12.4	(0% - 20%)	CXM2	07/23/09	21:52
				+/-0.405	+/-0.419						
Uranium-235/236				0.229	0.394	pCi/L	53.0	(0% - 100%)			
				+/-0.0834	+/-0.0996						
Uranium-238				5.26	5.97	pCi/L	12.8	(0% - 20%)			
				+/-0.332	+/-0.344						
QC1201885403	LCS										
Uranium-233/234				5.97	5.97	pCi/L				07/23/09	21:52
				+/-0.381	+/-0.381						
Uranium-235/236				0.252	0.252	pCi/L					
				+/-0.100	+/-0.100						
Uranium-238	6.30			6.16	6.16	pCi/L	97.9	(75%-125%)			
				+/-0.384	+/-0.384						
QC1201885396	MB										
Uranium-233/234			U	0.00692	0.00692	pCi/L				07/27/09	12:10
				+/-0.0276	+/-0.0276						
Uranium-235/236			U	0.00	0.00	pCi/L					
				+/-0.0213	+/-0.0213						
Uranium-238			U	-0.0125	-0.0125	pCi/L					
				+/-0.0423	+/-0.0423						
QC1201885400	232135004	MS									
Uranium-233/234				7.81	15.0	pCi/L				07/23/09	21:52
				+/-0.405	+/-0.561						
Uranium-235/236				0.229	0.627	pCi/L					
				+/-0.0834	+/-0.130						
Uranium-238	6.30			5.26	12.1	pCi/L	109	(75%-125%)			
				+/-0.332	+/-0.504						
Batch	888328										

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QC Summary

Workorder: 232395

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	888328										
QC1201888814	232135004	DUP									
Thorium-228		U	0.0288	U	0.0208	pCi/L	32.2		N/A	CXM2	07/28/09 11:57
			+/-0.0404		+/-0.0561						
Thorium-230		U	0.00	U	0.0139	pCi/L	200		N/A		
			+/-0.0114		+/-0.0384						
Thorium-232		U	-0.00411	U	0.00	pCi/L	200		N/A		
			+/-0.0114		+/-0.0136						
QC1201888822	LCS										
Thorium-228				U	0.00411	pCi/L					07/28/09 11:57
					+/-0.029						
Thorium-230	3.57				4.25	pCi/L		119	(75%-125%)		
					+/-0.259						
Thorium-232				U	0.0082	pCi/L			(75%-125%)		
					+/-0.0114						
QC1201888813	MB										
Thorium-228				U	-0.00818	pCi/L					07/28/09 11:56
					+/-0.0393						
Thorium-230				U	-0.0368	pCi/L					
					+/-0.0253						
Thorium-232				U	0.00817	pCi/L					
					+/-0.0113						
QC1201888818	232135004	MS									
Thorium-228		U	0.0288	U	0.0639	pCi/L					07/28/09 11:57
			+/-0.0404		+/-0.0496						
Thorium-230	5.35	U	0.00		5.96	pCi/L		111	(75%-125%)		
			+/-0.0114		+/-0.364						
Thorium-232		U	-0.00411	U	0.0116	pCi/L			(75%-125%)		
			+/-0.0114		+/-0.0161						
Rad Gas Flow											
Batch	882959										
QC1201875398	232395020	DUP									
Radium-228		U	0.319		0.528	pCi/g	49.4		(0% - 100%)	DXM2	07/15/09 08:52
			+/-0.218		+/-0.273						
QC1201875400	LCS										
Radium-228	8.02				6.05	pCi/g		75.5	(75%-125%)		07/16/09 20:15
					+/-1.11						
QC1201875397	MB										
Radium-228				U	0.265	pCi/g					07/16/09 16:56
					+/-0.179						
QC1201875399	232395020	MS									
Radium-228	75.4	U	0.319		69.5	pCi/g		92.2	(75%-125%)		07/15/09 08:51
			+/-0.218		+/-8.62						
Batch	885330										
QC1201881213	232135004	DUP									
Radium-228		U	0.975		1.44	pCi/L	38.5		(0% - 100%)	MXS2	07/27/09 07:44
			+/-0.706		+/-0.644						
QC1201881215	LCS										

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QC Summary

Workorder: 232395

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch		885330									
Radium-228	20.4			19.2 +/-2.03	pCi/L		93.8	(75%-125%)		07/27/09	07:45
QC1201881212 MB											
Radium-228			U	0.431 +/-0.491	pCi/L				MXS2	07/27/09	07:44
QC1201881214 232135004 MS											
Radium-228	20.6		U	0.975 +/-0.706	pCi/L		79.8	(75%-125%)		07/27/09	16:06
Rad Ra-226											
Batch		882996									
QC1201875526 232395020 DUP											
Radium-226				0.283 +/-0.166	pCi/g	69.5		(0% - 100%)	KSD1	07/21/09	15:15
QC1201875528 LCS											
Radium-226	11.2			11.3 +/-0.875	pCi/g		101	(75%-125%)		07/25/09	11:00
QC1201875525 MB											
Radium-226			U	0.172 +/-0.146	pCi/g					07/25/09	11:00
QC1201875527 232395020 MS											
Radium-226	11.8			0.283 +/-0.166	pCi/g		95.3	(75%-125%)		07/21/09	15:15
Batch		883675									
QC1201877245 232135004 DUP											
Radium-226			U	1.06 +/-0.519	pCi/L	66.0		(0% - 100%)	KSD1	07/14/09	15:05
QC1201877247 LCS											
Radium-226	24.2			22.9 +/-1.55	pCi/L		94.9	(75%-125%)		07/14/09	15:05
QC1201877244 MB											
Radium-226			U	0.326 +/-0.302	pCi/L					07/14/09	15:05
QC1201877246 232135004 MS											
Radium-226	121			1.06 +/-0.519	pCi/L		122	(75%-125%)		07/14/09	16:05

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

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QC Summary

Workorder: 232395

Page 5 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
C											
D											
F											
H											
J											
M											
M											
N/A											
ND											
NJ											
R											
U											
UI											
X											
Y											
^											
h											

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

RADIUM 226

Radiochemistry Batch Checklist, Rev 9

Batch# 882996 Product: Radium 226 Date: 7-27-09

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.	NA		
Tracer yield is 15-125% . Carrier yield 25-125%.	NA		
Or meets the client's contract acceptance criteria.	NA		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			NA
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stated.	✓		
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 715588
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: J. M. [Signature]

Secondary Review Performed By: [Signature]

KERR 7-29-09

Radium-226 Que Sheet

07/07/2009

General Engineering Laboratories, Radiochemistry Division

Batch #: 882996
 Analyst: KSD1
 First Client Due Date: 07/29/2009
 Internal Due Date: 07/18/2009
 Spike Isotope: Radium-226
 Spike Code: 06384
 Expiration Date: 7/22/09
 Vol: 0.1
 Nom Conc: 11.8465
 LCS Isotope: Radium-226
 LCS Code: 06384
 Expiration Date: 7/23/09
 Vol: 0.1
 Nom Conc: 11.1675

Prep Date: 7/14/09
 Pipet ID: 1425303
 Initials: KSD
 Witness: DL 7509
 Sample Count Time: 30 (Min)
 Bkg Count Time: 30 (Min)

Sample I	Client Description	Hazard Type	Code	Matrix	Min CRDL	Client	Vol (mL)	End Init	End LN	De-em	Start Count	Cell #	Det #	Bkg counts	Total Counts
								Date/Time	Date/Time		Date/Time				
232395001-1	SA200-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.013	7/17/09 1530	7/21/09 1005		7/21/09 1340	111	1	8	93
232395002-1	RSA06-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.053	7/17/09 1530	7/21/09 1005		7/21/09 1340	104	2	0	72
232395003-1	SA51-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.021	7/17/09 1530	7/21/09 1005		7/21/09 1340	211	3	8	105
232395004-1	SA43-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.066	7/17/09 1530	7/21/09 1005		7/21/09 1340	404	4	8	21
232395005-1	SA43009-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.036	7/17/09 1530	7/21/09 1005		7/21/09 1340	510	5	8	49
232395006-1	SA40-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.054	7/17/09 1530	7/21/09 1005		7/21/09 1340	705	7	4	70
232395007-1	SA201-10B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.019	7/17/09 1530	7/21/09 1050		7/21/09 1410	101	1	8	100
232395008-1	SA201-28B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.040	7/17/09 1530	7/21/09 1050		7/21/09 1410	911	1	1	186
232395009-1	SA201009-28B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.018	7/17/09 1530	7/21/09 1050		7/21/09 1410	305	3	8	179
232395010-1	SA202-10B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.030	7/17/09 1530	7/21/09 1050		7/21/09 1410	403	4	7	45
232395011-1	SA202-28B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.056	7/17/09 1530	7/21/09 1050		7/21/09 1470	504	5	6	153
232395012-1	RSAL3-10B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.027	7/17/09 1530	7/21/09 1050		7/21/09 1410	708	7	4	55
232395013-1	RSAL3-20B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.051	7/17/09 1530	7/21/09 1100		7/21/09 1440	108	1	8	88
232395014-1	RSAL3-32B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.001	7/17/09 1530	7/21/09 1100		7/21/09 1440	710	2	4	49
232395015-1	SA188-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.003	7/17/09 1520	7/21/09 1100		7/21/09 1440	307	3	8	49
232395016-1	SA172-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.041	7/17/09 1520	7/21/09 1100		7/21/09 1440	412	4	7	99
232395017-1	SA41-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.082	7/17/09 1530	7/21/09 1100		7/21/09 1440	505	5	8	94
232395018-1	SA44-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.059	7/17/09 1530	7/21/09 1100		7/21/09 1440	707	7	2	52
232395019-1	SA42-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.065	7/17/09 1530	7/21/09 1145		7/21/09 1515	104	1	8	93
232395020-1	SA106-0.5B	SAMPLE	SOIL	SOIL	.5 pCi/g	KERR003	1.010	7/17/09 1530	7/21/09 1145		7/21/09 1515	201	2	8	28
1201875525-1	MB for batch 882996	MB	QC ACCOUNT	QC ACCOUNT	.5 pCi/g	QC ACCOUNT	1.064	7/17/09 1530	7/21/09 1145		7/21/09 1515	304	3	8	17
1201875526-1	SA106-0.5B(232395020DUP)	DUP	QC ACCOUNT	QC ACCOUNT	.5 pCi/g	QC ACCOUNT	1.033	7/17/09 1530	7/21/09 1145		7/21/09 1515	401	4	8	39
1201875527-1	SA106-0.5B(232395020MS)	MS	QC ACCOUNT	QC ACCOUNT	.5 pCi/g	QC ACCOUNT	1.071	7/17/09 1530	7/21/09 1145		7/21/09 1515	505	5	8	700
1201875528-1	LCS for batch 882996	LCS	QC ACCOUNT	QC ACCOUNT	.5 pCi/g	QC ACCOUNT	1.067	7/17/09 1530	7/21/09 1145		7/21/09 1515	710	7	3	767

daily's ✓
 * 7-27-09
 Data Reviewed By: JMA
 7-27-09
 Comments:
 Instrument ID's:
 LUCAS1:90988, LUCAS2:136917, LUCAS3:90989, LUCAS4:102753, LUC5:132286, LUC6:170055
 Page 1 of 1

Ra-226 Verification Sheet

889916

OK

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
23295008	1.070	7/24/09 11:20	7/24/09 15:40	7-25-09 11:00	201	2	8	168
23295011	1.058	7/24/09 11:20	7/24/09 15:40	7-25-09 11:00	311	3	8	70
23295013	1.051	7/24/09 11:20	7/24/09 15:40	7-25-09 11:00	400	4	8	625
MB	1.082	7/24/09 11:20	7/24/09 15:40	7-25-09 11:00	507	5	2	10
WS	1.082	7/24/09 11:20	7/24/09 15:40	7-25-09 11:00	703	7	1	648

Radium-226 Solid

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

Spike S/N : 0638-H
 Spike Exp Date : 7/23/2009
 Spike Activity (dpm/ml) : 268.25
 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 : 882996

Analyst : KSD1
 Prep Date : 7/14/2009

Ra-226 Abundance : 1

Ra-226 Method Uncertainty : 0.1153

Procedure Code : LUC26RAS

Parname : 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 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		Count Time (min.)
1	232395001.1	1.0130	3.3247E-03	6/24/2009 8:10	111	30	93	3.100	8	0.267	30	1.5750
2	232395002.1	1.0530	3.3289E-03	6/24/2009 8:50	204	30	72	2.400	0	0.000	30	2.1930
3	232395003.1	1.0210	3.3255E-03	6/24/2009 9:25	311	30	105	3.500	8	0.267	30	2.1140
4	232395004.1	1.0660	3.3302E-03	6/24/2009 10:55	404	30	21	0.700	8	0.267	30	1.9310
5	232395005.1	1.0360	3.3271E-03	6/24/2009 10:55	510	30	49	1.633	3	0.100	30	1.4580
6	232395006.1	1.0540	3.3290E-03	6/24/2009 12:00	705	30	70	2.333	4	0.133	30	2.1600
7	232395007.1	1.0190	3.3253E-03	6/24/2009 8:21	101	30	100	3.333	8	0.267	30	1.7510
8	232395008.1	1.0200	3.3254E-03	6/24/2009 9:18	207	30	168	5.600	8	0.267	30	2.1460
9	232395009.1	1.0180	3.3252E-03	6/24/2009 9:18	305	30	179	5.967	8	0.267	30	2.0570
10	232395010.1	1.0300	3.3269E-03	6/25/2009 7:15	403	30	45	1.500	7	0.233	30	1.4630
11	232395011.1	1.0580	3.3294E-03	6/25/2009 8:30	311	30	70	2.333	8	0.267	30	2.1140
12	232395012.1	1.0270	3.3261E-03	6/25/2009 10:55	708	30	55	1.833	4	0.133	30	1.8690
13	232395013.1	1.0510	3.3286E-03	6/25/2009 11:27	402	30	625	20.833	8	0.267	30	2.1180
14	232395014.1	1.0010	3.3234E-03	6/25/2009 12:06	210	30	98	3.267	4	0.133	30	2.2530
15	232395015.1	1.0030	3.3237E-03	6/26/2009 10:58	307	30	49	1.633	8	0.267	30	1.9310
16	232395016.1	1.0410	3.3276E-03	6/26/2009 12:50	412	30	99	3.300	7	0.233	30	1.9670
17	232395017.1	1.0820	3.3319E-03	6/26/2009 9:21	505	30	94	3.133	8	0.267	30	2.3310
18	232395018.1	1.0590	3.3295E-03	6/26/2009 9:50	707	30	52	1.733	2	0.067	30	2.1190
19	232395019.1	1.0650	3.3301E-03	6/26/2009 10:21	104	30	93	3.100	8	0.267	30	1.9730
20	232395020.1	1.0100	3.3244E-03	6/30/2009 9:10	207	30	28	0.933	8	0.267	30	2.1460
21	1201875525.1	1.0820	3.3319E-03	7/14/2009 0:00	507	30	10	0.333	2	0.067	30	1.7010
22	1201875526.1	1.0330	3.3268E-03	6/30/2009 9:10	401	30	39	1.300	8	0.267	30	1.5740
23	1201875527.1	1.0200	3.3254E-03	6/30/2009 9:10	509	30	700	23.333	8	0.267	30	1.7980
24	1201875528.1	1.0820	3.3319E-03	7/14/2009 0:00	703	30	646	21.533	1	0.033	30	2.0830

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	De-Gas to Ingrowth	Rn-222 Corrections		Ra-226 Decay
							Ingrowth to Count	During Count	
0.09580	8/29/2008	8/29/2009	7/17/2009 15:30	7/21/2009 10:25	7/21/2009 13:40	0.497	0.976	1.002	1.000
0.07722	12/19/2008	12/19/2009	7/17/2009 15:30	7/21/2009 10:25	7/21/2009 13:40	0.497	0.976	1.002	1.000
0.06082	2/4/2009	2/4/2010	7/17/2009 15:30	7/21/2009 10:25	7/21/2009 13:40	0.497	0.976	1.002	1.000
0.12371	3/2/2009	3/2/2010	7/17/2009 15:30	7/21/2009 10:25	7/21/2009 13:40	0.497	0.976	1.002	1.000
0.14377	3/25/2009	3/25/2010	7/17/2009 15:30	7/21/2009 10:25	7/21/2009 13:40	0.497	0.976	1.002	1.000
0.08547	11/21/2008	11/21/2009	7/17/2009 15:30	7/21/2009 10:25	7/21/2009 13:40	0.497	0.976	1.002	1.000
0.09580	8/29/2008	8/29/2009	7/17/2009 15:30	7/21/2009 10:50	7/21/2009 14:10	0.498	0.975	1.002	1.000
0.07722	12/19/2008	12/19/2009	7/21/2009 11:20	7/24/2009 15:40	7/25/2009 11:00	0.438	0.864	1.002	1.000
0.06082	2/4/2009	2/4/2010	7/17/2009 15:30	7/21/2009 10:50	7/21/2009 14:10	0.498	0.975	1.002	1.000
0.12371	3/2/2009	3/2/2010	7/17/2009 15:30	7/21/2009 10:50	7/21/2009 14:10	0.498	0.975	1.002	1.000
0.06082	2/4/2009	2/4/2010	7/17/2009 15:30	7/24/2009 15:40	7/25/2009 11:00	0.438	0.864	1.002	1.000
0.08547	11/21/2008	11/21/2009	7/17/2009 15:30	7/21/2009 10:50	7/21/2009 14:10	0.498	0.975	1.002	1.000
0.12371	3/2/2009	3/2/2010	7/17/2009 15:30	7/24/2009 15:40	7/25/2009 11:00	0.438	0.864	1.002	1.000
0.07722	12/19/2008	12/19/2009	7/17/2009 15:30	7/21/2009 11:20	7/21/2009 14:40	0.500	0.975	1.002	1.000
0.06082	2/4/2009	2/4/2010	7/17/2009 15:30	7/21/2009 11:20	7/21/2009 14:40	0.500	0.975	1.002	1.000
0.12371	3/2/2009	3/2/2010	7/17/2009 15:30	7/21/2009 11:20	7/21/2009 14:40	0.500	0.975	1.002	1.000
0.14377	3/25/2009	3/25/2010	7/17/2009 15:30	7/21/2009 11:20	7/21/2009 14:40	0.500	0.975	1.002	1.000
0.08547	11/21/2008	11/21/2009	7/17/2009 15:30	7/21/2009 11:45	7/21/2009 15:15	0.502	0.974	1.002	1.000
0.09580	8/29/2008	8/29/2009	7/17/2009 15:30	7/21/2009 11:45	7/21/2009 15:15	0.502	0.974	1.002	1.000
0.07722	12/19/2008	12/19/2009	7/17/2009 15:30	7/24/2009 15:40	7/25/2009 11:00	0.438	0.864	1.002	1.000
0.14377	3/25/2009	3/25/2010	7/17/2009 15:30	7/21/2009 11:45	7/21/2009 15:15	0.502	0.974	1.002	1.000
0.12371	3/2/2009	3/2/2010	7/17/2009 15:30	7/21/2009 11:45	7/21/2009 15:15	0.502	0.974	1.002	1.000
0.14377	3/25/2009	3/25/2010	7/17/2009 15:30	7/21/2009 11:45	7/21/2009 15:15	0.502	0.974	1.002	1.000
0.08547	11/21/2008	11/21/2009	7/21/2009 11:20	7/24/2009 15:40	7/25/2009 11:00	0.438	0.864	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	0.1806	0.1275	0.5	0.3131	1.6470	0.1522	2.8333	0.3350	0.3817	0.6164		SAMPLE				
2	0.000E+00	0.000E+00	0.5	0.0402	0.9639	0.1409	2.4000	0.2828	0.2227	0.3440		SAMPLE				
3	0.1335	0.0942	0.5	0.2315	1.3893	0.1254	3.2333	0.3543	0.2984	0.4638		SAMPLE				
4	0.1400	0.0988	0.5	0.2427	0.1952	0.4323	0.4333	0.1795	0.1585	0.1712		SAMPLE				
09	0.1168	0.0825	0.5	0.2263	0.9415	0.2127	1.5333	0.2404	0.2893	0.4465		SAMPLE				
09	0.0895	0.0632	0.5	0.1671	0.8962	0.1559	2.2000	0.2867	0.2290	0.3406		SAMPLE				
7	0.1611	0.1137	0.5	0.2793	1.5900	0.1481	3.0667	0.3464	0.3520	0.5850		SAMPLE				
8	0.1685	0.1190	0.5	0.2922	2.8929	0.1134	5.3333	0.4422	0.4701	0.9168		SAMPLE				
9	0.1372	0.0969	0.5	0.2380	2.5181	0.1005	5.7000	0.4558	0.3947	0.7550		SAMPLE				
10	0.1784	0.1260	0.5	0.3133	0.7776	0.2265	1.2667	0.2404	0.2892	0.3874		SAMPLE				
11	0.1649	0.1164	0.5	0.2860	1.0971	0.1549	2.0667	0.2944	0.3063	0.4153		SAMPLE				
12	0.1059	0.0747	0.5	0.1977	0.8193	0.1732	1.7000	0.2560	0.2419	0.3341		SAMPLE				
13	0.1657	0.1170	0.5	0.2873	10.9699	0.1303	20.5667	0.8386	0.8767	3.7408		SAMPLE				
14	0.0898	0.0634	0.5	0.1676	1.2804	0.1324	3.1333	0.3367	0.2696	0.4405		SAMPLE				
15	0.1478	0.1044	0.5	0.2563	0.6503	0.1940	1.3667	0.2517	0.2347	0.2876		SAMPLE				
16	0.1308	0.0923	0.5	0.2297	1.3802	0.1668	3.0667	0.3432	0.3027	0.5486		SAMPLE				
17	0.1135	0.0801	0.5	0.1968	1.0475	0.1857	2.8667	0.3367	0.2411	0.4487		SAMPLE				
18	0.0638	0.0450	0.5	0.1311	0.6845	0.1700	1.6667	0.2449	0.1972	0.2756		SAMPLE				
19	0.1360	0.0960	0.5	0.2358	1.2404	0.1522	2.8333	0.3350	0.2874	0.4642		SAMPLE				
20	0.1318	0.0931	0.5	0.2286	0.2829	0.3098	0.6667	0.2000	0.1664	0.1833		SAMPLE				
21	0.1002	0.0707	0.5	0.2060	0.1720	0.4563	0.2667	0.1155	0.1460	0.1587		SAMPLE				
22	0.1758	0.1241	0.5	0.3047	0.5846	0.2534	1.0333	0.2285	0.2534	0.3190		MB	69.5%		11.8465	95.3%
23	0.1558	0.1100	0.5	0.2702	11.5695	0.1489	23.0667	0.8869	0.8719	4.2697	232395020.1	DUP			11.1675	101.4%
24	0.0579	0.0409	0.5	0.1344	11.3261	0.0942	21.5000	0.8479	0.8754	3.3049	232395020.1	MS				
												LCS				

Radiochemistry Batch Checklist, Rev 9

Batch# 883675 Product: Radium 226 Date: 7-14-09

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.	NA		
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			NA
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly 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 711444
Batch non-conformances second reviewed and disposition verified to be completed.	✓		GEL 711444
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]

KERR 7-30-09

Secondary Review Performed By: [Signature] 7/15/09

Radium-226 Que Sheet

07/09/2009 General Engineering Laboratories, Radiochemistry Division

Batch #: 883675 Analyst: KSD1 First Client Due Date: 07/30/2009 Internal Due Date: 07/19/2009
 Spike Code: U158/H Expiration Date: 11/23/06 Vol: 0.1 Nom Conc: 100.8553
 LCS Code: 0078/1 Expiration Date: 7/27/09 Vol: 0.1 Nom Conc: 24.1666
 Prep Date: 11/06 Pipet ID: 141333 Initials: LC Witness: PL 7-10-09 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
232135001-1	M-19B	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1540	7/14/09 1000	7/14/09 1310	104	2	8	39
232135002-1	M-34B	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1540	7/14/09 1000	7/14/09 1310	306	3	8	28
232135004-1	M-125BDISS	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1000	7/14/09 1310	403	4	7	32
232135005-1	M-22AB	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1540	7/14/09 1000	7/14/09 1310	507	5	2	37
232135006-1	M-17AB	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1540	7/14/09 1000	7/14/09 1310	507	7	4	17
232135007-1	M-17ABDISS	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1115	7/14/09 1355	104	1	6	38
232135008-1	M-75B	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1115	7/14/09 1355	241	2	4	12
232135009-1	M-13AB	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1115	7/14/09 1355	303	3	8	39
232135010-1	M-13ABDISS	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1115	7/14/09 1355	410	4	7	36
232135011-1	M-13009AB	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1115	7/14/09 1355	505	5	7	16
232135012-1	M-13009ABDISS	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1115	7/14/09 1355	701	7	3	19
232135013-1	M-64B	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1140	7/14/09 1430	101	1	7	34
232135014-1	EB062609-SO 23239504	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1540	7/14/09 1140	7/14/09 1430	100	2	8	18
232135015-1	M-111AB	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1140	7/14/09 1430	311	3	4	35
232135016-1	EB062909-GW	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1140	7/14/09 1430	402	4	8	25
232135017-1	M-25B	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1140	7/14/09 1430	510	5	2	59
232135018-1	M-12AB	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1140	7/14/09 1430	107	7	3	53
232135019-1	M-12ABDISS	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1140	7/14/09 1505	100	1	4	51
232135020-1	EB070109-SO1 23272704	SAMPLE	WATER	1 pC/L	KERR003	500	7/10/09 1546	7/14/09 1140	7/14/09 1505	101	2	8	13
1201877244-1	MB for batch 883675	MB	WATER	1 pC/L	QC ACCOUNT	500	7/10/09 1546	7/14/09 1140	7/14/09 1505	305	3	8	19
1201877245-1	M-125BDISS(232135004DUP)	DUP	WATER	1 pC/L	QC ACCOUNT	500	7/10/09 1546	7/14/09 1140	7/14/09 1505	411	4	8	34
1201877246-1	M-125BDISS(232135004MS)	MS	WATER	1 pC/L	QC ACCOUNT	100	7/10/09 1546	7/14/09 1140	7/14/09 1505	503	5	5	84
1201877247-1	LCS for batch 883675	LCS	WATER	1 pC/L	QC ACCOUNT	500	7/10/09 1546	7/14/09 1140	7/14/09 1600	704	7	4	850

16:05 7-14-09
 dailies

Data Reviewed By: JM 7-14-09

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 SN : 0638-H
 Spike Exp Date : 7/23/2009
 Spike Activity (dpm/ml): 266.25
 Spike Volume Added: 0.10

Batch : 883675
 Analyst : KSD1
 Prep Date : 7/10/2009
 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

LCS SN : 0638-H
 LCS Exp Date : 7/23/2009
 LCS Activity (dpm/ml): 266.25
 LCS Volume Added: 0.10

Sample Characteristics			Count Raw Data			Weekly Background			Detector Efficiency			
Pos.	Sample ID	Sample Aliquot L	Sample Aliquot StDev. L	Sample Date/Time	Cell Number	Counting Time (min.)	Gross Counts	Gross CPM	Counts	CPM	Count Time (min.)	Efficiency (cpm/dpm)
1	232135001.1	0.5000	2.0256E-05	6/19/2009 9:10	204	30	39	1.300	8	0.267	30	2.1930
2	232135002.1	0.5000	2.0256E-05	6/19/2009 11:40	306	30	28	0.933	8	0.267	30	1.7470
3	232135004.1	0.5000	2.0256E-05	6/23/2009 10:14	403	30	32	1.067	7	0.233	30	1.4630
4	232135005.1	0.5000	2.0256E-05	6/24/2009 9:06	507	30	37	1.233	2	0.067	30	1.7010
5	232135006.1	0.5000	2.0256E-05	6/24/2009 12:35	705	30	17	0.567	4	0.133	30	2.1600
6	232135007.1	0.5000	2.0256E-05	6/24/2009 12:35	112	30	38	1.267	6	0.200	30	1.6480
7	232135008.1	0.5000	2.0256E-05	6/25/2009 8:47	211	30	12	0.400	4	0.133	30	2.1710
8	232135009.1	0.5000	2.0256E-05	6/25/2009 12:15	303	30	39	1.300	8	0.267	30	2.1360
9	232135010.1	0.5000	2.0256E-05	6/25/2009 12:15	410	30	36	1.200	8	0.267	30	1.8860
10	232135011.1	0.5000	2.0256E-05	6/25/2009 12:15	505	30	16	0.533	7	0.233	30	2.3310
11	232135012.1	0.5000	2.0256E-05	6/25/2009 12:15	701	30	19	0.633	3	0.100	30	1.8150
12	232135013.1	0.5000	2.0256E-05	6/26/2009 12:35	101	30	34	1.133	7	0.233	30	1.7510
13	232395021.1	0.5000	2.0256E-05	6/26/2009 13:30	206	30	18	0.600	8	0.267	30	2.2590
14	232135015.1	0.5000	2.0256E-05	6/29/2009 9:55	311	30	35	1.167	4	0.133	30	2.1140
15	232135016.1	0.5000	2.0256E-05	6/29/2009 11:25	402	30	25	0.833	8	0.267	30	2.1180
16	232135017.1	0.5000	2.0256E-05	6/30/2009 7:45	510	30	59	1.967	2	0.067	30	1.4580
17	232135018.1	0.5000	2.0256E-05	6/30/2009 10:10	707	30	53	1.767	3	0.100	30	2.1190
18	232135019.1	0.5000	2.0256E-05	6/30/2009 10:10	106	30	51	1.700	4	0.133	30	1.4860
19	232727021.1	0.5000	2.0256E-05	7/1/2009 11:25	201	30	13	0.433	8	0.267	30	1.9930
20	1201877244.1	0.5000	2.0256E-05	7/10/2009 0:00	305	30	19	0.633	8	0.267	30	2.0570
21	1201877245.1	0.5000	2.0256E-05	6/23/2009 10:14	411	30	24	0.800	8	0.267	30	1.8240
22	1201877246.1	0.1000	1.1370E-05	6/23/2009 10:14	503	30	782	26.067	5	0.167	30	1.6010
23	1201877247.1	0.5000	2.0256E-05	7/10/2009 0:00	704	30	850	28.333	4	0.133	30	2.2480

Detector Efficiency Error (cpm/dpm)	Cell Calibration Date	Cell Calibration Due Date	De-Gas Date/Time	Rn-222 Ingrow		Count Start Date/Time	De-Gas to Ingrowth	Rn-222 Corrections		Ra-226 Decay
				End Date/Time	Date/Time			Ingrowth to Count	During Count	
0.07722	12/19/2008	12/19/2009	7/10/2009 15:40	7/14/2009 10:00	7/14/2009 13:10	0.495	0.976	1.002	1.000	
0.06082	2/4/2009	2/4/2010	7/10/2009 15:40	7/14/2009 10:00	7/14/2009 13:10	0.495	0.976	1.002	1.000	
0.12371	3/2/2009	3/2/2010	7/10/2009 15:40	7/14/2009 10:00	7/14/2009 13:10	0.495	0.976	1.002	1.000	
0.14377	3/25/2009	3/25/2010	7/10/2009 15:40	7/14/2009 10:00	7/14/2009 13:10	0.495	0.976	1.002	1.000	
0.08547	11/21/2008	11/21/2009	7/10/2009 15:40	7/14/2009 10:00	7/14/2009 13:10	0.499	0.980	1.002	1.000	
0.09580	8/29/2008	8/29/2009	7/10/2009 15:40	7/14/2009 11:15	7/14/2009 13:55	0.499	0.980	1.002	1.000	
0.07722	12/19/2008	12/19/2009	7/10/2009 15:40	7/14/2009 11:15	7/14/2009 13:55	0.499	0.980	1.002	1.000	
0.06082	2/4/2009	2/4/2010	7/10/2009 15:40	7/14/2009 11:15	7/14/2009 13:55	0.499	0.980	1.002	1.000	
0.12371	3/2/2009	3/2/2010	7/10/2009 15:40	7/14/2009 11:15	7/14/2009 13:55	0.499	0.980	1.002	1.000	
0.14377	3/25/2009	3/25/2010	7/10/2009 15:40	7/14/2009 11:15	7/14/2009 13:55	0.499	0.980	1.002	1.000	
0.08547	11/21/2008	11/21/2009	7/10/2009 15:40	7/14/2009 11:15	7/14/2009 13:55	0.499	0.980	1.002	1.000	
0.09580	8/29/2008	8/29/2009	7/10/2009 15:40	7/14/2009 11:40	7/14/2009 14:30	0.501	0.979	1.002	1.000	
0.07722	12/19/2008	12/19/2009	7/10/2009 15:40	7/14/2009 11:40	7/14/2009 14:30	0.501	0.979	1.002	1.000	
0.06082	2/4/2009	2/4/2010	7/10/2009 15:40	7/14/2009 11:40	7/14/2009 14:30	0.501	0.979	1.002	1.000	
0.12371	3/2/2009	3/2/2010	7/10/2009 15:40	7/14/2009 11:40	7/14/2009 14:30	0.501	0.979	1.002	1.000	
0.14377	3/25/2009	3/25/2010	7/10/2009 15:40	7/14/2009 11:40	7/14/2009 14:30	0.501	0.979	1.002	1.000	
0.08547	11/21/2008	11/21/2009	7/10/2009 15:40	7/14/2009 12:10	7/14/2009 15:05	0.503	0.978	1.002	1.000	
0.09580	8/29/2008	8/29/2009	7/10/2009 15:40	7/14/2009 12:10	7/14/2009 15:05	0.503	0.978	1.002	1.000	
0.07722	12/19/2008	12/19/2009	7/10/2009 15:40	7/14/2009 12:10	7/14/2009 15:05	0.503	0.978	1.002	1.000	
0.06082	2/4/2009	2/4/2010	7/10/2009 15:40	7/14/2009 12:10	7/14/2009 15:05	0.503	0.978	1.002	1.000	
0.12371	3/2/2009	3/2/2010	7/10/2009 15:40	7/14/2009 12:10	7/14/2009 15:05	0.503	0.978	1.002	1.000	
0.14377	3/25/2009	3/25/2010	7/10/2009 15:40	7/14/2009 12:10	7/14/2009 16:05	0.503	0.971	1.002	1.000	
0.08547	11/21/2008	11/21/2009	7/10/2009 15:40	7/14/2009 12:10	7/14/2009 15:05	0.503	0.978	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/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	0.2638	0.1862	1	0.4574	0.8774	0.2342	1.0333	0.2285	0.3803	0.4327		SAMPLE				
2	0.3311	0.2338	1	0.5741	0.7106	0.3061	0.6667	0.2000	0.4178	0.4451		SAMPLE				
3	0.3699	0.2611	1	0.6495	1.0606	0.2788	0.8333	0.2082	0.5193	0.6101		SAMPLE				
4	0.1700	0.1200	1	0.3496	1.2771	0.2291	1.1667	0.2082	0.4466	0.6179		SAMPLE				
5	0.1894	0.1337	1	0.3536	0.3736	0.3627	0.4333	0.1528	0.2581	0.2739		SAMPLE				
6	0.3000	0.2118	1	0.5350	1.1892	0.2284	1.0667	0.2211	0.4832	0.5737		SAMPLE				
7	0.1859	0.1313	1	0.3472	0.2257	0.5059	0.2667	0.1333	0.2212	0.2275		SAMPLE				
8	0.2672	0.1887	1	0.4634	0.8889	0.2294	1.0333	0.2285	0.3853	0.4304		SAMPLE				
9	0.3027	0.2137	1	0.5248	0.9093	0.2673	0.9333	0.2211	0.4222	0.5036		SAMPLE				
10	0.2291	0.1617	1	0.4023	0.2365	0.5519	0.3000	0.1599	0.2470	0.2593		SAMPLE				
11	0.1926	0.1360	1	0.3732	0.5399	0.3054	0.5333	0.1563	0.3102	0.3374		SAMPLE				
12	0.3044	0.2149	1	0.5345	0.9426	0.2558	0.9000	0.2134	0.4981	0.5021		SAMPLE				
13	0.2522	0.1781	1	0.4373	0.2706	0.5157	0.3333	0.1700	0.2704	0.2778		SAMPLE				
14	0.1906	0.1345	1	0.3558	0.8964	0.2104	1.0333	0.2082	0.3539	0.4034		SAMPLE				
15	0.2690	0.1899	1	0.4664	0.4907	0.3598	0.5667	0.1915	0.3250	0.3571		SAMPLE				
16	0.1954	0.1379	1	0.4017	2.3899	0.1986	1.9000	0.2603	0.6418	1.0249		SAMPLE				
17	0.1646	0.1162	1	0.3190	1.4424	0.1724	1.6667	0.2494	0.4231	0.5521		SAMPLE				
18	0.2703	0.1908	1	0.5046	1.9274	0.1846	1.5667	0.2472	0.5961	0.7788		SAMPLE				
19	0.2850	0.2012	1	0.4941	0.1529	0.9198	0.1667	0.1528	0.2746	0.2770		SAMPLE				
20	0.2761	0.1949	1	0.4787	0.3259	0.4763	0.3667	0.1732	0.3017	0.3098		MB				
21	0.3114	0.2198	1	0.5399	0.5346	0.3746	0.5333	0.1886	0.3704	0.4041	232135004.1	DUP	66.0%	120.8353	122.4%	
22	1.4129	0.9975	1	2.5704	148.9993	0.1482	25.9000	0.9351	10.5440	50.9187	232135004.1	MS		24.1666	94.9%	
23	0.1786	0.1261	1	0.3336	22.9334	0.0922	28.2000	0.9741	1.5527	5.8479		LCS				

Subject: Change in KERR Henderson Samples
From: Edie Kent <emk@gel.com>
Date: Fri, 17 Jul 2009 15:06:12 -0400
To: Theresa Austin <theresa.austin@gel.com>
CC: "team.kent" <team.kent@gel.com>

Theresa:

I have relogged the two water samples that we are moving and deleted the tests from the original sample numbers so they are ready to be rebatched. Sample 232135014 is now 232395021. Sample 232135020 is now 232727021. As soon as I can track down Mike, I'm getting the bottles relabeled.

Edie

--

Edith M. Kent
Project Manager
GEL Laboratories, LLC
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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

RADIUM 228

Radiochemistry Batch Checklist, Rev 9

Batch# 885330 Product: Radium 228 Date: 7/28/09

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			NA
Samples have been blank corrected (if required)			NP
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 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]

7130
KERR

Secondary Review Performed By:

[Signature] 7/29/09

Radium-228 Que Sheet

Batch #: 885330
 Analyst: MXS2
 First Client Due Date: 07/30/2009
 Internal Due Date: 07/24/2009
 Spike Isotope: Radium-228
 Spike Code: 0503-B
 Expiration Date: 9-13-09
 Ac-228 Ingrow: 7-16-09 | 1000
 LCS Isotope: Radium-228
 LCS Code: 0503-B
 Expiration Date: 9-13-09
 Tracer Isotope: Barium-133
 Tracer Code: 0112-J
 Expiration Date: 2-17-10
 Ac-228 Separation Date/Time: 7-20-09 | 0445
 Prep Date: 7-15-09
 Initials: JVC
 Pipet ID: 2766953
 Balance ID: 17955100
 Witness: MS 7-15-09
 Recapped

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collect Date & Time	Pos. #	Vol (mL)	Det #	Ba Yield (%)	Gamma Det. #
232135001-2	M-19B	SAMPLE		3 pCi/L	WATER	KERR003	19-JUN-09 09:10 AM	1	400	1A	82.53	
232135002-2	M-34B	SAMPLE		3 pCi/L	WATER	KERR003	19-JUN-09 11:40 AM	2	400	1B	71.54	
232135004-2	M-125BDISS	SAMPLE		3 pCi/L	WATER	KERR003	23-JUN-09 10:14 AM	3	400	1D	74.54	
232135005-2	M-22AB	SAMPLE		3 pCi/L	WATER	KERR003	24-JUN-09 09:06 AM	4	400	2A	73.46	
232135006-2	M-17AB	SAMPLE		3 pCi/L	WATER	KERR003	24-JUN-09 12:35 PM	5	400	2B	80.34	
232135007-2	M-17ABDISS	SAMPLE		3 pCi/L	WATER	KERR003	24-JUN-09 12:35 PM	6	400	2C	74.50	
232135008-2	M-75B	SAMPLE		3 pCi/L	WATER	KERR003	25-JUN-09 08:47 AM	7	400	2D	74.70	
232135009-2	M-13AB	SAMPLE		3 pCi/L	WATER	KERR003	25-JUN-09 12:15 PM	8	400	3A	70.29	
232135010-2	M-13ABDISS	SAMPLE		3 pCi/L	WATER	KERR003	25-JUN-09 12:15 PM	9	400	3C	72.60	
232135011-2	M-13009AB	SAMPLE		3 pCi/L	WATER	KERR003	25-JUN-09 12:15 PM	10	400	3B	74.54	
232135012-2	M-13009ABDISS	SAMPLE		3 pCi/L	WATER	KERR003	25-JUN-09 12:15 PM	11	400	4A	73.22	
232135013-2	M-64B	SAMPLE		3 pCi/L	WATER	KERR003	26-JUN-09 12:35 PM	12	400	4C	76.14	
232135015-2	EB062609-SO 2-2395021	SAMPLE		3 pCi/L	WATER	KERR003	26-JUN-09 01:30 PM	13	400	4D	79.86	
232135015-2	M-111AB	SAMPLE		3 pCi/L	WATER	KERR003	29-JUN-09 09:55 AM	14	400	5A	73.12	
232135016-2	EB062909-GW	SAMPLE		3 pCi/L	WATER	KERR003	29-JUN-09 11:25 AM	15	400	5B	73.58	
232135017-2	M-25B	SAMPLE		3 pCi/L	WATER	KERR003	30-JUN-09 07:45 AM	16	400	5C	70.92	
232135018-2	M-12AB	SAMPLE		3 pCi/L	WATER	KERR003	30-JUN-09 10:10 AM	17	400	5D	79.98	
232135019-2	M-12ABDISS	SAMPLE		3 pCi/L	WATER	KERR003	30-JUN-09 10:10 AM	18	400	6B	75.86	
232135020-2	ER070109-SO1	SAMPLE		3 pCi/L	WATER	KERR003	01-JUL-09 11:25 AM	19	400	7A	96.11	
1201881212-1	MB for batch 885330	MB		UCF pCi/L to pCi/WATER		QC ACCOUNT		20	400	7B	78.06	
1201881213-2	M-125BDISS(232135004DUP)	DUP		3 pCi/L	WATER	QC ACCOUNT	23-JUN-09 10:14 AM	21	400	7C	82.95	
1201881214-2	M-125BDISS(232135004MS)	MS		3 pCi/L	WATER	QC ACCOUNT	23-JUN-09 10:14 AM	22	400	7D	71.78	
1201881215-1	LCS for batch 885330	LCS		UCF pCi/L to pCi/WATER		QC ACCOUNT		23	400	8B	72.18	

Comments: *daily*
 Data Reviewed By: *[Signature]*
 Instrument Used: (Circle One) PIC S/N: 10751-4
 Page 1 of 1

Radium 228 Re-Elute / Reprecipitate

Batch # 885330
 Ra 228 Spike Code 0503-B
 LCS Code 0503-B
 Ba-133 Tracer Code 0112-J

Prep Date 7-15-09 Initials MS
 Spike Vol (mls) 0.1 mL
 LCS Vol (mls) 0.1 mL Ingrow Start Time: 1710 / 7-23-09
 Tracer Vol (mls) 0.1 mL Separation Time: 0515 / 7-27-09

Sample ID	Bkr #	Vol. (mls)	Det #	% Yield	Gamma Det #
232135001	1	400	1A	81.66	90-2
232135002	2	400	1C	76.97	90-3
232135004	3	400	1D	75.33	90-4
232135005	4	400	2A	80.54	90-5
232135006	5	400	2A 7D	74.21	73-6
232135007	6	400	2B 12B	72.47	72-2
232135008	7	400	3A	80.76	73-8
232135009	8	400	3B	80.59	73-9
232135010	9	400	3C	84.67	73-10
232135011	10	400	3D	91.26	70-11
232135012	11	400	4A	82.48	70-12
232135013	12	400	4C	87.60	70-13
232395021- 232135014	13	400	4D	79.60	70-14
232135015	14	400	5A	76.32	70-15
232135016	15	400	5B	87.47	92-16
232135017	16	400	5C	75.25	92-17
232135018	17	400	5D	80.89	72-3
232135019	18	400	6A 8A	78.39	92-19
232721021	19	400	6B	82.26	92-20
120881212	20	400	6D	93.37	66-21
120881213	21	400	7A	77.62	66-22
120881214	22	400	7B 8A ^{MS} 72 ^{78.38}	72.38	72-4
120881215	23	400	7C	80.41	66-24
		400	7D		

* NL 7/28/09

Radium-228 Liquid

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

Spike S/N : 0503-B
 Spike Exp Date : 9/13/2009
 Spike Activity (dpm/ml): 181.58
 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 : 885330
 Analyst : MXS2
 Prep Date : 7/15/2009

Procedure Code : GFC28RAL
 Parmname : Radium-228
 Required MDA : 3 pCi/L
 Halfife of Ra-228 : 5.75 years
 Halfife 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): 181.58
 LCS Volume Added: 0.10

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

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

Pos.	Sample Characteristics			Sample Date/Time	Tracer Calculations			Tracer Samp.		
	Sample ID	Sample Aliquot L	Sample Aliquot L StDev.		Tracer Concentration (Ba-133 Ref.) (cpm)	Tracer Count Uncertainty (cpm)	Tracer Concentration (Ba-133 Samp.) (cpm)	Tracer Count Uncertainty (cpm)	Tracer Aliquot (mL)	Tracer Aliquot StDev. (mL)
1	232135001.2	0.4000	1.9669E-05	6/19/2009 9:10	232.3	4.10%	189.7	4.61%	0.1	0.000701
2	232135002.2	0.4000	1.9669E-05	6/19/2009 11:40	232.3	4.10%	178.8	4.77%	0.1	0.000701
3	232135004.2	0.4000	1.9669E-05	6/23/2009 10:14	232.3	4.10%	175.0	4.83%	0.1	0.000701
4	232135005.2	0.4000	1.9669E-05	6/24/2009 9:06	232.3	4.10%	187.1	4.65%	0.1	0.000701
5	232135006.2	0.4000	1.9669E-05	6/24/2009 12:35	232.3	4.10%	172.4	4.87%	0.1	0.000701
6	232135007.2	0.4000	1.9669E-05	6/24/2009 12:35	235.0	4.07%	170.3	4.91%	0.1	0.000701
7	232135008.2	0.4000	1.9669E-05	6/25/2009 8:47	232.3	4.10%	187.6	4.64%	0.1	0.000701
8	232135009.2	0.4000	1.9669E-05	6/25/2009 12:15	232.3	4.10%	187.2	4.64%	0.1	0.000701
9	232135010.2	0.4000	1.9669E-05	6/25/2009 12:15	232.3	4.10%	196.7	4.51%	0.1	0.000701
10	232135011.2	0.4000	1.9669E-05	6/25/2009 12:15	232.3	4.10%	212.0	4.32%	0.1	0.000701
11	232135012.2	0.4000	1.9669E-05	6/25/2009 12:15	232.3	4.10%	191.6	4.58%	0.1	0.000701
12	232135013.2	0.4000	1.9669E-05	6/26/2009 12:35	232.3	4.10%	203.5	4.42%	0.1	0.000701
13	232135015.2	0.4000	1.9669E-05	6/29/2009 9:55	232.3	4.10%	177.3	4.80%	0.1	0.000701
14	232135016.2	0.4000	1.9669E-05	6/29/2009 11:25	232.3	4.10%	203.2	4.43%	0.1	0.000701
15	232135017.2	0.4000	1.9669E-05	6/30/2009 7:45	232.3	4.10%	174.8	4.84%	0.1	0.000701
16	232135018.2	0.4000	1.9669E-05	6/30/2009 10:10	235.0	4.07%	190.1	4.60%	0.1	0.000701
17	232135019.2	0.4000	1.9669E-05	6/30/2009 10:10	232.3	4.10%	182.1	4.72%	0.1	0.000701
18	232395021.1	0.4000	1.9669E-05	6/26/2009 13:30	232.3	4.10%	184.9	4.68%	0.1	0.000701
19	232727021.1	0.4000	1.9669E-05	7/1/2009 11:25	232.3	4.10%	191.1	4.59%	0.1	0.000701
20	1201881212.1	0.4000	1.9669E-05	7/15/2009 0:00	232.3	4.10%	216.9	4.26%	0.1	0.000701
21	1201881213.2	0.4000	1.9669E-05	6/23/2009 10:14	232.3	4.10%	180.3	4.75%	0.1	0.000701
22	1201881214.2	0.4000	1.9669E-05	6/23/2009 10:14	235.0	4.07%	184.2	4.69%	0.1	0.000701
23	1201881215.1	0.4000	1.9669E-05	7/15/2009 0:00	232.3	4.10%	186.8	4.65%	0.1	0.000701

Pos.	Counting				Beta		Detector Efficiency		Weekly Bkg		Separation		Count		Ra-228		Ac-228		Ac-228		Calculated	
	Detector ID	Time (min.)	Gross Alpha	Gross Beta	Beta cpm	Detector Efficiency (cpm/dpm)	Detector Error (cpm/dpm)	Count Time (min.)	cpm	Count (min.)	Date/Time	Date/Time	Start Date/Time	Decay	Count Correction	Recovery %	Sample Recovery Error %					
1	1A	90	8	75	0.833	0.6303	0.00600	500	0.336	7/27/2009 5:15	7/27/2009 7:44	0.988	0.754	1.087	81.66%	3.24%						
2	1C	90	12	116	1.289	0.6176	0.00344	500	0.798	7/27/2009 5:15	7/27/2009 7:45	0.988	0.753	1.087	76.97%	3.30%						
3	1D	90	14	72	0.800	0.6043	0.00511	500	0.530	7/27/2009 5:15	7/27/2009 7:45	0.989	0.753	1.087	75.33%	3.32%						
4	2A	90	6	83	0.922	0.6172	0.00349	500	0.608	7/27/2009 5:15	7/27/2009 7:45	0.989	0.752	1.087	80.54%	3.25%						
5	7D	90	17	51	0.567	0.6257	0.00816	500	0.376	7/27/2009 5:15	7/27/2009 7:46	0.989	0.510	1.087	74.21%	3.33%						
6	12B	90	11	61	0.678	0.6352	0.00816	500	0.652	7/27/2009 5:15	7/27/2009 11:12	0.989	0.752	1.087	72.47%	3.34%						
7	3A	90	20	103	1.144	0.5682	0.00943	500	1.094	7/27/2009 5:15	7/27/2009 7:46	0.989	0.752	1.087	80.76%	3.25%						
8	3B	90	18	177	1.967	0.5980	0.00655	500	1.764	7/27/2009 5:15	7/27/2009 7:46	0.990	0.751	1.087	80.59%	3.25%						
9	3C	90	3	119	1.322	0.6164	0.00535	500	0.970	7/27/2009 5:15	7/27/2009 7:46	0.990	0.751	1.087	84.67%	3.20%						
10	3D	90	16	142	1.578	0.5994	0.00464	500	1.082	7/27/2009 5:15	7/27/2009 7:46	0.990	0.751	1.087	91.26%	3.14%						
11	4A	90	19	111	1.233	0.6208	0.00744	500	0.844	7/27/2009 5:15	7/27/2009 7:46	0.990	0.751	1.087	82.48%	3.23%						
12	4C	90	11	154	1.711	0.6052	0.00426	500	1.502	7/27/2009 5:15	7/27/2009 7:46	0.990	0.751	1.087	87.60%	3.17%						
13	5A	90	9	59	0.656	0.6258	0.00816	500	0.480	7/27/2009 5:15	7/27/2009 7:47	0.991	0.751	1.087	76.32%	3.31%						
14	5B	90	18	147	1.633	0.6280	0.00816	500	1.108	7/27/2009 5:15	7/27/2009 7:47	0.991	0.751	1.087	87.47%	3.18%						
15	5C	90	21	127	1.411	0.6368	0.00816	500	0.858	7/27/2009 5:15	7/27/2009 7:47	0.991	0.750	1.087	75.25%	3.32%						
16	5D	90	14	179	1.989	0.6237	0.00816	500	1.256	7/27/2009 5:15	7/27/2009 7:47	0.991	0.750	1.087	80.89%	3.23%						
17	8A	90	13	79	0.878	0.6247	0.00816	500	0.652	7/27/2009 5:15	7/27/2009 7:48	0.991	0.749	1.087	78.39%	3.28%						
18	4D	90	22	160	1.778	0.5873	0.00816	500	1.190	7/27/2009 5:15	7/27/2009 7:48	0.990	0.751	1.087	79.60%	3.27%						
19	6B	90	34	109	1.211	0.6163	0.00816	500	0.790	7/27/2009 5:15	7/27/2009 7:48	0.991	0.749	1.087	82.26%	3.23%						
20	6D	90	14	55	0.611	0.6120	0.00816	500	0.460	7/27/2009 5:15	7/27/2009 7:44	0.996	0.754	1.087	93.37%	3.12%						
21	7A	90	13	69	0.767	0.6180	0.00816	500	0.346	7/27/2009 5:15	7/27/2009 7:44	0.989	0.754	1.087	77.62%	3.29%						
22	8A	30	4	80	2.667	0.6247	0.00816	500	0.652	7/27/2009 5:15	7/27/2009 16:06	0.989	0.293	1.029	78.38%	3.26%						
23	7C	60	15	377	6.283	0.6178	0.00816	500	0.280	7/27/2009 5:15	7/27/2009 7:45	0.996	0.753	1.058	80.41%	3.25%						

- 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		Net Count Rate Error	2 SIGMA Counting Uncertainty		Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
	pCi/L	pCi/L						Rate CPM	Rate CPM		pCi/L	pCi/L						
1	0.4938	0.3486		3	0.8037	1.5881	0.2031	0.4973	0.0997	0.1262	0.6237	0.7452		SAMPLE				
2	0.8253	0.5827		3	1.2808	1.7000	0.2591	0.4909	0.1262	0.8563	0.8563	0.9612		SAMPLE				
3	0.7016	0.4954		3	1.1112	0.9754	0.3709	0.2700	0.0997	0.7062	0.7062	0.7494		SAMPLE				
4	0.6883	0.4859		3	1.0821	1.0396	0.3423	0.3142	0.1071	0.6943	0.6943	0.7438		SAMPLE				
5	0.5796	0.4092		3	0.9366	0.6756	0.4417	0.1907	0.0840	0.5830	0.5830	0.6084		SAMPLE				
6	1.1367	0.8025		3	1.7809	0.1360	3.6465	0.0258	0.0940	0.9721	0.9721	0.9727		SAMPLE				
7	1.0010	0.7067		3	1.5331	0.1810	2.4204	0.0504	0.1221	0.8584	0.8584	0.8596		SAMPLE				
8	1.2104	0.8546		3	1.8230	0.6923	0.7868	0.2027	0.1593	1.0666	1.0666	1.0814		SAMPLE				
9	0.8289	0.5852		3	1.2756	1.1111	0.3676	0.3522	0.1290	0.7974	0.7974	0.8468		SAMPLE				
10	0.8356	0.5899		3	1.2802	1.4927	0.2848	0.4958	0.1403	0.8282	0.8282	0.9122		SAMPLE				
11	0.7886	0.5568		3	1.2208	1.2527	0.3204	0.3893	0.1241	0.7824	0.7824	0.8460		SAMPLE				
12	1.0158	0.7171		3	1.5378	0.6496	0.7103	0.2091	0.1484	0.9035	0.9035	0.9187		SAMPLE				
13	0.6370	0.4497		3	1.0144	0.6050	0.5183	0.1756	0.0908	0.6133	0.6133	0.6328		SAMPLE				
14	0.8416	0.5941		3	1.2882	1.5742	0.2736	0.5253	0.1427	0.8382	0.8382	0.9305		SAMPLE				
15	0.8490	0.5994		3	1.3133	1.9002	0.2409	0.5531	0.1319	0.8881	0.8881	1.0139		SAMPLE				
16	0.9756	0.6888		3	1.4863	2.3913	0.2166	0.7329	0.1569	1.0033	1.0033	1.1765		SAMPLE				
17	0.7250	0.5119		3	1.1360	0.7599	0.4670	0.2258	0.1052	0.6936	0.6936	0.7207		SAMPLE				
18	1.0255	0.7240		3	1.5655	2.0712	0.2553	0.5878	0.1488	1.0275	1.0275	1.1573		SAMPLE				
19	0.7710	0.5443		3	1.1970	1.3692	0.2981	0.4211	0.1226	0.7814	0.7814	0.8570		SAMPLE				
20	0.5162	0.3645		3	0.8240	0.4311	0.5820	0.1511	0.0878	0.4910	0.4910	0.5033		SAMPLE				
21	0.5374	0.3794		3	0.8729	1.4405	0.2306	0.4207	0.0960	0.6441	0.6441	0.7431	232135004.2	MB	38.5%		20.5940	79.8%
22	2.8863	2.0377		3	4.8916	16.4425	0.1528	2.0147	0.3003	4.8040	4.8040	6.3992	232135004.2	DUP			20.4479	93.8%
23	0.5383	0.3800		3	0.9198	19.1836	0.0636	6.0033	0.3245	2.0322	2.0322	5.3340		LCS				

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine
232135001	1A	90	8	75	7/27/2009 7:44	7/27/2009 9:14	Protean
232135002	1C	90	12	116	7/27/2009 7:45	7/27/2009 9:15	Protean
232135004	1D	90	14	72	7/27/2009 7:45	7/27/2009 9:15	Protean
232135005	2A	90	6	83	7/27/2009 7:45	7/27/2009 9:15	Protean
232135006	7D	90	17	51	7/27/2009 7:46	7/27/2009 9:16	Protean
232135007	12B	90	11	61	7/27/2009 11:12	7/27/2009 12:42	Protean
232135008	3A	90	20	103	7/27/2009 7:46	7/27/2009 9:16	Protean
232135009	3B	90	18	177	7/27/2009 7:46	7/27/2009 9:16	Protean
232135010	3C	90	3	119	7/27/2009 7:46	7/27/2009 9:16	Protean
232135011	3D	90	16	142	7/27/2009 7:46	7/27/2009 9:16	Protean
232135012	4A	90	19	111	7/27/2009 7:46	7/27/2009 9:16	Protean
232135013	4C	90	11	154	7/27/2009 7:46	7/27/2009 9:16	Protean
232395021	4D	90	22	160	7/27/2009 7:47	7/27/2009 9:17	Protean
232135015	5A	90	9	59	7/27/2009 7:47	7/27/2009 9:17	Protean
232135016	5B	90	18	147	7/27/2009 7:47	7/27/2009 9:17	Protean
232135017	5C	90	21	127	7/27/2009 7:47	7/27/2009 9:17	Protean
232135018	5D	90	14	179	7/27/2009 7:47	7/27/2009 9:17	Protean
232135019	8A	90	13	79	7/27/2009 7:48	7/27/2009 9:18	Protean
232727021	6B	90	34	109	7/27/2009 7:48	7/27/2009 9:18	Protean
1201881212	6D	90	14	55	7/27/2009 7:44	7/27/2009 9:14	Protean
1201881213	7A	90	13	69	7/27/2009 7:44	7/27/2009 9:14	Protean
1201881214	8A	30	4	80	7/27/2009 16:06	7/27/2009 16:36	Protean
1201881215	7C	60	15	377	7/27/2009 7:45	7/27/2009 8:45	Protean

ASSAY 23-Jul-09 16:44:16

Protocol id 9 228_REC2
Time limit 180
Count limit 50000
Isotope Ba-133
Protocol date 9-Apr-07 10:02:22
Run id. 98

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	90	1	180	788	232.3	4.1		16:44:23
2	90	2	180	660	189.7	4.61	81.66	16:47:35
3	90	3	180	628	178.8	4.77	76.97	16:50:46
4	90	4	180	616	175	4.83	75.33	16:53:57
5	90	5	180	653	187.1	4.65	80.54	16:57:09
6	73	6	180	609	172.4	4.87	74.21	17:00:28
7	73	7	180	561	156.4	5.17	67.33	17:03:39 *
8	73	8	180	654	187.6	4.64	80.76	17:06:50
9	73	9	180	653	187.2	4.64	80.59	17:10:02
10	73	10	180	681	196.7	4.51	84.67	17:13:13
11	70	11	180	727	212	4.32	91.26	17:16:37
12	70	12	180	666	191.6	4.58	82.48	17:19:49
13	70	13	180	702	203.5	4.42	87.60	17:23:00
14	70	14	180	646	184.9	4.68	79.60	17:26:11 •
15	70	15	180	623	177.3	4.8	76.32	17:29:23
16	92	16	180	701	203.2	4.43	87.47	17:32:47
17	92	17	180	616	174.8	4.84	75.25	17:35:59
18	92	18	180	564	157.5	5.15	67.80	17:39:10 *
19	92	19	180	637	182.1	4.72	78.39	17:42:21
20	92	20	180	664	191.1	4.59	82.26	17:45:33
21	66	21	180	742	216.9	4.26	93.37	17:48:58
22	66	22	180	632	180.3	4.75	77.62	17:52:09
23	66	23	180	598	168.8	4.94	72.66	17:55:20 *
24	66	24	180	652	186.8	4.65	80.41	17:58:32

END OF ASSAY

* NL 7/25/09

ASSAY 23-Jul-09 19:03:31

Protocol id 9 228_REC2
Time limit 180
Count limit 50000
Isotope Ba-133
Protocol date 9-Apr-07 10:02:22
Run id. 1

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	72	1	180	796	235	4.07		19:03:38
2	72	2	180	602	170.3	4.91	72.47	19:06:49
3	72	3	180	662	190.1	4.6	80.89	19:10:00
4	72	4	180	644	184.2	4.69	78.38	19:13:12

END OF ASSAY

Radiochemistry Batch Checklist, Rev 9

Batch# 882959 Product: RA 228 Date: 7/16/09

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.	✓		
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.			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 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: Lynette Yarn 7/16/09

Secondary Review Performed By: [Signature]

KERR
7/18 - 7/29

Radium-228 Que Sheet

Batch #: 882959
 Analyst: DXM2
 First Client Due Date: 07/29/2009
 Internal Due Date: 07/18/2009
 Spike Isotope: Radium-228
 Spike Code: 0503B
 Expiration Date: 9-13-09
 Vol: 0.1 mL
 LCS Isotope: Radium-228
 LCS Code: 0503B
 Expiration Date: 9-13-09
 Vol: 0.1 mL
 Tracer Isotope: Barium-133
 Tracer Code: 0112-J
 Expiration Date: 2-12-10
 Vol: 0.1 mL
 Prep Date: 7-1-09
 Initials: MS
 Pipet ID: 2166953
 Balance ID: 17955160
 Ac-228 Ingrow: 7-13-09 11:25
 Ac-228 Separation Date/Time: 7-15-09 0630
 Witness: DM 7-20-9

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collect Date & Time	Pos. #	Vol (mL)	Det #	Ba Yield (%)	Gamma Det. #
232395001-1	SA200-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	24-JUN-09 08:10 AM	1	1.019	1C	85.65	
232395002-1	RSA06-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	24-JUN-09 08:50 AM	2	1.006	5B	86.26	
232395003-1	SA51-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	24-JUN-09 09:25 AM	3	1.010	5C	94.37	
232395004-1	SA43-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	24-JUN-09 10:55 AM	4	1.004	5D	84.43	
232395005-1	SA43009-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	24-JUN-09 10:55 AM	5	1.023	6B	86.06	*
232395006-1	SA40-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	24-JUN-09 12:00 PM	6	1.017	7A	93.88	
232395007-1	SA201-10B	SAMPLE		.5 pCi/g	SOIL	KERR003	24-JUN-09 08:21 AM	7	1.016	7B	94.72	
232395008-1	SA201-28B	SAMPLE		.5 pCi/g	SOIL	KERR003	24-JUN-09 09:18 AM	8	1.004	7C	86.95	
232395009-1	SA201009-28B	SAMPLE		.5 pCi/g	SOIL	KERR003	24-JUN-09 09:18 AM	9	1.003	7D	84.76	
232395010-1	SA202-10B	SAMPLE		.5 pCi/g	SOIL	KERR003	25-JUN-09 07:15 AM	10	1.023	8A	82.08	
232395011-1	SA202-28B	SAMPLE		.5 pCi/g	SOIL	KERR003	25-JUN-09 08:30 AM	11	1.001	8C	76.29	
232395012-1	RSAL3-10B	SAMPLE		.5 pCi/g	SOIL	KERR003	25-JUN-09 10:55 AM	12	1.019	9A	86.53	
232395013-1	RSAL3-20B	SAMPLE		.5 pCi/g	SOIL	KERR003	25-JUN-09 11:27 AM	13	1.013	9C	84.19	
232395014-1	RSAL3-32B	SAMPLE		.5 pCi/g	SOIL	KERR003	25-JUN-09 12:06 PM	14	1.007	10A	85.93	
232395015-1	SA188-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	26-JUN-09 10:58 AM	15	1.005	10C	95.99	
232395016-1	SA172-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	26-JUN-09 12:50 PM	16	1.002	10D	89.42	
232395017-1	SA41-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	26-JUN-09 09:21 AM	17	1.015	11B	94.38	
232395018-1	SA44-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	26-JUN-09 09:50 AM	18	1.005	11C	71.83	
232395019-1	SA42-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	26-JUN-09 10:21 AM	19	1.002	11D	89.22	
232395020-1	SA106-0.5B	SAMPLE		.5 pCi/g	SOIL	KERR003	30-JUN-09 09:10 AM	20	1.004	12B	91.73	*
1201875397-1	MB for batch 882959	MB		.5 pCi/g	SOIL	QC ACCOUNT		21	1.023	12C	85.69	*
1201875398-1	SA106-0.5B(232395020DUP)	DUP		.5 pCi/g	SOIL	QC ACCOUNT	30-JUN-09 09:10 AM	22	1.023	13A	71.95	
1201875399-1	SA106-0.5B(232395020MS)	MS		.5 pCi/g	SOIL	QC ACCOUNT	30-JUN-09 09:10 AM	23	0.109	12D	74.83	
1201875400-1	LCS for batch 882959	LCS		.5 pCi/g	SOIL	QC ACCOUNT		24	1.023	13B	94.05	*

Comments: *daily* Data Reviewed By: *Spayate L...* * See re-clute sheet

Radium-228 Solid

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

Spike S/N : 0503-B
 Spike Exp Date : 9/13/2009
 Spike Activity (dpm/ml) : 182.06
 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 : 882959
 Analyst : DXM2
 Prep Date : 7/7/2009

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

Procedure Code : GFC28RAS
 Parname : Radium-228
 Required MDA : 0.5 pCi/G
 Halflife of Ra-228 : 5.75 years
 Halflife 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) : 182.06
 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

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	232395001.1	1.0190	3.3253E-03	6/24/2009 8:10	246.7	3.96%	211.3	4.33%	0.1	0.000701
2	232395002.1	1.0060	3.3240E-03	6/24/2009 8:50	246.7	3.96%	212.8	4.31%	0.1	0.000701
3	232395003.1	1.0100	3.3244E-03	6/24/2009 9:25	246.7	3.96%	232.8	4.09%	0.1	0.000701
4	232395004.1	1.0040	3.3238E-03	6/24/2009 10:55	246.7	3.96%	208.3	4.36%	0.1	0.000701
5	232395005.1	1.0230	3.3257E-03	6/24/2009 10:55	191.0	4.59%	162.7	5.05%	0.1	0.000701
6	232395006.1	1.0170	3.3251E-03	6/24/2009 12:00	246.7	3.96%	231.6	4.10%	0.1	0.000701
7	232395007.1	1.0160	3.3250E-03	6/24/2009 8:21	246.7	3.96%	209.0	4.36%	0.1	0.000701
8	232395008.1	1.0040	3.3238E-03	6/24/2009 9:18	246.7	3.96%	214.5	4.29%	0.1	0.000701
9	232395009.1	1.0030	3.3237E-03	6/24/2009 9:18	246.7	3.96%	209.1	4.35%	0.1	0.000701
10	232395010.1	1.0230	3.3257E-03	6/25/2009 7:15	246.7	3.96%	202.5	4.44%	0.1	0.000701
11	232395011.1	1.0010	3.3234E-03	6/25/2009 8:30	246.7	3.96%	188.2	4.63%	0.1	0.000701
12	232395012.1	1.0190	3.3253E-03	6/25/2009 10:55	246.7	3.96%	218.4	4.25%	0.1	0.000701
13	232395013.1	1.0130	3.3247E-03	6/25/2009 11:27	246.7	3.96%	207.7	4.37%	0.1	0.000701
14	232395014.1	1.0070	3.3241E-03	6/25/2009 12:06	246.7	3.96%	212.0	4.32%	0.1	0.000701
15	232395015.1	1.0050	3.3239E-03	6/26/2009 10:58	246.7	3.96%	236.8	4.05%	0.1	0.000701
16	232395016.1	1.0020	3.3235E-03	6/26/2009 12:50	246.7	3.96%	220.6	4.22%	0.1	0.000701
17	232395017.1	1.0150	3.3249E-03	6/26/2009 9:50	246.7	3.96%	220.5	4.22%	0.1	0.000701
18	232395018.1	1.0050	3.3239E-03	6/26/2009 10:21	246.7	3.96%	177.2	4.80%	0.1	0.000701
19	232395019.1	1.0020	3.3235E-03	6/26/2009 9:10	246.7	3.96%	220.1	4.23%	0.1	0.000701
20	232395020.1	1.0040	3.3238E-03	6/30/2009 9:10	246.7	3.96%	226.3	4.16%	0.1	0.000701
21	1201875397.1	1.0230	3.3257E-03	7/7/2009 0:00	191.0	4.59%	190.6	4.60%	0.1	0.000701
22	1201875398.1	1.0230	3.3257E-03	6/30/2009 9:10	246.7	3.96%	177.5	4.79%	0.1	0.000701
23	1201875399.1	0.1090	3.2304E-03	6/30/2009 9:10	246.7	3.96%	184.6	4.68%	0.1	0.000701
24	1201875400.1	1.0230	3.3257E-03	7/7/2009 0:00	191.0	4.59%	171.9	4.88%	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	1C	90	14	181	2.011	0.6176	0.00344	500	7/15/2009 6:30	7/15/2009 8:45	0.993	0.775	1.087	85.65%	3.10%
2	5B	120	29	331	2.758	0.6280	0.00816	500	7/15/2009 6:30	7/15/2009 8:48	0.993	0.771	1.117	86.26%	3.09%
3	5C	90	31	237	2.633	0.6368	0.00816	500	7/15/2009 6:30	7/15/2009 8:48	0.993	0.770	1.087	94.37%	3.01%
4	5D	120	16	280	2.333	0.6237	0.00816	500	7/15/2009 6:30	7/15/2009 8:48	0.993	0.804	1.117	84.43%	3.11%
5	11B	90	29	130	1.444	0.6372	0.00816	500	7/16/2009 15:00	7/16/2009 16:55	0.993	0.530	1.400	85.18%	3.55%
6	11B	390	116	487	1.282	0.6372	0.00816	500	7/15/2009 6:30	7/15/2009 12:06	0.993	0.770	1.087	93.88%	3.02%
7	7B	90	15	154	1.711	0.6280	0.00816	500	7/15/2009 6:30	7/15/2009 8:48	0.993	0.770	1.087	86.95%	3.11%
8	7C	90	13	142	1.578	0.6178	0.00816	500	7/15/2009 6:30	7/15/2009 8:49	0.993	0.769	1.087	84.76%	3.08%
9	7D	90	15	135	1.500	0.6257	0.00816	500	7/15/2009 6:30	7/15/2009 8:49	0.993	0.769	1.087	82.08%	3.14%
10	8A	90	17	178	1.978	0.6247	0.00816	500	7/15/2009 6:30	7/15/2009 8:49	0.993	0.769	1.087	76.29%	3.20%
11	8C	90	27	186	2.067	0.6339	0.00816	500	7/15/2009 6:30	7/15/2009 8:49	0.993	0.769	1.087	88.53%	3.07%
12	9A	90	10	158	1.756	0.6496	0.00816	500	7/15/2009 6:30	7/15/2009 8:49	0.993	0.769	1.087	84.19%	3.11%
13	9C	90	14	132	1.467	0.6273	0.00816	500	7/15/2009 6:30	7/15/2009 8:49	0.993	0.769	1.087	85.93%	3.09%
14	10A	90	13	156	1.733	0.6389	0.00816	500	7/15/2009 6:30	7/15/2009 8:49	0.994	0.768	1.087	95.99%	3.00%
15	10C	90	12	108	1.200	0.6250	0.00816	500	7/15/2009 6:30	7/15/2009 8:49	0.994	0.768	1.087	89.42%	3.06%
16	10D	90	13	182	2.022	0.6320	0.00816	500	7/15/2009 6:30	7/15/2009 8:51	0.994	0.766	1.117	89.38%	3.06%
17	11B	120	47	211	1.758	0.6372	0.00816	500	7/15/2009 6:30	7/15/2009 12:06	0.994	0.530	1.412	71.83%	3.27%
18	14D	390	23	400	1.026	0.6326	0.00816	500	7/15/2009 6:30	7/15/2009 8:51	0.994	0.766	1.087	89.22%	3.06%
19	11D	90	13	162	1.800	0.6348	0.00816	500	7/15/2009 6:30	7/15/2009 8:51	0.995	0.804	1.087	91.73%	3.04%
20	12B	90	8	74	0.822	0.6352	0.00816	500	7/16/2009 15:00	7/16/2009 16:56	0.997	0.765	1.087	99.79%	3.40%
21	12C	90	13	67	0.744	0.6304	0.00816	500	7/15/2009 6:30	7/15/2009 8:52	0.995	0.765	1.087	71.95%	3.26%
22	13A	90	9	77	0.856	0.6410	0.00816	500	7/15/2009 6:30	7/15/2009 8:51	0.995	0.765	1.058	74.83%	3.22%
23	12D	60	17	459	7.650	0.6320	0.00816	500	7/15/2009 6:30	7/16/2009 20:15	0.997	0.552	1.029	90.00%	3.49%
24	14D	30	3	137	4.567	0.6326	0.00816	500	7/16/2009 15:00						

- 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		2 SIGMA		Sample QC	Sample Type	RPD	RER	Nominal pCi/G	Recovery
									Counting Uncertainty pCi/G	Total Prop. Uncertainty pCi/G	Counting Uncertainty pCi/G	Total Prop. Uncertainty pCi/G						
1	0.2767	0.1953	0.5	0.4300	1.4624	0.1286	1.2391	0.1546	0.3575	0.3686	SAMPLE							
2	0.3014	0.2128	0.5	0.4557	1.9866	0.1017	1.6463	0.1588	0.3755	0.3958	SAMPLE							
13	0.2587	0.1827	0.5	0.4005	1.8846	0.1033	1.7873	0.1759	0.3636	0.3816	SAMPLE							
14	0.3231	0.2281	0.5	0.4873	1.4077	0.1346	1.1313	0.1478	0.3605	0.3713	SAMPLE							
5	0.2578	0.1820	0.5	0.4008	0.7522	0.1983	0.6804	0.1326	0.2873	0.2923	SAMPLE							
6	0.2729	0.1927	0.5	0.4009	1.0191	0.1389	0.5176	0.0700	0.2701	0.2773	SAMPLE							
7	0.1965	0.1387	0.5	0.3169	1.5706	0.1110	1.3251	0.1407	0.3268	0.3415	SAMPLE							
8	0.1597	0.1128	0.5	0.2652	1.5728	0.1064	1.3238	0.1343	0.3128	0.3280	SAMPLE							
9	0.1981	0.1399	0.5	0.3200	1.3494	0.1222	1.1200	0.1320	0.3117	0.3232	SAMPLE							
10	0.2554	0.1803	0.5	0.4013	1.6659	0.1163	1.3638	0.1523	0.3647	0.3799	SAMPLE							
11	0.2662	0.1880	0.5	0.4201	1.9844	0.1088	1.4987	0.1552	0.4029	0.4231	SAMPLE							
12	0.1909	0.1348	0.5	0.3060	1.4521	0.1121	1.3276	0.1427	0.3059	0.3191	SAMPLE							
13	0.1851	0.1293	0.5	0.2986	1.3648	0.1188	1.1387	0.1302	0.3059	0.3179	SAMPLE							
14	0.1632	0.1152	0.5	0.2891	1.6883	0.1019	1.4553	0.1408	0.3201	0.3373	SAMPLE							
15	0.1630	0.1151	0.5	0.2656	0.9254	0.1395	0.8700	0.1183	0.2466	0.2531	SAMPLE							
16	0.1873	0.1322	0.5	0.3022	1.8558	0.0983	1.6382	0.1524	0.3385	0.3577	SAMPLE							
17	0.2369	0.1672	0.5	0.3631	1.1377	0.1318	0.9943	0.1272	0.2853	0.2940	SAMPLE							
18	0.2585	0.1825	0.5	0.3854	1.6910	0.0973	0.6396	0.0583	0.3022	0.3223	SAMPLE							
19	0.1923	0.1357	0.5	0.3093	1.5829	0.1081	1.3960	0.1442	0.3206	0.3355	SAMPLE							
20	0.2138	0.1510	0.5	0.3386	0.3189	0.3494	0.2902	0.1010	0.2175	0.2184	SAMPLE							
21	0.1730	0.1222	0.5	0.2760	0.2646	0.3463	0.2784	0.0959	0.1787	0.1796	MB			49.4%				
22	0.2488	0.1757	0.5	0.3968	0.5284	0.2658	0.3876	0.1022	0.2753	0.2753	DUP	232395020.1				75.4011	92.2%	
23	5.3566	3.7818	0.5	8.1705	69.5230	0.0774	5.7280	0.3624	8.6216	10.5427	MS	232395020.1				8.0164	75.5%	
24	0.3937	0.2779	0.5	0.7006	6.0485	0.1003	4.1807	0.3911	1.1092	1.1885	LCS							

SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine
232395001	1C	90	14	181	7/15/2009 8:45	7/15/2009 10:15	Protean
232395002	5B	120	29	331	7/15/2009 8:48	7/15/2009 10:48	Protean
232395003	5C	90	31	237	7/15/2009 8:48	7/15/2009 10:18	Protean
232395004	5D	120	16	280	7/15/2009 8:48	7/15/2009 10:48	Protean
232395005	11B	90	29	130	7/16/2009 16:55	7/16/2009 18:25	Protean
232395006	11B	380	116	487	7/15/2009 12:06	7/15/2009 18:26	Protean
232395007	7B	90	15	154	7/15/2009 8:48	7/15/2009 10:18	Protean
232395008	7C	90	13	142	7/15/2009 8:48	7/15/2009 10:18	Protean
232395009	7D	90	15	135	7/15/2009 8:49	7/15/2009 10:19	Protean
232395010	8A	90	17	178	7/15/2009 8:49	7/15/2009 10:19	Protean
232395011	8C	90	27	186	7/15/2009 8:49	7/15/2009 10:19	Protean
232395012	9A	90	10	158	7/15/2009 8:49	7/15/2009 10:19	Protean
232395013	9C	90	14	132	7/15/2009 8:49	7/15/2009 10:19	Protean
232395014	10A	90	13	156	7/15/2009 8:49	7/15/2009 10:19	Protean
232395015	10C	90	12	108	7/15/2009 8:49	7/15/2009 10:19	Protean
232395016	10D	90	13	182	7/15/2009 8:49	7/15/2009 10:51	Protean
232395017	11B	120	47	211	7/15/2009 8:51	7/15/2009 10:51	Protean
232395018	14D	390	23	400	7/15/2009 12:06	7/15/2009 18:36	Protean
232395019	11D	90	13	162	7/15/2009 8:51	7/15/2009 10:21	Protean
232395020	12B	90	8	74	7/16/2009 16:56	7/16/2009 18:26	Protean
1201875397	12C	90	13	67	7/15/2009 8:52	7/15/2009 10:22	Protean
1201875398	13A	90	9	77	7/15/2009 8:52	7/15/2009 10:22	Protean
1201875399	12D	60	17	459	7/15/2009 8:51	7/15/2009 9:51	Protean
1201875400	14D	30	3	137	7/16/2009 20:15	7/16/2009 20:45	Protean

ASSAY 13-Jul-09 14:10:55

Protocol id 8 228_REC
Time limit 180
Count limit 50000
Isotope Ba-133
Protocol date 9-Apr-07 10:03:07
Run id. 67

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	98	1	180	831	246.7	3.96		14:10:57
2	98	2	180	725	211.3	4.33	85.65	14:14:08
3	98	3	180	730	212.8	4.31	86.26	14:17:20
4	98	4	180	790	232.8	4.09	94.37	14:20:31
5	98	5	180	716	208.3	4.36	84.43	14:23:42
6	70	6	180	728	212.3	4.32	86.06	14:27:07 <i>7/16/09</i>
7	70	7	180	786	231.6	4.1	93.88	14:30:18
8	70	8	180	718	209	4.36	84.72	14:33:30
9	70	9	180	735	214.5	4.29	86.95	14:36:41
10	70	10	180	719	209.1	4.35	84.76	14:39:52
11	66	11	180	699	202.5	4.44	82.08	14:43:17
12	66	12	180	656	188.2	4.63	76.29	14:46:29
13	66	13	180	746	218.4	4.25	88.53	14:49:40
14	66	14	180	714	207.7	4.37	84.19	14:52:51
15	66	15	180	727	212	4.32	85.93	14:56:03
16	77	16	180	802	236.8	4.05	95.99	14:59:27
17	77	17	180	753	220.6	4.22	89.42	15:02:39
18	77	18	180	753	220.5	4.22	89.38	15:05:50
19	77	19	180	623	177.2	4.8	71.83	15:09:01
20	77	20	180	752	220.1	4.23	89.22	15:12:13
21	60	21	180	770	226.3	4.16	91.73	15:15:37
22	60	22	180	725	211.4	4.33	85.69	15:18:49 <i>7/16/09</i>
23	60	23	180	624	177.5	4.79	71.95	15:22:00
24	60	24	180	645	184.6	4.68	74.83	15:25:11
25	60	25	180	643	184.1	4.69	74.63	15:28:23 <i>7/16/09</i>

END OF ASSAY

ASSAY 16-Jul-09 13:12:01

Protocol id 9 228_REC2
Time limit 180
Count limit 50000
Isotope Ba-133
Protocol date 9-Apr-07 10:02:22
Run id. 70

POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR	% RECOVERY	COUNT TIME
1	72	1	180	664	191	4.59		13:12:08
2	72	2	180	579	162.7	5.05	85.18	13:15:20
3	72	3	180	663	190.6	4.6	99.79	13:18:31
4	72	4	180	607	171.9	4.88	90.00	13:21:42

END OF ASSAY

THORIUM

Radiochemistry Batch Checklist, Rev 9

Batch# 883418 Product: Th Date: 7/24/09

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.	✓		
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 714 829
Batch non-conformances second reviewed and disposition verified to be completed.	✓		NCR 714 829
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: Jap ML 7/24/09

Secondary Review Performed By: E. [Signature] 7/24/09

7/29
KSR

Thorium (Ac-227 Tracer) Que Sheet

08-JUL-09

Batch #: 883418 Analyst: CXM2 First Client Due Date: 29-JUL-09 Internal Due Date: 18-JUL-09
 Tracer Isotope: Ac-227 Tracer Code: 0387-B-102 Expiration Date: 7/31/09 Vol: 0.1mL Ac-227 Separation Date/Time: 7/15/09 22:20
 LCS Isotope: Th-230 LCS Code: A2796-J Expiration Date: 4/13/10 Vol: 0.1mL
 Spike Isotope: Th-230 Spike Code: A2796-J Expiration Date: 4/13/10 Vol: 0.1mL
 Prep Date: 7/13/09 Initials: CMM Pipet ID: 297-058 Balance ID: 5040272 Witness: me 7/13/09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (1/1/D)	Th #
232395001-1	SA200-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	24-JUN-09	1	31	0.256	174
232395002-1	RSA06-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	24-JUN-09	2	32	0.251	175
232395003-1	SA51-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	24-JUN-09	3	33	0.258	176
232395004-1	SA43-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	24-JUN-09	4	34	0.253	177
232395005-1	SA43009-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	24-JUN-09	5	35	0.261	178
232395006-1	SA40-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	24-JUN-09	6	36	0.262	179
232395007-1	SA201-10B	SAMPLE		.05 pCi/g	SOIL	KERR003	24-JUN-09	7	37	0.253	180
232395008-1	SA201-28B	SAMPLE		.05 pCi/g	SOIL	KERR003	24-JUN-09	8	38	0.253	181
232395009-1	SA201009-28B	SAMPLE		.05 pCi/g	SOIL	KERR003	24-JUN-09	9	39	0.250	182
232395010-1	SA202-10B	SAMPLE		.05 pCi/g	SOIL	KERR003	25-JUN-09	10	40	0.252	183
232395011-1	SA202-28B	SAMPLE		.05 pCi/g	SOIL	KERR003	25-JUN-09	11	41	0.258	184
232395012-1	RSA13-10B	SAMPLE		.05 pCi/g	SOIL	KERR003	25-JUN-09	12	42	0.259	185
232395013-1	RSA13-20B	SAMPLE		.05 pCi/g	SOIL	KERR003	25-JUN-09	13	43	0.255	186
232395014-1	RSA13-32B	SAMPLE		.05 pCi/g	SOIL	KERR003	25-JUN-09	14	44	0.258	187
232395015-1	SA188-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	25-JUN-09	15	45	0.255	188
232395016-1	SA172-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	26-JUN-09	16	46	0.254	189
232395017-1	SA41-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	26-JUN-09	17	47	0.259	190
232395018-1	SA44-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	26-JUN-09	18	48	0.262	191
232395019-1	SA42-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	26-JUN-09	19	49	0.258	192
232395020-1	SA106-0.5B	SAMPLE		.05 pCi/g	SOIL	KERR003	30-JUN-09	20	50	0.250	193
1201876621-1	MB for batch 883418	MB		.05 pCi/g	SOIL	QC ACCOUNT		21	51	0.256	194
1201876622-1	SA106-0.5B(232395020DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	30-JUN-09	22	52	0.256	195
1201876623-1	SA106-0.5B(232395020MS)	MS		.05 pCi/g	SOIL	QC ACCOUNT	30-JUN-09	23	53	0.255	196
1201876624-1	LCS for batch 883418	LCS		.05 pCi/g	SOIL	QC ACCOUNT		24	54	0.261	197

Choose SOP Used: GL-RAD-A-038
 Solid Sample Dissolution by: LEACH & DIGESTION Data Reviewed By: JOB-M-J-7/24/09
 Circle One
 GL-RAD-A-045
 GL-RAD-A-043
 GL-RAD-A-032
 GEL Laboratories LLC, Radiochemistry Division

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395001_TH
SAMPLE QTY: 0.256 G

DETECTOR NUMBER :74435
AVERAGE %EFFICIENCY :26.8178
% YIELD : 90.509

COUNT DATE:21-JUL-2009 14:59:57
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

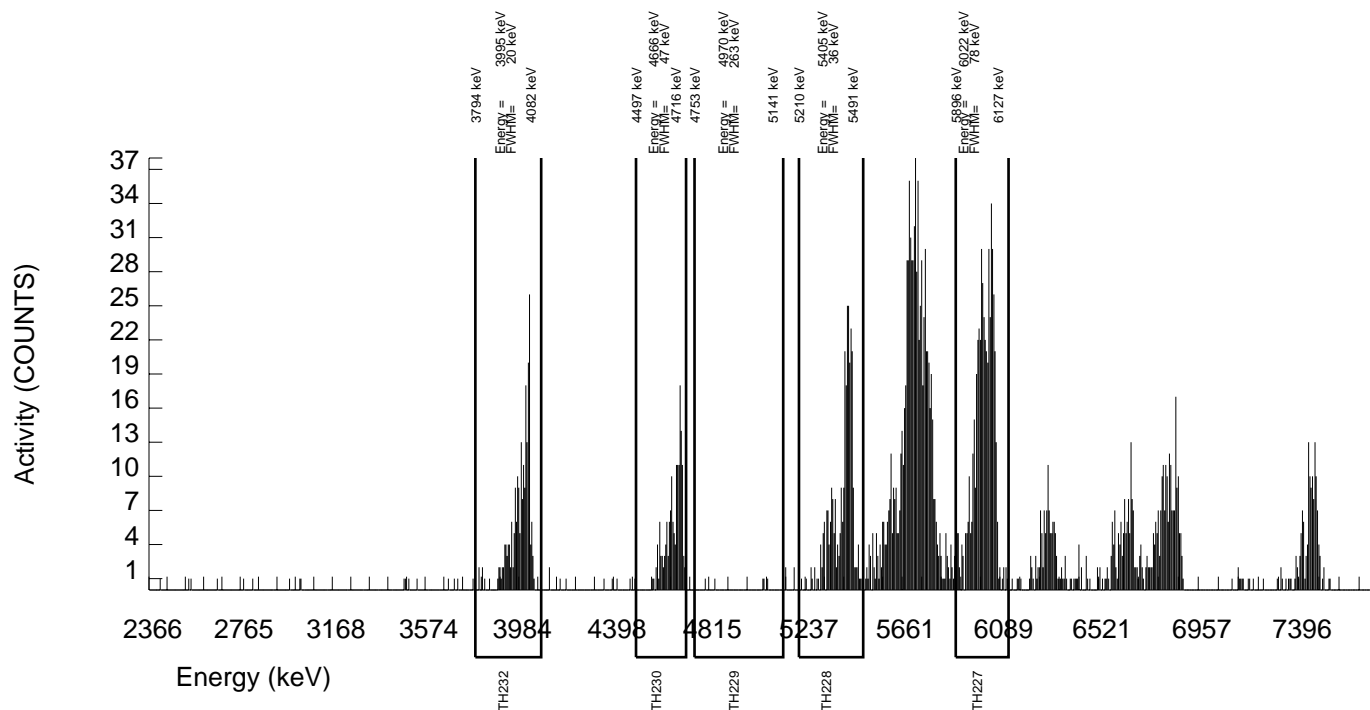
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.360E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.55418 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B177.CNF;109
BKG DATE : 19-JUL-2009
EFF FILE : W177.CNF;33
CAL DATE : 22-JUN-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	522.000	519.000	3.000	1.7321	68.10000	6.91E+00	7.25E-01	1.47E-01	5.36E-02	5.98E-01
TH-228	5363.000	293.000	288.000	5.000	2.2361	99.94000	2.10E+00	2.77E-01	9.78E-02	3.80E-02	2.47E-01
TH229	4900.000	5.000	4.000	1.000	1.0000	99.52000	2.91E-02	3.50E-02	5.57E-02	1.69E-02	3.50E-02
TH-230	4625.000	159.000	157.000	2.000	1.4142	100.0000	1.14E+00	1.93E-01	6.94E-02	2.38E-02	1.80E-01
TH-232	3972.000	221.000	220.000	1.000	1.0000	100.0000	1.59E+00	2.32E-01	5.55E-02	1.69E-02	2.12E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395002_TH
SAMPLE QTY: 0.251 G

DETECTOR NUMBER :74436
AVERAGE %EFFICIENCY :25.5683
% YIELD : 93.469

COUNT DATE:21-JUL-2009 14:59:59
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

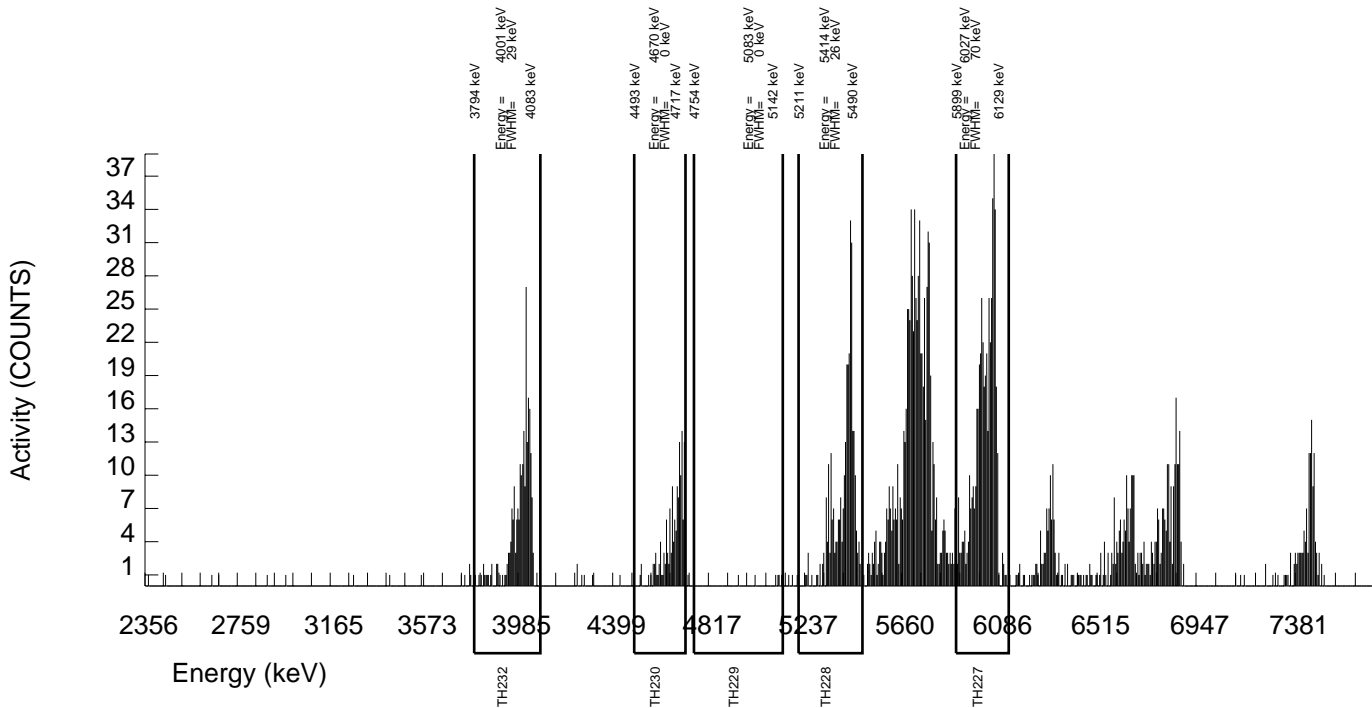
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.527E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.67040 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B178.CNF;109
BKG DATE : 19-JUL-2009
EFF FILE : W178.CNF;33
CAL DATE : 22-JUN-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	512.000	511.000	1.000	1.0000	68.10000	7.05E+00	7.42E-01	1.06E-01	3.21E-02	6.12E-01
TH-228	5363.000	309.000	298.000	11.000	3.3166	99.94000	2.25E+00	2.97E-01	1.39E-01	5.83E-02	2.65E-01
TH229	4900.000	6.000	0.000	6.000	2.4495	99.52000	0.00E+00	5.12E-02	1.09E-01	4.30E-02	5.12E-02
TH-230	4625.000	145.000	140.000	5.000	2.2361	100.0000	1.05E+00	1.91E-01	1.01E-01	3.91E-02	1.80E-01
TH-232	3972.000	227.000	225.000	2.000	1.4142	100.0000	1.69E+00	2.44E-01	7.19E-02	2.47E-02	2.23E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395003_TH
SAMPLE QTY: 0.258 G

DETECTOR NUMBER :74437
AVERAGE %EFFICIENCY :26.2236
% YIELD : 93.274

COUNT DATE:21-JUL-2009 15:00:02
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

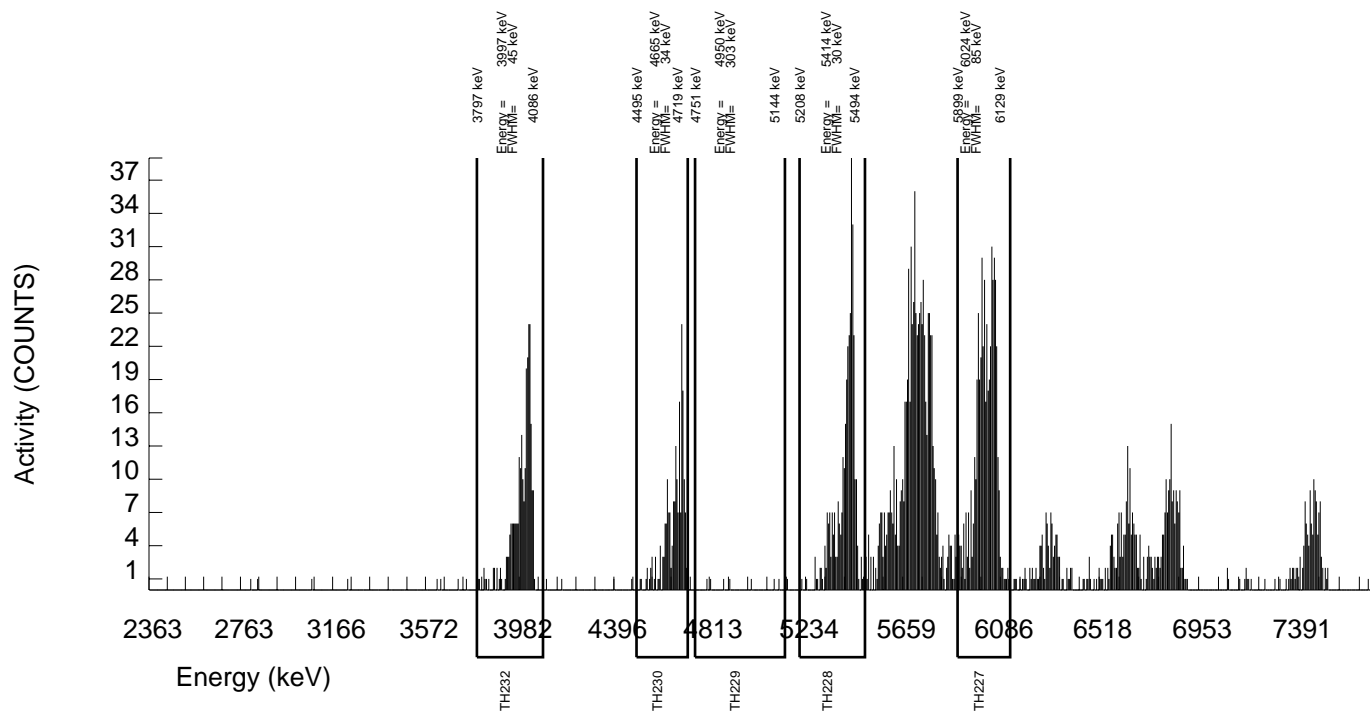
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.295E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.66273 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B179.CNF;109
BKG DATE : 19-JUL-2009
EFF FILE : W179.CNF;33
CAL DATE : 22-JUN-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	525.000	523.000	2.000	1.4142	68.10000	6.86E+00	7.16E-01	1.26E-01	4.31E-02	5.90E-01
TH-228	5363.000	343.000	324.000	19.000	4.3589	99.94000	2.33E+00	3.01E-01	1.67E-01	7.29E-02	2.68E-01
TH229	4900.000	7.000	3.000	4.000	2.0000	99.52000	2.15E-02	4.66E-02	8.83E-02	3.34E-02	4.66E-02
TH-230	4625.000	200.000	197.000	3.000	1.7321	100.0000	1.41E+00	2.16E-01	7.89E-02	2.88E-02	1.99E-01
TH-232	3972.000	263.000	262.000	1.000	1.0000	100.0000	1.87E+00	2.53E-01	5.46E-02	1.66E-02	2.27E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395004_TH
SAMPLE QTY: 0.253 G

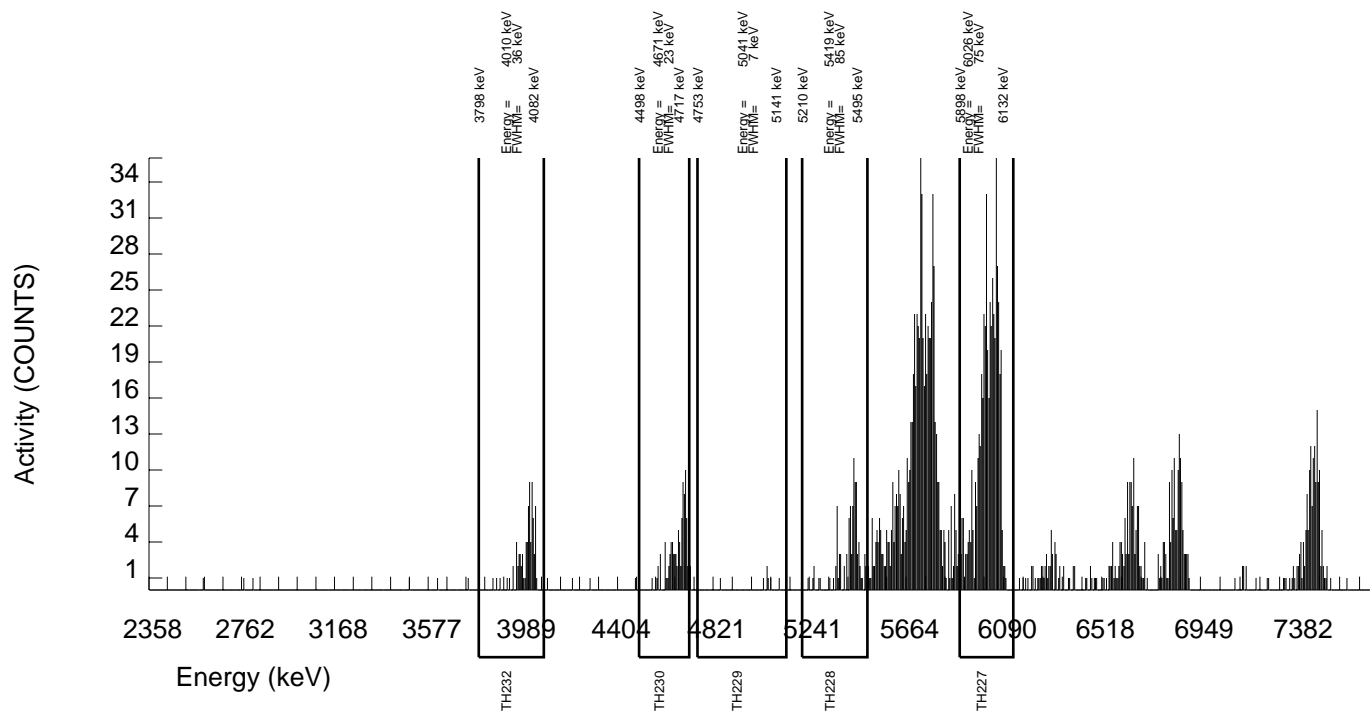
DETECTOR NUMBER :74438
AVERAGE %EFFICIENCY :25.0665
% YIELD : 92.728

COUNT DATE:21-JUL-2009 15:00:04
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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 : 3.92686 dpm RESULTS : 3.64131 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B180.CNF;111 BKG DATE : 19-JUL-2009 EFF FILE : W180.CNF;33 CAL DATE : 22-JUN-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	508.000	497.000	11.000	3.3166	68.10000	6.99E+00	7.53E-01	2.59E-01	1.09E-01	6.28E-01
TH-228	5363.000	97.000	81.000	16.000	4.0000	99.94000	6.25E-01	1.65E-01	1.67E-01	7.18E-02	1.61E-01
TH229	4900.000	7.000	2.000	5.000	2.2361	99.52000	1.54E-02	5.23E-02	1.03E-01	4.00E-02	5.23E-02
TH-230	4625.000	89.000	86.000	3.000	1.7321	100.0000	6.59E-01	1.49E-01	8.47E-02	3.09E-02	1.44E-01
TH-232	3972.000	80.000	79.000	1.000	1.0000	100.0000	6.05E-01	1.40E-01	5.86E-02	1.78E-02	1.35E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395005_TH
SAMPLE QTY: 0.261 G

DETECTOR NUMBER :74439
AVERAGE %EFFICIENCY :25.5664
% YIELD : 91.464

COUNT DATE:21-JUL-2009 15:00:06
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.200E+00

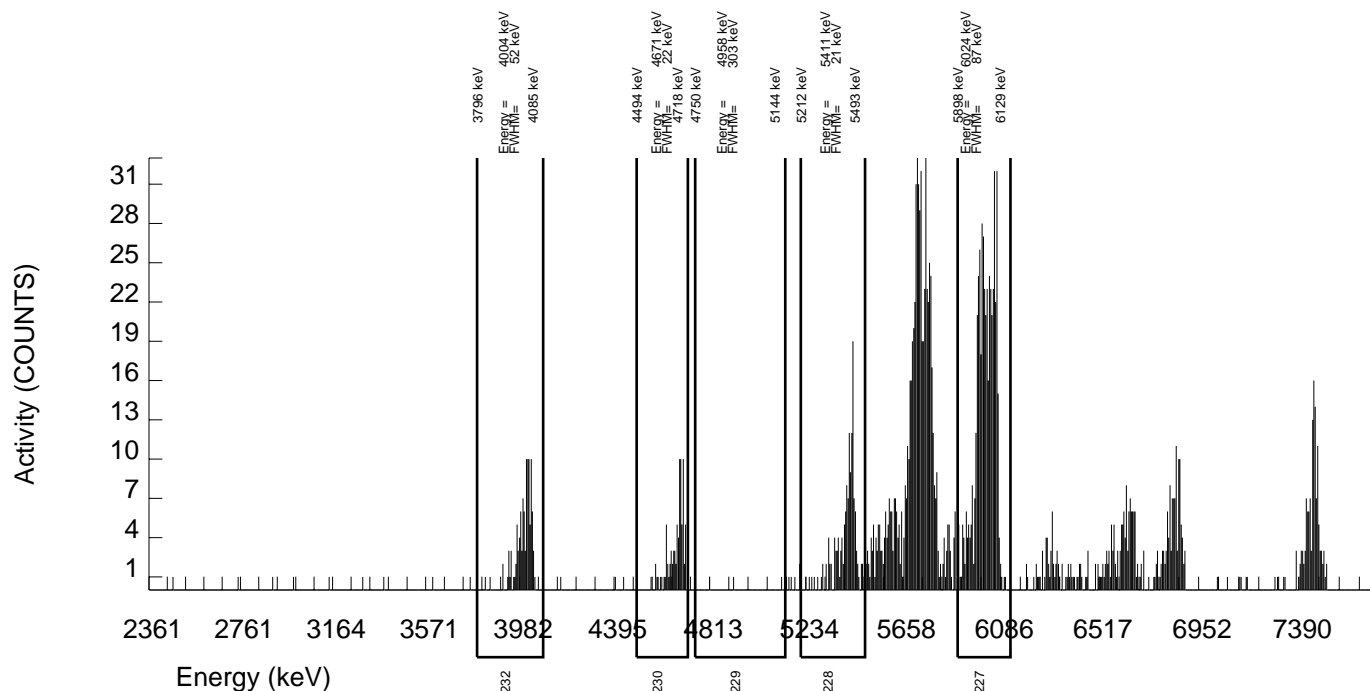
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.200E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.59167 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B181.CNF;109
BKG DATE : 19-JUL-2009
EFF FILE : W181.CNF;33
CAL DATE : 22-JUN-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	501.000	500.000	1.000	1.0000	68.10000	6.78E+00	7.18E-01	1.04E-01	3.15E-02	5.95E-01
TH-228	5363.000	145.000	137.000	8.000	2.8284	99.94000	1.02E+00	1.90E-01	1.20E-01	4.89E-02	1.80E-01
TH229	4900.000	3.000	0.000	3.000	1.7321	99.52000	0.00E+00	3.56E-02	8.20E-02	2.99E-02	3.56E-02
TH-230	4625.000	83.000	82.000	1.000	1.0000	100.0000	6.05E-01	1.37E-01	5.65E-02	1.72E-02	1.33E-01
TH-232	3972.000	108.000	107.000	1.000	1.0000	100.0000	7.90E-01	1.58E-01	5.65E-02	1.72E-02	1.51E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395006_TH
SAMPLE QTY: 0.262 G

DETECTOR NUMBER :74440
AVERAGE %EFFICIENCY :25.5841
% YIELD : 98.713

COUNT DATE:21-JUL-2009 15:00:09
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.169E+00

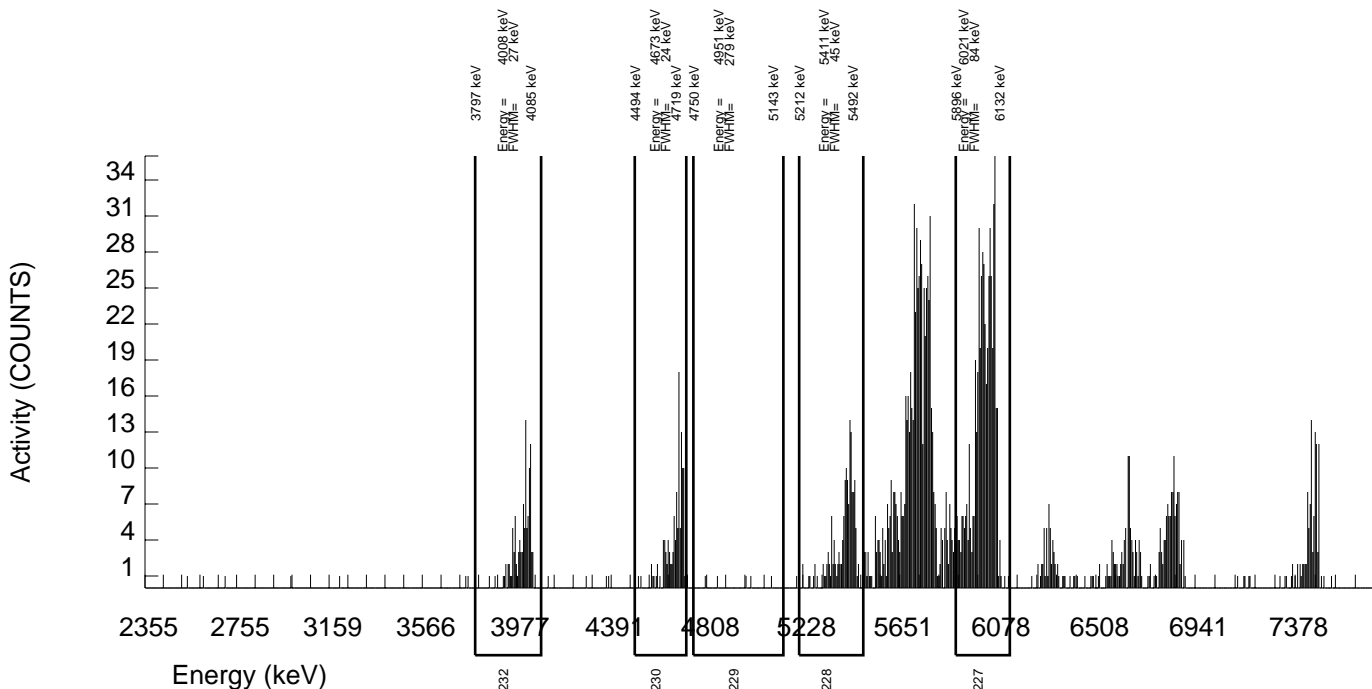
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.169E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.87633 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B182.CNF;109
BKG DATE : 19-JUL-2009
EFF FILE : W182.CNF;33
CAL DATE : 22-JUN-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	540.000	0.000	0.0000	68.10000	6.75E+00	6.95E-01	3.75E-02	0.00E+00	5.69E-01
TH-228	5363.000	149.000	142.000	7.000	2.6458	99.94000	9.73E-01	1.77E-01	1.05E-01	4.22E-02	1.68E-01
TH229	4900.000	5.000	1.000	4.000	2.0000	99.52000	6.84E-03	4.02E-02	8.42E-02	3.18E-02	4.02E-02
TH-230	4625.000	117.000	115.000	2.000	1.4142	100.0000	7.83E-01	1.53E-01	6.52E-02	2.24E-02	1.46E-01
TH-232	3972.000	107.000	106.000	1.000	1.0000	100.0000	7.22E-01	1.45E-01	5.21E-02	1.58E-02	1.39E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395007_TH
SAMPLE QTY: 0.253 G

DETECTOR NUMBER :74441
AVERAGE %EFFICIENCY :26.1606
% YIELD : 97.432

COUNT DATE:21-JUL-2009 15:00:11
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

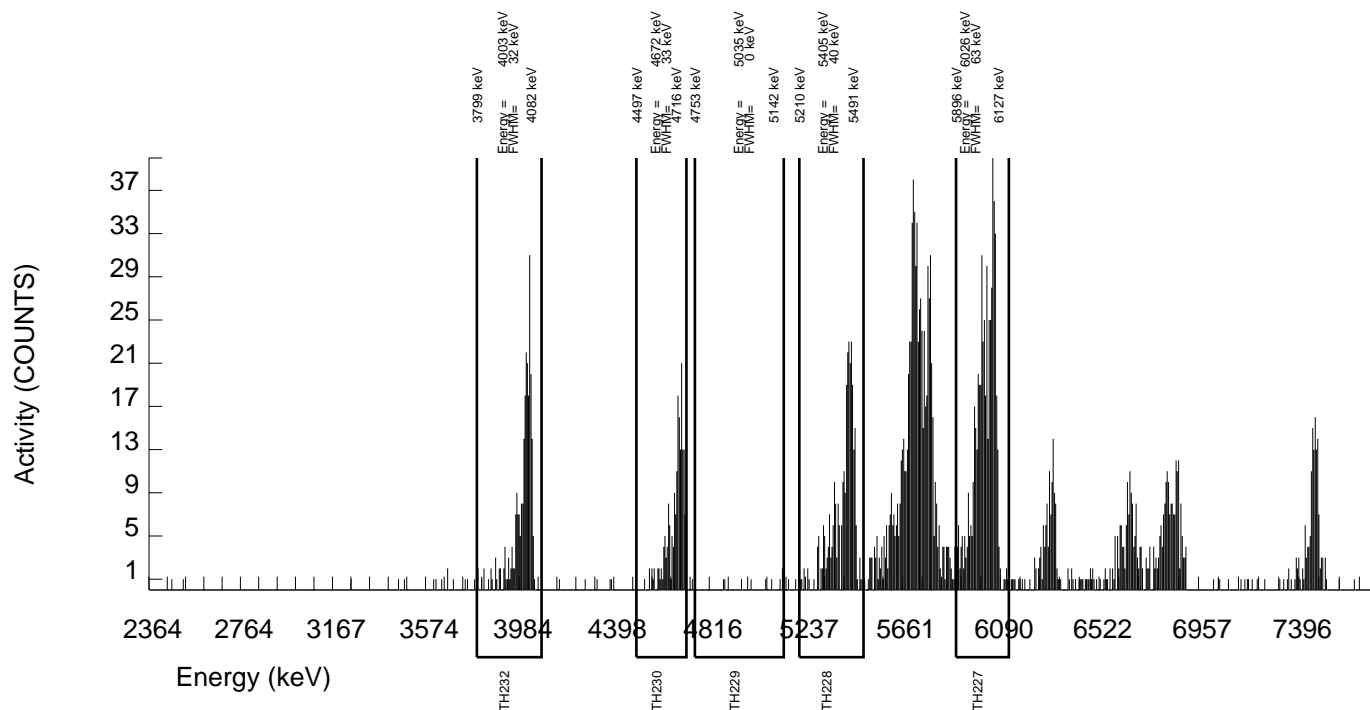
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.459E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.82600 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B183.CNF;109
BKG DATE : 19-JUL-2009
EFF FILE : W183.CNF;33
CAL DATE : 22-JUN-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	547.000	545.000	2.000	1.4142	68.10000	6.99E+00	7.21E-01	1.23E-01	4.22E-02	5.89E-01
TH-228	5363.000	300.000	292.000	8.000	2.8284	99.94000	2.05E+00	2.71E-01	1.14E-01	4.63E-02	2.42E-01
TH229	4900.000	9.000	5.000	4.000	2.0000	99.52000	3.51E-02	4.96E-02	8.64E-02	3.27E-02	4.96E-02
TH-230	4625.000	185.000	182.000	3.000	1.7321	100.0000	1.27E+00	2.02E-01	7.72E-02	2.81E-02	1.88E-01
TH-232	3972.000	254.000	253.000	1.000	1.0000	100.0000	1.77E+00	2.43E-01	5.35E-02	1.63E-02	2.19E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395008_TH
SAMPLE QTY: 0.254 G

DETECTOR NUMBER :74442
AVERAGE %EFFICIENCY :25.8363
% YIELD : 100.284

COUNT DATE:21-JUL-2009 15:00:13
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

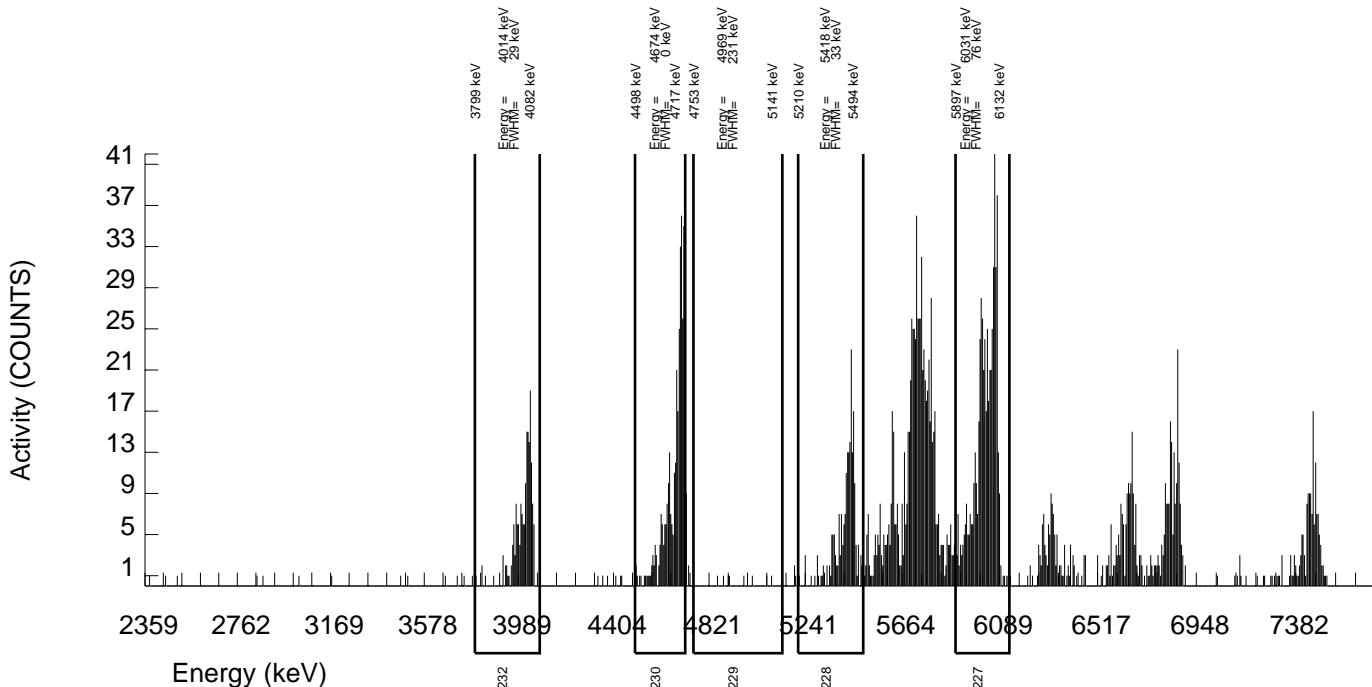
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.426E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.93801 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B184.CNF;111
BKG DATE : 19-JUL-2009
EFF FILE : W184.CNF;33
CAL DATE : 22-JUN-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	554.000	1.000	1.0000	68.10000	6.96E+00	7.13E-01	9.62E-02	2.92E-02	5.81E-01
TH-228	5363.000	205.000	194.000	11.000	3.3166	99.94000	1.34E+00	2.14E-01	1.27E-01	5.32E-02	1.98E-01
TH229	4900.000	8.000	5.000	3.000	1.7321	99.52000	3.44E-02	4.48E-02	7.61E-02	2.77E-02	4.47E-02
TH-230	4625.000	326.000	325.000	1.000	1.0000	100.0000	2.22E+00	2.76E-01	5.24E-02	1.59E-02	2.43E-01
TH-232	3972.000	179.000	177.000	2.000	1.4142	100.0000	1.21E+00	1.94E-01	6.56E-02	2.25E-02	1.80E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395009_TH
SAMPLE QTY: 0.250 G

DETECTOR NUMBER :68615
AVERAGE %EFFICIENCY :25.7763
% YIELD : 90.538

COUNT DATE:21-JUL-2009 15:00:15
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.561E+00

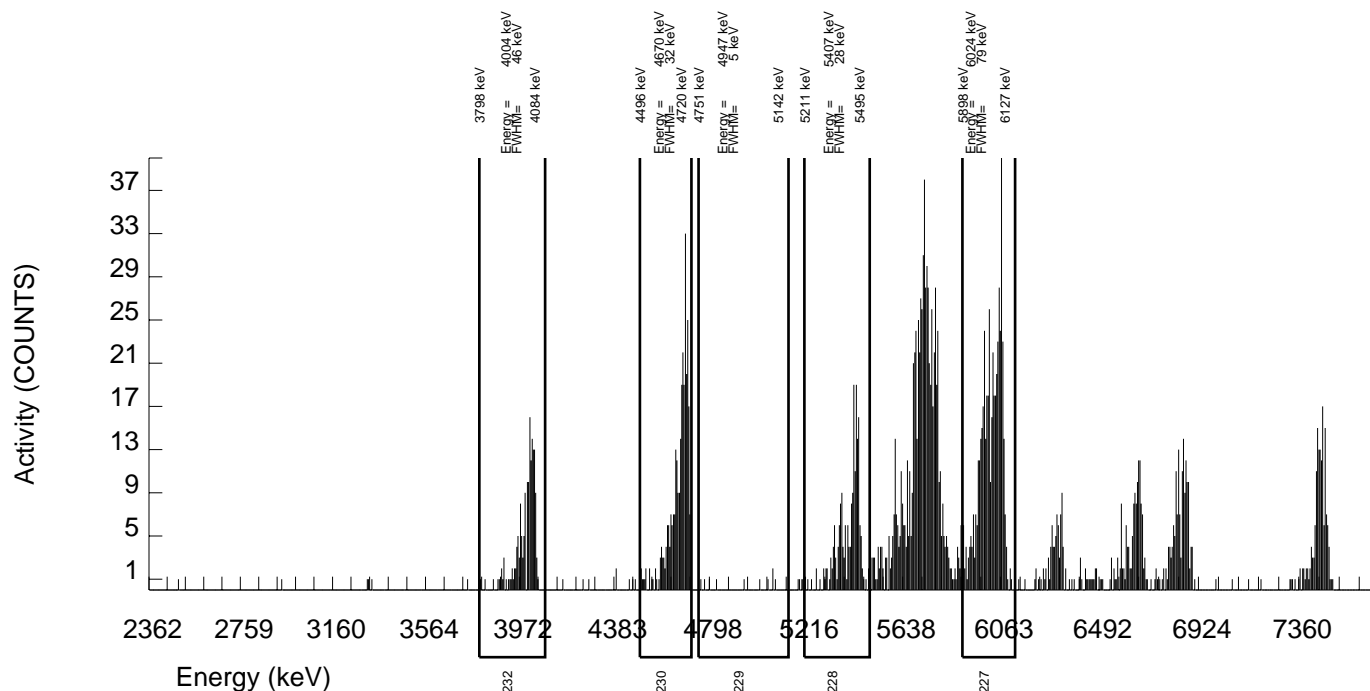
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.561E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.55531 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B185.CNF;91
BKG DATE : 19-JUL-2009
EFF FILE : W185.CNF;33
CAL DATE : 22-JUN-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	502.000	499.000	3.000	1.7321	68.10000	7.08E+00	7.54E-01	1.57E-01	5.71E-02	6.25E-01
TH-228	5363.000	201.000	198.000	3.000	1.7321	99.94000	1.54E+00	2.36E-01	8.59E-02	3.13E-02	2.18E-01
TH229	4900.000	10.000	8.000	2.000	1.4142	99.52000	6.21E-02	5.28E-02	7.43E-02	2.55E-02	5.27E-02
TH-230	4625.000	296.000	296.000	0.000	0.0000	100.0000	2.29E+00	2.94E-01	2.32E-02	0.00E+00	2.60E-01
TH-232	3972.000	166.000	165.000	1.000	1.0000	100.0000	1.27E+00	2.10E-01	5.91E-02	1.80E-02	1.96E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395010_TH
SAMPLE QTY: 0.252 G

DETECTOR NUMBER :68616
AVERAGE %EFFICIENCY :25.4593
% YIELD : 92.584

COUNT DATE:21-JUL-2009 15:00:18
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

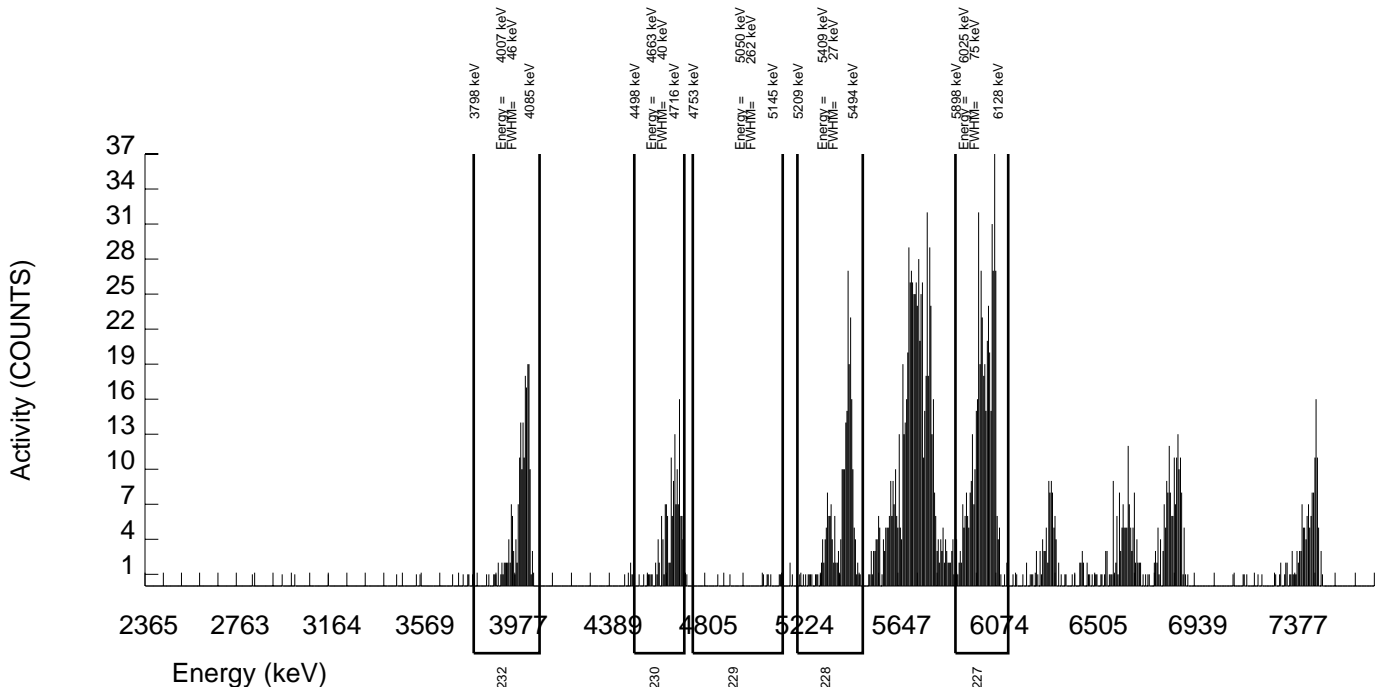
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.493E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.63566 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B186.CNF;91
BKG DATE : 19-JUL-2009
EFF FILE : W186.CNF;34
CAL DATE : 22-JUN-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	506.000	504.000	2.000	1.4142	68.10000	7.02E+00	7.44E-01	1.33E-01	4.58E-02	6.15E-01
TH-228	5363.000	247.000	243.000	4.000	2.0000	99.94000	1.85E+00	2.62E-01	9.39E-02	3.55E-02	2.37E-01
TH229	4900.000	8.000	8.000	0.000	0.0000	99.52000	6.10E-02	4.24E-02	2.29E-02	0.00E+00	4.22E-02
TH-230	4625.000	148.000	147.000	1.000	1.0000	100.0000	1.11E+00	1.93E-01	5.80E-02	1.76E-02	1.81E-01
TH-232	3972.000	204.000	203.000	1.000	1.0000	100.0000	1.54E+00	2.32E-01	5.80E-02	1.76E-02	2.13E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395011_TH
SAMPLE QTY: 0.258 G

DETECTOR NUMBER :68620
AVERAGE %EFFICIENCY :24.8701
% YIELD : 99.855

COUNT DATE:21-JUL-2009 15:00:20
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

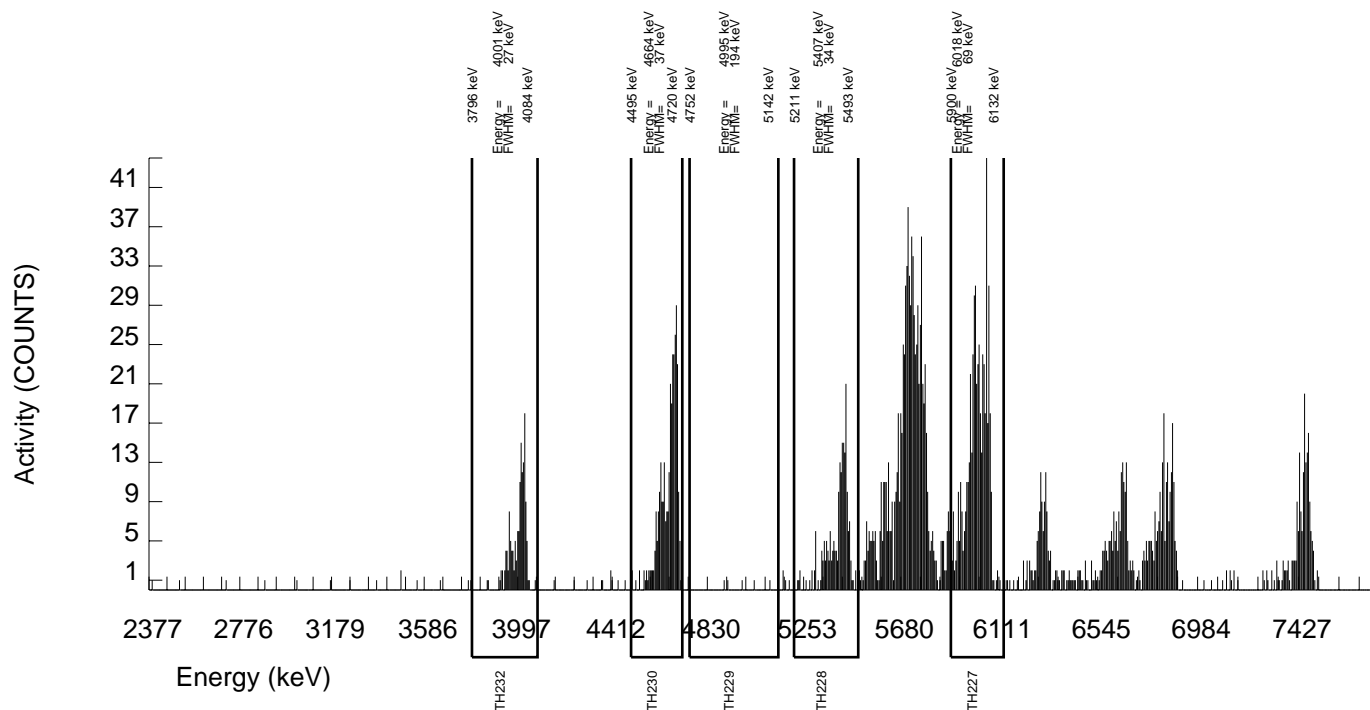
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.295E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.92117 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B187.CNF;91
BKG DATE : 19-JUL-2009
EFF FILE : W187.CNF;33
CAL DATE : 22-JUN-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	6.86E+00	7.26E-01	1.24E-01	4.25E-02	5.85E-01
TH-228	5363.000	204.000	194.000	10.000	3.1623	99.94000	1.37E+00	2.20E-01	1.25E-01	5.21E-02	2.03E-01
TH229	4900.000	5.000	-2.000	7.000	2.6458	99.52000	-1.41E-02	4.80E-02	1.08E-01	4.35E-02	4.80E-02
TH-230	4625.000	317.000	312.000	5.000	2.2361	100.0000	2.19E+00	2.83E-01	9.42E-02	3.66E-02	2.47E-01
TH-232	3972.000	150.000	148.000	2.000	1.4142	100.0000	1.04E+00	1.82E-01	6.74E-02	2.31E-02	1.70E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395012_TH
SAMPLE QTY: 0.259 G

DETECTOR NUMBER :68621
AVERAGE %EFFICIENCY :25.8624
% YIELD : 94.758

COUNT DATE:21-JUL-2009 15:00:22
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

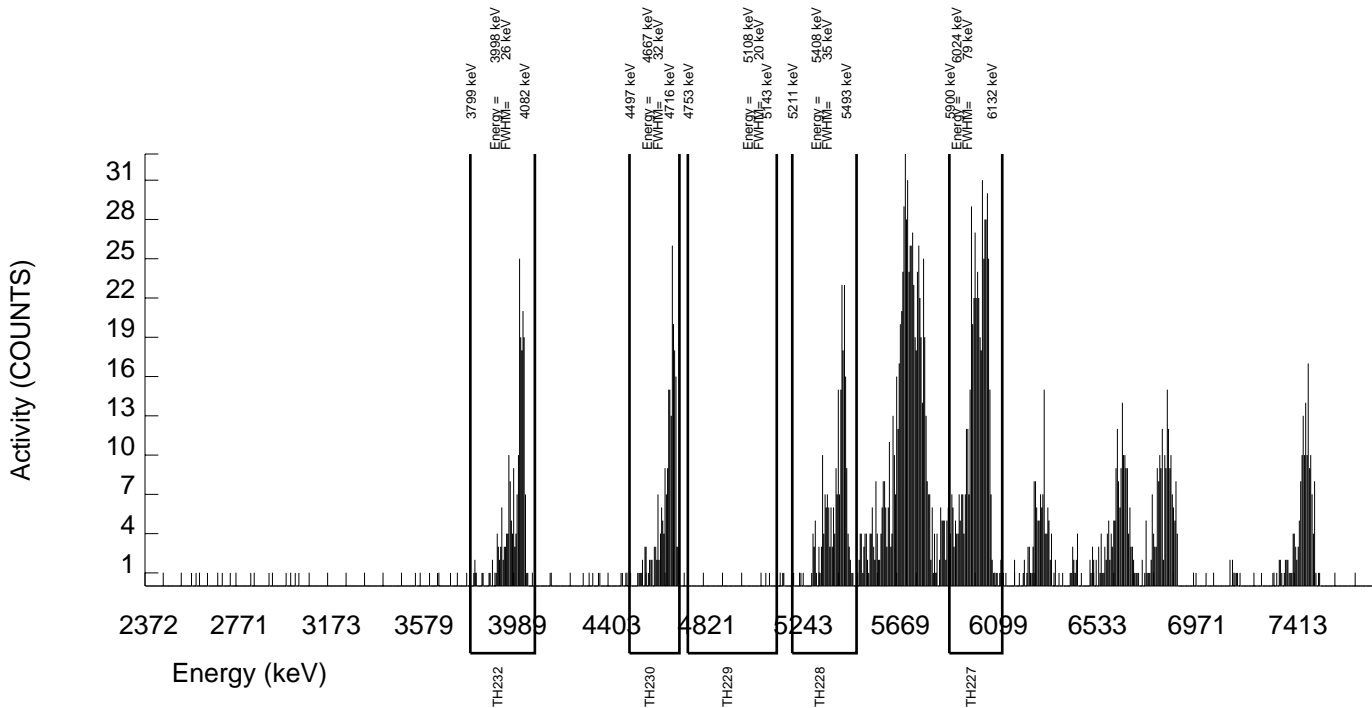
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.72101 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B188.CNF;91
BKG DATE : 19-JUL-2009
EFF FILE : W188.CNF;34
CAL DATE : 22-JUN-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	525.000	524.000	1.000	1.0000	68.10000	6.83E+00	7.12E-01	9.97E-02	3.03E-02	5.86E-01
TH-228	5363.000	239.000	230.000	9.000	3.0000	99.94000	1.64E+00	2.41E-01	1.21E-01	4.99E-02	2.20E-01
TH229	4900.000	2.000	-2.000	4.000	2.0000	99.52000	-1.43E-02	3.42E-02	8.78E-02	3.32E-02	3.42E-02
TH-230	4625.000	210.000	208.000	2.000	1.4142	100.0000	1.48E+00	2.21E-01	6.80E-02	2.33E-02	2.03E-01
TH-232	3972.000	217.000	215.000	2.000	1.4142	100.0000	1.53E+00	2.25E-01	6.80E-02	2.33E-02	2.06E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395013_TH
SAMPLE QTY: 0.255 G

DETECTOR NUMBER :68622
AVERAGE %EFFICIENCY :26.0510
% YIELD : 99.278

COUNT DATE:21-JUL-2009 15:00:25
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

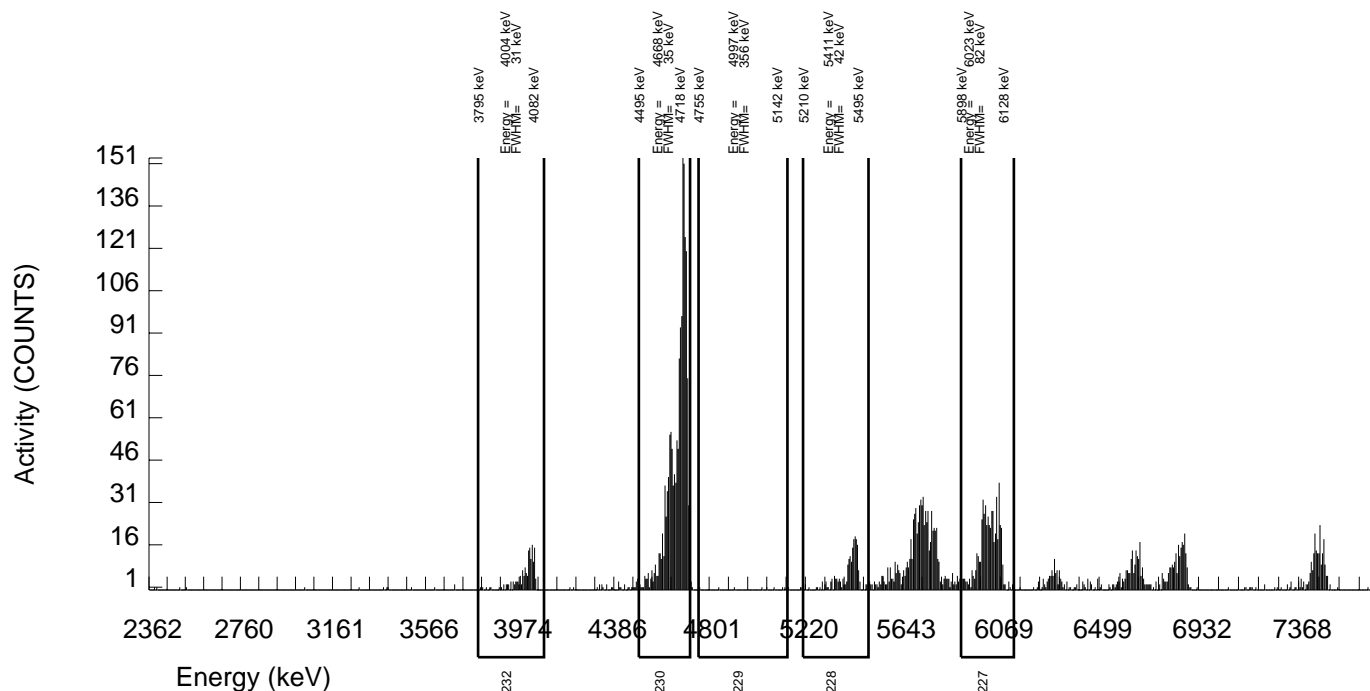
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.393E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.89852 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B189.CNF;91
BKG DATE : 19-JUL-2009
EFF FILE : W189.CNF;33
CAL DATE : 22-JUN-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	553.000	2.000	1.4142	68.10000	6.94E+00	7.25E-01	1.20E-01	4.13E-02	5.80E-01
TH-228	5363.000	203.000	196.000	7.000	2.6458	99.94000	1.35E+00	2.13E-01	1.05E-01	4.23E-02	1.95E-01
TH229	4900.000	8.000	6.000	2.000	1.4142	99.52000	4.12E-02	4.26E-02	6.57E-02	2.26E-02	4.25E-02
TH-230	4625.000	1581.000	1577.000	4.000	2.0000	100.0000	1.08E+01	8.60E-01	8.40E-02	3.18E-02	5.33E-01
TH-232	3972.000	157.000	157.000	0.000	0.0000	100.0000	1.07E+00	1.81E-01	2.05E-02	0.00E+00	1.68E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395014_TH
SAMPLE QTY: 0.258 G

DETECTOR NUMBER :68623
AVERAGE %EFFICIENCY :26.2747
% YIELD : 101.637

COUNT DATE:21-JUL-2009 15:00:27
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

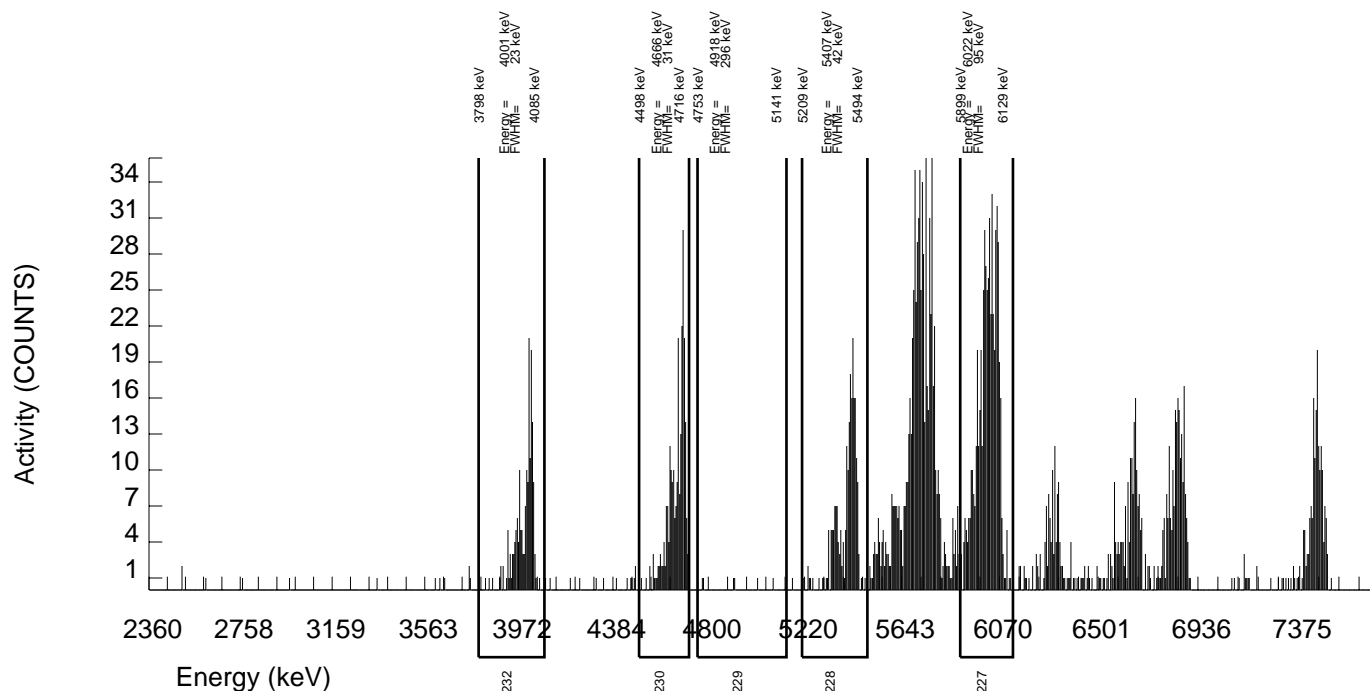
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.295E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.99115 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B190.CNF;91
BKG DATE : 19-JUL-2009
EFF FILE : W190.CNF;34
CAL DATE : 22-JUN-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	575.000	571.000	4.000	2.0000	68.10000	6.86E+00	6.98E-01	1.48E-01	5.59E-02	5.66E-01
TH-228	5363.000	225.000	213.000	12.000	3.4641	99.94000	1.40E+00	2.15E-01	1.26E-01	5.30E-02	1.99E-01
TH229	4900.000	6.000	-16.000	22.000	4.6904	99.52000	-1.05E-01	6.81E-02	1.63E-01	7.17E-02	6.81E-02
TH-230	4625.000	246.000	238.000	8.000	2.8284	100.0000	1.56E+00	2.24E-01	1.06E-01	4.30E-02	2.04E-01
TH-232	3972.000	176.000	175.000	1.000	1.0000	100.0000	1.14E+00	1.84E-01	5.00E-02	1.52E-02	1.70E-01



GEL Laboratories LLC
 ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
 SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395015_TH
 SAMPLE QTY: 0.255 G

DETECTOR NUMBER :68624
 AVERAGE %EFFICIENCY :26.2435
 % YIELD : 96.946

COUNT DATE:21-JUL-2009 15:00:29
 ELAPSED LIVE TIME(SEC): 60000.00
 ANALYST :CXM2

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

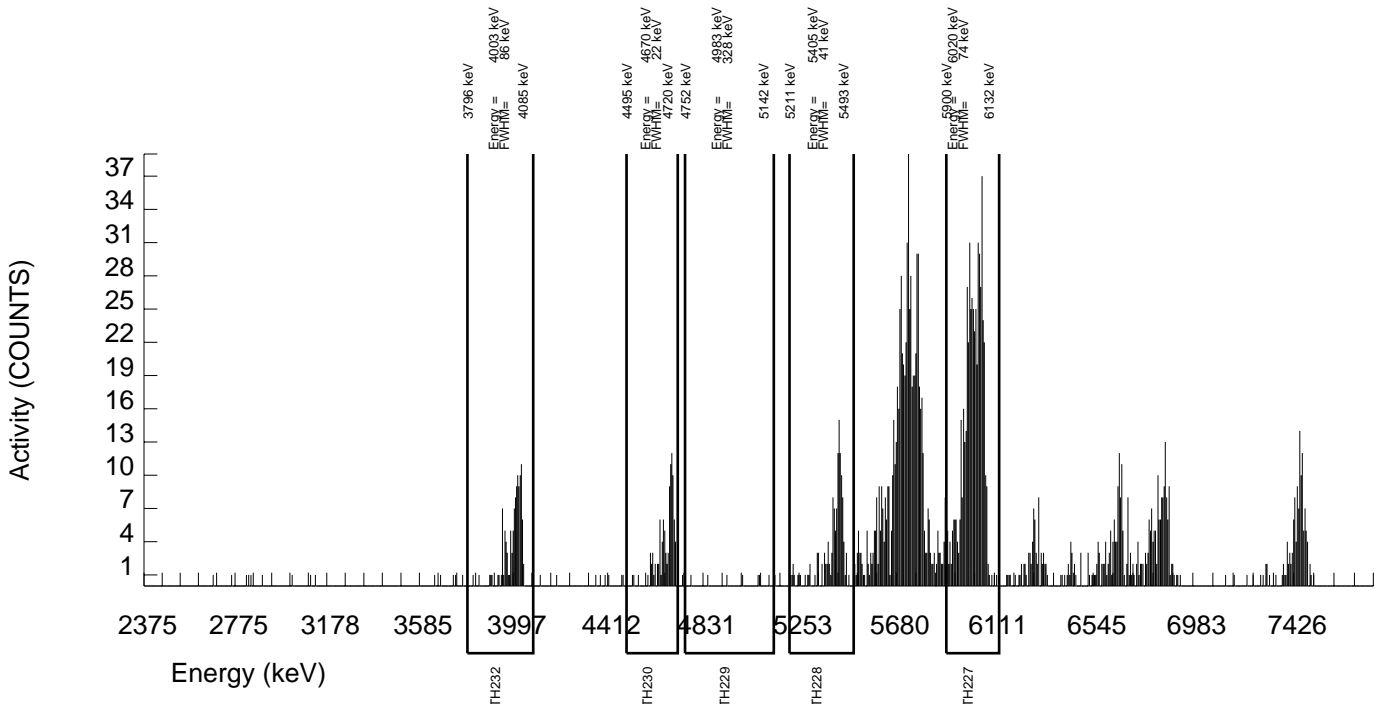
LCS/LCSD
 ID : A2796-J
 ISOTOPE : TH-230
 PCI/G : 8.393E+00

TRACER
 ID : 0387-B-102
 ISOTOPE : AC227
 NOMINAL : 3.92686 dpm
 RESULTS : 3.80694 dpm

LIB FILE : ENV_ALPHA_TH.N
 BKG FILE : B191.CNF;93
 BKG DATE : 19-JUL-2009
 EFF FILE : W191.CNF;33
 CAL DATE : 22-JUN-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	546.000	544.000	2.000	1.4142	68.10000	6.94E+00	7.29E-01	1.22E-01	4.20E-02	5.85E-01
TH-228	5363.000	132.000	125.000	7.000	2.6458	99.94000	8.74E-01	1.71E-01	1.07E-01	4.30E-02	1.62E-01
TH229	4900.000	7.000	6.000	1.000	1.0000	99.52000	4.19E-02	3.88E-02	5.34E-02	1.62E-02	3.87E-02
TH-230	4625.000	102.000	102.000	0.000	0.0000	100.0000	7.08E-01	1.44E-01	2.08E-02	0.00E+00	1.37E-01
TH-232	3972.000	115.000	113.000	2.000	1.4142	100.0000	7.85E-01	1.55E-01	6.65E-02	2.28E-02	1.47E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395016_TH
SAMPLE QTY: 0.254 G

DETECTOR NUMBER :74430
AVERAGE %EFFICIENCY :25.2859
% YIELD : 104.317

COUNT DATE:21-JUL-2009 15:00:32
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

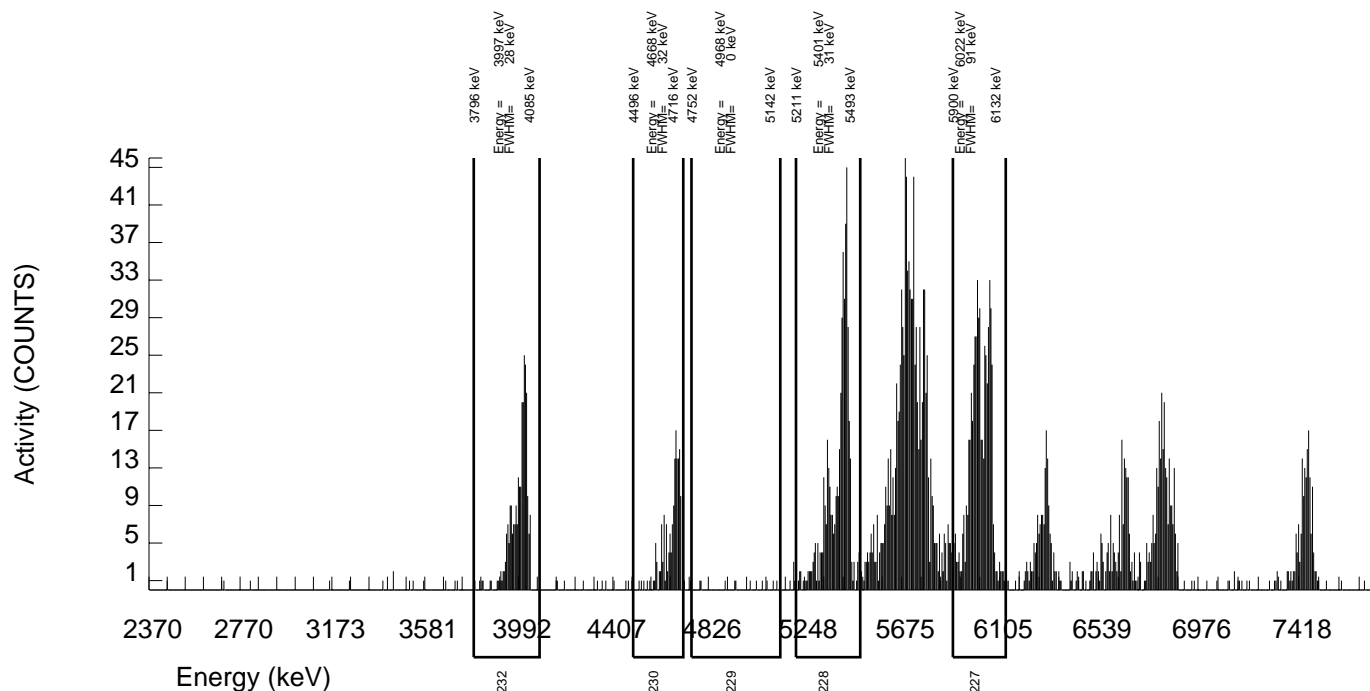
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.426E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 4.09639 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B192.CNF;91
BKG DATE : 19-JUL-2009
EFF FILE : W192.CNF;40
CAL DATE : 22-JUN-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	564.000	3.000	1.7321	68.10000	6.96E+00	7.11E-01	1.37E-01	4.98E-02	5.78E-01
TH-228	5363.000	468.000	461.000	7.000	2.6458	99.94000	3.12E+00	3.44E-01	1.04E-01	4.17E-02	2.89E-01
TH229	4900.000	12.000	7.000	5.000	2.2361	99.52000	4.73E-02	5.47E-02	9.06E-02	3.51E-02	5.46E-02
TH-230	4625.000	162.000	161.000	1.000	1.0000	100.0000	1.08E+00	1.80E-01	5.15E-02	1.56E-02	1.68E-01
TH-232	3972.000	261.000	259.000	2.000	1.4142	100.0000	1.74E+00	2.38E-01	6.44E-02	2.21E-02	2.14E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395017_TH
SAMPLE QTY: 0.259 G

DETECTOR NUMBER :68627
AVERAGE %EFFICIENCY :26.1662
% YIELD : 86.866

COUNT DATE:21-JUL-2009 15:00:35
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

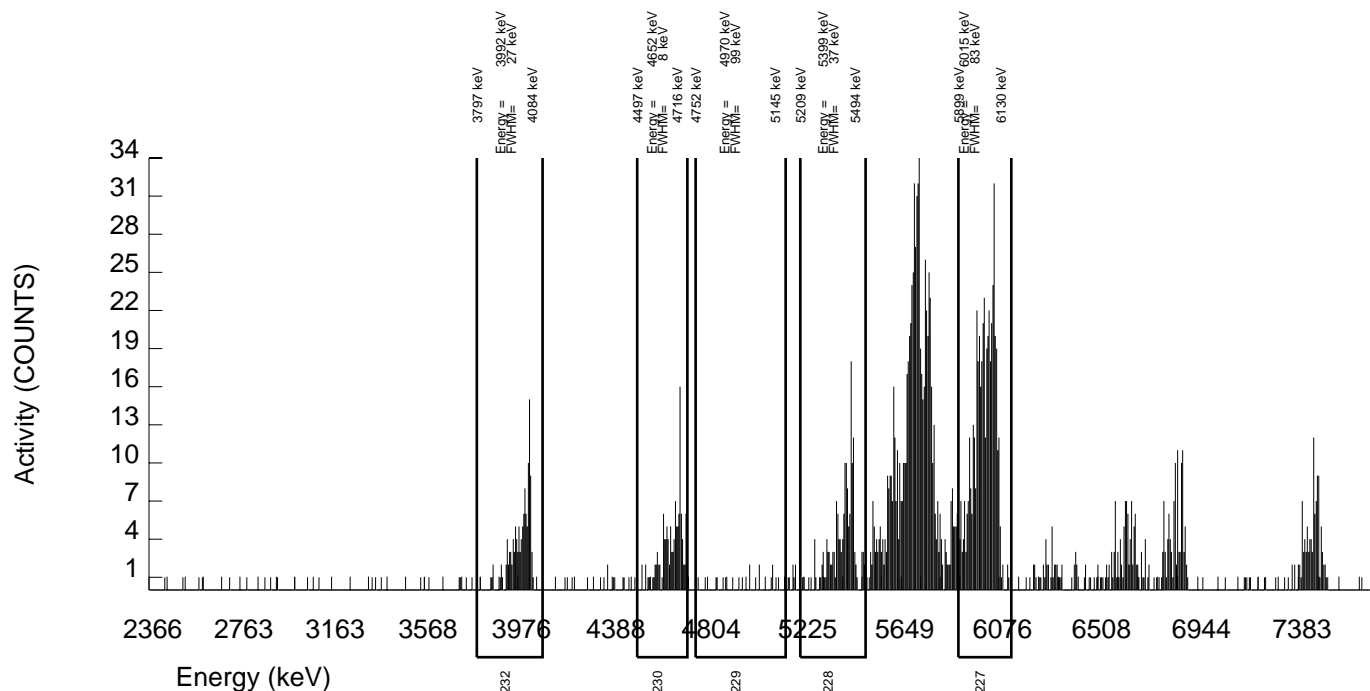
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.263E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.41111 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B193.CNF;93
BKG DATE : 19-JUL-2009
EFF FILE : W193.CNF;32
CAL DATE : 22-JUN-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	489.000	486.000	3.000	1.7321	68.10000	6.83E+00	7.45E-01	1.55E-01	5.66E-02	6.11E-01
TH-228	5363.000	166.000	152.000	14.000	3.7417	99.94000	1.17E+00	2.15E-01	1.57E-01	6.70E-02	2.03E-01
TH229	4900.000	19.000	15.000	4.000	2.0000	99.52000	1.15E-01	7.26E-02	9.46E-02	3.58E-02	7.23E-02
TH-230	4625.000	120.000	117.000	3.000	1.7321	100.0000	8.95E-01	1.75E-01	8.46E-02	3.08E-02	1.66E-01
TH-232	3972.000	124.000	124.000	0.000	0.0000	100.0000	9.49E-01	1.77E-01	2.30E-02	0.00E+00	1.67E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395018_TH
SAMPLE QTY: 0.262 G

DETECTOR NUMBER :68635
AVERAGE %EFFICIENCY :25.6886
% YIELD : 87.753

COUNT DATE:21-JUL-2009 15:00:38
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.169E+00

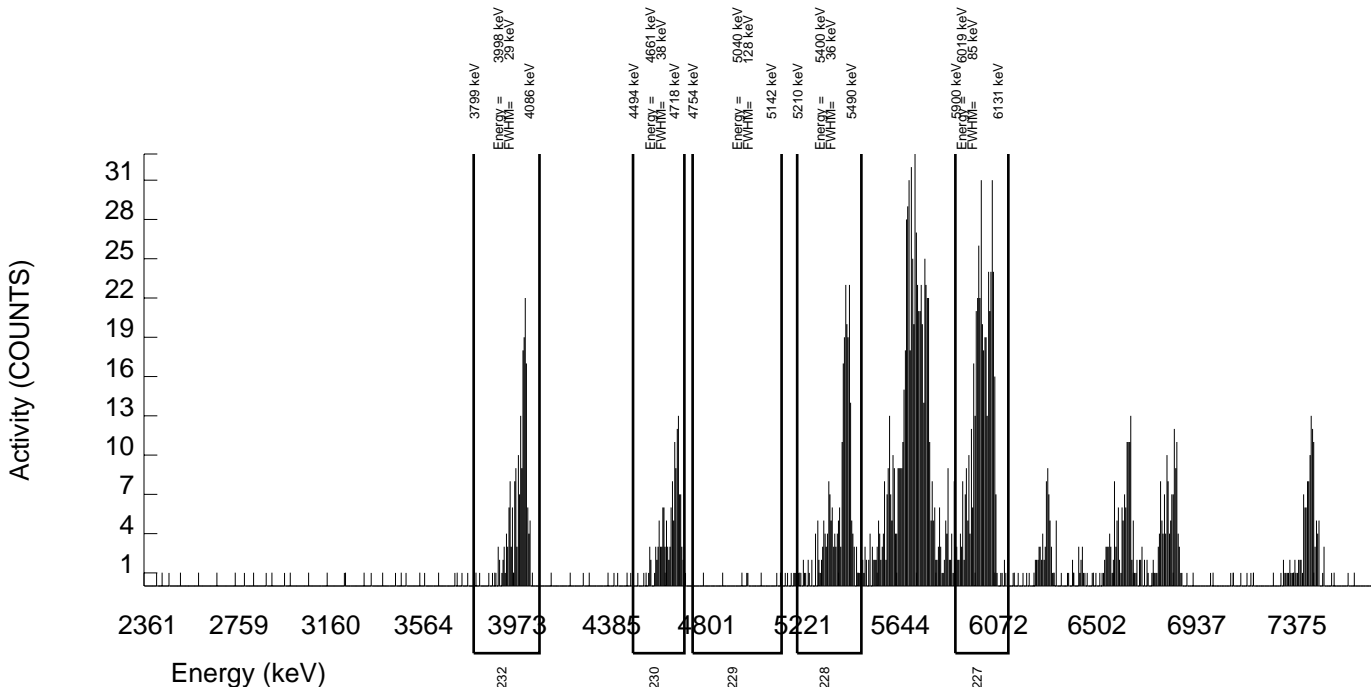
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.169E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.44594 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B194.CNF;91
BKG DATE : 19-JUL-2009
EFF FILE : W194.CNF;33
CAL DATE : 22-JUN-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	482.000	482.000	0.000	0.0000	68.10000	6.75E+00	7.23E-01	4.20E-02	0.00E+00	6.03E-01
TH-228	5363.000	263.000	252.000	11.000	3.3166	99.94000	1.93E+00	2.74E-01	1.42E-01	5.92E-02	2.49E-01
TH229	4900.000	3.000	1.000	2.000	1.4142	99.52000	7.66E-03	3.36E-02	7.34E-02	2.52E-02	3.36E-02
TH-230	4625.000	139.000	139.000	0.000	0.0000	100.0000	1.06E+00	1.87E-01	2.29E-02	0.00E+00	1.76E-01
TH-232	3972.000	200.000	199.000	1.000	1.0000	100.0000	1.52E+00	2.30E-01	5.84E-02	1.77E-02	2.12E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395019_TH
SAMPLE QTY: 0.258 G

DETECTOR NUMBER :68636
AVERAGE %EFFICIENCY :25.6559
% YIELD : 100.261

COUNT DATE:21-JUL-2009 15:00:40
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

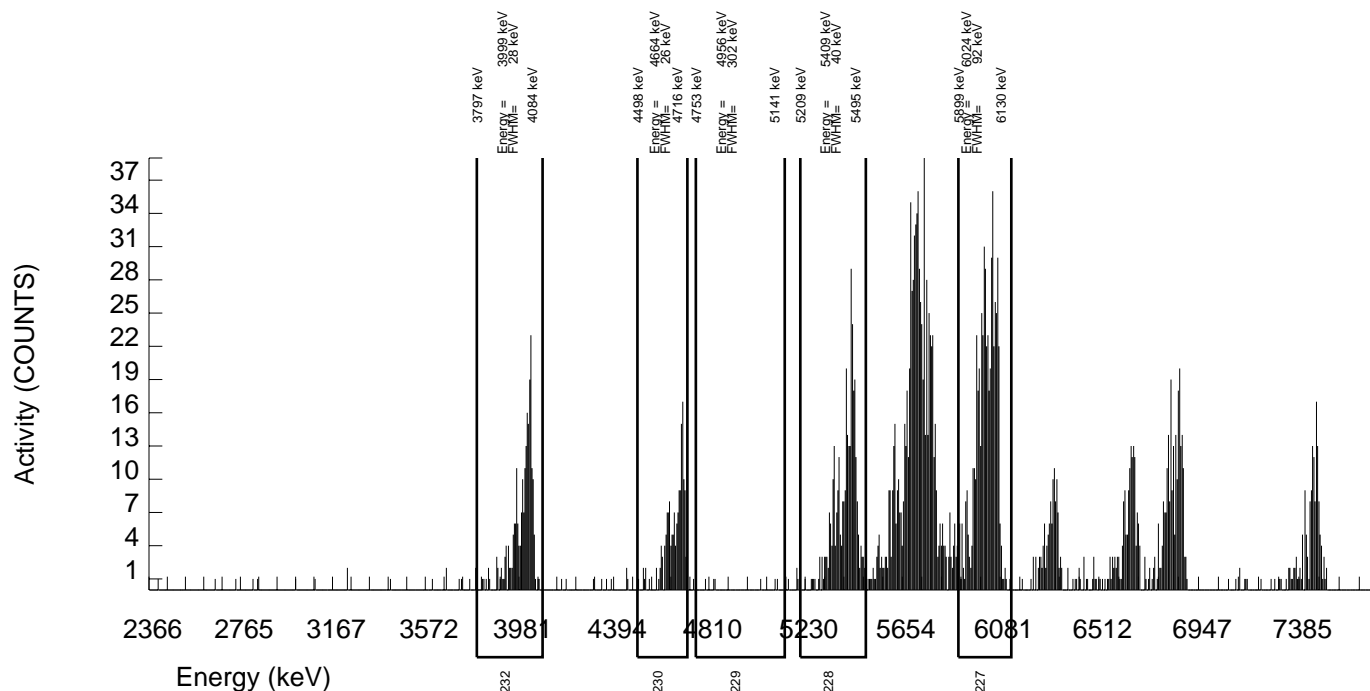
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.295E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.93711 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B195.CNF;97
BKG DATE : 19-JUL-2009
EFF FILE : W195.CNF;32
CAL DATE : 22-JUN-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	558.000	550.000	8.000	2.8284	68.10000	6.86E+00	7.22E-01	2.01E-01	8.20E-02	5.81E-01
TH-228	5363.000	320.000	306.000	14.000	3.7417	99.94000	2.09E+00	2.77E-01	1.39E-01	5.95E-02	2.45E-01
TH229	4900.000	6.000	-5.000	11.000	3.3166	99.52000	-3.41E-02	5.51E-02	1.26E-01	5.26E-02	5.51E-02
TH-230	4625.000	160.000	127.000	33.000	5.7446	100.0000	8.62E-01	1.93E-01	2.02E-01	9.07E-02	1.85E-01
TH-232	3972.000	227.000	215.000	12.000	3.4641	100.0000	1.46E+00	2.25E-01	1.30E-01	5.47E-02	2.06E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S0232395020_TH
SAMPLE QTY: 0.250 G

DETECTOR NUMBER :68637
AVERAGE %EFFICIENCY :25.7956
% YIELD : 90.653

COUNT DATE:21-JUL-2009 15:00:44
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.561E+00

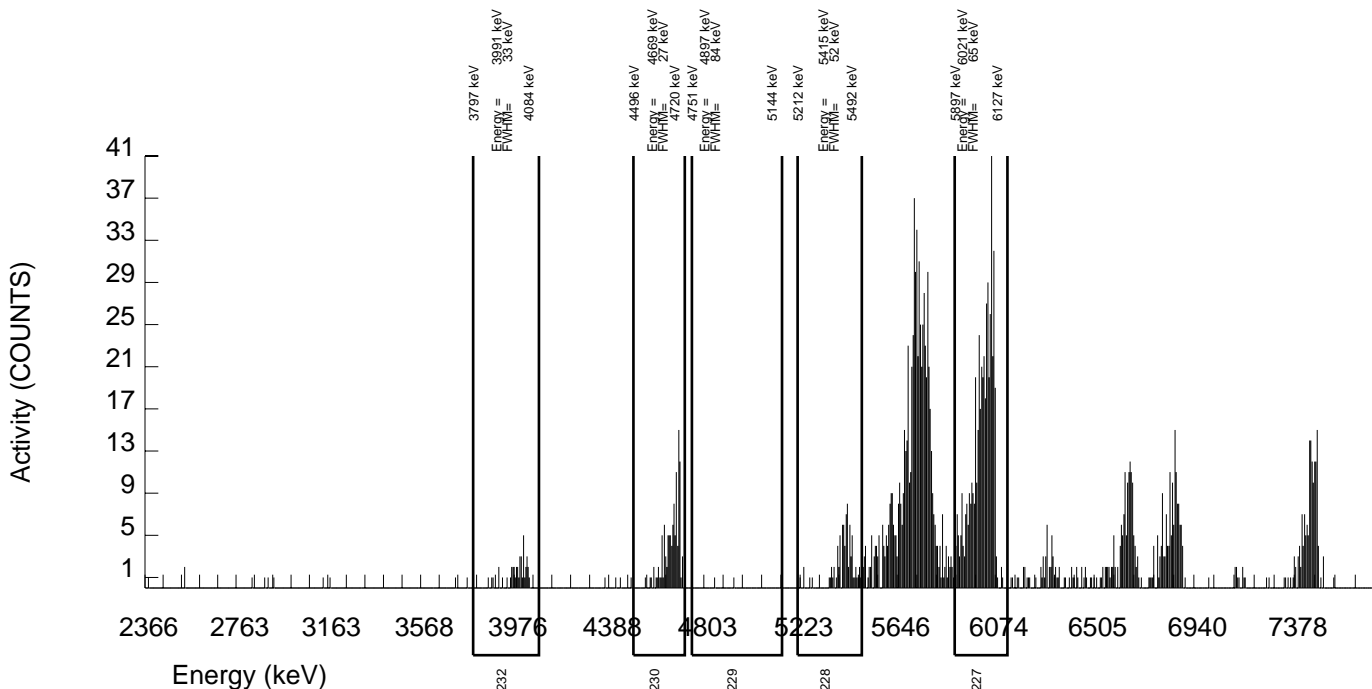
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.561E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.55982 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B196.CNF;92
BKG DATE : 19-JUL-2009
EFF FILE : W196.CNF;33
CAL DATE : 22-JUN-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	501.000	500.000	1.000	1.0000	68.10000	7.08E+00	7.51E-01	1.08E-01	3.29E-02	6.21E-01
TH-228	5363.000	80.000	68.000	12.000	3.4641	99.94000	5.27E-01	1.49E-01	1.48E-01	6.25E-02	1.46E-01
TH229	4900.000	2.000	-1.000	3.000	1.7321	99.52000	-7.74E-03	3.39E-02	8.56E-02	3.12E-02	3.39E-02
TH-230	4625.000	112.000	112.000	0.000	0.0000	100.0000	8.63E-01	1.68E-01	2.31E-02	0.00E+00	1.60E-01
TH-232	3972.000	41.000	40.000	1.000	1.0000	100.0000	3.08E-01	9.96E-02	5.90E-02	1.79E-02	9.79E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S1201876621_TH
SAMPLE QTY: 0.261 G

DETECTOR NUMBER :68620
AVERAGE %EFFICIENCY :25.0189
% YIELD : 87.124

COUNT DATE:23-JUL-2009 08:45:03
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.200E+00

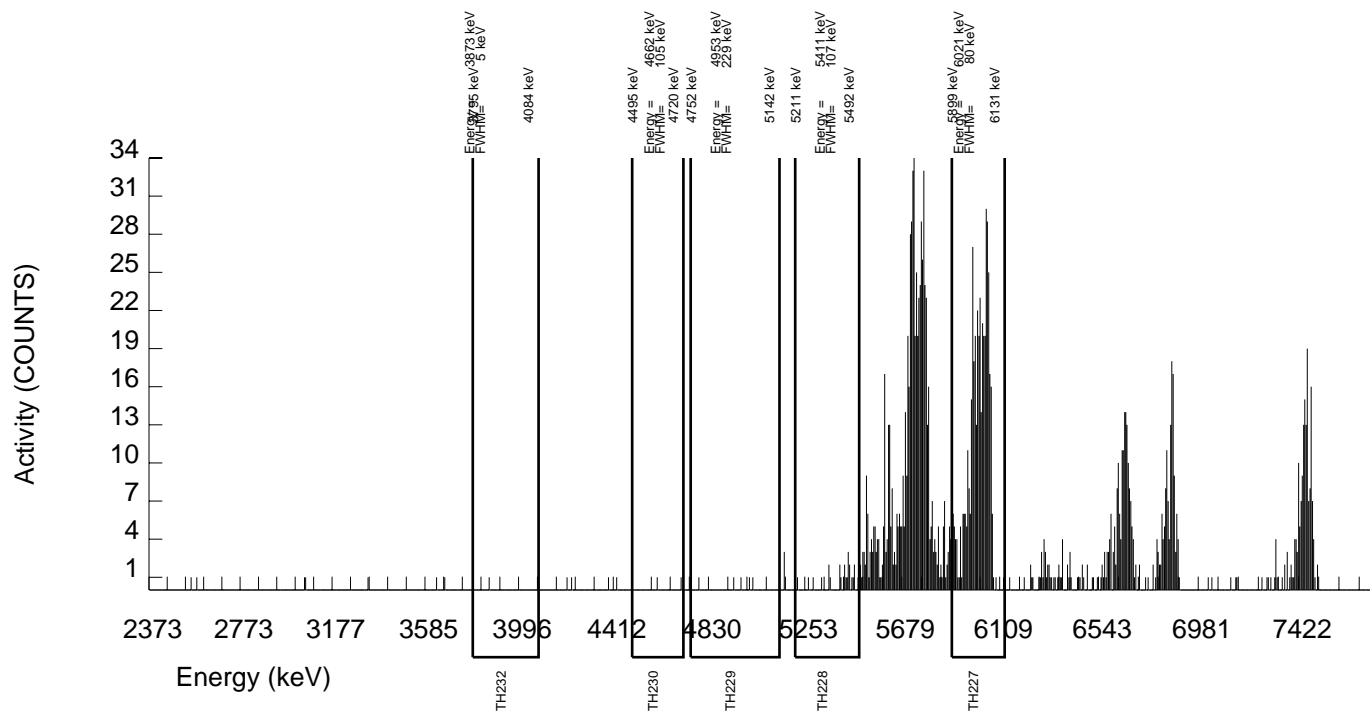
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.200E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.42123 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B187.CNF;91
BKG DATE : 19-JUL-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	439.000	437.000	2.000	1.4142	68.10000	6.78E+00	7.66E-01	1.49E-01	5.10E-02	6.38E-01
TH-228	5363.000	24.000	14.000	10.000	3.1623	99.94000	1.12E-01	9.15E-02	1.41E-01	5.87E-02	9.12E-02
TH229	4900.000	5.000	-2.000	7.000	2.6458	99.52000	-1.59E-02	5.40E-02	1.22E-01	4.90E-02	5.40E-02
TH-230	4625.000	2.000	-3.000	5.000	2.2361	100.0000	-2.38E-02	4.11E-02	1.06E-01	4.12E-02	4.11E-02
TH-232	3972.000	1.000	-1.000	2.000	1.4142	100.0000	-7.92E-03	2.69E-02	7.59E-02	2.60E-02	2.69E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S1201876622_TH
SAMPLE QTY: 0.256 G

DETECTOR NUMBER :78905
AVERAGE %EFFICIENCY :25.4238
% YIELD : 91.365

COUNT DATE:21-JUL-2009 17:11:20
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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

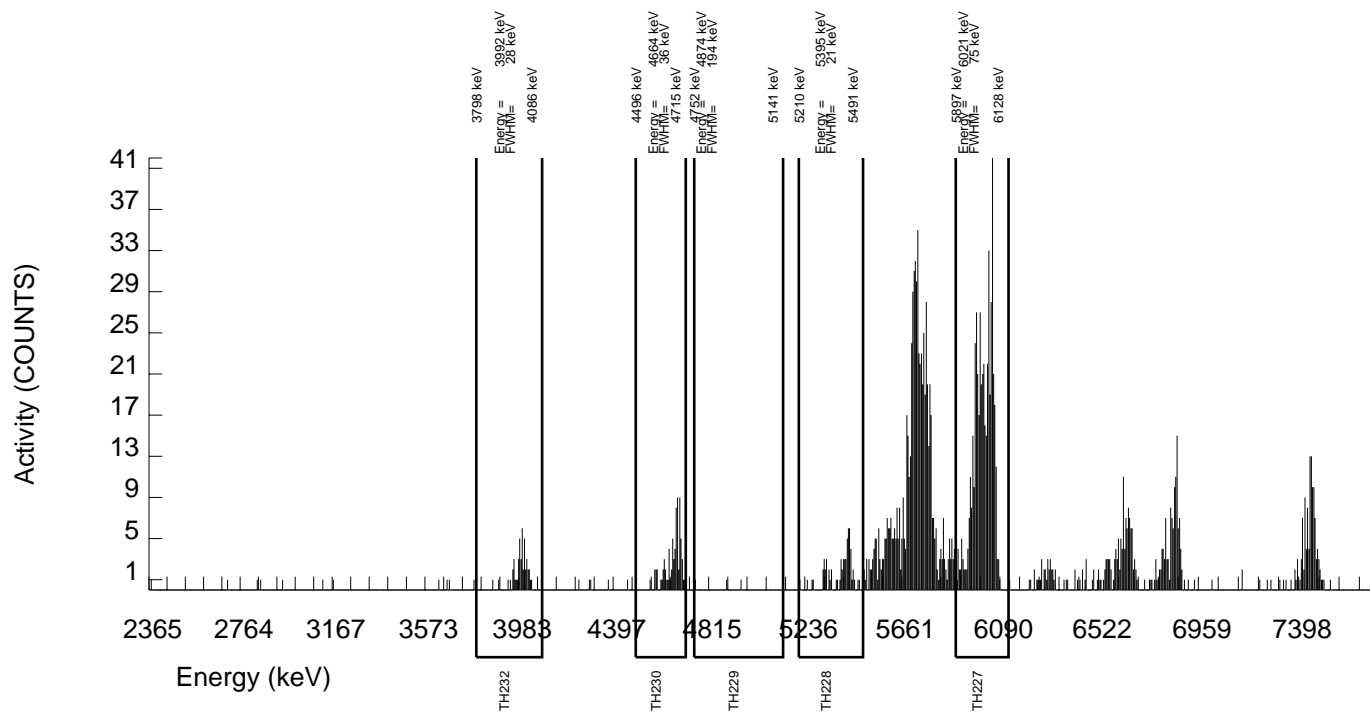
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/G : 8.360E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92686 dpm
RESULTS : 3.58779 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B203.CNF;37
BKG DATE : 19-JUL-2009
EFF FILE : W203.CNF;29
CAL DATE : 22-JUN-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	496.000	495.000	1.000	1.0000	68.10000	6.91E+00	7.36E-01	1.07E-01	3.25E-02	6.10E-01
TH-228	5363.000	63.000	61.000	2.000	1.4142	99.94000	4.65E-01	1.24E-01	7.31E-02	2.51E-02	1.21E-01
TH229	4900.000	3.000	-4.000	7.000	2.6458	99.52000	-3.04E-02	4.72E-02	1.17E-01	4.68E-02	4.72E-02
TH-230	4625.000	75.000	71.000	4.000	2.0000	100.0000	5.38E-01	1.36E-01	9.32E-02	3.52E-02	1.32E-01
TH-232	3972.000	48.000	48.000	0.000	0.0000	100.0000	3.64E-01	1.05E-01	2.27E-02	0.00E+00	1.03E-01



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418
SAMPLE DATE : 15-JUL-2009 22:20:00

SAMPLE ID : S1201876623_TH
SAMPLE QTY: 0.255 G

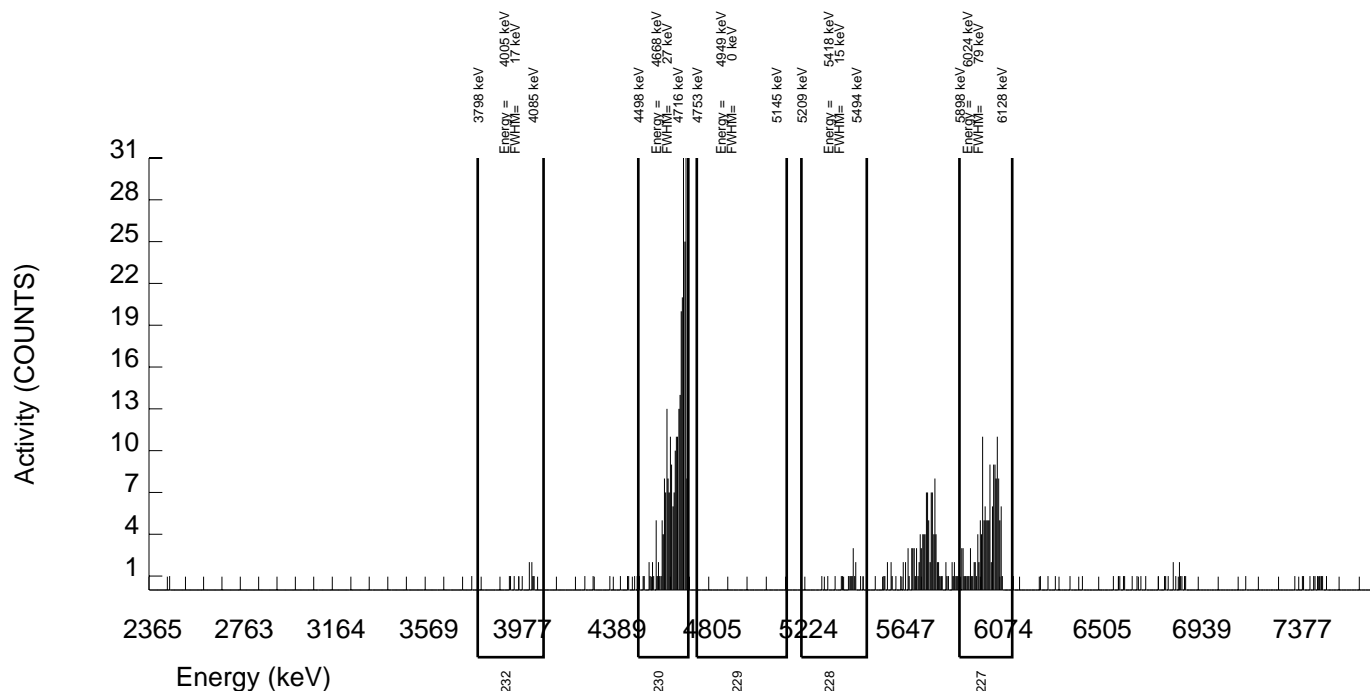
DETECTOR NUMBER :68616
AVERAGE %EFFICIENCY :25.4593
% YIELD : 97.017

COUNT DATE:17-JUL-2009 13:33:08
ELAPSED LIVE TIME(SEC): 14400.00
ANALYST :CXM2

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 : 3.92691 dpm RESULTS : 3.80978 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B186.CNF;89 BKG DATE : 12-JUL-2009 EFF FILE : W186.CNF;34 CAL DATE : 22-JUN-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	149.000	148.760	0.240	0.4899	68.10000	6.94E+00	1.19E+00	2.24E-01	4.18E-02	1.12E+00
TH-228	5363.000	17.000	15.080	1.920	1.3856	99.94000	4.50E-01	2.46E-01	2.41E-01	7.58E-02	2.45E-01
TH229	4900.000	0.000	0.000	0.000	0.0000	99.52000	0.00E+00	5.87E-02	8.98E-02	0.00E+00	5.87E-02
TH-230	4625.000	301.000	300.520	0.480	0.6928	100.0000	8.96E+00	1.15E+00	1.65E-01	3.78E-02	1.01E+00
TH-232	3972.000	11.000	11.000	0.000	0.0000	100.0000	3.28E-01	1.95E-01	8.94E-02	0.00E+00	1.94E-01

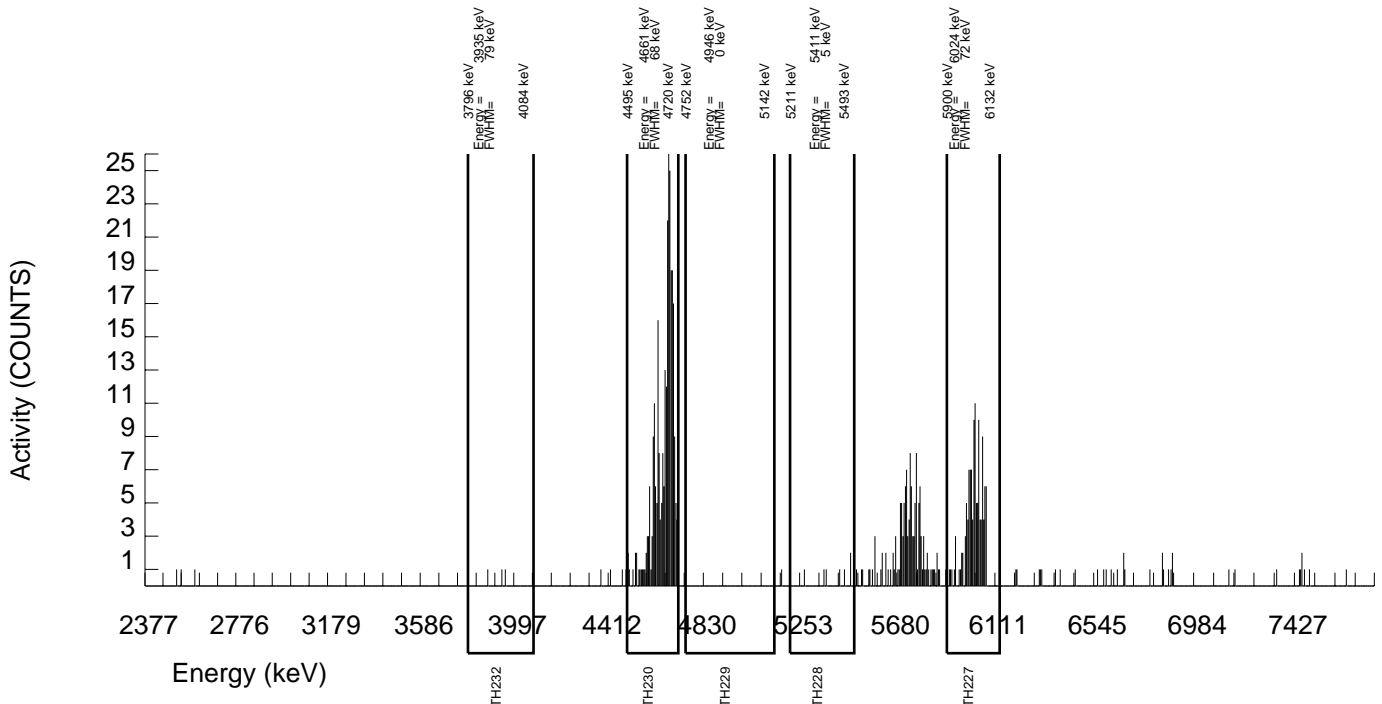


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 883418 SAMPLE DATE : 15-JUL-2009 22:20:00		SAMPLE ID : S1201876624_TH SAMPLE QTY: 0.261 G	
DETECTOR NUMBER :68620 AVERAGE %EFFICIENCY :24.8701 % YIELD : 83.132		COUNT DATE:17-JUL-2009 13:33:12 ELAPSED LIVE TIME(SEC): 14400.00 ANALYST :CXM2	
MS/MSD ID : A2796-J ISOTOPE : TH-230 PCI/G : 8.200E+00	LCS/LCSD ID : A2796-J ISOTOPE : TH-230 PCI/G : 8.200E+00	TRACER ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.92691 dpm RESULTS : 3.26454 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B187.CNF;89 BKG DATE : 12-JUL-2009 EFF FILE : W187.CNF;33 CAL DATE : 22-JUN-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	125.000	124.520	0.480	0.6928	68.10000	6.78E+00	1.27E+00	3.01E-01	6.91E-02	1.19E+00
TH-228	5363.000	7.000	3.880	3.120	1.7664	99.94000	1.35E-01	1.90E-01	3.30E-01	1.13E-01	1.90E-01
TH229	4900.000	0.000	-1.440	1.440	1.2000	99.52000	-5.03E-02	7.95E-02	2.58E-01	7.68E-02	7.95E-02
TH-230	4625.000	282.000	281.040	0.960	0.9798	100.0000	9.77E+00	1.30E+00	2.29E-01	6.24E-02	1.15E+00
TH-232	3972.000	3.000	2.040	0.960	0.9798	100.0000	7.10E-02	1.23E-01	2.29E-01	6.24E-02	1.23E-01



Radiochemistry Batch Checklist, Rev 9

Batch# 888 328 Product: Th Date: 7/29/07

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.		✓	NCR 716 082
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.		✓	NCR 716082
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.			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 716082
Batch non-conformances second reviewed and disposition verified to be completed.			NCR 716082
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: Jocelyn - 7/29/07

Secondary Review Performed By: Att Caldwell 7/29/07

7/29
NCR

Thorium (Ac-227 Tracer) Que Sheet

27-JUL-09

Batch #: 888328 Analyst: CXM2 First Client Due Date: 29-JUL-09 Internal Due Date: 23-JUL-09
 Tracer Code: 0387-β-(02) Expiration Date: 02/31/09 Vol: 0.1 ml Ac-227 Separation Date/Time: 24 7/27/09
 LCS Code: A2296-J Expiration Date: 04/13/10 Vol: 0.1 ml
 Spike Code: A2296-J Expiration Date: 04/13/10 Vol: 0.1 ml
 Prep Date: 02/27/09 Initials: JAO Pipet ID: 2921057 Balance ID: 16250207

Witness: De 1/21/09

Wet/Dry

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g/μl)	Th Det #
232135001-3	M-19B	SAMPLE		.03 pCi/L	WATER	KERR003	19-JUN-09	1	1	0.600	173
232135002-3	M-34B	SAMPLE		.03 pCi/L	WATER	KERR003	19-JUN-09	2	2	0.600	175
232135004-3	M-125BDISS	SAMPLE		.03 pCi/L	WATER	KERR003	23-JUN-09	3	3	0.600	177
232135005-3	M-22AB	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUN-09	4	4	0.600	179
232135006-3	M-17AB	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUN-09	5	5	0.600	181
232135007-3	M-17ABDISS	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUN-09	6	6	0.600	183
232135008-3	M-75B	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	7	7	0.600	174
232135009-3	M-13AB	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	8	8	0.600	176
232135010-3	M-13ABDISS	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	9	9	0.600	178
232135011-3	M-13009AB	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	10	10	0.600	180
232135012-3	M-13009ABDISS	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	11	11	0.600	182
232135013-3	M-64B	SAMPLE		.03 pCi/L	WATER	KERR003	26-JUN-09	12	12	0.600	184
232135015-3	M-111AB	SAMPLE		.03 pCi/L	WATER	KERR003	29-JUN-09	13	13	0.600	185
232135016-3	EB062909-GW	SAMPLE		.03 pCi/L	WATER	KERR003	29-JUN-09	14	14	0.600	187
232135017-3	M-25B	SAMPLE		.03 pCi/L	WATER	KERR003	30-JUN-09	15	15	0.600	189
232135018-3	M-12AB	SAMPLE		.03 pCi/L	WATER	KERR003	30-JUN-09	16	16	0.600	191
232135019-3	M-12ABDISS	SAMPLE		.03 pCi/L	WATER	KERR003	30-JUN-09	17	17	0.600	193
232395021-3	EB062609-SO	SAMPLE		.03 pCi/L	WATER	KERR003	26-JUN-09	18	18	0.600	195
232727021-3	EB070109-SO1	SAMPLE		.03 pCi/L	WATER	KERR003	01-JUL-09	19	19	0.600	186
233587015-1	EB071609-SO	SAMPLE		.03 pCi/L	WATER	KERR003	16-JUL-09	20	20	0.600	188
1201888813-1	MB for batch 888328	MB		UCF pCi/L to	WATER	QC ACCOUNT		21	21	0.600	190
1201888814-3	M-125BDISS(232135004DUP)	DUP		.03 pCi/L	WATER	QC ACCOUNT	23-JUN-09	22	22	0.400	192
1201888818-3	M-125BDISS(232135004MS)	MS		.03 pCi/L	WATER	QC ACCOUNT	23-JUN-09	23	23	0.400	194
1201888822-1	LCS for batch 888328	LCS		UCF pCi/L to	WATER	QC ACCOUNT		24	24	0.600	196

Solid Sample Dissolution by: LEACH or DIGESTION

Data Reviewed By: Jacques M. S. - 7/29/09

Choose SOP Used: GL-RAD-A-038

- GL-RAD-A-045
- GL-RAD-A-043
- GL-RAD-A-032

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 888328
SAMPLE DATE : 27-JUL-2009 21:30:00

SAMPLE ID : S0232135004_TH
SAMPLE QTY: 0.600 L

DETECTOR NUMBER :74435
AVERAGE %EFFICIENCY :26.8586
% YIELD : 67.990

COUNT DATE:28-JUL-2009 11:56:16
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 3.567E+00

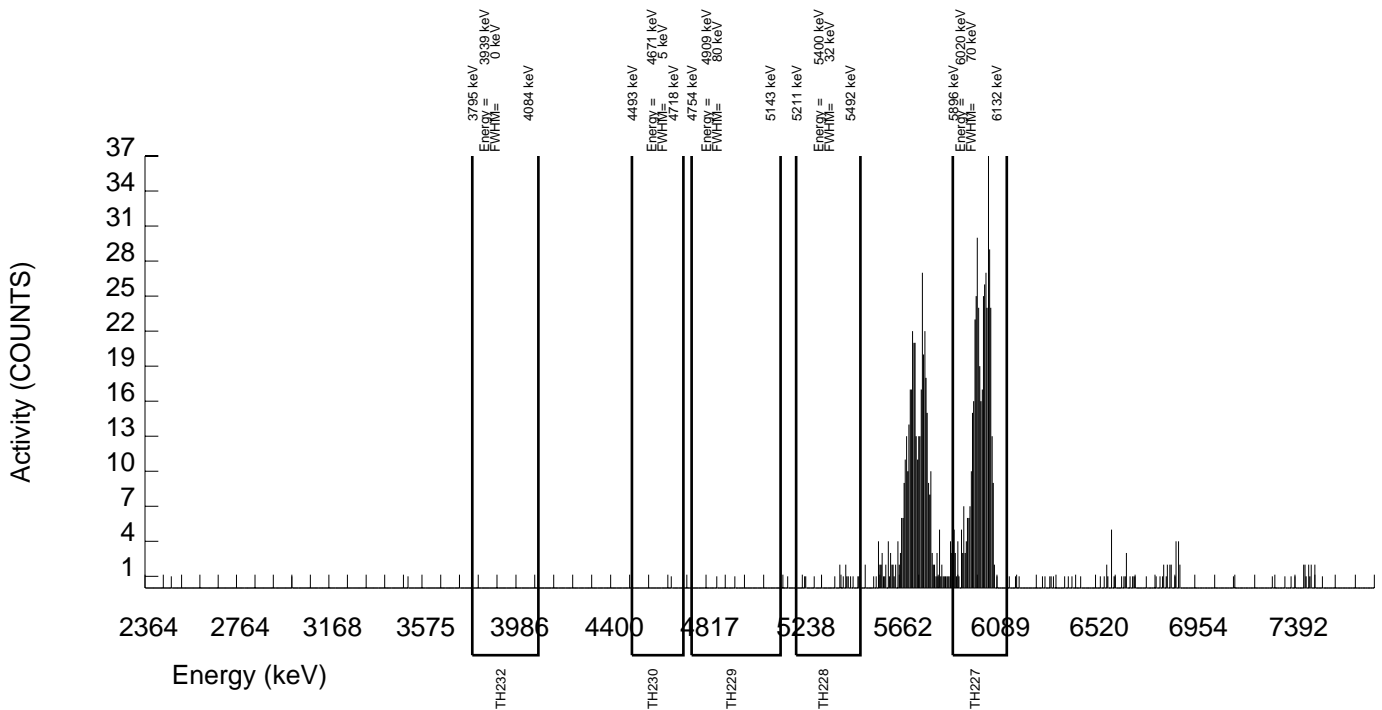
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 3.567E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92277 dpm
RESULTS : 2.66708 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B177.CNF;111
BKG DATE : 26-JUL-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/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	475.000	471.000	4.000	2.0000	68.10000	2.95E+00	3.12E-01	7.69E-02	2.91E-02	2.68E-01
TH-228	5363.000	16.000	7.000	9.000	3.0000	99.94000	2.88E-02	4.04E-02	6.98E-02	2.87E-02	4.04E-02
TH229	4900.000	2.000	0.000	2.000	1.4142	99.52000	0.00E+00	1.62E-02	3.96E-02	1.36E-02	1.62E-02
TH-230	4625.000	1.000	0.000	1.000	1.0000	100.0000	0.00E+00	1.14E-02	3.15E-02	9.56E-03	1.14E-02
TH-232	3972.000	0.000	-1.000	1.000	1.0000	100.0000	-4.11E-03	1.14E-02	3.15E-02	9.56E-03	1.14E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 888328
SAMPLE DATE : 27-JUL-2009 21:30:00

SAMPLE ID : S0232395021_TH
SAMPLE QTY: 0.600 L

DETECTOR NUMBER :68636
AVERAGE %EFFICIENCY :25.7303
% YIELD : 64.041

COUNT DATE:28-JUL-2009 11:57:12
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 3.567E+00

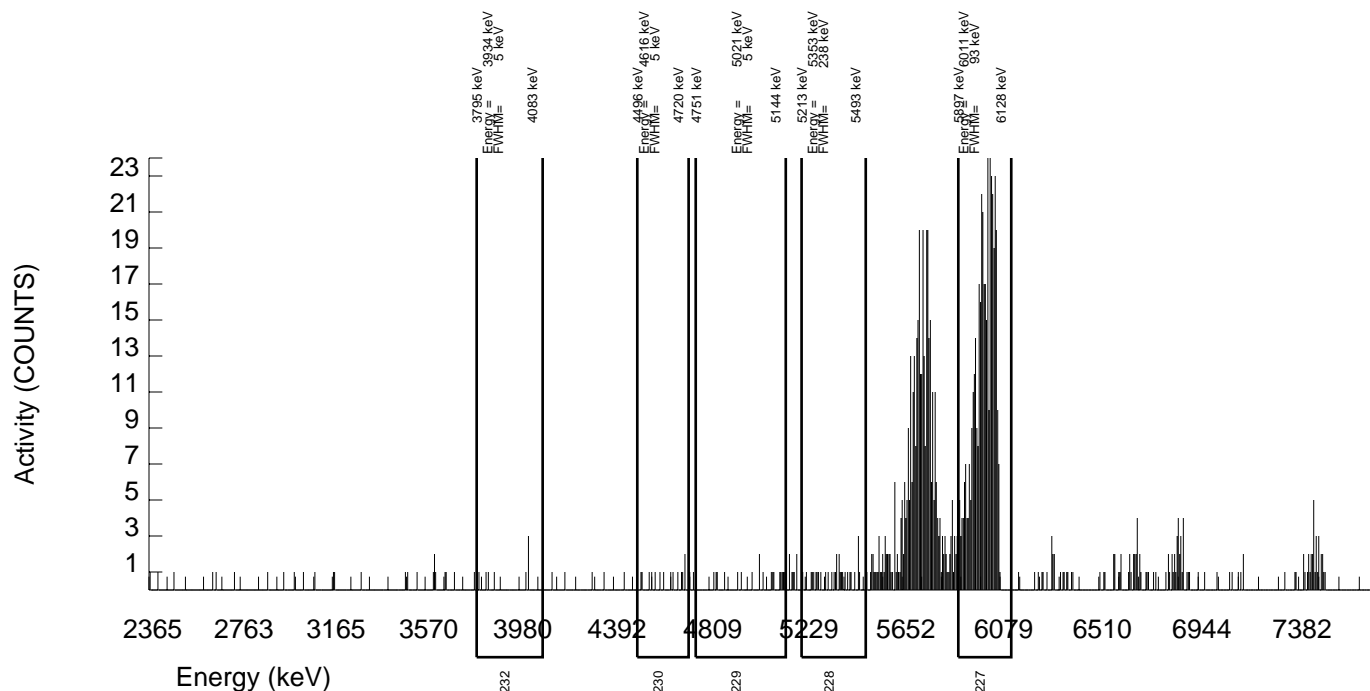
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 3.567E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92277 dpm
RESULTS : 2.51219 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B195.CNF;99
BKG DATE : 26-JUL-2009
EFF FILE : W195.CNF;34
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	431.000	425.000	6.000	2.4495	68.10000	2.95E+00	3.31E-01	9.98E-02	3.95E-02	2.84E-01
TH-228	5363.000	32.000	23.000	9.000	3.0000	99.94000	1.05E-01	5.76E-02	7.74E-02	3.18E-02	5.73E-02
TH229	4900.000	18.000	4.000	14.000	3.7417	99.52000	1.83E-02	5.08E-02	9.34E-02	3.98E-02	5.08E-02
TH-230	4625.000	15.000	-27.000	42.000	6.4807	100.0000	-1.23E-01	6.74E-02	1.51E-01	6.87E-02	6.74E-02
TH-232	3972.000	8.000	-1.000	9.000	3.0000	100.0000	-4.56E-03	3.68E-02	7.73E-02	3.18E-02	3.68E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 888328
SAMPLE DATE : 27-JUL-2009 21:30:00

SAMPLE ID : S1201888813_TH
SAMPLE QTY: 0.600 L

DETECTOR NUMBER :68623
AVERAGE %EFFICIENCY :26.0642
% YIELD : 70.510

COUNT DATE:28-JUL-2009 11:56:58
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 3.567E+00

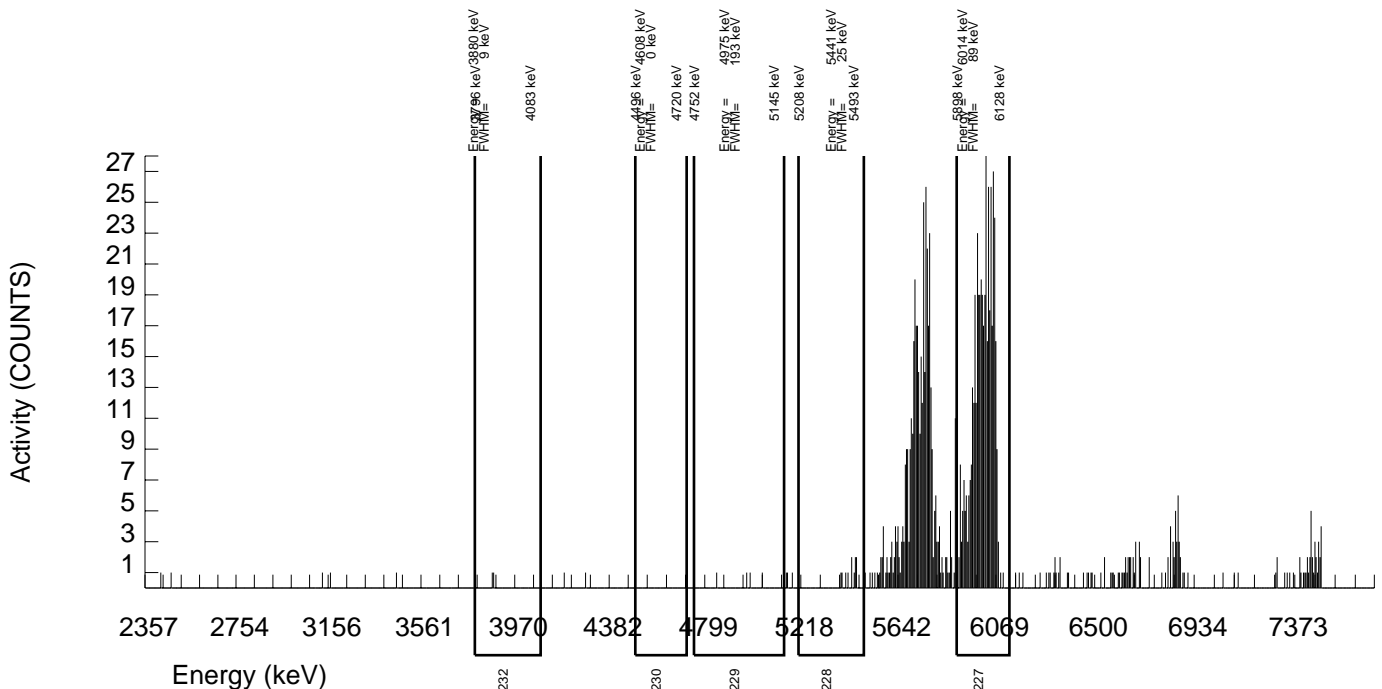
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 3.567E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92277 dpm
RESULTS : 2.76593 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B190.CNF;93
BKG DATE : 26-JUL-2009
EFF FILE : W190.CNF;36
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	480.000	474.000	6.000	2.4495	68.10000	2.95E+00	3.12E-01	8.94E-02	3.54E-02	2.68E-01
TH-228	5363.000	11.000	-2.000	13.000	3.6056	99.94000	-8.18E-03	3.93E-02	8.09E-02	3.43E-02	3.93E-02
TH229	4900.000	4.000	-21.000	25.000	5.0000	99.52000	-8.62E-02	4.33E-02	1.08E-01	4.77E-02	4.33E-02
TH-230	4625.000	0.000	-9.000	9.000	3.0000	100.0000	-3.68E-02	2.53E-02	6.93E-02	2.85E-02	2.53E-02
TH-232	3972.000	2.000	2.000	0.000	0.0000	100.0000	8.17E-03	1.13E-02	1.23E-02	0.00E+00	1.13E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 888328
SAMPLE DATE : 27-JUL-2009 21:30:00

SAMPLE ID : S1201888814_TH
SAMPLE QTY: 0.400 L

DETECTOR NUMBER :74430
AVERAGE %EFFICIENCY :26.1047
% YIELD : 62.231

COUNT DATE:28-JUL-2009 11:57:03
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 5.351E+00

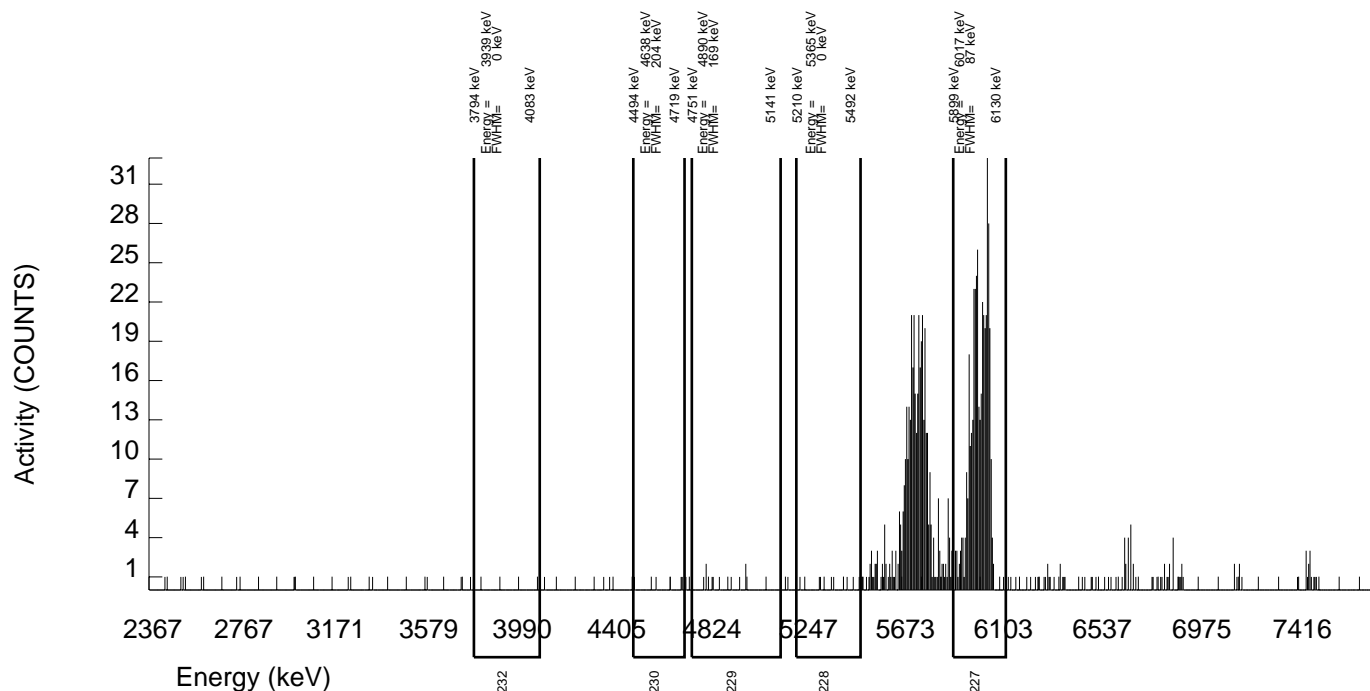
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 5.351E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92277 dpm
RESULTS : 2.44119 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B192.CNF;93
BKG DATE : 26-JUL-2009
EFF FILE : W192.CNF;42
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	421.000	419.000	2.000	1.4142	68.10000	4.42E+00	4.87E-01	1.01E-01	3.47E-02	4.25E-01
TH-228	5363.000	10.000	3.000	7.000	2.6458	99.94000	2.08E-02	5.61E-02	1.06E-01	4.27E-02	5.61E-02
TH229	4900.000	10.000	6.000	4.000	2.0000	99.52000	4.18E-02	5.11E-02	8.57E-02	3.24E-02	5.11E-02
TH-230	4625.000	5.000	2.000	3.000	1.7321	100.0000	1.39E-02	3.84E-02	7.67E-02	2.79E-02	3.84E-02
TH-232	3972.000	0.000	0.000	0.000	0.0000	100.0000	0.00E+00	1.36E-02	2.08E-02	0.00E+00	1.36E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 888328
SAMPLE DATE : 27-JUL-2009 21:30:00

SAMPLE ID : S1201888818_TH
SAMPLE QTY: 0.400 L

DETECTOR NUMBER :68635
AVERAGE %EFFICIENCY :25.4957
% YIELD : 76.188

COUNT DATE:28-JUL-2009 11:57:08
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 5.351E+00

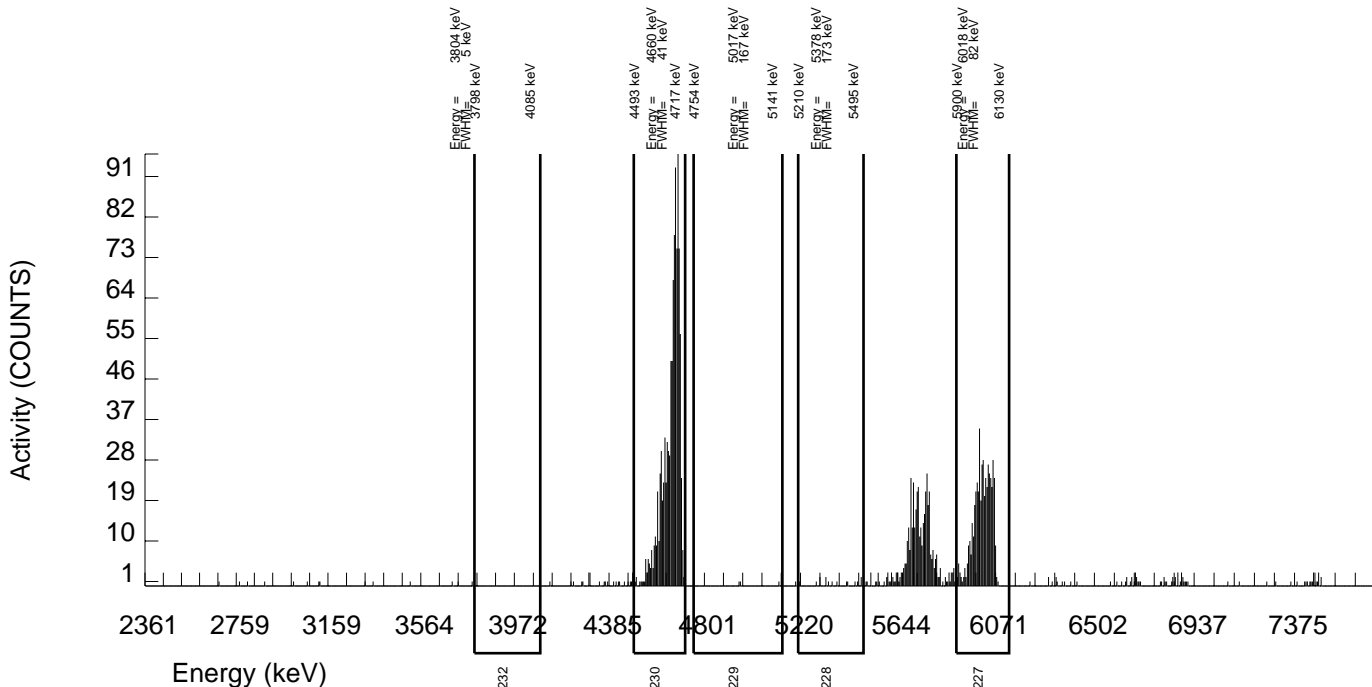
LCS/LCSD
ID : A2796-J
ISOTOPE : TH-230
PCI/L : 5.351E+00

TRACER
ID : 0387-B-102
ISOTOPE : AC227
NOMINAL : 3.92277 dpm
RESULTS : 2.98868 dpm

LIB FILE : ENV_ALPHA_TH.N
BKG FILE : B194.CNF;93
BKG DATE : 26-JUL-2009
EFF FILE : W194.CNF;35
CAL DATE : 22-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	503.000	501.000	2.000	1.4142	68.10000	4.42E+00	4.56E-01	8.45E-02	2.90E-02	3.88E-01
TH-228	5363.000	15.000	11.000	4.000	2.0000	99.94000	6.39E-02	4.97E-02	7.15E-02	2.70E-02	4.96E-02
TH229	4900.000	3.000	-1.000	4.000	2.0000	99.52000	-5.83E-03	3.02E-02	7.17E-02	2.71E-02	3.02E-02
TH-230	4625.000	1028.000	1028.000	0.000	0.0000	100.0000	5.96E+00	4.86E-01	1.74E-02	0.00E+00	3.64E-01
TH-232	3972.000	2.000	2.000	0.000	0.0000	100.0000	1.16E-02	1.61E-02	1.74E-02	0.00E+00	1.61E-02



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 888328
SAMPLE DATE : 27-JUL-2009 21:30:00

SAMPLE ID : S1201888822_TH
SAMPLE QTY: 0.600 L

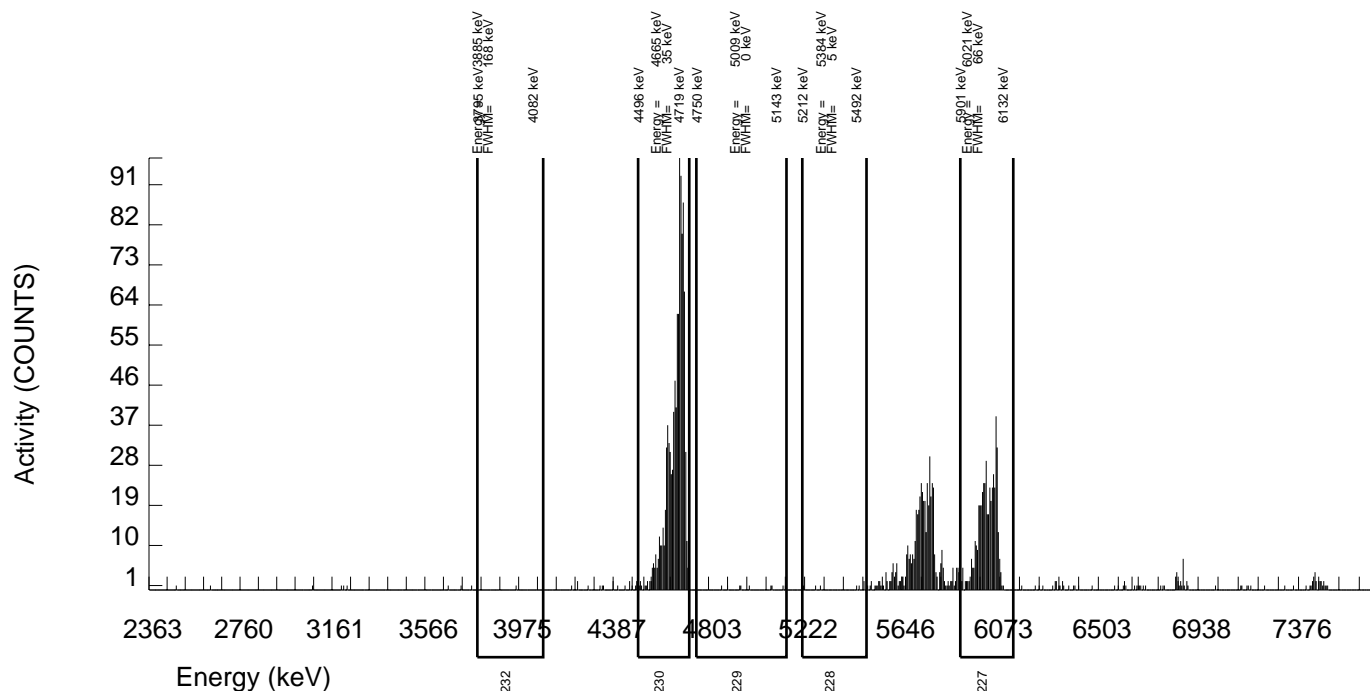
DETECTOR NUMBER :68637
AVERAGE %EFFICIENCY :25.6679
% YIELD : 71.297

COUNT DATE:28-JUL-2009 11:57:14
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	LCS/LCSD ID : A2796-J ISOTOPE : TH-230 PCI/L : 3.567E+00	TRACER ID : 0387-B-102 ISOTOPE : AC227 NOMINAL : 3.92277 dpm RESULTS : 2.79680 dpm	LIB FILE : ENV_ALPHA_TH.N BKG FILE : B196.CNF;94 BKG DATE : 26-JUL-2009 EFF FILE : W196.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/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
AC-227	6038.010	474.000	472.000	2.000	1.4142	68.10000	2.95E+00	3.11E-01	5.98E-02	2.05E-02	2.67E-01
TH-228	5363.000	7.000	1.000	6.000	2.4495	99.94000	4.11E-03	2.90E-02	5.92E-02	2.34E-02	2.90E-02
TH229	4900.000	9.000	5.000	4.000	2.0000	99.52000	2.06E-02	2.92E-02	5.07E-02	1.92E-02	2.91E-02
TH-230	4625.000	1037.000	1036.000	1.000	1.0000	100.0000	4.25E+00	3.46E-01	3.14E-02	9.54E-03	2.59E-01
TH-232	3972.000	2.000	2.000	0.000	0.0000	100.0000	8.20E-03	1.14E-02	1.23E-02	0.00E+00	1.14E-02



URANIUM

Radiochemistry Batch Checklist, Rev 9

Batch# 886690 Product: U Date: 7/28/09

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.		✓	NCR 715767
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%.	✓		Case narrative
Or meets the client's required REF acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.		✓	NCR 715767
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.	✓		
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 715 767
Batch non-conformances second reviewed and disposition verified to be completed.	✓		NCR 715 767
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: Jap LML - 7/28/09

Secondary Review Performed By: [Signature] 7/28/09

7/29
KERR

Uranium Que Sheet

20-JUL-09

Batch #: 886690 Analyst: CXM2 First Client Due Date: 29-JUL-09 Internal Due Date: 23-JUL-09
 Tracer Isotope: U-232 U-236 Tracer Code: Y233-13 Expiration Date: 12/16/09 Vol: 0.1mL
 LCS Isotope: U-238 LCS Code: 1163-6 Expiration Date: 4/16/10 Vol: 0.1mL
 Spike Isotope: U-238 Spike Code: 1163-6 Expiration Date: 4/16/10 Vol: 0.1mL
 Prep Date: 7/20/09 Initials: CMM Pipet ID: Z471058 Balance ID: 50410277

Witness: MAL 7/20/09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (D)/1(f)	U Det #
232395001-2	SA200-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	24-JUN-09	1	1	0.503	7
232395002-2	RSOA0-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	24-JUN-09	2	2	0.513	8
232395003-2	SA51-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	24-JUN-09	3	3	0.508	9
232395004-2	SA43-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	24-JUN-09	4	4	0.501	10-125
232395005-2	SA43009-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	24-JUN-09	5	5	0.503	11
232395006-2	SA40-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	24-JUN-09	6	6	0.510	12-126
232395007-2	SA201-10B	SAMPLE		.04 pCi/g	SOIL	KERR003	24-JUN-09	7	7	0.500	13
232395008-2	SA201-28B	SAMPLE		.04 pCi/g	SOIL	KERR003	24-JUN-09	8	8	0.504	14
232395009-2	SA201009-28B	SAMPLE		.04 pCi/g	SOIL	KERR003	24-JUN-09	9	9	0.516	15
232395010-2	SA202-10B	SAMPLE		.04 pCi/g	SOIL	KERR003	25-JUN-09	10	10	0.506	16
232395011-2	SA202-28B	SAMPLE		.04 pCi/g	SOIL	KERR003	25-JUN-09	11	11	0.501	17
232395012-2	RSAL3-10B	SAMPLE		.04 pCi/g	SOIL	KERR003	25-JUN-09	12	12	0.509	18
232395013-2	RSAL3-20B	SAMPLE		.04 pCi/g	SOIL	KERR003	25-JUN-09	13	13	0.501	19-125
232395014-2	RSAL3-32B	SAMPLE		.04 pCi/g	SOIL	KERR003	25-JUN-09	14	14	0.504	20-126
232395015-2	SA188-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	26-JUN-09	15	15	0.506	21-127
232395016-2	SA172-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	26-JUN-09	16	16	0.508	22-128
232395017-2	SA41-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	26-JUN-09	17	17	0.509	23-129
232395018-2	SA44-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	26-JUN-09	18	18	0.509	24-130
232395019-2	SA42-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	26-JUN-09	19	19	0.501	19-125
232395020-2	SA106-0.5B	SAMPLE		.04 pCi/g	SOIL	KERR003	30-JUN-09	20	20	0.504	20-126
1201884685-1	MB for batch 886690	MB		UCF pCi/g to pCi	SOIL	QC ACCOUNT		21	21	0.516	21-127
1201884686-2	SA106-0.5B(232395020DUP)	DUP		.04 pCi/g	SOIL	QC ACCOUNT	30-JUN-09	22	22	0.504	22-128
1201884687-2	SA106-0.5B(232395020MS)	MS		.04 pCi/g	SOIL	QC ACCOUNT	30-JUN-09	23	23	0.506	23-129
1201884688-1	LCS for batch 886690	LCS		UCF pCi/g to pCi	SOIL	QC ACCOUNT		24	24	0.516	24-130

Choose SOP used: GL-RAD-A-011
GL-RAD-A-038
 GL-RAD-A-045
 GL-RAD-A-043
 GEL Laboratories LLC, Radiochemistry Division

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: Sart ML-1-7/20/09

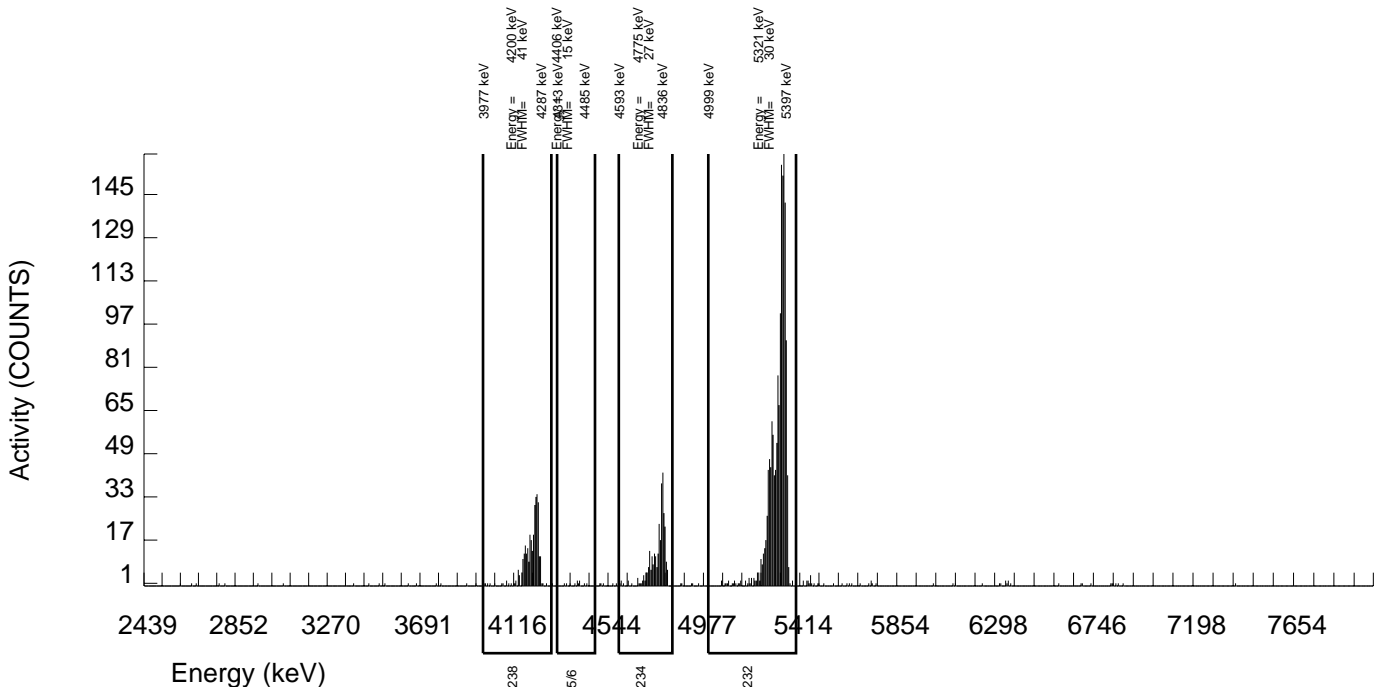
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 24-JUN-2009 00:00:00		SAMPLE ID : S0232395001_UU SAMPLE QTY: 0.503 G	
DETECTOR NUMBER :67607 AVERAGE %EFFICIENCY :29.5736 % YIELD : 96.228		COUNT DATE:23-JUL-2009 07:37:05 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.008E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.008E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29616 dpm RESULTS : 5.09636 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B007.CNF;1046 BKG DATE : 19-JUL-2009 EFF FILE : W007.CNF;296 CAL DATE : 6-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	302.000	286.455	11.000	3.3166	100.0000	9.01E-01	1.63E-01	5.80E-02	2.43E-02	1.08E-01
U232	5302.100	1518.000	1506.000	12.000	3.4641	100.0000	4.74E+00	6.84E-01	6.02E-02	2.54E-02	2.41E-01
U-235	4391.000	11.000	9.000	2.000	1.4142	80.90000	3.50E-02	2.79E-02	3.73E-02	1.28E-02	2.75E-02
U-238	4184.730	324.000	316.000	8.000	2.8284	100.0000	9.94E-01	1.75E-01	5.09E-02	2.07E-02	1.12E-01

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



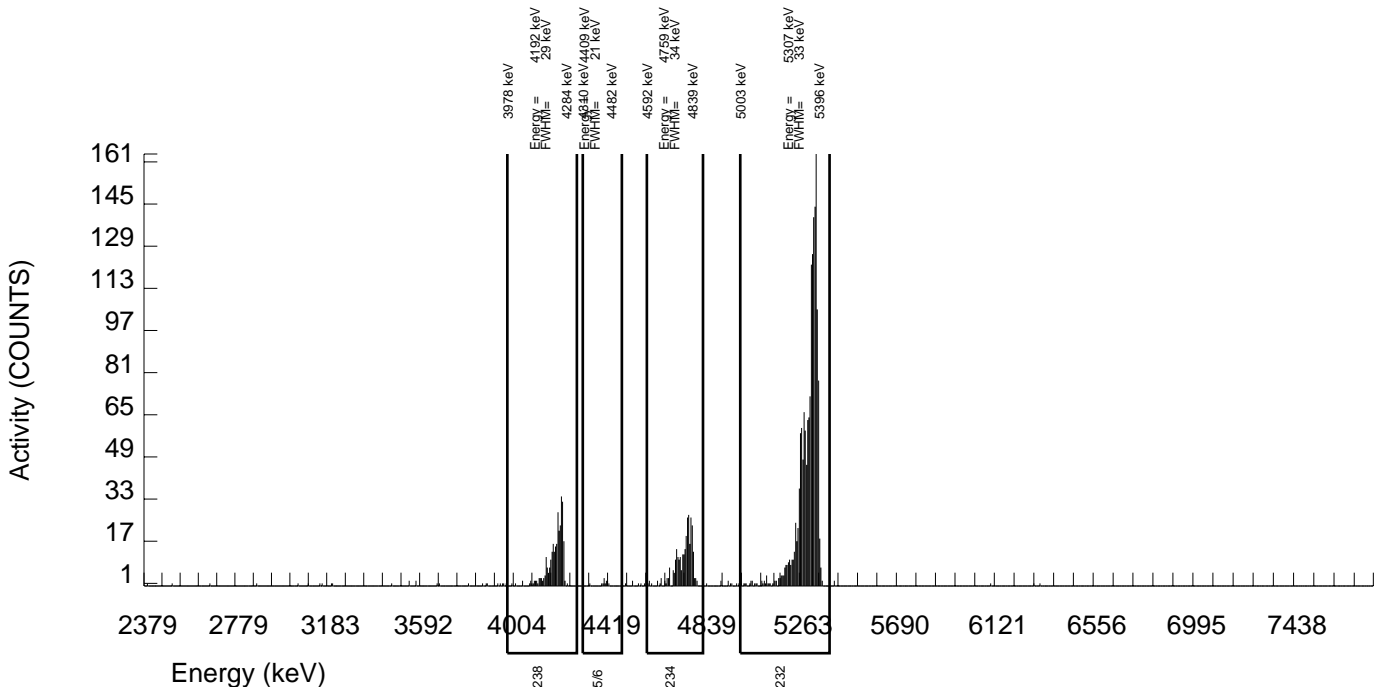
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 24-JUN-2009 00:00:00		SAMPLE ID : S0232395002_UU SAMPLE QTY: 0.513 G	
DETECTOR NUMBER :78788 AVERAGE %EFFICIENCY :31.8809 % YIELD : 99.280		COUNT DATE:23-JUL-2009 07:37:05 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.910E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 4.910E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29616 dpm RESULTS : 5.25804 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B008.CNF;1048 BKG DATE : 19-JUL-2009 EFF FILE : W008.CNF;327 CAL DATE : 6-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	296.000	289.945	1.000	1.0000	100.0000	8.04E-01	1.42E-01	2.12E-02	6.45E-03	9.29E-02
U232	5302.100	1679.000	1675.000	4.000	2.0000	100.0000	4.65E+00	6.61E-01	3.42E-02	1.29E-02	2.23E-01
U-235	4391.000	12.000	10.000	2.000	1.4142	80.90000	3.43E-02	2.56E-02	3.29E-02	1.13E-02	2.51E-02
U-238	4184.730	306.000	302.000	4.000	2.0000	100.0000	8.38E-01	1.47E-01	3.41E-02	1.29E-02	9.57E-02

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690
SAMPLE DATE : 24-JUN-2009 00:00:00

SAMPLE ID : S0232395003_UU
SAMPLE QTY: 0.508 G

DETECTOR NUMBER :72528
AVERAGE %EFFICIENCY :33.7599
% YIELD : 93.642

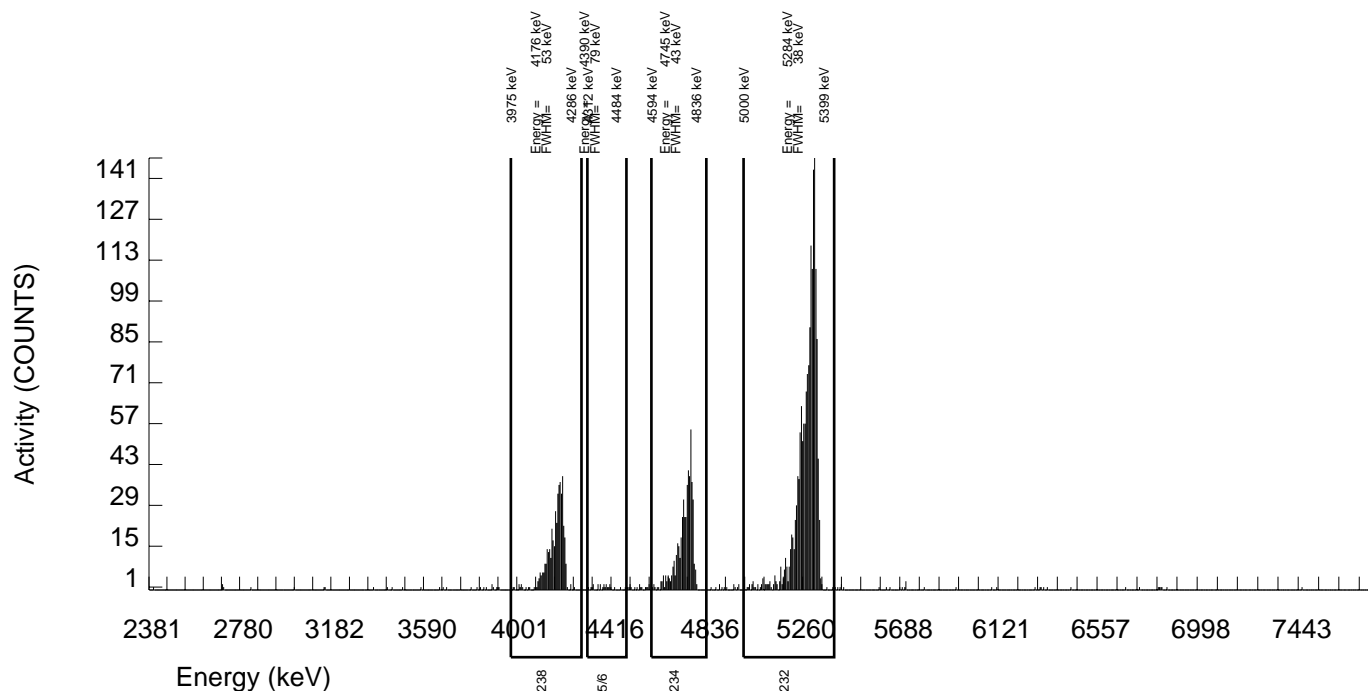
COUNT DATE:23-JUL-2009 07:37:05
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

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-B ISOTOPE : U232 NOMINAL : 5.29616 dpm RESULTS : 4.95945 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B009.CNF;1039 BKG DATE : 19-JUL-2009 EFF FILE : W009.CNF;291 CAL DATE : 6-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	503.000	493.951	4.000	2.0000	100.0000	1.39E+00	2.23E-01	3.45E-02	1.31E-02	1.23E-01
U232	5302.100	1677.000	1673.000	4.000	2.0000	100.0000	4.70E+00	6.67E-01	3.45E-02	1.31E-02	2.26E-01
U-235	4391.000	23.000	23.000	0.000	0.0000	80.90000	7.97E-02	3.43E-02	1.04E-02	0.00E+00	3.26E-02
U-238	4184.730	448.000	446.000	2.000	1.4142	100.0000	1.25E+00	2.04E-01	2.69E-02	9.23E-03	1.17E-01

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



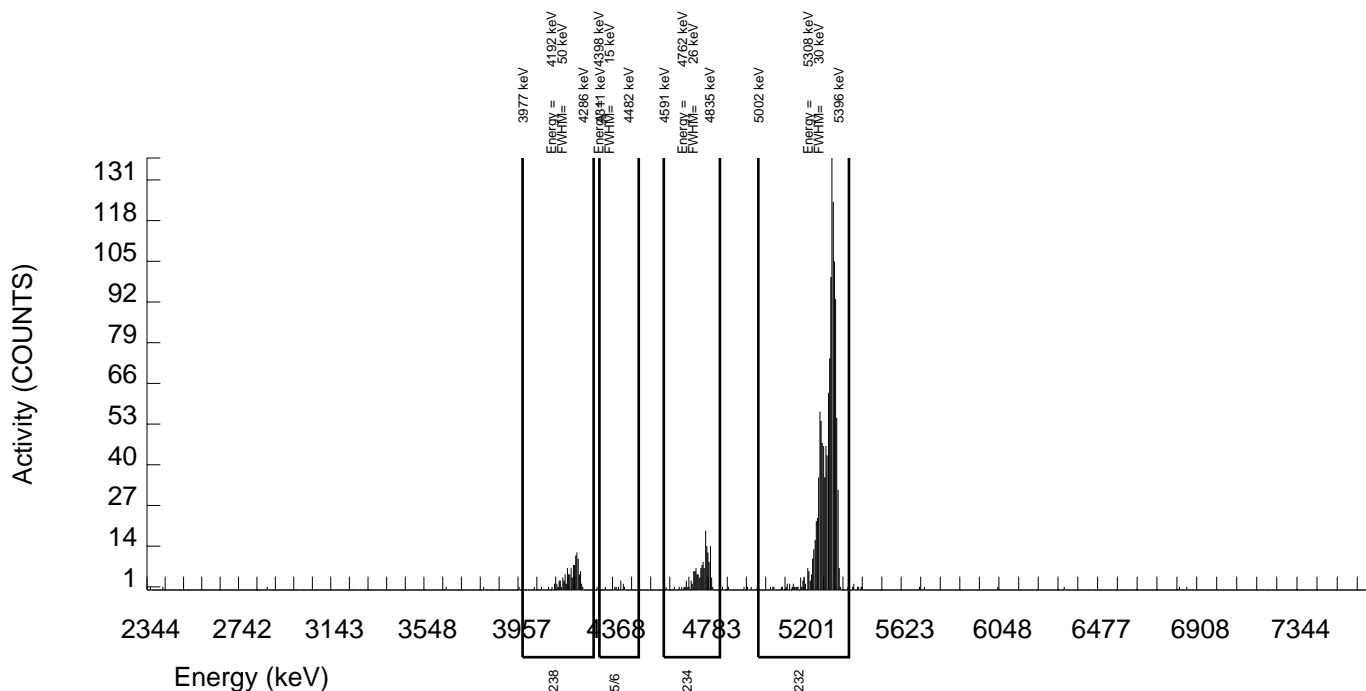
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 24-JUN-2009 00:00:00		SAMPLE ID : S0232395004_UU SAMPLE QTY: 0.501 G	
DETECTOR NUMBER :75547 AVERAGE %EFFICIENCY :25.7695 % YIELD : 94.817		COUNT DATE:24-JUL-2009 09:24:18 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.028E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.028E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29615 dpm RESULTS : 5.02163 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B125.CNF;383 BKG DATE : 19-JUL-2009 EFF FILE : W125.CNF;117 CAL DATE : 17-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	153.000	146.098	3.000	1.7321	100.0000	5.38E-01	1.15E-01	4.07E-02	1.48E-02	8.89E-02
U232	5302.100	1295.000	1293.000	2.000	1.4142	100.0000	4.76E+00	6.99E-01	3.53E-02	1.21E-02	2.60E-01
U-235	4391.000	11.000	10.000	1.000	1.0000	80.90000	4.55E-02	3.15E-02	3.48E-02	1.06E-02	3.09E-02
U-238	4184.730	121.000	121.000	0.000	0.0000	100.0000	4.45E-01	9.99E-02	1.10E-02	0.00E+00	7.93E-02

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



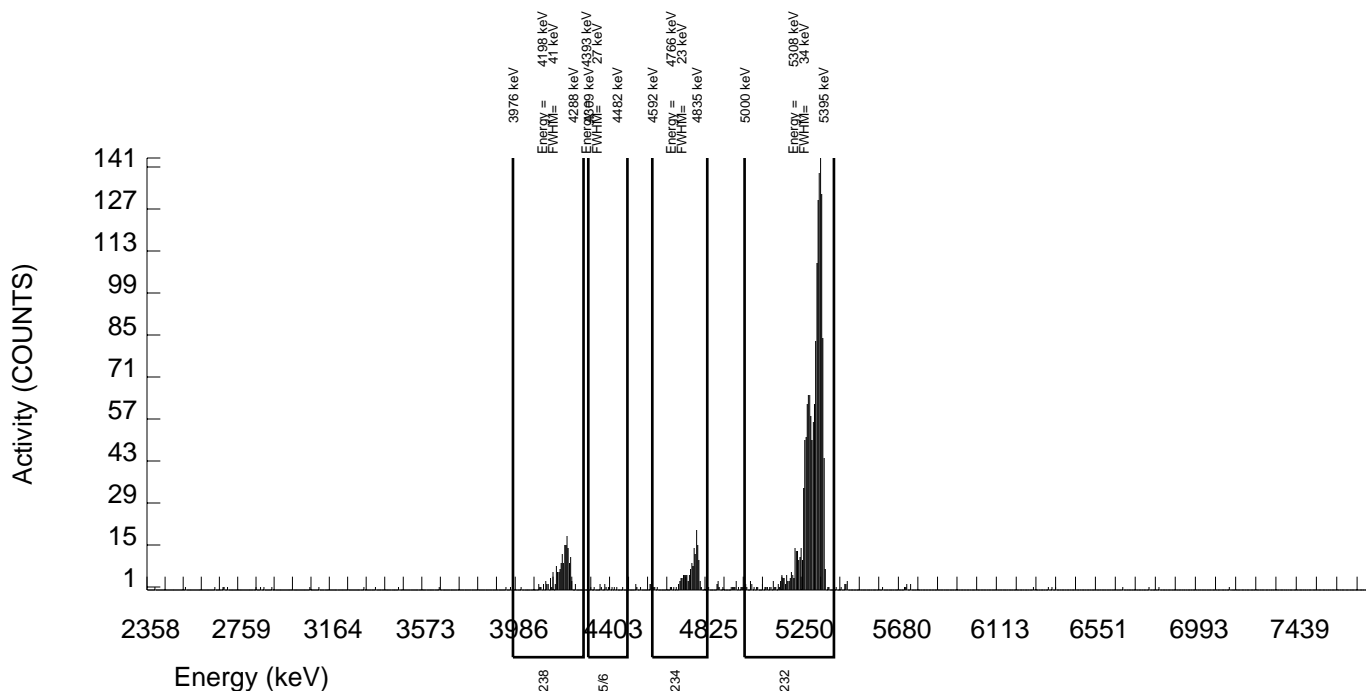
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 24-JUN-2009 00:00:00		SAMPLE ID : S0232395005_UU SAMPLE QTY: 0.503 G	
DETECTOR NUMBER :72531 AVERAGE %EFFICIENCY :29.8543 % YIELD : 99.943		COUNT DATE:23-JUL-2009 07:37:05 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.008E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.008E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29616 dpm RESULTS : 5.29316 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B011.CNF;1049 BKG DATE : 19-JUL-2009 EFF FILE : W011.CNF;297 CAL DATE : 6-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	149.000	143.235	1.000	1.0000	100.0000	4.30E-01	9.15E-02	2.30E-02	6.98E-03	7.09E-02
U232	5302.100	1587.000	1579.000	8.000	2.8284	100.0000	4.74E+00	6.79E-01	4.85E-02	1.98E-02	2.35E-01
U-235	4391.000	14.000	12.000	2.000	1.4142	80.90000	4.45E-02	2.97E-02	3.55E-02	1.22E-02	2.91E-02
U-238	4184.730	171.000	160.000	11.000	3.3166	100.0000	4.80E-01	1.02E-01	5.53E-02	2.32E-02	7.94E-02

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



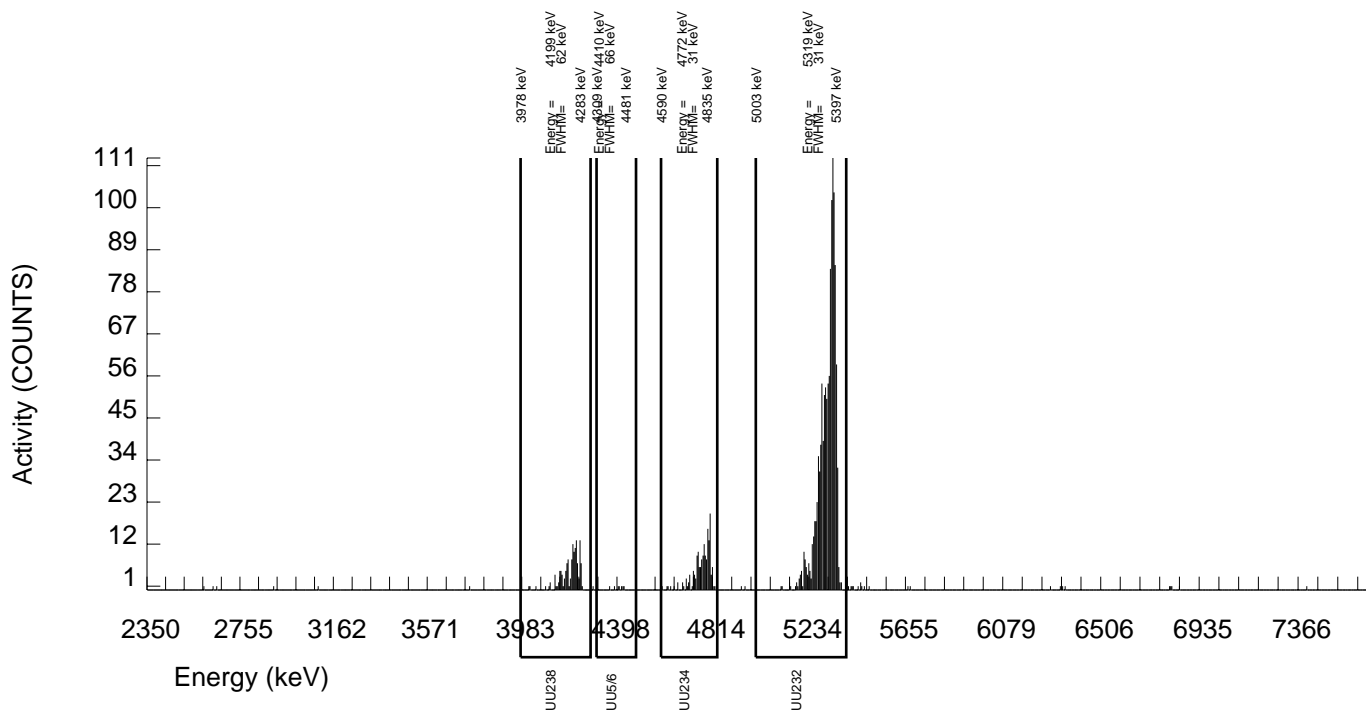
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 24-JUN-2009 00:00:00		SAMPLE ID : S0232395006_UU SAMPLE QTY: 0.510 G	
DETECTOR NUMBER :75548 AVERAGE %EFFICIENCY :25.4104 % YIELD : 88.050		COUNT DATE:24-JUL-2009 09:24:20 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29615 dpm RESULTS : 4.66328 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B126.CNF;382 BKG DATE : 19-JUL-2009 EFF FILE : W126.CNF;119 CAL DATE : 17-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	171.000	159.427	8.000	2.8284	100.0000	6.29E-01	1.34E-01	6.38E-02	2.60E-02	1.02E-01
U232	5302.100	1200.000	1184.000	16.000	4.0000	100.0000	4.68E+00	6.98E-01	8.54E-02	3.68E-02	2.70E-01
U-235	4391.000	7.000	3.000	4.000	2.0000	80.90000	1.46E-02	3.18E-02	6.00E-02	2.27E-02	3.17E-02
U-238	4184.730	142.000	139.000	3.000	1.7321	100.0000	5.49E-01	1.20E-01	4.37E-02	1.59E-02	9.32E-02

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



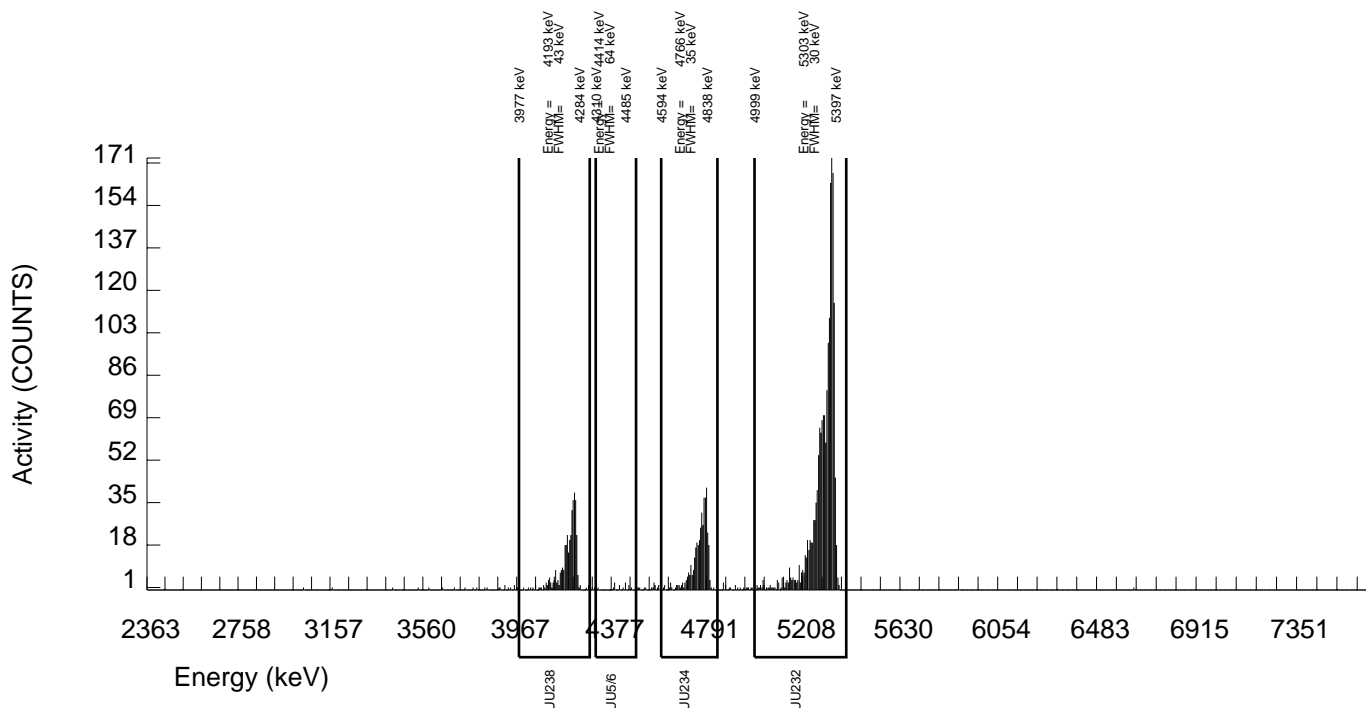
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 24-JUN-2009 00:00:00		SAMPLE ID : S0232395007_UU SAMPLE QTY: 0.500 G	
DETECTOR NUMBER :78790 AVERAGE %EFFICIENCY :33.8629 % YIELD : 100.110		COUNT DATE:23-JUL-2009 07:37:06 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.038E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.038E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29616 dpm RESULTS : 5.30198 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B013.CNF;1028 BKG DATE : 19-JUL-2009 EFF FILE : W013.CNF;311 CAL DATE : 6-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	400.000	391.586	3.000	1.7321	100.0000	1.04E+00	1.73E-01	2.94E-02	1.07E-02	1.04E-01
U232	5302.100	1800.000	1794.000	6.000	2.4495	100.0000	4.77E+00	6.73E-01	3.83E-02	1.52E-02	2.22E-01
U-235	4391.000	15.000	15.000	0.000	0.0000	80.90000	4.93E-02	2.58E-02	9.85E-03	0.00E+00	2.49E-02
U-238	4184.730	381.000	381.000	0.000	0.0000	100.0000	1.01E+00	1.69E-01	7.97E-03	0.00E+00	1.02E-01

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



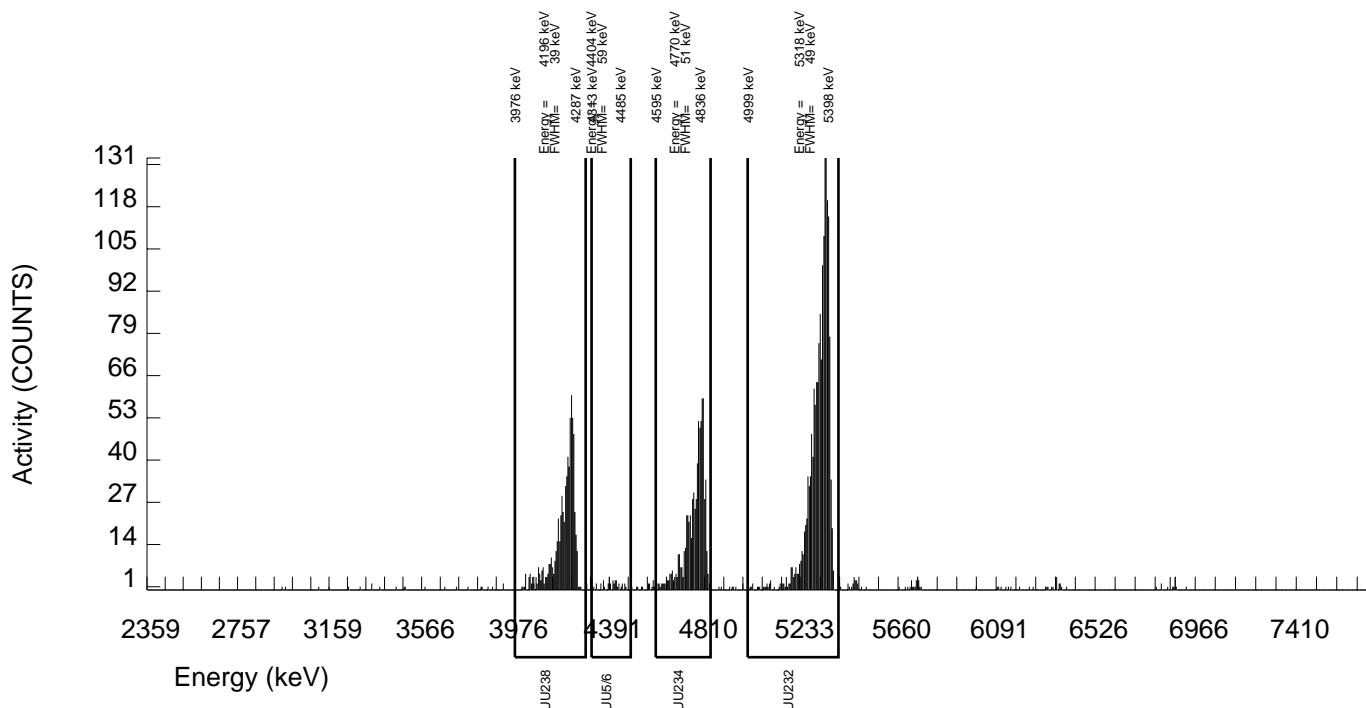
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 24-JUN-2009 00:00:00		SAMPLE ID : S0232395008_UU SAMPLE QTY: 0.504 G	
DETECTOR NUMBER :67616 AVERAGE %EFFICIENCY :31.1828 % YIELD : 101.867		COUNT DATE:23-JUL-2009 07:37:06 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29616 dpm RESULTS : 5.39501 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B014.CNF;1029 BKG DATE : 19-JUL-2009 EFF FILE : W014.CNF;310 CAL DATE : 6-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	730.000	721.927	3.000	1.7321	100.0000	2.03E+00	3.10E-01	3.11E-02	1.13E-02	1.49E-01
U232	5302.100	1693.000	1681.000	12.000	3.4641	100.0000	4.73E+00	6.73E-01	5.38E-02	2.27E-02	2.28E-01
U-235	4391.000	38.000	37.000	1.000	1.0000	80.90000	1.29E-01	4.59E-02	2.66E-02	8.09E-03	4.26E-02
U-238	4184.730	698.000	696.000	2.000	1.4142	100.0000	1.96E+00	3.00E-01	2.70E-02	9.26E-03	1.46E-01

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



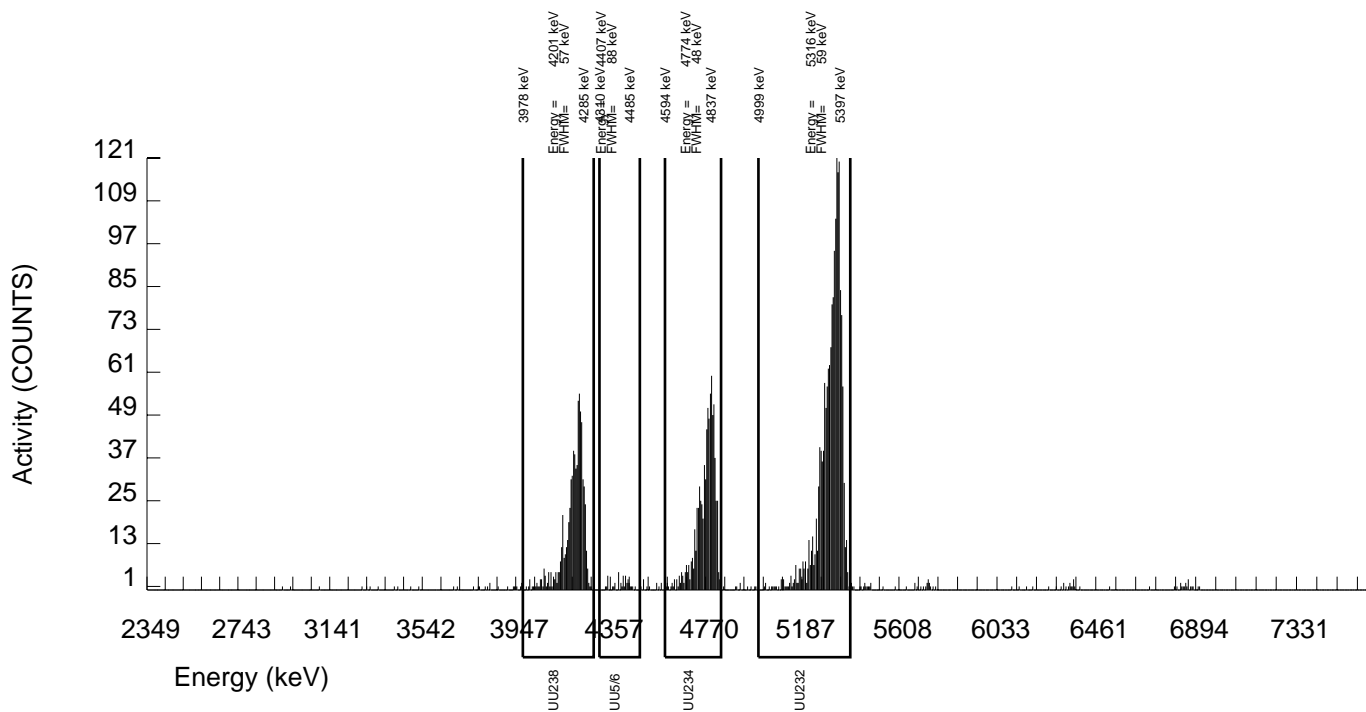
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 24-JUN-2009 00:00:00		SAMPLE ID : S0232395009_UU SAMPLE QTY: 0.516 G	
DETECTOR NUMBER :61581 AVERAGE %EFFICIENCY :32.2339 % YIELD : 100.714		COUNT DATE:23-JUL-2009 07:37:06 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29616 dpm RESULTS : 5.33396 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B015.CNF;1048 BKG DATE : 19-JUL-2009 EFF FILE : W015.CNF;314 CAL DATE : 6-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	777.000	767.815	4.000	2.0000	100.0000	2.06E+00	3.12E-01	3.31E-02	1.25E-02	1.47E-01
U232	5302.100	1726.000	1718.000	8.000	2.8284	100.0000	4.62E+00	6.56E-01	4.35E-02	1.77E-02	2.20E-01
U-235	4391.000	39.000	39.000	0.000	0.0000	80.90000	1.30E-01	4.42E-02	9.97E-03	0.00E+00	4.07E-02
U-238	4184.730	717.000	714.000	3.000	1.7321	100.0000	1.92E+00	2.93E-01	2.97E-02	1.08E-02	1.41E-01

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



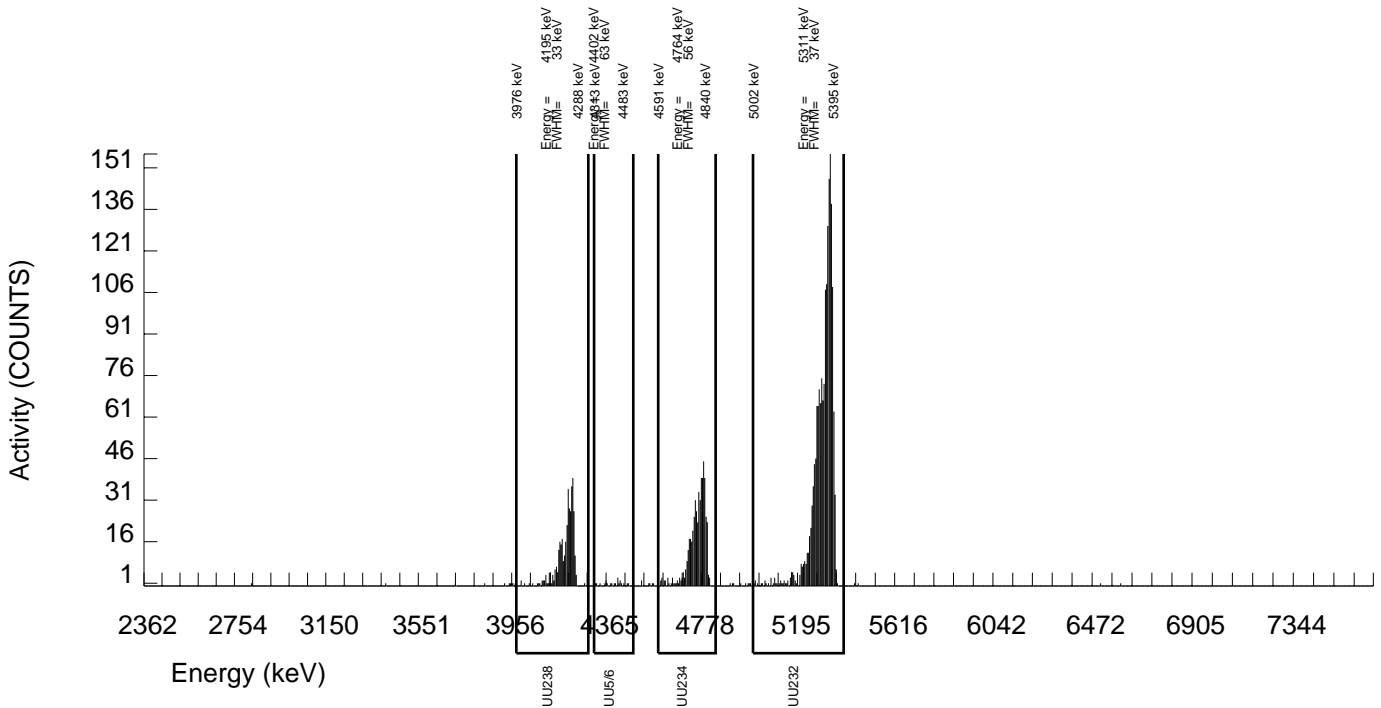
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 25-JUN-2009 00:00:00		SAMPLE ID : S0232395010_UU SAMPLE QTY: 0.506 G	
DETECTOR NUMBER :78774 AVERAGE %EFFICIENCY :33.6457 % YIELD : 100.700		COUNT DATE:23-JUL-2009 07:37:06 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29601 dpm RESULTS : 5.33309 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B016.CNF;1024 BKG DATE : 19-JUL-2009 EFF FILE : W016.CNF;296 CAL DATE : 6-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	525.000	514.589	5.000	2.2361	100.0000	1.35E+00	2.15E-01	3.52E-02	1.37E-02	1.18E-01
U232	5302.100	1796.000	1793.000	3.000	1.7321	100.0000	4.71E+00	6.65E-01	2.91E-02	1.06E-02	2.19E-01
U-235	4391.000	21.000	20.000	1.000	1.0000	80.90000	6.50E-02	3.11E-02	2.49E-02	7.56E-03	2.99E-02
U-238	4184.730	379.000	379.000	0.000	0.0000	100.0000	9.96E-01	1.66E-01	7.88E-03	0.00E+00	1.00E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690
SAMPLE DATE : 25-JUN-2009 00:00:00

SAMPLE ID : S0232395011_UU
SAMPLE QTY: 0.501 G

DETECTOR NUMBER :78791
AVERAGE %EFFICIENCY :29.3358
% YIELD : 97.008

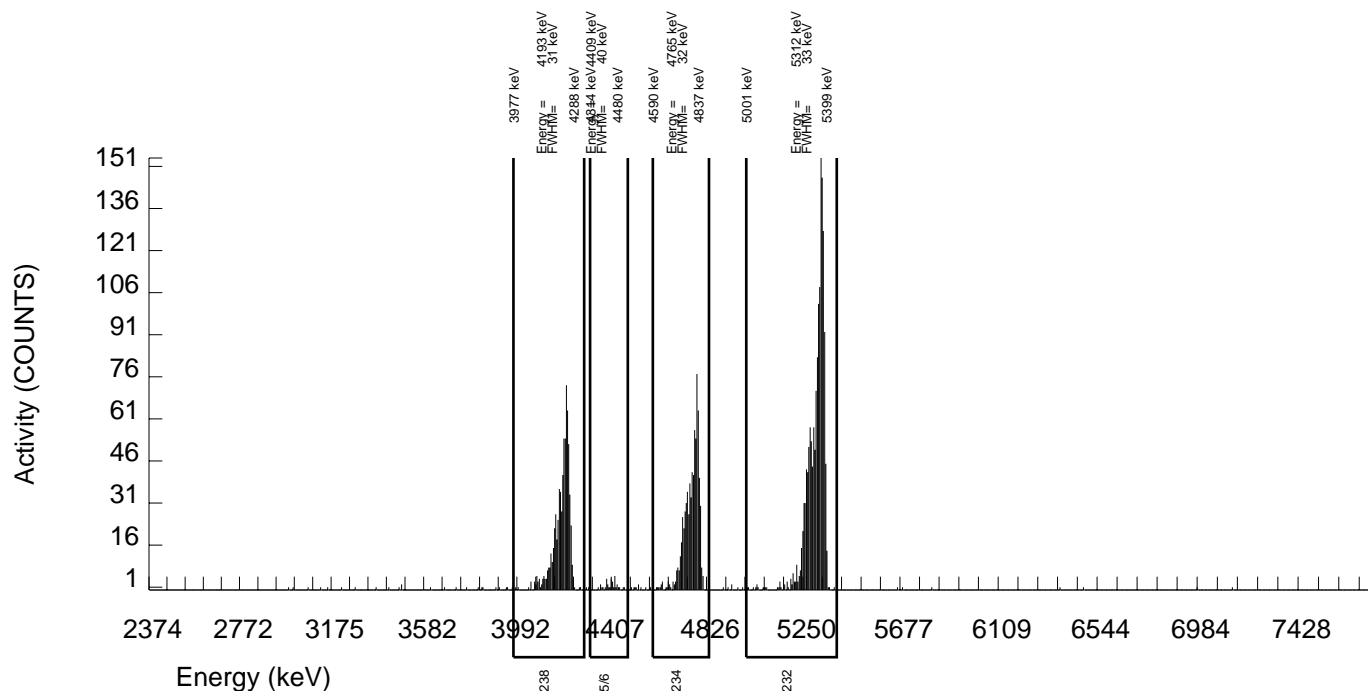
COUNT DATE:23-JUL-2009 07:37:06
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :CXM2

MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.028E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.028E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29601 dpm RESULTS : 5.13754 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B017.CNF;1871 BKG DATE : 19-JUL-2009 EFF FILE : W017.CNF;1247 CAL DATE : 6-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	734.000	726.455	3.000	1.7321	100.0000	2.30E+00	3.52E-01	3.49E-02	1.27E-02	1.68E-01
U232	5302.100	1510.000	1506.000	4.000	2.0000	100.0000	4.76E+00	6.86E-01	3.89E-02	1.47E-02	2.41E-01
U-235	4391.000	35.000	33.000	2.000	1.4142	80.90000	1.29E-01	4.97E-02	3.74E-02	1.28E-02	4.66E-02
U-238	4184.730	707.000	706.000	1.000	1.0000	100.0000	2.23E+00	3.43E-01	2.42E-02	7.35E-03	1.65E-01

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



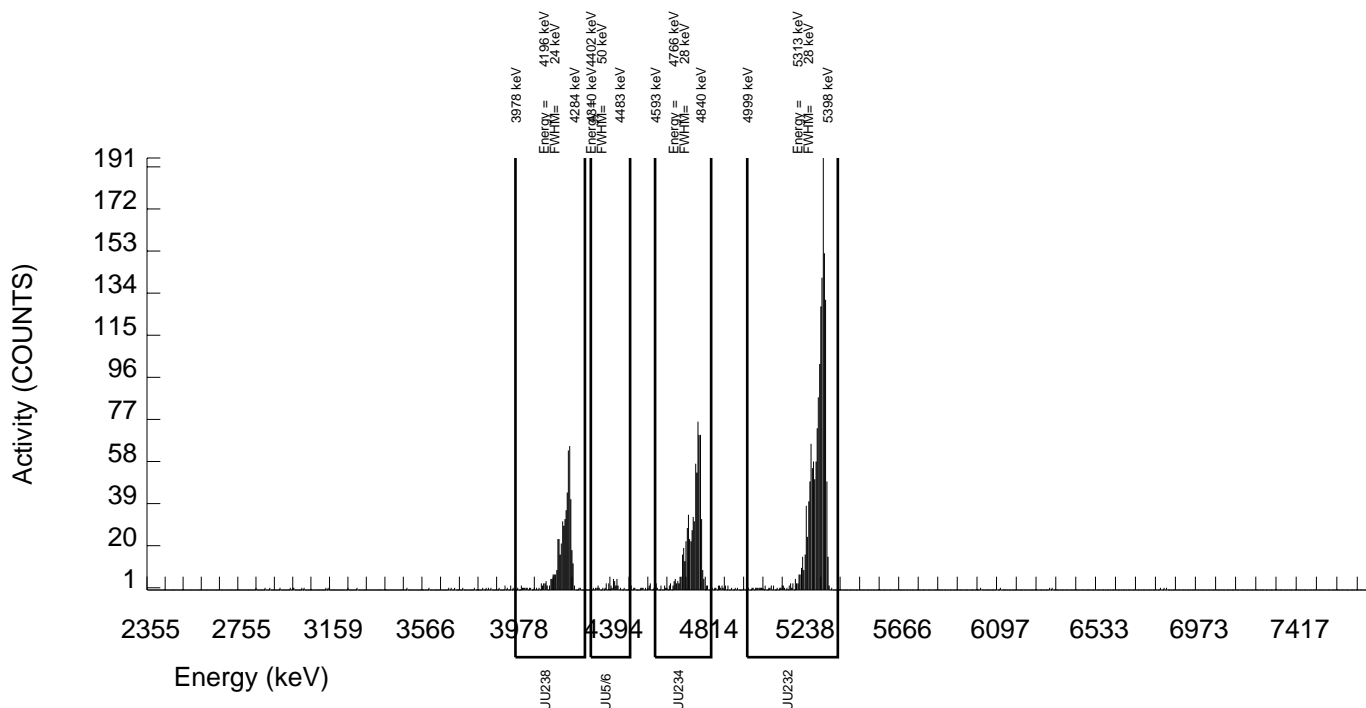
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 25-JUN-2009 00:00:00		SAMPLE ID : S0232395012_UU SAMPLE QTY: 0.509 G	
DETECTOR NUMBER :78782 AVERAGE %EFFICIENCY :32.2327 % YIELD : 94.914		COUNT DATE:23-JUL-2009 07:37:06 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29601 dpm RESULTS : 5.02665 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B018.CNF;1023 BKG DATE : 19-JUL-2009 EFF FILE : W018.CNF;291 CAL DATE : 15-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	695.000	688.114	2.000	1.4142	100.0000	1.99E+00	3.06E-01	2.77E-02	9.52E-03	1.49E-01
U232	5302.100	1626.000	1619.000	7.000	2.6458	100.0000	4.69E+00	6.69E-01	4.43E-02	1.78E-02	2.29E-01
U-235	4391.000	37.000	35.000	2.000	1.4142	80.90000	1.25E-01	4.69E-02	3.43E-02	1.18E-02	4.38E-02
U-238	4184.730	530.000	529.000	1.000	1.0000	100.0000	1.53E+00	2.43E-01	2.21E-02	6.73E-03	1.31E-01

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



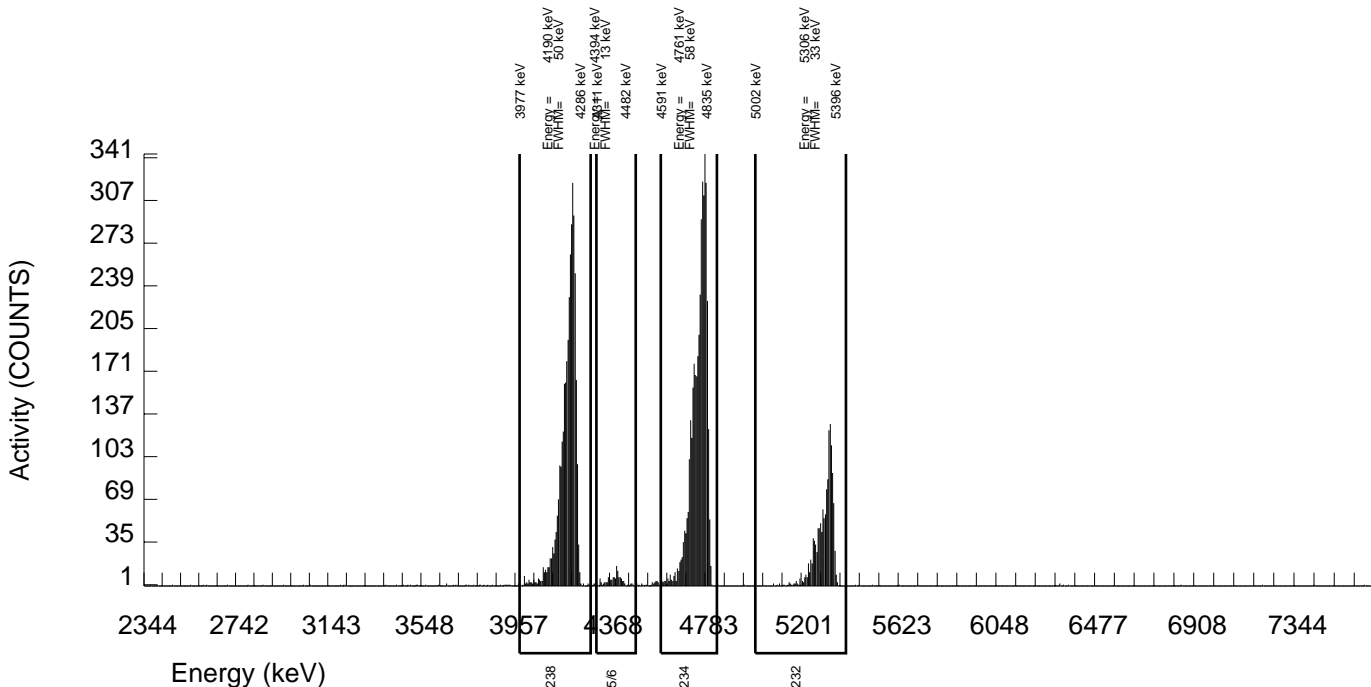
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 25-JUN-2009 00:00:00		SAMPLE ID : S0232395013_UU SAMPLE QTY: 0.501 G	
DETECTOR NUMBER :75547 AVERAGE %EFFICIENCY :25.7695 % YIELD : 98.627		COUNT DATE:23-JUL-2009 08:23:29 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.028E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.028E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29601 dpm RESULTS : 5.22330 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B125.CNF;383 BKG DATE : 19-JUL-2009 EFF FILE : W125.CNF;117 CAL DATE : 17-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	4042.000	4034.941	3.000	1.7321	100.0000	1.43E+01	1.99E+00	3.91E-02	1.43E-02	4.41E-01
U232	5302.100	1347.000	1345.000	2.000	1.4142	100.0000	4.76E+00	6.95E-01	3.39E-02	1.16E-02	2.55E-01
U-235	4391.000	131.000	130.000	1.000	1.0000	80.90000	5.68E-01	1.25E-01	3.35E-02	1.02E-02	9.85E-02
U-238	4184.730	3540.000	3540.000	0.000	0.0000	100.0000	1.25E+01	1.75E+00	1.06E-02	0.00E+00	4.13E-01

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



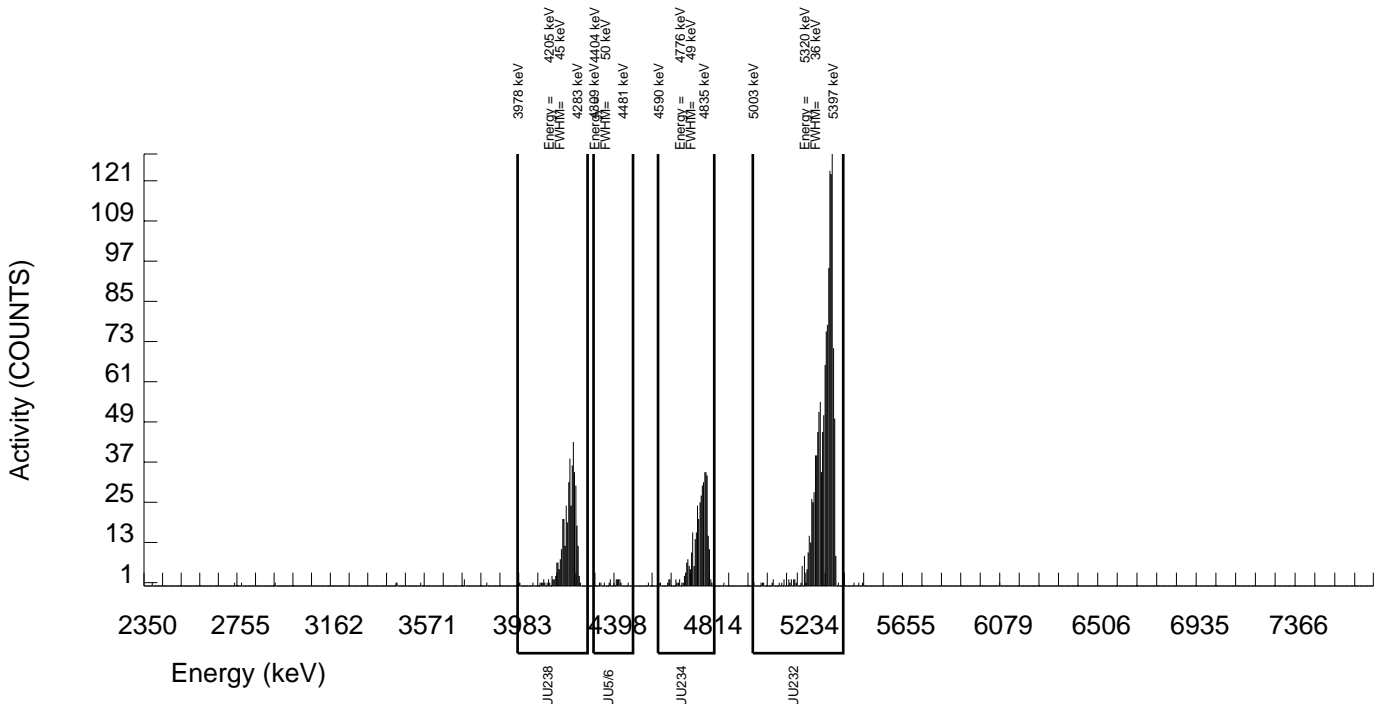
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 25-JUN-2009 00:00:00		SAMPLE ID : S0232395014_UU SAMPLE QTY: 0.504 G	
DETECTOR NUMBER :75548 AVERAGE %EFFICIENCY :25.4104 % YIELD : 99.128		COUNT DATE:23-JUL-2009 08:23:30 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29601 dpm RESULTS : 5.24983 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B126.CNF;382 BKG DATE : 19-JUL-2009 EFF FILE : W126.CNF;119 CAL DATE : 17-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	397.000	384.977	8.000	2.8284	100.0000	1.37E+00	2.32E-01	5.73E-02	2.33E-02	1.39E-01
U232	5302.100	1349.000	1333.000	16.000	4.0000	100.0000	4.73E+00	6.94E-01	7.67E-02	3.30E-02	2.57E-01
U-235	4391.000	17.000	13.000	4.000	2.0000	80.90000	5.70E-02	4.02E-02	5.40E-02	2.04E-02	3.94E-02
U-238	4184.730	426.000	423.000	3.000	1.7321	100.0000	1.50E+00	2.50E-01	3.92E-02	1.43E-02	1.44E-01

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



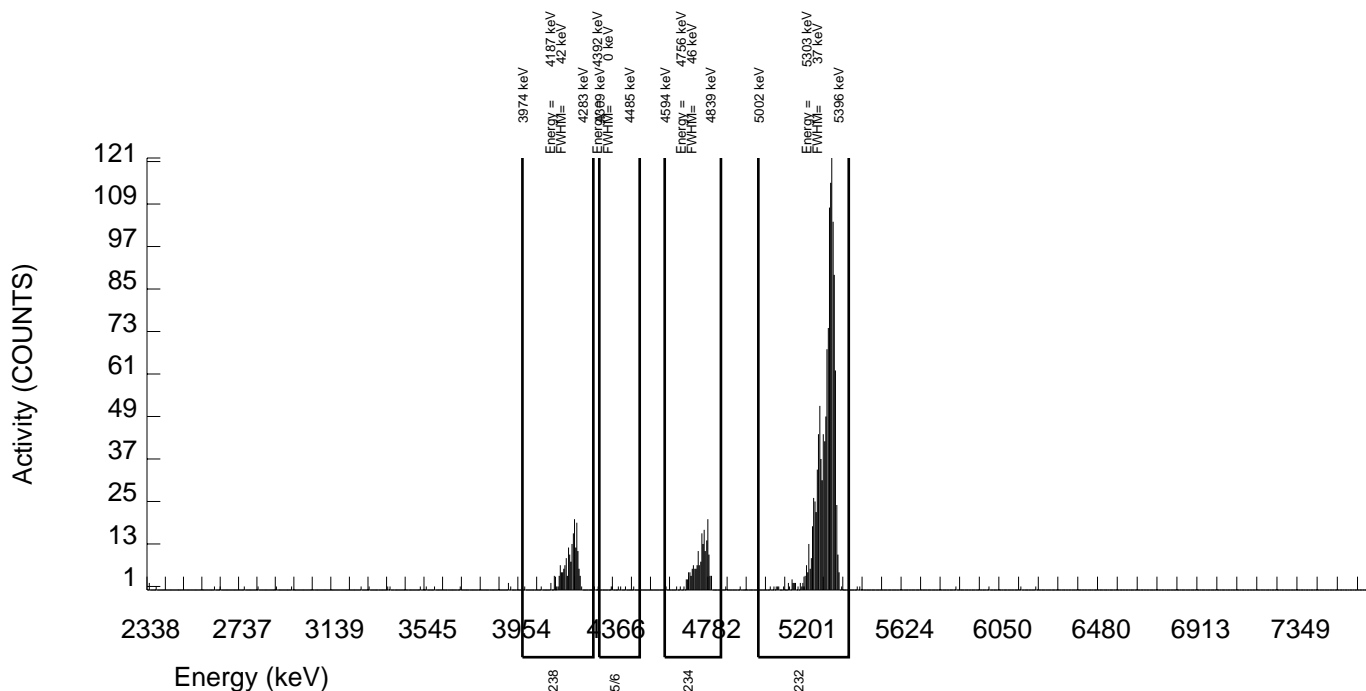
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 26-JUN-2009 00:00:00		SAMPLE ID : S0232395015_UU SAMPLE QTY: 0.506 G	
DETECTOR NUMBER :78770 AVERAGE %EFFICIENCY :24.6507 % YIELD : 97.508		COUNT DATE:23-JUL-2009 08:23:32 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29587 dpm RESULTS : 5.16387 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B127.CNF;386 BKG DATE : 19-JUL-2009 EFF FILE : W127.CNF;110 CAL DATE : 17-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	191.000	187.161	0.000	0.0000	100.0000	6.93E-01	1.37E-01	1.11E-02	0.00E+00	9.93E-02
U232	5302.100	1275.000	1272.000	3.000	1.7321	100.0000	4.71E+00	6.94E-01	4.10E-02	1.49E-02	2.60E-01
U-235	4391.000	7.000	7.000	0.000	0.0000	80.90000	3.20E-02	2.41E-02	1.37E-02	0.00E+00	2.37E-02
U-238	4184.730	189.000	187.000	2.000	1.4142	100.0000	6.93E-01	1.38E-01	3.55E-02	1.22E-02	1.00E-01

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



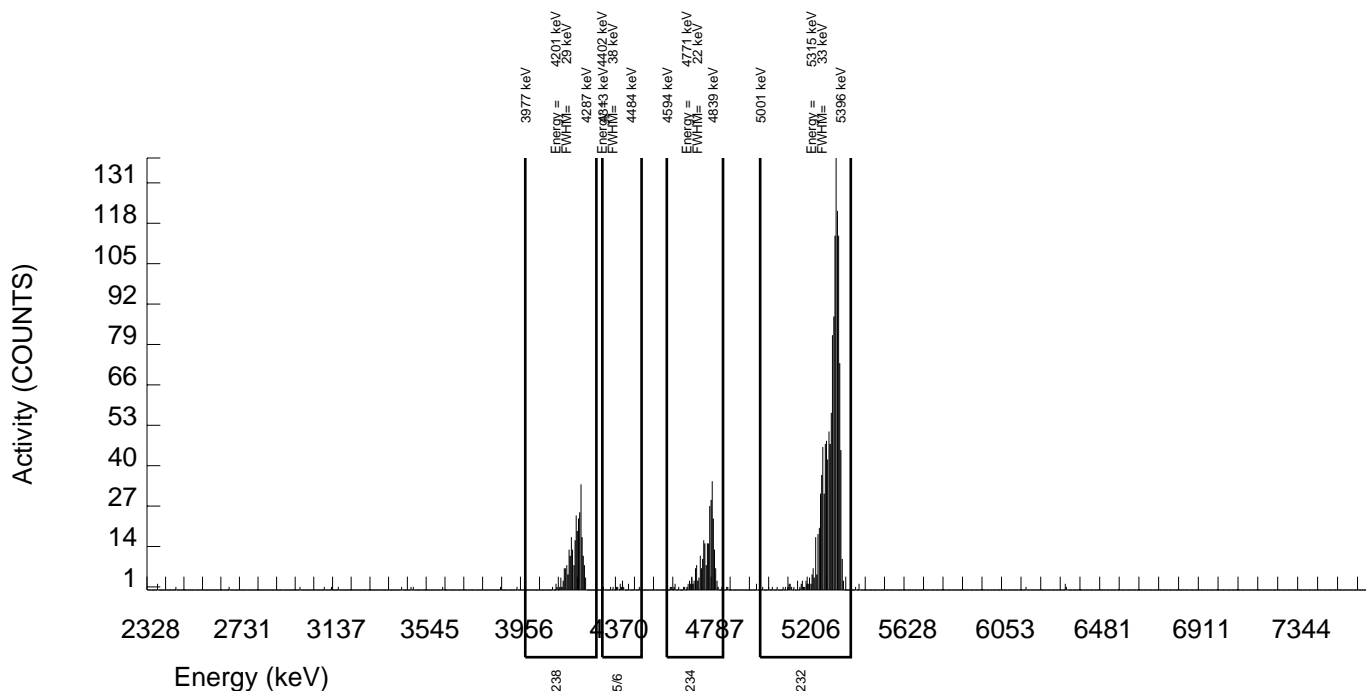
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 26-JUN-2009 00:00:00		SAMPLE ID : S0232395016_UU SAMPLE QTY: 0.508 G	
DETECTOR NUMBER :75549 AVERAGE %EFFICIENCY :25.6855 % YIELD : 98.214		COUNT DATE:23-JUL-2009 08:23:37 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29587 dpm RESULTS : 5.20128 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B128.CNF;390 BKG DATE : 19-JUL-2009 EFF FILE : W128.CNF;120 CAL DATE : 17-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	283.000	278.971	0.000	0.0000	100.0000	9.81E-01	1.76E-01	1.05E-02	0.00E+00	1.15E-01
U232	5302.100	1340.000	1335.000	5.000	2.2361	100.0000	4.70E+00	6.87E-01	4.71E-02	1.83E-02	2.53E-01
U-235	4391.000	16.000	16.000	0.000	0.0000	80.90000	6.95E-02	3.54E-02	1.30E-02	0.00E+00	3.41E-02
U-238	4184.730	283.000	281.000	2.000	1.4142	100.0000	9.88E-01	1.78E-01	3.37E-02	1.16E-02	1.16E-01

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



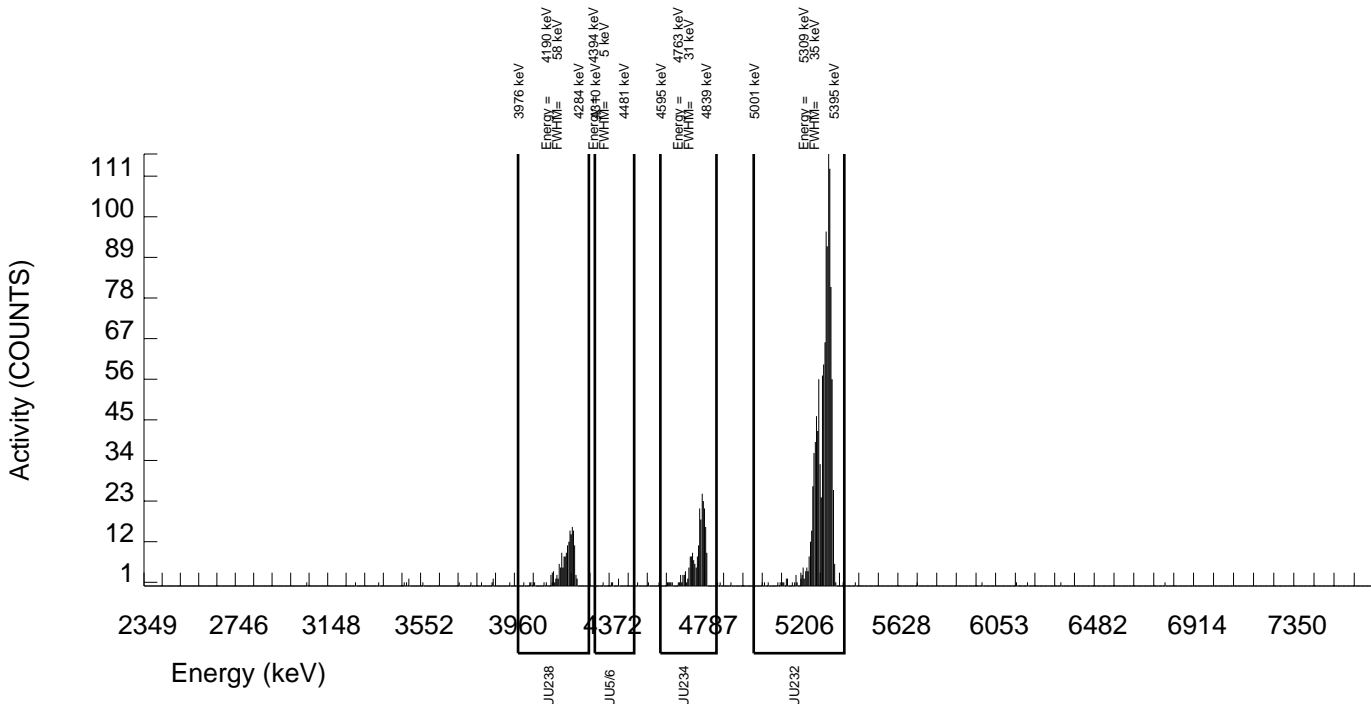
GEL Laboratories LLC
 ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 26-JUN-2009 00:00:00		SAMPLE ID : S0232395017_UU SAMPLE QTY: 0.509 G	
DETECTOR NUMBER :76227 AVERAGE %EFFICIENCY :26.4453 % YIELD : 82.459		COUNT DATE:23-JUL-2009 08:23:39 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29587 dpm RESULTS : 4.36692 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B129.CNF;381 BKG DATE : 19-JUL-2009 EFF FILE : W129.CNF;115 CAL DATE : 17-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	225.000	217.517	4.000	2.0000	100.0000	8.83E-01	1.70E-01	4.99E-02	1.89E-02	1.19E-01
U232	5302.100	1154.000	1154.000	0.000	0.0000	100.0000	4.69E+00	6.99E-01	1.22E-02	0.00E+00	2.70E-01
U-235	4391.000	5.000	4.000	1.000	1.0000	80.90000	2.01E-02	2.42E-02	3.84E-02	1.17E-02	2.41E-02
U-238	4184.730	172.000	169.000	3.000	1.7321	100.0000	6.86E-01	1.41E-01	4.49E-02	1.64E-02	1.05E-01

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



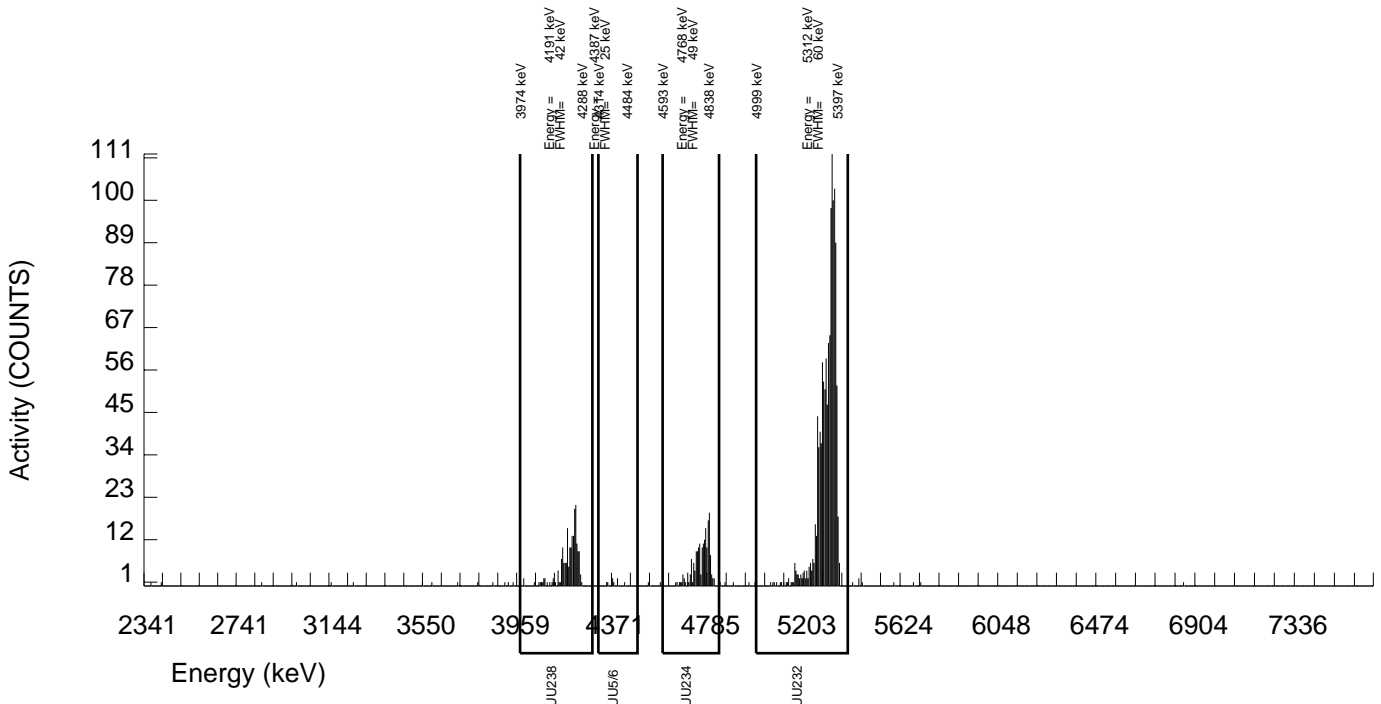
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 26-JUN-2009 00:00:00		SAMPLE ID : S0232395018_UU SAMPLE QTY: 0.509 G	
DETECTOR NUMBER :76228 AVERAGE %EFFICIENCY :24.6806 % YIELD : 94.633		COUNT DATE:23-JUL-2009 08:23:41 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29587 dpm RESULTS : 5.01165 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B130.CNF;381 BKG DATE : 19-JUL-2009 EFF FILE : W130.CNF;117 CAL DATE : 17-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	185.000	175.270	6.000	2.4495	100.0000	6.64E-01	1.36E-01	5.46E-02	2.16E-02	1.02E-01
U232	5302.100	1240.000	1236.000	4.000	2.0000	100.0000	4.69E+00	6.93E-01	4.67E-02	1.76E-02	2.62E-01
U-235	4391.000	8.000	7.000	1.000	1.0000	80.90000	3.28E-02	2.79E-02	3.58E-02	1.09E-02	2.75E-02
U-238	4184.730	199.000	196.000	3.000	1.7321	100.0000	7.43E-01	1.47E-01	4.19E-02	1.53E-02	1.06E-01

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



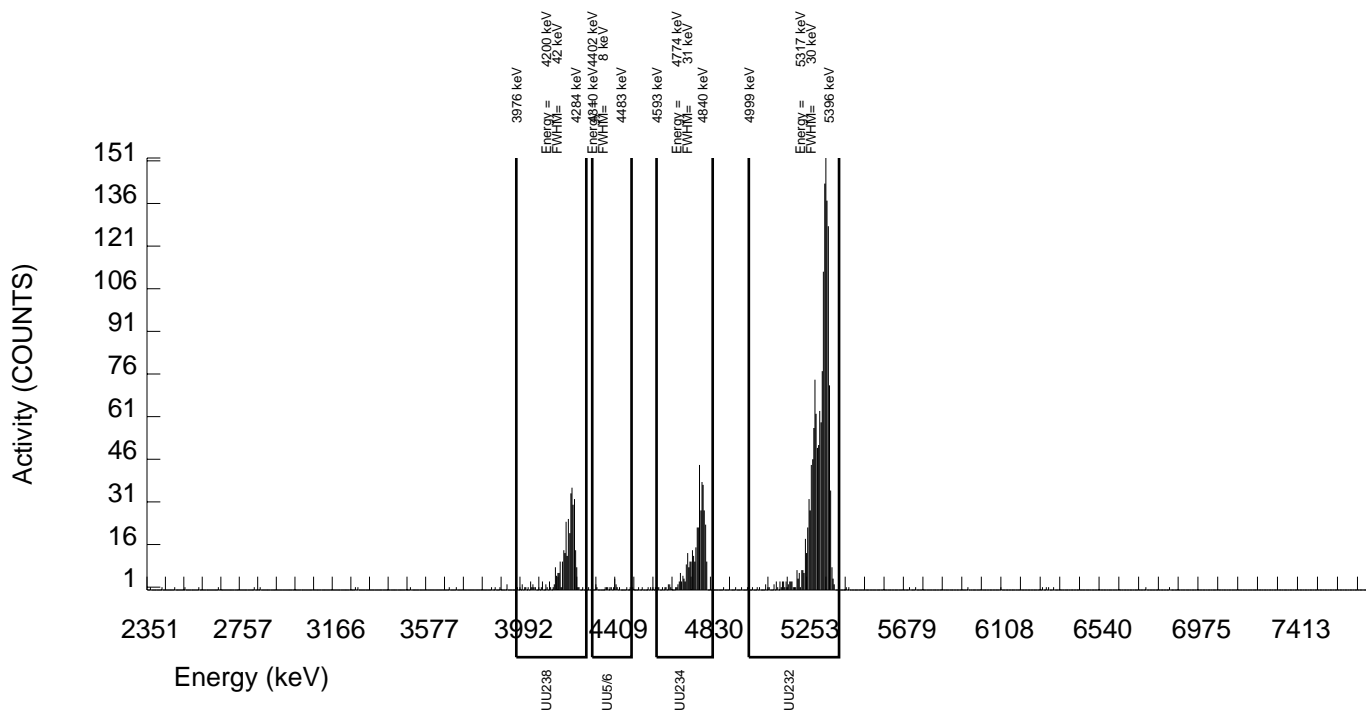
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 26-JUN-2009 00:00:00		SAMPLE ID : S0232395019_UU SAMPLE QTY: 0.501 G	
DETECTOR NUMBER :78786 AVERAGE %EFFICIENCY :28.8675 % YIELD : 102.574		COUNT DATE:23-JUL-2009 07:37:07 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.028E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/G : 5.028E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29587 dpm RESULTS : 5.43220 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B019.CNF;1036 BKG DATE : 19-JUL-2009 EFF FILE : W019.CNF;291 CAL DATE : 6-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	392.000	381.271	6.000	2.4495	100.0000	1.16E+00	1.95E-01	4.37E-02	1.73E-02	1.18E-01
U232	5302.100	1571.000	1567.000	4.000	2.0000	100.0000	4.76E+00	6.83E-01	3.74E-02	1.41E-02	2.36E-01
U-235	4391.000	19.000	17.000	2.000	1.4142	80.90000	6.38E-02	3.48E-02	3.60E-02	1.23E-02	3.37E-02
U-238	4184.730	342.000	339.000	3.000	1.7321	100.0000	1.03E+00	1.77E-01	3.36E-02	1.22E-02	1.11E-01

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



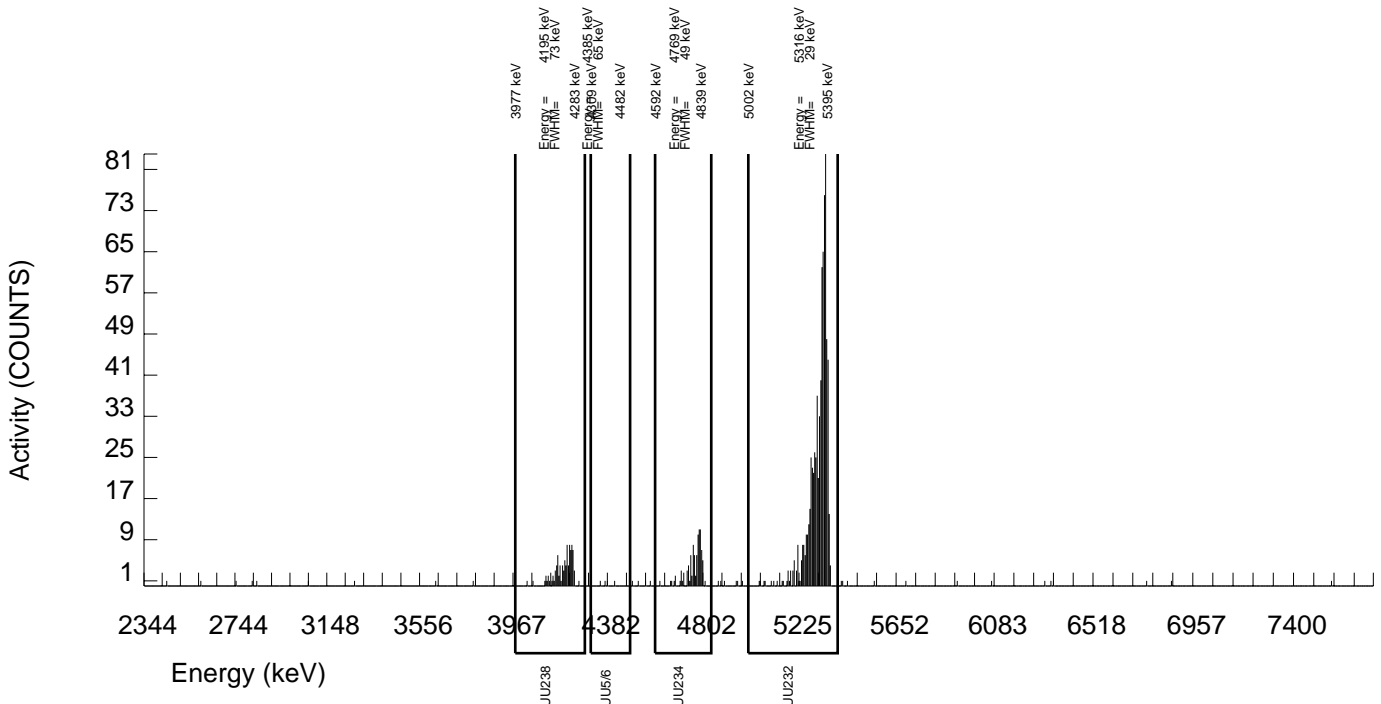
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 30-JUN-2009 00:00:00		SAMPLE ID : S0232395020_UU SAMPLE QTY: 0.504 G	
DETECTOR NUMBER :78787 AVERAGE %EFFICIENCY :34.3072 % YIELD : 41.145		COUNT DATE:23-JUL-2009 07:37:07 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29532 dpm RESULTS : 2.17874 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B020.CNF;1031 BKG DATE : 19-JUL-2009 EFF FILE : W020.CNF;305 CAL DATE : 6-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	94.000	85.746	6.000	2.4495	100.0000	5.43E-01	1.46E-01	9.12E-02	3.61E-02	1.23E-01
U232	5302.100	761.000	747.000	14.000	3.7417	100.0000	4.73E+00	7.67E-01	1.29E-01	5.51E-02	3.46E-01
U-235	4391.000	4.000	3.000	1.000	1.0000	80.90000	2.35E-02	3.45E-02	5.99E-02	1.82E-02	3.43E-02
U-238	4184.730	95.000	93.000	2.000	1.4142	100.0000	5.89E-01	1.49E-01	6.07E-02	2.08E-02	1.22E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690
SAMPLE DATE : 20-JUL-2009 00:00:00

SAMPLE ID : S1201884685_UU
SAMPLE QTY: 0.516 G

DETECTOR NUMBER :67047
AVERAGE %EFFICIENCY :30.0742
% YIELD : 102.669

COUNT DATE:23-JUL-2009 07:37:07
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :CXM2

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

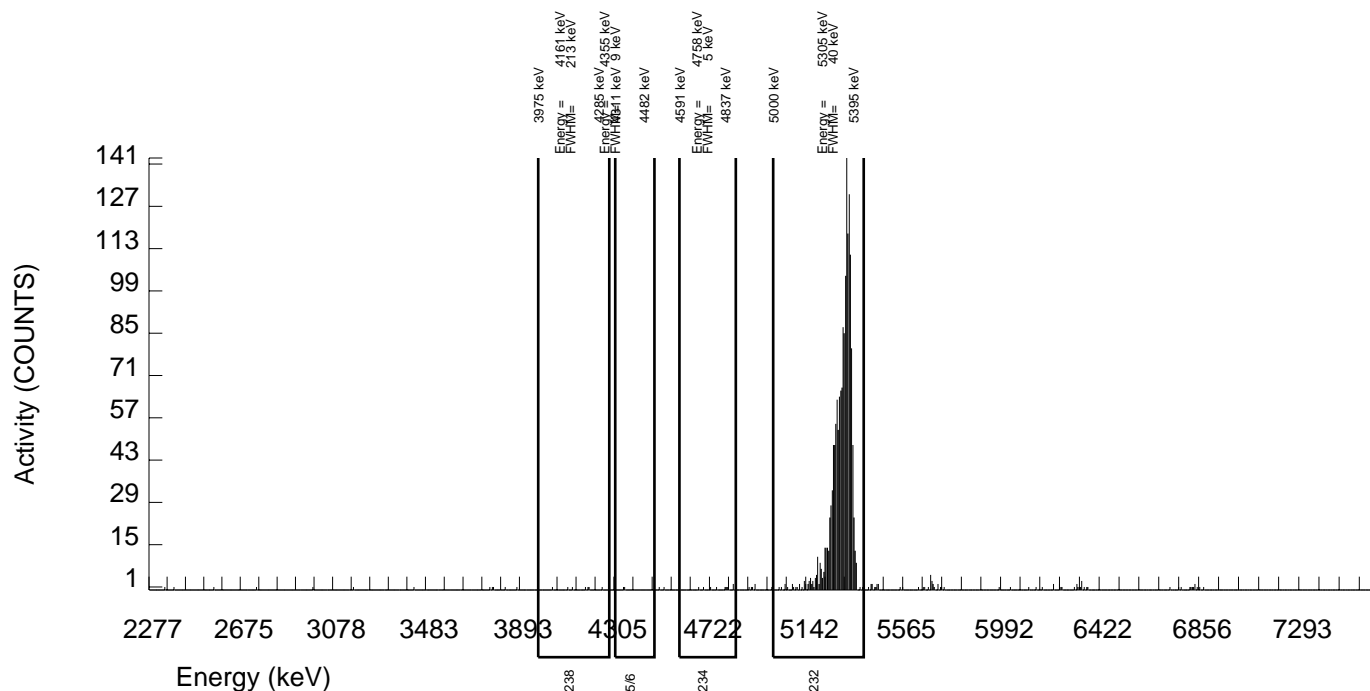
TRACER
ID : 1283-B
ISOTOPE : U232
NOMINAL : 5.29252 dpm
RESULTS : 5.43375 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B021.CNF;1039
BKG DATE : 19-JUL-2009
EFF FILE : W021.CNF;313
CAL DATE : 6-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	11.000	3.069	3.000	1.7321	100.0000	8.68E-03	1.67E-02	3.13E-02	1.14E-02	1.67E-02
U232	5302.100	1642.000	1634.000	8.000	2.8284	100.0000	4.62E+00	6.59E-01	4.57E-02	1.86E-02	2.25E-01
U-235	4391.000	2.000	-1.000	3.000	1.7321	80.90000	-3.49E-03	1.53E-02	3.86E-02	1.41E-02	1.53E-02
U-238	4184.730	7.000	1.000	6.000	2.4495	100.0000	2.83E-03	2.00E-02	4.07E-02	1.61E-02	2.00E-02

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690
SAMPLE DATE : 30-JUN-2009 00:00:00

SAMPLE ID : S1201884686_UU
SAMPLE QTY: 0.504 G

DETECTOR NUMBER :72530
AVERAGE %EFFICIENCY :31.7747
% YIELD : 32.054

COUNT DATE:23-JUL-2009 07:37:07
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :CXM2

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

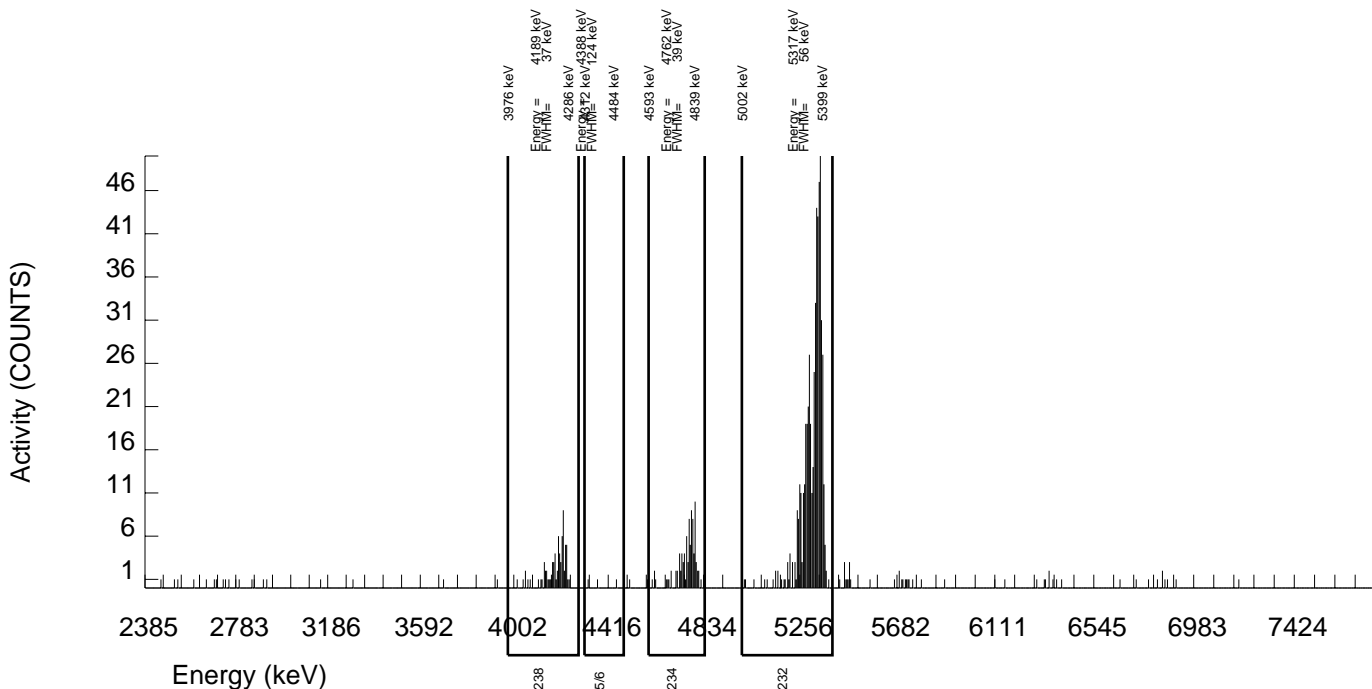
TRACER
ID : 1283-B
ISOTOPE : U232
NOMINAL : 5.29532 dpm
RESULTS : 1.69738 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B022.CNF;1041
BKG DATE : 19-JUL-2009
EFF FILE : W022.CNF;300
CAL DATE : 6-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	94.000	89.373	3.000	1.7321	100.0000	7.84E-01	2.06E-01	9.70E-02	3.54E-02	1.68E-01
U232	5302.100	544.000	539.000	5.000	2.2361	100.0000	4.73E+00	8.21E-01	1.18E-01	4.57E-02	4.03E-01
U-235	4391.000	3.000	2.000	1.000	1.0000	80.90000	2.17E-02	4.26E-02	8.30E-02	2.52E-02	4.25E-02
U-238	4184.730	75.000	73.000	2.000	1.4142	100.0000	6.41E-01	1.79E-01	8.41E-02	2.89E-02	1.51E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690
SAMPLE DATE : 30-JUN-2009 00:00:00

SAMPLE ID : S1201884687_UU
SAMPLE QTY: 0.506 G

DETECTOR NUMBER :78264
AVERAGE %EFFICIENCY :33.2710
% YIELD : 39.586

COUNT DATE:23-JUL-2009 07:37:07
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :CXM2

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

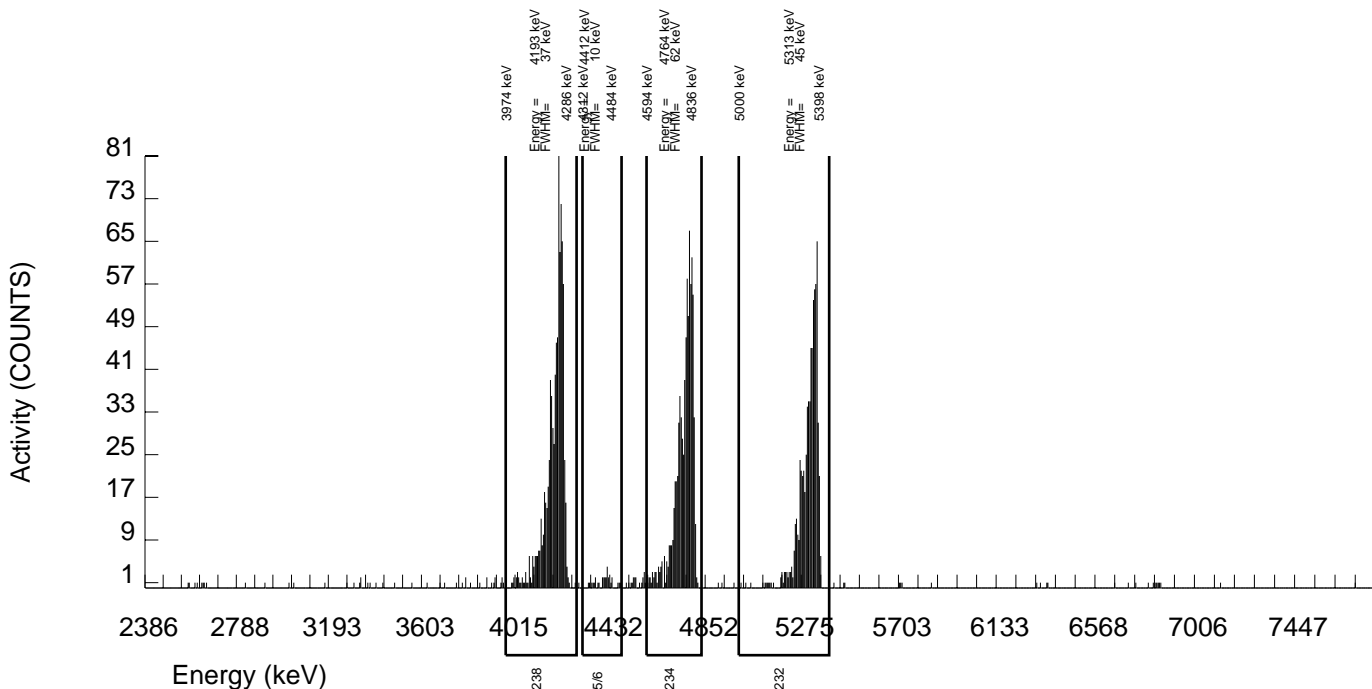
TRACER
ID : 1283-B
ISOTOPE : U232
NOMINAL : 5.29532 dpm
RESULTS : 2.09623 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B023.CNF;1043
BKG DATE : 19-JUL-2009
EFF FILE : W023.CNF;286
CAL DATE : 6-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	798.000	787.896	8.000	2.8284	100.0000	5.33E+00	8.63E-01	1.09E-01	4.45E-02	3.76E-01
U232	5302.100	707.000	697.000	10.000	3.1623	100.0000	4.71E+00	7.74E-01	1.20E-01	4.98E-02	3.55E-01
U-235	4391.000	29.000	29.000	0.000	0.0000	80.90000	2.42E-01	9.50E-02	2.51E-02	0.00E+00	8.82E-02
U-238	4184.730	848.000	844.000	4.000	2.0000	100.0000	5.70E+00	9.17E-01	8.32E-02	3.14E-02	3.87E-01

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



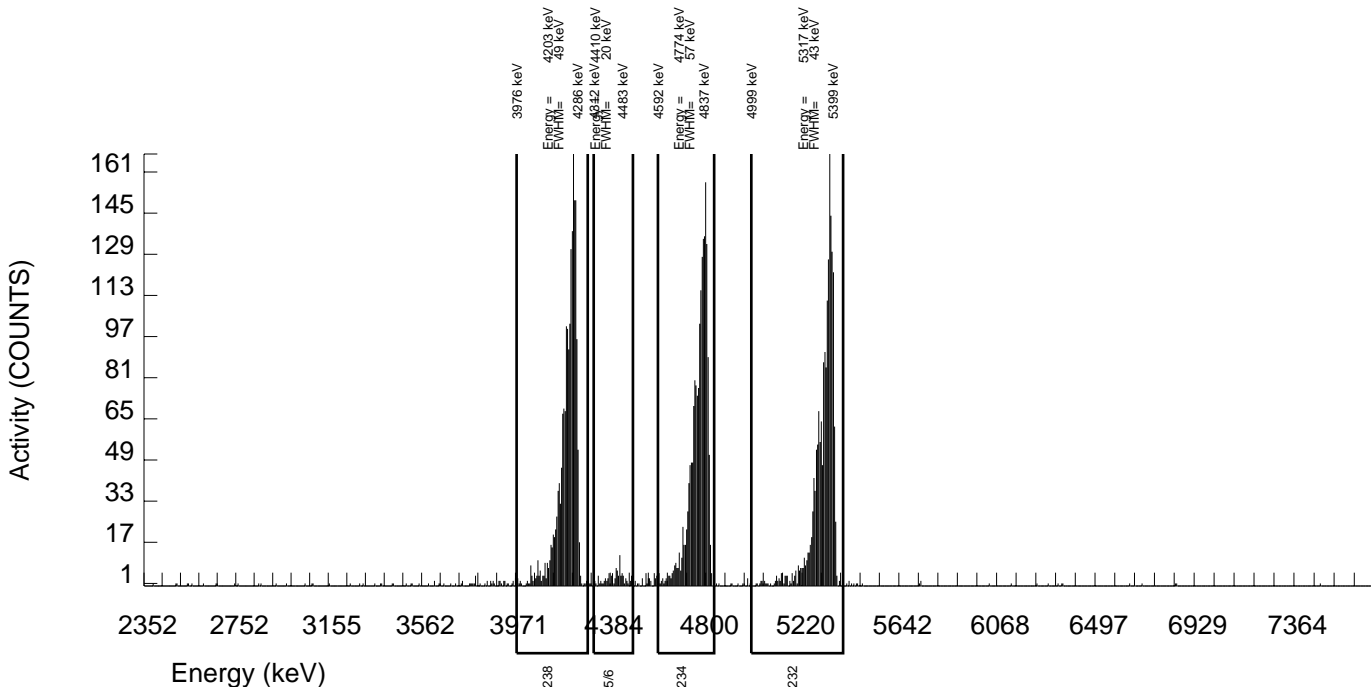
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886690 SAMPLE DATE : 20-JUL-2009 00:00:00		SAMPLE ID : S1201884688_UU SAMPLE QTY: 0.516 G	
DETECTOR NUMBER :76542 AVERAGE %EFFICIENCY :32.7860 % YIELD : 103.398		COUNT DATE:23-JUL-2009 07:37:07 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :CXM2	
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-B ISOTOPE : U232 NOMINAL : 5.29252 dpm RESULTS : 5.47237 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B024.CNF;1036 BKG DATE : 19-JUL-2009 EFF FILE : W024.CNF;285 CAL DATE : 6-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	1842.000	1822.586	14.000	3.7417	100.0000	4.69E+00	6.62E-01	5.26E-02	2.24E-02	2.17E-01
U232	5302.100	1804.000	1794.000	10.000	3.1623	100.0000	4.62E+00	6.52E-01	4.56E-02	1.89E-02	2.15E-01
U-235	4391.000	97.000	95.000	2.000	1.4142	80.90000	3.02E-01	7.40E-02	3.05E-02	1.05E-02	6.21E-02
U-238	4184.730	1893.000	1890.000	3.000	1.7321	100.0000	4.87E+00	6.85E-01	2.85E-02	1.04E-02	2.20E-01

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



Radiochemistry Batch Checklist, Rev 9

Batch# 886957 Product: U Date: 7/28/09

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.		✓	NCR 715635
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%. Or meets the client's contract acceptance criteria.		✓	NCR 715635
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.			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 715635
Batch non-conformances second reviewed and disposition verified to be completed.	✓		NCR 715635
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: Japl ML 7/28/09

Secondary Review Performed By: [Signature] 7/28/09

7/29
KERR

Uranium Que Sheet

21-JUL-09

Batch #: 886957

Analyst: CXM2

First Client Due Date: 29-JUL-09

Internal Due Date: 23-JUL-09

Tracer Isotope: U-232

Tracer Code: 1283-B

Expiration Date: 12/16/09

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: 7/21/09

Initials: CMM

Pipet ID: 241-1058

Balance ID: 16750207

Witness: ME 7/21/09

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/l)	U Det #
232135001-2	M-19B	SAMPLE		.03 pCi/L	WATER	KERR003	19-JUN-09	1	1	0.400	137
232135002-2	M-34B	SAMPLE		.03 pCi/L	WATER	KERR003	19-JUN-09	2	2	0.400	138
232135004-2	M-125BDISS	SAMPLE		.03 pCi/L	WATER	KERR003	23-JUN-09	3	3	0.400	139
232135005-2	M-22AB	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUN-09	4	4	0.400	140
232135006-2	M-17AB	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUN-09	5	5	0.400	141
232135007-2	M-17ABDISS	SAMPLE		.03 pCi/L	WATER	KERR003	24-JUN-09	6	6	0.400	142
232135008-2	M-75B	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	7	7	0.400	144
232135009-2	M-13AB	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	8	8	0.400	145
232135010-2	M-13ABDISS	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	9	9	0.400	146
232135011-2	M-13009AB	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	10	10	0.400	147
232135012-2	M-13009ABDISS	SAMPLE		.03 pCi/L	WATER	KERR003	25-JUN-09	11	11	0.400	148
232135013-2	M-64B	SAMPLE		.03 pCi/L	WATER	KERR003	26-JUN-09	12	12	0.400	149
232135015-2	M-111AB	SAMPLE		.03 pCi/L	WATER	KERR003	29-JUN-09	13	13	0.400	150
232135016-2	EB062909-GW	SAMPLE		.03 pCi/L	WATER	KERR003	29-JUN-09	14	14	0.400	151
232135017-2	M-25B	SAMPLE		.03 pCi/L	WATER	KERR003	30-JUN-09	15	15	0.400	152
232135018-2	M-12AB	SAMPLE		.03 pCi/L	WATER	KERR003	30-JUN-09	16	16	0.400	153
232135019-2	M-12ABDISS	SAMPLE		.03 pCi/L	WATER	KERR003	30-JUN-09	17	17	0.400	154
232395021-2	EB062609-SO	SAMPLE		.03 pCi/L	WATER	KERR003	26-JUN-09	18	18	0.400	155
232727021-2	EB070109-SO1	SAMPLE		.03 pCi/L	WATER	KERR003	01-JUL-09	19	19	0.400	156
1201885396-1	MB for batch 886957	MB		UCF pCi/L to pCi	WATER	QC ACCOUNT	23-JUN-09	20	20	0.400	157
1201885397-2	M-125BDISS(232135004DUP)	DUP		.03 pCi/L	WATER	QC ACCOUNT	23-JUN-09	21	21	0.400	158
1201885400-2	M-125BDISS(232135004MS)	MS		.03 pCi/L	WATER	QC ACCOUNT	23-JUN-09	22	22	0.400	159
1201885403-1	LCS for batch 886957	LCS		UCF pCi/L to pCi	WATER	QC ACCOUNT		23	23	0.400	160

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

Solid Sample Dissolution by: LEACH OF DIGESTION
 Circle One 258 7/21/09

Data Reviewed By: J. L. M. S. - 7/28/09

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886957
SAMPLE DATE : 23-JUN-2009 00:00:00

SAMPLE ID : S0232135004_UU
SAMPLE QTY: 0.400 L

DETECTOR NUMBER :76231
AVERAGE %EFFICIENCY :25.0427
% YIELD : 82.626

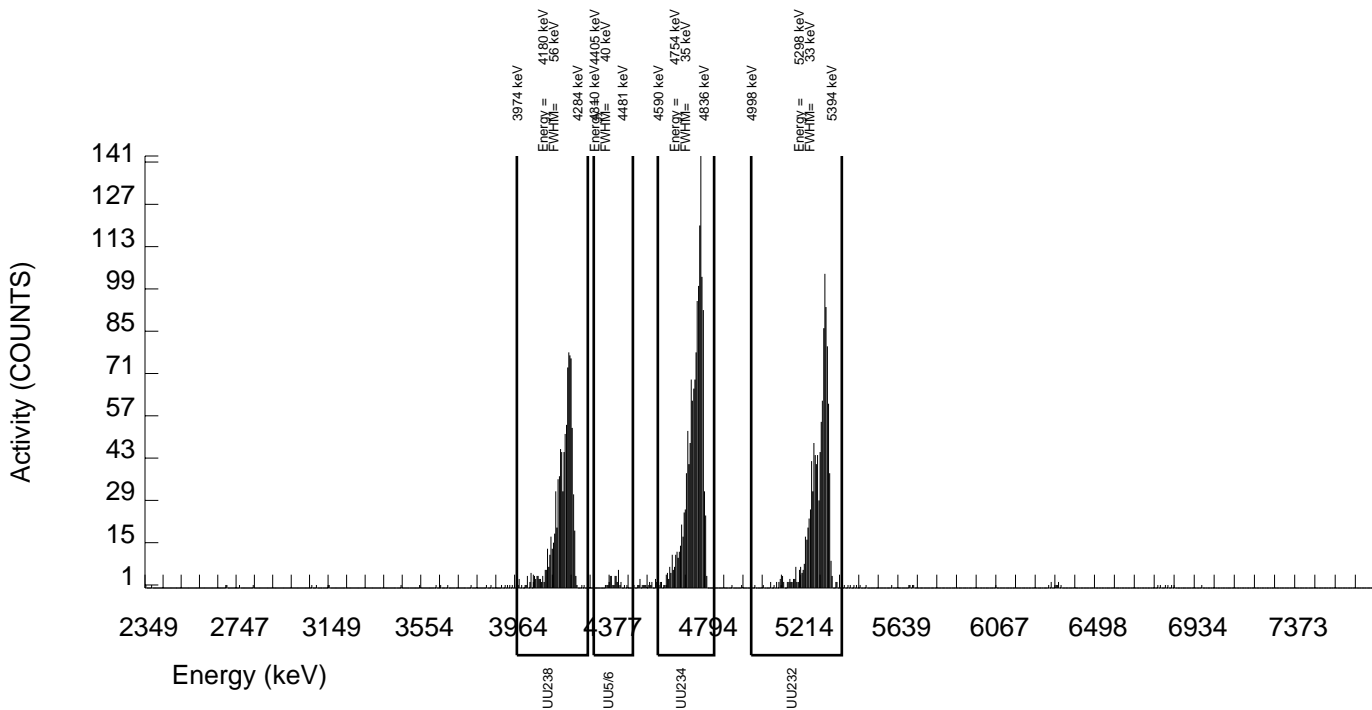
COUNT DATE:23-JUL-2009 21:51:55
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29630 dpm RESULTS : 4.37613 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B139.CNF;332 BKG DATE : 19-JUL-2009 EFF FILE : W139.CNF;90 CAL DATE : 17-JUL-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	1443.000	1434.695	5.000	2.2361	100.0000	7.81E+00	1.17E+00	7.29E-02	2.83E-02	4.05E-01
U232	5302.100	1102.000	1095.000	7.000	2.6458	100.0000	5.96E+00	9.11E-01	8.34E-02	3.35E-02	3.56E-01
U-235	4391.000	37.000	34.000	3.000	1.7321	80.90000	2.29E-01	8.94E-02	7.44E-02	2.71E-02	8.34E-02
U-238	4184.730	968.000	966.000	2.000	1.4142	100.0000	5.26E+00	8.11E-01	5.21E-02	1.79E-02	3.32E-01

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



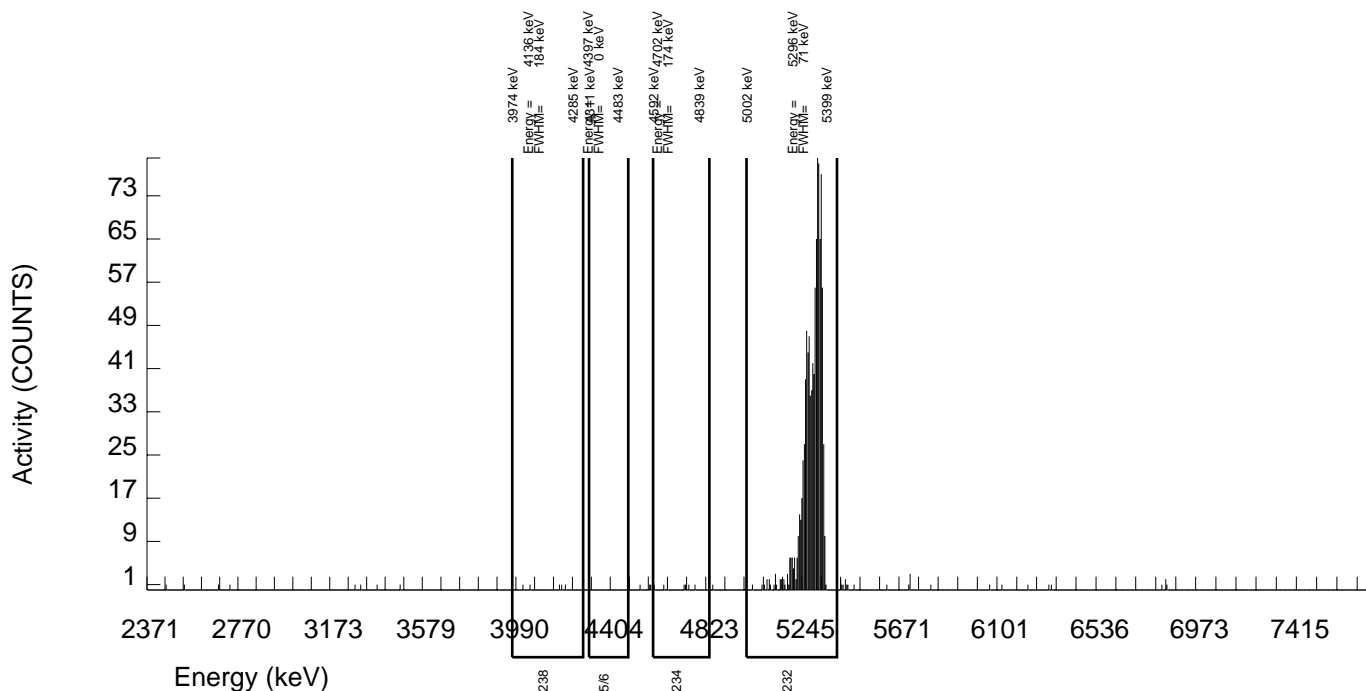
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886957 SAMPLE DATE : 26-JUN-2009 00:00:00		SAMPLE ID : S0232395021_UU SAMPLE QTY: 0.400 L	
DETECTOR NUMBER :75553 AVERAGE %EFFICIENCY :25.6615 % YIELD : 74.006		COUNT DATE:23-JUL-2009 21:52:36 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29587 dpm RESULTS : 3.91929 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B155.CNF;334 BKG DATE : 19-JUL-2009 EFF FILE : W155.CNF;103 CAL DATE : 17-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	7.000	-0.033	4.000	2.0000	100.0000	-1.96E-04	3.28E-02	7.30E-02	2.76E-02	3.28E-02
U232	5302.100	1014.000	1005.000	9.000	3.0000	100.0000	5.96E+00	9.09E-01	1.01E-01	4.14E-02	3.72E-01
U-235	4391.000	0.000	-1.000	1.000	1.0000	80.90000	-7.33E-03	2.03E-02	5.61E-02	1.71E-02	2.03E-02
U-238	4184.730	5.000	1.000	4.000	2.0000	100.0000	5.93E-03	3.49E-02	7.30E-02	2.76E-02	3.49E-02

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



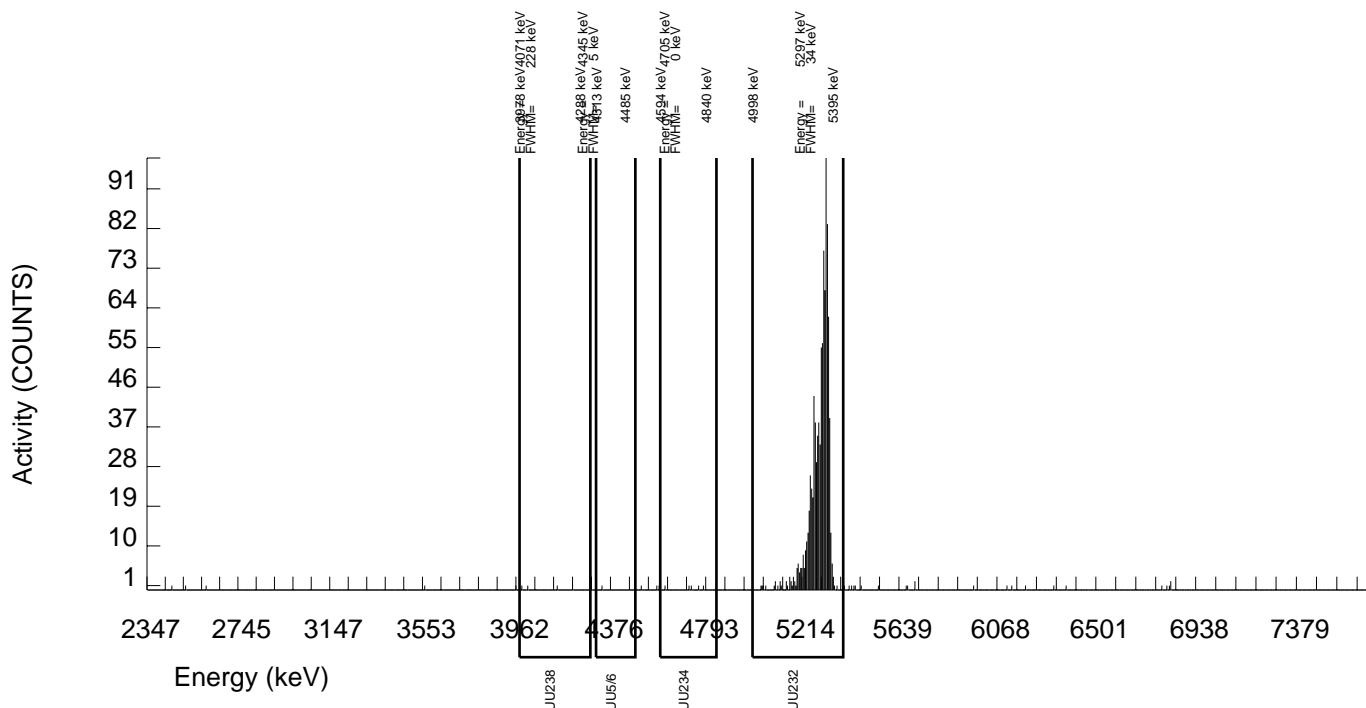
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886957 SAMPLE DATE : 21-JUL-2009 00:00:00		SAMPLE ID : S1201885396_UU SAMPLE QTY: 0.400 L	
DETECTOR NUMBER :78771 AVERAGE %EFFICIENCY :25.5149 % YIELD : 70.884		COUNT DATE:27-JUL-2009 12:10:23 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29238 dpm RESULTS : 3.75143 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B140.CNF;334 BKG DATE : 26-JUL-2009 EFF FILE : W140.CNF;95 CAL DATE : 17-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	6.000	1.111	2.000	1.4142	100.0000	6.92E-03	2.76E-02	5.97E-02	2.05E-02	2.76E-02
U232	5302.100	964.000	957.000	7.000	2.6458	100.0000	5.96E+00	9.16E-01	9.53E-02	3.83E-02	3.80E-01
U-235	4391.000	1.000	0.000	1.000	1.0000	80.90000	0.00E+00	2.14E-02	5.89E-02	1.79E-02	2.13E-02
U-238	4184.730	5.000	-2.000	7.000	2.6458	100.0000	-1.25E-02	4.23E-02	9.53E-02	3.83E-02	4.23E-02

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886957
SAMPLE DATE : 23-JUN-2009 00:00:00

SAMPLE ID : S1201885397_UU
SAMPLE QTY: 0.400 L

DETECTOR NUMBER :33451
AVERAGE %EFFICIENCY :24.8572
% YIELD : 88.184

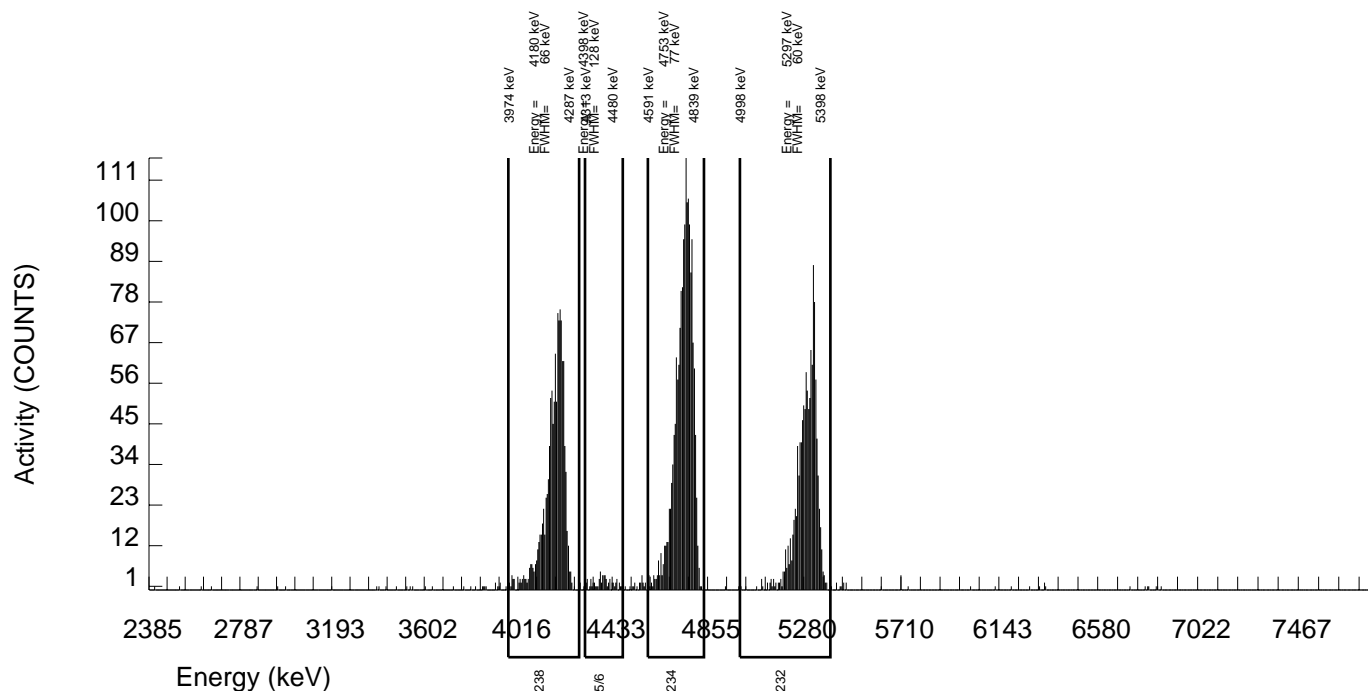
COUNT DATE:23-JUL-2009 21:52:45
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29630 dpm RESULTS : 4.67051 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B158.CNF;336 BKG DATE : 19-JUL-2009 EFF FILE : W158.CNF;100 CAL DATE : 17-JUL-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	1730.000	1720.499	6.000	2.4495	100.0000	8.84E+00	1.28E+00	7.40E-02	2.93E-02	4.19E-01
U232	5302.100	1167.000	1160.000	7.000	2.6458	100.0000	5.96E+00	8.88E-01	7.87E-02	3.16E-02	3.45E-01
U-235	4391.000	63.000	62.000	1.000	1.0000	80.90000	3.94E-01	1.13E-01	4.86E-02	1.48E-02	9.96E-02
U-238	4184.730	1164.000	1163.000	1.000	1.0000	100.0000	5.97E+00	8.89E-01	3.93E-02	1.20E-02	3.44E-01

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



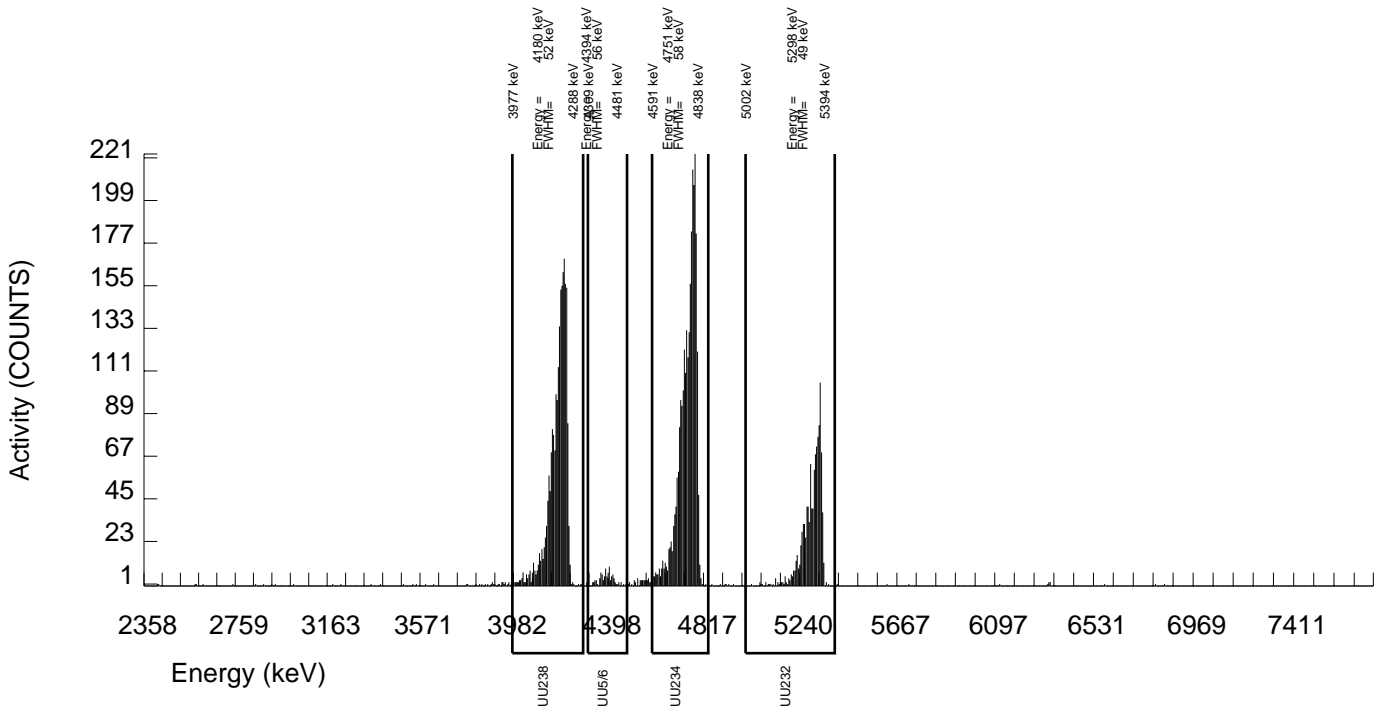
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886957 SAMPLE DATE : 23-JUN-2009 00:00:00		SAMPLE ID : S1201885400_UU SAMPLE QTY: 0.400 L	
DETECTOR NUMBER :76225 AVERAGE %EFFICIENCY :25.3232 % YIELD : 81.487		COUNT DATE:23-JUL-2009 21:52:48 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :CXM2	
MS/MSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	LCS/LCSD ID : 1163-G ISOTOPE : U-238 PCI/L : 6.297E+00	TRACER ID : 1283-B ISOTOPE : U232 NOMINAL : 5.29629 dpm RESULTS : 4.31580 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B159.CNF;309 BKG DATE : 19-JUL-2009 EFF FILE : W159.CNF;92 CAL DATE : 17-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	2749.000	2740.704	5.000	2.2361	100.0000	1.50E+01	2.14E+00	7.31E-02	2.84E-02	5.61E-01
U232	5302.100	1099.000	1092.000	7.000	2.6458	100.0000	5.96E+00	8.97E-01	8.36E-02	3.36E-02	3.56E-01
U-235	4391.000	95.000	93.000	2.000	1.4142	80.90000	6.27E-01	1.56E-01	6.46E-02	2.22E-02	1.30E-01
U-238	4184.730	2219.000	2218.000	1.000	1.0000	100.0000	1.21E+01	1.74E+00	4.18E-02	1.27E-02	5.04E-01

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 886957
SAMPLE DATE : 21-JUL-2009 00:00:00

SAMPLE ID : S1201885403_UU
SAMPLE QTY: 0.400 L

DETECTOR NUMBER :76226
AVERAGE %EFFICIENCY :24.6915
% YIELD : 73.852

COUNT DATE:23-JUL-2009 21:52:52
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :CXM2

MS/MSD
ID : 1163-G
ISOTOPE : U-238
PCI/L : 6.297E+00

LCS/LCSD
ID : 1163-G
ISOTOPE : U-238
PCI/L : 6.297E+00

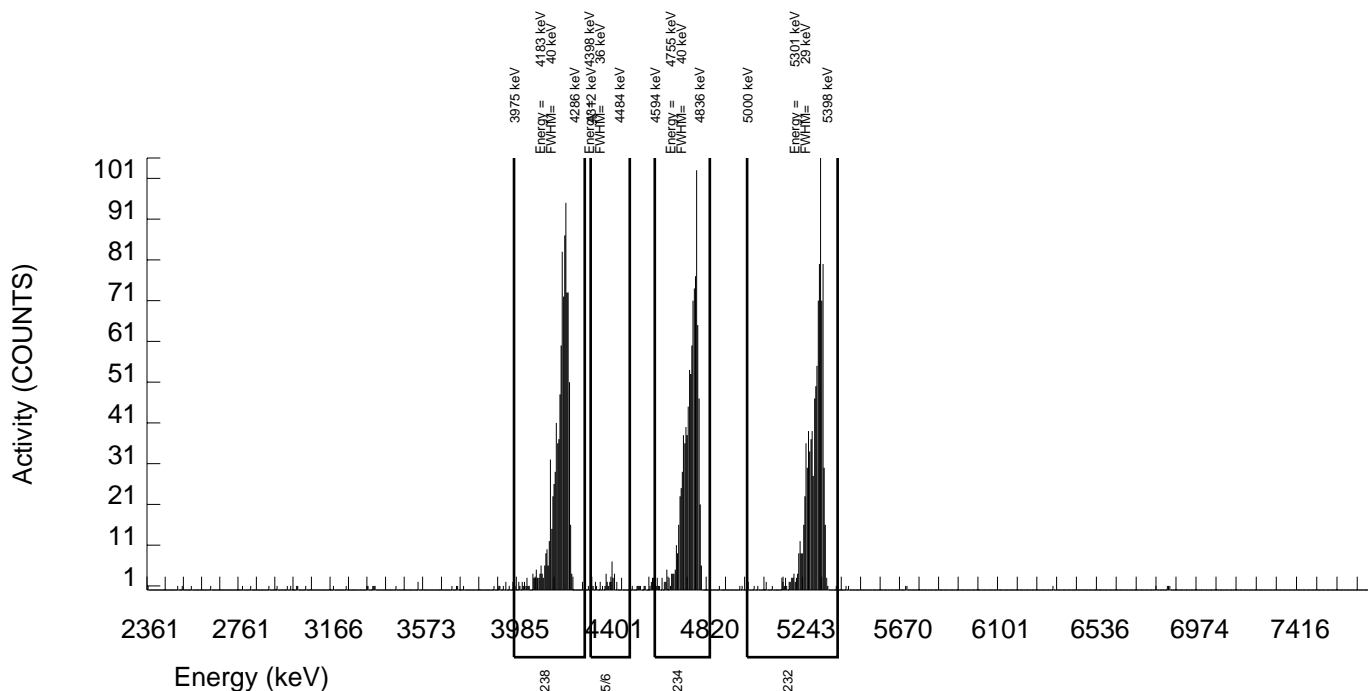
TRACER
ID : 1283-B
ISOTOPE : U232
NOMINAL : 5.29239 dpm
RESULTS : 3.90856 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B160.CNF;311
BKG DATE : 19-JUL-2009
EFF FILE : W160.CNF;100
CAL DATE : 17-JUL-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/L	TPU 1.96-SIGMA	MDA pCi/L	Lc pCi/L	UNC pCi/L
U-3/4	4763.020	983.000	967.088	13.000	3.6056	100.0000	5.97E+00	9.17E-01	1.22E-01	5.18E-02	3.81E-01
U232	5302.100	972.000	965.000	7.000	2.6458	100.0000	5.96E+00	9.15E-01	9.46E-02	3.80E-02	3.79E-01
U-235	4391.000	39.000	33.000	6.000	2.4495	80.90000	2.52E-01	1.06E-01	1.10E-01	4.35E-02	1.00E-01
U-238	4184.730	1001.000	998.000	3.000	1.7321	100.0000	6.16E+00	9.42E-01	6.83E-02	2.49E-02	3.84E-01

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



METHOD CALIBRATION DATA

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?	<input checked="" type="checkbox"/>		
the second standard(s) documentation?	<input checked="" type="checkbox"/>		
standard preparation information?	<input checked="" type="checkbox"/>		
standard < 1 Year old or verified?	<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?	<input checked="" type="checkbox"/>		
Plateau generation?	<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"/>		
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 S. Demee

Date: 8/29/08

Reviewed By: Mark J. Idem

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	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
101	1.796	Average 1.751	6/11/2008 22:40	6/11/2008 14:55	6/5/2008 14:10	8	8239	30	274.63	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	4800	30	160.00	244.63	2.71875	0.14236	3167	0.9962
101	1.728		7/31/2008 15:35	7/31/2008 8:55	7/28/2008 10:55	8	4938	30	164.60	244.63	2.91667	0.27778	3152	0.9963
102	1.877	Average 1.847	6/11/2008 23:15	6/11/2008 15:20	6/5/2008 14:10	8	7998	30	256.60	244.63	6.04861	0.32986	3102	0.9963
102	1.832	Stdev 0.026	8/4/2008 16:35	8/4/2008 9:45	8/1/2008 13:30	8	4570	30	152.33	244.63	2.84375	0.28472	3156	0.9963
102	1.832		7/31/2008 16:10	7/31/2008 9:20	7/28/2008 10:55	8	4680	30	156.00	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	8620	30	287.33	244.63	5.81250	0.16667	3102	0.9963
103	1.867	Stdev 0.098	7/31/2008 16:40	7/31/2008 9:50	7/28/2008 10:55	7	4862	30	162.07	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	4796	30	159.87	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	8955	30	298.50	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	7275	30	242.50	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	5964	30	198.80	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	5327	30	177.57	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	4933	30	164.43	244.63	2.99306	0.29861	3152	0.9963
105	1.831		8/4/2008 18:35	8/4/2008 11:05	8/1/2008 13:30	1	4805	30	153.50	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	4441	30	148.03	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	4208	30	140.27	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	4132	30	137.73	244.63	3.27431	0.68667	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	8232	30	274.40	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	5121	30	170.70	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	5105	30	170.17	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	8081	30	268.37	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	8413	30	280.43	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	5071	30	169.03	244.63	2.75347	0.19792	3167	0.9962
109	1.846	Average 1.512	6/11/2008 17:35	6/11/2008 11:45	6/5/2008 14:10	8	7570	30	252.33	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	3694	30	129.80	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	4226	30	140.87	244.63	3.00694	0.29167	3156	0.9963
110	1.864	Average 1.544	6/24/2008 21:15	6/24/2008 15:05	6/20/2008 9:50	8	6214	30	207.13	244.63	4.21875	0.26684	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	4377	30	145.90	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	4103	30	136.77	244.63	3.02431	0.29514	3156	0.9963
111	1.832	Average 1.575	6/24/2008 22:30	6/24/2008 15:30	6/20/2008 9:50	7	6071	30	202.37	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	4120	30	137.33	244.63	3.12847	0.65417	3152	0.9963
111	1.576		8/4/2008 21:35	8/4/2008 14:30	8/1/2008 13:30	7	4636	30	154.53	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	8239	30	274.63	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	4294	30	143.13	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	4599	30	153.30	244.63	3.05556	0.29861	3156	0.9963

10/8/2010

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						
Cal 13	500	6/15/08 1410						
Cal 10	500	6/15/08 1410						
Cal 14	500	6/15/08 1410						
Cal 24	500	6/15/08 1410						
Cal 21	500	6/12/08 0950	6/12/08 1410	6/12/08 1720	104	1	8	7275
Cal 20	500	6/12/08 0950	6/12/08 1430	6/24/08 1820	107	1	8	18
Cal 25	500	6/12/08 0950	6/12/08 1450	6/24/08 1921	108	1	8	7547
Cal 36	500	6/12/08 0950	6/12/08 1505	6/24/08 2115	110	1	8	6214
Cal 37	500	6/12/08 0950	6/12/08 1530	6/24/08 2230	111	1	7	6071
Cal 17	500	6/12/08 0950	6/12/08 1545	6/24/08 2305	112	1	8	5592
Cal 3	500	6/12/08 0950	6/12/08 1405	6/25/08 1705	109	1	8	8275
Cal 32	500	6/12/08 0950	6/12/08 1420	6/25/08 1740	101	1	8	3362
Cal 41	500	6/12/08 0950	6/12/08 1445	6/25/08 1820	103	1	8	8905
Cal 39	500	6/12/08 0950	6/12/08 1510	6/25/08 1851	105	1	8	9300
Cal 43	500	6/12/08 0950	6/12/08 1525	6/25/08 1930	109	1	8	8121
Cal 47	500	6/12/08 0950	6/12/08 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	8220
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 1350	6/11/08 2040	110	1	8	4366
Ca134	500	6/5/08 1410	6/11/08 1415	6/11/08 2115	111	1	6	6792
Ca143	500	6/5/08 1410	6/11/08 1430	6/11/08 2210	110	1	8	5867
Ca117	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						

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8/29/08

Ra-226 Verification Sheet

1197

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 14	500	7/28/08 1055	7/31/08 0855	7/31/08 1535	101	1	8	4938
Cal 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	4209
Cal 113	500	7/28/08 1055	7/31/08 1140	7/31/08 1905	107	1	7	5721
Cal 113	500	7/28/08 1055	7/31/08 1205	8/1/08 0815	108	1	8	3759
Cal 142	500	7/28/08 1055	7/31/08 1305	8/1/08 0855	109	1	6	3894
Cal 113	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

1198
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:

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

10/8/12/08
 Nancy E. Jackson 4/9/08
 David Roy 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

*140
8/28/08*

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-KAP-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 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)
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. of Standards

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

Rev 1 RLM 9/10/97

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-KAD-A-008 Isotope La-226
 Date Standards Prepared 4/15/05 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				

8/22/08
 8/22/08

Prepared By: Kelli Powell Date: 8/22/08
 Reviewed By: John J. Identi Date: 8/22/08

Rev 1 RLM.9/10/97

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-KAD-A-003 Isotope Po-226
 Date Standards Prepared 4/15/05 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 12/15/99 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. (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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Date of
issue

199

17th December 1999

1008/89/100

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	1.940	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	8/22/08 1300	8/22/08 1610	101	1	8	138
VEN 2	500	8/21/08 1530	8/22/08 1330	8/22/08 1765	102	1	8	770
VEN 3	500	8/21/08 1530	8/22/08 1355	8/22/08 1748	103	1	8	716
VEN 4	500	8/21/08 1530	8/22/08 1425	8/22/08 1815	104	1	8	820
VEN 5	500	8/21/08 1530	8/22/08 1445	8/22/08 1900	106	1	8	656
VEN 6	500	8/21/08 1530	8/22/08 1505	8/22/08 1935	107	1	8	800
VEN 7	500	8/21/08 1530	8/22/08 1525	8/22/08 2010	108	1	8	867
VEN 8	500	8/21/08 1530	8/22/08 1540	8/22/08 2040	110	1	8	756
VEN 9	500	8/21/08 1530	8/22/08 1555	8/22/08 2110	111	1	4	827
VEN 10	500	8/21/08 1530	8/22/08 1610	8/22/08 2145	112	1	8	851
VEN 11	500	8/21/08 1530						
VEN 12	500	8/21/08 1530						

UP 8/22/08

NON

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	1.0000	261.3311626
0638-F N2	1222.8000	31.5000	1191.3000	1.0000	257.6330801
0638-F N3	1219.4000	31.5000	1187.9000	1.0000	256.8977889
				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** *exception taken due to full recovery of standard
 Two sigma = 4.751930843
 10 % of Mean = 25.86206772
 Rule 2 (Pass/Fail) **Pass**

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for Ra-226 source 0638-F by transferring portions of the standard into tared glass liquid scintillation vials. One mL of DI Water and 10 mL Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC YELLOW using source standard verification. The Ra-226 efficiency calibration which was used for verification calculations was performed on 12/27/07 using source 0024-A (Ra-226). Calibration data is recorded in this logbook under Ra-226 (0024-A). Each verification source calculation was performed as follows:

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

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

VAD
 8/20/08
 Amanda L. Fehr 1/4/07
 Amanda L. Fehr 1/4/07

**General Engineering Laboratories
Verification Source Preparation Sheet**

Applicable SOP Number GL-RAD-A-008

Isotope Ra-226

Date Standards Prepared 12/18/07

Cocktail Type Used N/A

Standard ID 0638-F

Matrix of Vial/Planchett N/A

Amount Used (g or ml) 0.1

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 Percece Date 8/29/08

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

Rev 1 RLM 9/10/97

**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				

Blank 2/28/08

Prepared By: Kelly Daniel Date 8/29/08

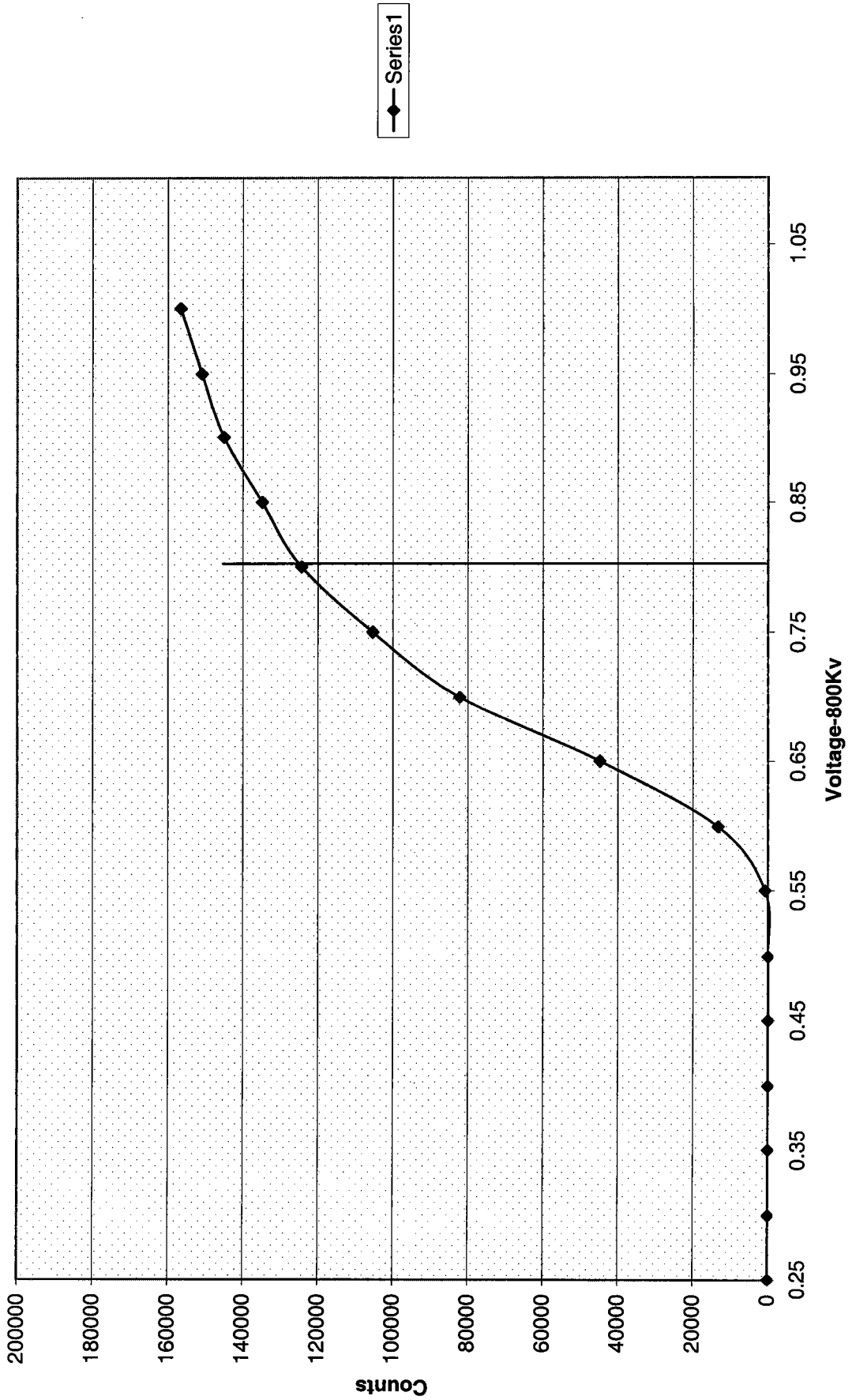
Reviewed By: John J. Adams Date 3/28/08

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
Shaner*

Ludlum 1 Voltage Curve



Series1

10 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 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: Kelli Donnell

Date: 12/19/08

Reviewed By: Mark G. Adams

Date: 12/19/08

Effective Date: 12/19/08

NU 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	9/15/2008 15:45	9/15/2008 9:05	9/12/2008 13:20	0.267	5596	30	186.53	243.02	2.82292	0.27778	3198	0.9962
201	2.043	Stdev	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		9/25/2008 19:35	9/25/2008 9:15	9/22/2008 10:00	0.267	5361	30	178.70	243.02	2.96975	0.49056	3208	0.9962
202	2.436	Average	9/15/2008 16:20	9/15/2008 9:35	9/12/2008 13:20	0.267	6779	30	225.97	243.02	2.84375	0.28125	3198	0.9962
202	2.209	Stdev	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		10/21/2008 13:50	10/20/2008 13:45	10/13/2008 16:00	0.267	9248	30	308.27	243.02	6.90625	1.00347	3234	0.9962
203	2.255	Average	9/15/2008 16:50	9/15/2008 10:00	9/12/2008 13:20	0.267	6300	30	210.00	243.02	2.86111	0.28472	3198	0.9962
203	2.273	Stdev	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		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	9/15/2008 17:25	9/15/2008 10:30	9/12/2008 13:20	0.267	6132	30	204.40	243.02	2.88194	0.28819	3198	0.9962
204	2.300	Stdev	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		9/30/2008 14:05	9/30/2008 9:10	9/28/2008 9:45	0.133	7535	30	251.17	243.02	3.97569	0.20486	3213	0.9962
205	1.677	Average	10/21/2008 8:30	10/20/2008 14:05	10/13/2008 16:00	0.267	7584	30	252.80	243.02	6.32014	0.76736	3233	0.9962
205	1.730	Stdev	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		9/30/2008 14:45	9/30/2008 9:40	9/28/2008 9:45	0.167	7170	30	239.00	243.02	3.89653	0.21181	3213	0.9962
206	2.240	Average	9/15/2008 21:10	9/15/2008 11:25	9/12/2008 13:20	0.233	6216	30	207.20	243.02	2.93750	0.40825	3198	0.9962
206	2.293	Stdev	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		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	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	0.40972	3198	0.9962
207	2.141	Stdev	9/18/2008 17:55	9/18/2008 10:40	9/15/2008 11:50	0.267	6105	30	203.50	243.02	2.95139	0.30208	3201	0.9962
207	2.110		9/30/2008 16:00	9/30/2008 10:45	9/28/2008 9:45	0.233	7856	30	255.20	243.02	4.04167	0.21875	3213	0.9962
208	2.239	Average	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	Stdev	9/18/2008 19:30	9/18/2008 11:00	9/15/2008 10:45	0.133	6374	30	212.47	243.02	2.94786	0.41290	3201	0.9962
208	2.148		9/30/2008 16:55	9/30/2008 11:10	9/28/2008 9:45	0.167	7691	30	236.03	243.02	4.06989	0.29569	3213	0.9962
209	2.471	Average	9/15/2008 22:45	9/15/2008 13:50	9/12/2008 13:20	0.033	7073	30	235.77	243.02	3.02083	0.37153	3198	0.9962
209	2.212	Stdev	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		9/30/2008 17:25	9/30/2008 11:40	9/28/2008 9:45	0.100	8795	30	293.17	243.02	4.07986	0.23958	3213	0.9962
210	2.320	Average	9/15/2008 23:15	9/15/2008 14:15	9/12/2008 13:20	0.033	6665	30	222.17	243.02	3.03819	0.37500	3198	0.9962
210	2.210	Stdev	9/18/2008 19:45	9/18/2008 11:30	9/15/2008 14:15	0.100	6142	30	204.73	243.02	2.88542	0.34375	3201	0.9962
210	2.230		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	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	Stdev	9/18/2008 22:20	9/18/2008 12:35	9/15/2008 14:30	0.133	6207	30	206.90	243.02	2.92014	0.40625	3201	0.9962
211	2.136		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	9/16/2008 0:20	9/15/2008 14:50	9/12/2008 13:20	0.033	6926	30	230.87	243.02	3.06250	0.39563	3198	0.9962
212	2.315	Stdev	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		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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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
Ca114	500	9/25/08 1000	9/25/08 0015	9/25/08 1935	201	2	0	5361
Ca113	500	9/25/08 1000	9/25/08 0015	9/25/08 2100	202	2	0	5845
Ca143	500	9/22/08 1000	9/22/08 1015	9/25/08 2100	203	2	0	6298
Ca115	500	9/22/08 1000						
Ca144	500	9/22/08 1000						
Ca146	500	9/22/08 1000						
Ca136	500	9/22/08 1000						
Ca130	500	9/22/08 1000						
Ca119	500	9/22/08 1000						
Ca147	500	9/22/08 1000						
Ca137	500	9/22/08 1000						
Ca142	500	9/22/08 1000						

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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 14	500	9/12/08 1320	9/15/08 0905	9/15/08 1545	201	2	8	5596
Cal 13	500	9/12/08 1320	9/15/08 0935	9/15/08 1620	202	2	8	6779
Cal 43	500	9/12/08 1320	9/15/08 1000	9/15/08 1650	203	2	8	6300
Cal 15	500	9/12/08 1320	9/15/08 1030	9/15/08 1725	204	2	8	6132
Cal 44	500	9/12/08 1320	9/15/08 1055	9/15/08 1805	205	2	5	6132
Cal 46	500	9/12/08 1320	9/15/08 1115	9/15/08 2110	206	2	7	6216
Cal 36	500	9/12/08 1320	9/15/08 1150	9/15/08 2140	207	2	8	6094
Cal 38	500	9/12/08 1320	9/15/08 1215	9/15/08 2215	208	2	8	6258
Cal 19	500	9/12/08 1320	9/15/08 1350	9/15/08 2245	209	2	1	7073
Cal 47	500	9/12/08 1320	9/15/08 1415	9/15/08 2315	210	2	1	6665
Cal 37	500	9/12/08 1320	9/15/08 1430	9/15/08 2350	211	2	1	6150
Cal 42	500	9/12/08 1320	9/15/08 1450	9/16/08 0020	212	2	1	6426

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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
15	500	9/20/08 0945	9/20/08 0910	9/20/08 1405	204	2	4	7535
44	500	9/20/08 0945	9/20/08 0940	9/30/08 1445	205	2	5	7170
46	500	9/20/08 0945	9/30/08 1015	9/30/08 1520	206	2	8	8125
36	500	9/20/08 0945	9/30/08 1015	9/30/08 1410	207	2	7	7456
30	500	9/20/08 0945	9/30/08 1110	9/30/08 1635	208	2	1	7681
19	500	9/20/08 0945	9/30/08 1140	9.30.08 1725	209	2	3	8795
47	500	9/20/08 0945	9/30/08 1205	9.30.08 1800	210	2	1	8116
37	500	9/20/08 0945	9/30/08 1335	9.30.08 1830	211	2	3	7917
42	500	9/20/08 0945	9/30/08 1400	9.30.08 1950	212	2	8	8287

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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 14	500	9/15/08 0945	9/18/08 0810	9/18/08 1300	201	2	8	59449
Cal 13	500	9/15/08 0935	9/18/08 0845	9/18/08 1350	202	2	8	6425
Cal 43	500	9/15/08 1000	9/18/08 0915	9/18/08 1425	203	2	8	6013
Cal 15	500	9/15/08 1030	9/18/08 0935	9/18/08 1455	204	2	8	6671
Cal 44	500	9/15/08 1055	9/18/08 1005	9/18/08 1600	205	2	5	4999
Cal 46	500	9/15/08 1125	9/18/08 1025	9/18/08 1635	206	2	8	6604
Cal 36	500	9/15/08 1150	9/18/08 1040	9/18/08 1755	207	2	8	6105
Cal 30	500	9/15/08 1215	9/18/08 1100	9/18/08 1830	208	2	4	6374
Cal 19	500	9/15/08 1350	9/18/08 1115	9/18/08 1915	209	2	2	6170
Cal 47	500	9/15/08 1415	9/18/08 1130	9/18/08 1945	210	2	3	6142
Cal 37	500	9/15/08 1430	9/18/08 1235	9/18/08 2230	211	2	4	6207
Cal 42	500	9/15/08 1450	9/18/08 1250	9/18/08 2255	212	2	8	6405

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Ra-226 Verification Sheet

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Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 14	500	10/18/08 1600	10/20/08 1345	10/21/08 1350 10/20/08 1350	202	2	8	9748
13	500	10/13/08 1600	10/20/08 1405	10/21/08 1430	205	2	8	7584
43								
44								
15								
36								
46								
30								
19								
47								
37								
42								

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Verification for Ra-226 Standard 0299-G

Standard	Source DPM/G
Mass. Used (G)	2562.667649
0.5057	2545.935781
0.5056	2565.677715
0.5042	2558.093715
Average =	

Detector Eff	NET CPM	BKG CPM	Detector CPM	Pass
1.917186	2484.5600	52.4000	2536.9600	104.944421
1.917186	2467.8500	52.4000	2520.2500	0.00415782
1.917186	2480.1000	52.4000	2532.5000	

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:

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 4/19/08
 Daniel D. King 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

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General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number <u>GLRAD A-008</u>	Isotope <u>Ra-226</u>
Date Standards Prepared <u>4/5/08</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>4/2/09</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: Kelli S. Deroso Date: 12/19/08
 Reviewed By: Mary G. Johnson Date: 12/19/08

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: 12/19/99
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	0.9696	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

W
12/18/08

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W
12/18/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
✓ VCN 1	500	1110108 1535	1111108 1020	1111108 1510	201	2	8	1014
✓ 2	500	11110108 1535	1111108 1045	1111108 1545	202	2	8	1056
✓ 3	500	11110108 1535	1111108 1110	1111108 1020	205	2	8	937
✓ 4	500	11110108 1535	1111108 1145	1111108 2050	208	2	8	786
5	500	11110108 1535	1111108 1150	1111108 2120	209	2	8	1200
✓ 6	500	11110108 1535	1111108 1200	1111108 2155	211	2	8	1067
7	500	11110108 1535	1111108 1845	1111108 1330	701	1	8	982
✓ 8	500	11110108 1535	1111108 0900	1111108 1405	708	7	8	1194
✓ 9	500	11110108 1535	1111108 0920	1111108 1435	705	7	8	1121
10								
11								
12								
✓ VCN 3	500	11110108 1110	11110108 1145	11110108 1140	208	2	8	533

12/18/08

12/18/08

12/18/08

12/18/08

11/21/08

12/14/08

12/14/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
VW 1	500	10/27/08 1420	10/30/08 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

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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 and date:
1/4/07
Amanda L. Fehr 1/4/07

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GE-RIAD-A-008 Isotope RA-226
 Date Standards Prepared 12/18/07 Cocktail Type Used NA
 Standard ID 0638-F Matrix of Vial/Planchett NA
 Amount Used (g or ml) 0.1 Matrix of Vial/Planchett NA
 Standard Activity (DPM/g or mL) 1127.519 Matrix of Vial/Planchett NA
 Reference Date 1/23/04 Type of Scintillation Vial NA
 Expiration Date 12/20/08 Pipette ID Used 1429303
 Residue/Carrier Agent 0.1M HCl Balance ID Used 3604046
 Quenching Agent NA

	Standard Number	Quenching Vol (uL) Residue Volume (mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
1	Ver 1				
2	Ver 2				
3	Ver 3				
4	Ver 4				
5	Ver 5				
6	Ver 6				
7	Ver 7				
8	Ver 8				
9	Ver 9				
10	Ver 10				
11	Ver 11				
12	Ver 12				

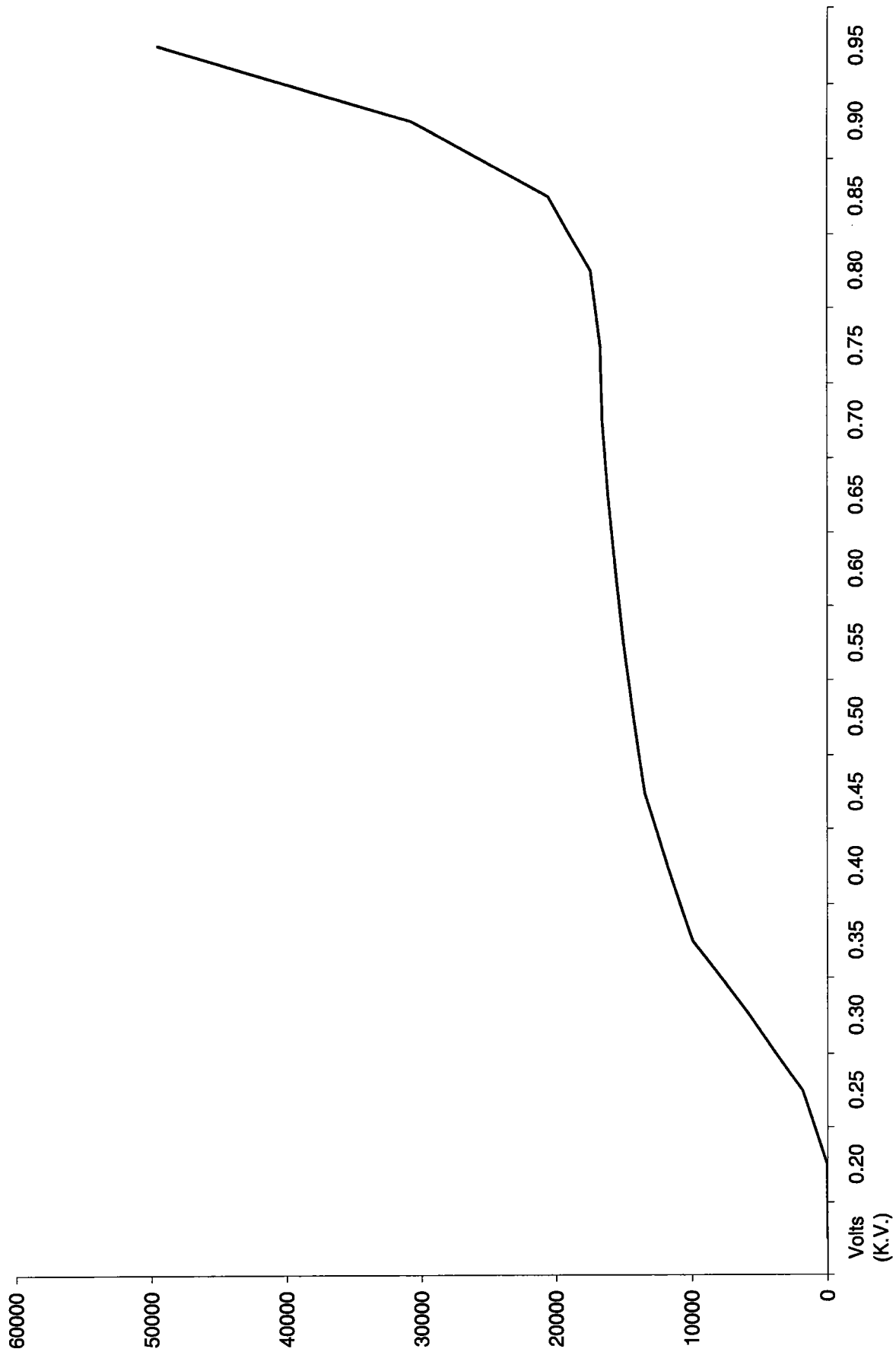
12/19/08

Prepared By: Kelli Dieriel Date: 12/19/08
 Reviewed By: Mary Jo Adams Date: 12/19/08

Rev 1 RLM.9/10/97

Voltage Curve Ludlum # 2				
Volts (K.V.)	Counts	Date	Time	Detector
0.20	0	9/19/2008	10:00	2
0.25	0	9/19/2008	10:00	2
0.30	0	9/19/2008	10:00	2
0.35	0	9/19/2008	10:00	2
0.40	0	9/19/2008	10:00	2
0.45	36	9/19/2008	10:00	2
0.50	1860	9/19/2008	10:00	2
0.55	5751	9/19/2008	10:00	2
0.60	9916	9/19/2008	10:00	2
0.65	11761	9/19/2008	10:00	2
0.70	13431	9/19/2008	10:00	2
0.75	14254	9/19/2008	10:00	2
0.80	14984	9/19/2008	10:00	2
0.85	15598	9/19/2008	10:00	2
0.90	16129	9/19/2008	10:00	2
0.95	16562	9/19/2008	10:00	2
1.00	16711	9/19/2008	10:00	2
1.05	17428	9/19/2008	10:00	2
1.10	20558	9/19/2008	10:00	2
1.15	30722	9/19/2008	10:00	2
1.20	49527	9/19/2008	10:00	2
1.25	71509	9/19/2008	10:00	2
1.30	115018	9/19/2008	10:00	2

W 12/19/08
U at 12/19/08



Handwritten text: 12/19/08
12/19/08

201	1.993	12/19/2008
202	2.261	12/19/2008
203	2.254	12/19/2008
204	2.193	12/19/2008
205	1.799	12/19/2008
206	2.259	12/19/2008
207	2.146	12/19/2008
209	2.291	12/19/2008
210	2.253	12/19/2008
211	2.171	12/19/2008
212	2.322	12/19/2008

*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 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: Kellipanel

Date: 2/3/09

Reviewed By: M. 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	cpm	Known activity dpm	t1 (days) end-degas to flush	t2 (days) end-flush to count	t3 (days) Std Ref Date to count	Decay from Std Ref Date to count
301	1.867	Average	1/20/2009 11:05	1/19/2009 10:10	1/19/2009 15:45	0.267	9355	30	311.83	243.67	9.76736	1.03819	3324	0.9961
301	2.184	Stdev	1/29/2009 11:50	1/29/2009 8:50	1/28/2009 13:00	0.267	6239	30	207.97	243.67	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	243.67	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	243.67	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	243.67	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	243.67	4.03125	0.23264	3331	0.9961
303	1.958	Average	1/20/2009 13:40	1/19/2009 11:00	1/19/2009 15:45	0.267	9695	30	323.17	243.67	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	243.67	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	243.67	4.05208	0.28819	3331	0.9961

305	1.897	Average	1/20/2009 14:50	1/19/2009 11:35	1/19/2009 15:45	0.200	9357	30	311.90	243.67	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	243.67	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	243.67	4.09028	0.48611	3331	0.9961
306	1.730	Average	1/20/2009 15:20	1/19/2009 11:50	1/19/2009 15:45	0.167	8521	30	284.03	243.67	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	243.67	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	243.67	4.11111	0.48611	3331	0.9961
307	1.818	Average	1/20/2009 15:50	1/19/2009 12:05	1/19/2009 15:45	0.267	8944	30	298.13	243.67	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	243.67	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	243.67	4.12500	0.49653	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	243.67	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	243.67	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	243.67	4.17014	0.80208	3331	0.9961
309	1.857	Average	1/20/2009 17:20	1/19/2009 13:35	1/19/2009 15:45	0.033	9149	30	304.97	243.67	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	243.67	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	243.67	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	243.67	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	243.67	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	243.67	4.19097	0.85417	3331	0.9961
312	1.871	Average	1/20/2009 19:16	1/19/2009 14:10	1/19/2009 15:45	0.100	9135	30	304.50	243.67	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	243.67	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	243.67	4.20139	0.88194	3331	0.9961

K0 2/3/09

#3

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Ca1143	500	11/26/09 1300	11/26/09 0850	11/26/09 1150	301	3	8	6239
Ca1147	500	11/26/09 1300	11/26/09 0920	11/26/09 1330	302	3	7	6335
Ca1149	500	11/26/09 1300	11/26/09 0450	11/26/09 1400	304	3	2	6472
Ca1130	500	11/26/09 1300	11/26/09 1020	11/26/09 1430	306	3	7	4809
Ca1142	500	11/26/09 1300	11/26/09 1045	11/26/09 1515	307	3	3	6668
Ca1144	500	11/26/09 1300	11/26/09 1105	11/26/09 1550	308	3	4	6149
Ca1145	500	11/26/09 1300	11/26/09 1120	1/29/09 1640	311	3	8	6176
Ca1144	500	11/26/09 1300	11/26/09 1135	1/29/09 1710	312	3	5	5814
Ca1113	500	11/26/09 1300						
Ca1128	500	11/26/09 1300						
Ca1136	500	11/26/09 1300						
Ca1137	500	11/26/09 1300						

100 2/13/09
140 2/13/09

140 2/13/09
140 2/13/09
140 2/13/09

100 2/13/09

232

Ra-226 Verification Sheet

Call for #3

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Ca143	500	1122109 0910	1126109 0955	1126109 1455	301	3	8	7282
Ca147	500	1122109 0910	1126109 0955	1126109 1530	302	3	8	1555
Ca119	500	1122109 0910	1126109 1025	1126109 1710	303	3	8	8028
Ca130	500	1122109 0910	1126109 1050	1.26.09 1645	304	3		5162
Ca142	500	1122109 0910	1126109 1100	1.26.09 2300	305	3	8	7280
Ca141	500	1122109 0910	1126109 1150	1.26.09 2330	306	3	8	6387
Ca115	500	1122109 0910	1126109 1210	1.27.09 0005	307	3	8	6598
Ca114	500	1122109 0910	1126109 1315	1127109 0859	308	3	8	6226
Ca113	500	1122109 0910	1126109 1330	1127109 0905	309	3	8	6046
Ca128	500	1122109 0910	1126109 1345	1127109 1015	311	3	8	6607
Ca136	500	1122109 1510	1126109 1400	1127109 1110	312	3	8	6446
Ca137								

LD 213109

LD 213109

LD 213109
LD 214159

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**
 Two sigma = 21.27220197 dpm/mL
 10 % of Mean = 255.8093715 dpm/mL

Rule 2 (Pass/Fail) **Pass**

104.944421 **Pass**
 0.00415782 **Rule 3 (Pass/Fail)**

*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 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:
 5/10/08
 M. N. 2310
 1.5 ml water for 30 sec



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 221
 Date Standards Prepared 4/5/09 Cocktail Type Used NA
 Standard ID 021916 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

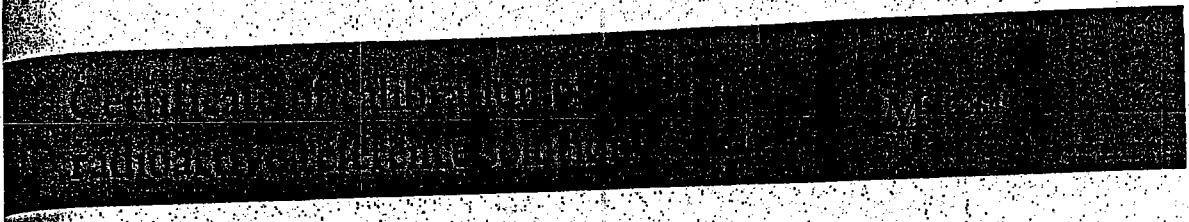
	Standard Number	Quenching Vol (uL) Residue Volume (mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
43	Cal 43				
47	Cal 47				
19	Cal 19				
30	Cal 30				
42	Cal 42				
44	Cal 44				
15	Cal 15				
14	Cal 14				
13	Cal 13				
28	Cal 28				
36	Cal 36				

160
 2/3/09

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: $\pm 1.3\%$

Radiochemical purity: 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.

Chemical form: Carrier free in 0.5M HCL

Conformance: 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
 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
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

601112
 CW

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

5/11/12
 071
 LEWA 2141.04

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 24109
[Signature] 2/2/09
 Amanda L. Lehn
 2/2/09

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-RAD-008 Isotope Pb-226
 Date Standards Prepared ^{2/11/09} 2/13/2007 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

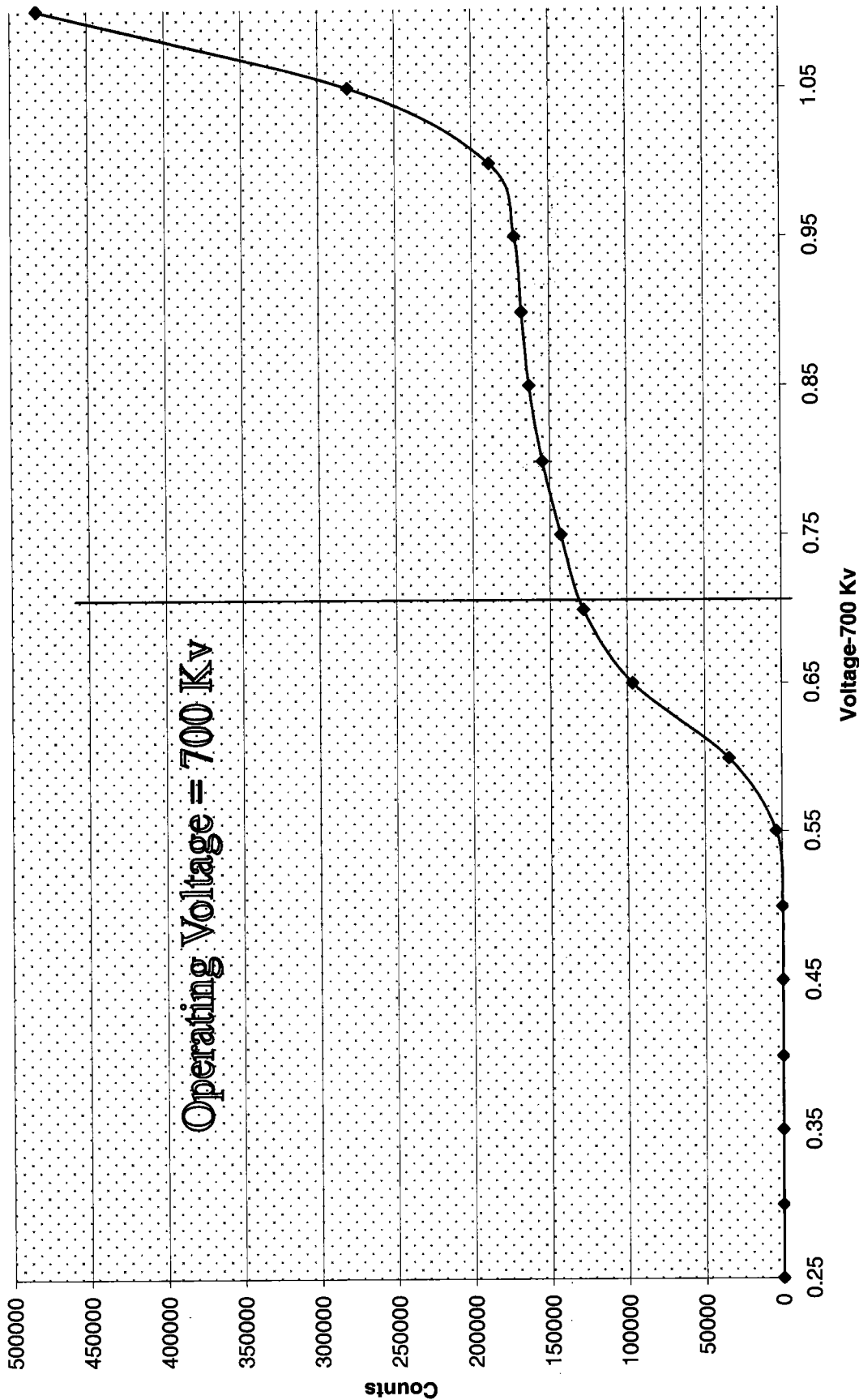
Prepared By: Kelli Brunell Date 2/13/09
 Reviewed By: [Signature] Date 2/14/09

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

KLA 2/4/09
 LW
 2/3/09

Ludlum 3 Voltage Curve



2/12/72
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
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 : 0.299-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	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	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	2/23/2009 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	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	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	2/27/2009 14:50	2/27/2009 10:00	2/23/2009 16:05	0.267	5182	30	172.73	243.66	3.74853	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	5582	30	185.40	243.66	4.63194	0.30556	3361	0.9960
404	1.792	Average	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	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	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	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	2/24/2009 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	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	2/26/2009 8:50	2/25/2009 13:05	2/20/2009 17:25	0.267	6838	30	227.93	243.66	4.31944	0.82292	3361	0.9960
410	1.965	Stdev	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	0.70853	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	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	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	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	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. ... 3/2/09
Miki Davel 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 GV RAD-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 NA
 Standard Activity (DPM/g or mL) 2446.347 Type of Scintillation Vial NA
 Reference Date 4/15/09 Pipette ID Used 1429303
 Expiration Date 4/15/09 Balance ID Used 3604026
 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)
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 Deneo Date: 3/2/09
 Reviewed By: Angie J. Ghera Date: 3/2/09

Rev 1 RLM 9/10/97

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

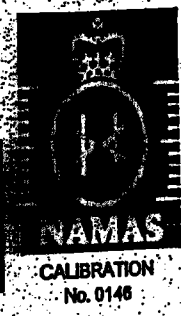
$(\text{Mass of parent(g)}) * (\text{Parent Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) =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

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 $\nu_{eff} = \infty$ 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 255 17th December 1999

Nycomed
Amersham

Verification for Ra-226 Standard 0299-G

4/2/2008
D. Roy

Isotope
0299-G N1
0299-G N2
0299-G N3

Detector CPM
2536.9600
2520.2500
2532.5000

BKG CPM
52.4000
52.4000
52.4000

NET CPM
2484.5600
2467.8500
2480.1000

Detector Eff
1.917186
1.917186
1.917186

Mass. Used (G)
0.5057
0.5056
0.5042

Source DPM/G
2562.667649
2545.935781
2565.677715

Average =
2558.093715

Mean Value (Counting) = 2558.093715
Stdev = 10.63610098

104.944421
0.00415782

Pass
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
Two sigma = 21.27220197 dpm/mL
10 % of Mean = 255.8093715 dpm/mL
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 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:

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

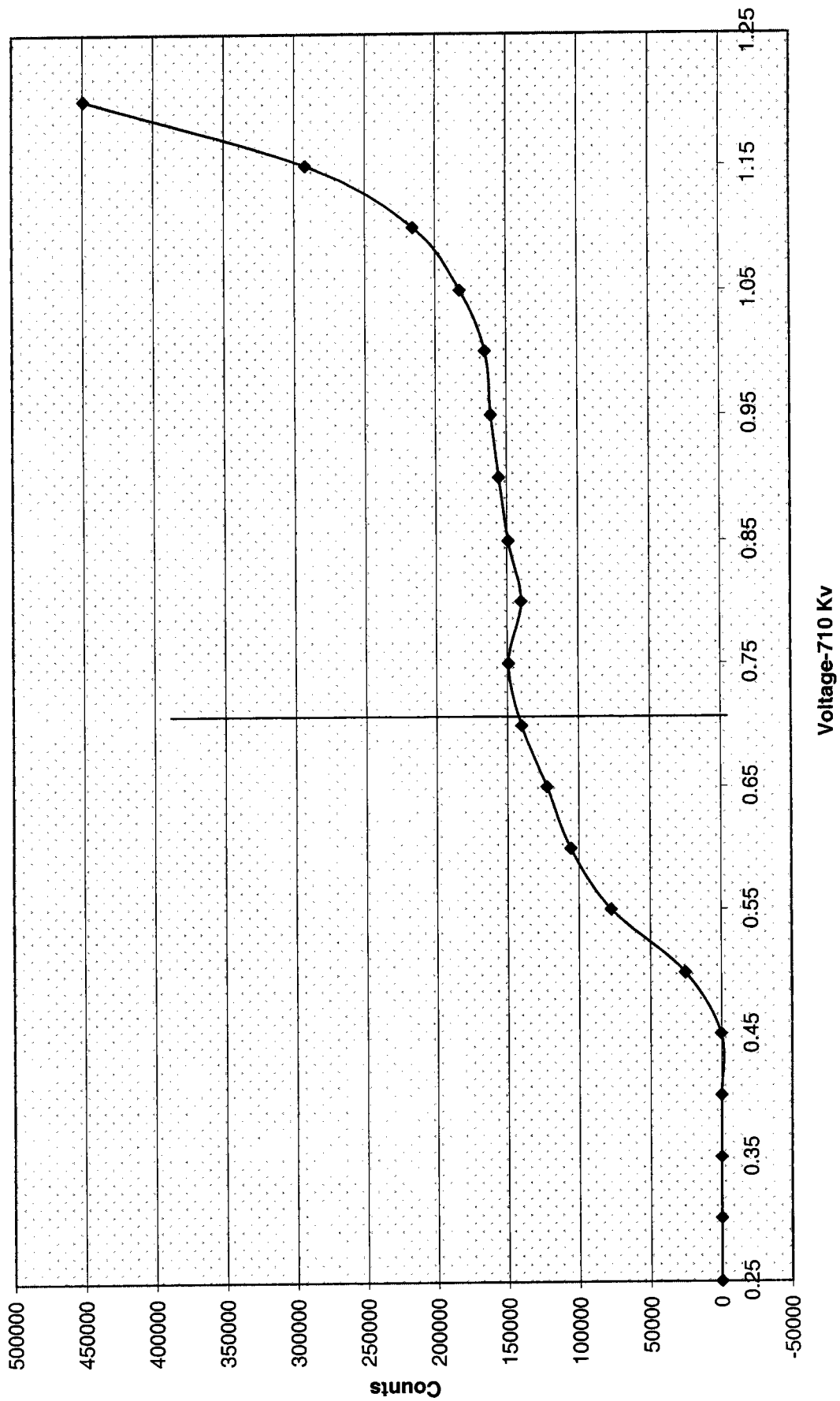
where:

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

RAD_SOP_M-001

Handwritten:
Mary St. John 4/19/08
David Roy 4/10/08
MJS

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 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) 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 S. Dancer

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	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	7262	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	8924	30	297.47	243.03	5.02083	0.93750	3375	0.9960
505	2.190	7	3/12/2009 17:01	3/12/2009 10:50	3/6/2009 15:25	9884	30	329.47	243.03	5.80903	0.25764	3376	0.9960
506	1.902	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	1.965	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	3/12/2009 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).

ERR 0.143768 <- Put in Machines.xls (Lucas Cell Tab)

Calibration
Ra-226 Verification-Sheet
3/14/09

Cal # 5

no 3124109
3119109

3/19/09

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 15	500	2/25/09 1400	3/3/09 0815	3/6/09 0750	501	5	8	5781
Cal 14	500	2/25/09 1400	2/27/09 0845	3/6/09 0840	502	5	1	4700
		2/25/09 1400	3/3/09		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 1040	505	5	3	10654
Cal 45	500	2/25/09 1400	3/5/09 1030	3/6/09 1016	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 1280	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

219 3124109

219 3124109

219 3124109

219 3116109

Ra-226 Calibration Sheet

Standard ID: 014470

Volume Added (mL): 1.1

Expiration Date: 4/12/09

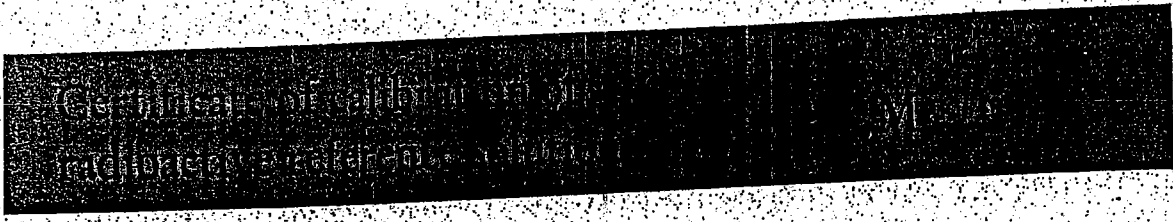
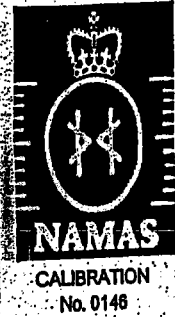
Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Total Counts
Cal 42	500	3/12/09 1210	3/12/09 1515	3/19/09 2015	503	85	8282
Cal 19	500	3/12/09 1210	3/12/09 1530	3/19/09 2030	504	5	8310
Cal 44	500	3/12/09 1210	3/12/09 1545	3/19/09 2130	508	5	7561
Cal 30	500	3/12/09 1210	3/12/09 1600	3/19/09 2200	509	5	7942

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 $v_{eff} = \infty$ 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

271 17th December 1999



Standard Traceability Log Rad

Source Material Info	
Parent Code:	0299
Prepared By:	Angela Johnson
Carrier Conc:	0.5 M HCL
Reference Date:	12/15/1999
Ampoule Mass (g):	5.0368 g
Uncertainty:	+/- 2.5 %
LogBook No:	RC S 027 128

A Solution Material Info	
Isotope:	Radium-226
Prepared By:	Angela Johnson
Prep Date:	09/15/2000
Verification Date:	01/23/2008
Expiration Date:	01/23/2009
Primary Code:	0299-A
Dilution(mL):	100 mL
Mass of Parent(g):	4.6634 g
Density(g/mL):	1.0012
Balance ID:	

Calculations Converting parent activity to dpm/mL|dpm/g

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

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

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

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

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 Sporell

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**

Rule 3 (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.

BAD.SOP.M-001

Handwritten notes:
 New Source 3/24/09
 4/19/08
 David Dwyer 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 36240216
 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 _____

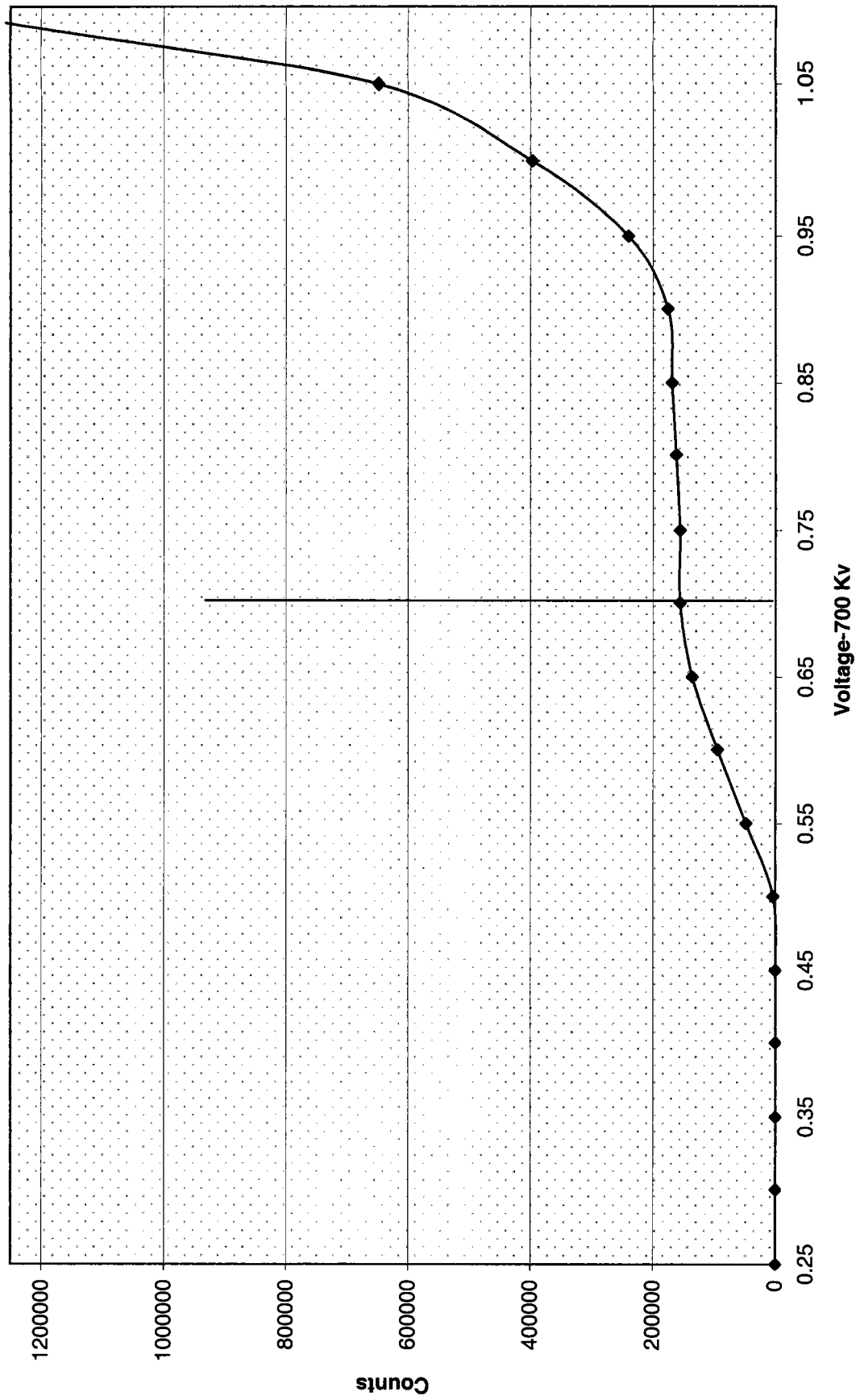
Rev 1 RLM 9/10/97

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

Bkg Count Time: 30 min Instrument Used : LUCAS CELL DETECTOR

Sample ID	Sample Vol L	Count Time min	Gross counts cts	Cell # num	Cell Const. num	BKG cpm	Ra-226 MDA pCi/L	Ra-226 RESULT pCi/L	Ra-226 ERROR pCi/L	COUNT DATE/TIME
Ver 1	0.500	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 0345 3/17/09 0345	509	5	8	640
NUN 10	500	3/13/09 1530	3/16/09 1415	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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3/25/09
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3/17/09
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Ra-226 Verification Sheet

Standard ID: 0638F

Volume Added (mL): 0.1

Expiration Date: 12/10

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 <small>10/10/09 1930</small>	506	5	8	893
VEN 4	500	3/16/09 1400	3/20/09 1345	3/30/09 2050 <small>10/10/09 2040</small>	509	5	8	768

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VEN 3/20/09

VEN 3/20/09

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-APP-B-008 Isotope PA-226

Date Standards Prepared 11/16/09 Cocktail Type Used NA

Standard ID 0638-F Matrix of Vial/Planchett NA
NA
NA

Amount Used (g or ml) 0.1 Type of Scintillation Vial NA

Standard Activity (DPM/g or mL) 2167.519 Pipette ID Used 1429303

Reference Date 11/23/04 Balance ID Used 38080204

Expiration Date 2/2/10 Quenching Agent NA

Residue/Carrier Agent NA

	Standard Number	Quenching Vol (uL) Residue Volume(mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
1	Ver 1				
2	Ver 2				
3	Ver 3				
4	Ver 4				
5	Ver 5				
6	Ver 6				
7	Ver 7				
8	Ver 8				
9	Ver 9				
10	Ver 10				
11	Ver 11				
12	Ver 12				

Prepared By: Kelli Daniels Date: 3/24/09

Reviewed By: Angela A. Jones Date: 3/25/09

Rev 1 RLM.9/10/97

GEL 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	Isotope	Value	Uncertainty
2/2/2009	0638-F #1	24.629	1.7426
	0638-F #2	24.438	1.7557
	0638-F #3	22.791	1.6808
Mean Value (Counting) =	23.953	99.60	Pass
Stdev =	1.010781096		Rule 3 (Pass/Fail)
Target =	24.05		
Lower Limit =	21.93100448		
Upper Limit =	25.97412886		
Rule 1 Pass/Fail	Pass		
Two sigma =	2.021562191		
10 % of Mean =	2.395256667		
Rule 2 (Pass/Fail)	Pass		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 0638-F using 0.1 mL for each source. Each source was counted using routine Lucas cell procedures. Calibration for 0299-G was used in this verification.

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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?	<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"/>	
	<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 Derell

Date: 11/21/08

Reviewed By: Angela Johnson

Date: 11/21/08

Effective Date: 11/21/08

Ra-226 Cell Constants

Standard Reference date: 12/15/1999
 standard ID: 0289-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	t2 (days) end-flush to count	t3 (days) Std Ref Date to count	Decay from Std Ref Date to count
701	1.996	Average	1.815	11/20/2008 16:40	11/13/2008 12:00	11/13/2008 12:20	0.267	10056	30	335.20	243.02	0.19444	3264	0.9961
701	1.720	Sidev	0.157	10/15/2008 14:35	10/15/2008 10:40	10/10/2008 14:20	0.267	7095	30	236.50	243.02	0.16319	3228	0.9962
701	1.728			10/13/2008 16:15	10/13/2008 9:35	10/10/2008 14:20	0.267	4760	30	158.67	243.02	0.27778	3226	0.9962
702	1.820	Average	1.932	10/20/2008 15:45	10/20/2008 9:40	10/15/2008 14:10	0.233	7352	30	245.07	243.02	0.25347	3233	0.9962
702	2.014	Sidev	0.101	10/15/2008 15:20	10/15/2008 10:55	10/10/2008 14:20	0.100	8282	30	276.07	243.02	0.18403	3228	0.9962
702	1.963			10/13/2008 20:25	10/13/2008 10:10	10/10/2008 14:20	0.267	5296	30	176.53	243.02	0.42708	3226	0.9962
703	1.899	Average	2.083	11/13/2008 15:20	11/13/2008 12:20	11/10/2008 16:15	0.267	5428	30	180.99	243.02	0.12500	3257	0.9961
703	2.126	Sidev	0.166	10/15/2008 15:55	10/15/2008 11:10	10/10/2008 14:20	0.267	8738	30	291.27	243.02	0.19792	3228	0.9962
703	2.222			10/13/2008 20:55	10/13/2008 10:35	10/10/2008 14:20	0.267	6019	30	200.63	243.02	0.43056	3226	0.9962
704	2.116	Average	2.248	10/20/2008 17:00	10/20/2008 10:30	10/15/2008 14:10	0.233	8560	30	285.33	243.02	0.27083	3233	0.9962
704	2.390	Sidev	0.137	10/15/2008 17:30	10/15/2008 12:30	10/10/2008 14:20	0.267	9909	30	330.30	243.02	0.18750	3228	0.9962
704	2.239			10/13/2008 21:30	10/13/2008 11:00	10/10/2008 14:20	0.267	6084	30	202.80	243.02	0.43750	3226	0.9962
705	2.199	Average	2.160	10/20/2008 17:35	10/20/2008 10:55	10/15/2008 14:10	0.233	8905	30	296.83	243.02	0.27778	3233	0.9962
705	2.050	Sidev	0.097	10/15/2008 17:30	10/15/2008 12:45	10/10/2008 14:20	0.267	8495	30	283.17	243.02	0.19792	3228	0.9962
705	2.232			10/13/2008 22:00	10/13/2008 11:20	10/10/2008 14:20	0.267	6081	30	202.70	243.02	0.44444	3226	0.9962
706	2.099	Average	2.118	10/20/2008 18:05	10/20/2008 11:15	10/15/2008 14:10	0.233	8504	30	283.47	243.02	0.28472	3233	0.9962
706	2.040	Sidev	0.088	10/15/2008 18:00	10/15/2008 13:00	10/10/2008 14:20	0.267	8452	30	281.73	243.02	0.20833	3228	0.9962
706	2.213			10/13/2008 22:30	10/13/2008 11:40	10/10/2008 14:20	0.267	6044	30	201.47	243.02	0.45139	3226	0.9962
707	2.069	Average	2.119	10/20/2008 18:35	10/20/2008 11:30	10/15/2008 14:10	0.233	8378	30	279.27	243.02	0.29514	3233	0.9962
707	2.057	Sidev	0.097	10/15/2008 18:35	10/15/2008 13:25	10/10/2008 14:20	0.267	8527	30	284.23	243.02	0.21528	3228	0.9962
707	2.230			10/13/2008 23:00	10/13/2008 13:20	10/10/2008 14:20	0.267	6255	30	208.50	243.02	0.40278	3226	0.9962
708	1.652	Average	1.869	10/20/2008 22:00	10/20/2008 12:50	10/15/2008 14:10	0.233	6632	30	221.07	243.02	0.38194	3233	0.9962
708	1.772	Sidev	0.163	10/15/2008 19:20	10/15/2008 13:40	10/10/2008 14:20	0.267	7329	30	244.30	243.02	0.23611	3228	0.9962
708	1.954			11/13/2008 15:50	11/13/2008 12:50	11/10/2008 16:15	0.267	5614	30	187.19	243.02	0.12500	3257	0.9961
709	1.890	Average	1.960	10/20/2008 22:35	10/20/2008 13:05	10/15/2008 14:10	0.233	7578	30	252.60	243.02	0.39583	3233	0.9962
709	1.817	Sidev	0.162	10/15/2008 20:35	10/15/2008 13:55	10/10/2008 14:20	0.267	7469	30	248.97	243.02	0.27778	3228	0.9962
709	2.127			10/14/2008 9:00	10/13/2008 14:05	10/10/2008 14:20	0.267	5608	30	186.93	243.02	0.78819	3226	0.9962
710	1.965	Average	2.042	10/20/2008 23:05	10/20/2008 13:25	10/15/2008 14:10	0.233	7882	30	262.73	243.02	0.40675	3233	0.9962
710	2.009	Sidev	0.098	10/15/2008 21:40	10/15/2008 14:15	10/10/2008 14:20	0.267	8224	30	274.13	243.02	0.30903	3228	0.9962
710	2.152			10/14/2008 10:00	10/13/2008 14:25	10/10/2008 14:20	0.267	5666	30	188.87	243.02	0.81597	3226	0.9962
711	2.283	Average	2.204	10/20/2008 23:55	10/20/2008 13:45	10/15/2008 14:10	0.233	9136	30	304.53	243.02	0.42361	3233	0.9962
711	2.208	Sidev	0.081	10/16/2008 8:30	10/15/2008 14:30	10/10/2008 14:20	0.267	8357	30	278.57	243.02	0.75000	3228	0.9962
711	2.122			10/14/2008 10:55	10/13/2008 14:45	10/10/2008 14:20	0.267	5581	30	186.03	243.02	0.84028	3226	0.9962
712	2.049	Average	2.132	10/21/2008 1:00	10/20/2008 14:05	10/15/2008 14:10	0.233	8170	30	272.33	243.02	0.45486	3233	0.9962
712	2.174	Sidev	0.072	10/16/2008 19:15	10/15/2008 14:50	10/10/2008 14:20	0.267	7618	30	253.93	243.02	1.18403	3229	0.9962
712	2.174			10/14/2008 11:25	10/13/2008 16:15	10/10/2008 14:20	0.267	5852	30	195.07	243.02	0.79861	3226	0.9962

On the Johnson 11/21/08

Kelli Powell 11/21/08

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GLRPD-12008 Isotope Ka-226
 Date Standards Prepared 4/15/08 Cocktail Type Used NA
 Standard ID 6+ 0299-6 Matrix of Vial/Planchett NA
ED Titration 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 12/15/09 Balance ID Used 36040216
 Expiration Date 4/12/09 Quenching Agent NSA
 Residue/Carrier Agent 0.5 M HCl

	Standard Number	Quenching Vol (uL) Residue Volume (mL)	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
Ca148	Ca148				
Ca135	Ca135				
Ca134	Ca134				
Ca138	Ca138				
Ca125	Ca125				
Ca13	Ca13				
Ca116	Ca116				
Ca139	Ca139				

120
 11/21/08

Prepared By: Kelli Doree Date: 11/21/08
 Reviewed By: Angela Johnson Date: 11/21/08

General Engineering Laboratories Verification Source Preparation Sheet

Applicable SOP Number GL-RAD-A-008 Isotope Ra 226
 Date Standards Prepared 4/15/05 Cocktail Type Used NA
 Standard ID 0799-0 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 1-21-1999 Pipette ID Used 1429303
 Expiration Date 4/12/09 Balance ID Used 36040216
 Residue/Carrier Agent 0.5 M HCL Quenching Agent N/A

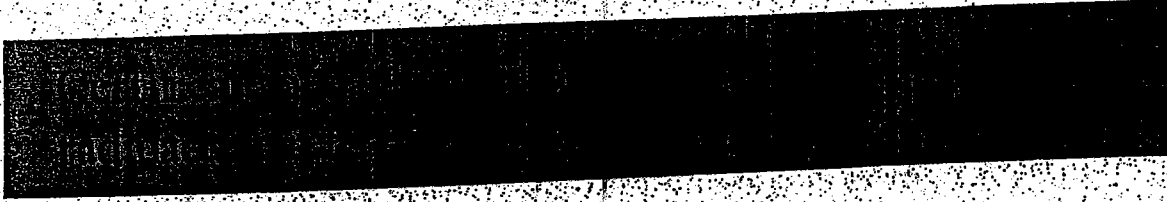
	Standard Number	Quenching Vol (uL/ Residue Volume (mL))	Initial Wt. (g)	Final Wt. (g)	Net Wt. (mg)
Cal 14	Cal 14				
Cal 13	Cal 13				
Cal 43	Cal 43				
Cal 44	Cal 44				
Cal 15	Cal 15				
Cal 36	Cal 36				
Cal 46	Cal 46				
Cal 47	Cal 47				
Cal 19	Cal 19				
Cal 37	Cal 37				
Cal 42	Cal 42				
Cal 28	Cal 28				
Cal 19	Cal 19				
Cal 17	Cal 17				
Cal 23	Cal 23				

(20)
11/21/05

Prepared By: Kelli Dwyer Date: 11/21/08
 Reviewed By: Angela Johnson Date: 11/21/08

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 $\nu_{eff} = \infty$ 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

17th December 1999

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: $\pm 1.3\%$

Radioactivity 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.

Chemical composition Carrier free in 0.5M HCL

Remarks 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.



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

W 11/21/08

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

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:

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

where:

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

BAD.SOP.M-001

Mary E. Johnson 4/9/08
Daniel Dwyer 4/10/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
14	500	10/10/08 1420	10/13/08 1010	10/13/08 1015	101	7	8	4760
13	500	10/10/08 1420	10/13/08 1010	10-13-08 2025	702	7	8	5296
43	500	10/10/08 1420	10/13/08 1035	10-13-08 2055	703	7	8	6019
44	500	10/10/08 1420	10/13/08 1100	10-13-08 2130	704	7	8	6084
15	500	10/10/08 1420	10/13/08 1120	10-13-08 2200	705	7	8	6081
46	500	10/10/08 1420	10/13/08 1140	10-13-08 2230	706	7	8	6044
47	500	10/10/08 1420	10/13/08 1320	10-13-08 2300	707	7	8	6255
48	500	10/10/08 1420	10/13/08 1345	10-13-08 2330	708	7	8	6081
49	500	10/10/08 1420	10/13/08 1405	10-14-08 0900	709	7	8	5608
19	500	10/10/08 1420	10/13/08 1425	10/14/08 1000	710	7	8	5666
31	500	10/10/08 1420	10/13/08 1445	10/14/08 1055	711	7	8	5501
42	500	10/10/08 1420	10/13/08 1615	10/14/08 1125	712	7	8	5852

140
11/2/10

11/2/10

11/2/10

KB
11/2/10
46
47
48

11/2/10
11/2/10

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 18	500	10/10/08 1420	10/15/08 1040	10/15/08 1435	701	7	8	1095
Cal 9	500	10/10/08 1420	10/15/08 1055	10/15/08 1520	702	7	3	8282
Cal 7	500	10/10/08 1420	10/15/08 1110	10/15/08 1555	703	7	8	8738
Cal 23	500	10/10/08 1420	10/15/08 1230	10/15/08 1700	704	7	8	9909
Cal 48	500	10/10/08 1420	10/15/08 1245	10/15/08 1730	705	7	8	8495
Cal 35	500	10/10/08 1420	10/15/08 1300	10/15/08 1800	706	7	8	8452
Cal 34	500	10/10/08 1420	10/15/08 1325	10/15/08 1835	707	7	8	8527
Cal 38	500	10/10/08 1420	10/15/08 1340	10/15/08 1920	708	7	8	7329
Cal 25	500	10/10/08 1420	10/15/08 1355	10/15/08 2035	709	7	8	7469
Cal 3	500	10/10/08 1420	10/15/08 1415	10/15/08 2140	710	7	8	8224
Cal 16	500	10/10/08 1420	10/15/08 1430	10/16/08 0830	711	7	8	8357
Cal 29	500	10/10/08 1420	10/15/08 1450	10/16/08 1915	712	7	8	7018

11/21/08

11/21/08

11/21/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cal 18	500	10/15/08 1410	10/20/08 1410	10/20/08 1450	101	7		8513
Cal 9	500	10/15/08 1410	10/20/08 1440	10/20/08 1545	102	7	7=0.233	7352
Cal 7	500	10/15/08 1410	10/20/08 1405	10/20/08 1625	103	7		7555
Cal 23	500	10/15/08 1410	10/20/08 1430	10/20/08 1700	104	7	7=0.237	8560
Cal 48	500	10/15/08 1410	10/20/08 1055	10/20/08 1735	105	7	7=0.233	8905
Cal 35	500	10/15/08 1410	10/20/08 1115	10/20/08 1805	106	7	7=0.233	8504
Cal 34	500	10/15/08 1410	10/20/08 1130	10/20/08 1835	107	7	7=0.233	8378
Cal 38	500	10/15/08 1410	10/20/08 1250	10/20/08 2200	108	7	7=0.433	6632
Cal 25	500	10/15/08 1410	10/20/08 1305	10/20/08 2235	109	7	7=0.233	7578
Cal 5	500	10/15/08 1410	10/20/08 1325	10/20/08 2305	110	7	7=0.233	7882
Cal 16	500	10/15/08 1410	10/20/08 1345	10/20/08 2355	111	7	7=0.233	9136
Cal 39	500	10/15/08 1410	10/20/08 1405	10/21/08 0900 1300 <small>205 10200</small>	112	7	7=0.233	8170

100
11/21/08

11/21/08

100 11/21/08

100
11/21/08

Ra-226 Verification Sheet

Sample ID	Volume (mL)	End Degas Date/Time	End De-em Date/Time	Start Count Date/Time	Cell #	Det #	Background CPM	Total Counts
Cell 43	500	11/13/08 1615	11/13/08 1655	11/13/08 1435	701	7	8	4318
Cell 43	500	11/10/08 1615	11/13/08 1220	11/13/08 1520	703	7	8	6428
Cell 14	500	11/10/08 1615	11/13/08 1250	11/13/08 1650	708	7	8	5614
Cell 15	500	11/10/08 1615	11/13/08 1220	11/13/08 1520	705	7	8	7013
Cell 44	500	11/10/08 1615	11/13/08 1220	11/13/08 1520	705	7	8	7013
Cell 43	500	11/13/08 1220	11/20/08 1200	11/20/08 1040	701	7	8	16056

W/11/21/08

W/11/21/08

11/21/08
AW

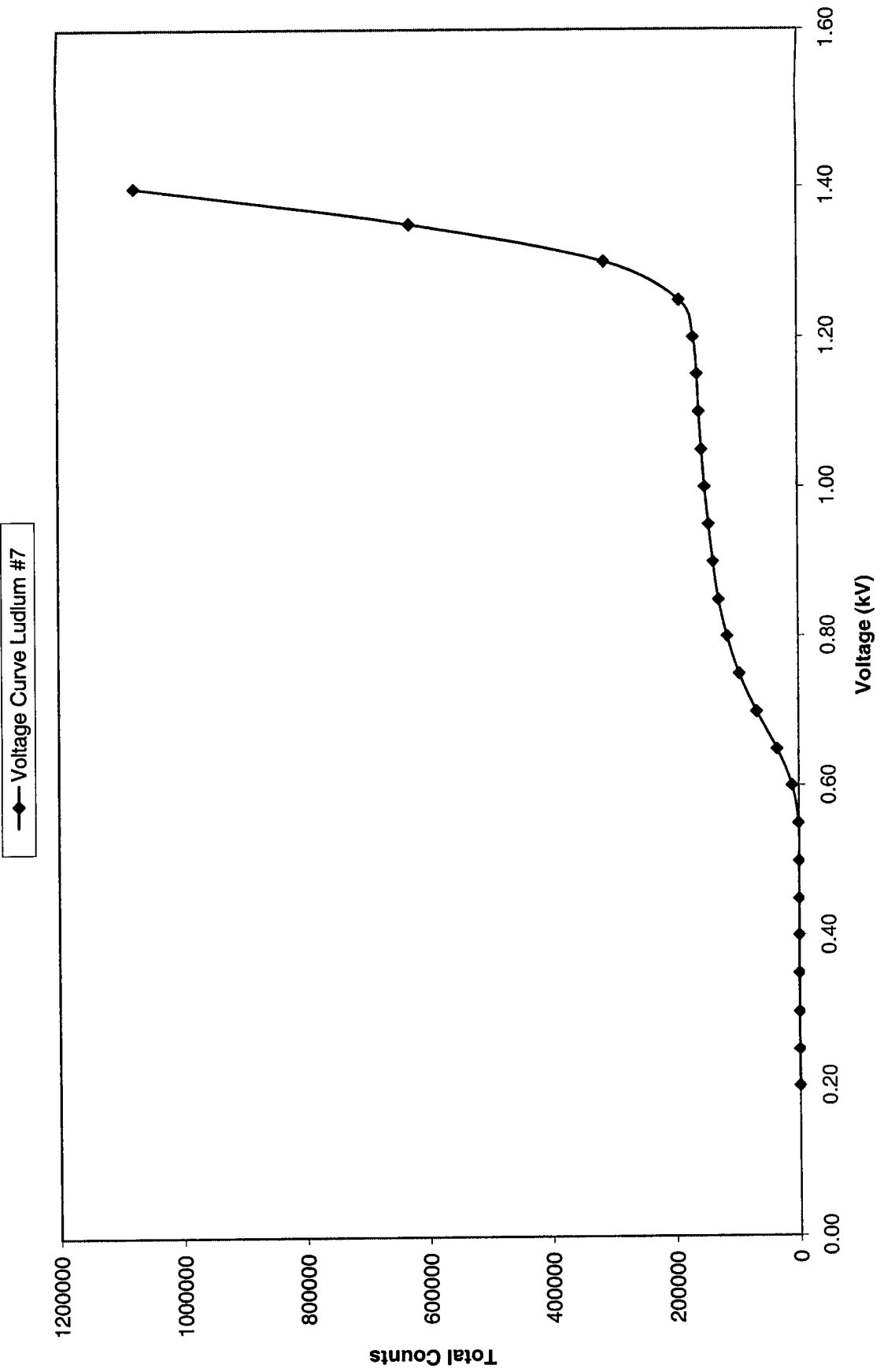
Voltage Curve Ludlum #7

Voltage (kV)	Count Time (min)	Counts	Date/Time
0.20	1.00	0	11/21/08 11:20
0.25	1.00	0	11/21/08 11:22
0.30	1.00	0	11/21/08 11:24
0.35	1.00	0	11/21/08 11:26
0.40	1.00	0	11/21/08 11:29
0.45	1.00	0	11/21/08 11:31
0.50	1.00	1	11/21/08 11:33
0.55	1.00	781	11/21/08 11:36
0.60	1.00	10872	11/21/08 11:38
0.65	1.00	34947	11/21/08 11:40
0.70	1.00	67984	11/21/08 11:43
0.75	1.00	95541	11/21/08 11:45
0.80	1.00	114849	11/21/08 11:47
0.85	1.00	128116	11/21/08 11:49
0.90	1.00	136852	11/21/08 11:52
0.95	1.00	143914	11/21/08 11:54
1.00	1.00	149894	11/21/08 11:56
1.05	1.00	154762	11/21/08 11:59
1.10	1.00	158921	11/21/08 12:01
1.15	1.00	161613	11/21/08 12:03
1.20	1.00	167982	11/21/08 12:06
1.25	1.00	190502	11/21/08 12:08
1.30	1.00	311908	11/21/08 12:10
1.35	1.00	627837	11/21/08 12:13
1.40	1.00	1075213	11/21/08 12:15
1.45	1.00	1601419	11/21/08 12:17

*Highlighted areas indicate points with percent slope below 5%. No slope will appear at points where no counts detected.

Detector set to operate at 0.85 kV (850 volts)

Ludlum Detector Voltage Curve



DAILY CALIBRATION RANGE

Trial	Counts	Date	Time	Detector
1	138657	10/13/2008	16:00	7
2	139338	10/16/2008	14:20	7
3	137849	10/20/2008	9:50	7
4	138518	10/29/2008	15:35	7
5	139828	11/12/2008	13:40	7
6	138146	11/21/2008	14:10	7
7	138219	11/21/2008	12:15	7
8	138822	11/21/2008	12:16	7
9	137486	11/21/2008	12:20	7
10	137365	11/21/2008	12:30	7
11	135262	11/21/2008	13:00	7
12	133624	11/21/2008	13:02	7
13	132633	11/21/2008	13:04	7
14	133126	11/21/2008	13:06	7
15	133343	11/21/2008	13:09	7
16	132096	11/21/2008	13:11	7
17	133801	11/21/2008	13:13	7
18	133895	11/21/2008	13:16	7
19	138993	11/21/2008	13:18	7
20	139729	11/21/2008	13:20	7

STATISTICS	
Average	136536.50
St. Dev.	2701.27
+ 3 S.D.	144640.30
+ 2 S.D.	141939.03
Average	136536.50
- 2 S.D.	131133.97
- 3 S.D.	128432.70
UPPER	144640
LOWER	128433

701	1.815	11/21/2008
702	1.932	11/21/2008
703	2.083	11/21/2008
704	2.248	11/21/2008
705	2.16	11/21/2008
706	2.118	11/21/2008
707	2.119	11/21/2008
708	1.869	11/21/2008
709	1.96	11/21/2008
710	2.042	11/21/2008
711	2.204	11/21/2008
712	2.132	11/21/2008

Handwritten signature
11/21/08

GAS FLOW PROPORTIONAL COUNTERS

General Engineering Laboratories

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

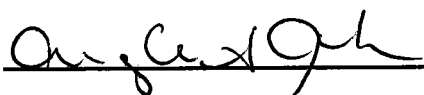
Gas Flow Proportional Counter Calibration Package

Method: Po-228 (AC)

	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 date	Count date	Ac-228 decay	Spike Vol. Ra-228	Std. Act. Ra-228	Standard Nominal	raw beta	ct. time	Beta cpm	corrected* cpm	Ra-228 eff
#	#				(dec)	(mL)	dpm/mL	dpm	counts	(min)			(cpm/dpm)
1A	1		7/1/09 10:45	7/1/2009 13:36	0.7249	1.5	6363.2	9544.8	13564	3	4521.3	6237.434348	0.6535
1A	2		7/1/09 10:45	7/1/2009 13:52	0.7032	1.5	6363.2	9544.8	12775	3	4258.3	6055.521583	0.6344
1A	3		7/1/09 10:45	7/1/2009 13:48	0.7083	1.5	6363.2	9544.8	12750	3	4250.0	6000.085083	0.6286
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	6022.266434	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	5746.92868	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	0.5654
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	11692	3	3897.3	5604.158523	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	5790.010842	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	5666.467573	0.5937
4D	3		7/1/09 10:45	7/1/2009 14:48	0.6326	1.5	6363.2	9544.8	14131	4	3532.8	5584.07765	0.5850
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	6082.165089	0.6372
5A	2		7/1/09 10:45	7/1/2009 15:21	0.5943	1.5	6363.2	9544.8	14487	4	3621.8	6094.223373	0.6385
5A	3		7/1/09 10:45	7/1/2009 15:17	0.5996	1.5	6363.2	9544.8	14259	4	3564.8	5945.170793	0.6229
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	3680.5	6107.538025	0.6399	
5D	3	7/1/09 10:45	7/1/2009 15:12	0.6048	1.5	6363.2	9544.8	14443	4	3610.8	5970.409434	0.6255	Average EFF
5D	4	7/1/09 10:45	7/1/2009 15:07	0.6107	1.5	6363.2	9544.8	13954	4	3488.5	5711.973074	0.5984	0.6237
6A	1	7/1/09 10:45	7/1/2009 15:27	0.5885	1.5	6363.2	9544.8	14018	4	3504.5	5955.42076	0.6239	
6A	2	7/1/09 10:45	7/1/2009 15:40	0.5735	1.5	6363.2	9544.8	12283	3.5	3509.4	6118.819734	0.6411	
6A	3	7/1/09 10:45	7/1/2009 15:36	0.5779	1.5	6363.2	9544.8	12111	3.5	3460.3	5987.187856	0.6273	Average EFF
6A	4	7/1/09 10:45	7/1/2009 15:32	0.5826	1.5	6363.2	9544.8	11598	3.5	3313.7	5687.952648	0.5959	0.6221
6B	1	7/1/09 10:45	7/1/2009 15:32	0.5824	1.5	6363.2	9544.8	12151	3.5	3471.7	5961.398905	0.6246	
6B	2	7/1/09 10:45	7/1/2009 15:27	0.5885	1.5	6363.2	9544.8	14371	4	3592.8	6105.389624	0.6397	
6B	3	7/1/09 10:45	7/1/2009 15:40	0.5734	1.5	6363.2	9544.8	11705	3.5	3344.3	5831.983307	0.6110	Average EFF
6B	4	7/1/09 10:45	7/1/2009 15:36	0.5779	1.5	6363.2	9544.8	11388	3.5	3253.7	5630.295163	0.5899	0.6163
6C	1	7/1/09 10:45	7/1/2009 15:36	0.5778	1.5	6363.2	9544.8	12161	3.5	3474.6	6013.224586	0.6300	
6C	2	7/1/09 10:45	7/1/2009 15:32	0.5821	1.5	6363.2	9544.8	12083	3.5	3452.3	5930.638446	0.6213	
6C	3	7/1/09 10:45	7/1/2009 15:27	0.5883	1.5	6363.2	9544.8	13638	4	3409.5	5795.433731	0.6072	Average EFF
6C	4	7/1/09 10:45	7/1/2009 15:40	0.5733	1.5	6363.2	9544.8	11218	3.5	3205.1	5590.212659	0.5857	0.6111
6D	1	7/1/09 10:45	7/1/2009 15:40	0.5732	1.5	6363.2	9544.8	11987	3.5	3424.9	5974.547886	0.6259	
6D	2	7/1/09 10:45	7/1/2009 15:36	0.5777	1.5	6363.2	9544.8	12183	3.5	3480.9	6025.235519	0.6313	
6D	3	7/1/09 10:45	7/1/2009 15:32	0.5819	1.5	6363.2	9544.8	11882	3.5	3394.9	5833.810262	0.6112	Average EFF
6D	4	7/1/09 10:45	7/1/2009 15:27	0.5881	1.5	6363.2	9544.8	13018	4	3254.5	5533.899914	0.5798	0.6120
7A	1	7/1/09 10:45	7/1/2009 15:46	0.5673	1.5	6363.2	9544.8	12007	3.5	3430.6	6047.285606	0.6336	
7A	2	7/1/09 10:45	7/1/2009 16:00	0.5525	1.5	6363.2	9544.8	11655	3.5	3330.0	6027.30696	0.6315	
7A	3	7/1/09 10:45	7/1/2009 15:56	0.5569	1.5	6363.2	9544.8	11445	3.5	3270.0	5871.972756	0.6152	Average EFF
7A	4	7/1/09 10:45	7/1/2009 15:50	0.5627	1.5	6363.2	9544.8	11121	3.5	3177.4	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	11988	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	11805	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	0.6380	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	11805	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	5962.583098	0.6247	Average EFF
9C	4	7/1/09 10:45	7/1/2009 16:42	0.5103	1.5	6363.2	9544.8	10297	3.5	2942.0	5765.244836	0.6040	0.6273
9D	1	7/1/09 10:45	7/1/2009 16:38	0.5146	1.5	6363.2	9544.8	11135	3.5	3181.4	6182.4976	0.6477	
9D	2	7/1/09 10:45	7/1/2009 16:33	0.5193	1.5	6363.2	9544.8	11412	3.5	3260.6	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	2889.8	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										

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 0.6320
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	
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	Average EFF 0.5825
11A	2	7/1/09 10:45	7/1/2009 12:08	0.8547	1.5	6363.2	9544.8	14429	3	4809.7	5827.17636	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 0.5825
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	
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	Average EFF 0.6372
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 0.6372
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	
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	Average EFF 0.6352
11C	2	7/1/09 10:45	7/1/2009 12:00	0.8680	1.5	6363.2	9544.8	15919	3	5308.3	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 0.6352
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	
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	Average EFF 0.6348
11D	2	7/1/09 10:45	7/1/2009 12:04	0.8608	1.5	6363.2	9544.8	15944	3	5314.7	6174.138045	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	6182.989937	0.6478	Average EFF 0.6348
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	
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	Average EFF 0.6286
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 0.6286
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	
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	Average EFF 0.6352
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 0.6352
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	
12C	1	7/1/09 10:45	7/1/2009 12:24	0.8300	1.5	6363.2	9544.8	15183	3	5061.0	6097.649845	0.6388	Average EFF 0.6304
12C	2	7/1/09 10:45	7/1/2009 12:20	0.8361	1.5	6363.2	9544.8	15651	3	5217.0	6239.881493	0.6537	
12C	3	7/1/09 10:45	7/1/2009 12:15	0.8436	1.5	6363.2	9544.8	15216	3	5072.0	6012.519531	0.6299	Average EFF 0.6304
12C	4	7/1/09 10:45	7/1/2009 12:28	0.8231	1.5	6363.2	9544.8	14117	3	4705.7	5716.805229	0.5989	
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	Average EFF 0.6320
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 0.6320
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	
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	Average EFF 0.6410
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 0.6410
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	
13B	1	7/1/09 10:45	7/1/2009 12:37	0.8094	1.5	6363.2	9544.8	15625	3	5208.3	6434.850276	0.6742	Average EFF 0.6526
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 0.6526
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	
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	Average EFF 0.6538
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 0.6538
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	
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	Average EFF 0.6377
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 0.6377
13D	4	7/1/09 10:45	7/1/2009 12:33	0.8151	1.5	6363.2	9544.8	14389	3	4796.3	5884.197712	0.6165	
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	Average EFF 0.6393
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 0.6393
14A	4	7/1/09 10:45	7/1/2009 13:02	0.7727	1.5	6363.2	9544.8	13451	3	4483.7	5802.630587	0.6080	
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	Average EFF 0.6266
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 0.6266
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	
14C	1	7/1/09 10:45	7/1/2009 13:12	0.7573	1.5	6363.2	9544.8	14116	3	4705.3	6213.281445	0.6510	Average EFF 0.6375
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 0.6375
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	
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	Average EFF 0.6326
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 0.6326
14D	4	7/1/09 10:45	7/1/2009 12:55	0.7830	1.5	6363.2	9544.8	13545	3	4515.0	5786.084113	0.6041	

*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

Radium-228 Liquid

Filename : RA228.LXS Spike SN : N/A
File Type : Excel Spike Exp Date : N/A
Version # : 1.2.3 Spike Activity (dpm/ml) : N/A
Spike Volume Added: N/A

Procedure Code : GFC060SRL
Parname : Radium-228
Required MDA : 1 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

Re-228 Abundance : 1
Re-228 Method Uncertainty : 0.0784
Calibration Date : 6/2/2008
Calibration Due Date : 6/30/2009

Table with columns: Pos, Sample Characteristics, Count raw Data, Counting Time, Gross Counts, Beta cpm, Detector Efficiency Error, Weekly Bkg Count, Separation Date/Time, Count Start Date/Time, Ra-228 Decay, Ac-228 Correction, Calculated Sample Recovery, Sample Recovery Error, Results. Contains 56 rows of data.

Handwritten signature and date: 7-12-09

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	Net Count Rate	2 SIGMA Counting		Total Prop. Uncertainty	Sample Type	Nominal pCi/L	Recovery
				pCi/L	pCi/L					CPM	CPM				
0.3471	0.2451	1	0.6937	134.0279	0.0254	131.6880	2.9666	5.9178	21.6466	LCS	164.3409	81.6%			
0.3647	0.2575	1	0.7192	133.0399	0.0251	130.2580	2.9508	5.9071	21.4655	LCS	164.3409	81.0%			
0.5889	0.3790	1	0.9659	145.2921	0.0243	139.8173	3.0611	6.2347	23.3752	LCS	164.3409	88.4%			
0.4695	0.3314	1	0.8755	159.8828	0.0239	150.4760	3.1730	6.6057	25.6756	LCS	164.3409	97.3%			
0.4261	0.3008	1	0.8087	127.0000	0.0257	122.0633	2.8583	5.8279	20.5368	LCS	164.3409	77.3%			
0.7599	0.5395	1	1.2813	141.0616	0.0247	135.4387	3.0211	6.1673	22.7300	LCS	164.3409	85.8%			
0.3798	0.2681	1	0.7515	141.8559	0.0253	131.7993	2.9681	6.2613	22.9053	LCS	164.3409	86.3%			
0.4150	0.2830	1	0.8072	145.8182	0.0251	131.8887	2.9696	6.4352	23.5274	LCS	164.3409	88.7%			
0.6347	0.4481	1	1.1343	129.8854	0.0284	108.9047	2.7042	6.3116	21.1935	LCS	164.3409	78.9%			
0.9035	0.6379	1	1.5022	135.4510	0.0266	119.6900	2.8455	6.3115	21.9803	LCS	164.3409	82.4%			
0.6078	0.4291	1	1.0779	141.2594	0.0255	128.6447	2.9382	6.3235	22.8259	LCS	164.3409	86.0%			
0.5473	0.3864	1	0.9987	155.5960	0.0247	137.7700	3.0378	6.7244	25.0636	LCS	164.3409	94.7%			
0.6283	0.4436	1	1.1054	135.5336	0.0264	124.2433	2.8986	6.1761	21.9739	LCS	164.3409	83.3%			
0.9036	0.6379	1	1.4942	136.9155	0.0254	125.4287	2.9134	6.2333	22.1127	LCS	164.3409	88.8%			
0.7676	0.5419	1	1.3079	145.9826	0.0252	130.3400	2.9624	6.5032	23.5621	LCS	164.3409	90.0%			
0.4809	0.3395	1	0.9027	134.9611	0.0269	120.7040	2.8427	6.2312	21.9265	LCS	164.3409	82.1%			
0.8974	0.4924	1	1.2076	131.4742	0.0271	117.9500	2.8170	6.1544	21.3797	LCS	164.3409	80.0%			
0.6530	0.4610	1	1.1419	148.2299	0.0259	132.9873	2.9894	6.4406	23.6659	LCS	164.3409	95.2%			
0.7661	0.5409	1	1.3064	156.3706	0.0255	139.2187	3.0605	6.7377	25.2668	LCS	164.3409	81.7%			
0.6899	0.4871	1	1.1997	134.1863	0.0270	118.9960	2.8288	6.2523	21.8127	LCS	164.3409	83.4%			
0.6079	0.4292	1	1.0862	137.0396	0.0269	120.3027	2.8412	6.3436	22.2643	LCS	164.3409	88.8%			
0.9509	0.6713	1	1.5725	146.0056	0.0264	127.0307	2.9317	6.6044	23.6775	LCS	164.3409	88.0%			
0.4376	0.3090	1	0.8562	144.5849	0.0276	121.3713	2.8489	6.6518	23.4785	LCS	164.3409	88.0%			
0.4227	0.2984	1	0.8330	134.2390	0.0275	113.7227	2.7577	6.3903	21.8573	LCS	164.3409	83.8%			
0.4360	0.3079	1	0.8480	137.6373	0.0270	118.4887	2.8152	6.4094	22.3723	LCS	164.3409	92.4%			
0.3962	0.2797	1	0.7956	151.8935	0.0262	128.6313	2.9319	6.7858	24.6088	LCS	164.3409	92.6%			
0.4480	0.3081	1	0.8657	152.1131	0.0261	130.4707	2.9539	6.7499	24.6318	LCS	164.3409	77.8%			
0.6332	0.4470	1	1.1278	127.8251	0.0279	109.4120	2.7108	6.2072	20.8618	LCS	164.3409	82.2%			
0.9917	0.6931	1	1.6167	135.1471	0.0273	117.2540	2.8197	6.3699	21.9896	LCS	164.3409	89.2%			
0.5779	0.4080	1	1.0463	146.5864	0.0263	127.3240	2.9214	6.5922	23.7610	LCS	164.3409	86.1%			
0.8422	0.5946	1	1.4301	141.4935	0.0272	117.4880	2.8147	6.6441	23.0149	LCS	164.3409	79.4%			
0.4379	0.3091	1	0.8509	130.5505	0.0276	112.2200	2.7400	6.2478	21.2682	LCS	164.3409	81.4%			
0.7972	0.5629	1	1.3635	133.7974	0.0277	112.5273	2.7540	6.4182	21.9026	LCS	164.3409	87.8%			
0.4475	0.3159	1	0.8728	144.2924	0.0269	119.7633	2.8301	6.6832	23.4437	LCS	164.3409	91.8%			
0.8154	0.5757	1	1.3863	150.8313	0.0263	128.3747	2.9406	6.7718	24.4459	LCS	164.3409	81.8%			
0.4063	0.2868	1	0.8104	134.4151	0.0285	119.5507	2.7553	6.3927	21.8871	LCS	164.3409	82.2%			
0.4205	0.2969	1	0.8358	146.9063	0.0268	121.4093	2.8489	6.7565	23.8548	LCS	164.3409	89.4%			
0.4437	0.3182	1	0.8728	144.8386	0.0271	117.5853	2.8041	6.7699	23.5500	LCS	164.3409	86.1%			
0.3432	0.2423	1	0.6763	135.4546	0.0253	141.3227	3.0730	5.7736	21.8705	LCS	164.3409	80.1%			
0.3289	0.2322	1	0.6397	131.6931	0.0247	150.2887	3.1694	5.4434	21.2189	LCS	164.3409	80.1%			
0.2949	0.2082	1	0.5922	148.3038	0.0237	169.2980	3.3626	5.7929	23.8966	LCS	164.3409	92.4%			
0.3379	0.2365	1	0.6530	151.8473	0.0235	172.6707	3.3968	5.8549	24.3615	LCS	164.3409	92.4%			
0.4616	0.3400	1	0.9577	131.6889	0.0249	148.2120	3.2186	5.4891	21.2301	LCS	164.3409	80.1%			
0.7498	0.5287	1	1.2332	134.8566	0.0246	153.3873	3.2186	5.5463	21.7215	LCS	164.3409	82.1%			
0.4447	0.3140	1	0.8052	148.8317	0.0238	167.9907	3.3053	5.8232	23.8982	LCS	164.3409	90.8%			
0.6180	0.4363	1	1.0494	143.9479	0.0241	162.8880	3.3080	5.7315	23.1384	LCS	164.3409	87.6%			
0.3427	0.2420	1	0.6680	135.0873	0.0248	148.3533	3.1490	5.6202	21.7752	LCS	164.3409	82.2%			
0.5997	0.4234	1	1.0256	129.5009	0.0251	144.7940	3.1202	5.4697	20.8960	LCS	164.3409	78.9%			
0.3316	0.2341	1	0.6469	146.0021	0.0240	163.4967	3.3053	5.7852	23.4616	LCS	164.3409	88.8%			
0.6355	0.4487	1	1.0805	159.6717	0.0235	174.3747	3.4225	6.1425	25.6134	LCS	164.3409	97.2%			
0.3136	0.2214	1	0.6255	132.0625	0.0251	144.5507	3.1078	5.5650	21.3060	LCS	164.3409	80.4%			
1.4618	1.0321	1	2.2506	135.6135	0.0254	145.4707	3.1861	5.8215	22.7970	LCS	164.3409	86.2%			
0.3185	0.2249	1	0.6330	141.6298	0.0245	154.5427	3.2193	5.7718	21.9090	LCS	164.3409	82.5%			
0.3327	0.2349	1	0.6546	146.7439	0.0242	158.8520	3.2579	5.8988	23.6017	LCS	164.3409	89.3%			

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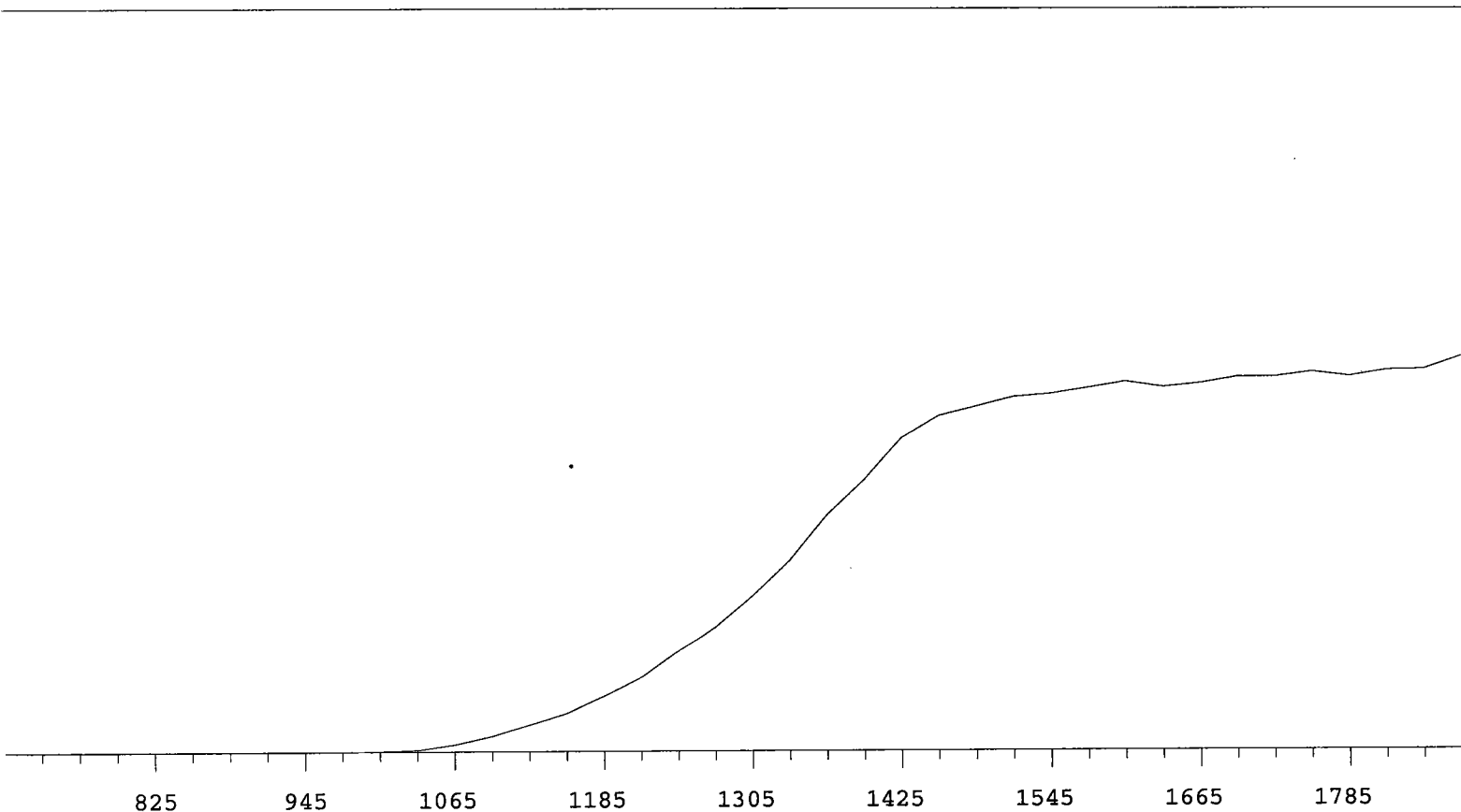
SampleID	Instr	Time (min.)	Alpha Counts	Beta Counts	Count Start Time	Count End Time	Machine
1	1A	15	36	1980	7/2/2009 8:39	7/2/2009 8:54	Protean
2	1B	15	27	1959	7/2/2009 8:40	7/2/2009 8:55	Protean
3	1C	15	44	2108	7/2/2009 8:40	7/2/2009 8:55	Protean
4	1D	15	108	2265	7/2/2009 8:40	7/2/2009 8:55	Protean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

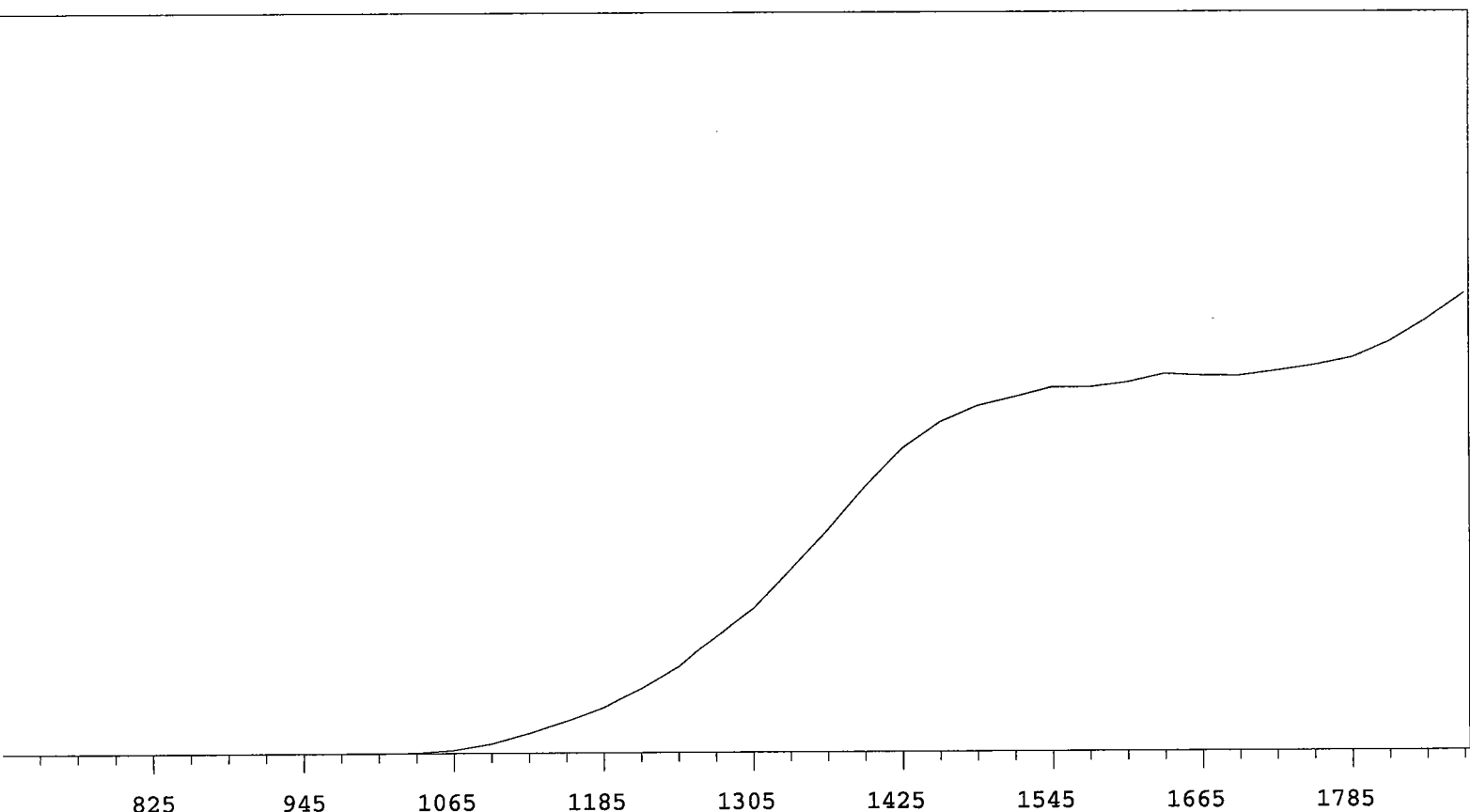
Ra-228 Protean	Cal Date A0	7/2/2009 A1	Exp Date A2	7/31/2009 A3	A4
1A	6.30258E-01				
1B	6.28221E-01				
1C	6.17615E-01				
1D	6.04341E-01				
2A	6.17224E-01				
2B	6.16681E-01				
2C	5.96919E-01				
2D	6.11886E-01				
3A	5.68218E-01				
3B	5.98041E-01				
3C	6.16431E-01				
3D	5.99405E-01				
4A	6.20765E-01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



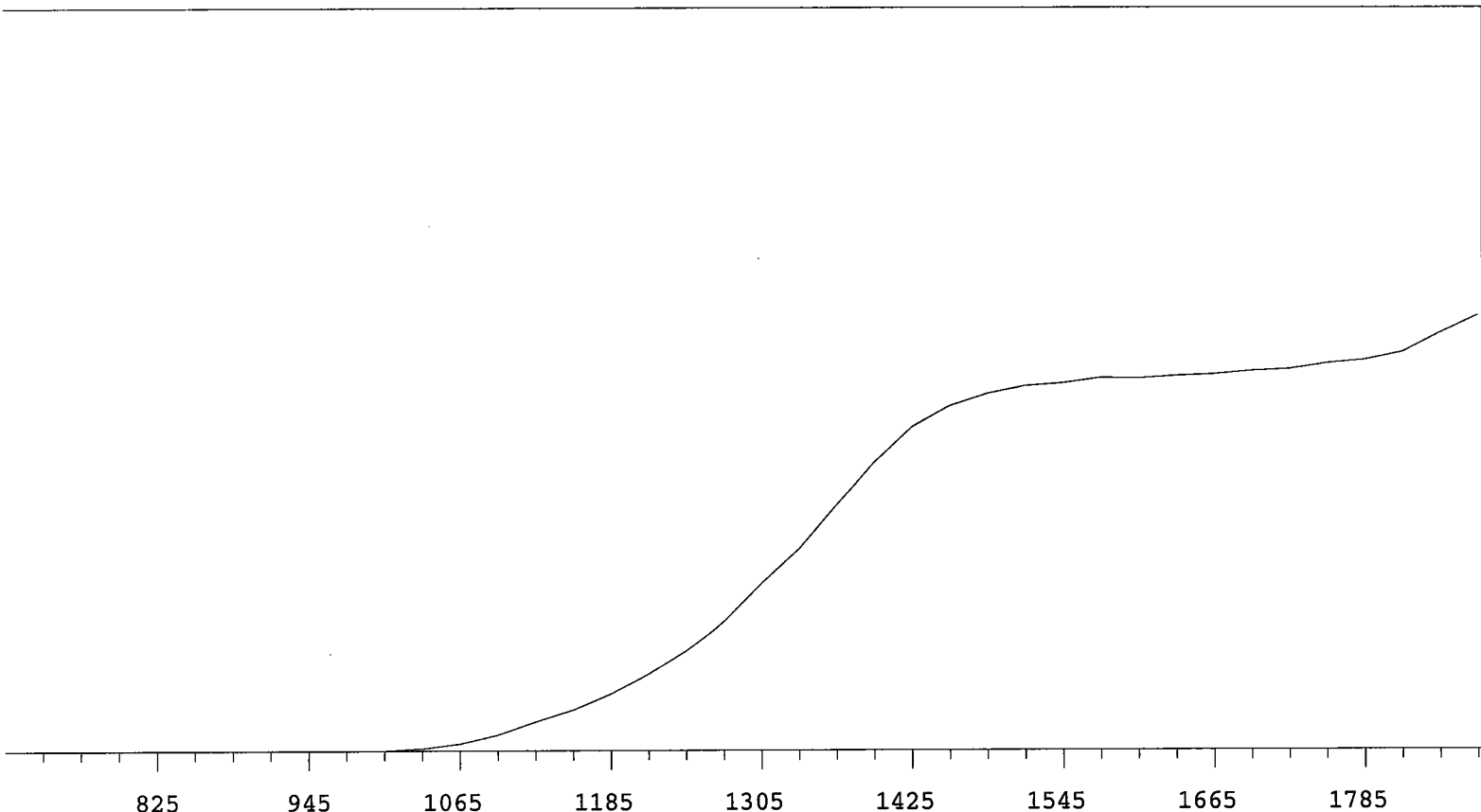
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	11640	+69.78
735	1		1335	14241	+62.88
765	0		1365	17534	+55.91
795	0	+0.00	1395	20127	+45.04
825	0	>100	1425	23254	+31.29
855	1	>100	1455	24902	+20.41
885	0	+55.56	1485	25605	+10.49
915	2	+66.67	1515	26310	+6.44
945	0	>100	1545	26535	+5.31
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

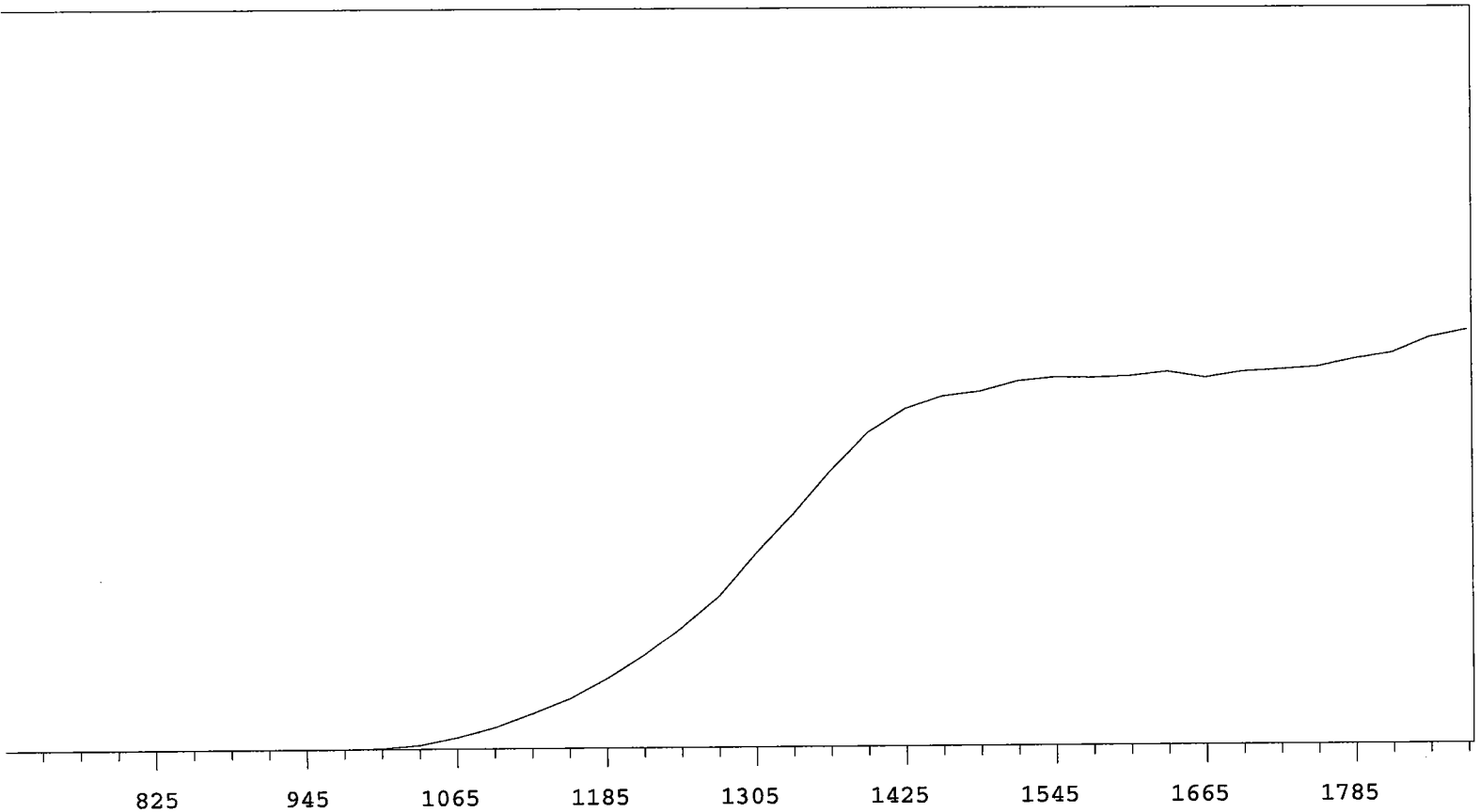


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	13188	+75.92
735	0		1335	16818	+67.60
765	0	+55.56	1365	20420	+59.86
795	1	+83.33	1395	24341	+47.85
825	1	+55.56	1425	27854	+35.51
855	0	>100	1455	30288	+23.26
885	1	+0.00	1485	31798	+14.54
915	0	+0.00	1515	32622	+8.32
945	1	>100	1545	33496	+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	

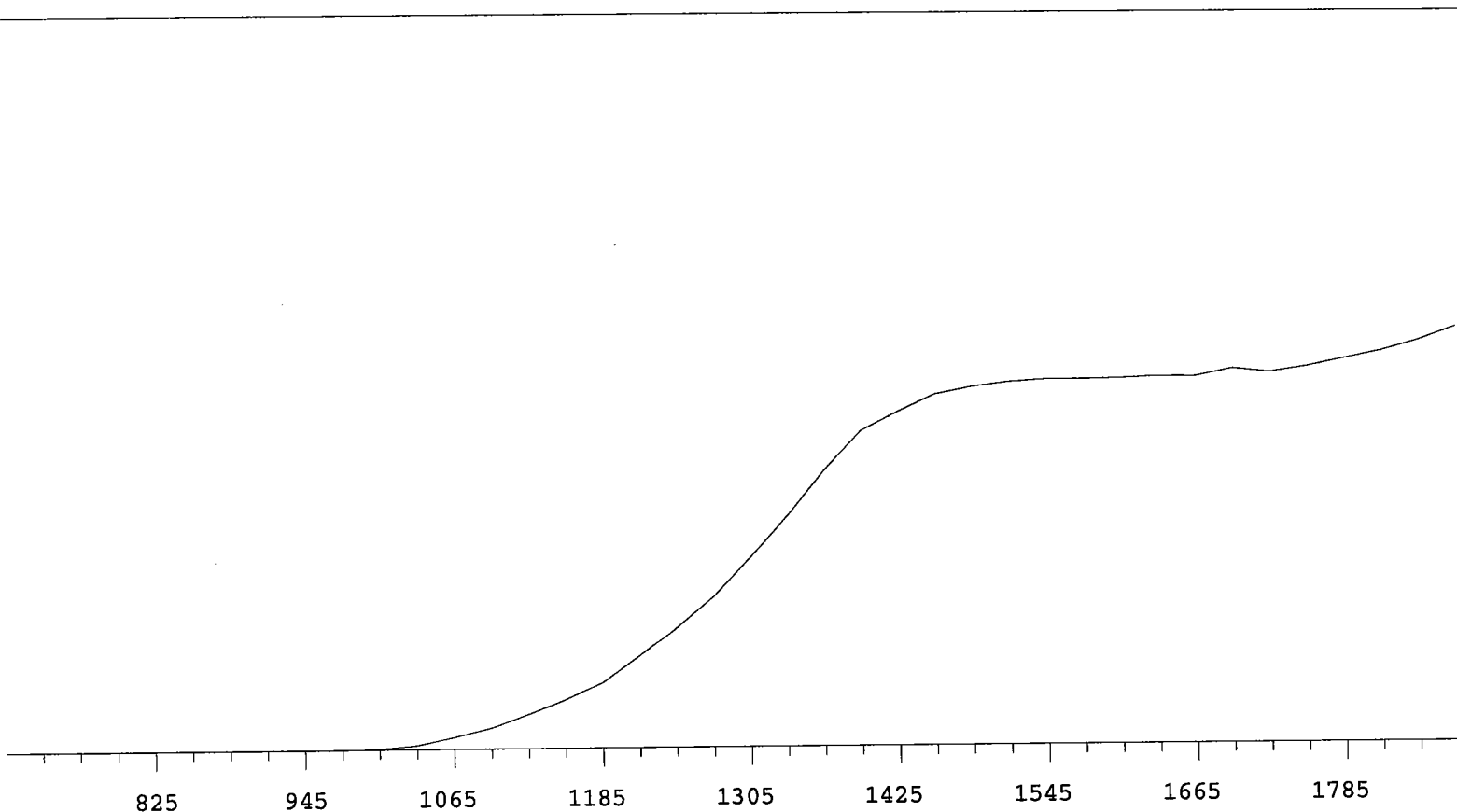
Alpha Volts: 1575 Beta Volts: 1575



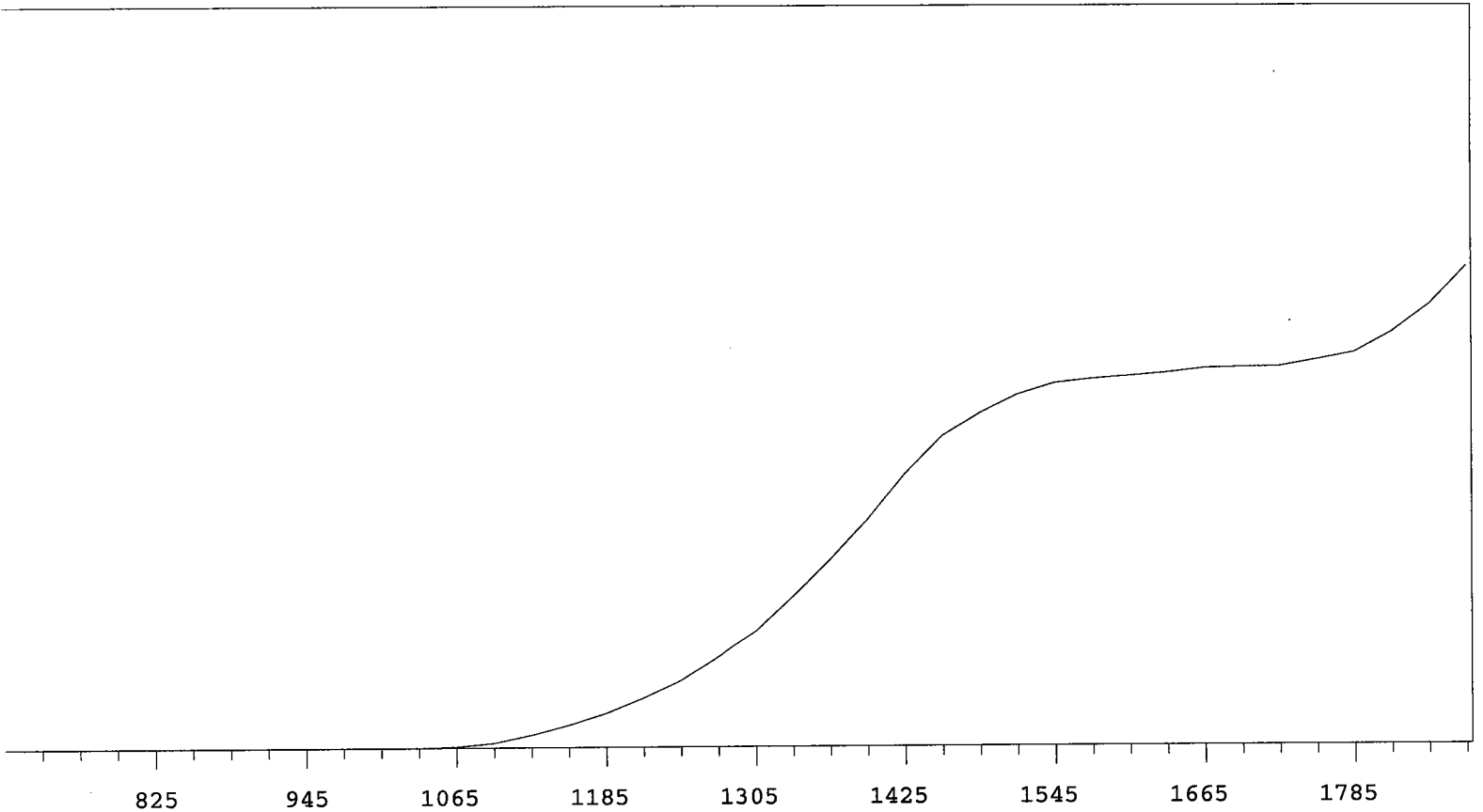
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	14817	+71.06
735	0		1335	17823	+63.34
765	1	+0.00	1365	21704	+53.63
795	0	>100	1395	25422	+42.55
825	1	-55.56	1425	28424	+29.21
855	1	+55.56	1455	30244	+18.11
885	0	>100	1485	31305	+10.10
915	1	>100	1515	31989	+6.07
945	0	>100	1545	32223	+3.43
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	



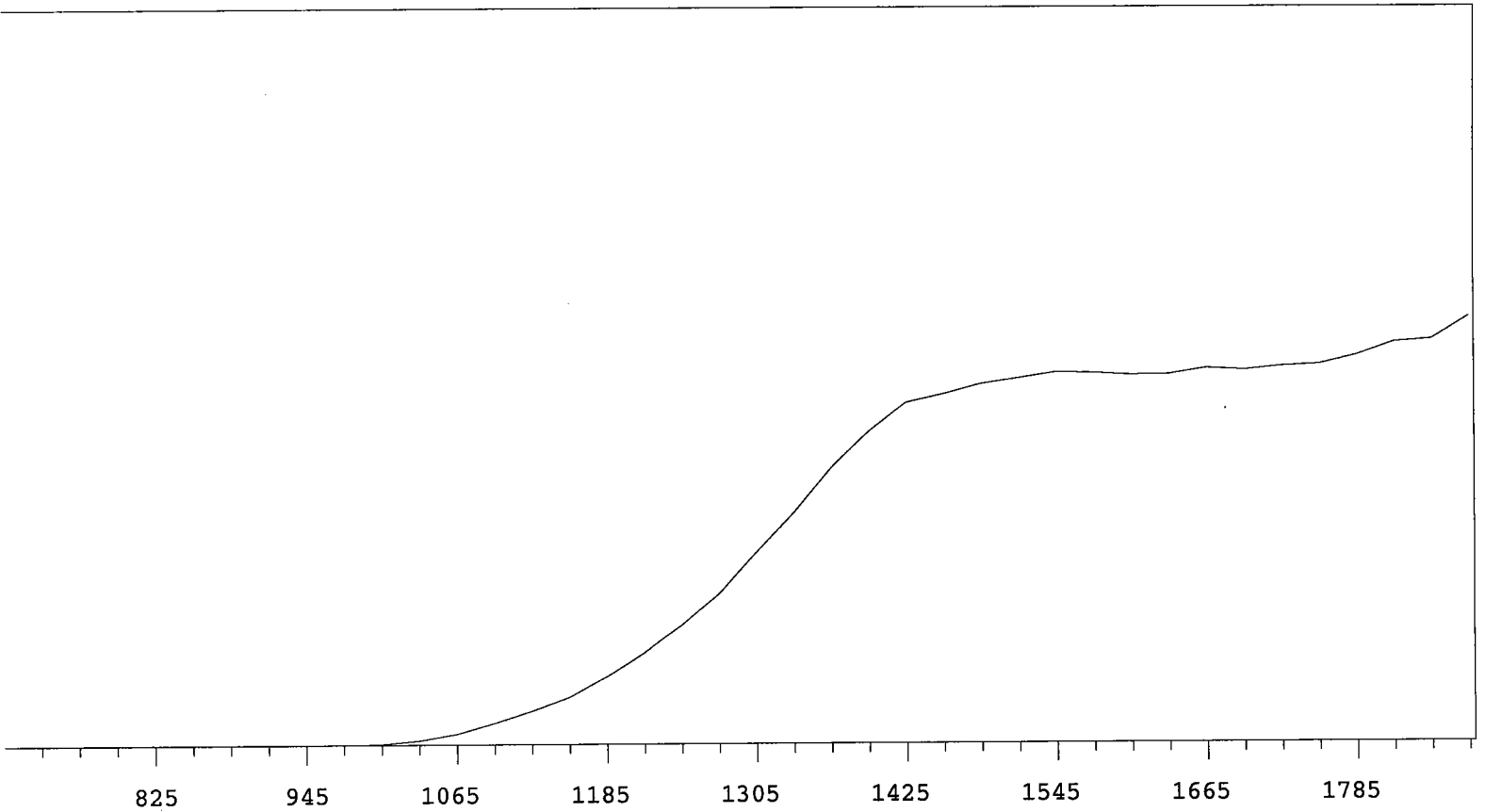
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	15202	+66.36
735	1		1335	18216	+57.86
765	0	+0.00	1365	21597	+45.58
795	1	+0.00	1395	24648	+32.96
825	0	+0.00	1425	26505	+19.92
855	1	>100	1455	27475	+11.42
885	0	>100	1485	27836	+7.08
915	0	>100	1515	28609	+4.51
945	0	>100	1545	28896	+2.93
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	



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	

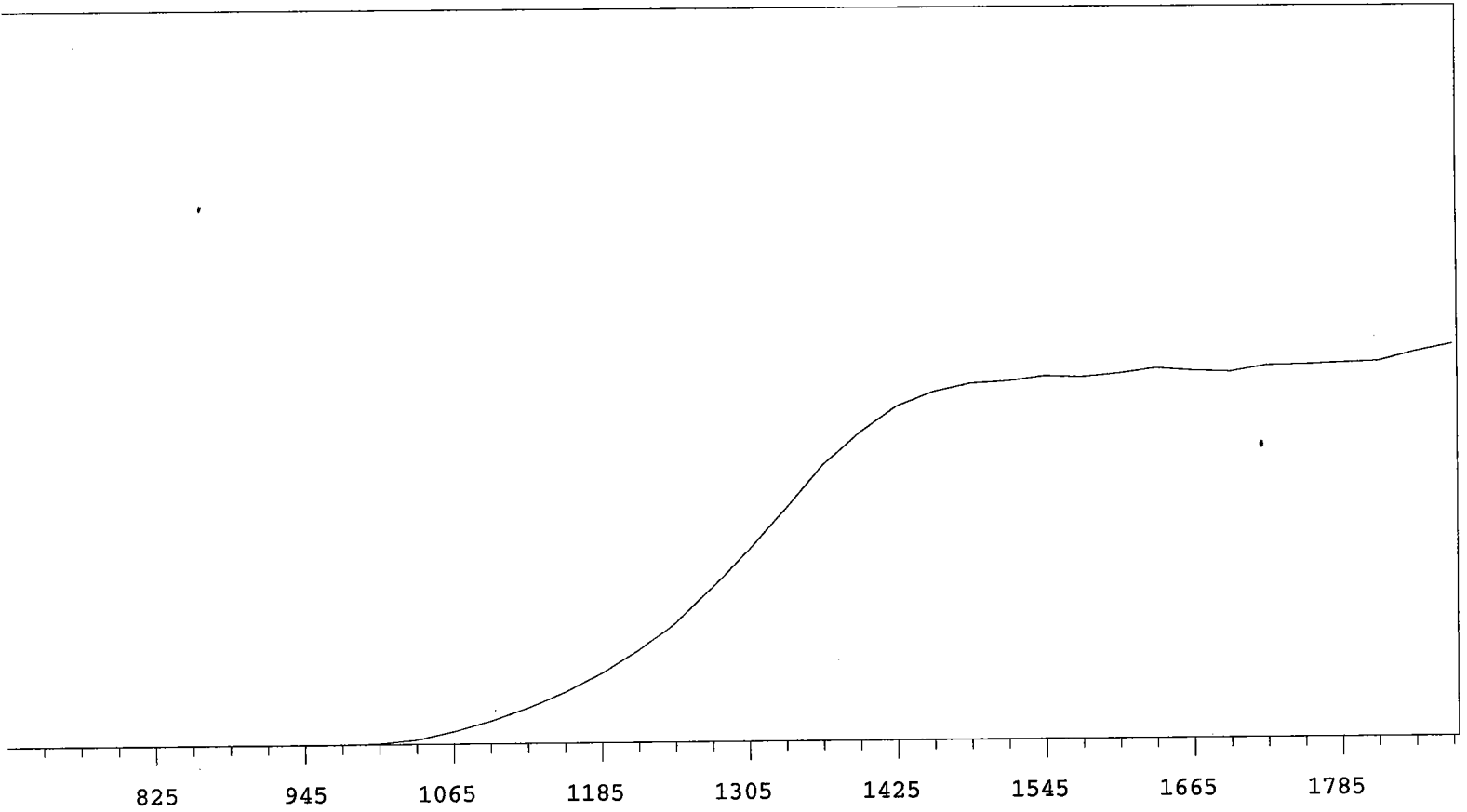


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	18216	+67.74
735	0		1335	21995	+58.11
765	0		1365	26173	+46.11
795	0	>100	1395	29479	+32.75
825	0	>100	1425	32186	+20.62
855	0	>100	1455	33022	+12.13
885	0	>100	1485	33981	+7.22
915	1	>100	1515	34520	+4.95
945	0	>100	1545	35095	+2.07
975	17	>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	

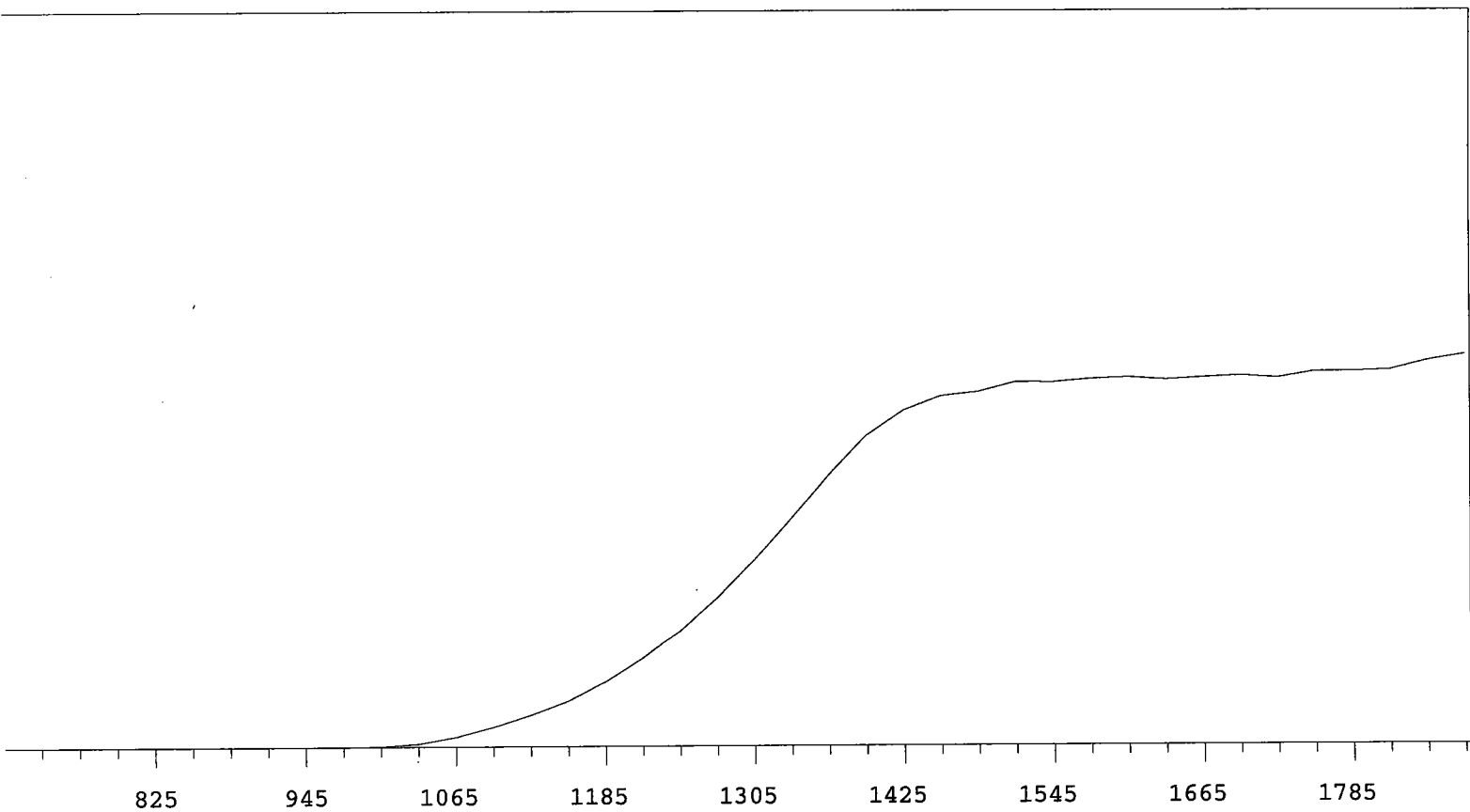
MPC 9600 Plateau
Alpha Volts: 705

Instrument 2 MPC 9604 Detector D
Beta Volts: 1575

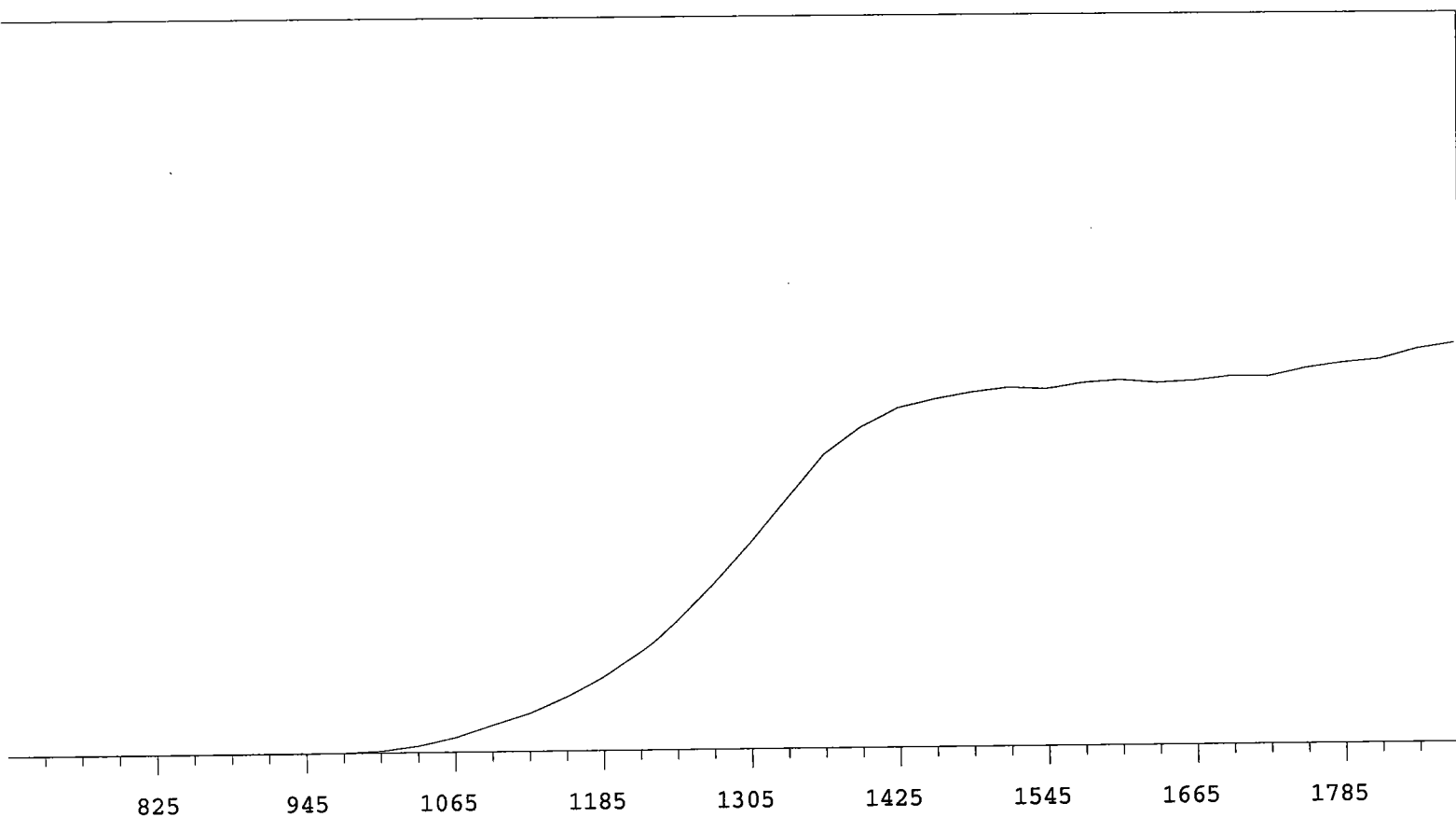
7/1/2009



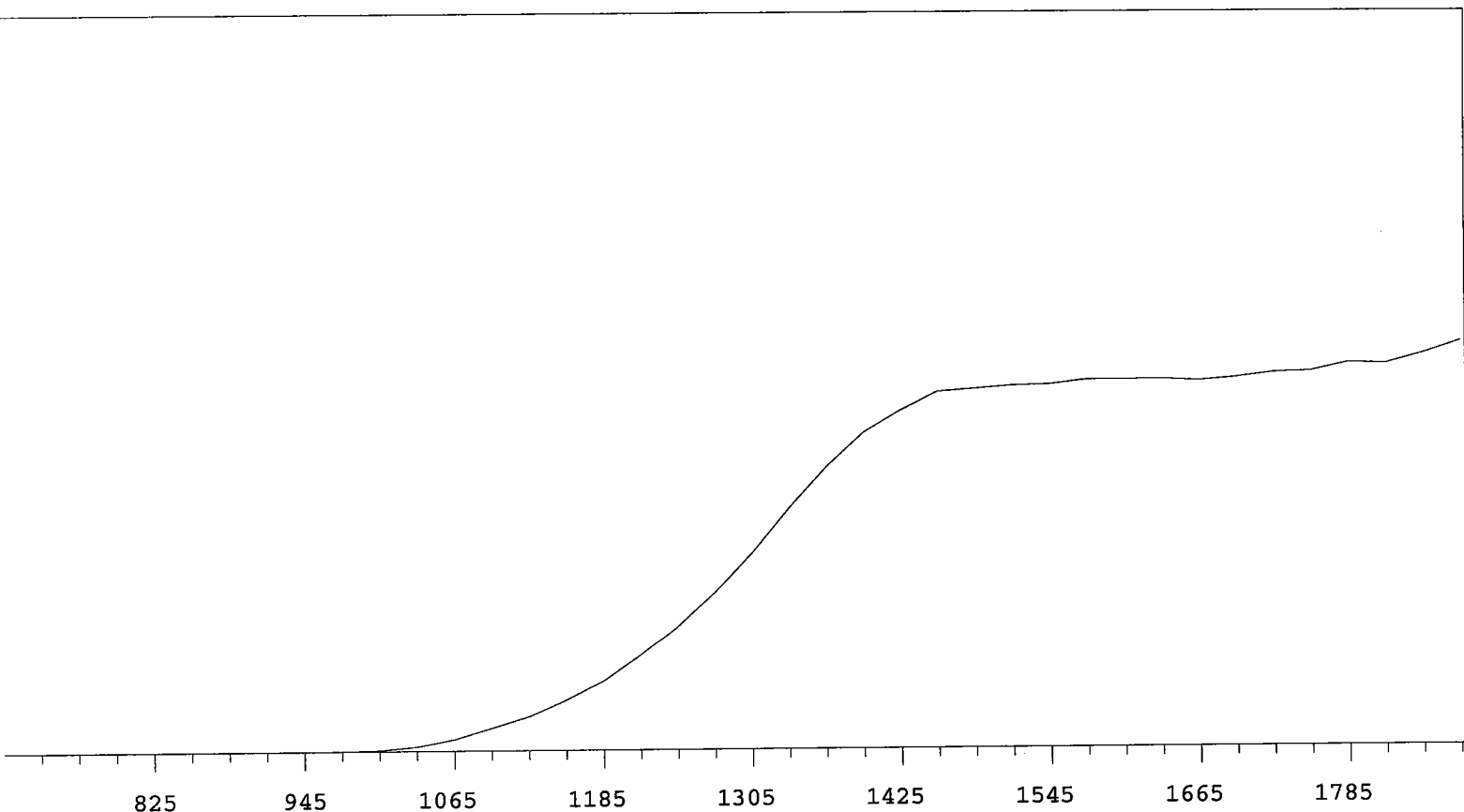
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	18675	+65.94
735	0		1335	22620	+55.69
765	0	+83.33	1365	26869	+44.63
795	2	+55.56	1395	29957	+32.08
825	1	>100	1425	32494	+20.49
855	0	>100	1455	33836	+11.98
885	0	>100	1485	34627	+6.45
915	0	>100	1515	34849	+3.22
945	2	>100	1545	35298	+1.98
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	



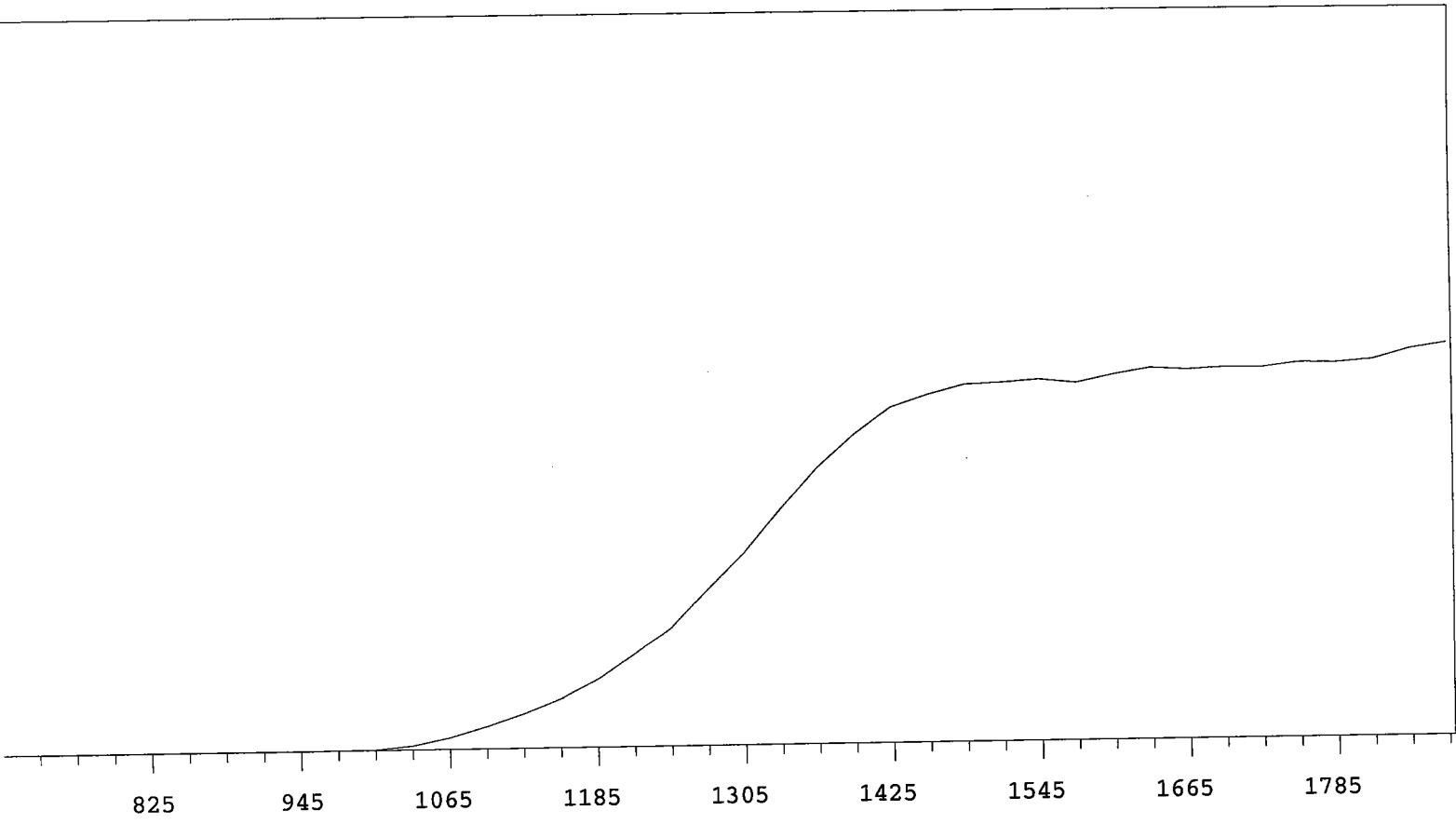
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	16654	+68.57
735	0		1335	20416	+59.26
765	0	+55.56	1365	24191	+47.28
795	1	>100	1395	27643	+34.04
825	1	+0.00	1425	29891	+21.08
855	1	>100	1455	31183	+12.30
885	0	>100	1485	31558	+6.67
915	0	>100	1515	32444	+4.05
945	0	>100	1545	32413	+2.90
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	



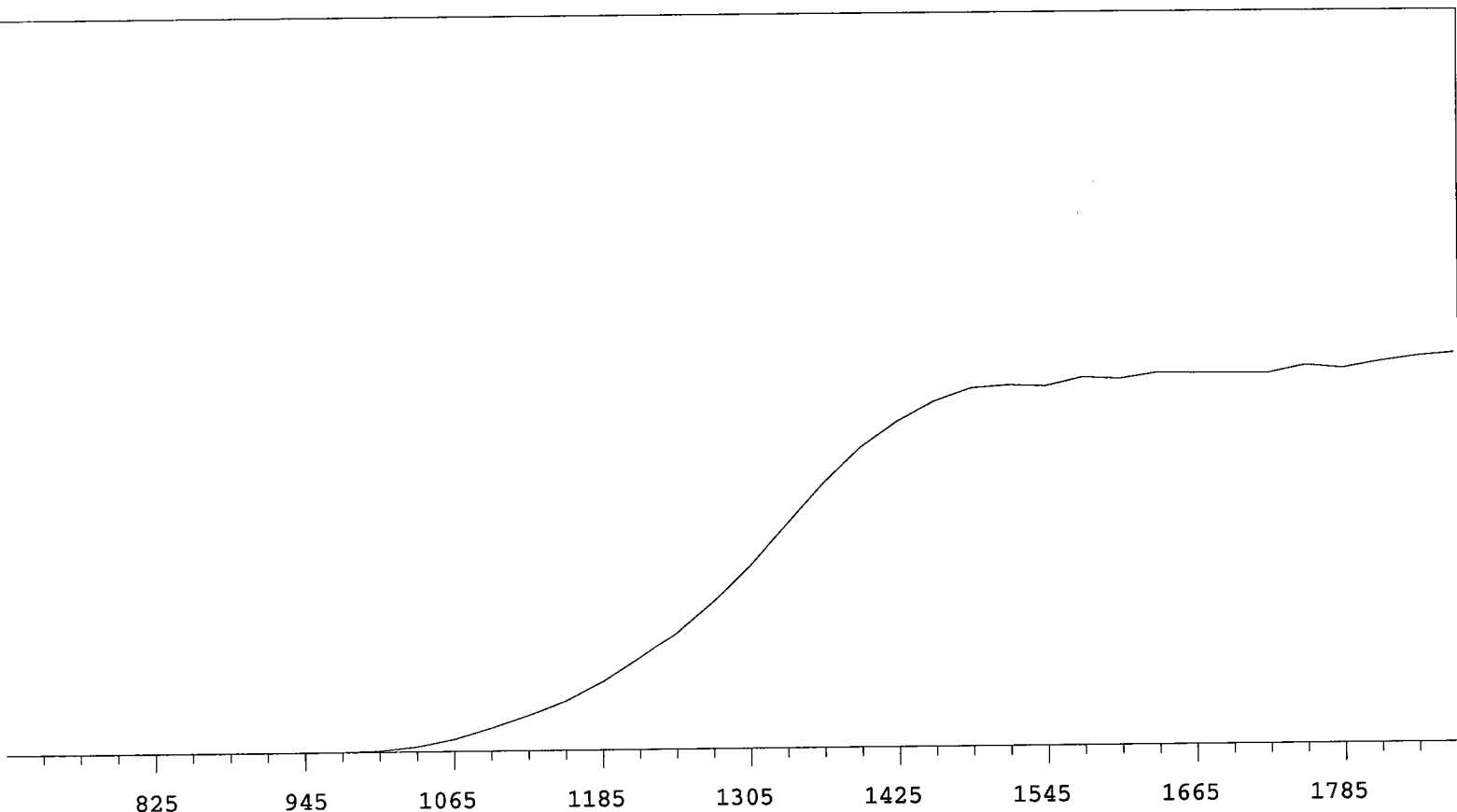
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	19810	+64.73
735	1		1335	23962	+52.62
765	0	-55.56	1365	28091	+39.27
795	0	>100	1395	30594	+25.61
825	1	>100	1425	32381	+14.86
855	3	+33.33	1455	33206	+8.91
885	0	+0.00	1485	33832	+4.41
915	1	>100	1515	34260	+3.01
945	2	>100	1545	34071	+2.33
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	



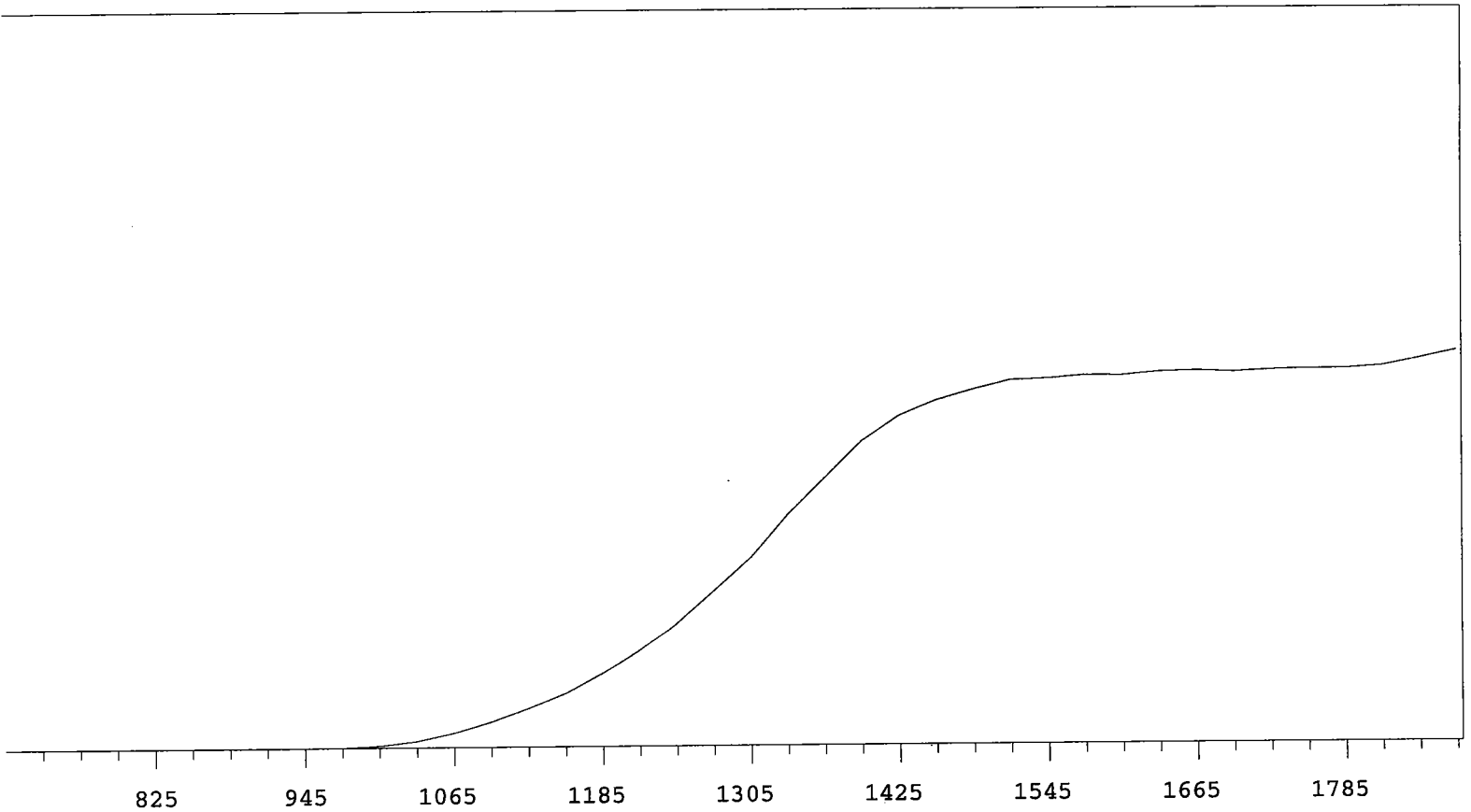
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	14171	+66.45
735	1		1335	17362	+54.90
765	0	+0.00	1365	20310	+43.83
795	1	>100	1395	22647	+30.82
825	0	+83.33	1425	24551	+20.19
855	0	-83.33	1455	25440	+11.69
885	1	>100	1485	26124	+5.90
915	0	>100	1515	26245	+2.21
945	1	>100	1545	26428	+1.39
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	



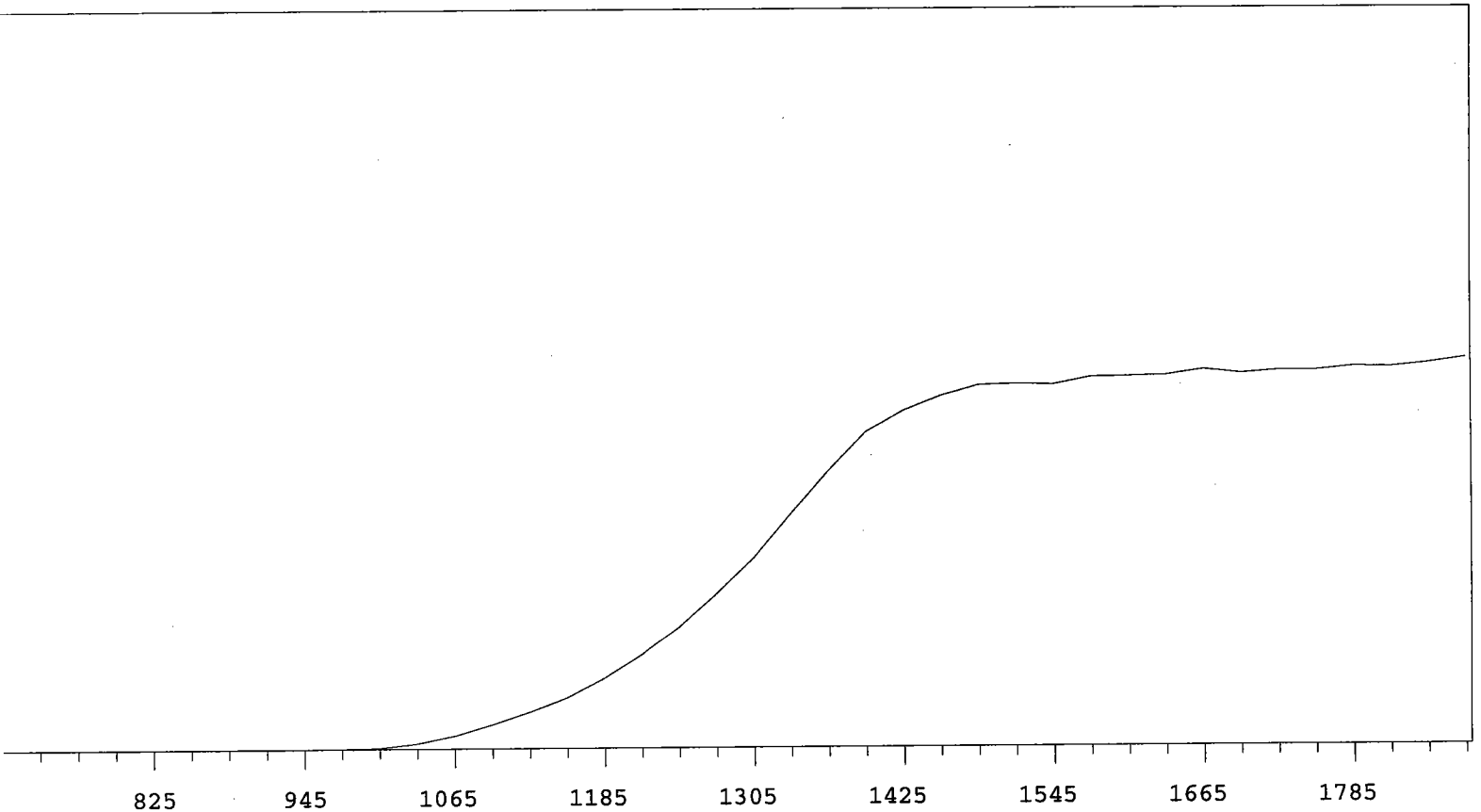
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16442	+66.24
735	0		1335	20146	+57.40
765	0		1365	23769	+46.40
795	0	>100	1395	26926	+34.68
825	2	+55.56	1425	29276	+24.40
855	1	>100	1455	31037	+15.28
885	0	-55.56	1485	32197	+7.91
915	3	>100	1515	32425	+4.33
945	0	>100	1545	32314	+2.14
975	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	

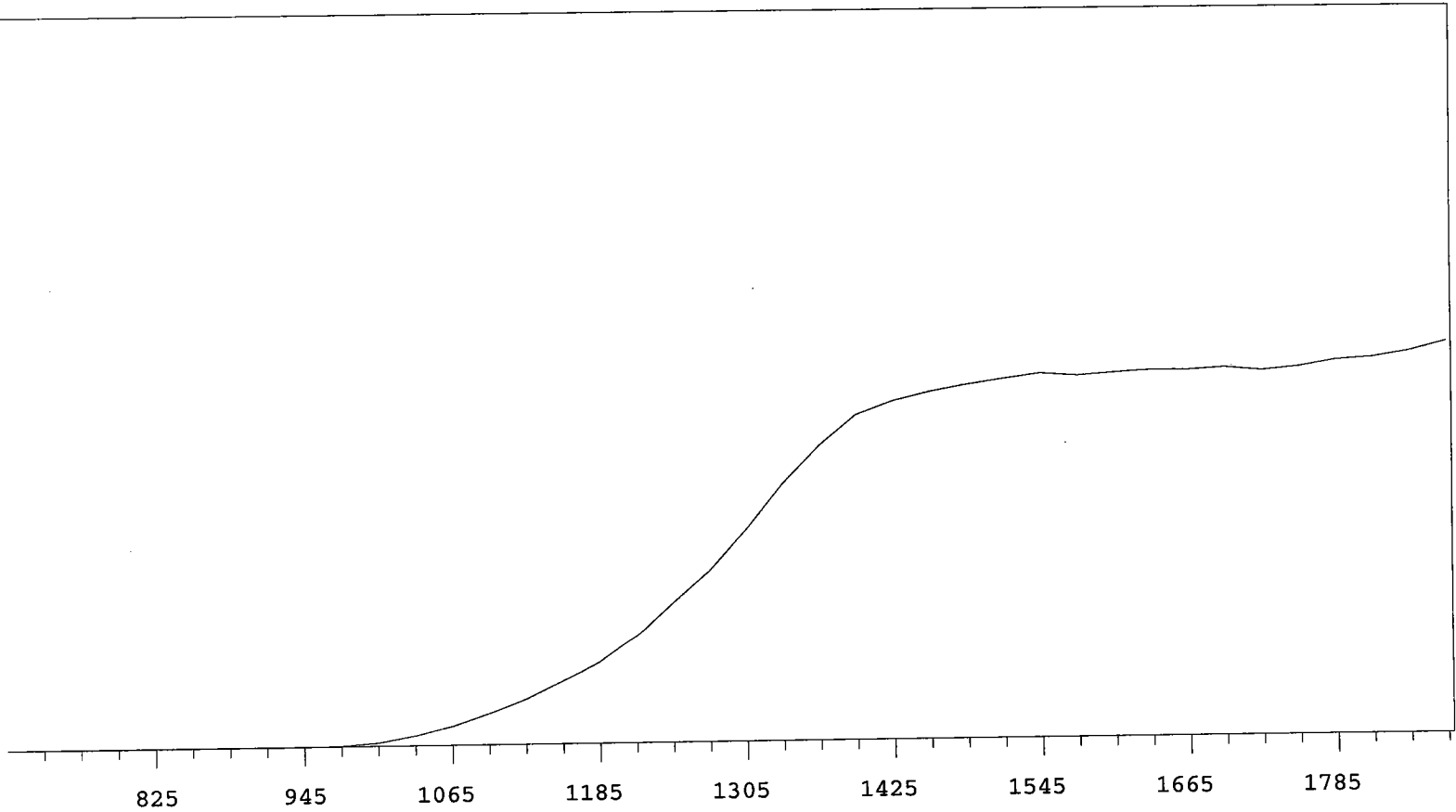


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	19796	+65.77
735	1		1335	24338	+57.55
765	0	+55.56	1365	28686	+45.86
795	2	+0.00	1395	32750	+32.27
825	0	-55.56	1425	34919	+20.83
855	1	>100	1455	36434	+11.45
885	0	>100	1485	37487	+5.80
915	0	>100	1515	37623	+3.32
945	2	>100	1545	37528	+2.07
975	24	>100	1575	38277	+2.12
1005	134	>100	1605	38338	+2.70
1035	558	>100	1635	38426	+1.12
1065	1361	>100	1665	39007	+1.06
1095	2511	>100	1695	38592	+0.64
1125	3762	>100	1725	38870	+0.63
1155	5246	>100	1755	38868	+1.30
1185	7268	+96.29	1785	39238	+1.45
1215	9733	+88.98	1815	39169	+2.34
1245	12701	+79.94	1845	39570	
1275	16176	+73.13	1875	40086	

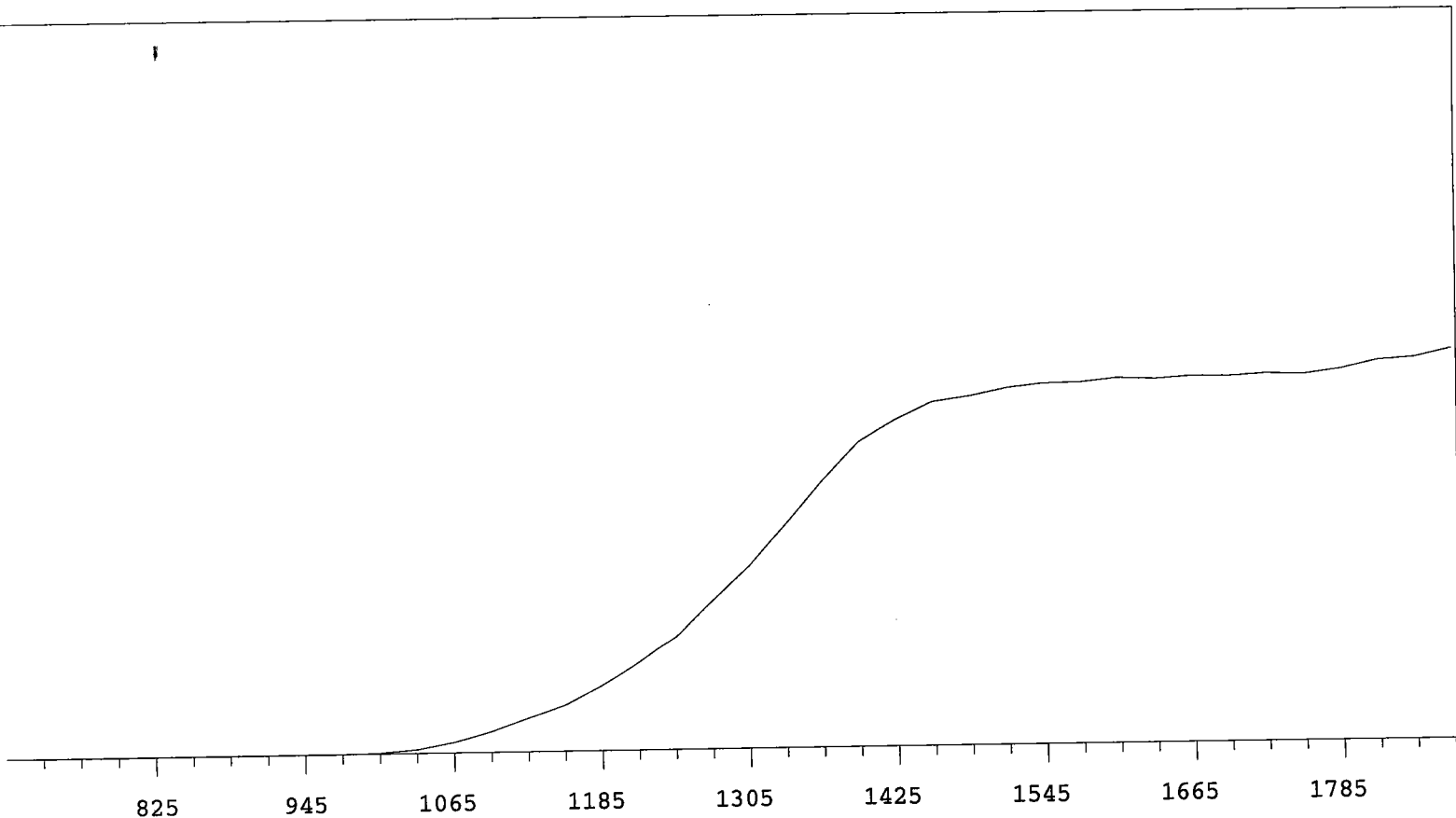
MPC 9600 Plateau
Alpha Volts: 705

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	

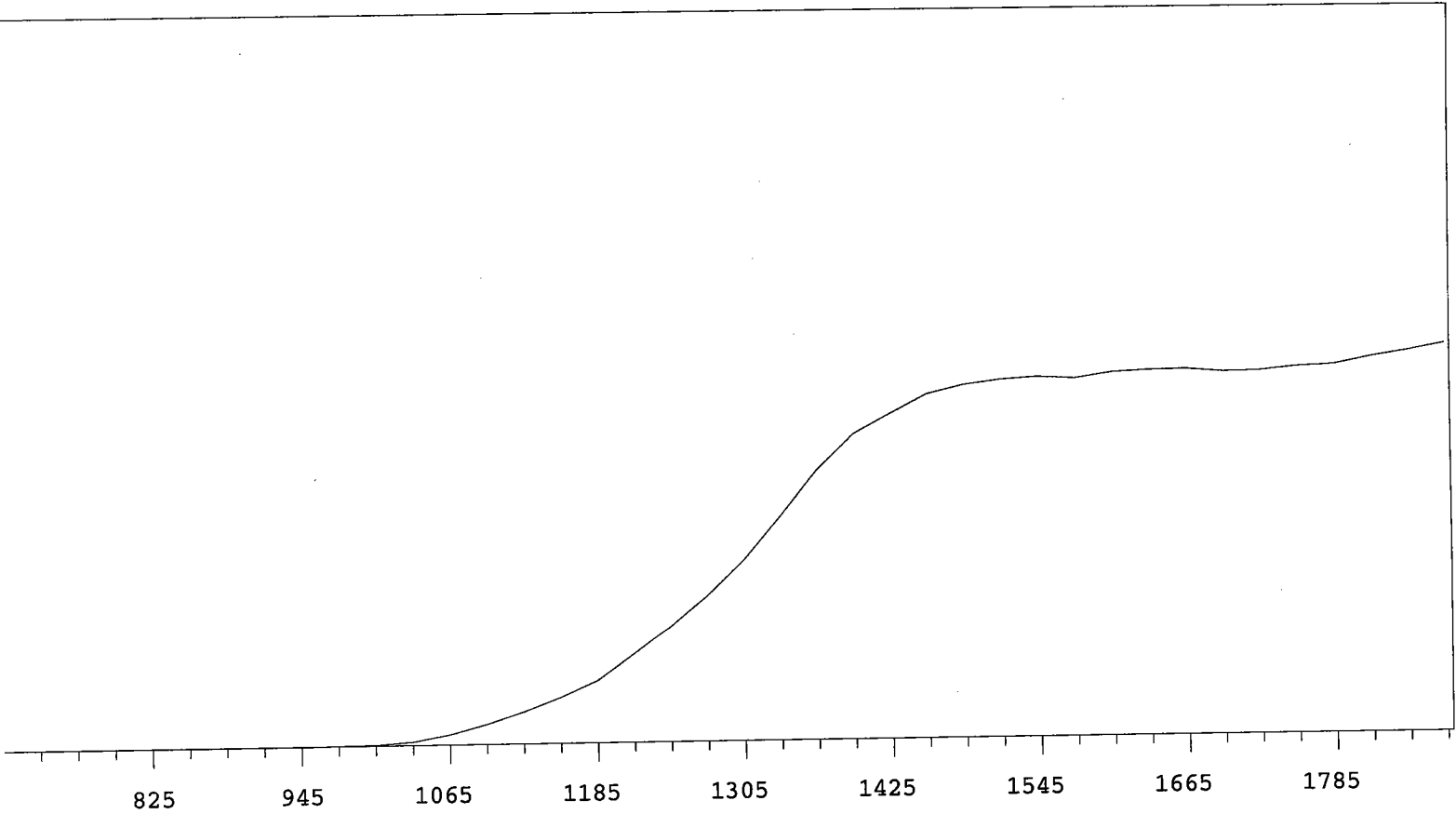


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	13974	+68.00
735	0		1335	17170	+58.62
765	1		1365	20456	+47.04
795	1	+83.33	1395	23332	+33.83
825	1	-83.33	1425	24996	+21.10
855	1	>100	1455	26290	+12.40
885	0	-55.56	1485	26683	+7.74
915	0	>100	1515	27270	+4.43
945	1	>100	1545	27590	+3.48
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	

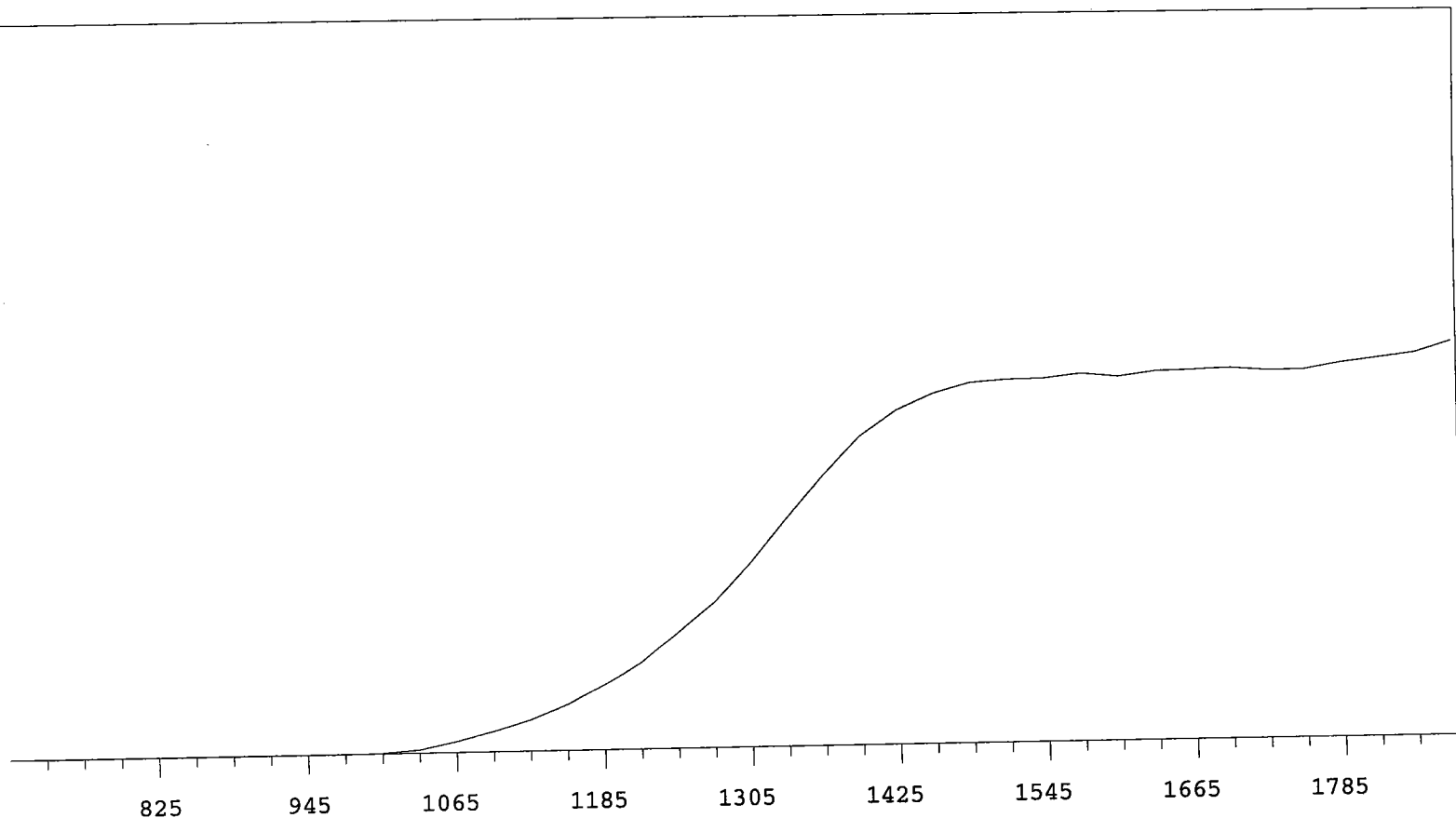
MPC 9600 Plateau
 Alpha Volts: 705

Instrument 5 MPC 9604 Detector B
 Beta Volts: 1575

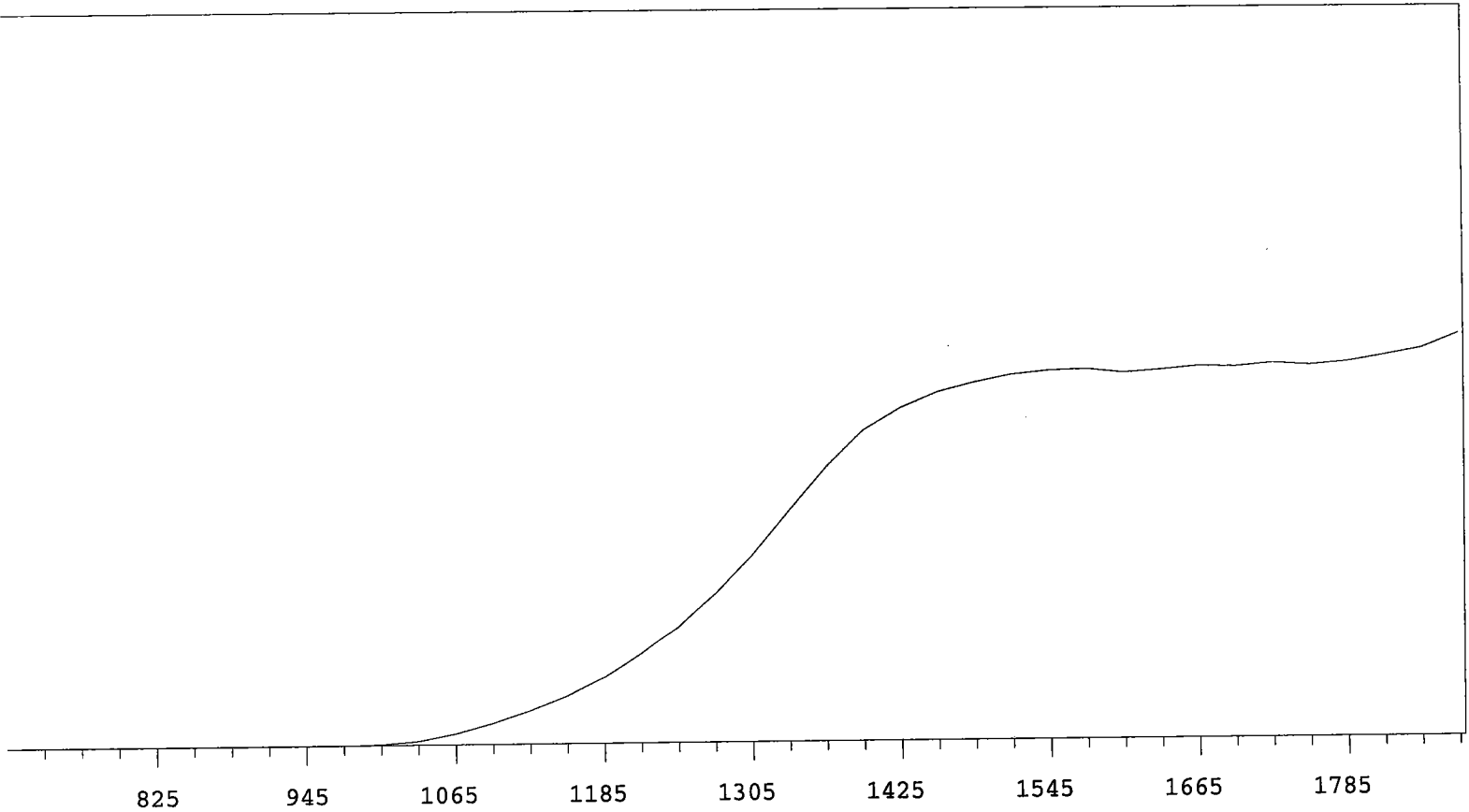
7/1/2009



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	



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	

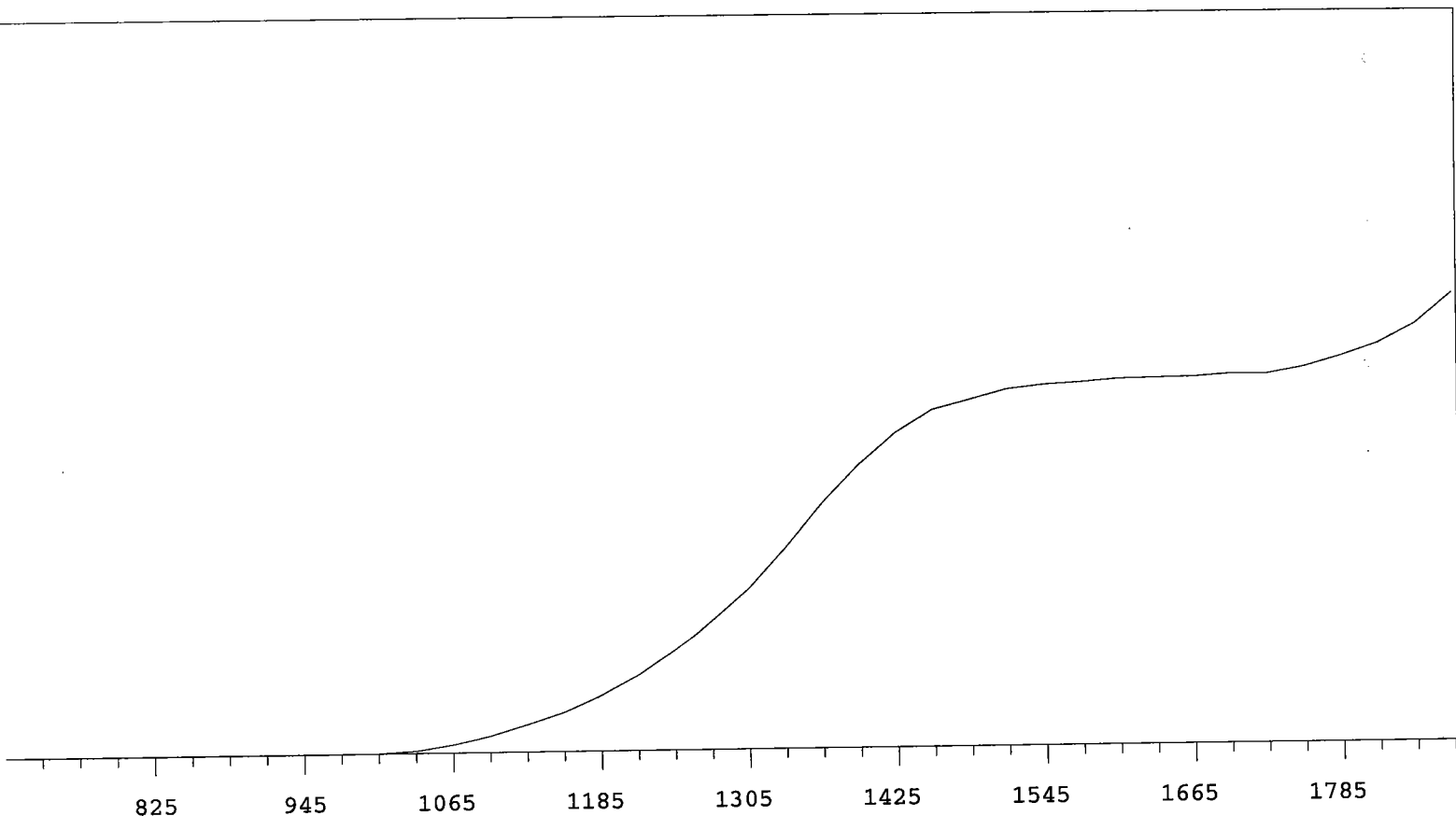


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	15025	+68.87
735	0		1335	18640	+58.97
765	0		1365	22048	+45.84
795	0	>100	1395	24877	+32.08
825	0	>100	1425	26653	+20.83
855	0	>100	1455	27899	+13.08
885	0	>100	1485	28670	+8.43
915	0	>100	1515	29257	+5.13
945	0	>100	1545	29568	+2.06
975	6	>100	1575	29683	+0.52
1005	81	>100	1605	29362	+0.57
1035	318	>100	1635	29589	+0.80
1065	897	>100	1665	29870	+1.82
1095	1710	>100	1695	29783	+0.90
1125	2714	>100	1725	30077	+0.75
1155	3925	>100	1755	29889	+2.02
1185	5395	+97.31	1785	30152	+3.33
1215	7282	+88.49	1815	30656	+6.54
1245	9426	+81.36	1845	31211	
1275	12007	+75.65	1875	32389	

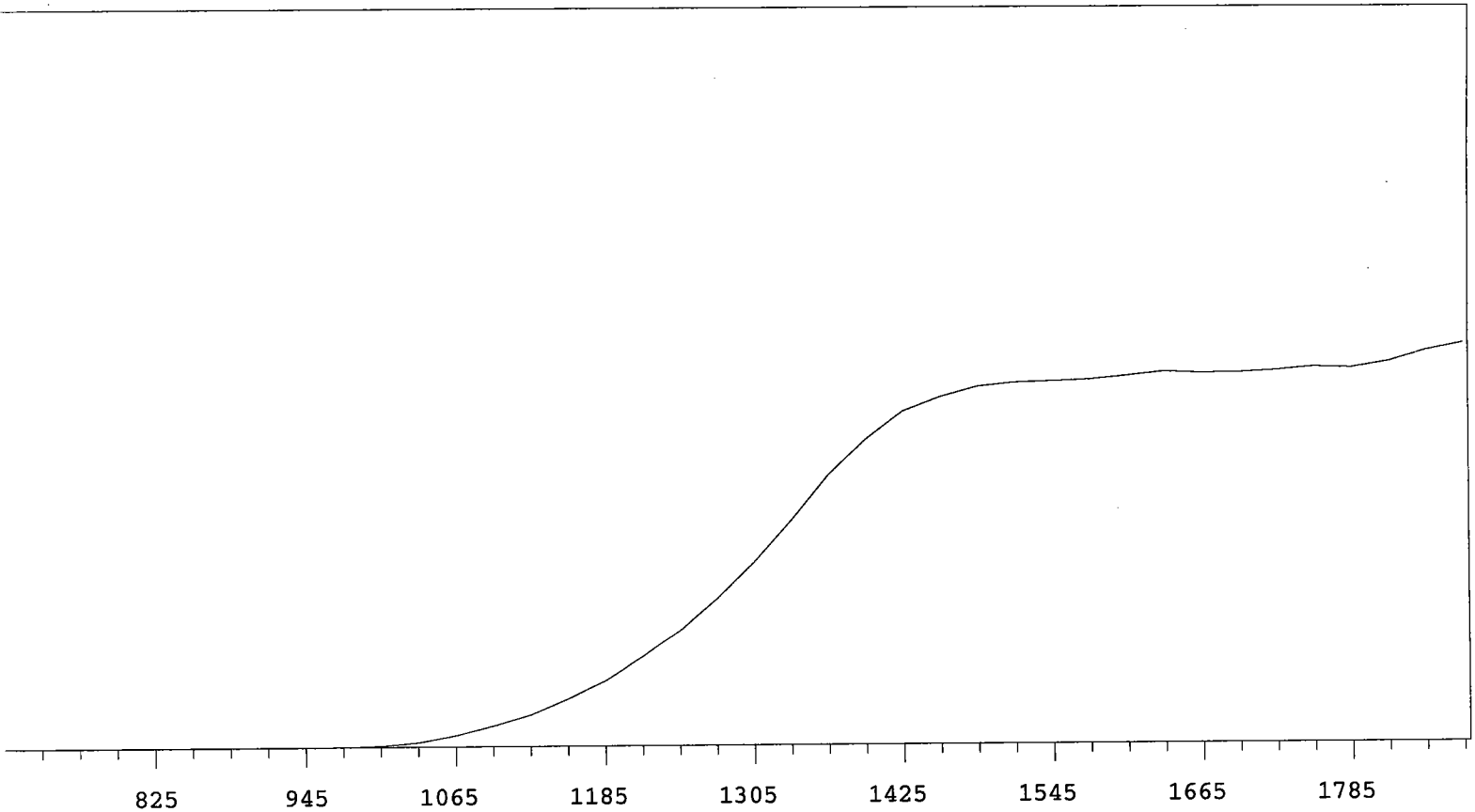
MPC 9600 Plateau
Alpha Volts: 705

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	

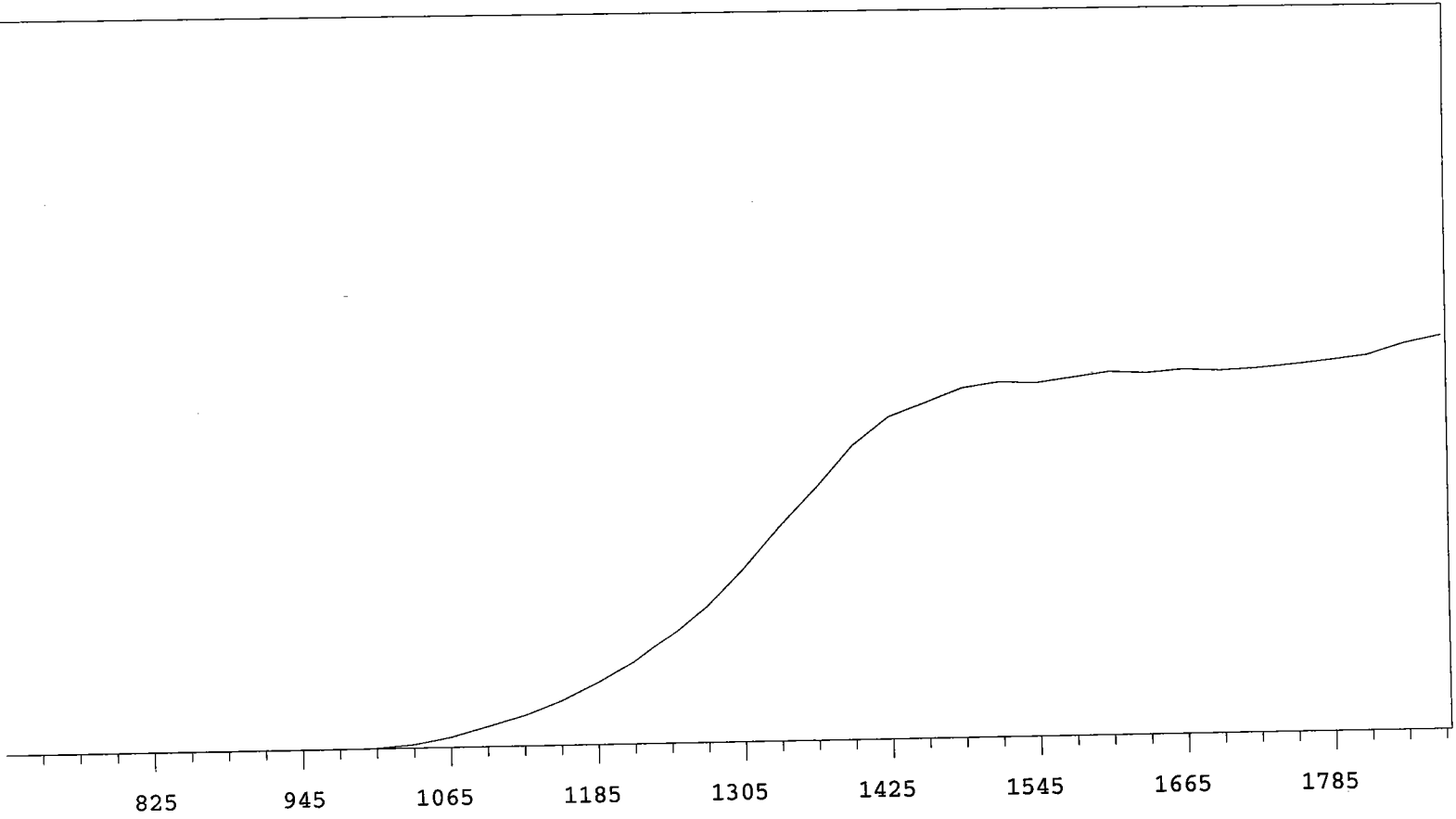


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	20094	+68.67
735	0		1335	24665	+59.40
765	0		1365	29591	+47.86
795	0	>100	1395	33376	+34.51
825	1	+83.33	1425	36440	+22.50
855	1	-83.33	1455	38024	+13.58
885	0	>100	1485	39187	+7.04
915	0	>100	1515	39608	+3.63
945	5	>100	1545	39722	+2.10
975	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	

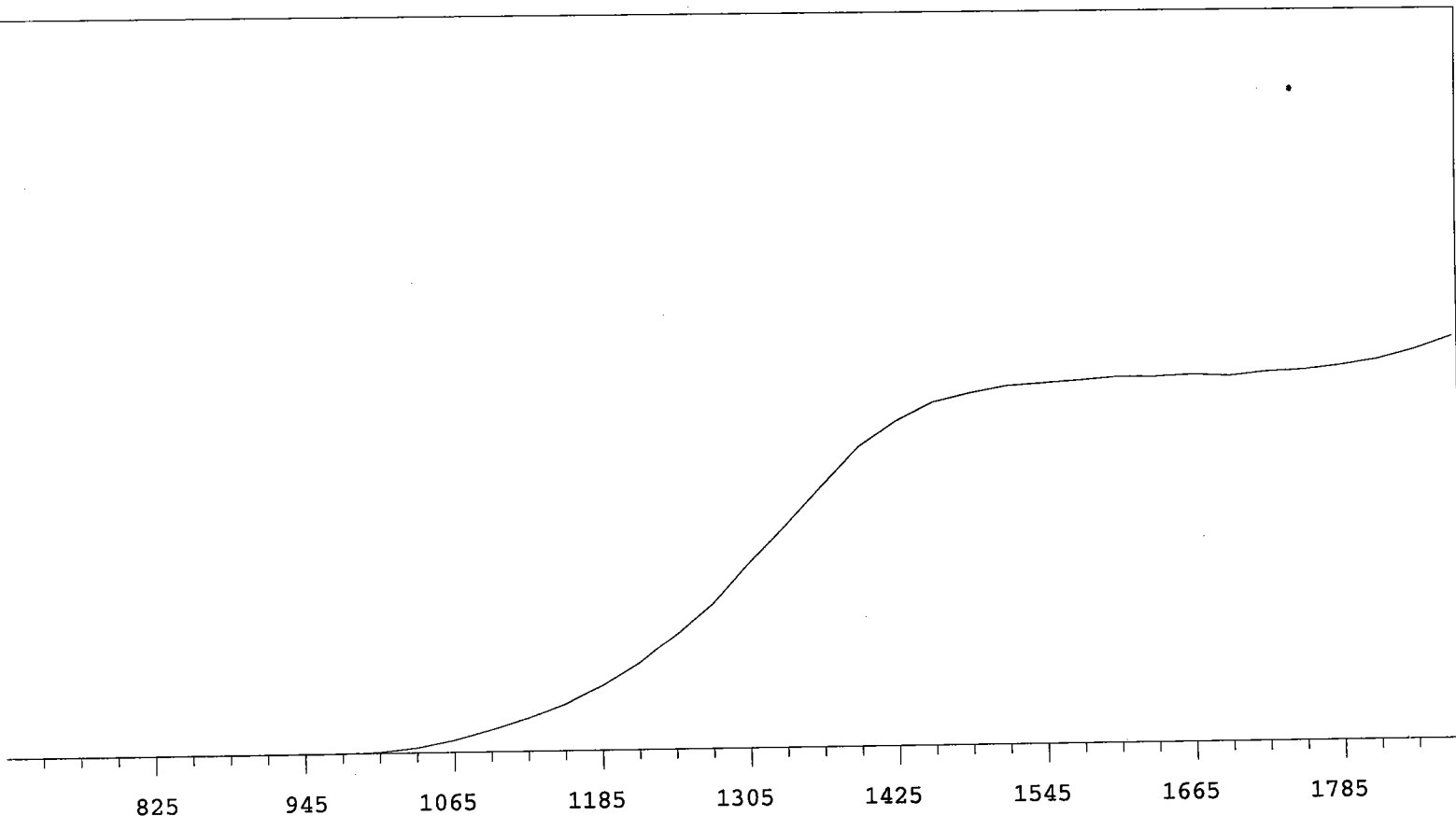
MPC 9600 Plateau
 Alpha Volts: 705

Instrument 6 MPC 9604 Detector C
 Beta Volts: 1575

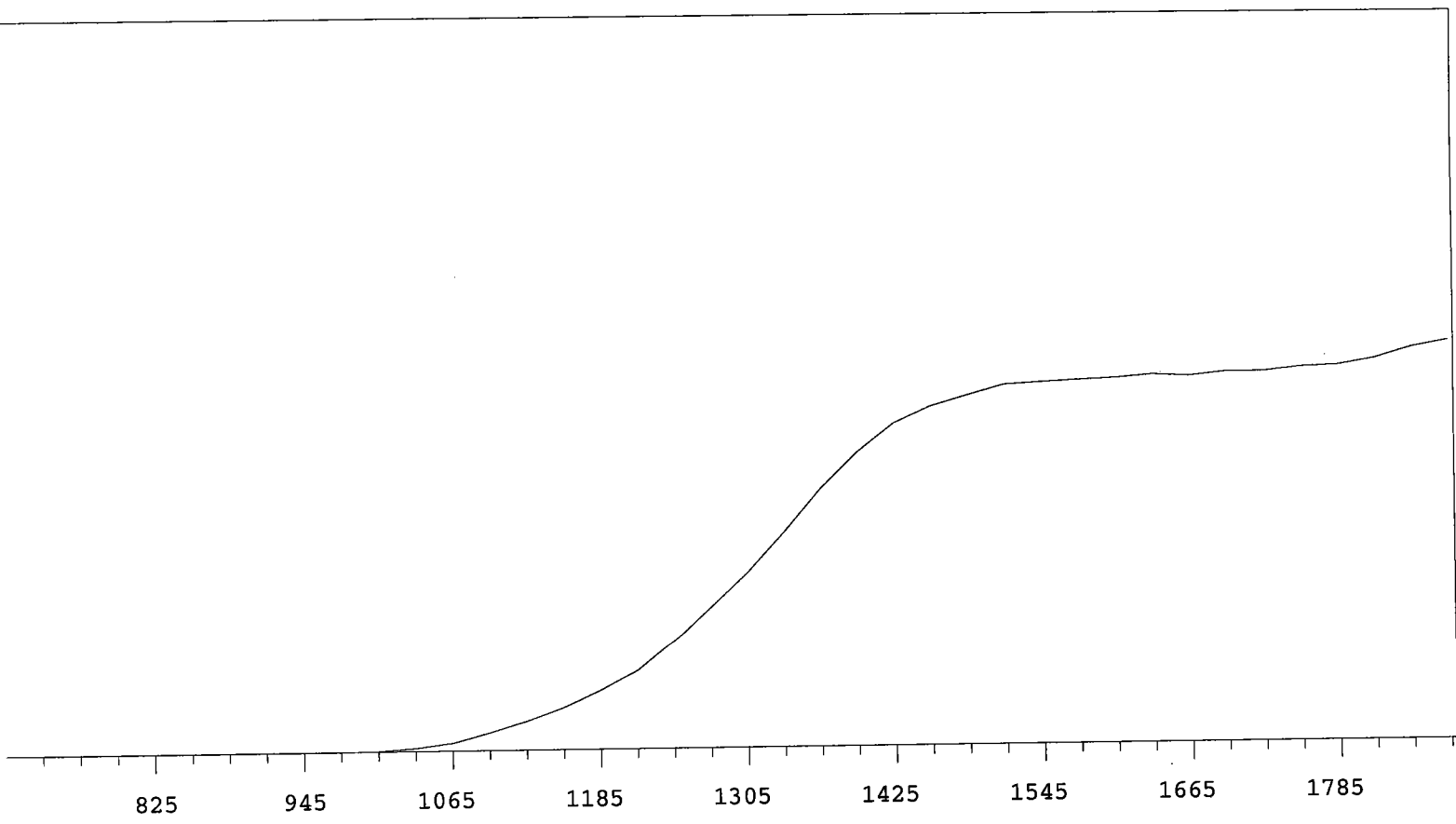
7/1/2009



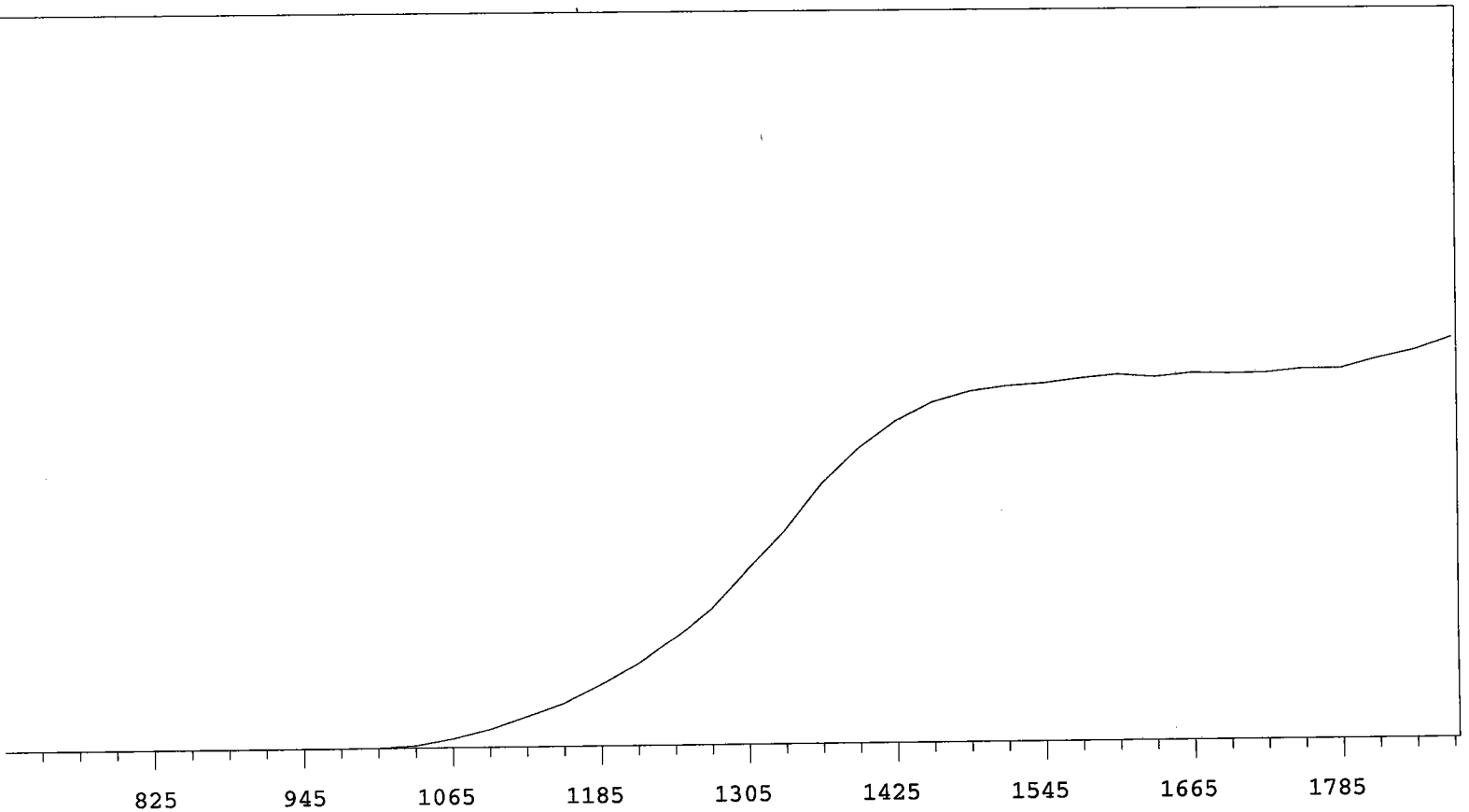
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	17350	+67.80
735	0		1335	21371	+60.27
765	1	+0.00	1365	25084	+49.32
795	0	>100	1395	29177	+36.15
825	0	+0.00	1425	31927	+24.86
855	0	>100	1455	33217	+14.70
885	1	>100	1485	34545	+7.74
915	1	>100	1515	35097	+4.64
945	2	>100	1545	34927	+2.96
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	



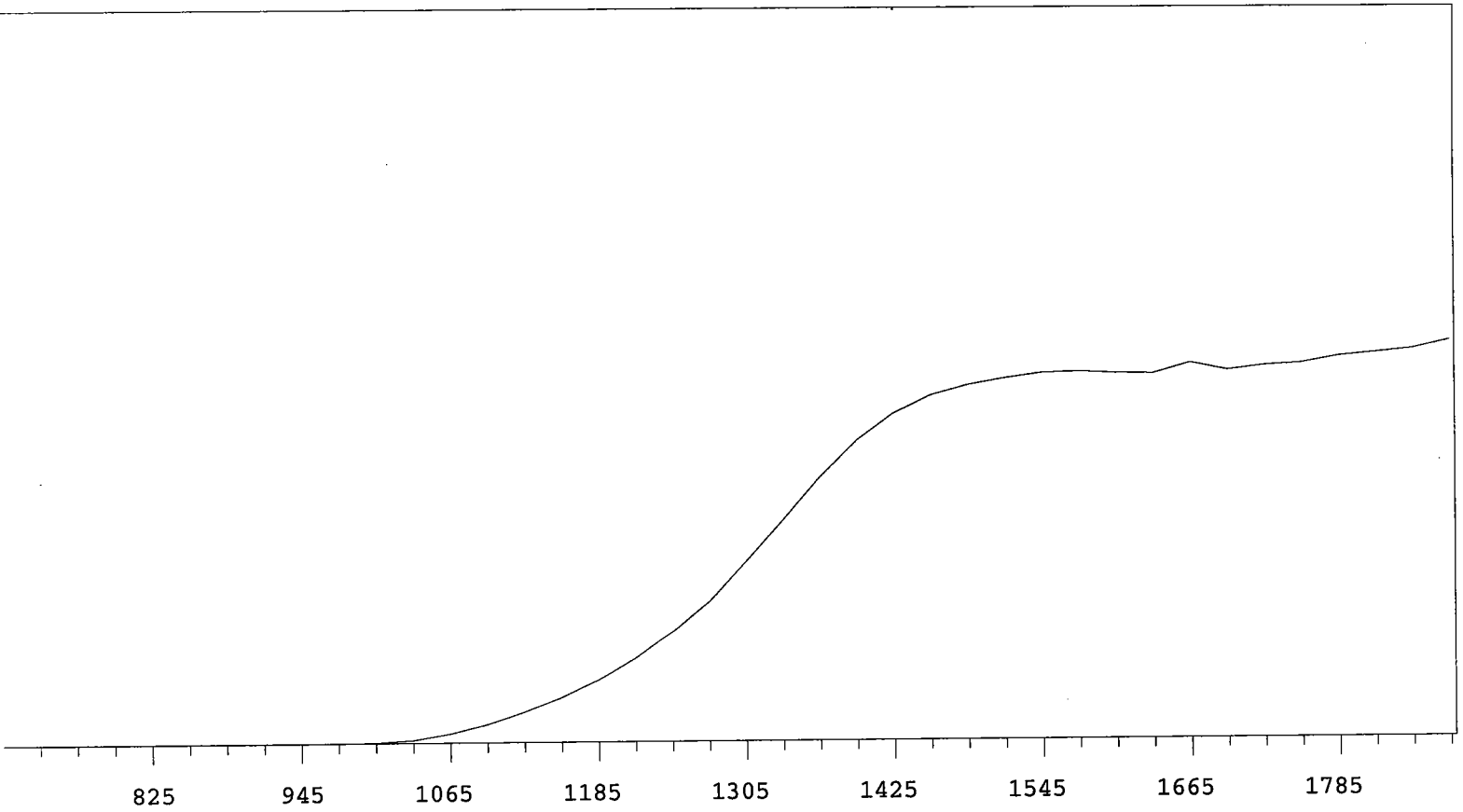
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	17954	+65.82
735	0		1335	21482	+57.64
765	0		1365	25373	+45.78
795	1	+0.00	1395	29042	+34.80
825	0	>100	1425	31373	+23.29
855	0	+0.00	1455	33143	+14.25
885	0	>100	1485	34006	+8.49
915	1	>100	1515	34662	+4.71
945	0	>100	1545	34892	+3.14
975	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	



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	

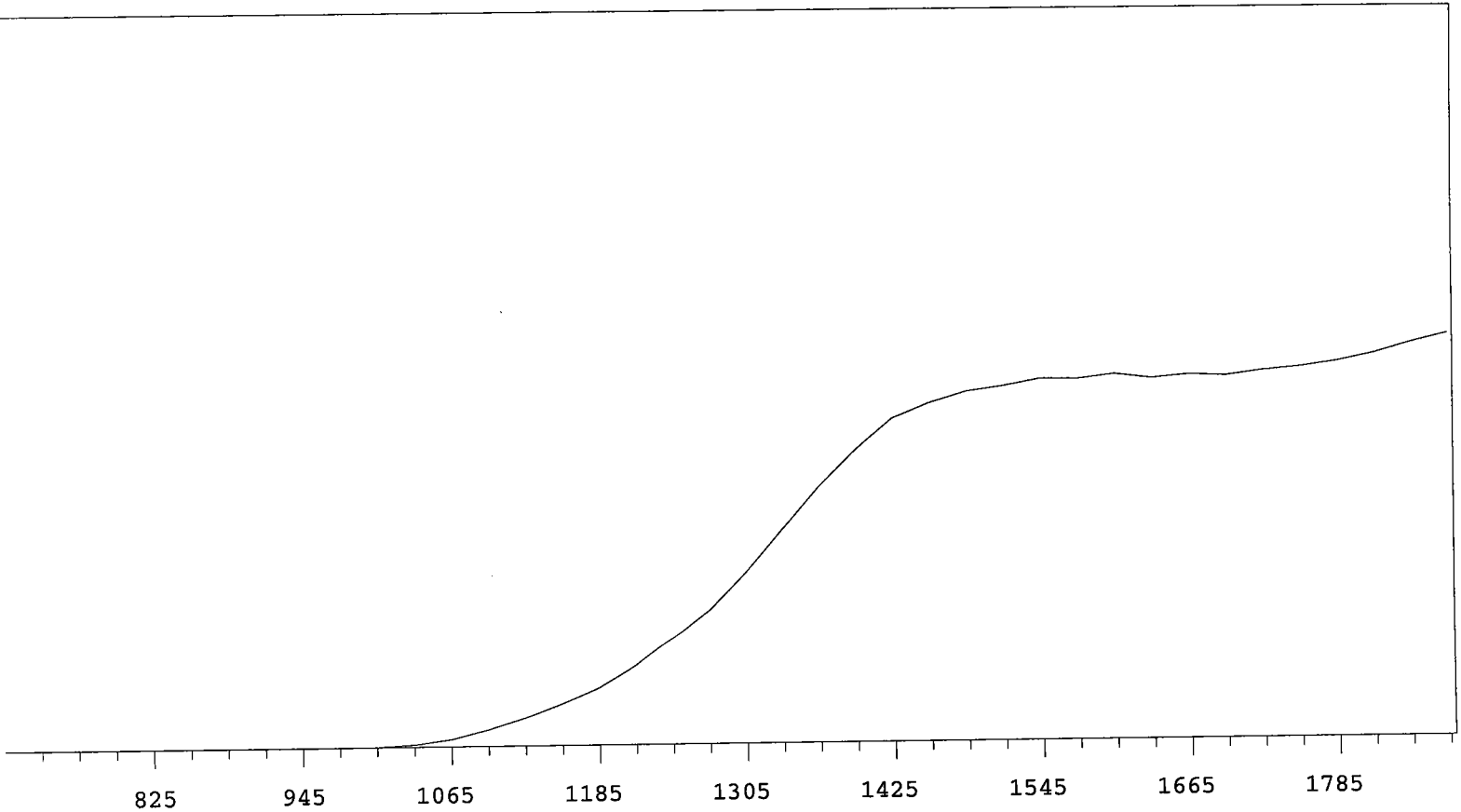


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16543	+70.03
735	0		1335	20257	+60.71
765	0		1365	24245	+48.17
795	0	>100	1395	27602	+35.50
825	0	>100	1425	30019	+23.48
855	0	>100	1455	31614	+14.53
885	0	>100	1485	32522	+8.91
915	0	>100	1515	33103	+5.28
945	0	>100	1545	33572	+2.60
975	4	>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	

MPC 9600 Plateau
 Alpha Volts: 705

Instrument 7 MPC 9604 Detector D
 Beta Volts: 1575

7/1/2009

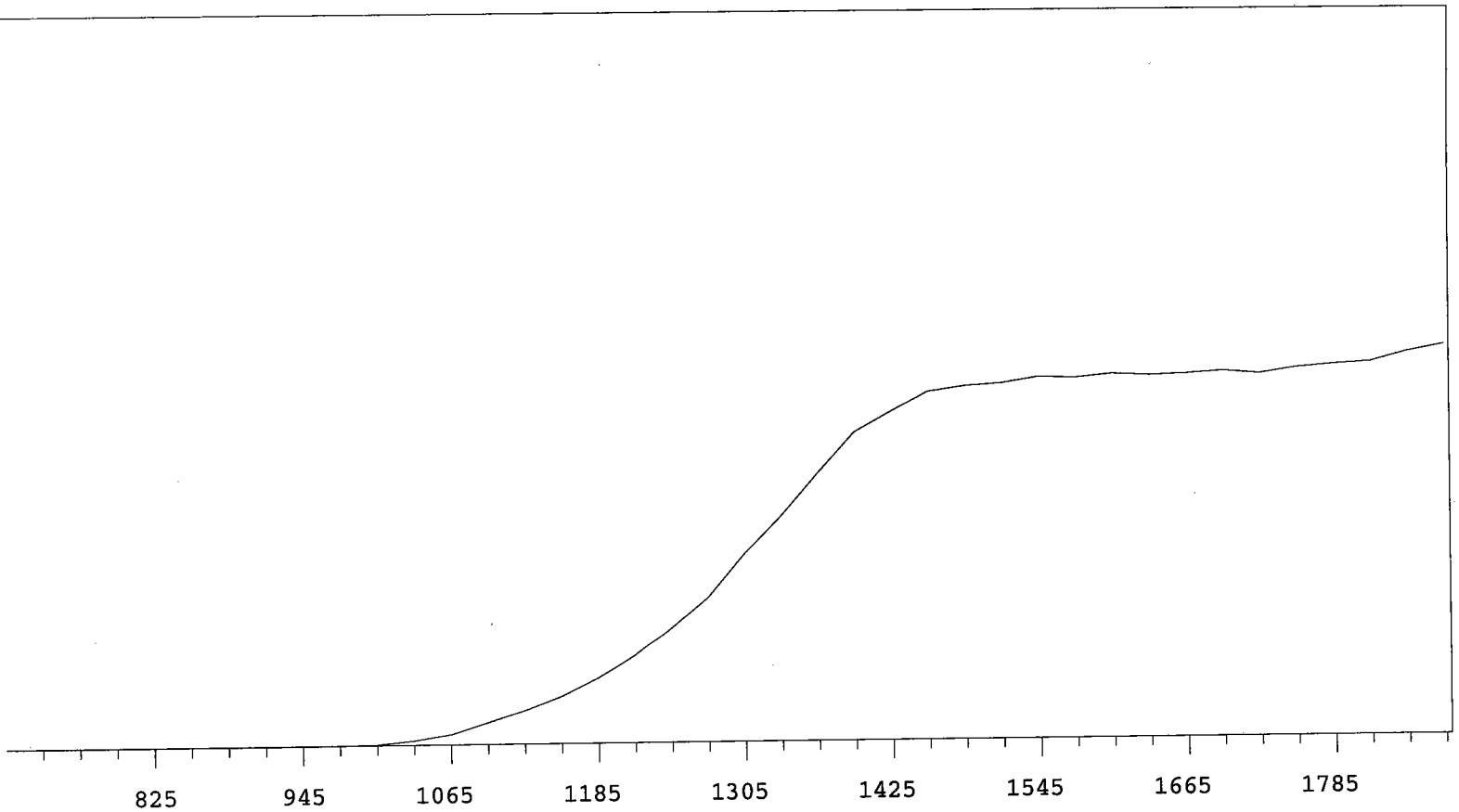


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	14016	+71.42
735	0		1335	17436	+62.21
765	0		1365	20814	+50.32
795	0	>100	1395	23760	+36.91
825	0	>100	1425	26302	+24.91
855	0	>100	1455	27519	+15.17
885	0	>100	1485	28410	+8.91
915	0	>100	1515	28843	+5.41
945	0	>100	1545	29396	+3.58
975	5	>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

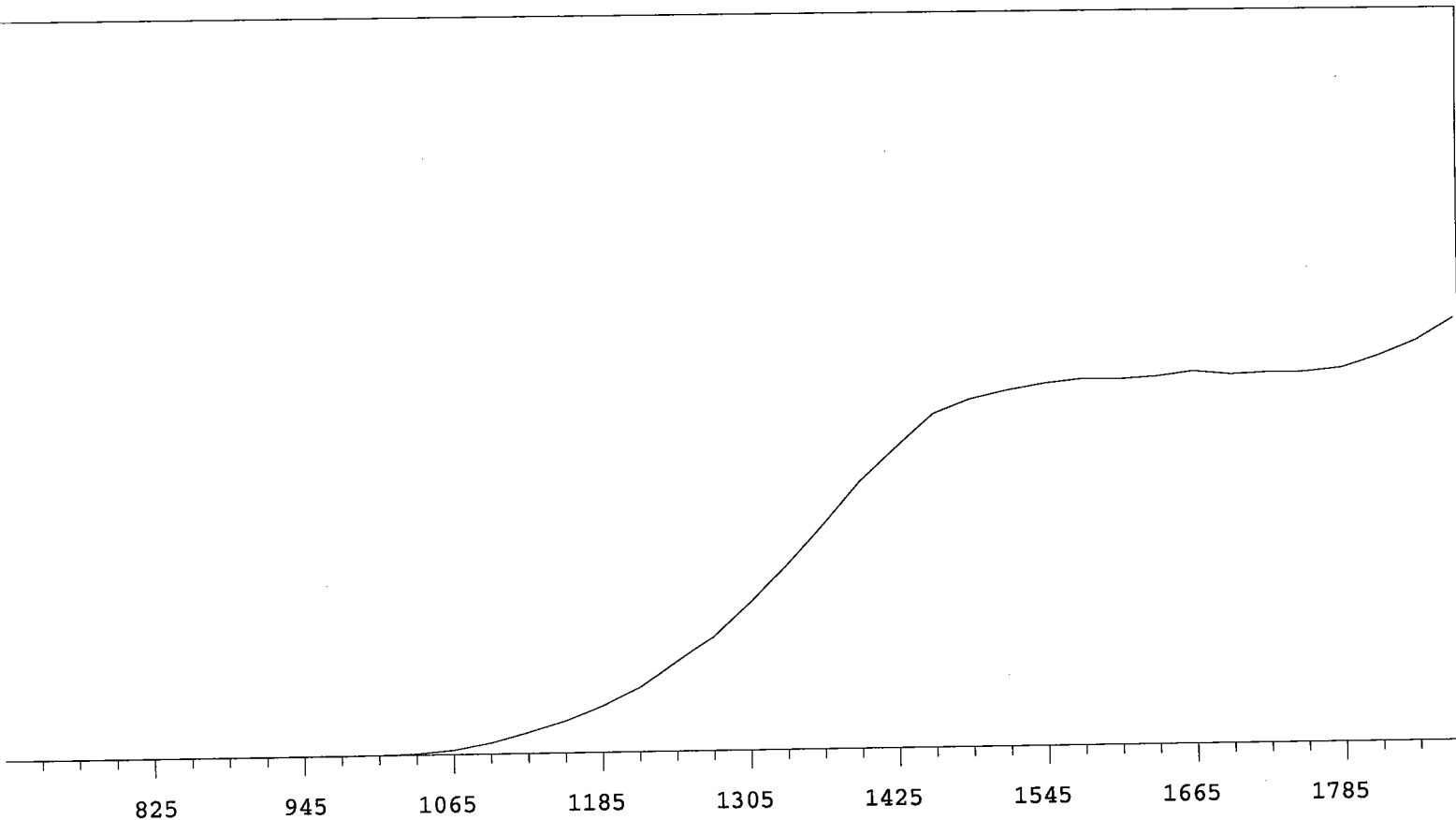


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	19482	+67.45
735	0		1335	23344	+59.35
765	0		1365	27793	+45.86
795	0	>100	1395	31916	+34.29
825	0	>100	1425	33979	+21.61
855	0	>100	1455	35993	+11.71
885	0	>100	1485	36530	+7.04
915	0	>100	1515	36796	+3.11
945	1	>100	1545	37393	+2.44
975	9	>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	

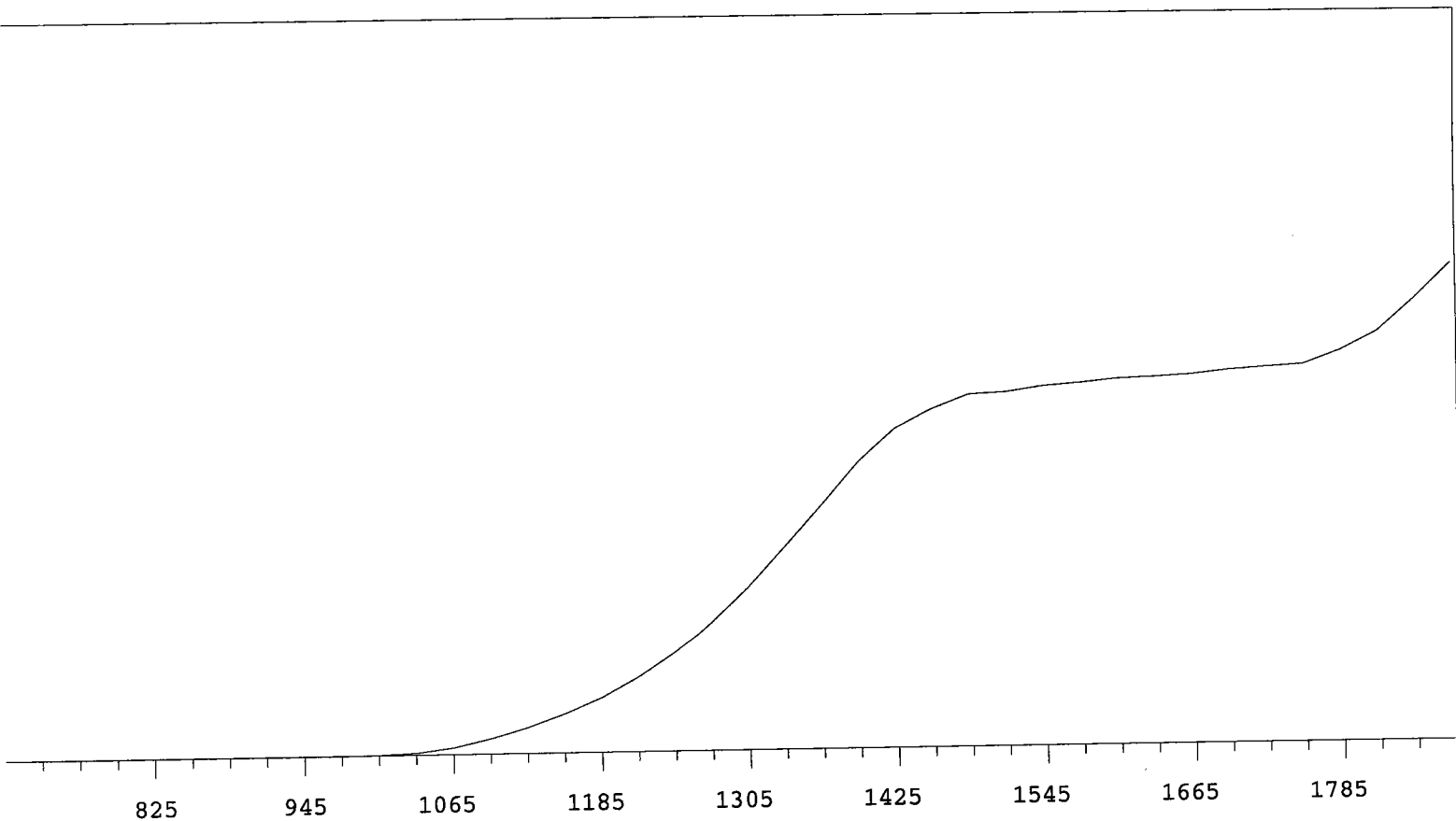
MPC 9600 Plateau
 Alpha Volts: 705

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	

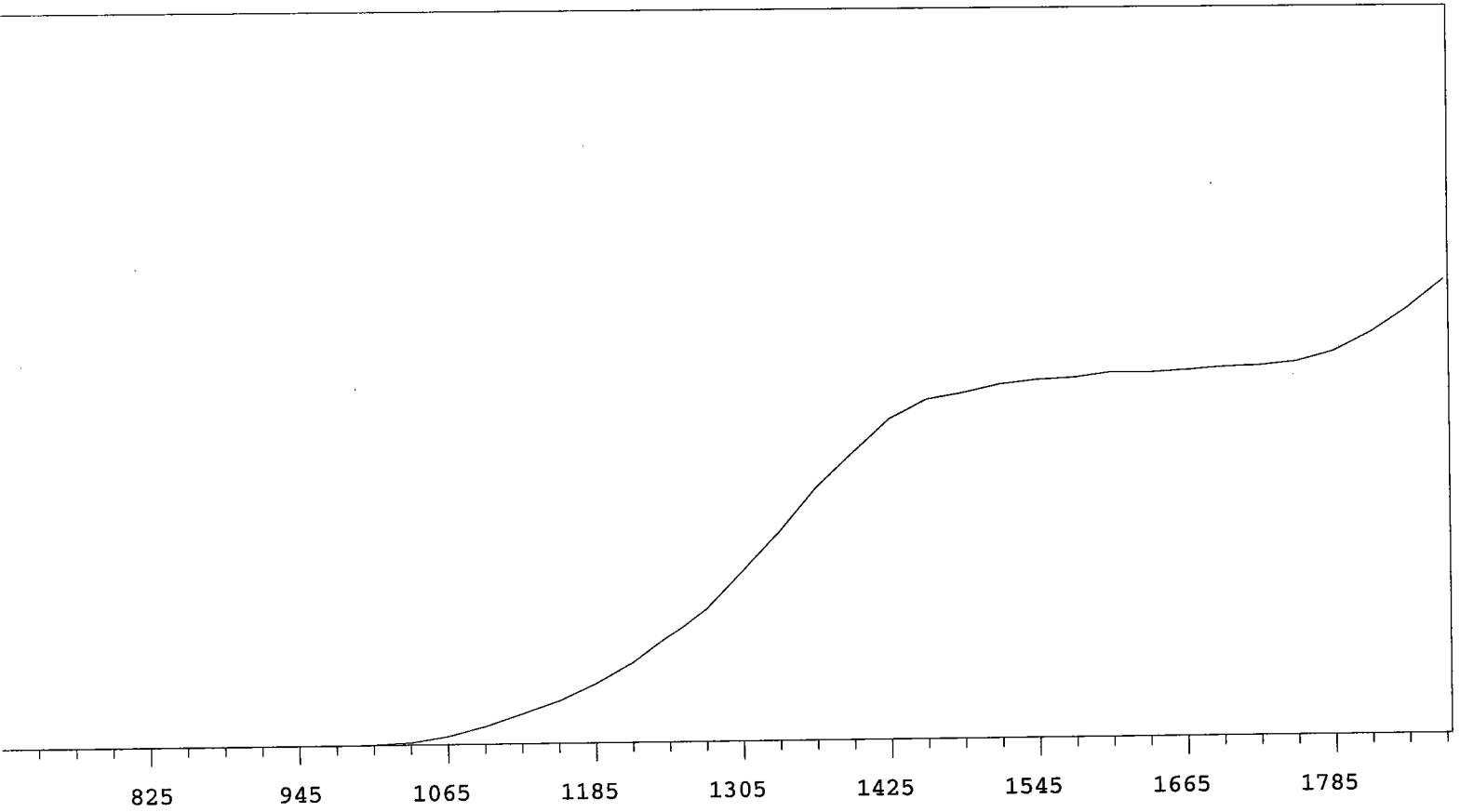


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16303	+72.82
735	0		1335	20309	+64.32
765	0		1365	24364	+53.82
795	0	>100	1395	28527	+40.95
825	0	>100	1425	31774	+28.74
855	0	>100	1455	33631	+16.87
885	0	>100	1485	35030	+9.25
915	0	>100	1515	35208	+5.21
945	0	>100	1545	35741	+3.27
975	4	>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	

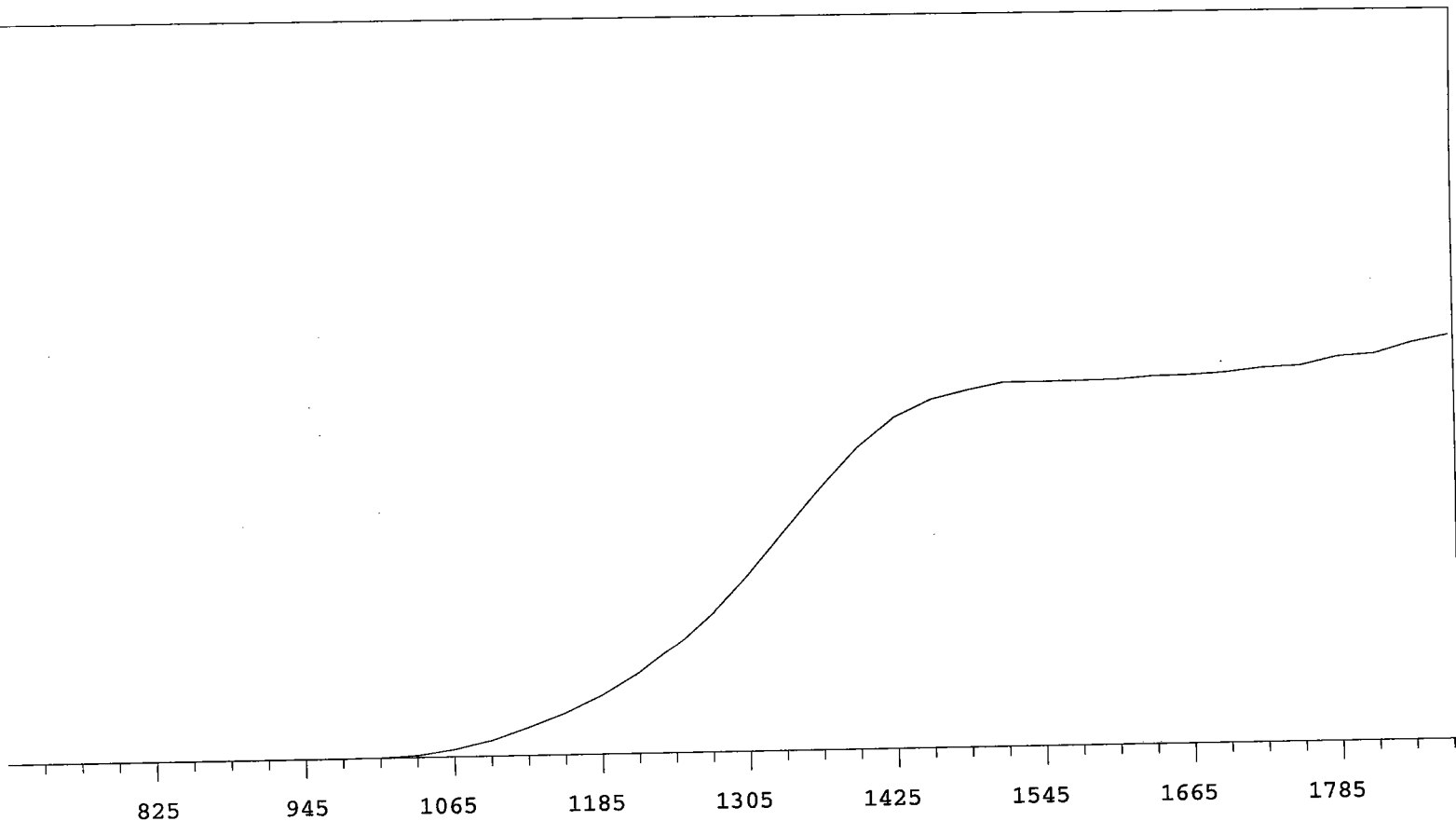
MPC 9600 Plateau
Alpha Volts: 705

Instrument 8 MPC 9604 Detector D
Beta Volts: 1575

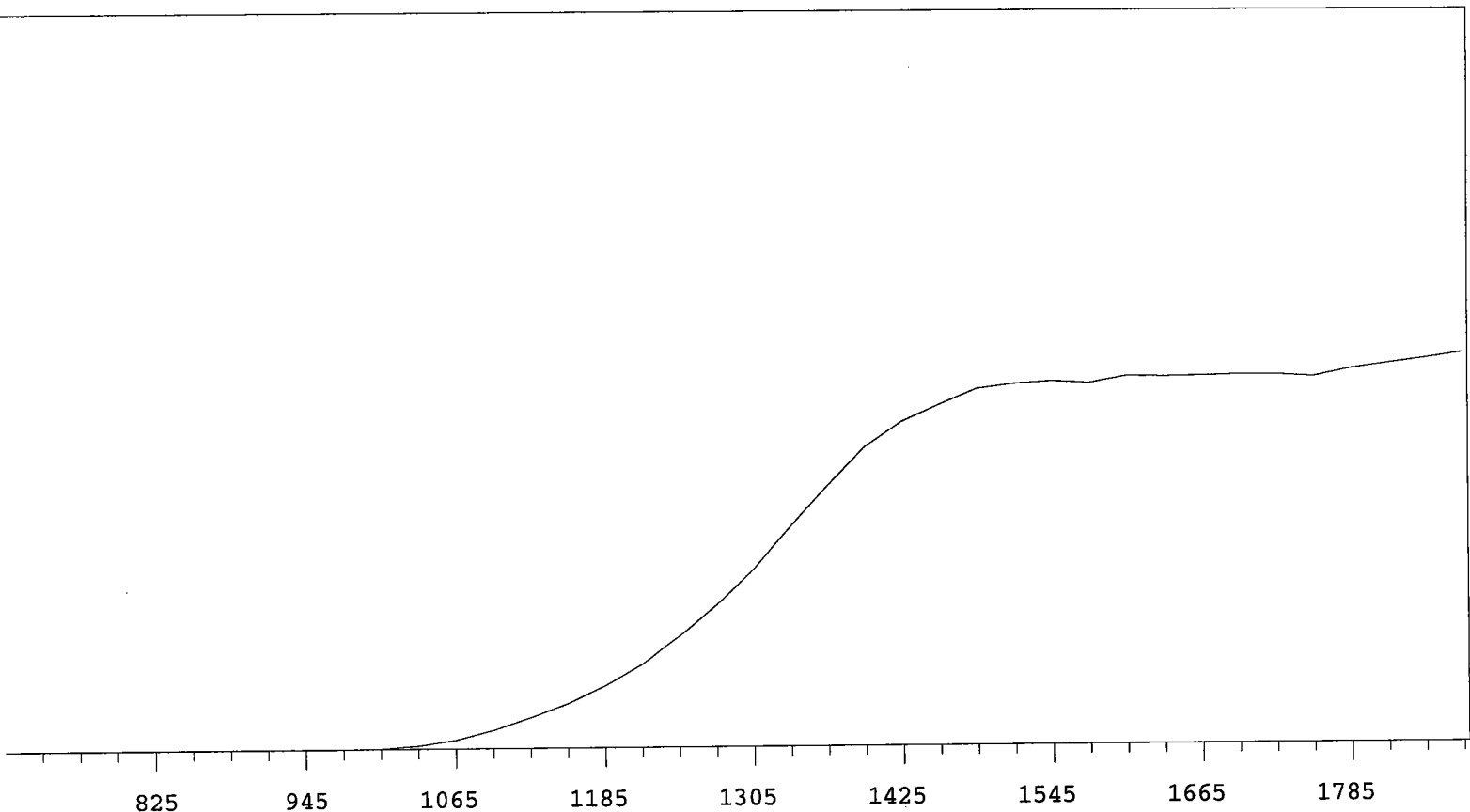
7/1/2009



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	

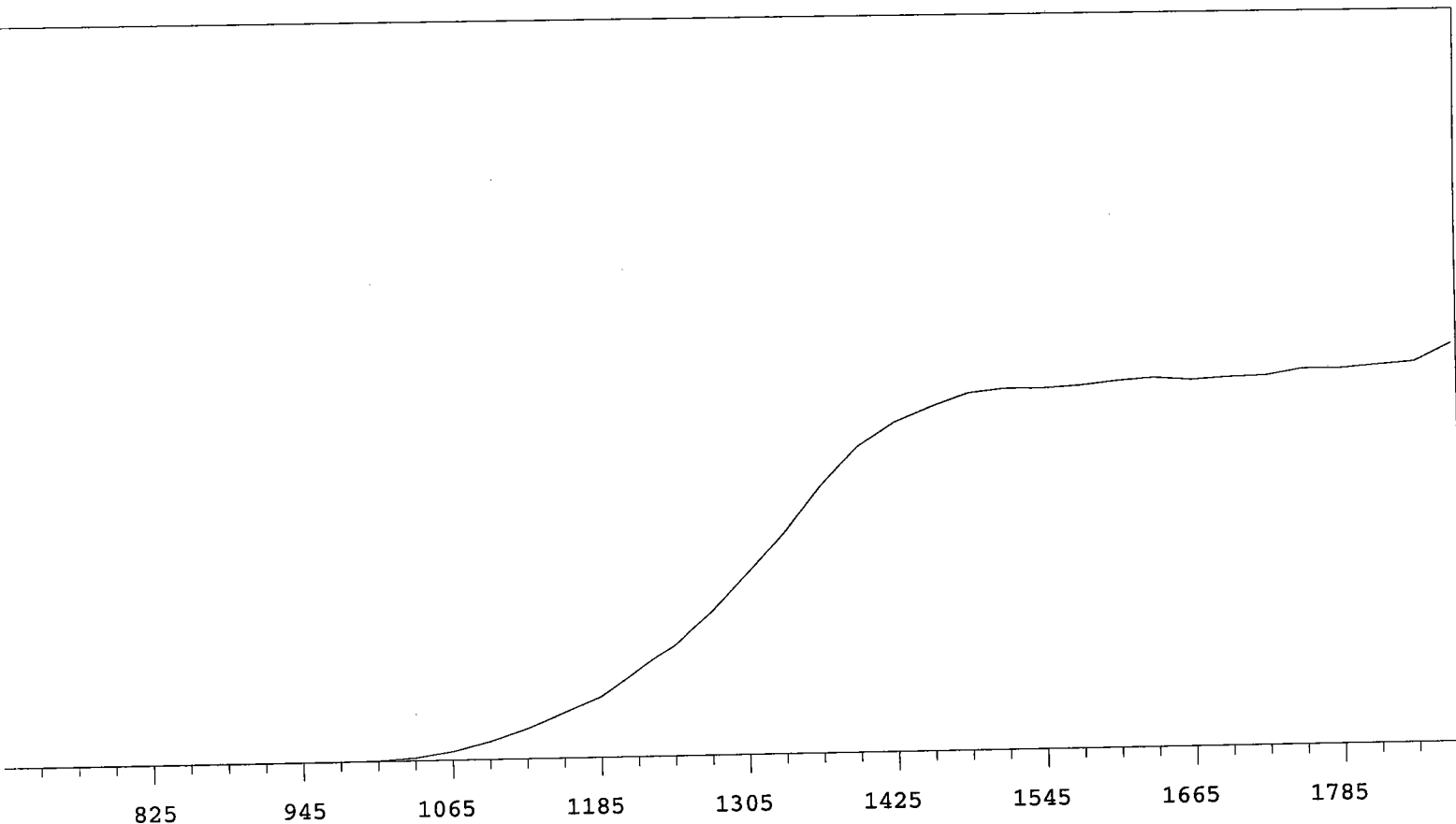


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16723	+68.78
735	0		1335	20749	+60.55
765	0		1365	24686	+48.78
795	0	>100	1395	28343	+35.24
825	0	>100	1425	30657	+24.31
855	0	>100	1455	32208	+15.22
885	0	>100	1485	33662	+9.32
915	0	>100	1515	34098	+4.47
945	0	>100	1545	34326	+2.17
975	4	>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	

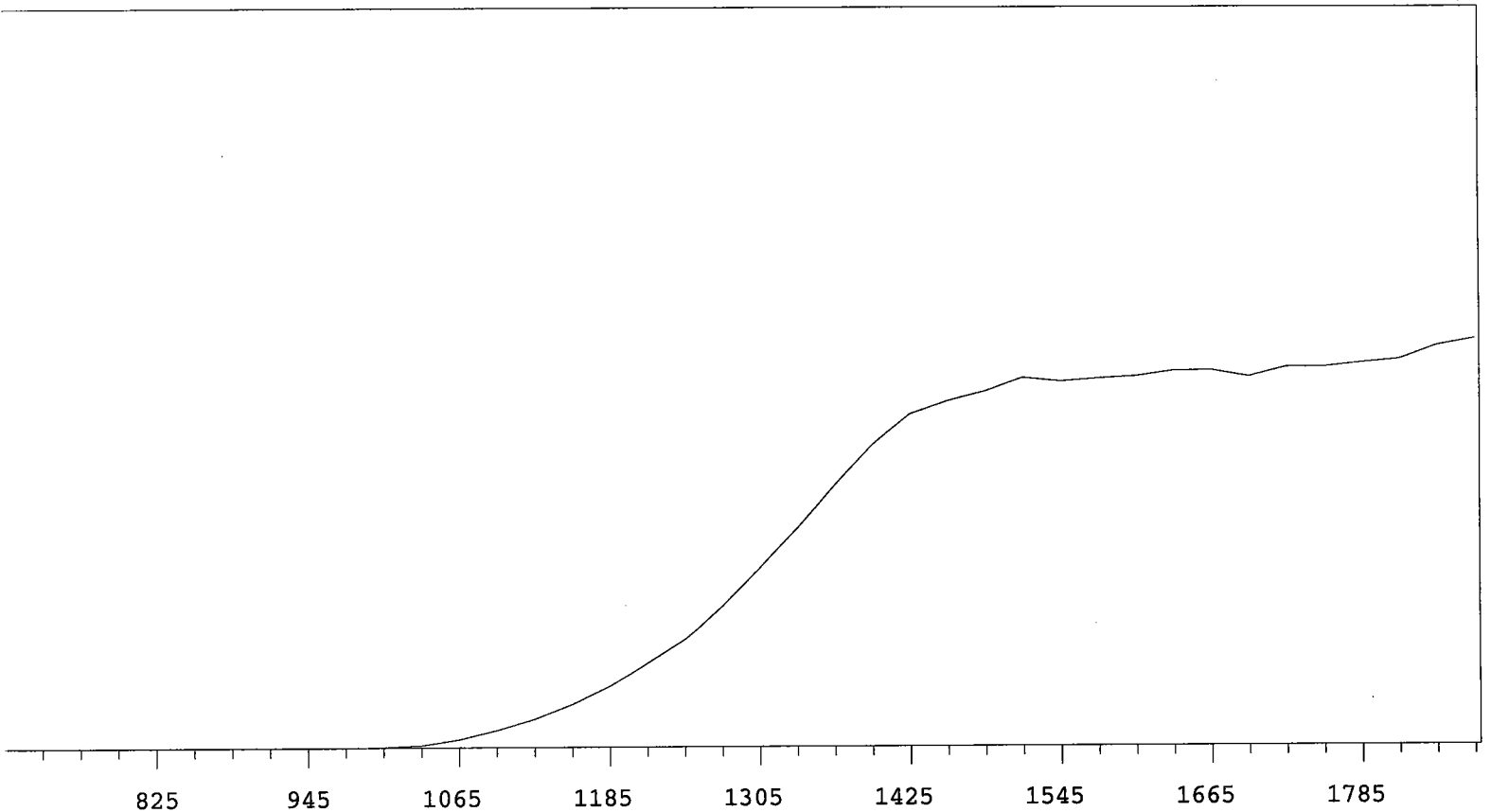
MPC 9600 Plateau
Alpha Volts: 870

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	

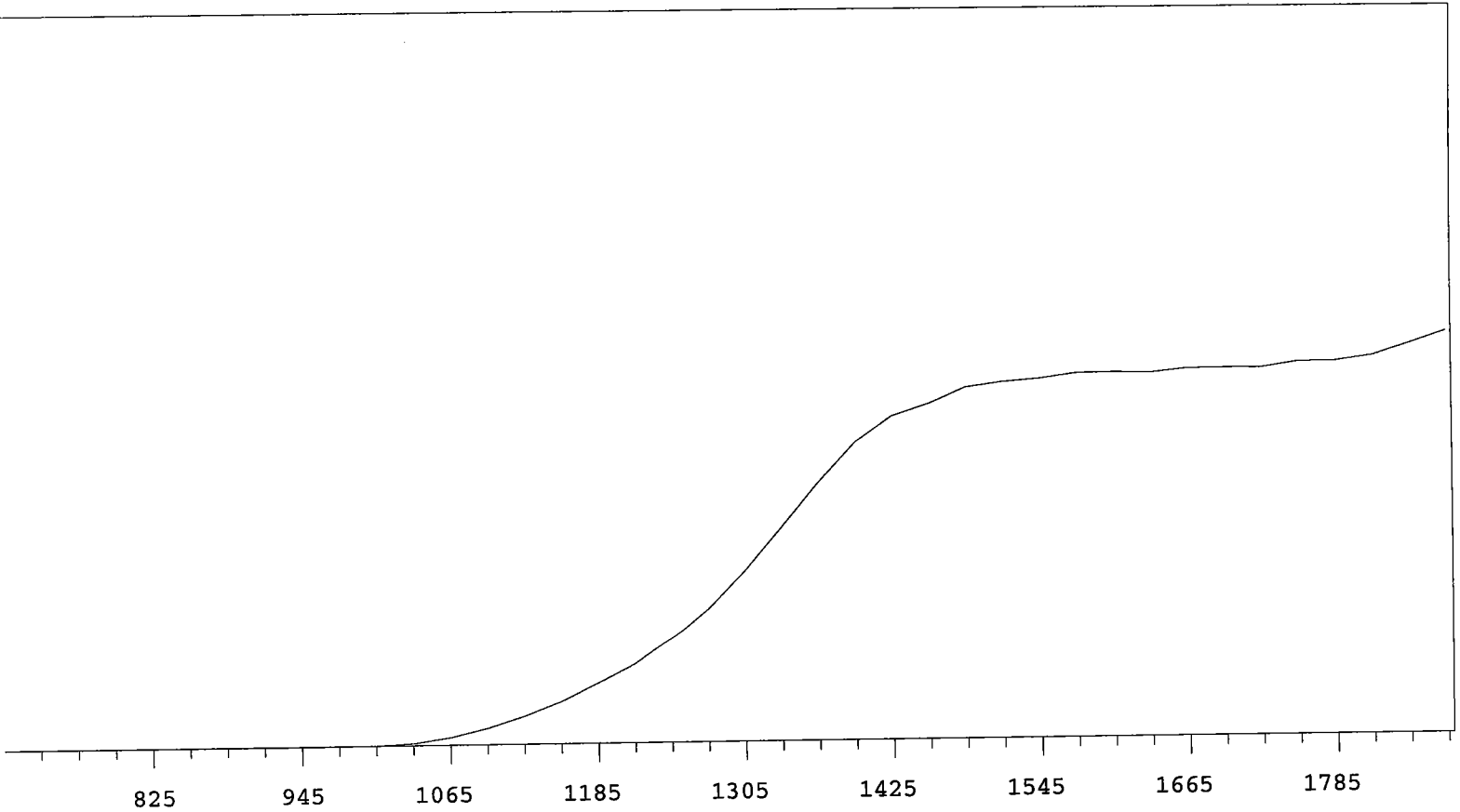


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	13319	+70.94
735	0		1335	16319	+61.35
765	0		1365	19577	+50.27
795	0	>100	1395	22498	+36.85
825	0	>100	1425	24782	+23.90
855	0	>100	1455	25761	+15.37
885	0	>100	1485	26486	+8.38
915	1	>100	1515	27503	+5.11
945	0	>100	1545	27223	+2.67
975	5	>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

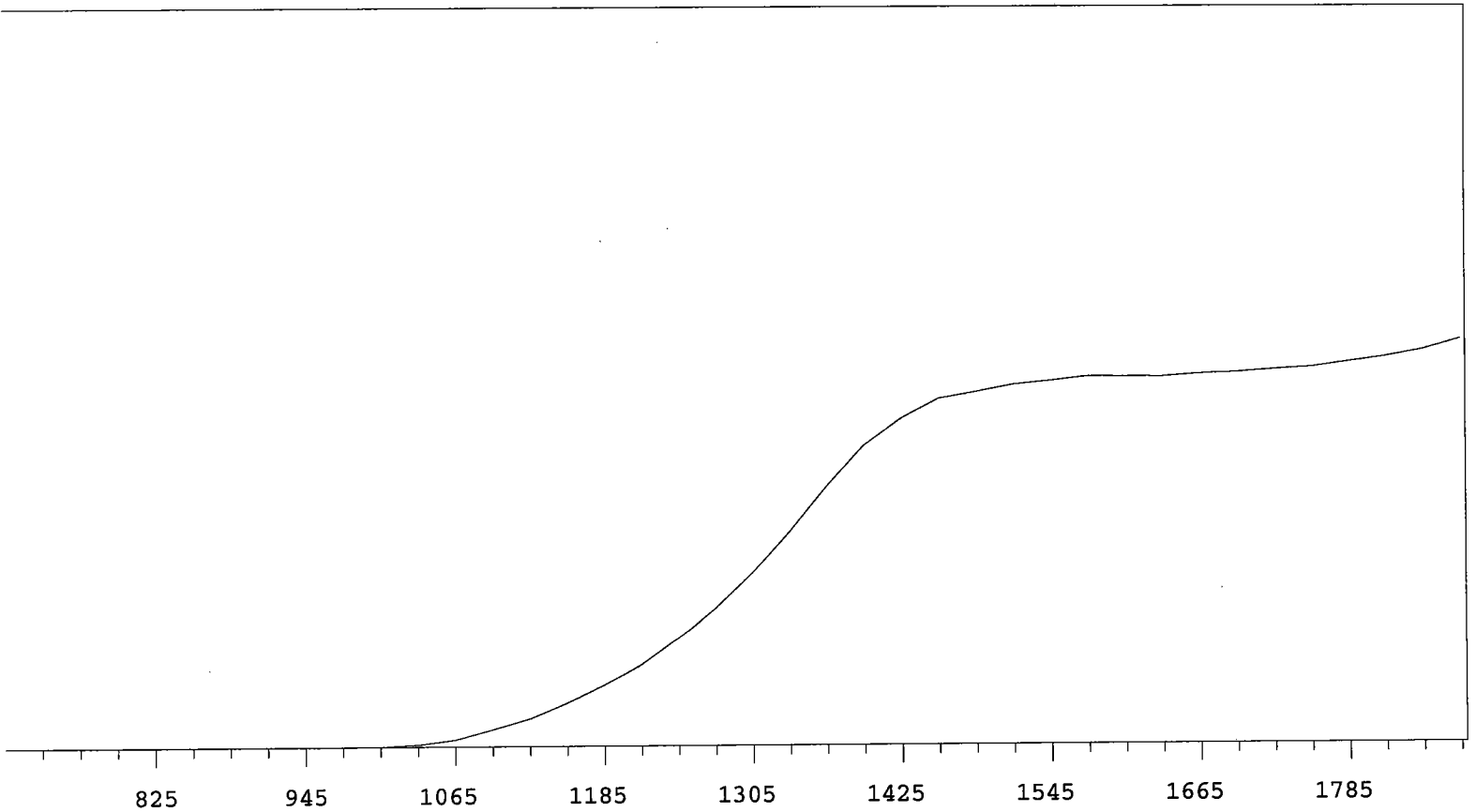


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	16076	+72.76
735	1		1335	19985	+63.85
765	0		1365	24102	+50.95
795	0	>100	1395	27819	+36.01
825	0	>100	1425	30228	+23.86
855	0	>100	1455	31343	+14.40
885	0	>100	1485	32811	+8.77
915	0	>100	1515	33243	+6.10
945	0	>100	1545	33518	+3.25
975	1	>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	

MPC 9600 Plateau
Alpha Volts: 870

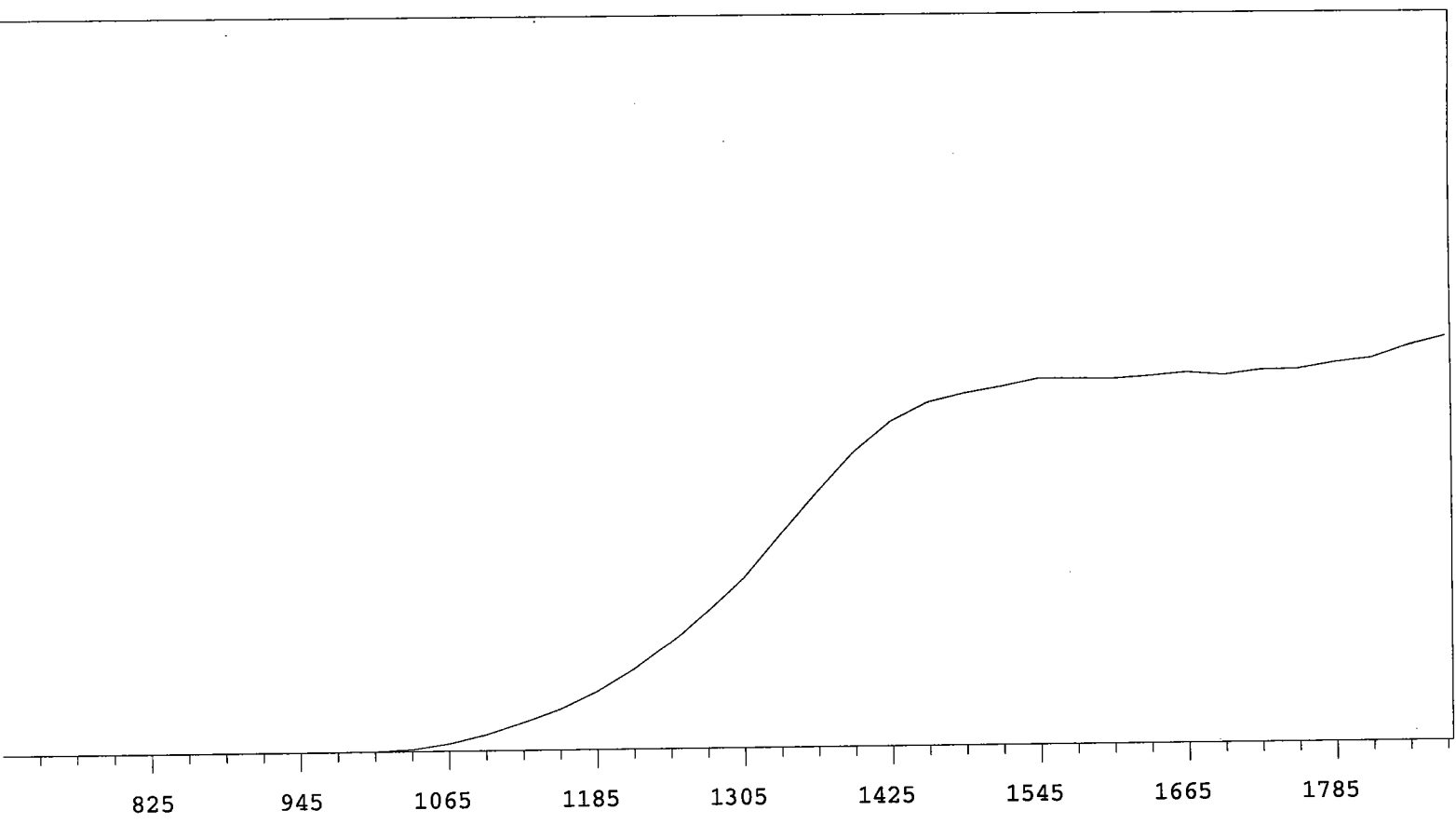
Instrument 10 MPC 9604 Detector B
Beta Volts: 1552

7/1/2009

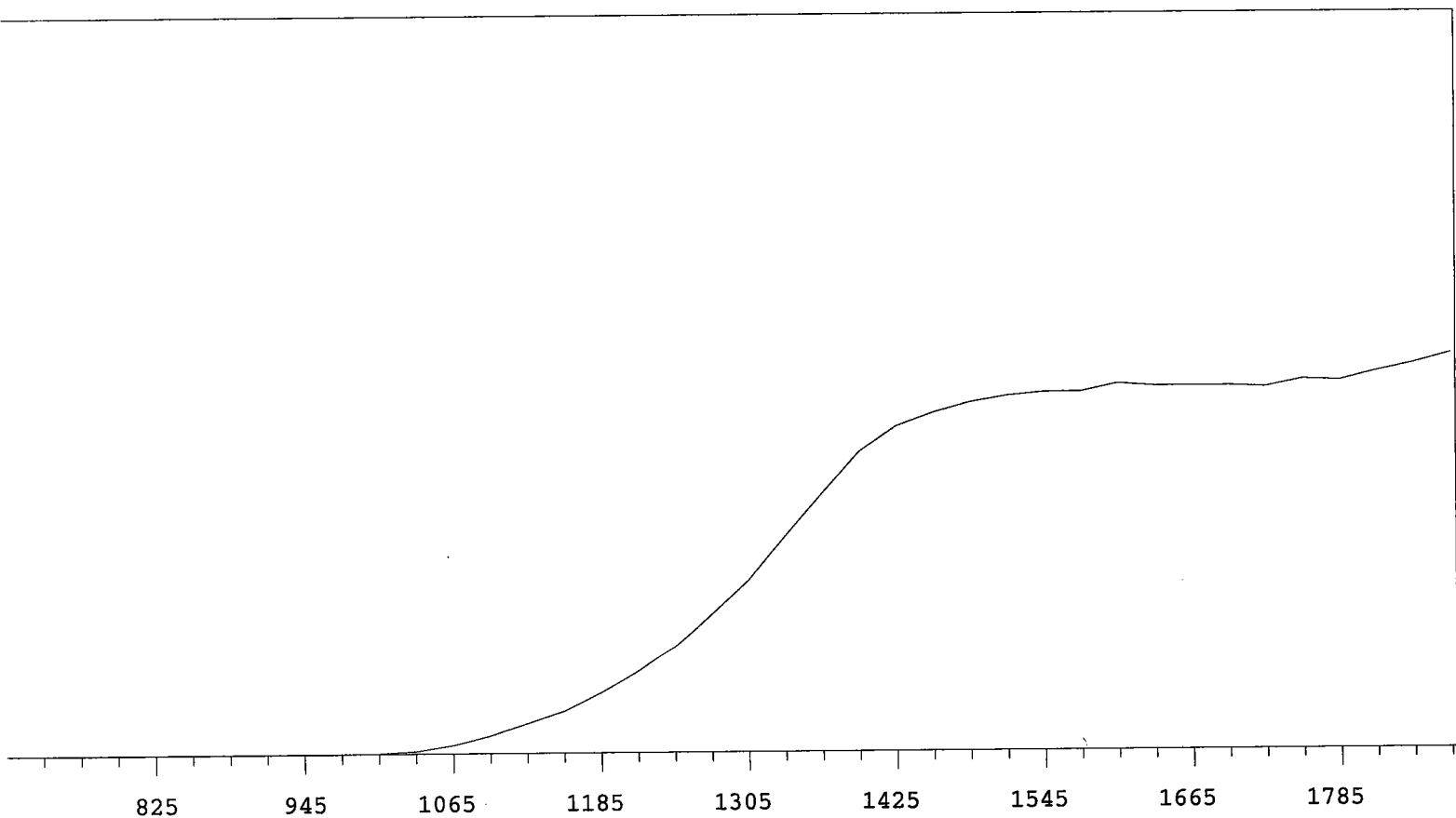


VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	14469	+71.08
735	0		1335	17904	+63.07
765	0		1365	21677	+51.20
795	0	>100	1395	25027	+38.06
825	0	>100	1425	27237	+24.55
855	0	>100	1455	28914	+14.61
885	0	>100	1485	29480	+8.48
915	0	>100	1515	30075	+5.06
945	1	>100	1545	30374	+3.42
975	7	>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	

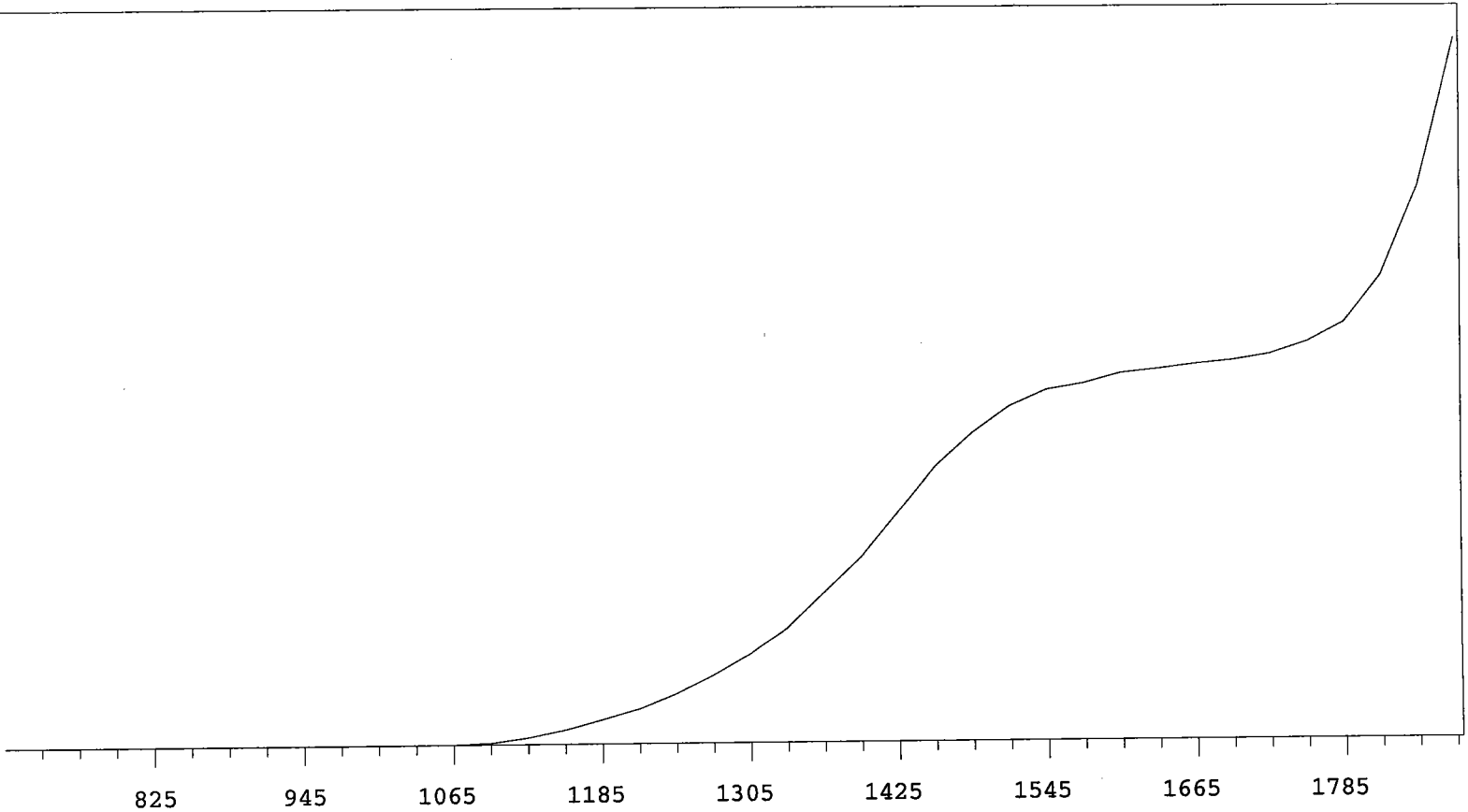
MPC 9600 Plateau Instrument 10 MPC 9604 Detector C 7/1/2009
 Alpha Volts: 870 Beta Volts: 1552



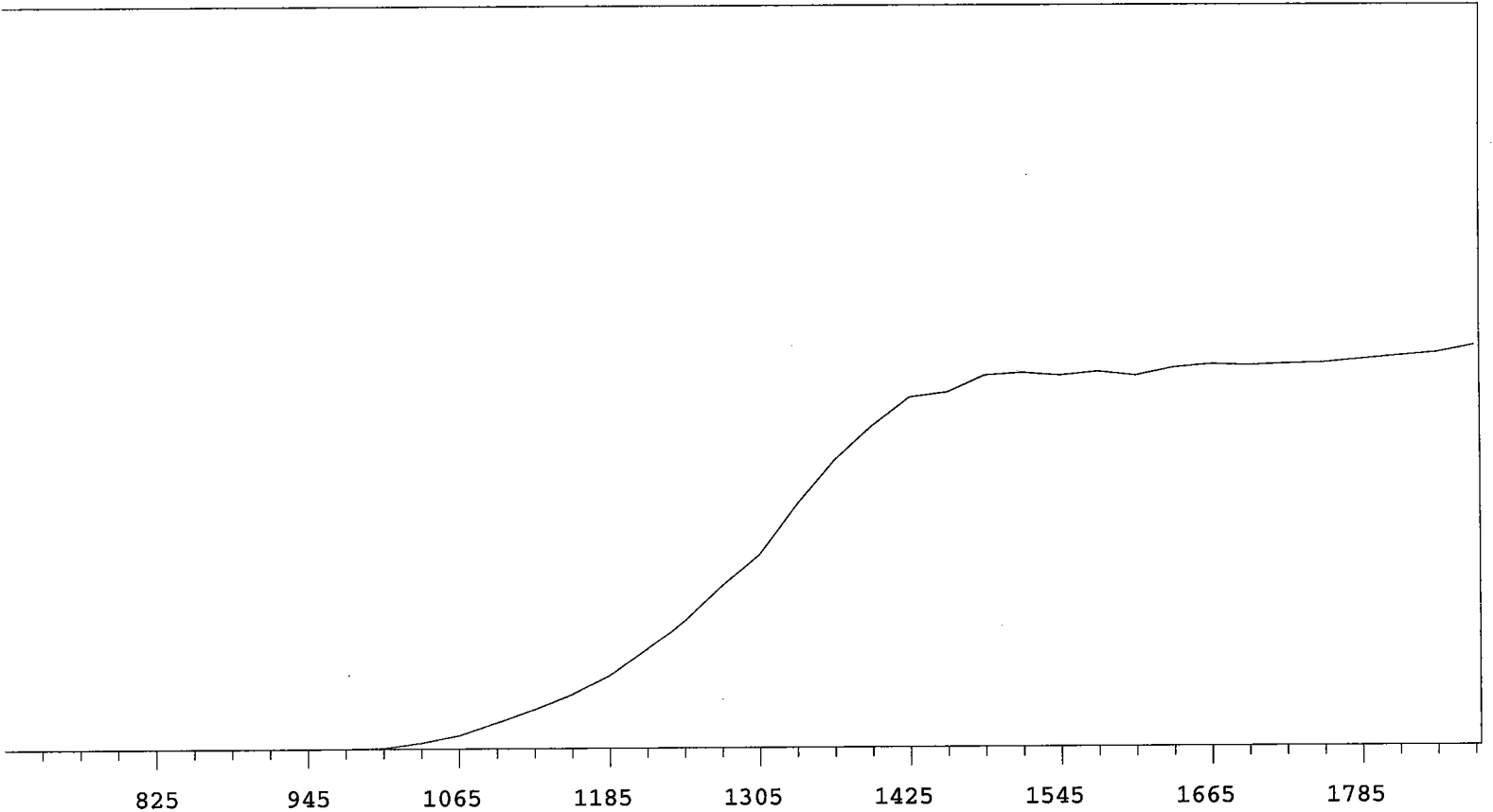
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	18051	+71.16
735	0		1335	22586	+62.34
765	0		1365	26973	+51.47
795	0	>100	1395	31137	+38.24
825	0	>100	1425	34321	+25.70
855	0	>100	1455	36267	+15.37
885	1	>100	1485	37197	+9.21
915	0	>100	1515	37851	+5.38
945	2	>100	1545	38622	+3.00
975	2	>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	



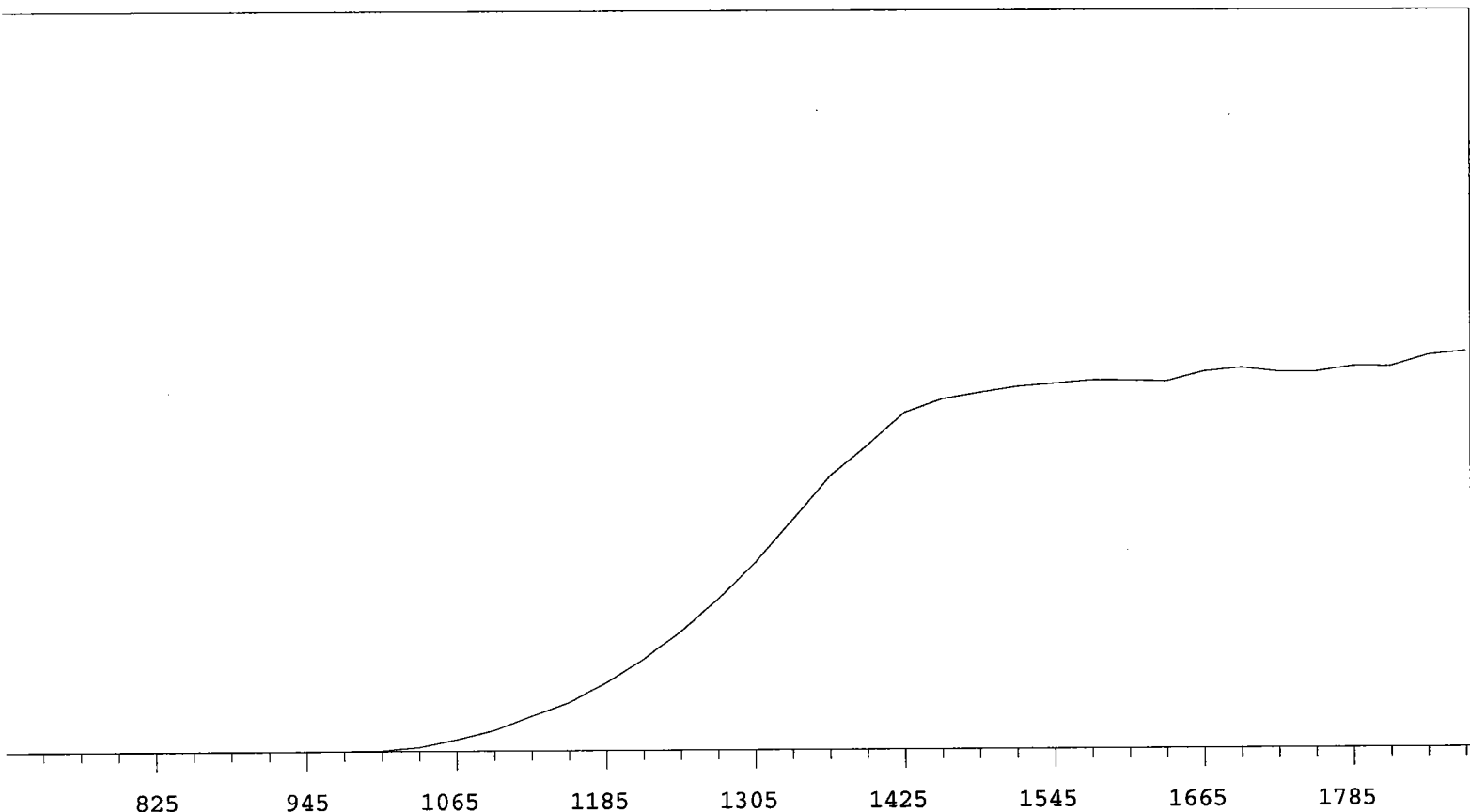
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	15430	+69.87
735	0		1335	19258	+61.49
765	0		1365	23018	+50.06
795	0	>100	1395	26562	+35.34
825	0	>100	1425	28750	+22.67
855	0	>100	1455	29911	+13.20
885	0	>100	1485	30798	+8.01
915	0	>100	1515	31375	+4.83
945	0	>100	1545	31684	+3.74
975	3	>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	



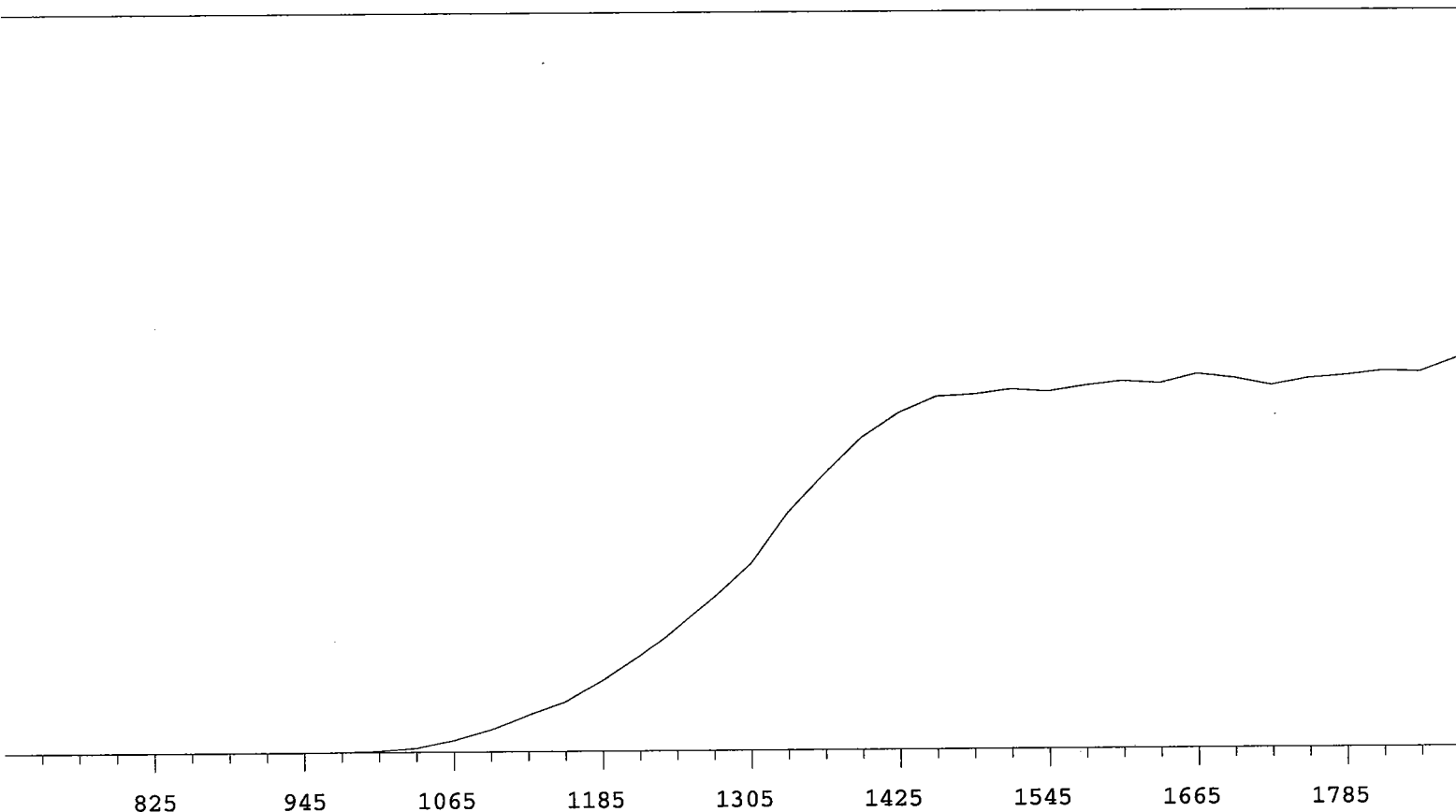
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	3225	+87.64
735	1		1335	4189	+80.15
765	0		1365	5428	+75.12
795	0	>100	1395	6662	+68.60
825	0	>100	1425	8241	+58.14
855	0	>100	1455	9857	+46.65
885	0	>100	1485	11018	+33.24
915	0	>100	1515	11953	+21.01
945	1	+0.00	1545	12538	+13.57
975	0	>100	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	



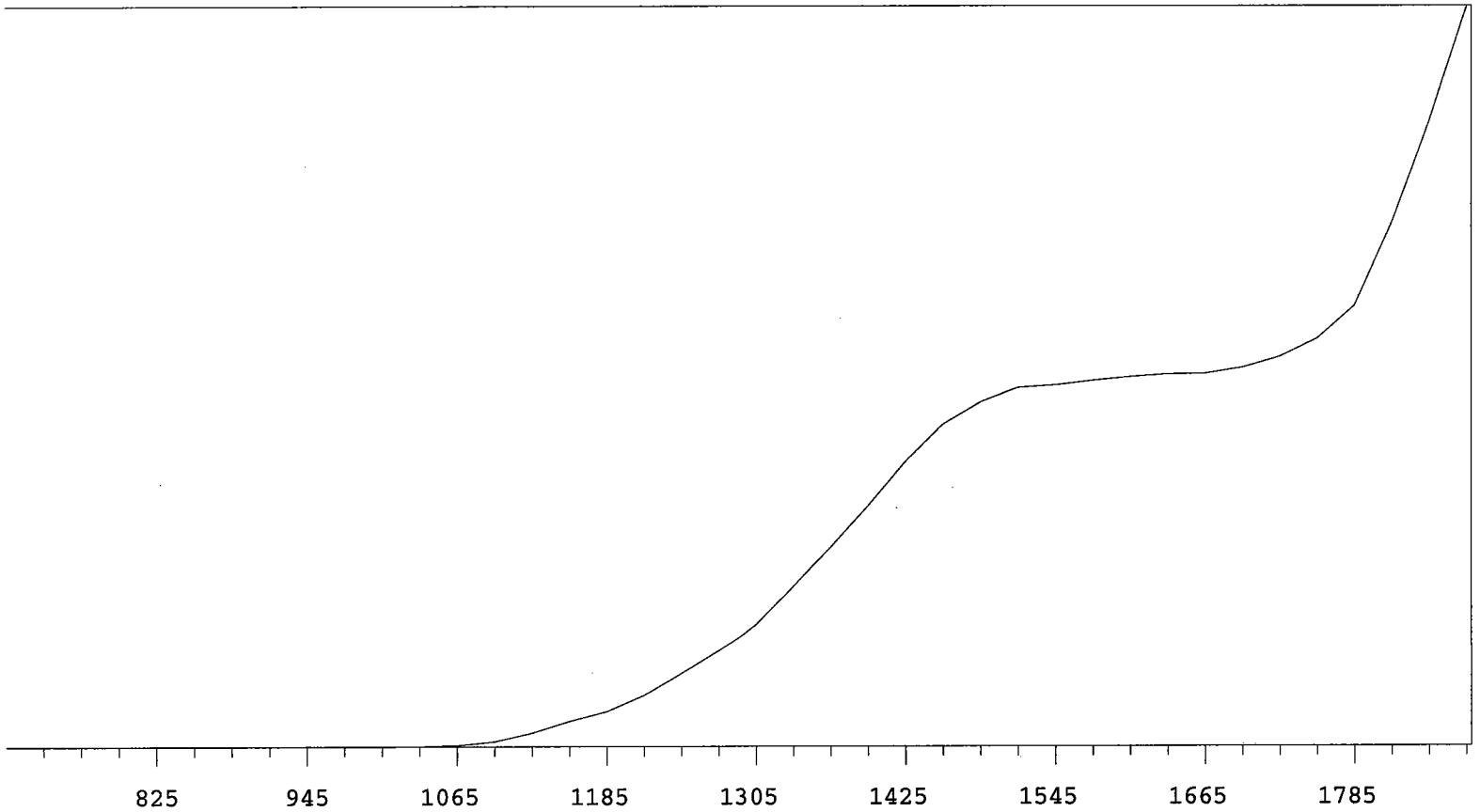
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	8636	+66.44
735	0		1335	10593	+56.56
765	0	+0.00	1365	12582	+46.23
795	0	>100	1395	13957	+33.45
825	1	+0.00	1425	15443	+21.49
855	0	>100	1455	16048	+13.14
885	0	+0.00	1485	16331	+6.45
915	0	>100	1515	16603	+4.19
945	1	>100	1545	16736	+2.73
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	



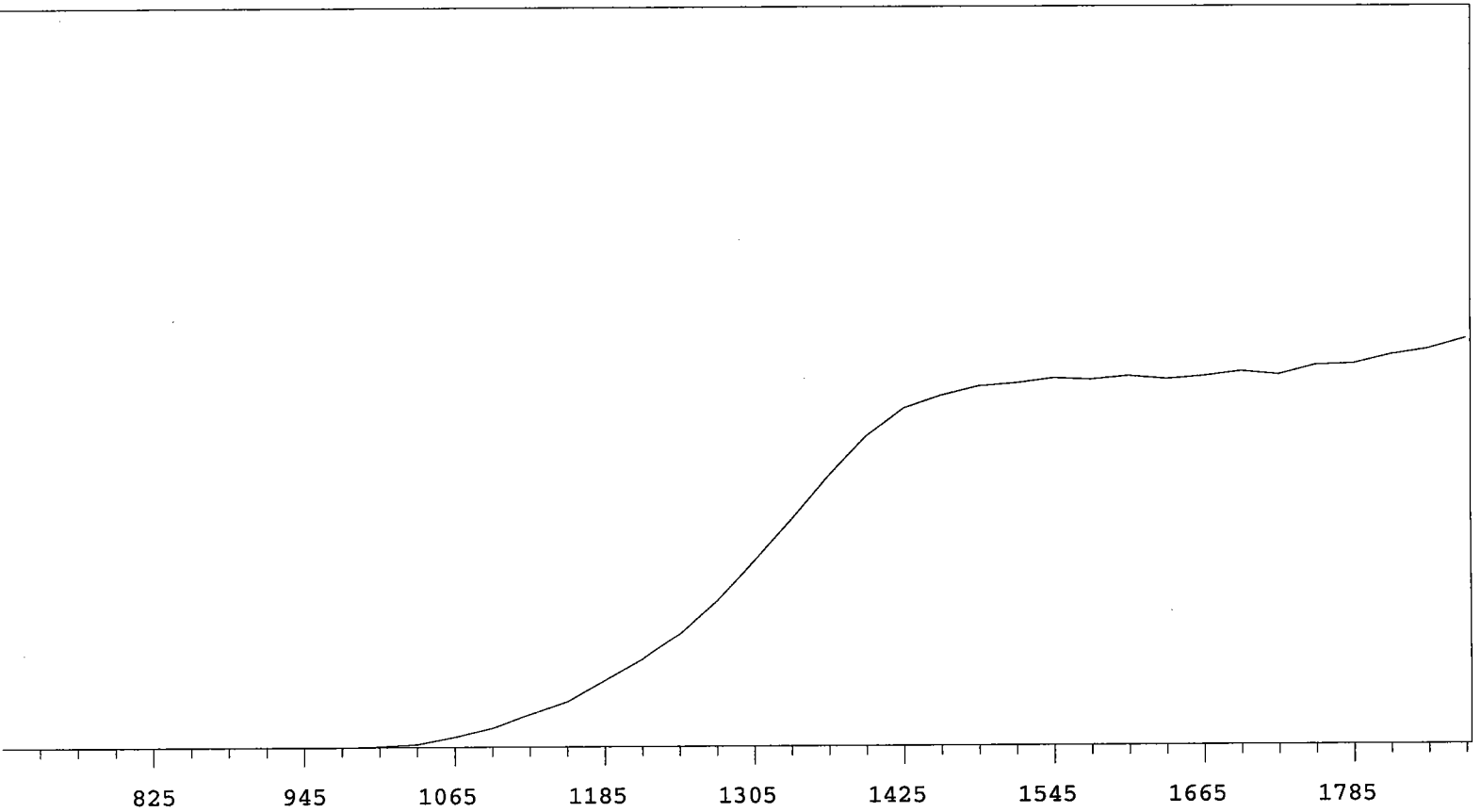
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	7679	+65.97
735	0		1335	9737	+57.57
765	0		1365	11301	+45.87
795	0	>100	1395	12767	+31.71
825	0	>100	1425	13767	+19.90
855	1	+83.33	1455	14399	+10.72
885	1	+55.56	1485	14467	+4.38
915	0	>100	1515	14671	+2.12
945	1	>100	1545	14576	+2.61
975	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

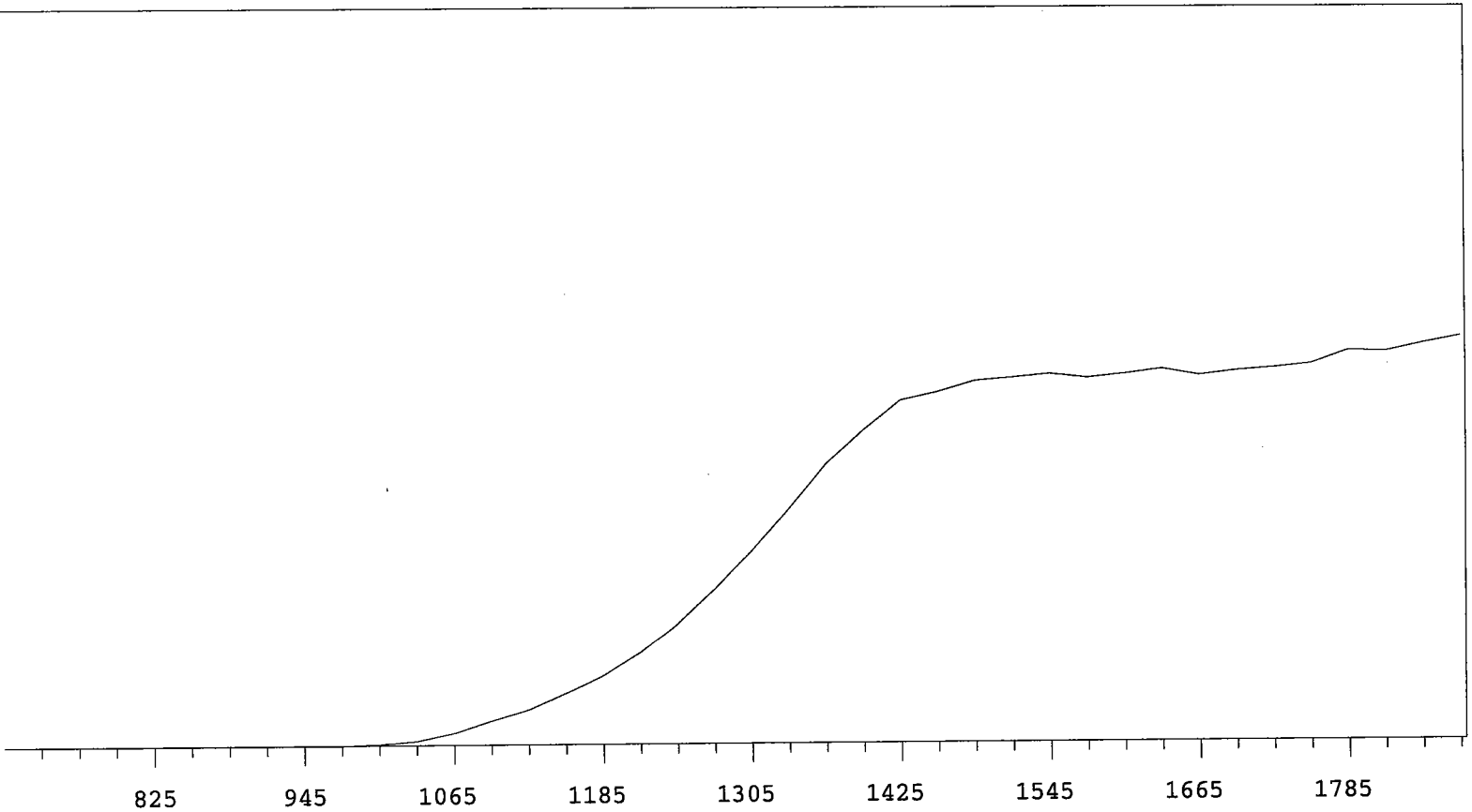
Beta Volts: 1515



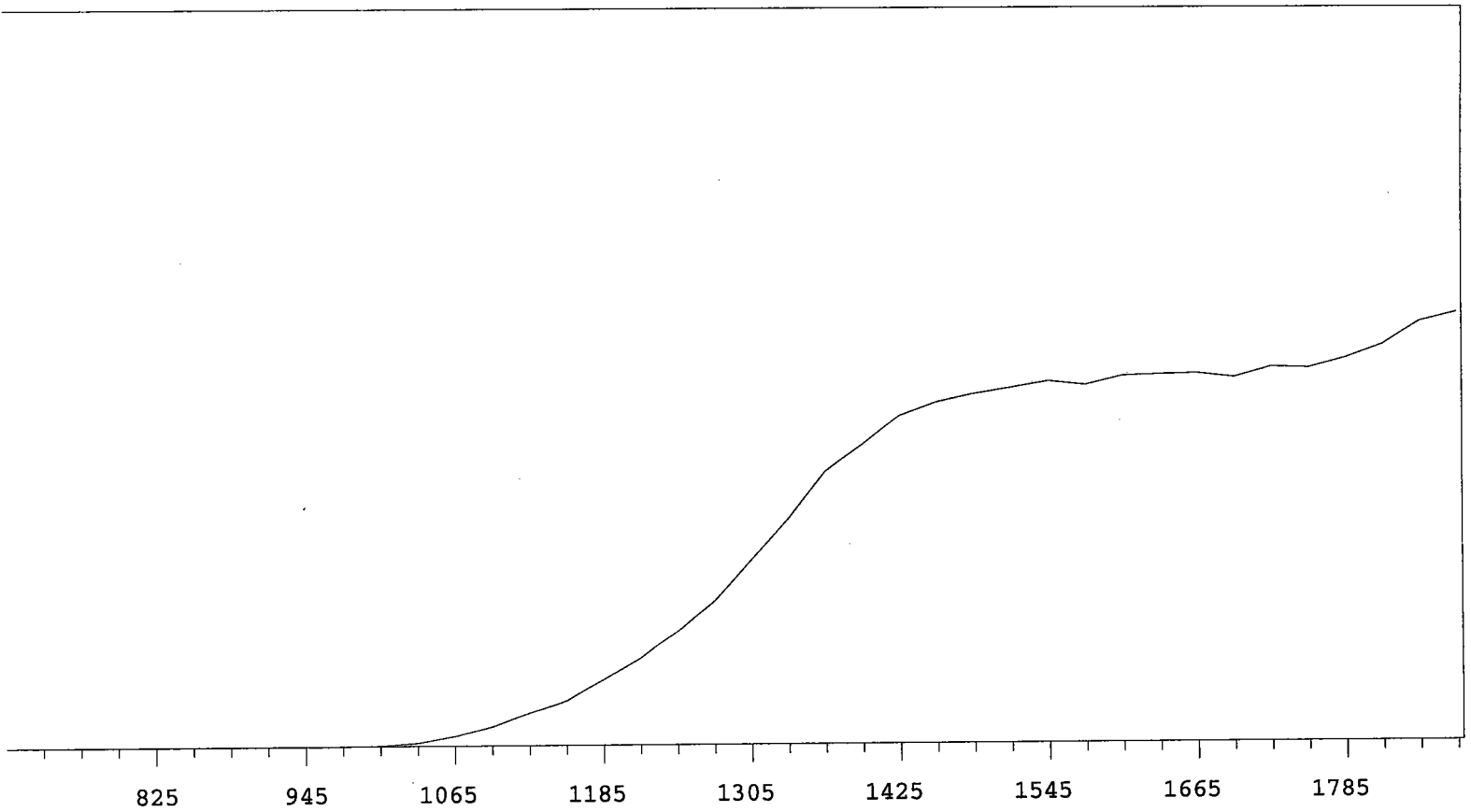
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	6302	+80.03
735	1		1335	8191	+73.78
765	0		1365	10140	+66.18
795	0	>100	1395	12247	+55.83
825	0	>100	1425	14468	+43.92
855	0	>100	1455	16303	+31.28
885	0	>100	1485	17411	+18.64
915	0	>100	1515	18150	+9.87
945	0	>100	1545	18275	+5.30
975	1	>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	



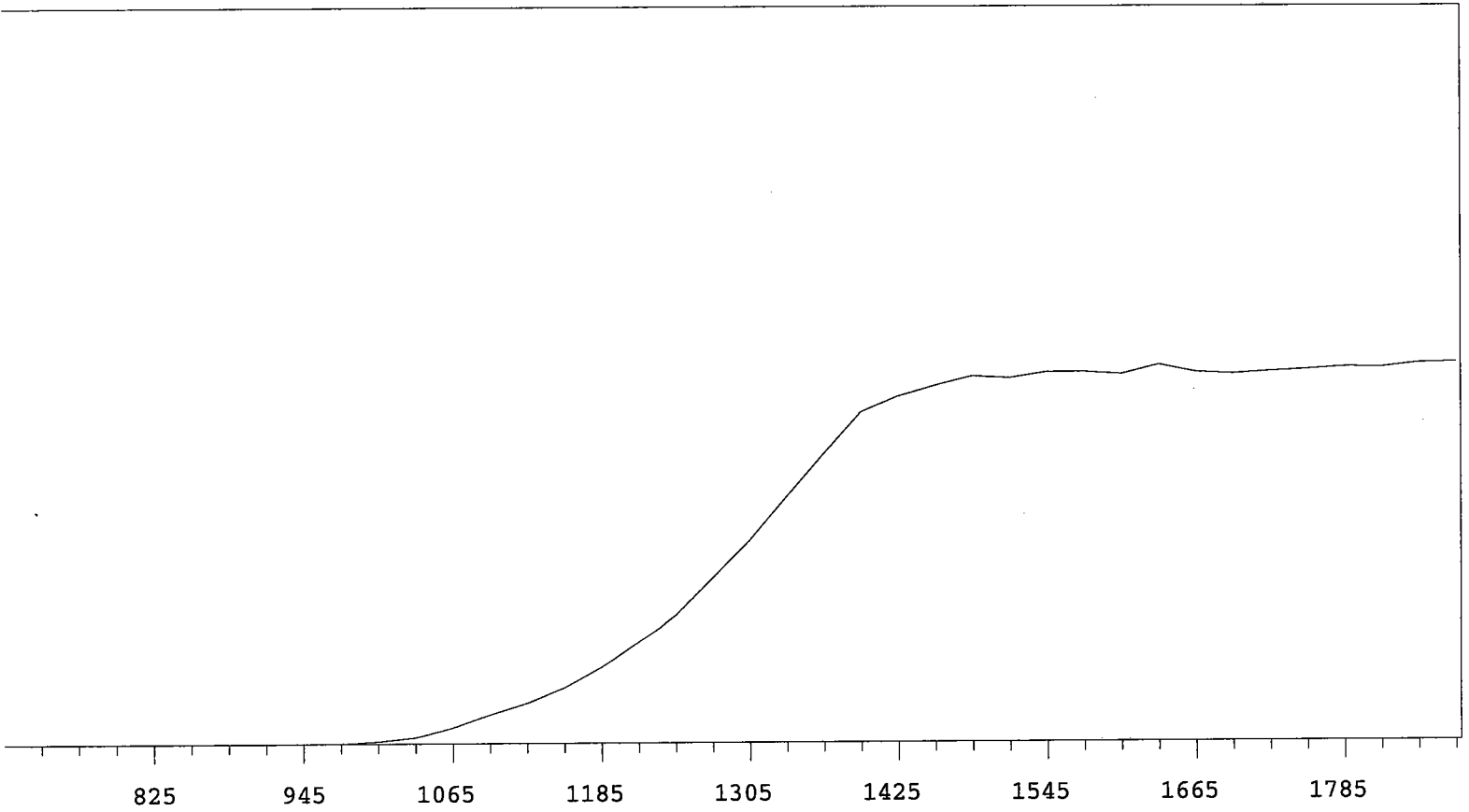
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	10207	+70.42
735	0		1335	12473	+60.75
765	0		1365	14900	+48.87
795	0	>100	1395	17101	+35.36
825	0	>100	1425	18643	+22.53
855	1	+83.33	1455	19350	+12.34
885	1	-83.33	1485	19848	+6.68
915	0	-55.56	1515	20014	+3.51
945	0	>100	1545	20278	+2.03
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	



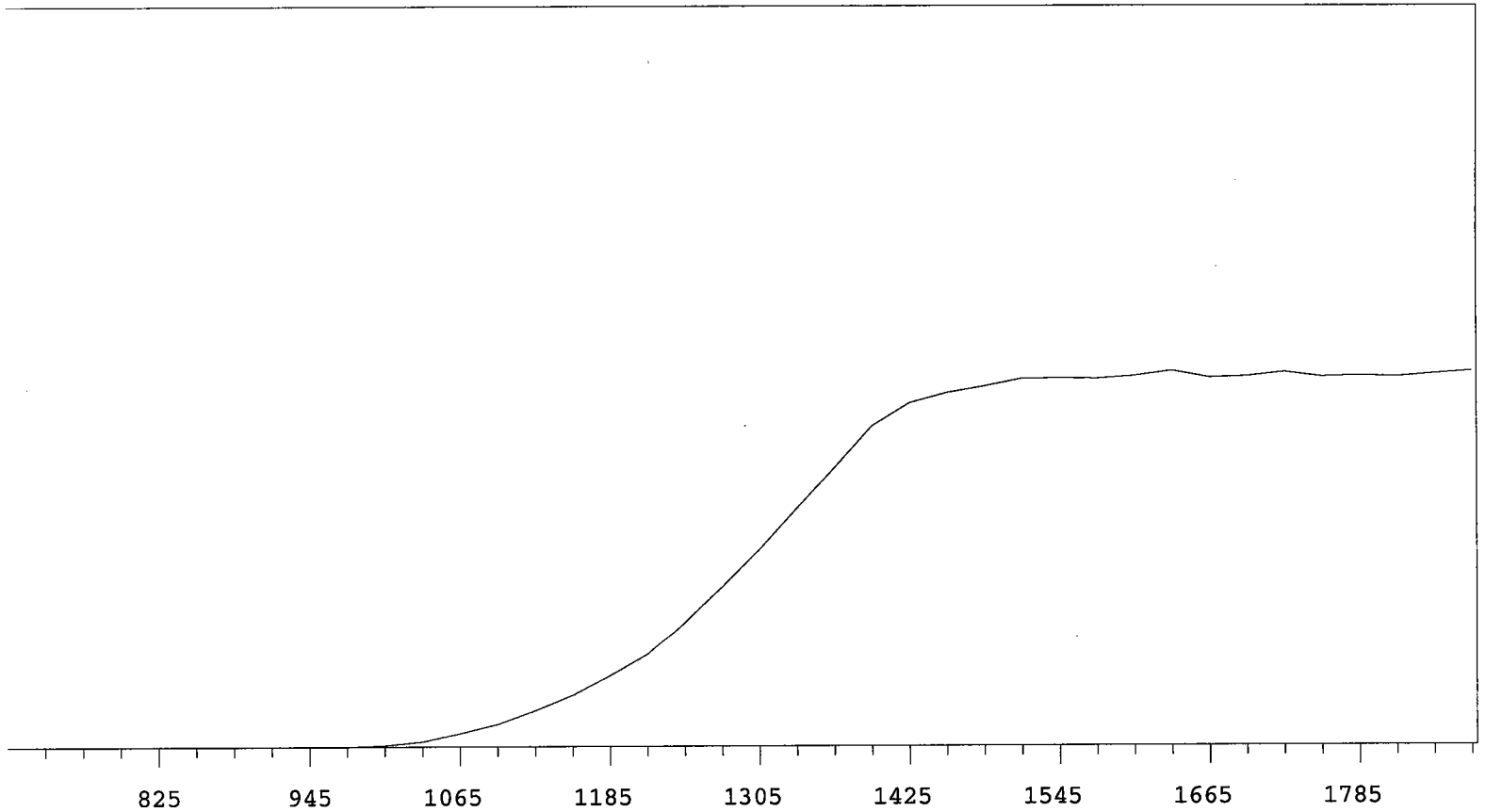
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	9543	+67.01
735	0		1335	11617	+56.47
765	0		1365	13791	+45.47
795	0	>100	1395	15387	+31.66
825	0	>100	1425	16819	+20.02
855	0	>100	1455	17210	+11.63
885	1	+0.00	1485	17742	+6.05
915	0	>100	1515	17892	+3.04
945	0	>100	1545	18070	+1.09
975	7	>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	



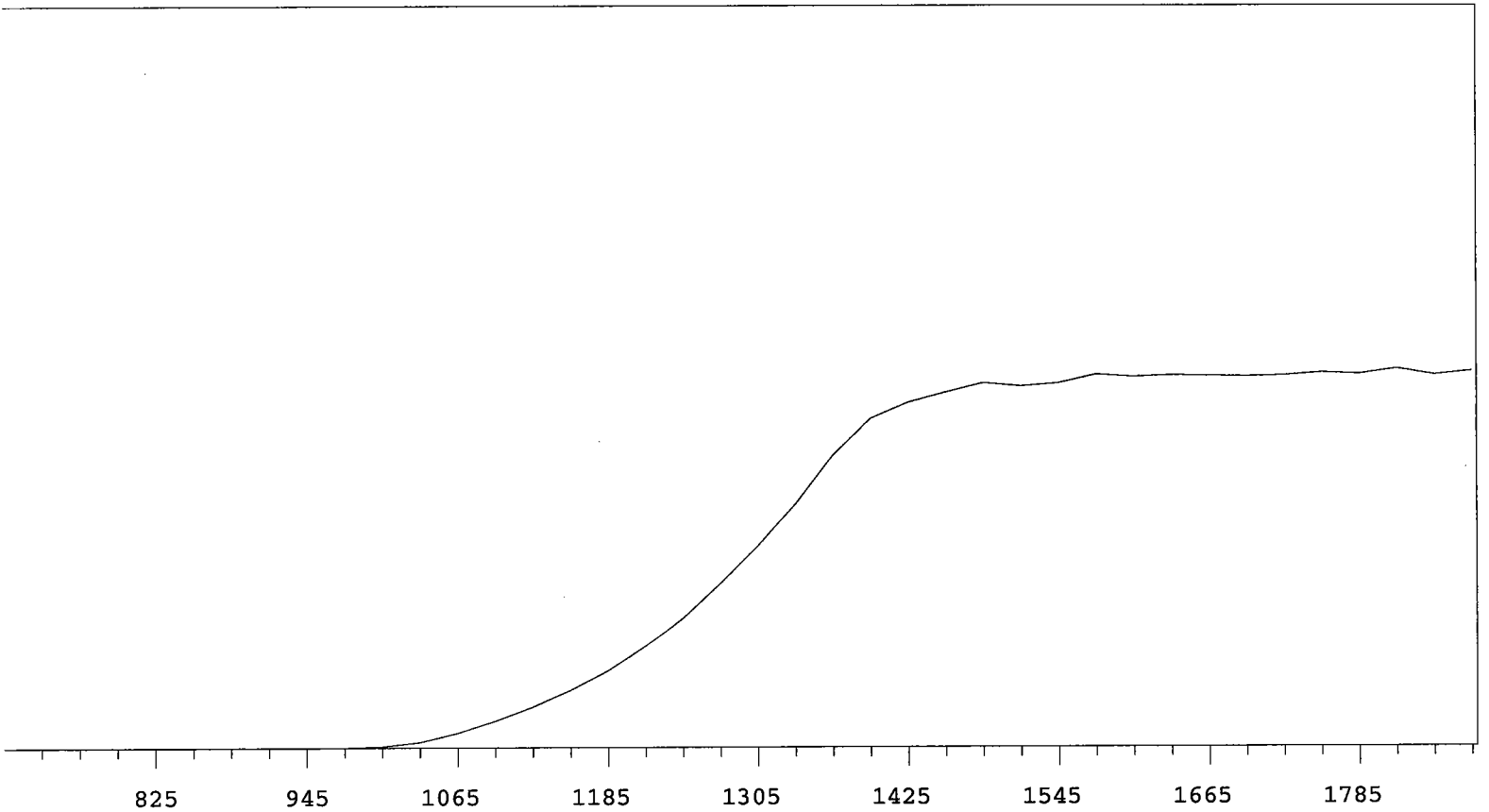
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	9144	+69.92
735	0		1335	11120	+58.43
765	0		1365	13399	+45.40
795	0	>100	1395	14711	+32.57
825	0	>100	1425	16134	+20.69
855	0	>100	1455	16805	+13.46
885	0	>100	1485	17209	+7.90
915	0	>100	1515	17500	+4.31
945	0	>100	1545	17812	+3.48
975	4	>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	



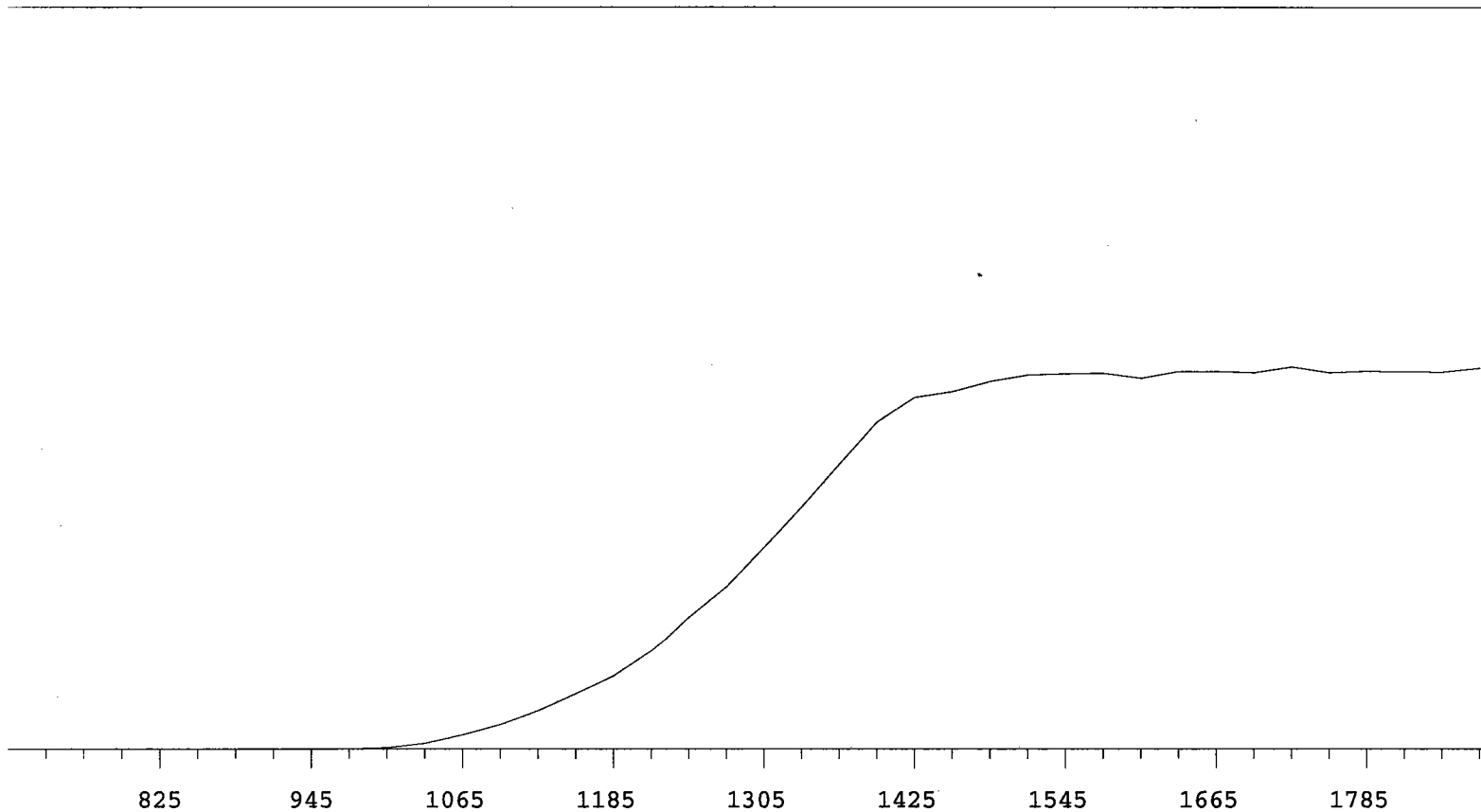
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	9209	+64.55
735	1		1335	11200	+55.94
765	0	+55.56	1365	13123	+43.27
795	2	>100	1395	14957	+29.04
825	0	+0.00	1425	15658	+17.41
855	0	>100	1455	16123	+8.01
885	1	>100	1485	16530	+4.92
915	0	>100	1515	16437	+2.71
945	1	>100	1545	16704	+0.83
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	



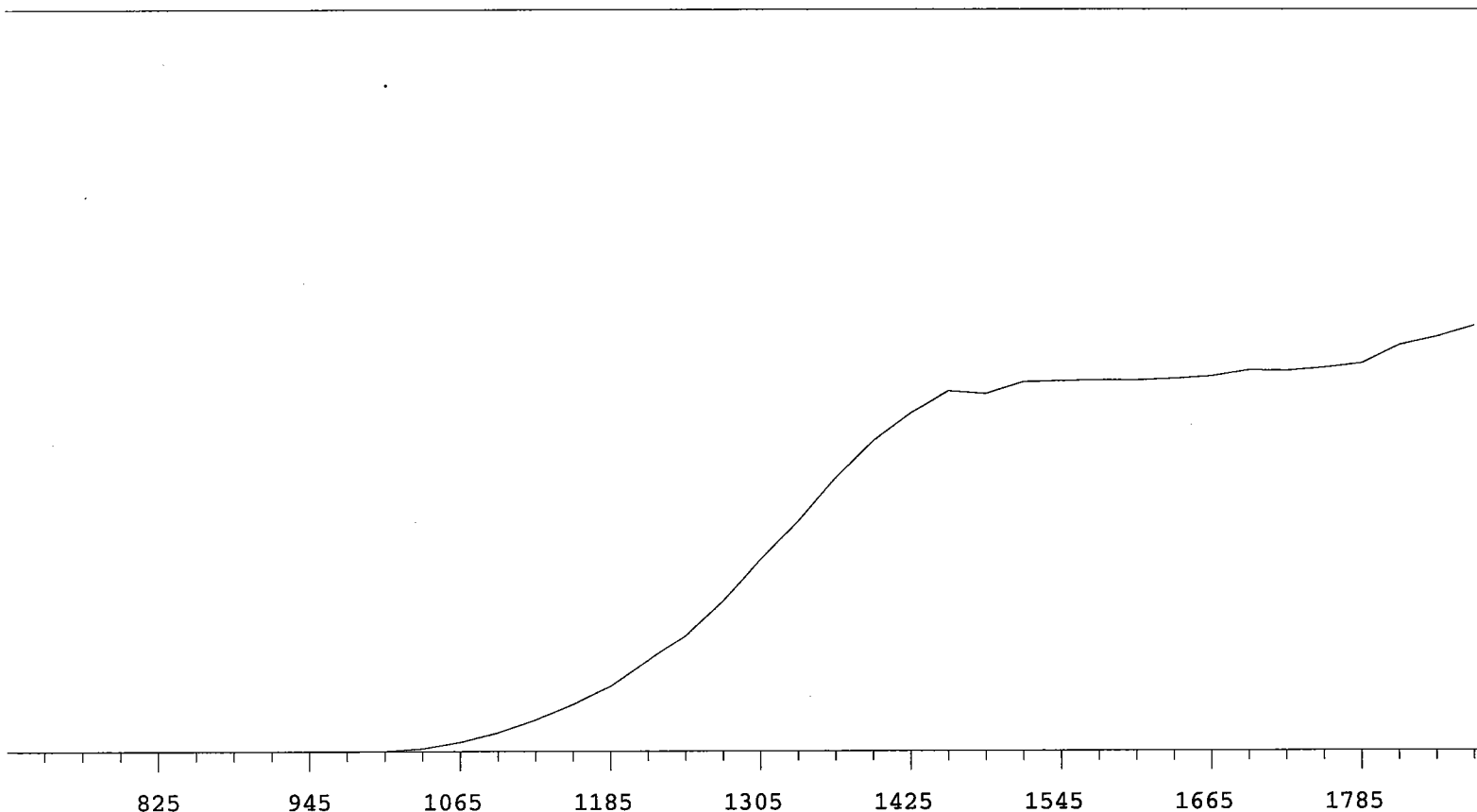
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	9666	+64.39
735	0		1335	11722	+55.91
765	0		1365	13680	+44.91
795	0	>100	1395	15677	+31.56
825	0	>100	1425	16786	+19.46
855	0	>100	1455	17283	+10.57
885	0	>100	1485	17608	+5.95
915	1	>100	1515	17972	+3.32
945	0	>100	1545	18006	+1.84
975	4	>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	



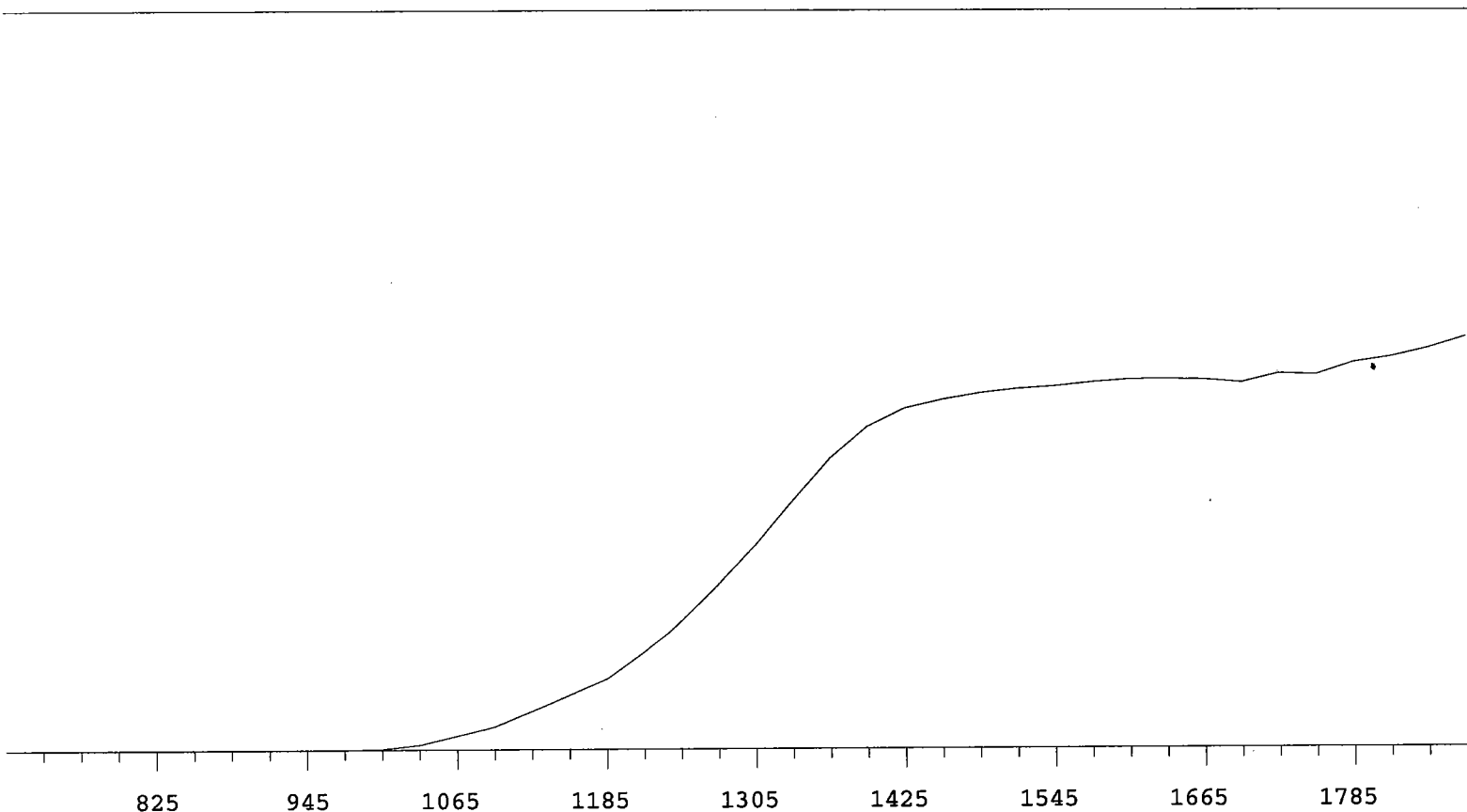
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	11573	+64.95
735	0		1335	13929	+56.47
765	0		1365	16726	+43.82
795	0	>100	1395	18834	+29.38
825	0	>100	1425	19743	+16.84
855	0	>100	1455	20314	+7.95
885	0	>100	1485	20860	+4.16
915	0	>100	1515	20670	+3.23
945	0	>100	1545	20844	+2.09
975	9	>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	



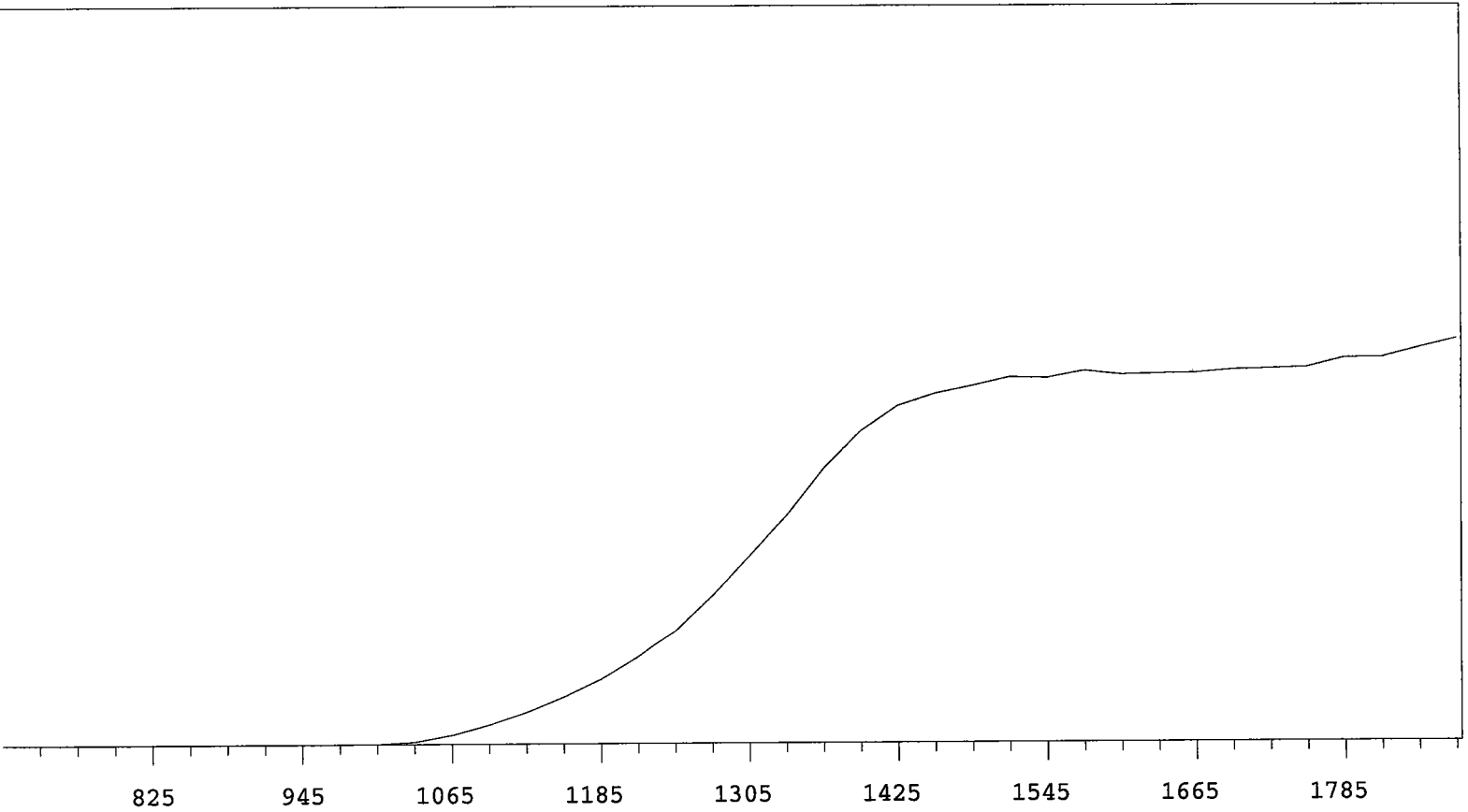
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	1		1305	7524	+61.93
735	0		1335	9002	+55.36
765	0		1365	10542	+44.70
795	0	>100	1395	12064	+31.21
825	0	>100	1425	12981	+19.20
855	0	>100	1455	13192	+10.41
885	0	>100	1485	13570	+5.93
915	0	>100	1515	13820	+4.08
945	0	>100	1545	13866	+0.75
975	9	>100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



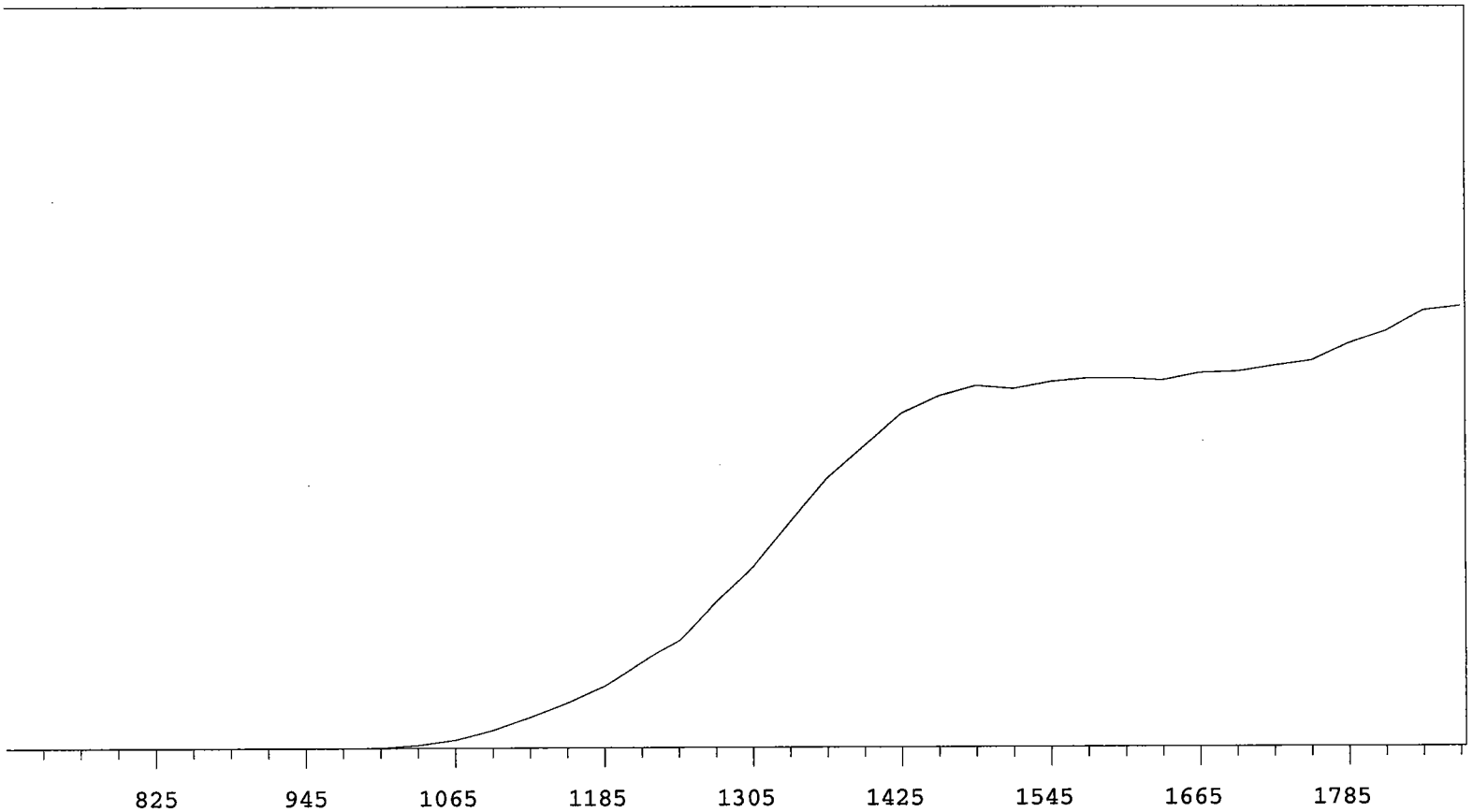
VOLTS	COUNTS	%/100 Volts	VOLTS	COUNTS	%/100 Volts
705	0		1305	8778	+67.49
735	0		1335	10502	+57.68
765	0		1365	12516	+46.36
795	0	>100	1395	14215	+35.88
825	0	>100	1425	15472	+22.01
855	0	>100	1455	16469	+12.99
885	1	+0.00	1485	16342	+6.70
915	0	>100	1515	16874	+3.07
945	0	>100	1545	16918	+2.53
975	0	>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:

JM. 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

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

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date

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. Mty 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	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff. Mass. Used (mL)	Standard Source DPM/mL
	0503-B	1962.0000	45.6000	1916.4000	9.263763	206.8705773
	0503-B	1983.2000	45.6000	1937.6000	9.263763	209.1590642
	0503-B	1927.0000	45.6000	1881.4000	9.263763	203.092415

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

102.890426 Pass
 0.01484516 Rule 3 (Pass/Fail)

Certificate Value = 200.596 dpm/mL
 Lower Limit = 200.2467076 dpm/mL
 Upper Limit = 212.5013301 dpm/mL
 Rule 1 Pass/Fail Pass
 Two sigma = 6.127311233
 10 % of Mean = 20.63740189
 Rule 2 (Pass/Fail) Pass

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for Ra-228 source 0503-B by transferring portions of the standard into glass liquid scintillation vials. Ten mL of Ready Gel liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ready Gel cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on LSC Gold for Ra-228 source standard verification. The Ra-228 efficiency calibration which was used for verification calculations was performed on 9/13/08 using source 0683-A (Ra-228). Calibration data is recorded in this logbook under Ra-228 0683-A. Each verification source calculation was performed as follows:

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

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. Perry 9/16/08

Angela Johnson 9/17/08

5/19/16
28

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	:	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

8/16/08
228

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

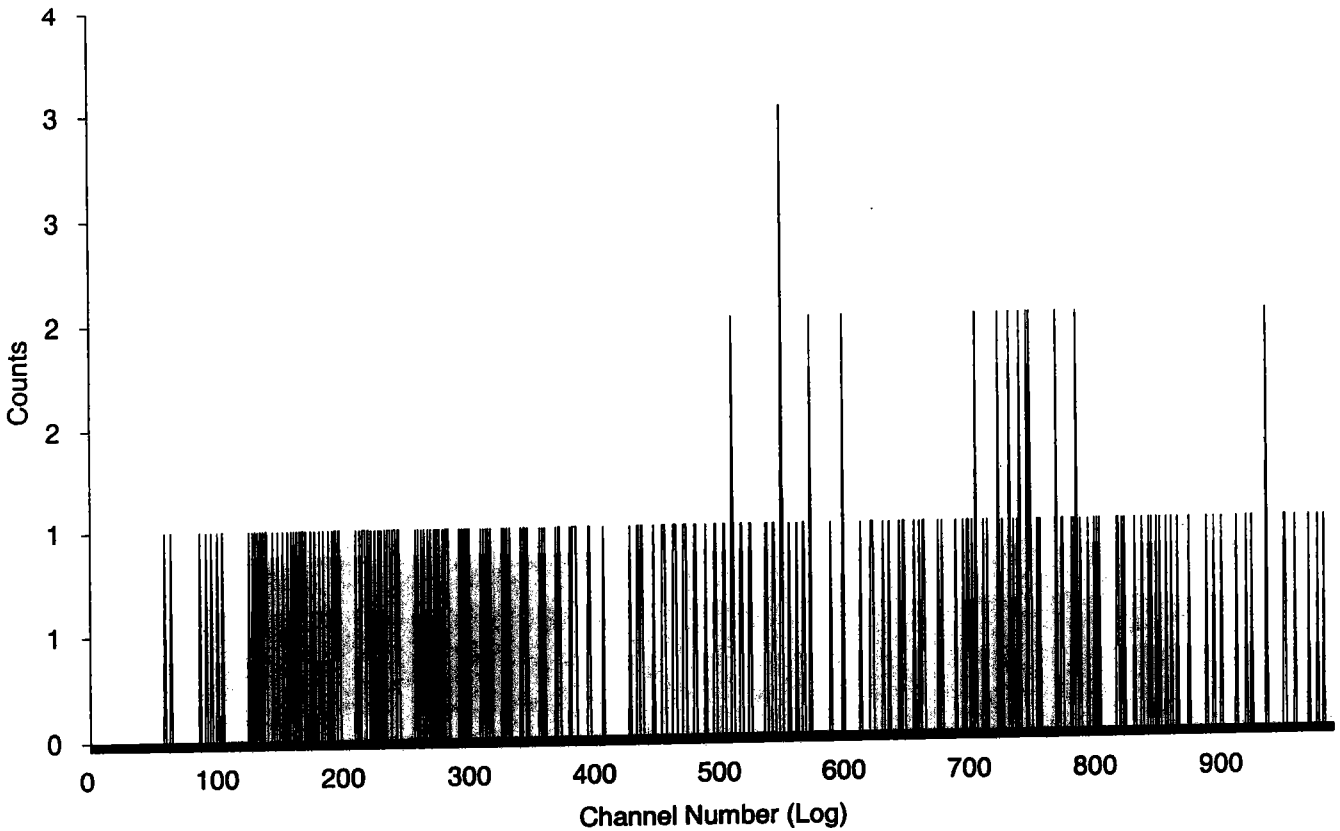
H#, Total Counts:

97.9 69

Start, End, X-Axis:

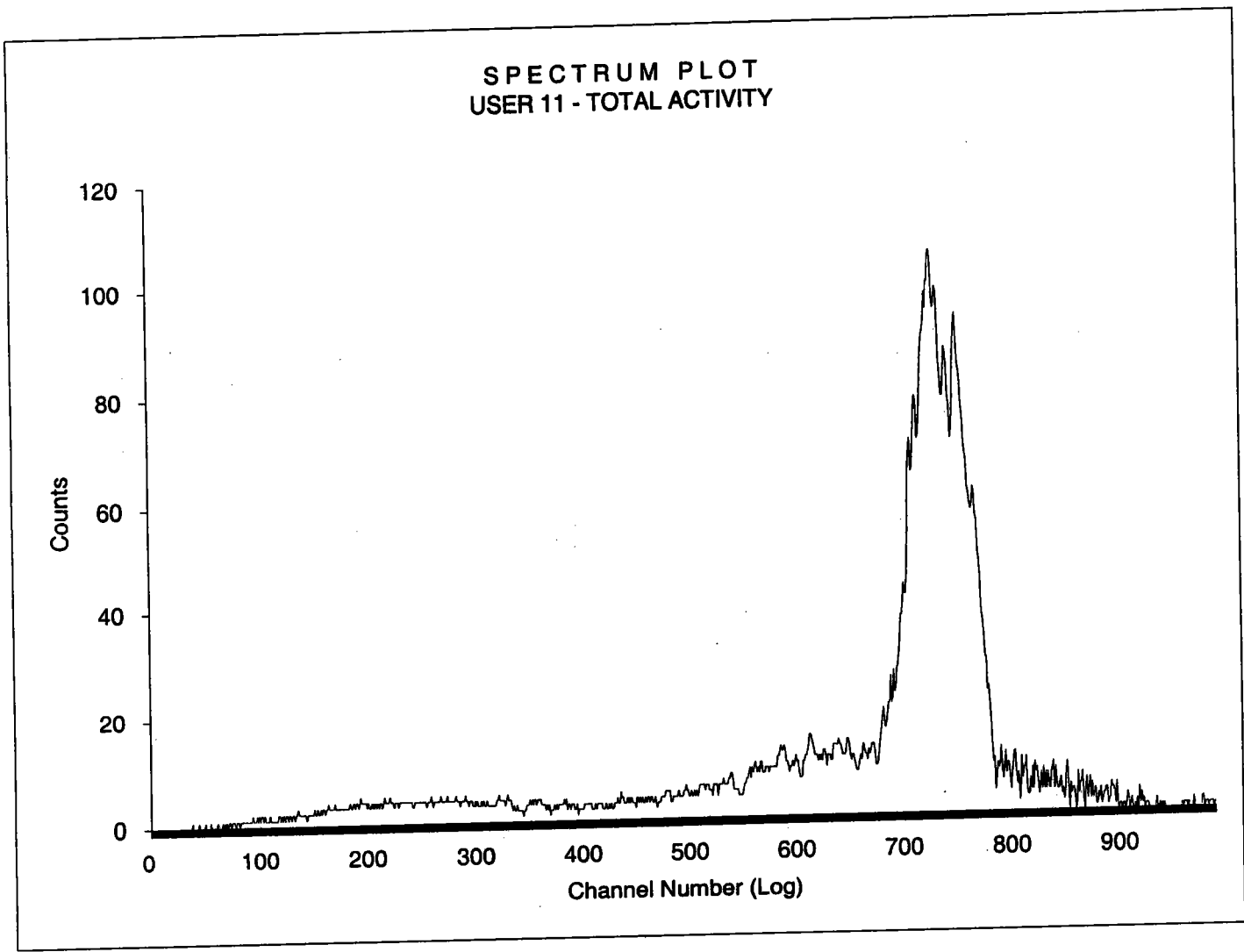
0 990 Channel Number

SPECTRUM PLOT
USER 11 - TOTAL ACTIVITY



50/9/16
25

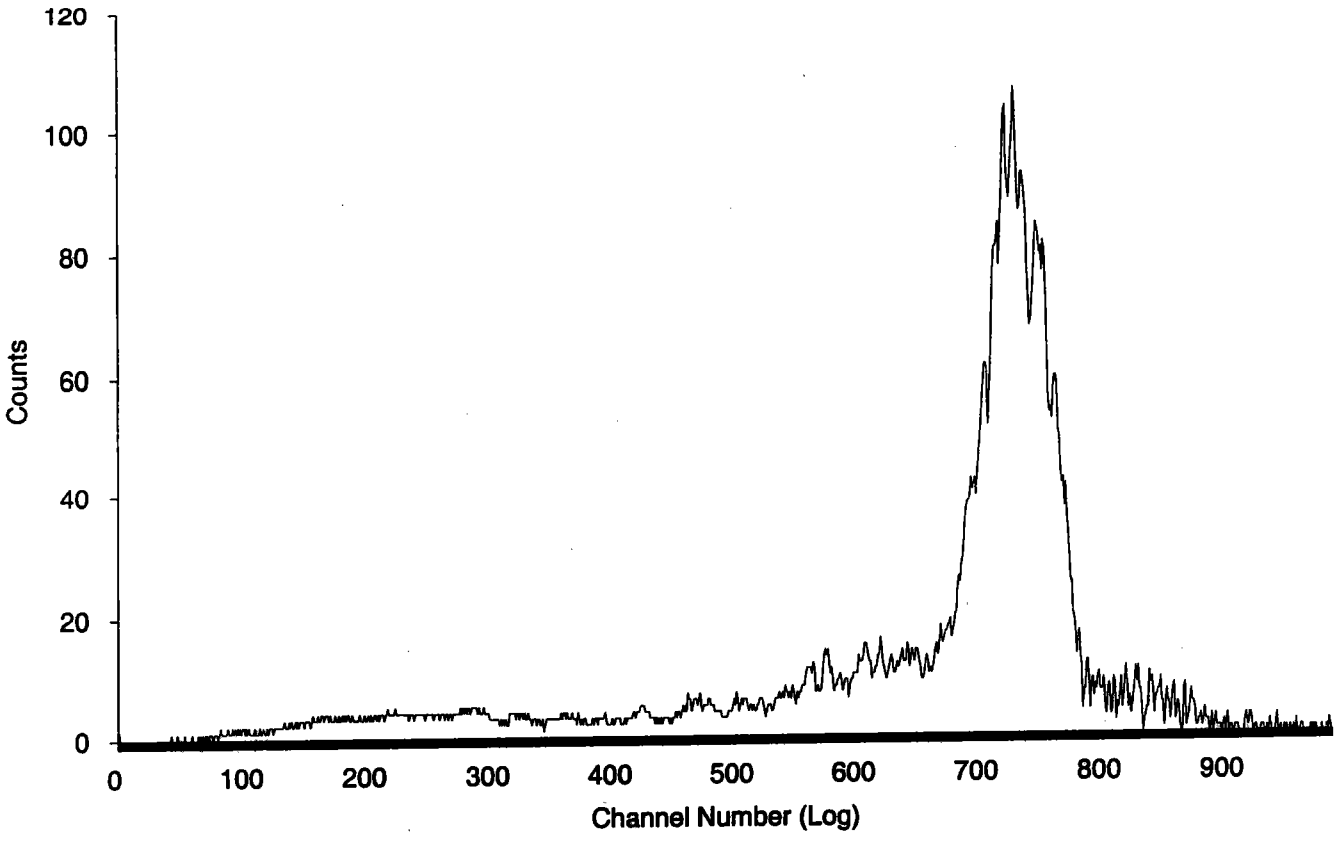
Sample Count Start Time: 16 Sep 2008 16:53:01
Data Capture Date: 9/16/2008 16:58:06
User Filename: S11091611-6A.WK1
U11091611-1A.WK1
Spectrum Type: Log Counts
User Number: 11
User Id: TOTAL ACTIVITY
User Comment: GOLD
Isotope Name: 14C
Scintillator: LIQUID
Sample, Rack-Pos, Time: 6 11-6 5.00
H#, Total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



8/16/08
SJS

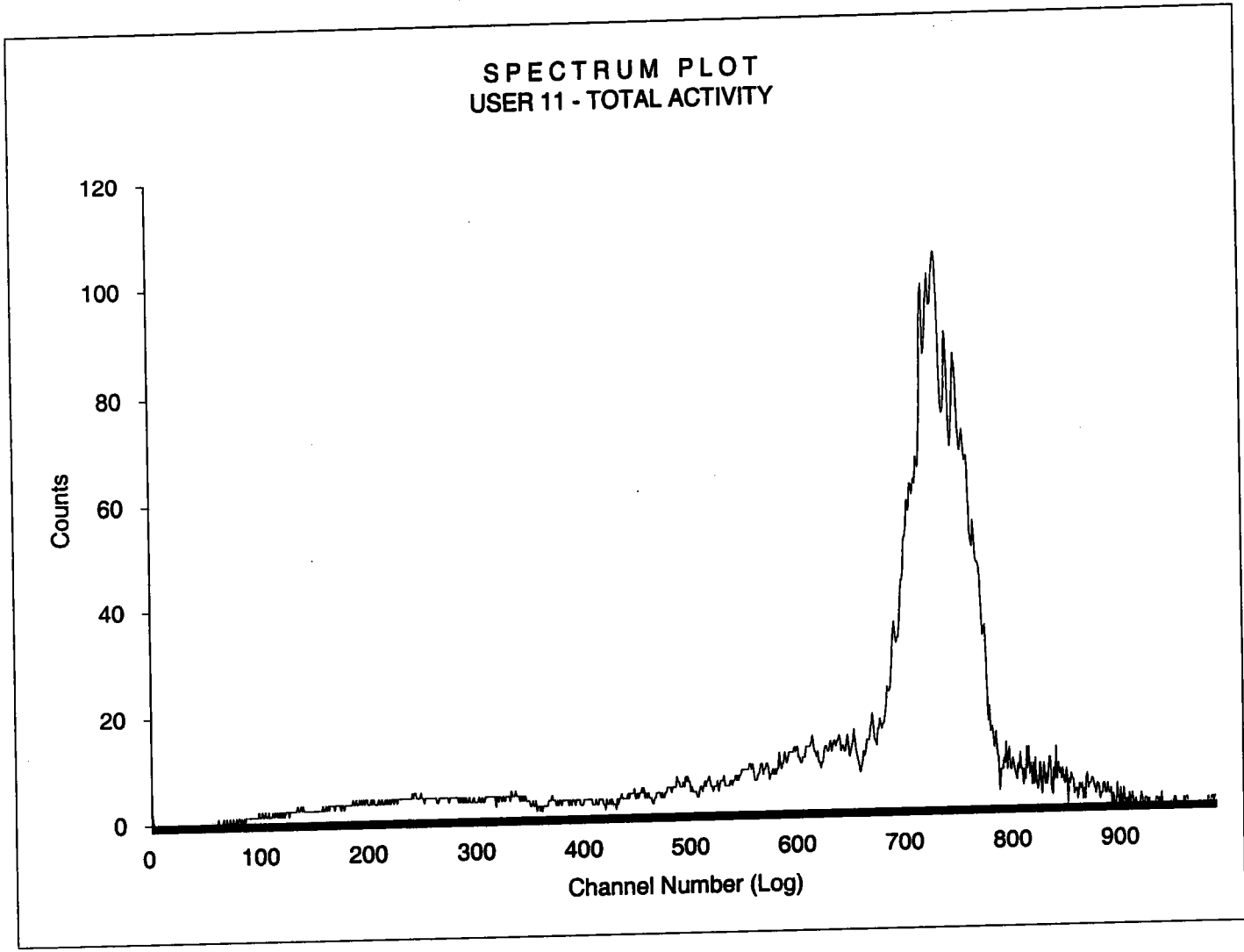
Sample Count Start Time: 16 Sep 2008 16:59:07
Data Capture Date: 9/16/2008 17:04:12
User Filename: S11091611-7A.WK1
U11091611-1A.WK1
Spectrum Type: Log Counts
User Number: 11
User Id: TOTAL ACTIVITY
User Comment: GOLD
Isotope Name: 14C
Scintillator: LIQUID
Sample, Rack-Pos, Time: 7 11-7 5.00
H#, Total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

SPECTRUM PLOT
USER 11 - TOTAL ACTIVITY



9/16/08
11-8

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 Analyst: DXM2 Internal Due Date: 07/03/2009
 Spike Isotope: Radium-228 Spike Code: NA Ac-228 Ingrow: 2025 6/30/09
 LCS Isotope: Radium-228 LCS Code: 0503-B Expiration Date: 9/13/09
 Tracer Isotope: Barium-133 Tracer Code: 0112-2 Expiration Date: 2/17/10
 Prep Date: 6/30/09 Initials: JRS Pipet ID: 1734212 Balance ID: NA
 Ac-228 Separation Date/Time: 7-2-09 0540
 Witness: JRS 6/30/09

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		102.70	
1201872118-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	7	20		112.82	
1201872119-1	LCS for batch 881540	LCS		3 pCi/L	GROUND WATI	QC ACCOUNT	16-JUN-09 03:56 PM	8	20		111.91	↓

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

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
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

98.04%

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

Neptunium-237

Isotope	Value pCi/g
SSTOCK2002A2_AM	90.100
SSTOCK2002B2_AM	87.200
SSTOCK2002C2_AM	93.500

Mean Value (Counting) = 90.267
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

98.02%

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
Stdev = 1.503074627

Target = 95.6460 pCi/g
Lower Limit = 92.45718408
Upper Limit = 98.46848259
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. ~~Since~~ For each standard the # of counts achieved was just under 10000 which has a counting error of nearly 1%. Because the standard's bias is < 2% from the known value the standard is acceptable.

Robert J. ... 021203

Attachment II

Mixed alpha isotope	Reference date = Source	Stock Dpm/g	Reference date	Half-life (years)	amount used for mixed	Dpm/g mixed	Decay corr dpm/g
Gd-148	64445-278 (0502)	44354.59289	9/5/2002	74.60	0.2471	212.9974853	212.159287
Np-237	Srm 4341 (0493)	5820	3/1/1992	2.14E+06	1.8075	204.4393182	204.438594
Cm-244	SRM 4320a (0490)	2223.6	2/1/1996	18.1	7.2704	314.1796879	240.144737
Source	Amount of standard used	dpm Gd-148	dpm Np-237	dpm Cm-244	dps Gd-148	dps Np-237	dps Cm-244
AESS-001	1.0362	219.839	211.839	248.838	3.664	3.531	4.147
AESS-002	1.0344	219.458	211.471	248.406	3.658	3.525	4.140
AESS-003	1.034	219.373	211.390	248.310	3.656	3.523	4.138
AESS-004	1.0331	219.182	211.206	248.094	3.653	3.520	4.135
AESS-005	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-006	1.0331	219.182	211.206	248.094	3.653	3.520	4.135
AESS-007	1.0348	219.542	211.553	248.502	3.659	3.526	4.142
AESS-008	1.0363	219.861	211.860	248.862	3.664	3.531	4.148
AESS-009	1.0352	219.627	211.635	248.598	3.660	3.527	4.143
AESS-010	1.0346	219.500	211.512	248.454	3.658	3.525	4.141
AESS-011	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-012	1.0367	219.946	211.941	248.958	3.666	3.532	4.149
AESS-013	1.0396	220.561	212.534	249.654	3.676	3.542	4.161
AESS-014	1.0368	219.967	211.962	248.982	3.666	3.533	4.150
AESS-015	1.0363	219.861	211.860	248.862	3.664	3.531	4.148
AESS-016	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-017	1.0356	219.712	211.717	248.694	3.662	3.529	4.145
AESS-018	1.0359	219.776	211.778	248.766	3.663	3.530	4.146
AESS-019	1.0349	219.564	211.574	248.526	3.659	3.526	4.142
AESS-020	1.0361	219.818	211.819	248.814	3.664	3.530	4.147
AESS-021	1.0348	219.542	211.553	248.502	3.659	3.526	4.142
AESS-022	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-023	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-024	1.0343	219.436	211.451	248.382	3.657	3.524	4.140
AESS-025	1.0364	219.882	211.880	248.886	3.665	3.531	4.148
AESS-026	1.0336	219.288	211.308	248.214	3.655	3.522	4.137
AESS-027	1.0353	219.649	211.655	248.622	3.661	3.528	4.144
AESS-028	1.0366	219.924	211.921	248.934	3.665	3.532	4.149

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
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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 : 6-JUL-2009 14:30:47
 Calibration Source Id : AESS-001

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

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

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

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

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

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

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

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

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

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

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

Instrument : CHAMBER 005
 Detector : 67612
 Calibration Date/Time : 28-JUL-2009 13:16:04
 Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3180.599
NP-237	4341	2/28/10	4768.800	4768.443
CM-244	4320A	2/28/10	5795.020	5794.593

Energy/Channel Equation : see above
 Energy Calibration Zero : 2375.714
 Energy Calibration Slope : 5.026415
 Energy Calibration Quadratic : 2.7678933E-04
 Energy Calibration Range : 7813.000

Instrument : CHAMBER 006
 Detector : 67613
 Calibration Date/Time : 28-JUL-2009 13:16:33
 Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3180.664
NP-237	4341	2/28/10	4768.800	4768.146
CM-244	4320A	2/28/10	5795.020	5794.381

Energy/Channel Equation : see above
 Energy Calibration Zero : 2360.959
 Energy Calibration Slope : 4.993081
 Energy Calibration Quadratic : 2.7519590E-04
 Energy Calibration Range : 7762.000

Instrument : CHAMBER 007
 Detector : 67607
 Calibration Date/Time : 6-JUL-2009 14:31:52
 Calibration Source Id : AESS-007
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.695
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2433.790
 Energy Calibration Slope : 5.142394
 Energy Calibration Quadratic : 3.0138035E-04
 Energy Calibration Range : 8016.000

Instrument : CHAMBER 008
 Detector : 78788
 Calibration Date/Time : 6-JUL-2009 14:32:01
 Calibration Source Id : AESS-008
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.588
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2373.661
 Energy Calibration Slope : 4.981515
 Energy Calibration Quadratic : 2.9968601E-04
 Energy Calibration Range : 7789.000

Instrument : CHAMBER 009
 Detector : 72528
 Calibration Date/Time : 6-JUL-2009 14:32:10
 Calibration Source Id : AESS-009
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.963
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2376.116
 Energy Calibration Slope : 4.955449
 Energy Calibration Quadratic : 3.2997411E-04
 Energy Calibration Range : 7796.000

Instrument : CHAMBER 010
 Detector : 72529
 Calibration Date/Time : 6-JUL-2009 14:32:19
 Calibration Source Id : AESS-010
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.261
 NP-237 4341 2/28/10 4768.800 4769.006
 CM-244 4320A 2/28/10 5795.020 5795.021

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

Instrument : CHAMBER 011
 Detector : 72531
 Calibration Date/Time : 6-JUL-2009 14:32:29
 Calibration Source Id : AESS-011
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.184
 NP-237 4341 2/28/10 4768.800 4768.906
 CM-244 4320A 2/28/10 5795.020 5795.321

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

Instrument : CHAMBER 012
 Detector : 67594
 Calibration Date/Time : 6-JUL-2009 14:32:37
 Calibration Source Id : AESS-012
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.008
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.019

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Instrument : CHAMBER 025
 Detector : 45-149AA5
 Calibration Date/Time : 6-JUL-2009 14:35:10
 Calibration Source Id : AESS-025
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.237
 NP-237 4341 2/28/10 4768.800 4769.932
 CM-244 4320A 2/28/10 5795.020 5795.518
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2322.042
 Energy Calibration Slope : 4.860308
 Energy Calibration Quadratic : 3.0488655E-04
 Energy Calibration Range : 7619.000

Instrument : CHAMBER 026
 Detector : 78204
 Calibration Date/Time : 6-JUL-2009 14:35:19
 Calibration Source Id : AESS-026
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.984
 NP-237 4341 2/28/10 4768.800 4768.684
 CM-244 4320A 2/28/10 5795.020 5794.748
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2360.724
 Energy Calibration Slope : 4.928299
 Energy Calibration Quadratic : 3.4985787E-04
 Energy Calibration Range : 7774.000

Instrument : CHAMBER 027
 Detector : 42484
 Calibration Date/Time : 24-JUL-2009 13:43:22
 Calibration Source Id : AESS-027
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.220
 NP-237 4341 2/28/10 4768.800 4768.918
 CM-244 4320A 2/28/10 5795.020 5795.135
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2364.849
 Energy Calibration Slope : 4.954154
 Energy Calibration Quadratic : 3.4097850E-04
 Energy Calibration Range : 7795.000

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Instrument : CHAMBER 037
 Detector : 45-149BB5
 Calibration Date/Time : 6-JUL-2009 14:36:53
 Calibration Source Id : AESS-037
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.484
 NP-237 4341 2/28/10 4768.800 4769.580
 CM-244 4320A 2/28/10 5795.020 5795.541
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.709
 Energy Calibration Slope : 4.946308
 Energy Calibration Quadratic : 2.5989802E-04
 Energy Calibration Range : 7722.000

Instrument : CHAMBER 038
 Detector : 72532
 Calibration Date/Time : 8-JUL-2009 07:31:06
 Calibration Source Id : AESS-038
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.361
 NP-237 4341 2/28/10 4768.800 4769.277
 CM-244 4320A 2/28/10 5795.020 5795.217
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2373.087
 Energy Calibration Slope : 4.930811
 Energy Calibration Quadratic : 3.3542284E-04
 Energy Calibration Range : 7774.000

Instrument : CHAMBER 039
 Detector : 45-149BB2
 Calibration Date/Time : 6-JUL-2009 14:37:12
 Calibration Source Id : AESS-039
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.536
 NP-237 4341 2/28/10 4768.800 4768.350
 CM-244 4320A 2/28/10 5795.020 5794.833
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.948
 Energy Calibration Slope : 4.914604
 Energy Calibration Quadratic : 3.1003577E-04
 Energy Calibration Range : 7742.000

Instrument : CHAMBER 040
 Detector : 78773
 Calibration Date/Time : 6-JUL-2009 14:37:21
 Calibration Source Id : AESS-040
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.545
 Energy Calibration Slope : 4.888068
 Energy Calibration Quadratic : 3.4239746E-04
 Energy Calibration Range : 7718.000

Instrument : CHAMBER 041
 Detector : 78205
 Calibration Date/Time : 6-JUL-2009 14:37:34
 Calibration Source Id : AESS-041
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.714
 NP-237 4341 2/28/10 4768.800 4768.652
 CM-244 4320A 2/28/10 5795.020 5794.887
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.504
 Energy Calibration Slope : 4.933050
 Energy Calibration Quadratic : 3.6094084E-04
 Energy Calibration Range : 7791.000

Instrument : CHAMBER 042
 Detector : 78793
 Calibration Date/Time : 6-JUL-2009 14:37:44
 Calibration Source Id : AESS-042
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2376.865
 Energy Calibration Slope : 4.914897
 Energy Calibration Quadratic : 3.2152777E-04
 Energy Calibration Range : 7747.000

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

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

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

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

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

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

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

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

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

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

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.832
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.131
 Energy Calibration Slope : 4.885582
 Energy Calibration Quadratic : 3.3954665E-04
 Energy Calibration Range : 7722.000

Instrument : CHAMBER 047
 Detector : 46-089B1
 Calibration Date/Time : 6-JUL-2009 14:38:30
 Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.917
CM-244	4320A	2/28/10	5795.020	5795.028

Energy/Channel Equation : see above
 Energy Calibration Zero : 2358.735
 Energy Calibration Slope : 4.953376
 Energy Calibration Quadratic : 3.2229861E-04
 Energy Calibration Range : 7769.000

Instrument : CHAMBER 048
 Detector : 42483
 Calibration Date/Time : 6-JUL-2009 14:38:39
 Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.757
NP-237	4341	2/28/10	4768.800	4768.527
CM-244	4320A	2/28/10	5795.020	5794.876

Energy/Channel Equation : see above
 Energy Calibration Zero : 2379.156
 Energy Calibration Slope : 4.959531
 Energy Calibration Quadratic : 2.8168198E-04
 Energy Calibration Range : 7753.000

Instrument : CHAMBER 065
 Detector : 68551
 Calibration Date/Time : 9-JUL-2009 13:06:51
 Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.934
NP-237	4341	2/28/10	4768.800	4768.222
CM-244	4320A	2/28/10	5795.020	5794.627

Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.031
 Energy Calibration Slope : 4.912300
 Energy Calibration Quadratic : 3.2574762E-04
 Energy Calibration Range : 7755.000

Instrument : CHAMBER 066
 Detector : 46-089C1
 Calibration Date/Time : 9-JUL-2009 13:07:05
 Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.612
NP-237	4341	2/28/10	4768.800	4768.619
CM-244	4320A	2/28/10	5795.020	5794.832

Energy/Channel Equation : see above
 Energy Calibration Zero : 2375.985
 Energy Calibration Slope : 4.975531
 Energy Calibration Quadratic : 2.7539468E-04
 Energy Calibration Range : 7760.000

Instrument : CHAMBER 067
 Detector : 46-089B4
 Calibration Date/Time : 9-JUL-2009 13:07:16
 Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.025
NP-237	4341	2/28/10	4768.800	4768.287
CM-244	4320A	2/28/10	5795.020	5794.643

Energy/Channel Equation : see above
 Energy Calibration Zero : 2392.470
 Energy Calibration Slope : 4.972788
 Energy Calibration Quadratic : 2.7622253E-04
 Energy Calibration Range : 7774.000

Instrument : CHAMBER 068
 Detector : 78794
 Calibration Date/Time : 9-JUL-2009 13:07:28
 Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.711
NP-237	4341	2/28/10	4768.800	4768.483
CM-244	4320A	2/28/10	5795.020	5794.734

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.543
 Energy Calibration Slope : 4.977541
 Energy Calibration Quadratic : 3.1141064E-04
 Energy Calibration Range : 7787.000

Instrument : CHAMBER 069
 Detector : 78795
 Calibration Date/Time : 9-JUL-2009 13:07:42
 Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.689
NP-237	4341	2/28/10	4768.800	4768.583
CM-244	4320A	2/28/10	5795.020	5794.896

Energy/Channel Equation : see above
 Energy Calibration Zero : 2376.120
 Energy Calibration Slope : 4.922992
 Energy Calibration Quadratic : 3.4665639E-04
 Energy Calibration Range : 7781.000

Instrument : CHAMBER 070
 Detector : 46-089B2
 Calibration Date/Time : 9-JUL-2009 13:07:53
 Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.107
NP-237	4341	2/28/10	4768.800	4768.384
CM-244	4320A	2/28/10	5795.020	5794.512

Energy/Channel Equation : see above
 Energy Calibration Zero : 2386.604
 Energy Calibration Slope : 4.939598
 Energy Calibration Quadratic : 2.9686227E-04
 Energy Calibration Range : 7756.000

Instrument : CHAMBER 071
 Detector : 64259
 Calibration Date/Time : 9-JUL-2009 13:08:07
 Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.519
NP-237	4341	2/28/10	4768.800	4768.421
CM-244	4320A	2/28/10	5795.020	5794.714

Energy/Channel Equation : see above
 Energy Calibration Zero : 2381.008
 Energy Calibration Slope : 4.974834
 Energy Calibration Quadratic : 3.0491504E-04
 Energy Calibration Range : 7795.000

Instrument : CHAMBER 072
 Detector : 45-149AA3
 Calibration Date/Time : 9-JUL-2009 13:08:19
 Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.621
NP-237	4341	2/28/10	4768.800	4768.489
CM-244	4320A	2/28/10	5795.020	5794.766

Energy/Channel Equation : see above
 Energy Calibration Zero : 2365.531
 Energy Calibration Slope : 4.947875
 Energy Calibration Quadratic : 2.9255319E-04
 Energy Calibration Range : 7739.000

Instrument : CHAMBER 073
 Detector : 78775
 Calibration Date/Time : 9-JUL-2009 13:08:30
 Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.442
NP-237	4341	2/28/10	4768.800	4768.180
CM-244	4320A	2/28/10	5795.020	5794.629

Energy/Channel Equation : see above
 Energy Calibration Zero : 2339.856
 Energy Calibration Slope : 4.937759
 Energy Calibration Quadratic : 3.0114278E-04
 Energy Calibration Range : 7712.000

Instrument : CHAMBER 074
 Detector : 78266
 Calibration Date/Time : 9-JUL-2009 13:08:42
 Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.764
NP-237	4341	2/28/10	4768.800	4768.637
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.120
 Energy Calibration Slope : 4.981784
 Energy Calibration Quadratic : 2.9874133E-04
 Energy Calibration Range : 7768.000

Instrument : CHAMBER 075
 Detector : 68550
 Calibration Date/Time : 9-JUL-2009 13:08:53
 Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.163
NP-237	4341	2/28/10	4768.800	4768.299
CM-244	4320A	2/28/10	5795.020	5794.726

Energy/Channel Equation : see above
 Energy Calibration Zero : 2364.223
 Energy Calibration Slope : 4.955623
 Energy Calibration Quadratic : 3.1275101E-04
 Energy Calibration Range : 7767.000

Instrument : CHAMBER 076
 Detector : 78779
 Calibration Date/Time : 9-JUL-2009 13:09:04
 Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.983
NP-237	4341	2/28/10	4768.800	4768.736
CM-244	4320A	2/28/10	5795.020	5794.908

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.316
 Energy Calibration Slope : 4.951778
 Energy Calibration Quadratic : 3.2127454E-04
 Energy Calibration Range : 7761.000

Instrument : CHAMBER 077
 Detector : 67576
 Calibration Date/Time : 9-JUL-2009 13:09:15
 Calibration Source Id : AESS-013

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.613
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.225
 Energy Calibration Slope : 4.943738
 Energy Calibration Quadratic : 2.9529908E-04
 Energy Calibration Range : 7733.000

Instrument : CHAMBER 078
 Detector : 67577
 Calibration Date/Time : 9-JUL-2009 13:09:25
 Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.605
NP-237	4341	2/28/10	4768.800	4768.392
CM-244	4320A	2/28/10	5795.020	5794.652

Energy/Channel Equation : see above
 Energy Calibration Zero : 2395.349
 Energy Calibration Slope : 4.935272
 Energy Calibration Quadratic : 3.3427982E-04
 Energy Calibration Range : 7800.000

Instrument : CHAMBER 079
 Detector : 67598
 Calibration Date/Time : 9-JUL-2009 13:09:33
 Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.660
NP-237	4341	2/28/10	4768.800	4768.547
CM-244	4320A	2/28/10	5795.020	5794.894

Energy/Channel Equation : see above
 Energy Calibration Zero : 2369.373
 Energy Calibration Slope : 4.904424
 Energy Calibration Quadratic : 3.2698381E-04
 Energy Calibration Range : 7734.000

Instrument : CHAMBER 080
 Detector : 78197
 Calibration Date/Time : 9-JUL-2009 13:09:43
 Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3184.302
NP-237	4341	2/28/10	4768.800	4771.069
CM-244	4320A	2/28/10	5795.020	5795.787

Energy/Channel Equation : see above
 Energy Calibration Zero : 2345.798
 Energy Calibration Slope : 5.019492
 Energy Calibration Quadratic : 2.4690092E-04
 Energy Calibration Range : 7745.000

Instrument : CHAMBER 081
 Detector : 72533
 Calibration Date/Time : 9-JUL-2009 13:09:58
 Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3128.274
NP-237	4341	2/28/10	4768.800	4679.048
CM-244	4320A	2/28/10	5795.020	5545.961

Energy/Channel Equation : see above
 Energy Calibration Zero : 2299.761
 Energy Calibration Slope : 8.847325
 Energy Calibration Quadratic : -4.6356809E-03
 Energy Calibration Range : 6499.000

Instrument : CHAMBER 082
 Detector : 64263
 Calibration Date/Time : 9-JUL-2009 13:10:11
 Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.523
NP-237	4341	2/28/10	4768.800	4768.330
CM-244	4320A	2/28/10	5795.020	5794.746

Energy/Channel Equation : see above
 Energy Calibration Zero : 2391.756
 Energy Calibration Slope : 4.946808
 Energy Calibration Quadratic : 3.5040258E-04
 Energy Calibration Range : 7825.000

Instrument : CHAMBER 083
 Detector : 64278
 Calibration Date/Time : 9-JUL-2009 13:10:22
 Calibration Source Id : AESS-019
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4769.394
 CM-244 4320A 2/28/10 5795.020 5795.019
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2373.863
 Energy Calibration Slope : 5.042446
 Energy Calibration Quadratic : 2.3603256E-04
 Energy Calibration Range : 7785.000

Instrument : CHAMBER 084
 Detector : 78265
 Calibration Date/Time : 9-JUL-2009 13:10:32
 Calibration Source Id : AESS-020
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.274
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.172
 Energy Calibration Slope : 5.013323
 Energy Calibration Quadratic : 2.8020472E-04
 Energy Calibration Range : 7790.000

Instrument : CHAMBER 085
 Detector : 78776
 Calibration Date/Time : 9-JUL-2009 13:10:43
 Calibration Source Id : AESS-021
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.102
 Energy Calibration Slope : 4.983326
 Energy Calibration Quadratic : 2.9771921E-04
 Energy Calibration Range : 7782.000

Instrument : CHAMBER 086
 Detector : 78198
 Calibration Date/Time : 9-JUL-2009 13:10:52
 Calibration Source Id : AESS-022
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.643
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2354.748
 Energy Calibration Slope : 5.010773
 Energy Calibration Quadratic : 2.3814633E-04
 Energy Calibration Range : 7735.000

Instrument : CHAMBER 087
 Detector : 78199
 Calibration Date/Time : 9-JUL-2009 13:11:02
 Calibration Source Id : AESS-023
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2338.424
 Energy Calibration Slope : 4.984921
 Energy Calibration Quadratic : 2.3201770E-04
 Energy Calibration Range : 7686.000

Instrument : CHAMBER 088
 Detector : 33452
 Calibration Date/Time : 9-JUL-2009 13:11:13
 Calibration Source Id : AESS-024
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.001
 NP-237 4341 2/28/10 4768.800 4768.468
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2351.689
 Energy Calibration Slope : 4.964746
 Energy Calibration Quadratic : 2.3151403E-04
 Energy Calibration Range : 7678.000

Instrument : CHAMBER 089
 Detector : 78262
 Calibration Date/Time : 9-JUL-2009 13:11:23
 Calibration Source Id : AESS-025
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.808
 NP-237 4341 2/28/10 4768.800 4768.497
 CM-244 4320A 2/28/10 5795.020 5794.868

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2357.358
 Energy Calibration Slope : 4.998539
 Energy Calibration Quadratic : 3.0872814E-04
 Energy Calibration Range : 7800.000

Instrument : CHAMBER 090
 Detector : 78263
 Calibration Date/Time : 9-JUL-2009 13:11:39
 Calibration Source Id : AESS-026
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.574
 NP-237 4341 2/28/10 4768.800 4768.547
 CM-244 4320A 2/28/10 5795.020 5794.930

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.561
 Energy Calibration Slope : 4.900284
 Energy Calibration Quadratic : 3.4428819E-04
 Energy Calibration Range : 7746.000

Instrument : CHAMBER 091
 Detector : 78259
 Calibration Date/Time : 9-JUL-2009 13:11:52
 Calibration Source Id : AESS-027
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.675
 NP-237 4341 2/28/10 4768.800 4768.729
 CM-244 4320A 2/28/10 5795.020 5794.997

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2370.658
 Energy Calibration Slope : 4.954311
 Energy Calibration Quadratic : 3.4313111E-04
 Energy Calibration Range : 7804.000

Instrument : CHAMBER 092
 Detector : 79457
 Calibration Date/Time : 10-JUL-2009 08:15:23
 Calibration Source Id : AESS-028

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2351.067
 Energy Calibration Slope : 4.974295
 Energy Calibration Quadratic : 2.6989207E-04
 Energy Calibration Range : 7728.000

Instrument : CHAMBER 093
 Detector : 33206
 Calibration Date/Time : 9-JUL-2009 13:12:10
 Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.697
NP-237	4341	2/28/10	4768.800	4768.674
CM-244	4320A	2/28/10	5795.020	5794.907

Energy/Channel Equation : see above
 Energy Calibration Zero : 2369.563
 Energy Calibration Slope : 4.914497
 Energy Calibration Quadratic : 3.2562285E-04
 Energy Calibration Range : 7743.000

Instrument : CHAMBER 094
 Detector : 78267
 Calibration Date/Time : 9-JUL-2009 13:12:19
 Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.761
NP-237	4341	2/28/10	4768.800	4768.682
CM-244	4320A	2/28/10	5795.020	5794.852

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.085
 Energy Calibration Slope : 4.944716
 Energy Calibration Quadratic : 3.0186711E-04
 Energy Calibration Range : 7743.000

Instrument : CHAMBER 095
 Detector : 64279
 Calibration Date/Time : 9-JUL-2009 13:12:27
 Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.666
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2355.533
 Energy Calibration Slope : 4.950543
 Energy Calibration Quadratic : 2.9788527E-04
 Energy Calibration Range : 7737.000

Instrument : CHAMBER 096
 Detector : 67605
 Calibration Date/Time : 9-JUL-2009 13:12:36
 Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.747
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2347.386
 Energy Calibration Slope : 4.941090
 Energy Calibration Quadratic : 3.3197468E-04
 Energy Calibration Range : 7755.000

Instrument : CHAMBER 097
 Detector : 67599
 Calibration Date/Time : 9-JUL-2009 13:12:44
 Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.290
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.267
 Energy Calibration Slope : 4.928224
 Energy Calibration Quadratic : 3.4786455E-04
 Energy Calibration Range : 7775.000

Instrument : CHAMBER 098
 Detector : 68644
 Calibration Date/Time : 9-JUL-2009 13:12:53
 Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.282
NP-237	4341	2/28/10	4768.800	4768.479
CM-244	4320A	2/28/10	5795.020	5794.637

Energy/Channel Equation : see above
 Energy Calibration Zero : 2385.389
 Energy Calibration Slope : 4.950438
 Energy Calibration Quadratic : 3.5501088E-04
 Energy Calibration Range : 7827.000

Instrument : CHAMBER 099
 Detector : 70317
 Calibration Date/Time : 9-JUL-2009 13:13:03
 Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.752
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2368.685
 Energy Calibration Slope : 4.893388
 Energy Calibration Quadratic : 3.5426160E-04
 Energy Calibration Range : 7751.000

Instrument : CHAMBER 100
 Detector : 79456
 Calibration Date/Time : 9-JUL-2009 13:13:12
 Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.705
CM-244	4320A	2/28/10	5795.020	5794.913

Energy/Channel Equation : see above
 Energy Calibration Zero : 2354.623
 Energy Calibration Slope : 4.898829
 Energy Calibration Quadratic : 3.4345602E-04
 Energy Calibration Range : 7731.000

Instrument : CHAMBER 101
 Detector : 64253
 Calibration Date/Time : 9-JUL-2009 13:13:22
 Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.469
NP-237	4341	2/28/10	4768.800	4767.637
CM-244	4320A	2/28/10	5795.020	5794.300

Energy/Channel Equation : see above
 Energy Calibration Zero : 2410.698
 Energy Calibration Slope : 4.933665
 Energy Calibration Quadratic : 3.2843428E-04
 Energy Calibration Range : 7807.000

Instrument : CHAMBER 102
 Detector : 72525
 Calibration Date/Time : 9-JUL-2009 13:13:31
 Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.443
CM-244	4320A	2/28/10	5795.020	5794.909

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.658
 Energy Calibration Slope : 4.864605
 Energy Calibration Quadratic : 3.5245687E-04
 Energy Calibration Range : 7715.000

Instrument : CHAMBER 103
 Detector : 79461
 Calibration Date/Time : 9-JUL-2009 13:13:40
 Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.789
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.068
 Energy Calibration Slope : 4.916300
 Energy Calibration Quadratic : 3.4528042E-04
 Energy Calibration Range : 7785.000

Instrument : CHAMBER 104
 Detector : 72524
 Calibration Date/Time : 9-JUL-2009 13:13:48
 Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.853

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.445
 Energy Calibration Slope : 4.898041
 Energy Calibration Quadratic : 3.2613348E-04
 Energy Calibration Range : 7711.000

Instrument : CHAMBER 105
 Detector : 78777
 Calibration Date/Time : 9-JUL-2009 13:13:56
 Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.693
NP-237	4341	2/28/10	4768.800	4768.750
CM-244	4320A	2/28/10	5795.020	5794.773

Energy/Channel Equation : see above
 Energy Calibration Zero : 2376.710
 Energy Calibration Slope : 4.874049
 Energy Calibration Quadratic : 3.5893198E-04
 Energy Calibration Range : 7744.000

Instrument : CHAMBER 106
 Detector : 64274
 Calibration Date/Time : 9-JUL-2009 13:14:04
 Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.689
 Energy Calibration Slope : 4.927028
 Energy Calibration Quadratic : 3.4706845E-04
 Energy Calibration Range : 7798.000

Instrument : CHAMBER 107
 Detector : 67578
 Calibration Date/Time : 9-JUL-2009 13:14:15
 Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.693
NP-237	4341	2/28/10	4768.800	4768.881
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.860
 Energy Calibration Slope : 4.955241
 Energy Calibration Quadratic : 3.3647806E-04
 Energy Calibration Range : 7790.000

Instrument : CHAMBER 108
 Detector : 78778
 Calibration Date/Time : 10-JUL-2009 08:15:33
 Calibration Source Id : AESS-044

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2360.573
 Energy Calibration Slope : 4.897293
 Energy Calibration Quadratic : 3.3521929E-04
 Energy Calibration Range : 7727.000

Instrument : CHAMBER 109
 Detector : 79463
 Calibration Date/Time : 9-JUL-2009 13:14:36
 Calibration Source Id : AESS-045

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.218
 Energy Calibration Slope : 4.898855
 Energy Calibration Quadratic : 3.6102085E-04
 Energy Calibration Range : 7756.000

Instrument : CHAMBER 110
 Detector : 67602
 Calibration Date/Time : 9-JUL-2009 13:15:06
 Calibration Source Id : AESS-046
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3151.318
 NP-237 4341 2/28/10 4768.800 4743.843
 CM-244 4320A 2/28/10 5795.020 5748.494
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2393.627
 Energy Calibration Slope : 5.263870
 Energy Calibration Quadratic : 7.2507857E-05
 Energy Calibration Range : 7860.000

Instrument : CHAMBER 111
 Detector : 79462
 Calibration Date/Time : 9-JUL-2009 13:15:22
 Calibration Source Id : AESS-047
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2359.279
 Energy Calibration Slope : 4.970932
 Energy Calibration Quadratic : 3.2777866E-04
 Energy Calibration Range : 7793.000

Instrument : CHAMBER 112
 Detector : 78261
 Calibration Date/Time : 9-JUL-2009 13:15:42
 Calibration Source Id : AESS-048
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4769.029
 CM-244 4320A 2/28/10 5795.020 5795.070
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2372.776
 Energy Calibration Slope : 4.930915
 Energy Calibration Quadratic : 3.0952421E-04
 Energy Calibration Range : 7747.000

Instrument : CHAMBER 113
 Detector : 45-111B4
 Calibration Date/Time : 15-JUL-2009 13:43:32
 Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.143
NP-237	4341	2/28/10	4768.800	4769.352
CM-244	4320A	2/28/10	5795.020	5795.169

Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.808
 Energy Calibration Slope : 5.000635
 Energy Calibration Quadratic : 2.7049560E-04
 Energy Calibration Range : 7789.000

Instrument : CHAMBER 114
 Detector : 78258
 Calibration Date/Time : 15-JUL-2009 13:43:44
 Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.317
NP-237	4341	2/28/10	4768.800	4768.936
CM-244	4320A	2/28/10	5795.020	5795.187

Energy/Channel Equation : see above
 Energy Calibration Zero : 2334.310
 Energy Calibration Slope : 4.976188
 Energy Calibration Quadratic : 2.4765823E-04
 Energy Calibration Range : 7690.000

Instrument : CHAMBER 115
 Detector : 45-132FF4
 Calibration Date/Time : 15-JUL-2009 13:43:54
 Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.299
NP-237	4341	2/28/10	4768.800	4768.906
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.743
 Energy Calibration Slope : 4.999947
 Energy Calibration Quadratic : 2.6256693E-04
 Energy Calibration Range : 7758.000

Instrument : CHAMBER 116
 Detector : 45-132FF2
 Calibration Date/Time : 15-JUL-2009 13:44:05
 Calibration Source Id : AESS-008
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.201
 Energy Calibration Slope : 4.980864
 Energy Calibration Quadratic : 2.6853522E-04
 Energy Calibration Range : 7743.000

Instrument : CHAMBER 117
 Detector : 33450
 Calibration Date/Time : 15-JUL-2009 13:44:15
 Calibration Source Id : AESS-003
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.341
 NP-237 4341 2/28/10 4768.800 4769.249
 CM-244 4320A 2/28/10 5795.020 5795.149

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2372.642
 Energy Calibration Slope : 4.960156
 Energy Calibration Quadratic : 2.9082331E-04
 Energy Calibration Range : 7757.000

Instrument : CHAMBER 118
 Detector : 75544
 Calibration Date/Time : 15-JUL-2009 13:44:26
 Calibration Source Id : AESS-009
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.240
 NP-237 4341 2/28/10 4768.800 4768.906
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2335.434
 Energy Calibration Slope : 4.978148
 Energy Calibration Quadratic : 2.6964993E-04
 Energy Calibration Range : 7716.000

Instrument : CHAMBER 119
 Detector : 74429
 Calibration Date/Time : 2-FEB-2009 15:15:38
 Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3069.001
NP-237	4341	2/28/10	4768.800	4669.281
CM-244	4320A	2/28/10	5795.020	5706.875

Energy/Channel Equation : see above
 Energy Calibration Zero : 2437.949
 Energy Calibration Slope : 5.036866
 Energy Calibration Quadratic :
 Energy Calibration Range : 7596.000

Instrument : CHAMBER 120
 Detector : 74430
 Calibration Date/Time : 16-JUL-2009 09:29:36
 Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.243
NP-237	4341	2/28/10	4768.800	4768.978
CM-244	4320A	2/28/10	5795.020	5795.142

Energy/Channel Equation : see above
 Energy Calibration Zero : 2311.106
 Energy Calibration Slope : 4.960131
 Energy Calibration Quadratic : 2.6160042E-04
 Energy Calibration Range : 7665.000

Instrument : CHAMBER 121
 Detector : 75545
 Calibration Date/Time : 15-JUL-2009 13:44:36
 Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.188

Energy/Channel Equation : see above
 Energy Calibration Zero : 2334.679
 Energy Calibration Slope : 4.950221
 Energy Calibration Quadratic : 2.8347687E-04
 Energy Calibration Range : 7701.000

Instrument : CHAMBER 122
 Detector : 75546
 Calibration Date/Time : 15-JUL-2009 13:44:46
 Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.172
NP-237	4341	2/28/10	4768.800	4769.003
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2330.980
 Energy Calibration Slope : 4.960747
 Energy Calibration Quadratic : 2.7343398E-04
 Energy Calibration Range : 7698.000

Instrument : CHAMBER 123
 Detector : 45-142V3
 Calibration Date/Time : 15-JUL-2009 13:44:55
 Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.316
NP-237	4341	2/28/10	4768.800	4769.249
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2374.720
 Energy Calibration Slope : 4.978360
 Energy Calibration Quadratic : 2.5058995E-04
 Energy Calibration Range : 7735.000

Instrument : CHAMBER 124
 Detector : 45-142V2
 Calibration Date/Time : 15-JUL-2009 13:45:05
 Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.701
NP-237	4341	2/28/10	4768.800	4768.518
CM-244	4320A	2/28/10	5795.020	5794.902

Energy/Channel Equation : see above
 Energy Calibration Zero : 2382.371
 Energy Calibration Slope : 5.018754
 Energy Calibration Quadratic : 2.4640319E-04
 Energy Calibration Range : 7780.000

Instrument : CHAMBER 125
 Detector : 75547
 Calibration Date/Time : 17-JUL-2009 14:23:54
 Calibration Source Id : AESS-013
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.386
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.165

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2338.781
 Energy Calibration Slope : 4.955306
 Energy Calibration Quadratic : 2.6291917E-04
 Energy Calibration Range : 7689.000

Instrument : CHAMBER 126
 Detector : 75548
 Calibration Date/Time : 17-JUL-2009 14:24:06
 Calibration Source Id : AESS-019
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.019

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2345.216
 Energy Calibration Slope : 5.042264
 Energy Calibration Quadratic : 1.8960494E-04
 Energy Calibration Range : 7707.000

Instrument : CHAMBER 127
 Detector : 78770
 Calibration Date/Time : 17-JUL-2009 14:24:19
 Calibration Source Id : AESS-014
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.168
 NP-237 4341 2/28/10 4768.800 4769.036
 CM-244 4320A 2/28/10 5795.020 5795.095

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2333.395
 Energy Calibration Slope : 4.961254
 Energy Calibration Quadratic : 2.6867207E-04
 Energy Calibration Range : 7695.000

Instrument : CHAMBER 128
 Detector : 75549
 Calibration Date/Time : 17-JUL-2009 14:24:31
 Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.449
NP-237	4341	2/28/10	4768.800	4769.095
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2323.424
 Energy Calibration Slope : 5.017115
 Energy Calibration Quadratic : 2.1570176E-04
 Energy Calibration Range : 7687.000

Instrument : CHAMBER 129
 Detector : 76227
 Calibration Date/Time : 17-JUL-2009 14:24:41
 Calibration Source Id : AESS-015

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.112
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2343.567
 Energy Calibration Slope : 4.949915
 Energy Calibration Quadratic : 2.7041257E-04
 Energy Calibration Range : 7696.000

Instrument : CHAMBER 130
 Detector : 76228
 Calibration Date/Time : 17-JUL-2009 14:24:51
 Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.758
NP-237	4341	2/28/10	4768.800	4768.607
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2336.361
 Energy Calibration Slope : 4.980415
 Energy Calibration Quadratic : 2.3134552E-04
 Energy Calibration Range : 7679.000

Instrument : CHAMBER 131
 Detector : 33448
 Calibration Date/Time : 17-JUL-2009 14:25:01
 Calibration Source Id : AESS-016

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.605
NP-237	4341	2/28/10	4768.800	4768.573
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.756
 Energy Calibration Slope : 4.931267
 Energy Calibration Quadratic : 3.1428930E-04
 Energy Calibration Range : 7768.000

Instrument : CHAMBER 132
 Detector : 67579
 Calibration Date/Time : 17-JUL-2009 14:25:11
 Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.074
NP-237	4341	2/28/10	4768.800	4765.688
CM-244	4320A	2/28/10	5795.020	5788.063

Energy/Channel Equation : see above
 Energy Calibration Zero : 2375.917
 Energy Calibration Slope : 5.056964
 Energy Calibration Quadratic : 2.6723032E-04
 Energy Calibration Range : 7834.000

Instrument : CHAMBER 133
 Detector : 76229
 Calibration Date/Time : 17-JUL-2009 14:25:22
 Calibration Source Id : AESS-017

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.235
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2304.280
 Energy Calibration Slope : 4.909981
 Energy Calibration Quadratic : 2.5969208E-04
 Energy Calibration Range : 7604.000

Instrument : CHAMBER 134
 Detector : 76230
 Calibration Date/Time : 17-JUL-2009 14:25:32
 Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.428
NP-237	4341	2/28/10	4768.800	4769.138
CM-244	4320A	2/28/10	5795.020	5795.114

Energy/Channel Equation : see above
 Energy Calibration Zero : 2323.771
 Energy Calibration Slope : 4.983015
 Energy Calibration Quadratic : 2.2696581E-04
 Energy Calibration Range : 7664.000

Instrument : CHAMBER 135
 Detector : 64270
 Calibration Date/Time : 17-JUL-2009 14:25:42
 Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.580
NP-237	4341	2/28/10	4768.800	4768.589
CM-244	4320A	2/28/10	5795.020	5794.911

Energy/Channel Equation : see above
 Energy Calibration Zero : 2342.408
 Energy Calibration Slope : 4.931945
 Energy Calibration Quadratic : 2.7902660E-04
 Energy Calibration Range : 7685.000

Instrument : CHAMBER 136
 Detector : 68549
 Calibration Date/Time : 17-JUL-2009 14:25:52
 Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.940
NP-237	4341	2/28/10	4768.800	4766.491
CM-244	4320A	2/28/10	5795.020	5789.976

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.642
 Energy Calibration Slope : 5.024161
 Energy Calibration Quadratic : 2.3099547E-04
 Energy Calibration Range : 7741.000

Instrument : CHAMBER 137
 Detector : 64288
 Calibration Date/Time : 17-JUL-2009 14:26:02
 Calibration Source Id : AESS-025

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.015
CM-244	4320A	2/28/10	5795.020	5795.229

Energy/Channel Equation : see above
 Energy Calibration Zero : 2378.044
 Energy Calibration Slope : 5.009023
 Energy Calibration Quadratic : 3.1443321E-04
 Energy Calibration Range : 7837.000

Instrument : CHAMBER 138
 Detector : 65877
 Calibration Date/Time : 17-JUL-2009 14:26:11
 Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2377.362
 Energy Calibration Slope : 4.981610
 Energy Calibration Quadratic : 2.9931843E-04
 Energy Calibration Range : 7792.000

Instrument : CHAMBER 139
 Detector : 76231
 Calibration Date/Time : 17-JUL-2009 14:26:21
 Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.896
CM-244	4320A	2/28/10	5795.020	5795.211

Energy/Channel Equation : see above
 Energy Calibration Zero : 2343.572
 Energy Calibration Slope : 4.954267
 Energy Calibration Quadratic : 2.9043874E-04
 Energy Calibration Range : 7721.000

Instrument : CHAMBER 140
 Detector : 78771
 Calibration Date/Time : 17-JUL-2009 14:26:31
 Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.831
CM-244	4320A	2/28/10	5795.020	5795.069

Energy/Channel Equation : see above
 Energy Calibration Zero : 2342.367
 Energy Calibration Slope : 4.948852
 Energy Calibration Quadratic : 3.0391497E-04
 Energy Calibration Range : 7729.000

Instrument : CHAMBER 141
 Detector : 76232
 Calibration Date/Time : 17-JUL-2009 14:26:40
 Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.179
NP-237	4341	2/28/10	4768.800	4768.885
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2351.966
 Energy Calibration Slope : 4.956621
 Energy Calibration Quadratic : 2.8871323E-04
 Energy Calibration Range : 7730.000

Instrument : CHAMBER 142
 Detector : 64261
 Calibration Date/Time : 17-JUL-2009 14:26:50
 Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.815
NP-237	4341	2/28/10	4768.800	4768.706
CM-244	4320A	2/28/10	5795.020	5794.924

Energy/Channel Equation : see above
 Energy Calibration Zero : 2381.651
 Energy Calibration Slope : 4.957265
 Energy Calibration Quadratic : 2.9752569E-04
 Energy Calibration Range : 7770.000

Instrument : CHAMBER 143
 Detector : 65882
 Calibration Date/Time : 17-JUL-2009 14:27:11
 Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3198.011
NP-237	4341	2/28/10	4768.800	4793.655
CM-244	4320A	2/28/10	5795.020	5843.728

Energy/Channel Equation : see above
 Energy Calibration Zero : 2400.594
 Energy Calibration Slope : 4.866200
 Energy Calibration Quadratic : 5.6703738E-04
 Energy Calibration Range : 7978.000

Instrument : CHAMBER 144
 Detector : 75551
 Calibration Date/Time : 17-JUL-2009 14:27:26
 Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.828
NP-237	4341	2/28/10	4768.800	4768.697
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2348.318
 Energy Calibration Slope : 4.957791
 Energy Calibration Quadratic : 2.7922410E-04
 Energy Calibration Range : 7718.000

Instrument : CHAMBER 145
 Detector : 72526
 Calibration Date/Time : 17-JUL-2009 14:27:37
 Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.094
NP-237	4341	2/28/10	4768.800	4768.886
CM-244	4320A	2/28/10	5795.020	5795.045

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.360
 Energy Calibration Slope : 4.971958
 Energy Calibration Quadratic : 2.8320373E-04
 Energy Calibration Range : 7742.000

Instrument : CHAMBER 146
 Detector : 72527
 Calibration Date/Time : 17-JUL-2009 14:27:48
 Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.175
NP-237	4341	2/28/10	4768.800	4768.922
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2350.571
 Energy Calibration Slope : 4.930733
 Energy Calibration Quadratic : 2.9194859E-04
 Energy Calibration Range : 7706.000

Instrument : CHAMBER 147
 Detector : 75550
 Calibration Date/Time : 17-JUL-2009 14:27:59
 Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.209
NP-237	4341	2/28/10	4768.800	4769.018
CM-244	4320A	2/28/10	5795.020	5795.333

Energy/Channel Equation : see above
 Energy Calibration Zero : 2343.476
 Energy Calibration Slope : 4.959011
 Energy Calibration Quadratic : 2.7492910E-04
 Energy Calibration Range : 7710.000

Instrument : CHAMBER 148
 Detector : 74429
 Calibration Date/Time : 17-JUL-2009 14:28:08
 Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.165
NP-237	4341	2/28/10	4768.800	4768.865
CM-244	4320A	2/28/10	5795.020	5795.167

Energy/Channel Equation : see above
 Energy Calibration Zero : 2342.407
 Energy Calibration Slope : 4.941724
 Energy Calibration Quadratic : 3.0098064E-04
 Energy Calibration Range : 7718.000

Instrument : CHAMBER 149
 Detector : 33449
 Calibration Date/Time : 17-JUL-2009 14:28:21
 Calibration Source Id : AESS-037

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.292
 Energy Calibration Slope : 4.935481
 Energy Calibration Quadratic : 3.1694383E-04
 Energy Calibration Range : 7775.000

Instrument : CHAMBER 150
 Detector : 75552
 Calibration Date/Time : 17-JUL-2009 14:28:35
 Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.748
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2354.055
 Energy Calibration Slope : 4.971218
 Energy Calibration Quadratic : 2.7575236E-04
 Energy Calibration Range : 7734.000

Instrument : CHAMBER 151
 Detector : 75556
 Calibration Date/Time : 17-JUL-2009 14:28:46
 Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.936
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2341.373
 Energy Calibration Slope : 4.941175
 Energy Calibration Quadratic : 2.6452926E-04
 Energy Calibration Range : 7679.000

Instrument : CHAMBER 152
 Detector : 76222
 Calibration Date/Time : 17-JUL-2009 14:28:57
 Calibration Source Id : AESS-044

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.140
NP-237	4341	2/28/10	4768.800	4768.855
CM-244	4320A	2/28/10	5795.020	5795.046

Energy/Channel Equation : see above
 Energy Calibration Zero : 2338.705
 Energy Calibration Slope : 4.955201
 Energy Calibration Quadratic : 2.6211896E-04
 Energy Calibration Range : 7688.000

Instrument : CHAMBER 153
 Detector : 76223
 Calibration Date/Time : 17-JUL-2009 14:29:06
 Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.045

Energy/Channel Equation : see above
 Energy Calibration Zero : 2333.099
 Energy Calibration Slope : 4.935291
 Energy Calibration Quadratic : 2.9876101E-04
 Energy Calibration Range : 7700.000

Instrument : CHAMBER 154
 Detector : 76224
 Calibration Date/Time : 17-JUL-2009 14:29:15
 Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.651
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2341.465
 Energy Calibration Slope : 4.948726
 Energy Calibration Quadratic : 2.8072123E-04
 Energy Calibration Range : 7703.000

Instrument : CHAMBER 155
 Detector : 75553
 Calibration Date/Time : 17-JUL-2009 14:29:25
 Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.160
NP-237	4341	2/28/10	4768.800	4768.857
CM-244	4320A	2/28/10	5795.020	5795.116

Energy/Channel Equation : see above
 Energy Calibration Zero : 2365.986
 Energy Calibration Slope : 4.960846
 Energy Calibration Quadratic : 3.0533157E-04
 Energy Calibration Range : 7766.000

Instrument : CHAMBER 156
 Detector : 75554
 Calibration Date/Time : 17-JUL-2009 14:29:35
 Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.180
NP-237	4341	2/28/10	4768.800	4768.829
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2358.748
 Energy Calibration Slope : 4.995668
 Energy Calibration Quadratic : 2.7021556E-04
 Energy Calibration Range : 7758.000

Instrument : CHAMBER 157
 Detector : 75555
 Calibration Date/Time : 17-JUL-2009 14:29:49
 Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.132
NP-237	4341	2/28/10	4768.800	4768.802
CM-244	4320A	2/28/10	5795.020	5795.161

Energy/Channel Equation : see above
 Energy Calibration Zero : 2355.714
 Energy Calibration Slope : 4.974587
 Energy Calibration Quadratic : 2.8556405E-04
 Energy Calibration Range : 7749.000

Instrument : CHAMBER 158
 Detector : 33451
 Calibration Date/Time : 17-JUL-2009 14:30:01
 Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.110
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2380.269
 Energy Calibration Slope : 4.995139
 Energy Calibration Quadratic : 3.1028705E-04
 Energy Calibration Range : 7821.000

Instrument : CHAMBER 159
 Detector : 76225
 Calibration Date/Time : 17-JUL-2009 14:30:14
 Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.190
NP-237	4341	2/28/10	4768.800	4768.913
CM-244	4320A	2/28/10	5795.020	5795.044

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.142
 Energy Calibration Slope : 4.981561
 Energy Calibration Quadratic : 2.9250194E-04
 Energy Calibration Range : 7761.000

Instrument : CHAMBER 160
 Detector : 76226
 Calibration Date/Time : 17-JUL-2009 14:30:32
 Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.999
NP-237	4341	2/28/10	4768.800	4768.958
CM-244	4320A	2/28/10	5795.020	5795.070

Energy/Channel Equation : see above
 Energy Calibration Zero : 2355.931
 Energy Calibration Slope : 4.980661
 Energy Calibration Quadratic : 2.9644801E-04
 Energy Calibration Range : 7767.000

Instrument : CHAMBER 161
 Detector : 70321
 Calibration Date/Time : 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 : 23-JUL-2009 13:58:45
 Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.999
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 : 2365.388
 Energy Calibration Slope : 4.934335
 Energy Calibration Quadratic : 2.9240557E-04
 Energy Calibration Range : 7725.000

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 : 23-JUL-2009 13:59:49
 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 4768.798
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2382.046
 Energy Calibration Slope : 4.917411
 Energy Calibration Quadratic : 3.3011474E-04
 Energy Calibration Range : 7764.000

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 : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.679	3298.848	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.698	4905.866	9.000000	2.159999	33.33334	95.00000
CM-244	5535.874	5884.629	8.000000	1.919999	35.35534	95.00000

Instrument : CHAMBER 002
 Detector : 78266
 Background Analysis Date/Time : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.715	3301.971	9.000000	2.159999	33.33334	95.00000
NP-237	4433.336	4902.576	8.000000	1.919999	35.35534	95.00000
CM-244	5533.904	5882.845	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 003
 Detector : 67617
 Background Analysis Date/Time : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.494	3301.750	234063.0	56175.08	0.2066967	95.00000
NP-237	4434.514	4906.213	77237.00	18536.87	0.3598217	95.00000
CM-244	5534.317	5886.218	1459.000	350.1598	2.618016	95.00000

Instrument : CHAMBER 004
 Detector : 64279
 Background Analysis Date/Time : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.142	3301.855	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.122	4905.061	9.000000	2.159999	33.33334	95.00000
CM-244	5532.169	5885.896	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 005
 Detector : 67612
 Background Analysis Date/Time : 26-JUL-2009 16:47:47
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.963	3299.690	5.000000	1.200000	44.72136	95.00000
NP-237	4435.814	4905.115	6.000000	1.440000	40.82483	95.00000
CM-244	5534.094	5883.857	9.000000	2.160001	33.33334	95.00000

Instrument : CHAMBER 006
 Detector : 67613
 Background Analysis Date/Time : 26-JUL-2009 16:47:47
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.395	3299.193	3.000000	0.7200001	57.73503	95.00000
NP-237	4433.513	4905.230	7.000000	1.680000	37.79645	95.00000
CM-244	5530.459	5883.505	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 007
 Detector : 67607
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.476	3300.975	5.000000	1.199999	44.72136	95.00000
NP-237	4436.790	4906.439	13.00000	3.119998	27.73501	95.00000
CM-244	5534.241	5887.079	16.00000	3.839998	25.00000	95.00000

Instrument : CHAMBER 008
 Detector : 78788
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.921	3300.406	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.107	4902.387	10.00000	2.399998	31.62278	95.00000
CM-244	5534.594	5883.502	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 009
 Detector : 72528
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.628	3299.090	3.000000	0.7199996	57.73503	95.00000
NP-237	4437.197	4904.633	13.000000	3.119998	27.73501	95.00000
CM-244	5532.440	5887.594	10.000000	2.399998	31.62278	95.00000

Instrument : CHAMBER 010
 Detector : 72529
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.348	3298.595	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.835	4903.545	8.000000	1.919999	35.35534	95.00000
CM-244	5530.435	5886.972	9.000000	2.159999	33.33334	95.00000

Instrument : CHAMBER 011
 Detector : 72531
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.311	3301.519	2.000000	0.4799997	70.71068	95.00000
NP-237	4434.837	4904.180	7.000000	1.679999	37.79645	95.00000
CM-244	5534.270	5885.159	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 012
 Detector : 67594
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.530	3302.430	7.000000	1.679999	37.79645	95.00000
NP-237	4435.245	4904.394	9.000000	2.159999	33.33334	95.00000
CM-244	5531.663	5882.971	9.000000	2.159999	33.33334	95.00000

Instrument : CHAMBER 013
 Detector : 78790
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.215	3297.934	1.000000	0.2400001	100.0000	95.00000
NP-237	4433.681	4905.322	9.000000	2.160001	33.33334	95.00000
CM-244	5534.510	5884.075	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 014
 Detector : 67616
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.044	3301.205	4.000000	0.9600002	50.00000	95.00000
NP-237	4432.568	4904.459	8.000000	1.920000	35.35534	95.00000
CM-244	5531.132	5885.588	19.00000	4.560001	22.94157	95.00000

Instrument : CHAMBER 015
 Detector : 61581
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.992	3300.634	1.000000	0.2400001	100.0000	95.00000
NP-237	4433.750	4904.866	3.000000	0.7200001	57.73503	95.00000
CM-244	5533.850	5883.539	18.00000	4.320001	23.57022	95.00000

Instrument : CHAMBER 016
 Detector : 78774
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.376	3300.188	2.000000	0.4800001	70.71068	95.00000
NP-237	4436.705	4902.519	8.000000	1.920000	35.35534	95.00000
CM-244	5531.791	5887.203	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 017
 Detector : 78791
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.293	3301.593	4.000000	0.9600002	50.00000	95.00000
NP-237	4433.438	4905.522	3.000000	0.7200001	57.73503	95.00000
CM-244	5532.444	5887.037	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 018
 Detector : 21063
 Background Analysis Date/Time : 13-JUL-2009 21:54:51
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.459	3300.768	2.000000	0.4800001	70.71068	95.00000
NP-237	4435.720	4903.495	7.000000	1.680000	37.79645	95.00000
CM-244	5531.358	5886.349	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 019
 Detector : 78786
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.589	3299.131	2.000000	0.4800001	70.71068	95.00000
NP-237	4435.520	4903.560	5.000000	1.200000	44.72136	95.00000
CM-244	5534.981	5882.589	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 020
 Detector : 78787
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.028	3300.317	3.000000	0.7200001	57.73503	95.00000
NP-237	4434.663	4901.954	7.000000	1.680000	37.79645	95.00000
CM-244	5534.316	5883.376	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 021
 Detector : 67047
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.930	3300.431	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.207	4905.011	8.000000	1.920000	35.35534	95.00000
CM-244	5533.018	5884.673	17.00000	4.080001	24.25356	95.00000

Instrument : CHAMBER 022
 Detector : 72530
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.087	3302.012	33.00000	7.920002	17.40777	95.00000
NP-237	4436.701	4902.154	23.00000	5.520001	20.85144	95.00000
CM-244	5532.124	5885.279	12.00000	2.880001	28.86751	95.00000

Instrument : CHAMBER 023
 Detector : 78264
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.041	3300.395	2.000000	0.4800001	70.71068	95.00000
NP-237	4437.054	4904.602	10.00000	2.400001	31.62278	95.00000
CM-244	5531.351	5885.314	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 024
 Detector : 76542
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.294	3302.013	10.00000	2.400001	31.62278	95.00000
NP-237	4435.963	4904.774	26.00000	6.240001	19.61161	95.00000
CM-244	5530.886	5886.529	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 025
 Detector : 45-149AA5
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.683	3301.317	3.000000	0.7200001	57.73503	95.00000
NP-237	4432.505	4905.964	7.000000	1.680000	37.79645	95.00000
CM-244	5531.275	5884.228	21.00000	5.040001	21.82179	95.00000

Instrument : CHAMBER 026
 Detector : 78204
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.261	3299.610	2.000000	0.4800001	70.71068	95.00000
NP-237	4434.923	4901.784	5.000000	1.200000	44.72136	95.00000
CM-244	5534.672	5884.552	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 027
 Detector : 42484
 Background Analysis Date/Time : 22-JUL-2009 21:43:06
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.447	3298.118	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.441	4905.996	3.000000	0.7199996	57.73503	95.00000
CM-244	5535.248	5885.925	3.000000	0.7199996	57.73503	95.00000

Instrument : CHAMBER 028
 Detector : 78792
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.695	3297.894	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.454	4902.851	4.000000	0.9600002	50.00000	95.00000
CM-244	5530.764	5886.057	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 029
 Detector : 33454
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.570	3299.793	4.000000	0.9600002	50.00000	95.00000
NP-237	4434.729	4906.466	6.000000	1.440000	40.82483	95.00000
CM-244	5530.876	5886.187	7.000000	1.680000	37.79645	95.00000

Instrument : CHAMBER 030
 Detector : 33447
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.473	3300.013	5.000000	1.200000	44.72136	95.00000
NP-237	4433.021	4902.873	11.00000	2.640000	30.15113	95.00000
CM-244	5531.626	5884.032	17.00000	4.080001	24.25356	95.00000

Instrument : CHAMBER 031
 Detector : 67042
 Background Analysis Date/Time : 13-JUL-2009 21:54:52
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.104	3299.916	5.000000	1.200000	44.72136	95.00000
NP-237	4436.072	4902.901	16.00000	3.840001	25.00000	95.00000
CM-244	5535.417	5884.932	11.00000	2.640001	30.15113	95.00000

Instrument : CHAMBER 032
 Detector : 67041
 Background Analysis Date/Time : 13-JUL-2009 21:54:52
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.634	3297.499	1.000000	0.2400001	100.0000	95.00000
NP-237	4437.570	4904.884	14.00000	3.360001	26.72612	95.00000
CM-244	5533.522	5884.215	16.00000	3.840001	25.00000	95.00000

Instrument : CHAMBER 033
 Detector : 78785
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.591	3298.173	1.000000	0.2400000	100.0000	95.00000
NP-237	4434.089	4906.364	9.000000	2.160000	33.33334	95.00000
CM-244	5534.061	5883.941	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 034
 Detector : 61586
 Background Analysis Date/Time : 13-JUL-2009 21:54:52
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.268	3300.348	1.000000	0.2400001	100.0000	95.00000
NP-237	4435.287	4906.218	9.000000	2.160001	33.33334	95.00000
CM-244	5533.837	5886.701	12.00000	2.880001	28.86751	95.00000

Instrument : CHAMBER 035
 Detector : 78202
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.841	3298.805	1.000000	0.2400000	100.0000	95.00000
NP-237	4433.680	4901.942	20.00000	4.800001	22.36068	95.00000
CM-244	5530.913	5886.751	8.000000	1.920000	35.35534	95.00000

Instrument : CHAMBER 036
 Detector : 78203
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.719	3297.679	1.000000	0.2400000	100.0000	95.00000
NP-237	4436.454	4902.523	2.000000	0.4800001	70.71068	95.00000
CM-244	5534.221	5883.385	6.000000	1.440000	40.82483	95.00000

Instrument : CHAMBER 037
 Detector : 45-149BB5
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.027	3298.587	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.750	4902.017	14.00000	3.360001	26.72612	95.00000
CM-244	5535.521	5884.277	18.00000	4.320001	23.57022	95.00000

Instrument : CHAMBER 038
 Detector : 72532
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.665	3301.822	6.000000	1.440000	40.82483	95.00000
NP-237	4435.489	4906.553	18.00000	4.320001	23.57022	95.00000
CM-244	5532.401	5886.525	16.00000	3.840001	25.00000	95.00000

Instrument : CHAMBER 039
 Detector : 45-149BB2
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.145	3298.732	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.549	4903.088	5.000000	1.200000	44.72136	95.00000
CM-244	5534.287	5885.251	15.00000	3.600001	25.81989	95.00000

Instrument : CHAMBER 040
 Detector : 78773
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.803	3299.657	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.891	4904.106	7.000000	1.680000	37.79645	95.00000
CM-244	5531.706	5883.967	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 041
 Detector : 78205
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.799	3301.675	4.000000	0.9600002	50.00000	95.00000
NP-237	4434.272	4902.386	12.00000	2.880001	28.86751	95.00000
CM-244	5531.847	5882.877	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 042
 Detector : 78793
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.257	3302.160	1.000000	0.2400001	100.0000	95.00000
NP-237	4435.667	4904.225	11.00000	2.640001	30.15113	95.00000
CM-244	5531.759	5883.730	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 043
 Detector : 76543
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.989	3298.318	1.000000	0.2399998	100.0000	95.00000
NP-237	4436.983	4902.370	4.000000	0.9599994	50.00000	95.00000
CM-244	5532.584	5886.039	3.000000	0.7199996	57.73503	95.00000

Instrument : CHAMBER 044
 Detector : 79459
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.854	3300.902	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.084	4901.492	10.00000	2.400001	31.62278	95.00000
CM-244	5533.776	5883.326	6.000000	1.440000	40.82483	95.00000

Instrument : CHAMBER 045
 Detector : 67601
 Background Analysis Date/Time : 13-JUL-2009 21:54:53
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.909	3300.265	1.000000	0.2400000	100.0000	95.00000
NP-237	4434.212	4905.200	7.000000	1.680000	37.79645	95.00000
CM-244	5530.781	5884.673	1.000000	0.2400000	100.0000	95.00000

Instrument : CHAMBER 046
 Detector : 76544
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.077	3298.635	2.000000	0.4799997	70.71068	95.00000
NP-237	4433.627	4906.487	10.00000	2.399998	31.62278	95.00000
CM-244	5533.329	5885.134	8.000000	1.919999	35.35534	95.00000

Instrument : CHAMBER 047
 Detector : 46-089B1
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.977	3301.361	2.000000	0.4799997	70.71068	95.00000
NP-237	4433.363	4905.447	8.000000	1.919999	35.35534	95.00000
CM-244	5532.313	5886.846	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 048
 Detector : 42483
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.411	3301.246	4.000000	0.9599994	50.00000	95.00000
NP-237	4433.969	4903.143	12.00000	2.879998	28.86751	95.00000
CM-244	5530.501	5887.230	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 065
 Detector : 68551
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.172	3297.923	12.00000	2.879998	28.86751	95.00000
NP-237	4436.297	4904.907	10.00000	2.399998	31.62278	95.00000
CM-244	5532.615	5884.733	17.00000	4.079998	24.25356	95.00000

Instrument : CHAMBER 066
 Detector : 46-089C1
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.142	3300.807	4.000000	0.9599994	50.00000	95.00000
NP-237	4436.247	4906.352	9.000000	2.159999	33.33334	95.00000
CM-244	5534.784	5886.688	18.00000	4.319997	23.57022	95.00000

Instrument : CHAMBER 067
 Detector : 46-089B4
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.144	3301.594	1.000000	0.2399998	100.0000	95.00000
NP-237	4436.169	4905.946	11.00000	2.639998	30.15113	95.00000
CM-244	5533.963	5885.648	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 068
 Detector : 78794
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.601	3300.139	1.000000	0.2399998	100.0000	95.00000
NP-237	4435.756	4903.729	4.000000	0.9599994	50.00000	95.00000
CM-244	5531.794	5886.867	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 069
 Detector : 78795
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.901	3298.738	5.000000	1.199999	44.72136	95.00000
NP-237	4437.201	4903.207	6.000000	1.439999	40.82483	95.00000
CM-244	5534.874	5884.048	9.000000	2.159999	33.33334	95.00000

Instrument : CHAMBER 070
 Detector : 46-089B2
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.641	3300.492	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.833	4904.443	11.00000	2.639998	30.15113	95.00000
CM-244	5531.433	5882.799	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 071
 Detector : 64259
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.476	3301.614	1.000000	0.2399998	100.0000	95.00000
NP-237	4435.387	4902.436	6.000000	1.439999	40.82483	95.00000
CM-244	5534.462	5883.334	12.00000	2.879998	28.86751	95.00000

Instrument : CHAMBER 072
 Detector : 45-149AA3
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.586	3301.014	2.000000	0.4799997	70.71068	95.00000
NP-237	4432.963	4902.126	5.000000	1.199999	44.72136	95.00000
CM-244	5535.050	5886.750	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 073
 Detector : 78775
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.870	3299.007	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.703	4904.982	6.000000	1.439999	40.82483	95.00000
CM-244	5532.962	5884.931	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 074
 Detector : 78266
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.625	3300.254	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.417	4902.858	9.000000	2.159999	33.33334	95.00000
CM-244	5535.258	5884.259	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 075
 Detector : 68550
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.563	3301.861	2.000000	0.4799997	70.71068	95.00000
NP-237	4432.969	4904.420	19.00000	4.559997	22.94157	95.00000
CM-244	5535.562	5884.044	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 076
 Detector : 78779
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.408	3300.679	2.000000	0.4799997	70.71068	95.00000
NP-237	4437.552	4904.251	7.000000	1.679999	37.79645	95.00000
CM-244	5530.870	5885.252	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 077
 Detector : 67576
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.825	3301.085	2.000000	0.4800001	70.71068	95.00000
NP-237	4432.612	4901.681	5.000000	1.200000	44.72136	95.00000
CM-244	5534.546	5886.248	8.000000	1.920000	35.35534	95.00000

Instrument : CHAMBER 078
 Detector : 67577
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.395	3299.584	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.349	4904.419	5.000000	1.200000	44.72136	95.00000
CM-244	5535.593	5884.350	7.000000	1.680000	37.79645	95.00000

Instrument : CHAMBER 079
 Detector : 67598
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.535	3297.935	1.000000	0.2400000	100.0000	95.00000
NP-237	4435.153	4903.332	3.000000	0.7200001	57.73503	95.00000
CM-244	5530.500	5882.333	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 080
 Detector : 78197
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.338	3298.189	3.000000	0.7200001	57.73503	95.00000
NP-237	4434.851	4901.472	10.00000	2.400000	31.62278	95.00000
CM-244	5531.493	5883.930	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 081
 Detector : 72533
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2985.980	3302.417	1.000000	0.2400000	100.0000	95.00000
NP-237	4432.287	4905.979	5.000000	1.200000	44.72136	95.00000
CM-244	5534.795	5885.572	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 082
 Detector : 64263
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.419	3298.608	1.000000	0.2400000	100.0000	95.00000
NP-237	4437.000	4905.115	7.000000	1.680000	37.79645	95.00000
CM-244	5534.320	5885.085	9.000000	2.160000	33.33334	95.00000

Instrument : CHAMBER 083
 Detector : 64278
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.455	3299.407	2.000000	0.4800001	70.71068	95.00000
NP-237	4433.838	4906.607	13.00000	3.120001	27.73501	95.00000
CM-244	5532.253	5885.057	13.00000	3.120001	27.73501	95.00000

Instrument : CHAMBER 084
 Detector : 78265
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.133	3299.227	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.289	4901.844	8.000000	1.920000	35.35534	95.00000
CM-244	5535.275	5884.618	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 085
 Detector : 78776
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.612	3299.207	2.000000	0.4800001	70.71068	95.00000
NP-237	4434.183	4901.520	9.000000	2.160001	33.33334	95.00000
CM-244	5533.754	5882.654	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 086
 Detector : 78198
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.886	3300.091	3.000000	0.7200001	57.73503	95.00000
NP-237	4433.582	4903.927	6.000000	1.440000	40.82483	95.00000
CM-244	5531.751	5882.863	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 087
 Detector : 78199
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.385	3299.009	4.000000	0.9600002	50.00000	95.00000
NP-237	4436.772	4904.542	10.00000	2.400001	31.62278	95.00000
CM-244	5534.083	5883.178	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 088
 Detector : 33452
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.970	3298.296	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.463	4902.334	8.000000	1.920000	35.35534	95.00000
CM-244	5534.583	5887.587	9.000000	2.160001	33.33334	95.00000

Instrument : CHAMBER 089
 Detector : 78262
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.075	3297.767	4.000000	0.9599994	50.00000	95.00000
NP-237	4432.406	4901.978	7.000000	1.679999	37.79645	95.00000
CM-244	5532.097	5882.869	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 090
 Detector : 78263
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.462	3300.982	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.552	4903.775	8.000000	1.919999	35.35534	95.00000
CM-244	5532.754	5885.804	3.000000	0.7199996	57.73503	95.00000

Instrument : CHAMBER 091
 Detector : 78259
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.268	3298.949	1.000000	0.2399998	100.0000	95.00000
NP-237	4433.436	4901.824	7.000000	1.679999	37.79645	95.00000
CM-244	5531.214	5887.413	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 092
 Detector : 79457
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.198	3300.849	49.00000	11.75999	14.28572	95.00000
NP-237	4435.896	4905.687	19.00000	4.559997	22.94157	95.00000
CM-244	5533.567	5885.099	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 093
 Detector : 33206
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.963	3299.960	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.063	4902.978	9.000000	2.159999	33.33334	95.00000
CM-244	5531.085	5883.424	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 094
 Detector : 78267
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.912	3298.303	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.971	4905.664	4.000000	0.9599994	50.00000	95.00000
CM-244	5534.211	5886.502	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 095
 Detector : 64279
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.056	3301.826	3.000000	0.7199996	57.73503	95.00000
NP-237	4435.330	4905.275	10.00000	2.399998	31.62278	95.00000
CM-244	5534.057	5886.430	24.00000	5.759996	20.41241	95.00000

Instrument : CHAMBER 096
 Detector : 67605
 Background Analysis Date/Time : 8-JUL-2009 15:03:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.311	3298.177	2.000000	0.4799997	70.71068	95.00000
NP-237	4434.251	4906.198	29.00000	6.959996	18.56953	95.00000
CM-244	5533.120	5882.408	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 097
 Detector : 67599
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.746	3302.068	2.000000	0.4799997	70.71068	95.00000
NP-237	4437.101	4903.794	1.000000	0.2399998	100.0000	95.00000
CM-244	5531.052	5886.116	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 098
 Detector : 68644
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.589	3298.128	1.000000	0.2399998	100.0000	95.00000
NP-237	4432.836	4901.640	12.00000	2.879998	28.86751	95.00000
CM-244	5531.873	5883.257	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 099
 Detector : 70317
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.876	3301.163	3.000000	0.7199996	57.73503	95.00000
NP-237	4434.526	4903.945	4.000000	0.9599994	50.00000	95.00000
CM-244	5533.432	5886.885	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 100
 Detector : 79456
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.287	3297.799	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.422	4905.631	13.00000	3.119998	27.73501	95.00000
CM-244	5534.572	5887.590	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 101
 Detector : 64253
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.433	3299.297	2.000000	0.4800001	70.71068	95.00000
NP-237	4436.714	4901.796	4.000000	0.9600002	50.00000	95.00000
CM-244	5531.777	5885.188	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 102
 Detector : 72525
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.102	3300.657	3.000000	0.7200001	57.73503	95.00000
NP-237	4432.858	4904.949	7.000000	1.680000	37.79645	95.00000
CM-244	5531.106	5882.690	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 103
 Detector : 79461
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.996	3300.314	1.000000	0.2400000	100.0000	95.00000
NP-237	4436.805	4901.981	2.000000	0.4800001	70.71068	95.00000
CM-244	5532.506	5886.425	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 104
 Detector : 72524
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.719	3300.868	1.000000	0.2400000	100.0000	95.00000
NP-237	4437.132	4904.901	12.00000	2.880001	28.86751	95.00000
CM-244	5531.506	5883.017	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 105
 Detector : 78777
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.574	3300.708	1.000000	0.2400000	100.0000	95.00000
NP-237	4435.406	4903.467	4.000000	0.9600002	50.00000	95.00000
CM-244	5531.275	5883.854	1.000000	0.2400000	100.0000	95.00000

Instrument : CHAMBER 106
 Detector : 64274
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.941	3301.958	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.855	4902.069	6.000000	1.440000	40.82483	95.00000
CM-244	5534.023	5883.359	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 107
 Detector : 67578
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.523	3301.257	5.000000	1.199999	44.72136	95.00000
NP-237	4435.381	4903.438	5.000000	1.199999	44.72136	95.00000
CM-244	5532.229	5882.600	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 108
 Detector : 78778
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.937	3298.136	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.160	4903.491	6.000000	1.439999	40.82483	95.00000
CM-244	5531.067	5883.227	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 109
 Detector : 79463
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.195	3299.997	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.631	4906.161	7.000000	1.679999	37.79645	95.00000
CM-244	5531.938	5886.333	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 110
 Detector : 67602
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.370	3301.157	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.284	4904.992	4.000000	0.9599993	50.00000	95.00000
CM-244	5535.250	5883.287	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 111
 Detector : 79462
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.820	3300.305	5.000000	1.199999	44.72136	95.00000
NP-237	4436.744	4905.500	6.000000	1.439999	40.82483	95.00000
CM-244	5535.002	5885.661	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4433.404	4902.114	4.000000	1.200000	50.00000	95.00000
CM-244	5533.832	5884.575	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 128
 Detector : 75549
 Background Analysis Date/Time : 12-JUL-2009 18:15:48
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.441	3299.762	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.479	4901.607	5.000000	1.500000	44.72136	95.00000
CM-244	5532.807	5882.614	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 129
 Detector : 76227
 Background Analysis Date/Time : 12-JUL-2009 18:15:53
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.626	3298.866	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.006	4901.792	4.000000	1.200000	50.00000	95.00000
CM-244	5532.320	5882.430	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 130
 Detector : 76228
 Background Analysis Date/Time : 12-JUL-2009 18:15:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.724	3301.129	4.000000	1.200000	50.00000	95.00000
NP-237	4432.733	4905.256	8.000000	2.400000	35.35534	95.00000
CM-244	5534.221	5882.991	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 131
 Detector : 33448
 Background Analysis Date/Time : 12-JUL-2009 18:16:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.041	3301.703	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.470	4901.500	6.000000	1.800000	40.82483	95.00000
CM-244	5535.040	5887.344	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 132
 Detector : 67579
 Background Analysis Date/Time : 12-JUL-2009 18:16:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.722	3299.982	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.189	4902.037	8.000000	2.400000	35.35534	95.00000
CM-244	5533.193	5884.042	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 133
 Detector : 76229
 Background Analysis Date/Time : 12-JUL-2009 18:16:11
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.784	3301.677	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.798	4901.797	5.000000	1.500000	44.72136	95.00000
CM-244	5532.072	5884.338	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 134
 Detector : 76230
 Background Analysis Date/Time : 12-JUL-2009 18:16:16
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.526	3299.017	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.982	4903.287	19.00000	5.700000	22.94157	95.00000
CM-244	5532.080	5886.000	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 135
 Detector : 64270
 Background Analysis Date/Time : 12-JUL-2009 18:16:20
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.277	3299.628	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.221	4904.200	5.000000	1.500000	44.72136	95.00000
CM-244	5533.869	5883.613	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 136
 Detector : 68549
 Background Analysis Date/Time : 12-JUL-2009 18:16:24
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.353	3301.238	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.739	4902.455	15.00000	4.500000	25.81989	95.00000
CM-244	5530.869	5887.561	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 137
 Detector : 64288
 Background Analysis Date/Time : 12-JUL-2009 18:16:27
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.740	3300.102	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.224	4902.644	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.374	5886.101	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 138
 Detector : 65877
 Background Analysis Date/Time : 12-JUL-2009 18:16:31
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.573	3299.020	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.563	4906.044	32.00000	9.600000	17.67767	95.00000
CM-244	5532.867	5887.098	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 139
 Detector : 76231
 Background Analysis Date/Time : 12-JUL-2009 18:16:35
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.505	3300.432	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.030	4903.806	6.000000	1.800000	40.82483	95.00000
CM-244	5532.176	5884.231	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 140
 Detector : 78771
 Background Analysis Date/Time : 12-JUL-2009 18:16:39
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.854	3298.685	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.882	4903.279	10.00000	3.000000	31.62278	95.00000
CM-244	5532.806	5885.667	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 141
 Detector : 76232
 Background Analysis Date/Time : 12-JUL-2009 18:16:43
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.144	3299.081	4.000000	1.200000	50.00000	95.00000
NP-237	4432.714	4902.455	11.00000	3.300000	30.15113	95.00000
CM-244	5530.738	5882.724	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 142
 Detector : 64261
 Background Analysis Date/Time : 12-JUL-2009 18:16:47
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.865	3298.794	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.947	4903.147	17.00000	5.100000	24.25356	95.00000
CM-244	5532.255	5884.805	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 143
 Detector : 65882
 Background Analysis Date/Time : 12-JUL-2009 18:16:51
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.701	3299.952	4.000000	1.200000	50.00000	95.00000
NP-237	4432.480	4904.917	14.00000	4.200000	26.72612	95.00000
CM-244	5535.542	5887.375	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 144
 Detector : 75551
 Background Analysis Date/Time : 12-JUL-2009 18:16:55
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.490	3300.379	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.137	4902.257	6.000000	1.800000	40.82483	95.00000
CM-244	5534.787	5886.106	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 145
 Detector : 72526
 Background Analysis Date/Time : 12-JUL-2009 18:16:59
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.366	3298.098	0.000000E+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	11.000000	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 : 19-JUL-2009 13:08:36
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.757	3298.334	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.446	4905.658	4.000000	1.200000	50.00000	95.00000
CM-244	5531.781	5882.612	3.000000	0.9000000	57.73503	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	19.000000	5.700000	22.94157	95.00000
CM-244	5534.127	5886.809	10.000000	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 : 19-JUL-2009 13:09:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.882	3298.026	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.930	4902.295	20.00000	6.000000	22.36068	95.00000
CM-244	5531.111	5883.897	12.00000	3.600000	28.86751	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	0.000000E+00	0.000000E+00	0.000000E+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	0.0000000E+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 : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:30:47
 Average Efficiency : 0.2968604
 Average Efficiency Error : 8.1920959E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2988.679	3298.848	14368.00	0.2905553	1.2499626E-02	54.37264
NP-237	171.0024	28-FEB-2010	4436.698	4905.866	12378.00	0.3015518	1.5319364E-02	65.40276
CM-244	158.1060	28-FEB-2010	5535.874	5884.629	10862.00	0.3016641	1.5358537E-02	54.23344

Instrument : CHAMBER 002
 Detector : 78266
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:31:01
 Average Efficiency : 0.3091908
 Average Efficiency Error : 8.5140709E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2987.715	3301.971	14528.00	0.3063232	1.3175298E-02	49.84956
NP-237	200.4990	28-FEB-2010	4433.336	4902.576	15147.00	0.3147377	1.5943376E-02	61.42959
CM-244	196.5558	28-FEB-2010	5533.904	5882.845	13779.00	0.3078977	1.5616762E-02	53.40513

Instrument : CHAMBER 003
 Detector : 67617
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 1-JUL-2009 14:34:18
 Average Efficiency : 0.3600250
 Average Efficiency Error : 1.0207428E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2989.494	3301.750	51088.00	0.5304641	2.2688475E-02	17.25958
NP-237	203.2080	28-FEB-2010	4434.514	4906.213	23507.00	0.2944960	1.5031389E-02	23.33439
CM-244	197.2236	28-FEB-2010	5534.317	5886.218	303.0000	0.3473051	1.7597629E-02	23.27553

Instrument : CHAMBER 004
 Detector : 64279
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:31:14
 Average Efficiency : 0.3320934
 Average Efficiency Error : 9.1318591E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2991.142	3301.855	16052.00	0.3286779	1.4111746E-02	51.04387
NP-237	204.2586	28-FEB-2010	4434.122	4905.061	16497.00	0.3364784	1.7026719E-02	57.46174
CM-244	198.8100	28-FEB-2010	5532.169	5885.896	15051.00	0.3326688	1.6853061E-02	54.96896

Instrument : CHAMBER 005
 Detector : 67612
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 28-JUL-2009 08:29:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 28-JUL-2009 13:16:04
 Average Efficiency : 0.2949482
 Average Efficiency Error : 8.1221173E-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	2987.963	3299.690	14593.00	0.2923914	1.2575096E-02	47.61151
NP-237	209.5938	28-FEB-2010	4435.814	4905.115	15008.00	0.2983264	1.5113835E-02	68.97178
CM-244	202.7478	28-FEB-2010	5534.094	5883.857	13593.00	0.2952577	1.4978610E-02	53.44432

Instrument : CHAMBER 006
 Detector : 67613
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 28-JUL-2009 08:29:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 28-JUL-2009 13:16:33
 Average Efficiency : 0.3152152
 Average Efficiency Error : 8.6775627E-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	2989.395	3299.193	14889.00	0.3086578	1.3269765E-02	52.22050
NP-237	204.7038	28-FEB-2010	4433.513	4905.230	15484.00	0.3151368	1.5959116E-02	67.53505
CM-244	195.0060	28-FEB-2010	5530.459	5883.505	14409.00	0.3254324	1.6495980E-02	57.06753

Instrument : CHAMBER 007
 Detector : 67607
 Standard ID : AESS-007
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:31:52
 Average Efficiency : 0.2957362
 Average Efficiency Error : 8.1475200E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2987.476	3300.975	14142.00	0.2886904	1.2423181E-02	50.35310
NP-237	205.0260	28-FEB-2010	4436.790	4906.439	14907.00	0.3028864	1.5346253E-02	60.44886
CM-244	199.6806	28-FEB-2010	5534.241	5887.079	13602.00	0.2992603	1.5181582E-02	51.78771

Instrument : CHAMBER 008
 Detector : 78788
 Standard ID : AESS-008
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:01
 Average Efficiency : 0.3188090
 Average Efficiency Error : 8.7708440E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2990.921	3300.406	15479.00	0.3170527	1.3621154E-02	48.62412
NP-237	209.2716	28-FEB-2010	4435.107	4902.387	15876.00	0.3160491	1.6000355E-02	65.04717
CM-244	199.6488	28-FEB-2010	5534.594	5883.502	14733.00	0.3242763	1.6432470E-02	50.70723

Instrument : CHAMBER 009
 Detector : 72528
 Standard ID : AESS-009
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:10
 Average Efficiency : 0.3375995
 Average Efficiency Error : 9.2831012E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2990.628	3299.090	15971.00	0.3313866	1.4229259E-02	50.85649
NP-237	204.0192	28-FEB-2010	4437.197	4904.633	16709.00	0.3411832	1.7262230E-02	60.63605
CM-244	197.2128	28-FEB-2010	5532.440	5887.594	15414.00	0.3432376	1.7383220E-02	53.31252

Instrument : CHAMBER 010
 Detector : 72529
 Standard ID : AESS-010
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:19
 Average Efficiency : 0.3172926
 Average Efficiency Error : 8.7324297E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2991.348	3298.595	15125.00	0.3160139	1.3582063E-02	48.55328
NP-237	202.9926	28-FEB-2010	4434.835	4903.545	15667.00	0.3215450	1.6281251E-02	62.71636
CM-244	196.2330	28-FEB-2010	5530.435	5886.972	14067.00	0.3149689	1.5970867E-02	52.28595

Instrument : CHAMBER 011
 Detector : 72531
 Standard ID : AESS-011
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:29
 Average Efficiency : 0.2985433
 Average Efficiency Error : 8.2169101E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2991.311	3301.519	14980.00	0.2970565	1.2769507E-02	51.39855
NP-237	214.4868	28-FEB-2010	4434.837	4904.180	15445.00	0.3000057	1.5193330E-02	59.19451
CM-244	208.4184	28-FEB-2010	5534.270	5885.159	14191.00	0.2991836	1.5168598E-02	51.74621

Instrument : CHAMBER 012
 Detector : 67594
 Standard ID : AESS-012
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:37
 Average Efficiency : 0.2994599
 Average Efficiency Error : 8.2469108E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2989.530	3302.430	14453.00	0.2957655	1.2722428E-02	49.93941
NP-237	205.8930	28-FEB-2010	4435.245	4904.394	15165.00	0.3068516	1.5543667E-02	68.21289
CM-244	203.1954	28-FEB-2010	5531.663	5882.971	13767.00	0.2976886	1.5099200E-02	52.18476

Instrument : CHAMBER 013
 Detector : 78790
 Standard ID : AESS-013
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:45
 Average Efficiency : 0.3386290
 Average Efficiency Error : 9.3077216E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2992.215	3297.934	16446.00	0.3408228	1.4627260E-02	48.82562
NP-237	210.2526	28-FEB-2010	4433.681	4905.322	17035.00	0.3375474	1.7074423E-02	66.72312
CM-244	201.9108	28-FEB-2010	5534.510	5884.075	15472.00	0.3367262	1.7052578E-02	51.74340

Instrument : CHAMBER 014
 Detector : 67616
 Standard ID : AESS-014
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:56
 Average Efficiency : 0.3118280
 Average Efficiency Error : 8.5774874E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2988.044	3301.205	15708.00	0.3087174	1.3259654E-02	54.69494
NP-237	211.7160	28-FEB-2010	4432.568	4904.459	16091.00	0.3166406	1.6027654E-02	64.49153
CM-244	207.3882	28-FEB-2010	5531.132	5885.588	14716.00	0.3115681	1.5788864E-02	58.20748

Instrument : CHAMBER 015
 Detector : 61581
 Standard ID : AESS-015
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:33:12
 Average Efficiency : 0.3223390
 Average Efficiency Error : 8.8713039E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2990.992	3300.634	15182.00	0.3140531	1.3496879E-02	59.83858
NP-237	200.6460	28-FEB-2010	4433.750	4904.866	15926.00	0.3307087	1.6741820E-02	75.43053
CM-244	195.9270	28-FEB-2010	5533.850	5883.539	14567.00	0.3266208	1.6553897E-02	63.39113

Instrument : CHAMBER 016
 Detector : 78774
 Standard ID : AESS-016
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:33:38
 Average Efficiency : 0.3364573
 Average Efficiency Error : 9.2521459E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2991.376	3300.188	16062.00	0.3322090	1.4263208E-02	47.94983
NP-237	199.3962	28-FEB-2010	4436.705	4902.519	16457.00	0.3438525	1.7400362E-02	59.25246
CM-244	198.6402	28-FEB-2010	5531.791	5887.203	15163.00	0.3354346	1.6991531E-02	53.20901

Instrument : CHAMBER 017
 Detector : 78791
 Standard ID : AESS-017
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:33:47
 Average Efficiency : 0.2933579
 Average Efficiency Error : 8.0790650E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2988.293	3301.593	14424.00	0.2897618	1.2464617E-02	48.04712
NP-237	208.5846	28-FEB-2010	4433.438	4905.522	14920.00	0.2980264	1.5099768E-02	63.18722
CM-244	205.5828	28-FEB-2010	5532.444	5887.037	13752.00	0.2939516	1.4909811E-02	52.23705

Instrument : CHAMBER 018
 Detector : 21063
 Standard ID : AESS-018
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:40
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:05
 Average Efficiency : 0.3223269
 Average Efficiency Error : 8.8674370E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2991.459	3300.768	15427.00	0.3220896	1.3838380E-02	41.77474
NP-237	208.8990	28-FEB-2010	4435.720	4903.495	16011.00	0.3193196	1.6164232E-02	59.35002
CM-244	198.1458	28-FEB-2010	5531.358	5886.349	14679.00	0.3258023	1.6510617E-02	49.83286

Instrument : CHAMBER 019
 Detector : 78786
 Standard ID : AESS-019
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:03
 Average Efficiency : 0.2886755
 Average Efficiency Error : 7.9575144E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2991.589	3299.131	13636.00	0.2811793	1.2108484E-02	45.78609
NP-237	202.9140	28-FEB-2010	4435.520	4903.560	14455.00	0.2967967	1.5043795E-02	63.86615
CM-244	199.3140	28-FEB-2010	5534.981	5882.589	13252.00	0.2920234	1.4819912E-02	48.96563

Instrument : CHAMBER 020
 Detector : 78787
 Standard ID : AESS-020
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:12
 Average Efficiency : 0.3430721
 Average Efficiency Error : 9.4324267E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2991.028	3300.317	16260.00	0.3337892	1.4328116E-02	49.41795
NP-237	203.4984	28-FEB-2010	4434.663	4901.954	17092.00	0.3499276	1.7699974E-02	68.09825
CM-244	197.1096	28-FEB-2010	5534.316	5883.376	15719.00	0.3504178	1.7742448E-02	47.75075

Instrument : CHAMBER 021
 Detector : 67047
 Standard ID : AESS-021
 Standard Reference Date : 19-FEB-2008 15:31:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:21
 Average Efficiency : 0.3007418
 Average Efficiency Error : 8.2816491E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2991.930	3300.431	14520.00	0.2940652	1.2648145E-02	54.30077
NP-237	210.1548	28-FEB-2010	4435.207	4905.011	15253.00	0.3023781	1.5315918E-02	63.06406
CM-244	200.7390	28-FEB-2010	5533.018	5884.673	14140.00	0.3092899	1.5681855E-02	54.78833

Instrument : CHAMBER 022
 Detector : 72530
 Standard ID : AESS-022
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:44
 Average Efficiency : 0.3177471
 Average Efficiency Error : 8.7433932E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.087	3302.012	15372.00	0.3092707	1.3288673E-02	50.08852
NP-237	206.8830	28-FEB-2010	4436.701	4902.154	16304.00	0.3282550	1.6613014E-02	63.36660
CM-244	203.0208	28-FEB-2010	5532.124	5885.279	14804.00	0.3203634	1.6233236E-02	52.02282

Instrument : CHAMBER 023
 Detector : 78264
 Standard ID : AESS-023
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:52
 Average Efficiency : 0.3327100
 Average Efficiency Error : 9.1472948E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.041	3300.395	16228.00	0.3301035	1.4170360E-02	46.67713
NP-237	207.4998	28-FEB-2010	4437.054	4904.602	16550.00	0.3322816	1.6813723E-02	63.18299
CM-244	199.8804	28-FEB-2010	5531.351	5885.314	15327.00	0.3369316	1.7065044E-02	50.76911

Instrument : CHAMBER 024
 Detector : 76542
 Standard ID : AESS-024
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:01
 Average Efficiency : 0.3278600
 Average Efficiency Error : 9.0207923E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2988.294	3302.013	15351.00	0.3182911	1.3676404E-02	53.01509
NP-237	205.6662	28-FEB-2010	4435.963	4904.774	16397.00	0.3320666	1.6804798E-02	66.65491
CM-244	198.3060	28-FEB-2010	5530.886	5886.529	15278.00	0.3385208	1.7146233E-02	56.84327

Instrument : CHAMBER 025
 Detector : 45-149AA5
 Standard ID : AESS-025
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:10
 Average Efficiency : 0.3244141
 Average Efficiency Error : 8.9428928E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.683	3301.317	15182.00	0.3276230	1.4080081E-02	58.08860
NP-237	167.9916	28-FEB-2010	4432.505	4905.964	12934.00	0.3207583	1.6284095E-02	71.50992
CM-244	157.2432	28-FEB-2010	5531.275	5884.228	11591.00	0.3237635	1.6465405E-02	65.55542

Instrument : CHAMBER 026
 Detector : 78204
 Standard ID : AESS-026
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:19
 Average Efficiency : 0.3149063
 Average Efficiency Error : 9.2313625E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2992.261	3299.610	15024.00	0.3178152	1.6101750E-02	48.28163
NP-237	168.0294	28-FEB-2010	4434.923	4901.784	12780.00	0.3168793	1.6090054E-02	60.42010
CM-244	160.5822	28-FEB-2010	5534.672	5884.552	11338.00	0.3102135	1.5781984E-02	48.50001

Instrument : CHAMBER 027
 Detector : 42484
 Standard ID : AESS-027
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 24-JUL-2009 08:07:28
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 24-JUL-2009 13:43:22
 Average Efficiency : 0.3412640
 Average Efficiency Error : 1.0000055E-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	2989.447	3298.118	15426.00	0.3367459	1.7055135E-02	44.71416
NP-237	161.6154	28-FEB-2010	4432.441	4905.996	13155.00	0.3391359	1.7212695E-02	71.77612
CM-244	148.1754	28-FEB-2010	5535.248	5885.925	11727.00	0.3483921	1.7714251E-02	48.91441

Instrument : CHAMBER 028
 Detector : 78792
 Standard ID : AESS-028
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:37
 Average Efficiency : 0.3059801
 Average Efficiency Error : 8.9743091E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2989.695	3297.894	14335.00	0.3030114	1.5361304E-02	46.74673
NP-237	168.1992	28-FEB-2010	4435.454	4902.851	12365.00	0.3062848	1.5560016E-02	61.29473
CM-244	156.7614	28-FEB-2010	5530.764	5886.057	11017.00	0.3087767	1.5716689E-02	48.99289

Instrument : CHAMBER 029
 Detector : 33454
 Standard ID : AESS-029
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:45
 Average Efficiency : 0.3133109
 Average Efficiency Error : 9.1862464E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2989.570	3299.793	14696.00	0.3076786	1.5592718E-02	62.98538
NP-237	169.7700	28-FEB-2010	4434.729	4906.466	12891.00	0.3163488	1.6061027E-02	66.74791
CM-244	154.8234	28-FEB-2010	5530.876	5886.187	11145.00	0.3162610	1.6094424E-02	59.70258

Instrument : CHAMBER 030
 Detector : 33447
 Standard ID : AESS-030
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:54
 Average Efficiency : 0.3190225
 Average Efficiency Error : 9.3542365E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2992.473	3300.013	14522.00	0.3079955	1.5611262E-02	56.22778
NP-237	166.3758	28-FEB-2010	4433.021	4902.873	13108.00	0.3282070	1.6658967E-02	66.10047
CM-244	157.1856	28-FEB-2010	5531.626	5884.032	11533.00	0.3222875	1.6391672E-02	59.45288

Instrument : CHAMBER 031
 Detector : 67042
 Standard ID : AESS-031
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:42
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:24
 Average Efficiency : 0.3338314
 Average Efficiency Error : 9.2027988E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2992.104	3299.916	15053.00	0.3280614	1.4101115E-02	64.46095
NP-237	162.9186	28-FEB-2010	4436.072	4902.901	13435.00	0.3435040	1.7429167E-02	93.20530
CM-244	153.1968	28-FEB-2010	5535.417	5884.932	11607.00	0.3330215	1.6935715E-02	63.05283

Instrument : CHAMBER 032
 Detector : 67041
 Standard ID : AESS-032
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:42
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:35
 Average Efficiency : 0.3120490
 Average Efficiency Error : 8.6091449E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.634	3297.499	14436.00	0.3121021	1.3425405E-02	53.99254
NP-237	165.9822	28-FEB-2010	4437.570	4904.884	12360.00	0.3101901	1.5758617E-02	64.26519
CM-244	153.7938	28-FEB-2010	5533.522	5884.215	10984.00	0.3138851	1.5977694E-02	52.03965

Instrument : CHAMBER 033
 Detector : 78785
 Standard ID : AESS-033
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:36:20
 Average Efficiency : 0.3132727
 Average Efficiency Error : 8.6470284E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2990.591	3298.173	14059.00	0.3083428	1.3270319E-02	45.02124
NP-237	161.7816	28-FEB-2010	4434.089	4906.364	12264.00	0.3158025	1.6045660E-02	60.74144
CM-244	147.2670	28-FEB-2010	5534.061	5883.941	10663.00	0.3180395	1.6197534E-02	44.95700

Instrument : CHAMBER 034
 Detector : 61586
 Standard ID : AESS-034
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:42
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:46
 Average Efficiency : 0.3171561
 Average Efficiency Error : 8.7465709E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2990.268	3300.348	14798.00	0.3114539	1.3391386E-02	50.21013
NP-237	167.2962	28-FEB-2010	4435.287	4906.218	12784.00	0.3183437	1.6164379E-02	67.44197
CM-244	154.4388	28-FEB-2010	5533.837	5886.701	11405.00	0.3245862	1.6511625E-02	55.32959

Instrument : CHAMBER 035
 Detector : 78202
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:36:36
 Average Efficiency : 0.3039385
 Average Efficiency Error : 8.3862301E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2989.841	3298.805	14385.00	0.3055661	1.3145097E-02	44.60017
NP-237	168.2934	28-FEB-2010	4433.680	4901.942	12309.00	0.3046319	1.5477315E-02	57.84991
CM-244	158.8128	28-FEB-2010	5530.913	5886.751	10886.00	0.3010460	1.5326467E-02	49.59610

Instrument : CHAMBER 036
 Detector : 78203
 Standard ID : AESS-036
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:36:45
 Average Efficiency : 0.3217056
 Average Efficiency Error : 8.8684531E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2990.719	3297.679	15140.00	0.3173648	1.3639865E-02	54.98193
NP-237	167.4312	28-FEB-2010	4436.454	4902.523	13140.00	0.3269882	1.6596414E-02	66.33447
CM-244	156.4188	28-FEB-2010	5534.221	5883.385	11497.00	0.3228255	1.6419753E-02	57.03784

Instrument : CHAMBER 037
 Detector : 45-149BB5
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:36:53
 Average Efficiency : 0.3609357
 Average Efficiency Error : 9.9339429E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.027	3298.587	16638.00	0.3550694	1.5235793E-02	70.66451
NP-237	167.1294	28-FEB-2010	4435.750	4902.017	14747.00	0.3675707	1.8626243E-02	87.35378
CM-244	154.7664	28-FEB-2010	5535.521	5884.277	12795.00	0.3630245	1.8432988E-02	72.91970

Instrument : CHAMBER 038
 Detector : 72532
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 7-JUL-2009 20:14:26
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 8-JUL-2009 07:31:06
 Average Efficiency : 0.3440174
 Average Efficiency Error : 9.4721830E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2989.665	3301.822	16315.00	0.3439969	1.4765469E-02	56.35861
NP-237	170.0886	28-FEB-2010	4435.489	4906.553	14189.00	0.3474887	1.7617788E-02	67.43947
CM-244	157.7460	28-FEB-2010	5532.401	5886.525	12237.00	0.3406941	1.7311083E-02	58.94252

Instrument : CHAMBER 039
 Detector : 45-149BB2
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:12
 Average Efficiency : 0.3633558
 Average Efficiency Error : 1.0003410E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.145	3298.732	16409.00	0.3601976	1.5459352E-02	56.41948
NP-237	159.1506	28-FEB-2010	4435.549	4903.088	13988.00	0.3661838	1.8569179E-02	74.12836
CM-244	151.7142	28-FEB-2010	5534.287	5885.251	12613.00	0.3650793	1.8541345E-02	65.99350

Instrument : CHAMBER 040
 Detector : 78773
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:21
 Average Efficiency : 0.3236358
 Average Efficiency Error : 8.9229112E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2989.803	3299.657	15035.00	0.3262324	1.4022750E-02	46.94137
NP-237	166.8174	28-FEB-2010	4435.891	4904.106	12881.00	0.3216923	1.6332518E-02	63.17031
CM-244	155.0100	28-FEB-2010	5531.706	5883.967	11365.00	0.3220472	1.6383301E-02	50.43327

Instrument : CHAMBER 041
 Detector : 78205
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:34
 Average Efficiency : 0.3271760
 Average Efficiency Error : 9.0137199E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2988.799	3301.675	15672.00	0.3243389	1.3931162E-02	49.27284
NP-237	171.2268	28-FEB-2010	4434.272	4902.386	13569.00	0.3301208	1.6747680E-02	61.97926
CM-244	159.5796	28-FEB-2010	5531.847	5882.877	11929.00	0.3283235	1.6689207E-02	48.64401

Instrument : CHAMBER 042
 Detector : 78793
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:44
 Average Efficiency : 0.3312008
 Average Efficiency Error : 9.1335429E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2991.257	3302.160	14934.00	0.3339659	1.4356897E-02	46.01327
NP-237	159.6558	28-FEB-2010	4435.667	4904.225	12775.00	0.3333308	1.6925573E-02	66.93758
CM-244	150.5208	28-FEB-2010	5531.759	5883.730	11154.00	0.3254806	1.6563315E-02	47.72076

Instrument : CHAMBER 043
 Detector : 76543
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:56
 Average Efficiency : 0.3406220
 Average Efficiency Error : 9.3815317E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2990.989	3298.318	15838.00	0.3379508	1.4513168E-02	53.32027
NP-237	168.7422	28-FEB-2010	4436.983	4902.370	13848.00	0.3419185	1.7341113E-02	70.53008
CM-244	156.3252	28-FEB-2010	5532.584	5886.039	12214.00	0.3431670	1.7437097E-02	50.59512

Instrument : CHAMBER 044
 Detector : 79459
 Standard ID : AESS-044
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 7-JUL-2009 08:06:38
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 7-JUL-2009 13:33:56
 Average Efficiency : 0.3539364
 Average Efficiency Error : 9.7440388E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2988.854	3300.902	16237.00	0.3523722	1.5126155E-02	49.91737
NP-237	166.6248	28-FEB-2010	4435.084	4901.492	14193.00	0.3548543	1.7991094E-02	62.49409
CM-244	155.8290	28-FEB-2010	5533.776	5883.326	12603.00	0.3552387	1.8041683E-02	52.59266

Instrument : CHAMBER 045
 Detector : 67601
 Standard ID : AESS-045
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:44
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:59
 Average Efficiency : 0.3430506
 Average Efficiency Error : 9.4568562E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2987.909	3300.265	15299.00	0.3453356	1.4839282E-02	39.68650
NP-237	160.8066	28-FEB-2010	4434.212	4905.200	12955.00	0.3356342	1.7038893E-02	56.79002
CM-244	145.8384	28-FEB-2010	5530.781	5884.673	11538.00	0.3477968	1.7688734E-02	40.32752

Instrument : CHAMBER 046
 Detector : 76544
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:38:21
 Average Efficiency : 0.3406382
 Average Efficiency Error : 9.3857087E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2989.077	3298.635	15535.00	0.3366195	1.4460829E-02	49.62128
NP-237	164.6658	28-FEB-2010	4433.627	4906.487	13519.00	0.3420215	1.7352322E-02	69.09070
CM-244	151.3824	28-FEB-2010	5533.329	5885.134	11898.00	0.3451394	1.7544771E-02	55.17302

Instrument : CHAMBER 047
 Detector : 46-089B1
 Standard ID : AESS-047
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:38:30
 Average Efficiency : 0.3442340
 Average Efficiency Error : 9.4810873E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2987.977	3301.361	15865.00	0.3390196	1.4558652E-02	55.57606
NP-237	168.3948	28-FEB-2010	4433.363	4905.447	13899.00	0.3438680	1.7439116E-02	74.62081
CM-244	154.6032	28-FEB-2010	5532.313	5886.846	12409.00	0.3525089	1.7907353E-02	58.04284

Instrument : CHAMBER 048
 Detector : 42483
 Standard ID : AESS-048
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:38:39
 Average Efficiency : 0.3178092
 Average Efficiency Error : 8.7683024E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.411	3301.246	14378.00	0.3162740	1.3605888E-02	55.68159
NP-237	161.5530	28-FEB-2010	4433.969	4903.143	12372.00	0.3190103	1.6206456E-02	67.40500
CM-244	151.1856	28-FEB-2010	5530.501	5887.230	10976.00	0.3187887	1.6227484E-02	60.96161

Instrument : CHAMBER 065
 Detector : 68551
 Standard ID : AESS-001
 Standard Reference Date : 20-FEB-2008 09:54:53
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:06:51
 Average Efficiency : 0.3167298
 Average Efficiency Error : 8.7357797E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2992.172	3297.923	15001.00	0.3033305	1.3038947E-02	62.70693
NP-237	171.0024	28-FEB-2010	4436.297	4904.907	13337.00	0.3249072	1.6487280E-02	73.64597
CM-244	158.1060	28-FEB-2010	5532.615	5884.733	11898.00	0.3304830	1.6799837E-02	62.05407

Instrument : CHAMBER 066
 Detector : 46-089C1
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:05
 Average Efficiency : 0.3104099
 Average Efficiency Error : 8.5468190E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2992.142	3300.807	14611.00	0.3081217	1.3251217E-02	57.90394
NP-237	200.4990	28-FEB-2010	4436.247	4906.352	15119.00	0.3141508	1.5914036E-02	71.36474
CM-244	196.5558	28-FEB-2010	5534.784	5886.688	13872.00	0.3099799	1.5721031E-02	60.13244

Instrument : CHAMBER 067
 Detector : 46-089B4
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:16
 Average Efficiency : 0.3225107
 Average Efficiency Error : 8.8746333E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2988.144	3301.594	15198.00	0.3160322	1.3581690E-02	73.87538
NP-237	203.2080	28-FEB-2010	4436.169	4905.946	16027.00	0.3285710	1.6632373E-02	84.27850
CM-244	197.2236	28-FEB-2010	5533.963	5885.648	14635.00	0.3261202	1.6527411E-02	74.53841

Instrument : CHAMBER 068
 Detector : 78794
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:28
 Average Efficiency : 0.3018608
 Average Efficiency Error : 8.3120642E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2990.601	3300.139	14643.00	0.2998493	1.2894920E-02	46.91775
NP-237	204.2586	28-FEB-2010	4435.756	4903.729	14909.00	0.3041092	1.5408116E-02	62.03638
CM-244	198.8100	28-FEB-2010	5531.794	5886.867	13681.00	0.3024790	1.5343496E-02	51.78417

Instrument : CHAMBER 069
 Detector : 78795
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:42
 Average Efficiency : 0.3159011
 Average Efficiency Error : 8.6903321E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2991.901	3298.738	15562.00	0.3116586	1.3388185E-02	51.55959
NP-237	209.5938	28-FEB-2010	4437.201	4903.207	15965.00	0.3173516	1.6065169E-02	63.95503
CM-244	202.7478	28-FEB-2010	5534.874	5884.048	14792.00	0.3206663	1.6248737E-02	52.59375

Instrument : CHAMBER 070
 Detector : 46-089B2
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:53
 Average Efficiency : 0.3520789
 Average Efficiency Error : 9.6757710E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2988.641	3300.492	16713.00	0.3463008	1.4858479E-02	61.95700
NP-237	204.7038	28-FEB-2010	4435.833	4904.443	17344.00	0.3529772	1.7851282E-02	74.78303
CM-244	195.0060	28-FEB-2010	5531.433	5882.799	15964.00	0.3598273	1.8215435E-02	68.73500

Instrument : CHAMBER 071
 Detector : 64259
 Standard ID : AESS-007
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:08:07
 Average Efficiency : 0.3163752
 Average Efficiency Error : 8.7076994E-03
 Confidence : 95.00000

Cal. 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. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2989.589	3298.128	15405.00	0.3241865	1.3928778E-02	51.17890
NP-237	167.2962	28-FEB-2010	4432.836	4901.640	13623.00	0.3392162	1.7208137E-02	68.23425
CM-244	154.4388	28-FEB-2010	5531.873	5883.257	12118.00	0.3447607	1.7520264E-02	52.08022

Instrument : CHAMBER 099
 Detector : 70317
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:03
 Average Efficiency : 0.3431231
 Average Efficiency Error : 9.4483467E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2990.876	3301.163	16106.00	0.3421397	1.4688905E-02	50.68632
NP-237	168.2934	28-FEB-2010	4434.526	4903.945	13954.00	0.3454547	1.7518591E-02	61.64373
CM-244	158.8128	28-FEB-2010	5533.432	5886.885	12370.00	0.3422045	1.7384758E-02	52.31840

Instrument : CHAMBER 100
 Detector : 79456
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:12
 Average Efficiency : 0.3427027
 Average Efficiency Error : 9.4427206E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2992.287	3297.799	15520.00	0.3363194	1.4448194E-02	50.00877
NP-237	164.6658	28-FEB-2010	4436.422	4905.631	13582.00	0.3435974	1.7431144E-02	61.98585
CM-244	151.3824	28-FEB-2010	5534.572	5887.590	12114.00	0.3515212	1.7863980E-02	52.94975

Instrument : CHAMBER 101
 Detector : 64253
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:22
 Average Efficiency : 0.3390052
 Average Efficiency Error : 9.3409885E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.433	3299.297	15460.00	0.3299631	1.4176095E-02	61.39046
NP-237	167.1294	28-FEB-2010	4436.714	4901.796	13907.00	0.3466887	1.7581994E-02	74.45712
CM-244	154.7664	28-FEB-2010	5531.777	5885.188	12159.00	0.3452022	1.7541731E-02	61.78313

Instrument : CHAMBER 102
 Detector : 72525
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:31
 Average Efficiency : 0.3328035
 Average Efficiency Error : 9.1680549E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2992.102	3300.657	15781.00	0.3327644	1.4291358E-02	57.28693
NP-237	170.0886	28-FEB-2010	4432.858	4904.949	13683.00	0.3351520	1.7000843E-02	70.05949
CM-244	157.7460	28-FEB-2010	5531.106	5882.690	11868.00	0.3305628	1.6804401E-02	60.52639

Instrument : CHAMBER 103
 Detector : 79461
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:40
 Average Efficiency : 0.3354990
 Average Efficiency Error : 9.2500327E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.996	3300.314	15148.00	0.3325511	1.4292428E-02	46.53494
NP-237	159.1506	28-FEB-2010	4436.805	4901.981	13231.00	0.3463839	1.7579062E-02	65.39693
CM-244	151.7142	28-FEB-2010	5532.506	5886.425	11383.00	0.3296518	1.6769741E-02	53.08098

Instrument : CHAMBER 104
 Detector : 72524
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:48
 Average Efficiency : 0.3172685
 Average Efficiency Error : 8.7505886E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2990.719	3300.868	14808.00	0.3213409	1.3816299E-02	52.43279
NP-237	166.8174	28-FEB-2010	4437.132	4904.901	12602.00	0.3146936	1.5982572E-02	60.08082
CM-244	155.0100	28-FEB-2010	5531.506	5883.017	11092.00	0.3143873	1.6000355E-02	48.93826

Instrument : CHAMBER 105
 Detector : 78777
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:56
 Average Efficiency : 0.3238136
 Average Efficiency Error : 8.9225518E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2991.574	3300.708	15632.00	0.3235499	1.3897874E-02	47.98710
NP-237	171.2268	28-FEB-2010	4435.406	4903.467	13447.00	0.3271988	1.6601518E-02	65.57580
CM-244	159.5796	28-FEB-2010	5531.275	5883.854	11655.00	0.3209064	1.6318357E-02	49.59695

Instrument : CHAMBER 106
 Detector : 64274
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:14:04
 Average Efficiency : 0.3300298
 Average Efficiency Error : 9.1015678E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2989.941	3301.958	14641.00	0.3274217	1.4080711E-02	51.04536
NP-237	159.6558	28-FEB-2010	4435.855	4902.069	12766.00	0.3331273	1.6915364E-02	68.33770
CM-244	150.5208	28-FEB-2010	5534.023	5883.359	11329.00	0.3306891	1.6823869E-02	57.44720

Instrument : CHAMBER 107
 Detector : 67578
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:14:15
 Average Efficiency : 0.3045647
 Average Efficiency Error : 8.4048761E-03
 Confidence : 95.00000

Cal. Isteps	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. Isteps	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. Isteps	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. Isteps	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. Isteps	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. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2991.839	3301.816	15791.00	0.2664527	1.1443332E-02	55.36104
NP-237	200.4990	28-FEB-2010	4436.001	4902.052	15786.00	0.2624403	1.3287230E-02	64.95200
CM-244	196.5558	28-FEB-2010	5531.697	5884.118	14942.00	0.2673051	1.3543067E-02	65.53946

Instrument : CHAMBER 116
 Detector : 45-132FF2
 Standard ID : AESS-008
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:05
 Average Efficiency : 0.2629267
 Average Efficiency Error : 7.2302124E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2988.005	3302.013	16058.00	0.2632007	1.1300448E-02	59.26229
NP-237	209.2716	28-FEB-2010	4432.895	4903.021	16270.00	0.2591243	1.3114552E-02	68.78876
CM-244	199.6488	28-FEB-2010	5531.311	5883.052	15125.00	0.2665666	1.3503457E-02	63.98270

Instrument : CHAMBER 117
 Detector : 33450
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:07
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:15
 Average Efficiency : 0.2535850
 Average Efficiency Error : 6.9797374E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2992.173	3300.224	14948.00	0.2486987	1.0691201E-02	65.60831
NP-237	203.2080	28-FEB-2010	4434.403	4904.427	15595.00	0.2557888	1.2952457E-02	67.83129
CM-244	197.2236	28-FEB-2010	5533.135	5885.381	14502.00	0.2586756	1.3111014E-02	62.53085

Instrument : CHAMBER 118
 Detector : 75544
 Standard ID : AESS-009
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:11
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:26
 Average Efficiency : 0.2598683
 Average Efficiency Error : 7.1489667E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2992.199	3301.179	15535.00	0.2579420	1.1080938E-02	44.86411
NP-237	204.0192	28-FEB-2010	4437.404	4902.417	15842.00	0.2588220	1.3103474E-02	58.11101
CM-244	197.2128	28-FEB-2010	5530.853	5882.689	14791.00	0.2637591	1.3365132E-02	41.32130

Instrument : CHAMBER 119
 Detector : 74429
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:16
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 2-FEB-2009 15:15:38
 Average Efficiency : 0.2936279
 Average Efficiency Error : 1.2630888E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2992.004	3299.253	9998.000	0.2936279	1.2630888E-02	0.0000000E+00
NP-237	204.2586	28-FEB-2010	4432.548	4906.013	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00
CM-244	198.8100	28-FEB-2010	5530.584	5883.165	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00

Instrument : CHAMBER 120
 Detector : 74430
 Standard ID : AESS-010
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:20
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 16-JUL-2009 09:29:36
 Average Efficiency : 0.2329810
 Average Efficiency Error : 6.4206291E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.522	3298.404	13848.00	0.2315074	9.9664843E-03	47.05631
NP-237	202.9926	28-FEB-2010	4435.328	4903.588	14182.00	0.2328624	1.1806204E-02	59.86080
CM-244	196.2330	28-FEB-2010	5534.528	5884.756	13118.00	0.2352170	1.1938849E-02	50.37906

Instrument : CHAMBER 121
 Detector : 75545
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:24
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:36
 Average Efficiency : 0.2481502
 Average Efficiency Error : 6.8278033E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2988.023	3300.631	15450.00	0.2475892	1.0637230E-02	49.92188
NP-237	209.5938	28-FEB-2010	4432.658	4901.599	15670.00	0.2492075	1.2618415E-02	57.40462
CM-244	202.7478	28-FEB-2010	5533.997	5885.295	14284.00	0.2478847	1.2566634E-02	53.21548

Instrument : CHAMBER 122
 Detector : 75546
 Standard ID : AESS-011
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:29
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:46
 Average Efficiency : 0.2535488
 Average Efficiency Error : 6.9723255E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2990.563	3298.589	16028.00	0.2543318	1.0920011E-02	51.38880
NP-237	214.4868	28-FEB-2010	4436.782	4905.890	16182.00	0.2514608	1.2727518E-02	56.55112
CM-244	208.4184	28-FEB-2010	5532.955	5884.078	15083.00	0.2546007	1.2897825E-02	50.53276

Instrument : CHAMBER 123
 Detector : 45-142V3
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:33
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:55
 Average Efficiency : 0.2599957
 Average Efficiency Error : 7.1522635E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2990.850	3299.223	15663.00	0.2596899	1.1154454E-02	71.05709
NP-237	204.7038	28-FEB-2010	4437.241	4905.636	15899.00	0.2588749	1.3105587E-02	67.04378
CM-244	195.0060	28-FEB-2010	5531.191	5886.517	14497.00	0.2615748	1.3257999E-02	62.26140

Instrument : CHAMBER 124
 Detector : 45-142V2
 Standard ID : AESS-012
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:38
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:45:05
 Average Efficiency : 0.2587920
 Average Efficiency Error : 7.1179173E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2988.169	3298.838	15692.00	0.2569794	1.1037684E-02	70.68444
NP-237	205.8930	28-FEB-2010	4434.514	4905.983	16135.00	0.2612102	1.3221423E-02	71.87656
CM-244	203.1954	28-FEB-2010	5535.498	5887.649	14956.00	0.2589717	1.3120654E-02	72.67943

Instrument : CHAMBER 125
 Detector : 75547
 Standard ID : AESS-013
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:11:36
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:23:54
 Average Efficiency : 0.2576947
 Average Efficiency Error : 7.0884591E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2992.438	3299.892	15734.00	0.2609255	1.1206666E-02	46.30545
NP-237	210.2526	28-FEB-2010	4435.342	4903.042	16013.00	0.2538552	1.2850333E-02	59.85715
CM-244	201.9108	28-FEB-2010	5533.267	5883.118	14760.00	0.2572743	1.3036882E-02	47.93466

Instrument : CHAMBER 126
 Detector : 75548
 Standard ID : AESS-019
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 17-JUL-2009 09:11:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:06
 Average Efficiency : 0.2541045
 Average Efficiency Error : 6.9944067E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2988.642	3299.863	14987.00	0.2472976	1.0630463E-02	48.38591
NP-237	202.9140	28-FEB-2010	4434.022	4903.287	15977.00	0.2624101	1.3283804E-02	54.76476
CM-244	199.3140	28-FEB-2010	5533.750	5882.833	14524.00	0.2563267	1.2991657E-02	55.65510

Instrument : CHAMBER 127
 Detector : 78770
 Standard ID : AESS-014
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 17-JUL-2009 09:11:52
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:19
 Average Efficiency : 0.2465067
 Average Efficiency Error : 6.7814202E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2987.930	3300.925	15708.00	0.2470578	1.0611333E-02	45.78584
NP-237	211.7160	28-FEB-2010	4433.404	4902.114	15685.00	0.2469317	1.2503051E-02	55.80547
CM-244	207.3882	28-FEB-2010	5533.832	5884.575	14464.00	0.2453295	1.2434963E-02	52.15766

Instrument : CHAMBER 128
 Detector : 75549
 Standard ID : AESS-020
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 17-JUL-2009 09:11:58
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:31
 Average Efficiency : 0.2568552
 Average Efficiency Error : 7.0680329E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2989.441	3299.762	15295.00	0.2512498	1.0796450E-02	45.99468
NP-237	203.4984	28-FEB-2010	4437.479	4901.607	16011.00	0.2622381	1.3274715E-02	55.45222
CM-244	197.1096	28-FEB-2010	5532.807	5882.614	14556.00	0.2598990	1.3172311E-02	50.77409

Instrument : CHAMBER 129
 Detector : 76227
 Standard ID : AESS-015
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:41
 Average Efficiency : 0.2644528
 Average Efficiency Error : 7.2740684E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2991.626	3298.866	15762.00	0.2609125	1.1205764E-02	46.80607
NP-237	200.6460	28-FEB-2010	4434.006	4901.792	16185.00	0.2688618	1.3608224E-02	54.56116
CM-244	195.9270	28-FEB-2010	5532.320	5882.430	14766.00	0.2652449	1.3440695E-02	49.47559

Instrument : CHAMBER 130
 Detector : 76228
 Standard ID : AESS-021
 Standard Reference Date : 19-FEB-2008 15:31:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:07
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:51
 Average Efficiency : 0.2468057
 Average Efficiency Error : 6.7924876E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2987.724	3301.129	15063.00	0.2441104	1.0492519E-02	52.03590
NP-237	210.1548	28-FEB-2010	4432.733	4905.256	15645.00	0.2481126	1.2563273E-02	57.61189
CM-244	200.7390	28-FEB-2010	5534.221	5882.991	14232.00	0.2493957	1.2643824E-02	52.52812

Instrument : CHAMBER 131
 Detector : 33448
 Standard ID : AESS-016
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:11
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:01
 Average Efficiency : 0.2570197
 Average Efficiency Error : 7.0734182E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2990.041	3301.703	15183.00	0.2512954	1.0799803E-02	73.19037
NP-237	199.3962	28-FEB-2010	4437.470	4901.500	15793.00	0.2639839	1.3365344E-02	77.05526
CM-244	198.6402	28-FEB-2010	5535.040	5887.344	14606.00	0.2587552	1.3113786E-02	69.05248

Instrument : CHAMBER 132
 Detector : 67579
 Standard ID : AESS-022
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:16
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:11
 Average Efficiency : 0.2430298
 Average Efficiency Error : 6.6918936E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2991.722	3299.982	14858.00	0.2393249	1.0289361E-02	82.35345
NP-237	206.8830	28-FEB-2010	4436.189	4902.037	15718.00	0.2532126	1.2820771E-02	110.8838
CM-244	203.0208	28-FEB-2010	5533.193	5884.042	13792.00	0.2390666	1.2125478E-02	95.32550

Instrument : CHAMBER 133
 Detector : 76229
 Standard ID : AESS-017
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:20
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:22
 Average Efficiency : 0.2443746
 Average Efficiency Error : 6.7256871E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2991.784	3301.677	15064.00	0.2421688	1.0409047E-02	50.61230
NP-237	208.5846	28-FEB-2010	4432.798	4901.797	15477.00	0.2473098	1.2524300E-02	59.86257
CM-244	205.5828	28-FEB-2010	5532.072	5884.338	14290.00	0.2446276	1.2401419E-02	51.55180

Instrument : CHAMBER 134
 Detector : 76230
 Standard ID : AESS-023
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:25
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:32
 Average Efficiency : 0.2446093
 Average Efficiency Error : 6.7343172E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.526	3299.017	14780.00	0.2405785	1.0344269E-02	47.58438
NP-237	207.4998	28-FEB-2010	4435.982	4903.287	15238.00	0.2446961	1.2394482E-02	57.76377
CM-244	199.8804	28-FEB-2010	5532.080	5886.000	14233.00	0.2505983	1.2704798E-02	45.62634

Instrument : CHAMBER 135
 Detector : 64270
 Standard ID : AESS-018
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:30
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:42
 Average Efficiency : 0.2559817
 Average Efficiency Error : 7.0438967E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2988.277	3299.628	15593.00	0.2604657	1.1188660E-02	51.52015
NP-237	208.8990	28-FEB-2010	4437.221	4904.200	15580.00	0.2485812	1.2587634E-02	59.07031
CM-244	198.1458	28-FEB-2010	5533.869	5883.613	14517.00	0.2578413	1.3068504E-02	58.17161

Instrument : CHAMBER 136
 Detector : 68549
 Standard ID : AESS-024
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:34
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:52
 Average Efficiency : 0.2467655
 Average Efficiency Error : 6.7935060E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2990.353	3301.238	14853.00	0.2464695	1.0596607E-02	65.72455
NP-237	205.6662	28-FEB-2010	4436.739	4902.455	15465.00	0.2505761	1.2689904E-02	90.78280
CM-244	198.3060	28-FEB-2010	5530.869	5887.561	13725.00	0.2435561	1.2354044E-02	84.13201

Instrument : CHAMBER 137
 Detector : 64288
 Standard ID : AESS-025
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:02
 Average Efficiency : 0.2552701
 Average Efficiency Error : 7.0390012E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.740	3300.102	14923.00	0.2576955	1.1078311E-02	64.99760
NP-237	167.9916	28-FEB-2010	4437.224	4902.644	12892.00	0.2557947	1.2986653E-02	75.28851
CM-244	157.2432	28-FEB-2010	5534.374	5886.101	11242.00	0.2515239	1.2798158E-02	68.25955

Instrument : CHAMBER 138
 Detector : 65877
 Standard ID : AESS-031
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:11
 Average Efficiency : 0.2546351
 Average Efficiency Error : 7.0242025E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2989.573	3299.020	14588.00	0.2543695	1.0939864E-02	53.70593
NP-237	162.9186	28-FEB-2010	4433.563	4906.044	12608.00	0.2577648	1.3091444E-02	63.94941
CM-244	153.1968	28-FEB-2010	5532.867	5887.098	10976.00	0.2519955	1.2827461E-02	58.23169

Instrument : CHAMBER 139
 Detector : 76231
 Standard ID : AESS-026
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:48
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:21
 Average Efficiency : 0.2504273
 Average Efficiency Error : 7.3419176E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2987.505	3300.432	14828.00	0.2510030	1.2718994E-02	48.79321
NP-237	168.0294	28-FEB-2010	4434.030	4903.806	12788.00	0.2536503	1.2879401E-02	56.03834
CM-244	160.5822	28-FEB-2010	5532.176	5884.231	11264.00	0.2468024	1.2557442E-02	47.42265

Instrument : CHAMBER 140
 Detector : 78771
 Standard ID : AESS-032
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:53
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:31
 Average Efficiency : 0.2551487
 Average Efficiency Error : 7.0366412E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.854	3298.685	14731.00	0.2547957	1.0956220E-02	48.77175
NP-237	165.9822	28-FEB-2010	4432.882	4903.279	12676.00	0.2545053	1.2924591E-02	56.74310
CM-244	153.7938	28-FEB-2010	5532.806	5885.667	11205.00	0.2563040	1.3041983E-02	50.50342

Instrument : CHAMBER 141
 Detector : 76232
 Standard ID : AESS-027
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:58
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:40
 Average Efficiency : 0.2558747
 Average Efficiency Error : 7.5053386E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2991.144	3299.081	14344.00	0.2504358	1.2695894E-02	52.97828
NP-237	161.6154	28-FEB-2010	4432.714	4902.455	12501.00	0.2577664	1.3093018E-02	59.69727
CM-244	148.1754	28-FEB-2010	5530.738	5882.724	10942.00	0.2598479	1.3227826E-02	52.14254

Instrument : CHAMBER 142
 Detector : 64261
 Standard ID : AESS-033
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:50
 Average Efficiency : 0.2578609
 Average Efficiency Error : 7.1141319E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2990.865	3298.794	14538.00	0.2551434	1.0973847E-02	59.26533
NP-237	161.7816	28-FEB-2010	4432.947	4903.147	12416.00	0.2557132	1.2990172E-02	60.24754
CM-244	147.2670	28-FEB-2010	5532.255	5884.805	11064.00	0.2642446	1.3449099E-02	59.08084

Instrument : CHAMBER 143
 Detector : 65882
 Standard ID : AESS-028
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:09
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:11
 Average Efficiency : 0.2247539
 Average Efficiency Error : 6.6391113E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2987.701	3299.952	14717.00	0.2489303	1.2615234E-02	59.75106
NP-237	168.1992	28-FEB-2010	4432.480	4904.917	12257.00	0.2428234	1.2337844E-02	78.49762
CM-244	156.7614	28-FEB-2010	5535.542	5887.375	8790.000	0.1972357	1.0083942E-02	0.0000000E+00

Instrument : CHAMBER 144
 Detector : 75551
 Standard ID : AESS-034
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:14
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:26
 Average Efficiency : 0.2489190
 Average Efficiency Error : 6.8659927E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2987.490	3300.379	14854.00	0.2501176	1.0753425E-02	46.53134
NP-237	167.2962	28-FEB-2010	4433.137	4902.257	12414.00	0.2473100	1.2563203E-02	59.28743
CM-244	154.4388	28-FEB-2010	5534.787	5886.106	10929.00	0.2488915	1.2670427E-02	55.09279

Instrument : CHAMBER 145
 Detector : 72526
 Standard ID : AESS-029
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:19
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:37
 Average Efficiency : 0.2495571
 Average Efficiency Error : 7.3171528E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2989.366	3298.098	14915.00	0.2498968	1.2661957E-02	51.73314
NP-237	169.7700	28-FEB-2010	4434.265	4904.885	12751.00	0.2503173	1.2710736E-02	57.53227
CM-244	154.8234	28-FEB-2010	5534.192	5886.678	10933.00	0.2484652	1.2648602E-02	48.31667

Instrument : CHAMBER 146
 Detector : 72527
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:24
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:48
 Average Efficiency : 0.2495693
 Average Efficiency Error : 6.8829530E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2991.494	3297.950	14697.00	0.2498184	1.0742654E-02	54.01461
NP-237	168.2934	28-FEB-2010	4436.761	4904.596	12650.00	0.2505190	1.2722510E-02	56.99129
CM-244	158.8128	28-FEB-2010	5530.438	5886.440	11210.00	0.2482881	1.2634057E-02	52.12059

Instrument : CHAMBER 147
 Detector : 75550
 Standard ID : AESS-030
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:29
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:59
 Average Efficiency : 0.2449156
 Average Efficiency Error : 7.1838433E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2987.763	3300.677	14416.00	0.2446455	1.2401544E-02	44.93960
NP-237	166.3758	28-FEB-2010	4433.256	4902.183	12106.00	0.2424534	1.2321484E-02	55.16415
CM-244	157.1856	28-FEB-2010	5534.346	5885.412	11068.00	0.2477740	1.2610656E-02	48.98204

Instrument : CHAMBER 148
 Detector : 74429
 Standard ID : AESS-036
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:34
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:08
 Average Efficiency : 0.2454490
 Average Efficiency Error : 6.7716590E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2989.918	3302.313	14456.00	0.2424625	1.0429571E-02	47.34021
NP-237	167.4312	28-FEB-2010	4434.677	4904.245	12395.00	0.2467024	1.2532696E-02	55.78803
CM-244	156.4188	28-FEB-2010	5532.604	5884.780	11054.00	0.2485659	1.2651297E-02	54.50585

Instrument : CHAMBER 149
 Detector : 33449
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:21
 Average Efficiency : 0.2457679
 Average Efficiency Error : 6.7815189E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2990.126	3302.099	14274.00	0.2437622	1.0487950E-02	64.38747
NP-237	167.1294	28-FEB-2010	4433.957	4903.766	12301.00	0.2453031	1.2463043E-02	67.00629
CM-244	154.7664	28-FEB-2010	5532.840	5885.608	10964.00	0.2491831	1.2684503E-02	59.86861

Instrument : CHAMBER 150
 Detector : 75552
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:35
 Average Efficiency : 0.2487296
 Average Efficiency Error : 6.8612574E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2989.847	3298.390	14400.00	0.2458598	1.0576462E-02	51.08628
NP-237	168.7422	28-FEB-2010	4433.411	4903.355	12733.00	0.2514980	1.2770942E-02	58.74739
CM-244	156.3252	28-FEB-2010	5531.584	5883.380	11116.00	0.2501363	1.2729902E-02	54.38089

Instrument : CHAMBER 151
 Detector : 75556
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:48
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:46
 Average Efficiency : 0.2462034
 Average Efficiency Error : 6.7912084E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2988.196	3299.830	14661.00	0.2473749	1.0638047E-02	50.47650
NP-237	170.0886	28-FEB-2010	4437.520	4904.128	12488.00	0.2447234	1.2430614E-02	54.82476
CM-244	157.7460	28-FEB-2010	5532.939	5887.339	11036.00	0.2460822	1.2525211E-02	55.11473

Instrument : CHAMBER 152
 Detector : 76222
 Standard ID : AESS-044
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:54
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:57
 Average Efficiency : 0.2424625
 Average Efficiency Error : 6.6924468E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2992.335	3299.767	14031.00	0.2436645	1.0487170E-02	49.42483
NP-237	166.6248	28-FEB-2010	4435.085	4902.709	12138.00	0.2428150	1.2339183E-02	57.89848
CM-244	155.8290	28-FEB-2010	5532.813	5882.589	10654.00	0.2404757	1.2247530E-02	56.10107

Instrument : CHAMBER 153
 Detector : 76223
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:59
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:06
 Average Efficiency : 0.2537628
 Average Efficiency Error : 7.0021353E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2989.763	3301.789	14281.00	0.2508323	1.0792080E-02	43.74009
NP-237	159.1506	28-FEB-2010	4432.699	4901.612	12218.00	0.2558562	1.3000614E-02	52.94971
CM-244	151.7142	28-FEB-2010	5534.359	5886.038	11040.00	0.2559308	1.3026465E-02	50.96056

Instrument : CHAMBER 154
 Detector : 76224
 Standard ID : AESS-045
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:04
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:15
 Average Efficiency : 0.2562141
 Average Efficiency Error : 7.0709228E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2989.543	3301.969	14237.00	0.2571022	1.1062440E-02	44.63987
NP-237	160.8066	28-FEB-2010	4433.171	4901.699	12222.00	0.2533354	1.2872400E-02	53.13824
CM-244	145.8384	28-FEB-2010	5533.478	5884.401	10695.00	0.2579601	1.3137060E-02	43.14489

Instrument : CHAMBER 155
 Detector : 75553
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:09
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:25
 Average Efficiency : 0.2566149
 Average Efficiency Error : 7.0761675E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2990.863	3299.267	14869.00	0.2581782	1.1099775E-02	49.42255
NP-237	166.8174	28-FEB-2010	4435.628	4901.683	12765.00	0.2550453	1.2950568E-02	57.37749
CM-244	155.0100	28-FEB-2010	5532.390	5885.923	11282.00	0.2560498	1.3027489E-02	54.62441

Instrument : CHAMBER 156
 Detector : 75554
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:14
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:35
 Average Efficiency : 0.2473153
 Average Efficiency Error : 6.8258164E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2992.492	3302.387	14104.00	0.2445442	1.0524000E-02	51.31209
NP-237	164.6658	28-FEB-2010	4436.746	4903.077	12183.00	0.2465298	1.2527379E-02	60.35096
CM-244	151.3824	28-FEB-2010	5533.286	5886.114	10859.00	0.2522683	1.2843768E-02	55.38654

Instrument : CHAMBER 157
 Detector : 75555
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:19
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:49
 Average Efficiency : 0.2476787
 Average Efficiency Error : 6.8296832E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2992.092	3301.029	14898.00	0.2467154	1.0606610E-02	50.26978
NP-237	171.2268	28-FEB-2010	4432.881	4903.879	12754.00	0.2482167	1.2604078E-02	60.14729
CM-244	159.5796	28-FEB-2010	5533.745	5886.569	11276.00	0.2485061	1.2643948E-02	50.54896

Instrument : CHAMBER 158
 Detector : 33451
 Standard ID : AESS-047
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:24
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:30:01
 Average Efficiency : 0.2485719
 Average Efficiency Error : 6.8571796E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2989.224	3299.662	14546.00	0.2487231	1.0697613E-02	60.48595
NP-237	168.3948	28-FEB-2010	4433.214	4902.387	12467.00	0.2466980	1.2531369E-02	67.30831
CM-244	154.6032	28-FEB-2010	5532.016	5882.536	11002.00	0.2502942	1.2740301E-02	63.12125

Instrument : CHAMBER 159
 Detector : 76225
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:28
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:30:14
 Average Efficiency : 0.2532322
 Average Efficiency Error : 6.9885729E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2990.518	3300.013	14150.00	0.2532160	1.0896488E-02	50.25048
NP-237	159.6558	28-FEB-2010	4434.310	4906.501	12068.00	0.2519211	1.2803175E-02	54.85251
CM-244	150.5208	28-FEB-2010	5532.775	5886.617	10895.00	0.2545989	1.2961634E-02	49.59791

Instrument : CHAMBER 160
 Detector : 76226
 Standard ID : AESS-048
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:34
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:30:32
 Average Efficiency : 0.2469152
 Average Efficiency Error : 6.8162913E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.201	3297.681	13856.00	0.2439119	1.0500359E-02	46.45536
NP-237	161.5530	28-FEB-2010	4437.389	4904.545	12040.00	0.2483725	1.2623324E-02	55.48813
CM-244	151.1856	28-FEB-2010	5531.162	5885.243	10738.00	0.2498441	1.2722801E-02	48.70280

Instrument : CHAMBER 161
 Detector : 70321
 Standard ID : AESS-001
 Standard Reference Date : 20-FEB-2008 09:54:53
 Calibration Analysis Date/Time : 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 : 23-JUL-2009 08:07:02
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:58:45
 Average Efficiency : 0.3625240
 Average Efficiency Error : 9.9324752E-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	2991.757	3298.334	21624.00	0.3533120	1.5103292E-02	69.51453
NP-237	205.0260	28-FEB-2010	4432.446	4905.658	22738.00	0.3696573	1.8644748E-02	85.73167
CM-244	199.6806	28-FEB-2010	5531.781	5882.612	20947.00	0.3694310	1.8647112E-02	72.91757

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 : 23-JUL-2009 08:07:32
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUL-2009 13:59:49
 Average Efficiency : 0.3738278
 Average Efficiency Error : 1.0237770E-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	2991.882	3298.026	22677.00	0.3634718	1.5528463E-02	58.22092
NP-237	209.5938	28-FEB-2010	4432.930	4902.295	23781.00	0.3781127	1.9064061E-02	78.18230
CM-244	202.7478	28-FEB-2010	5531.111	5883.897	22203.00	0.3856194	1.9453954E-02	60.54502

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. Isteps	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. Isteps	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. Isteps	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

Instrument : CHAMBER 256
 Detector : 79449
 Standard ID : AESS-048
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 27-JUL-2009 11:52:06
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 28-JUL-2009 14:08:26
 Average Efficiency : 0.3831320
 Average Efficiency Error : 1.0509511E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2989.102	3301.350	21361.00	0.3761188	1.6080733E-02	55.66320
NP-237	161.5530	28-FEB-2010	4435.732	4901.991	18891.00	0.3897299	1.9691780E-02	78.88689
CM-244	151.1856	28-FEB-2010	5533.871	5883.102	16615.00	0.3870071	1.9581940E-02	56.91294

Subsection 1: Energy Calibration

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

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

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

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

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

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

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

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

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

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

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

Instrument : CHAMBER 004
 Detector : 64279
 Calibration Date/Time : 6-JUL-2009 14:31:14
 Calibration Source Id : AESS-004
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.700
 NP-237 4341 2/28/10 4768.800 4768.502
 CM-244 4320A 2/28/10 5795.020 5794.708

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

Instrument : CHAMBER 005
 Detector : 67612
 Calibration Date/Time : 6-JUL-2009 14:31:33
 Calibration Source Id : AESS-005
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3239.511
 NP-237 4341 2/28/10 4768.800 4822.857
 CM-244 4320A 2/28/10 5795.020 5760.225

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

Instrument : CHAMBER 006
 Detector : 67613
 Calibration Date/Time : 6-JUL-2009 14:31:42
 Calibration Source Id : AESS-006
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.980
 NP-237 4341 2/28/10 4768.800 4771.889
 CM-244 4320A 2/28/10 5795.020 5798.332

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

Instrument : CHAMBER 007
 Detector : 67607
 Calibration Date/Time : 6-JUL-2009 14:31:52
 Calibration Source Id : AESS-007
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.695
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021

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

Instrument : CHAMBER 008
 Detector : 78788
 Calibration Date/Time : 6-JUL-2009 14:32:01
 Calibration Source Id : AESS-008
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.588
 CM-244 4320A 2/28/10 5795.020 5795.020

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

Instrument : CHAMBER 009
 Detector : 72528
 Calibration Date/Time : 6-JUL-2009 14:32:10
 Calibration Source Id : AESS-009
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.963
 CM-244 4320A 2/28/10 5795.020 5795.020

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

Instrument : CHAMBER 010
 Detector : 72529
 Calibration Date/Time : 6-JUL-2009 14:32:19
 Calibration Source Id : AESS-010
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.261
 NP-237 4341 2/28/10 4768.800 4769.006
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2373.375
 Energy Calibration Slope : 4.948005
 Energy Calibration Quadratic : 2.8748735E-04
 Energy Calibration Range : 7742.000

Instrument : CHAMBER 011
 Detector : 72531
 Calibration Date/Time : 6-JUL-2009 14:32:29
 Calibration Source Id : AESS-011
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.184
 NP-237 4341 2/28/10 4768.800 4768.906
 CM-244 4320A 2/28/10 5795.020 5795.321
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.106
 Energy Calibration Slope : 4.984596
 Energy Calibration Quadratic : 3.1995389E-04
 Energy Calibration Range : 7793.000

Instrument : CHAMBER 012
 Detector : 67594
 Calibration Date/Time : 6-JUL-2009 14:32:37
 Calibration Source Id : AESS-012
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.008
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.019
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2380.096
 Energy Calibration Slope : 4.961268
 Energy Calibration Quadratic : 2.7943935E-04
 Energy Calibration Range : 7753.000

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Instrument : CHAMBER 025
 Detector : 45-149AA5
 Calibration Date/Time : 6-JUL-2009 14:35:10
 Calibration Source Id : AESS-025
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.237
 NP-237 4341 2/28/10 4768.800 4769.932
 CM-244 4320A 2/28/10 5795.020 5795.518
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2322.042
 Energy Calibration Slope : 4.860308
 Energy Calibration Quadratic : 3.0488655E-04
 Energy Calibration Range : 7619.000

Instrument : CHAMBER 026
 Detector : 78204
 Calibration Date/Time : 6-JUL-2009 14:35:19
 Calibration Source Id : AESS-026
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.984
 NP-237 4341 2/28/10 4768.800 4768.684
 CM-244 4320A 2/28/10 5795.020 5794.748
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2360.724
 Energy Calibration Slope : 4.928299
 Energy Calibration Quadratic : 3.4985787E-04
 Energy Calibration Range : 7774.000

Instrument : CHAMBER 027
 Detector : 42484
 Calibration Date/Time : 6-JUL-2009 14:35:28
 Calibration Source Id : AESS-027
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.621
 NP-237 4341 2/28/10 4768.800 4767.888
 CM-244 4320A 2/28/10 5795.020 5793.806
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2398.616
 Energy Calibration Slope : 5.038840
 Energy Calibration Quadratic : 3.1374834E-04
 Energy Calibration Range : 7887.000

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Instrument : CHAMBER 034
 Detector : 61586
 Calibration Date/Time : 15-JUL-2009 07:50:46
 Calibration Source Id : AESS-034
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.661
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2338.228
 Energy Calibration Slope : 4.969683
 Energy Calibration Quadratic : 3.5388564E-04
 Energy Calibration Range : 7798.000

Instrument : CHAMBER 035
 Detector : 78202
 Calibration Date/Time : 6-JUL-2009 14:36:36
 Calibration Source Id : AESS-035
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.571
 CM-244 4320A 2/28/10 5795.020 5794.874
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2334.698
 Energy Calibration Slope : 4.957491
 Energy Calibration Quadratic : 3.3283085E-04
 Energy Calibration Range : 7760.000

Instrument : CHAMBER 036
 Detector : 78203
 Calibration Date/Time : 6-JUL-2009 14:36:45
 Calibration Source Id : AESS-036
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.768
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2354.938
 Energy Calibration Slope : 4.922945
 Energy Calibration Quadratic : 3.4444858E-04
 Energy Calibration Range : 7757.000

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

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

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

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

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

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

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

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

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

Instrument : CHAMBER 040
 Detector : 78773
 Calibration Date/Time : 6-JUL-2009 14:37:21
 Calibration Source Id : AESS-040
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.545
 Energy Calibration Slope : 4.888068
 Energy Calibration Quadratic : 3.4239746E-04
 Energy Calibration Range : 7718.000

Instrument : CHAMBER 041
 Detector : 78205
 Calibration Date/Time : 6-JUL-2009 14:37:34
 Calibration Source Id : AESS-041
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.714
 NP-237 4341 2/28/10 4768.800 4768.652
 CM-244 4320A 2/28/10 5795.020 5794.887
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.504
 Energy Calibration Slope : 4.933050
 Energy Calibration Quadratic : 3.6094084E-04
 Energy Calibration Range : 7791.000

Instrument : CHAMBER 042
 Detector : 78793
 Calibration Date/Time : 6-JUL-2009 14:37:44
 Calibration Source Id : AESS-042
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2376.865
 Energy Calibration Slope : 4.914897
 Energy Calibration Quadratic : 3.2152777E-04
 Energy Calibration Range : 7747.000

Instrument : CHAMBER 043
 Detector : 76543
 Calibration Date/Time : 6-JUL-2009 14:37:56
 Calibration Source Id : AESS-043
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2368.689
 Energy Calibration Slope : 4.938226
 Energy Calibration Quadratic : 3.2137471E-04
 Energy Calibration Range : 7762.000

Instrument : CHAMBER 044
 Detector : 79459
 Calibration Date/Time : 7-JUL-2009 13:33:56
 Calibration Source Id : AESS-044
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.945
 CM-244 4320A 2/28/10 5795.020 5795.104
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.983
 Energy Calibration Slope : 4.923144
 Energy Calibration Quadratic : 3.4992688E-04
 Energy Calibration Range : 7771.000

Instrument : CHAMBER 045
 Detector : 67601
 Calibration Date/Time : 15-JUL-2009 07:50:59
 Calibration Source Id : AESS-045
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2360.907
 Energy Calibration Slope : 4.934806
 Energy Calibration Quadratic : 3.2861135E-04
 Energy Calibration Range : 7759.000

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

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.832
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.131
 Energy Calibration Slope : 4.885582
 Energy Calibration Quadratic : 3.3954665E-04
 Energy Calibration Range : 7722.000

Instrument : CHAMBER 047
 Detector : 46-089B1
 Calibration Date/Time : 6-JUL-2009 14:38:30
 Calibration Source Id : AESS-047

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.917
CM-244	4320A	2/28/10	5795.020	5795.028

Energy/Channel Equation : see above
 Energy Calibration Zero : 2358.735
 Energy Calibration Slope : 4.953376
 Energy Calibration Quadratic : 3.2229861E-04
 Energy Calibration Range : 7769.000

Instrument : CHAMBER 048
 Detector : 42483
 Calibration Date/Time : 6-JUL-2009 14:38:39
 Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.757
NP-237	4341	2/28/10	4768.800	4768.527
CM-244	4320A	2/28/10	5795.020	5794.876

Energy/Channel Equation : see above
 Energy Calibration Zero : 2379.156
 Energy Calibration Slope : 4.959531
 Energy Calibration Quadratic : 2.8168198E-04
 Energy Calibration Range : 7753.000

Instrument : CHAMBER 065
 Detector : 68551
 Calibration Date/Time : 9-JUL-2009 13:06:51
 Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.934
NP-237	4341	2/28/10	4768.800	4768.222
CM-244	4320A	2/28/10	5795.020	5794.627

Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.031
 Energy Calibration Slope : 4.912300
 Energy Calibration Quadratic : 3.2574762E-04
 Energy Calibration Range : 7755.000

Instrument : CHAMBER 066
 Detector : 46-089C1
 Calibration Date/Time : 9-JUL-2009 13:07:05
 Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.612
NP-237	4341	2/28/10	4768.800	4768.619
CM-244	4320A	2/28/10	5795.020	5794.832

Energy/Channel Equation : see above
 Energy Calibration Zero : 2375.985
 Energy Calibration Slope : 4.975531
 Energy Calibration Quadratic : 2.7539468E-04
 Energy Calibration Range : 7760.000

Instrument : CHAMBER 067
 Detector : 46-089B4
 Calibration Date/Time : 9-JUL-2009 13:07:16
 Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.025
NP-237	4341	2/28/10	4768.800	4768.287
CM-244	4320A	2/28/10	5795.020	5794.643

Energy/Channel Equation : see above
 Energy Calibration Zero : 2392.470
 Energy Calibration Slope : 4.972788
 Energy Calibration Quadratic : 2.7622253E-04
 Energy Calibration Range : 7774.000

Instrument : CHAMBER 068
 Detector : 78794
 Calibration Date/Time : 9-JUL-2009 13:07:28
 Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.711
NP-237	4341	2/28/10	4768.800	4768.483
CM-244	4320A	2/28/10	5795.020	5794.734

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.543
 Energy Calibration Slope : 4.977541
 Energy Calibration Quadratic : 3.1141064E-04
 Energy Calibration Range : 7787.000

Instrument : CHAMBER 069
 Detector : 78795
 Calibration Date/Time : 9-JUL-2009 13:07:42
 Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.689
NP-237	4341	2/28/10	4768.800	4768.583
CM-244	4320A	2/28/10	5795.020	5794.896

Energy/Channel Equation : see above
 Energy Calibration Zero : 2376.120
 Energy Calibration Slope : 4.922992
 Energy Calibration Quadratic : 3.4665639E-04
 Energy Calibration Range : 7781.000

Instrument : CHAMBER 070
 Detector : 46-089B2
 Calibration Date/Time : 9-JUL-2009 13:07:53
 Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.107
NP-237	4341	2/28/10	4768.800	4768.384
CM-244	4320A	2/28/10	5795.020	5794.512

Energy/Channel Equation : see above
 Energy Calibration Zero : 2386.604
 Energy Calibration Slope : 4.939598
 Energy Calibration Quadratic : 2.9686227E-04
 Energy Calibration Range : 7756.000

Instrument : CHAMBER 071
 Detector : 64259
 Calibration Date/Time : 9-JUL-2009 13:08:07
 Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.519
NP-237	4341	2/28/10	4768.800	4768.421
CM-244	4320A	2/28/10	5795.020	5794.714

Energy/Channel Equation : see above
 Energy Calibration Zero : 2381.008
 Energy Calibration Slope : 4.974834
 Energy Calibration Quadratic : 3.0491504E-04
 Energy Calibration Range : 7795.000

Instrument : CHAMBER 072
 Detector : 45-149AA3
 Calibration Date/Time : 9-JUL-2009 13:08:19
 Calibration Source Id : AESS-008

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.621
NP-237	4341	2/28/10	4768.800	4768.489
CM-244	4320A	2/28/10	5795.020	5794.766

Energy/Channel Equation : see above
 Energy Calibration Zero : 2365.531
 Energy Calibration Slope : 4.947875
 Energy Calibration Quadratic : 2.9255319E-04
 Energy Calibration Range : 7739.000

Instrument : CHAMBER 073
 Detector : 78775
 Calibration Date/Time : 9-JUL-2009 13:08:30
 Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.442
NP-237	4341	2/28/10	4768.800	4768.180
CM-244	4320A	2/28/10	5795.020	5794.629

Energy/Channel Equation : see above
 Energy Calibration Zero : 2339.856
 Energy Calibration Slope : 4.937759
 Energy Calibration Quadratic : 3.0114278E-04
 Energy Calibration Range : 7712.000

Instrument : CHAMBER 074
 Detector : 78266
 Calibration Date/Time : 9-JUL-2009 13:08:42
 Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.764
NP-237	4341	2/28/10	4768.800	4768.637
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.120
 Energy Calibration Slope : 4.981784
 Energy Calibration Quadratic : 2.9874133E-04
 Energy Calibration Range : 7768.000

Instrument : CHAMBER 075
 Detector : 68550
 Calibration Date/Time : 9-JUL-2009 13:08:53
 Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.163
NP-237	4341	2/28/10	4768.800	4768.299
CM-244	4320A	2/28/10	5795.020	5794.726

Energy/Channel Equation : see above
 Energy Calibration Zero : 2364.223
 Energy Calibration Slope : 4.955623
 Energy Calibration Quadratic : 3.1275101E-04
 Energy Calibration Range : 7767.000

Instrument : CHAMBER 076
 Detector : 78779
 Calibration Date/Time : 9-JUL-2009 13:09:04
 Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.983
NP-237	4341	2/28/10	4768.800	4768.736
CM-244	4320A	2/28/10	5795.020	5794.908

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.316
 Energy Calibration Slope : 4.951778
 Energy Calibration Quadratic : 3.2127454E-04
 Energy Calibration Range : 7761.000

Instrument : CHAMBER 077
 Detector : 67576
 Calibration Date/Time : 9-JUL-2009 13:09:15
 Calibration Source Id : AESS-013
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.001
 NP-237 4341 2/28/10 4768.800 4768.613
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.225
 Energy Calibration Slope : 4.943738
 Energy Calibration Quadratic : 2.9529908E-04
 Energy Calibration Range : 7733.000

Instrument : CHAMBER 078
 Detector : 67577
 Calibration Date/Time : 9-JUL-2009 13:09:25
 Calibration Source Id : AESS-014
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.605
 NP-237 4341 2/28/10 4768.800 4768.392
 CM-244 4320A 2/28/10 5795.020 5794.652

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2395.349
 Energy Calibration Slope : 4.935272
 Energy Calibration Quadratic : 3.3427982E-04
 Energy Calibration Range : 7800.000

Instrument : CHAMBER 079
 Detector : 67598
 Calibration Date/Time : 9-JUL-2009 13:09:33
 Calibration Source Id : AESS-015
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.660
 NP-237 4341 2/28/10 4768.800 4768.547
 CM-244 4320A 2/28/10 5795.020 5794.894

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2369.373
 Energy Calibration Slope : 4.904424
 Energy Calibration Quadratic : 3.2698381E-04
 Energy Calibration Range : 7734.000

Instrument : CHAMBER 080
 Detector : 78197
 Calibration Date/Time : 9-JUL-2009 13:09:43
 Calibration Source Id : AESS-016
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3184.302
 NP-237 4341 2/28/10 4768.800 4771.069
 CM-244 4320A 2/28/10 5795.020 5795.787
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2345.798
 Energy Calibration Slope : 5.019492
 Energy Calibration Quadratic : 2.4690092E-04
 Energy Calibration Range : 7745.000

Instrument : CHAMBER 081
 Detector : 72533
 Calibration Date/Time : 9-JUL-2009 13:09:58
 Calibration Source Id : AESS-017
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3128.274
 NP-237 4341 2/28/10 4768.800 4679.048
 CM-244 4320A 2/28/10 5795.020 5545.961
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2299.761
 Energy Calibration Slope : 8.847325
 Energy Calibration Quadratic : -4.6356809E-03
 Energy Calibration Range : 6499.000

Instrument : CHAMBER 082
 Detector : 64263
 Calibration Date/Time : 9-JUL-2009 13:10:11
 Calibration Source Id : AESS-018
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.523
 NP-237 4341 2/28/10 4768.800 4768.330
 CM-244 4320A 2/28/10 5795.020 5794.746
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2391.756
 Energy Calibration Slope : 4.946808
 Energy Calibration Quadratic : 3.5040258E-04
 Energy Calibration Range : 7825.000

Instrument : CHAMBER 083
 Detector : 64278
 Calibration Date/Time : 9-JUL-2009 13:10:22
 Calibration Source Id : AESS-019
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4769.394
 CM-244 4320A 2/28/10 5795.020 5795.019
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2373.863
 Energy Calibration Slope : 5.042446
 Energy Calibration Quadratic : 2.3603256E-04
 Energy Calibration Range : 7785.000

Instrument : CHAMBER 084
 Detector : 78265
 Calibration Date/Time : 9-JUL-2009 13:10:32
 Calibration Source Id : AESS-020
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.274
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.172
 Energy Calibration Slope : 5.013323
 Energy Calibration Quadratic : 2.8020472E-04
 Energy Calibration Range : 7790.000

Instrument : CHAMBER 085
 Detector : 78776
 Calibration Date/Time : 9-JUL-2009 13:10:43
 Calibration Source Id : AESS-021
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.102
 Energy Calibration Slope : 4.983326
 Energy Calibration Quadratic : 2.9771921E-04
 Energy Calibration Range : 7782.000

Instrument : CHAMBER 086
 Detector : 78198
 Calibration Date/Time : 9-JUL-2009 13:10:52
 Calibration Source Id : AESS-022

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.643
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2354.748
 Energy Calibration Slope : 5.010773
 Energy Calibration Quadratic : 2.3814633E-04
 Energy Calibration Range : 7735.000

Instrument : CHAMBER 087
 Detector : 78199
 Calibration Date/Time : 9-JUL-2009 13:11:02
 Calibration Source Id : AESS-023

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2338.424
 Energy Calibration Slope : 4.984921
 Energy Calibration Quadratic : 2.3201770E-04
 Energy Calibration Range : 7686.000

Instrument : CHAMBER 088
 Detector : 33452
 Calibration Date/Time : 9-JUL-2009 13:11:13
 Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.468
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2351.689
 Energy Calibration Slope : 4.964746
 Energy Calibration Quadratic : 2.3151403E-04
 Energy Calibration Range : 7678.000

Instrument : CHAMBER 089
 Detector : 78262
 Calibration Date/Time : 9-JUL-2009 13:11:23
 Calibration Source Id : AESS-025
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.808
 NP-237 4341 2/28/10 4768.800 4768.497
 CM-244 4320A 2/28/10 5795.020 5794.868

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2357.358
 Energy Calibration Slope : 4.998539
 Energy Calibration Quadratic : 3.0872814E-04
 Energy Calibration Range : 7800.000

Instrument : CHAMBER 090
 Detector : 78263
 Calibration Date/Time : 9-JUL-2009 13:11:39
 Calibration Source Id : AESS-026
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.574
 NP-237 4341 2/28/10 4768.800 4768.547
 CM-244 4320A 2/28/10 5795.020 5794.930

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.561
 Energy Calibration Slope : 4.900284
 Energy Calibration Quadratic : 3.4428819E-04
 Energy Calibration Range : 7746.000

Instrument : CHAMBER 091
 Detector : 78259
 Calibration Date/Time : 9-JUL-2009 13:11:52
 Calibration Source Id : AESS-027
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.675
 NP-237 4341 2/28/10 4768.800 4768.729
 CM-244 4320A 2/28/10 5795.020 5794.997

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2370.658
 Energy Calibration Slope : 4.954311
 Energy Calibration Quadratic : 3.4313111E-04
 Energy Calibration Range : 7804.000

Instrument : CHAMBER 092
 Detector : 79457
 Calibration Date/Time : 10-JUL-2009 08:15:23
 Calibration Source Id : AESS-028

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2351.067
 Energy Calibration Slope : 4.974295
 Energy Calibration Quadratic : 2.6989207E-04
 Energy Calibration Range : 7728.000

Instrument : CHAMBER 093
 Detector : 33206
 Calibration Date/Time : 9-JUL-2009 13:12:10
 Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.697
NP-237	4341	2/28/10	4768.800	4768.674
CM-244	4320A	2/28/10	5795.020	5794.907

Energy/Channel Equation : see above
 Energy Calibration Zero : 2369.563
 Energy Calibration Slope : 4.914497
 Energy Calibration Quadratic : 3.2562285E-04
 Energy Calibration Range : 7743.000

Instrument : CHAMBER 094
 Detector : 78267
 Calibration Date/Time : 9-JUL-2009 13:12:19
 Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.761
NP-237	4341	2/28/10	4768.800	4768.682
CM-244	4320A	2/28/10	5795.020	5794.852

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.085
 Energy Calibration Slope : 4.944716
 Energy Calibration Quadratic : 3.0186711E-04
 Energy Calibration Range : 7743.000

Instrument : CHAMBER 095
 Detector : 64279
 Calibration Date/Time : 9-JUL-2009 13:12:27
 Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.666
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2355.533
 Energy Calibration Slope : 4.950543
 Energy Calibration Quadratic : 2.9788527E-04
 Energy Calibration Range : 7737.000

Instrument : CHAMBER 096
 Detector : 67605
 Calibration Date/Time : 9-JUL-2009 13:12:36
 Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.747
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2347.386
 Energy Calibration Slope : 4.941090
 Energy Calibration Quadratic : 3.3197468E-04
 Energy Calibration Range : 7755.000

Instrument : CHAMBER 097
 Detector : 67599
 Calibration Date/Time : 9-JUL-2009 13:12:44
 Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.290
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.267
 Energy Calibration Slope : 4.928224
 Energy Calibration Quadratic : 3.4786455E-04
 Energy Calibration Range : 7775.000

Instrument : CHAMBER 098
 Detector : 68644
 Calibration Date/Time : 9-JUL-2009 13:12:53
 Calibration Source Id : AESS-034

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.282
NP-237	4341	2/28/10	4768.800	4768.479
CM-244	4320A	2/28/10	5795.020	5794.637

Energy/Channel Equation : see above
 Energy Calibration Zero : 2385.389
 Energy Calibration Slope : 4.950438
 Energy Calibration Quadratic : 3.5501088E-04
 Energy Calibration Range : 7827.000

Instrument : CHAMBER 099
 Detector : 70317
 Calibration Date/Time : 9-JUL-2009 13:13:03
 Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.752
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2368.685
 Energy Calibration Slope : 4.893388
 Energy Calibration Quadratic : 3.5426160E-04
 Energy Calibration Range : 7751.000

Instrument : CHAMBER 100
 Detector : 79456
 Calibration Date/Time : 9-JUL-2009 13:13:12
 Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.705
CM-244	4320A	2/28/10	5795.020	5794.913

Energy/Channel Equation : see above
 Energy Calibration Zero : 2354.623
 Energy Calibration Slope : 4.898829
 Energy Calibration Quadratic : 3.4345602E-04
 Energy Calibration Range : 7731.000

Instrument : CHAMBER 101
 Detector : 64253
 Calibration Date/Time : 9-JUL-2009 13:13:22
 Calibration Source Id : AESS-037
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.469
 NP-237 4341 2/28/10 4768.800 4767.637
 CM-244 4320A 2/28/10 5795.020 5794.300
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2410.698
 Energy Calibration Slope : 4.933665
 Energy Calibration Quadratic : 3.2843428E-04
 Energy Calibration Range : 7807.000

Instrument : CHAMBER 102
 Detector : 72525
 Calibration Date/Time : 9-JUL-2009 13:13:31
 Calibration Source Id : AESS-038
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.443
 CM-244 4320A 2/28/10 5795.020 5794.909
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.658
 Energy Calibration Slope : 4.864605
 Energy Calibration Quadratic : 3.5245687E-04
 Energy Calibration Range : 7715.000

Instrument : CHAMBER 103
 Detector : 79461
 Calibration Date/Time : 9-JUL-2009 13:13:40
 Calibration Source Id : AESS-039
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.789
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.068
 Energy Calibration Slope : 4.916300
 Energy Calibration Quadratic : 3.4528042E-04
 Energy Calibration Range : 7785.000

Instrument : CHAMBER 104
 Detector : 72524
 Calibration Date/Time : 9-JUL-2009 13:13:48
 Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5794.853

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.445
 Energy Calibration Slope : 4.898041
 Energy Calibration Quadratic : 3.2613348E-04
 Energy Calibration Range : 7711.000

Instrument : CHAMBER 105
 Detector : 78777
 Calibration Date/Time : 9-JUL-2009 13:13:56
 Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.693
NP-237	4341	2/28/10	4768.800	4768.750
CM-244	4320A	2/28/10	5795.020	5794.773

Energy/Channel Equation : see above
 Energy Calibration Zero : 2376.710
 Energy Calibration Slope : 4.874049
 Energy Calibration Quadratic : 3.5893198E-04
 Energy Calibration Range : 7744.000

Instrument : CHAMBER 106
 Detector : 64274
 Calibration Date/Time : 9-JUL-2009 13:14:04
 Calibration Source Id : AESS-042

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.001
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.689
 Energy Calibration Slope : 4.927028
 Energy Calibration Quadratic : 3.4706845E-04
 Energy Calibration Range : 7798.000

Instrument : CHAMBER 107
 Detector : 67578
 Calibration Date/Time : 9-JUL-2009 13:14:15
 Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.693
NP-237	4341	2/28/10	4768.800	4768.881
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.860
 Energy Calibration Slope : 4.955241
 Energy Calibration Quadratic : 3.3647806E-04
 Energy Calibration Range : 7790.000

Instrument : CHAMBER 108
 Detector : 78778
 Calibration Date/Time : 10-JUL-2009 08:15:33
 Calibration Source Id : AESS-044

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2360.573
 Energy Calibration Slope : 4.897293
 Energy Calibration Quadratic : 3.3521929E-04
 Energy Calibration Range : 7727.000

Instrument : CHAMBER 109
 Detector : 79463
 Calibration Date/Time : 9-JUL-2009 13:14:36
 Calibration Source Id : AESS-045

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.218
 Energy Calibration Slope : 4.898855
 Energy Calibration Quadratic : 3.6102085E-04
 Energy Calibration Range : 7756.000

Instrument : CHAMBER 110
 Detector : 67602
 Calibration Date/Time : 9-JUL-2009 13:15:06
 Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3151.318
NP-237	4341	2/28/10	4768.800	4743.843
CM-244	4320A	2/28/10	5795.020	5748.494

Energy/Channel Equation : see above
 Energy Calibration Zero : 2393.627
 Energy Calibration Slope : 5.263870
 Energy Calibration Quadratic : 7.2507857E-05
 Energy Calibration Range : 7860.000

Instrument : CHAMBER 111
 Detector : 79462
 Calibration Date/Time : 9-JUL-2009 13:15:22
 Calibration Source Id : AESS-047

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2359.279
 Energy Calibration Slope : 4.970932
 Energy Calibration Quadratic : 3.2777866E-04
 Energy Calibration Range : 7793.000

Instrument : CHAMBER 112
 Detector : 78261
 Calibration Date/Time : 9-JUL-2009 13:15:42
 Calibration Source Id : AESS-048

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.029
CM-244	4320A	2/28/10	5795.020	5795.070

Energy/Channel Equation : see above
 Energy Calibration Zero : 2372.776
 Energy Calibration Slope : 4.930915
 Energy Calibration Quadratic : 3.0952421E-04
 Energy Calibration Range : 7747.000

Instrument : CHAMBER 113
 Detector : 45-111B4
 Calibration Date/Time : 15-JUL-2009 13:43:32
 Calibration Source Id : AESS-001

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.143
NP-237	4341	2/28/10	4768.800	4769.352
CM-244	4320A	2/28/10	5795.020	5795.169

Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.808
 Energy Calibration Slope : 5.000635
 Energy Calibration Quadratic : 2.7049560E-04
 Energy Calibration Range : 7789.000

Instrument : CHAMBER 114
 Detector : 78258
 Calibration Date/Time : 15-JUL-2009 13:43:44
 Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.317
NP-237	4341	2/28/10	4768.800	4768.936
CM-244	4320A	2/28/10	5795.020	5795.187

Energy/Channel Equation : see above
 Energy Calibration Zero : 2334.310
 Energy Calibration Slope : 4.976188
 Energy Calibration Quadratic : 2.4765823E-04
 Energy Calibration Range : 7690.000

Instrument : CHAMBER 115
 Detector : 45-132FF4
 Calibration Date/Time : 15-JUL-2009 13:43:54
 Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.299
NP-237	4341	2/28/10	4768.800	4768.906
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.743
 Energy Calibration Slope : 4.999947
 Energy Calibration Quadratic : 2.6256693E-04
 Energy Calibration Range : 7758.000

Instrument : CHAMBER 116
 Detector : 45-132FF2
 Calibration Date/Time : 15-JUL-2009 13:44:05
 Calibration Source Id : AESS-008

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.201
 Energy Calibration Slope : 4.980864
 Energy Calibration Quadratic : 2.6853522E-04
 Energy Calibration Range : 7743.000

Instrument : CHAMBER 117
 Detector : 33450
 Calibration Date/Time : 15-JUL-2009 13:44:15
 Calibration Source Id : AESS-003

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.341
NP-237	4341	2/28/10	4768.800	4769.249
CM-244	4320A	2/28/10	5795.020	5795.149

Energy/Channel Equation : see above
 Energy Calibration Zero : 2372.642
 Energy Calibration Slope : 4.960156
 Energy Calibration Quadratic : 2.9082331E-04
 Energy Calibration Range : 7757.000

Instrument : CHAMBER 118
 Detector : 75544
 Calibration Date/Time : 15-JUL-2009 13:44:26
 Calibration Source Id : AESS-009

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.240
NP-237	4341	2/28/10	4768.800	4768.906
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2335.434
 Energy Calibration Slope : 4.978148
 Energy Calibration Quadratic : 2.6964993E-04
 Energy Calibration Range : 7716.000

Instrument : CHAMBER 119
 Detector : 74429
 Calibration Date/Time : 2-FEB-2009 15:15:38
 Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3069.001
NP-237	4341	2/28/10	4768.800	4669.281
CM-244	4320A	2/28/10	5795.020	5706.875

Energy/Channel Equation : see above
 Energy Calibration Zero : 2437.949
 Energy Calibration Slope : 5.036866
 Energy Calibration Quadratic :
 Energy Calibration Range : 7596.000

Instrument : CHAMBER 120
 Detector : 74430
 Calibration Date/Time : 16-JUL-2009 09:29:36
 Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.243
NP-237	4341	2/28/10	4768.800	4768.978
CM-244	4320A	2/28/10	5795.020	5795.142

Energy/Channel Equation : see above
 Energy Calibration Zero : 2311.106
 Energy Calibration Slope : 4.960131
 Energy Calibration Quadratic : 2.6160042E-04
 Energy Calibration Range : 7665.000

Instrument : CHAMBER 121
 Detector : 75545
 Calibration Date/Time : 15-JUL-2009 13:44:36
 Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.188

Energy/Channel Equation : see above
 Energy Calibration Zero : 2334.679
 Energy Calibration Slope : 4.950221
 Energy Calibration Quadratic : 2.8347687E-04
 Energy Calibration Range : 7701.000

Instrument : CHAMBER 122
 Detector : 75546
 Calibration Date/Time : 15-JUL-2009 13:44:46
 Calibration Source Id : AESS-011

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.172
NP-237	4341	2/28/10	4768.800	4769.003
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2330.980
 Energy Calibration Slope : 4.960747
 Energy Calibration Quadratic : 2.7343398E-04
 Energy Calibration Range : 7698.000

Instrument : CHAMBER 123
 Detector : 45-142V3
 Calibration Date/Time : 15-JUL-2009 13:44:55
 Calibration Source Id : AESS-006

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.316
NP-237	4341	2/28/10	4768.800	4769.249
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2374.720
 Energy Calibration Slope : 4.978360
 Energy Calibration Quadratic : 2.5058995E-04
 Energy Calibration Range : 7735.000

Instrument : CHAMBER 124
 Detector : 45-142V2
 Calibration Date/Time : 15-JUL-2009 13:45:05
 Calibration Source Id : AESS-012

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.701
NP-237	4341	2/28/10	4768.800	4768.518
CM-244	4320A	2/28/10	5795.020	5794.902

Energy/Channel Equation : see above
 Energy Calibration Zero : 2382.371
 Energy Calibration Slope : 5.018754
 Energy Calibration Quadratic : 2.4640319E-04
 Energy Calibration Range : 7780.000

Instrument : CHAMBER 125
 Detector : 75547
 Calibration Date/Time : 17-JUL-2009 14:23:54
 Calibration Source Id : AESS-013
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.386
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.165
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2338.781
 Energy Calibration Slope : 4.955306
 Energy Calibration Quadratic : 2.6291917E-04
 Energy Calibration Range : 7689.000

Instrument : CHAMBER 126
 Detector : 75548
 Calibration Date/Time : 17-JUL-2009 14:24:06
 Calibration Source Id : AESS-019
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.019
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2345.216
 Energy Calibration Slope : 5.042264
 Energy Calibration Quadratic : 1.8960494E-04
 Energy Calibration Range : 7707.000

Instrument : CHAMBER 127
 Detector : 78770
 Calibration Date/Time : 17-JUL-2009 14:24:19
 Calibration Source Id : AESS-014
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.168
 NP-237 4341 2/28/10 4768.800 4769.036
 CM-244 4320A 2/28/10 5795.020 5795.095
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2333.395
 Energy Calibration Slope : 4.961254
 Energy Calibration Quadratic : 2.6867207E-04
 Energy Calibration Range : 7695.000

Instrument : CHAMBER 128
 Detector : 75549
 Calibration Date/Time : 17-JUL-2009 14:24:31
 Calibration Source Id : AESS-020
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.449
 NP-237 4341 2/28/10 4768.800 4769.095
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2323.424
 Energy Calibration Slope : 5.017115
 Energy Calibration Quadratic : 2.1570176E-04
 Energy Calibration Range : 7687.000

Instrument : CHAMBER 129
 Detector : 76227
 Calibration Date/Time : 17-JUL-2009 14:24:41
 Calibration Source Id : AESS-015
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.112
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2343.567
 Energy Calibration Slope : 4.949915
 Energy Calibration Quadratic : 2.7041257E-04
 Energy Calibration Range : 7696.000

Instrument : CHAMBER 130
 Detector : 76228
 Calibration Date/Time : 17-JUL-2009 14:24:51
 Calibration Source Id : AESS-021
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.758
 NP-237 4341 2/28/10 4768.800 4768.607
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2336.361
 Energy Calibration Slope : 4.980415
 Energy Calibration Quadratic : 2.3134552E-04
 Energy Calibration Range : 7679.000

Instrument : CHAMBER 131
 Detector : 33448
 Calibration Date/Time : 17-JUL-2009 14:25:01
 Calibration Source Id : AESS-016
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.605
 NP-237 4341 2/28/10 4768.800 4768.573
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.756
 Energy Calibration Slope : 4.931267
 Energy Calibration Quadratic : 3.1428930E-04
 Energy Calibration Range : 7768.000

Instrument : CHAMBER 132
 Detector : 67579
 Calibration Date/Time : 17-JUL-2009 14:25:11
 Calibration Source Id : AESS-022
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3181.074
 NP-237 4341 2/28/10 4768.800 4765.688
 CM-244 4320A 2/28/10 5795.020 5788.063
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2375.917
 Energy Calibration Slope : 5.056964
 Energy Calibration Quadratic : 2.6723032E-04
 Energy Calibration Range : 7834.000

Instrument : CHAMBER 133
 Detector : 76229
 Calibration Date/Time : 17-JUL-2009 14:25:22
 Calibration Source Id : AESS-017
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.235
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2304.280
 Energy Calibration Slope : 4.909981
 Energy Calibration Quadratic : 2.5969208E-04
 Energy Calibration Range : 7604.000

Instrument : CHAMBER 134
 Detector : 76230
 Calibration Date/Time : 17-JUL-2009 14:25:32
 Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.428
NP-237	4341	2/28/10	4768.800	4769.138
CM-244	4320A	2/28/10	5795.020	5795.114

Energy/Channel Equation : see above
 Energy Calibration Zero : 2323.771
 Energy Calibration Slope : 4.983015
 Energy Calibration Quadratic : 2.2696581E-04
 Energy Calibration Range : 7664.000

Instrument : CHAMBER 135
 Detector : 64270
 Calibration Date/Time : 17-JUL-2009 14:25:42
 Calibration Source Id : AESS-018

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.580
NP-237	4341	2/28/10	4768.800	4768.589
CM-244	4320A	2/28/10	5795.020	5794.911

Energy/Channel Equation : see above
 Energy Calibration Zero : 2342.408
 Energy Calibration Slope : 4.931945
 Energy Calibration Quadratic : 2.7902660E-04
 Energy Calibration Range : 7685.000

Instrument : CHAMBER 136
 Detector : 68549
 Calibration Date/Time : 17-JUL-2009 14:25:52
 Calibration Source Id : AESS-024

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3181.940
NP-237	4341	2/28/10	4768.800	4766.491
CM-244	4320A	2/28/10	5795.020	5789.976

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.642
 Energy Calibration Slope : 5.024161
 Energy Calibration Quadratic : 2.3099547E-04
 Energy Calibration Range : 7741.000

Instrument : CHAMBER 137
 Detector : 64288
 Calibration Date/Time : 17-JUL-2009 14:26:02
 Calibration Source Id : AESS-025
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4769.015
 CM-244 4320A 2/28/10 5795.020 5795.229
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2378.044
 Energy Calibration Slope : 5.009023
 Energy Calibration Quadratic : 3.1443321E-04
 Energy Calibration Range : 7837.000

Instrument : CHAMBER 138
 Detector : 65877
 Calibration Date/Time : 17-JUL-2009 14:26:11
 Calibration Source Id : AESS-031
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.798
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2377.362
 Energy Calibration Slope : 4.981610
 Energy Calibration Quadratic : 2.9931843E-04
 Energy Calibration Range : 7792.000

Instrument : CHAMBER 139
 Detector : 76231
 Calibration Date/Time : 17-JUL-2009 14:26:21
 Calibration Source Id : AESS-026
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.896
 CM-244 4320A 2/28/10 5795.020 5795.211
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2343.572
 Energy Calibration Slope : 4.954267
 Energy Calibration Quadratic : 2.9043874E-04
 Energy Calibration Range : 7721.000

Instrument : CHAMBER 140
 Detector : 78771
 Calibration Date/Time : 17-JUL-2009 14:26:31
 Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.831
CM-244	4320A	2/28/10	5795.020	5795.069

Energy/Channel Equation : see above
 Energy Calibration Zero : 2342.367
 Energy Calibration Slope : 4.948852
 Energy Calibration Quadratic : 3.0391497E-04
 Energy Calibration Range : 7729.000

Instrument : CHAMBER 141
 Detector : 76232
 Calibration Date/Time : 17-JUL-2009 14:26:40
 Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.179
NP-237	4341	2/28/10	4768.800	4768.885
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2351.966
 Energy Calibration Slope : 4.956621
 Energy Calibration Quadratic : 2.8871323E-04
 Energy Calibration Range : 7730.000

Instrument : CHAMBER 142
 Detector : 64261
 Calibration Date/Time : 17-JUL-2009 14:26:50
 Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.815
NP-237	4341	2/28/10	4768.800	4768.706
CM-244	4320A	2/28/10	5795.020	5794.924

Energy/Channel Equation : see above
 Energy Calibration Zero : 2381.651
 Energy Calibration Slope : 4.957265
 Energy Calibration Quadratic : 2.9752569E-04
 Energy Calibration Range : 7770.000

Instrument : CHAMBER 143
 Detector : 65882
 Calibration Date/Time : 17-JUL-2009 14:27:11
 Calibration Source Id : AESS-028
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3198.011
 NP-237 4341 2/28/10 4768.800 4793.655
 CM-244 4320A 2/28/10 5795.020 5843.728

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2400.594
 Energy Calibration Slope : 4.866200
 Energy Calibration Quadratic : 5.6703738E-04
 Energy Calibration Range : 7978.000

Instrument : CHAMBER 144
 Detector : 75551
 Calibration Date/Time : 17-JUL-2009 14:27:26
 Calibration Source Id : AESS-034
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.828
 NP-237 4341 2/28/10 4768.800 4768.697
 CM-244 4320A 2/28/10 5795.020 5795.020

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2348.318
 Energy Calibration Slope : 4.957791
 Energy Calibration Quadratic : 2.7922410E-04
 Energy Calibration Range : 7718.000

Instrument : CHAMBER 145
 Detector : 72526
 Calibration Date/Time : 17-JUL-2009 14:27:37
 Calibration Source Id : AESS-029
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.094
 NP-237 4341 2/28/10 4768.800 4768.886
 CM-244 4320A 2/28/10 5795.020 5795.045

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.360
 Energy Calibration Slope : 4.971958
 Energy Calibration Quadratic : 2.8320373E-04
 Energy Calibration Range : 7742.000

Instrument : CHAMBER 146
 Detector : 72527
 Calibration Date/Time : 17-JUL-2009 14:27:48
 Calibration Source Id : AESS-035

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.175
NP-237	4341	2/28/10	4768.800	4768.922
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2350.571
 Energy Calibration Slope : 4.930733
 Energy Calibration Quadratic : 2.9194859E-04
 Energy Calibration Range : 7706.000

Instrument : CHAMBER 147
 Detector : 75550
 Calibration Date/Time : 17-JUL-2009 14:27:59
 Calibration Source Id : AESS-030

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.209
NP-237	4341	2/28/10	4768.800	4769.018
CM-244	4320A	2/28/10	5795.020	5795.333

Energy/Channel Equation : see above
 Energy Calibration Zero : 2343.476
 Energy Calibration Slope : 4.959011
 Energy Calibration Quadratic : 2.7492910E-04
 Energy Calibration Range : 7710.000

Instrument : CHAMBER 148
 Detector : 74429
 Calibration Date/Time : 17-JUL-2009 14:28:08
 Calibration Source Id : AESS-036

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.165
NP-237	4341	2/28/10	4768.800	4768.865
CM-244	4320A	2/28/10	5795.020	5795.167

Energy/Channel Equation : see above
 Energy Calibration Zero : 2342.407
 Energy Calibration Slope : 4.941724
 Energy Calibration Quadratic : 3.0098064E-04
 Energy Calibration Range : 7718.000

Instrument : CHAMBER 149
 Detector : 33449
 Calibration Date/Time : 17-JUL-2009 14:28:21
 Calibration Source Id : AESS-037

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.292
 Energy Calibration Slope : 4.935481
 Energy Calibration Quadratic : 3.1694383E-04
 Energy Calibration Range : 7775.000

Instrument : CHAMBER 150
 Detector : 75552
 Calibration Date/Time : 17-JUL-2009 14:28:35
 Calibration Source Id : AESS-043

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.748
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2354.055
 Energy Calibration Slope : 4.971218
 Energy Calibration Quadratic : 2.7575236E-04
 Energy Calibration Range : 7734.000

Instrument : CHAMBER 151
 Detector : 75556
 Calibration Date/Time : 17-JUL-2009 14:28:46
 Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.936
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2341.373
 Energy Calibration Slope : 4.941175
 Energy Calibration Quadratic : 2.6452926E-04
 Energy Calibration Range : 7679.000

Instrument : CHAMBER 152
 Detector : 76222
 Calibration Date/Time : 17-JUL-2009 14:28:57
 Calibration Source Id : AESS-044
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.140
 NP-237 4341 2/28/10 4768.800 4768.855
 CM-244 4320A 2/28/10 5795.020 5795.046

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2338.705
 Energy Calibration Slope : 4.955201
 Energy Calibration Quadratic : 2.6211896E-04
 Energy Calibration Range : 7688.000

Instrument : CHAMBER 153
 Detector : 76223
 Calibration Date/Time : 17-JUL-2009 14:29:06
 Calibration Source Id : AESS-039
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.045

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2333.099
 Energy Calibration Slope : 4.935291
 Energy Calibration Quadratic : 2.9876101E-04
 Energy Calibration Range : 7700.000

Instrument : CHAMBER 154
 Detector : 76224
 Calibration Date/Time : 17-JUL-2009 14:29:15
 Calibration Source Id : AESS-045
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.651
 CM-244 4320A 2/28/10 5795.020 5795.020

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2341.465
 Energy Calibration Slope : 4.948726
 Energy Calibration Quadratic : 2.8072123E-04
 Energy Calibration Range : 7703.000

Instrument : CHAMBER 155
 Detector : 75553
 Calibration Date/Time : 17-JUL-2009 14:29:25
 Calibration Source Id : AESS-040

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.160
NP-237	4341	2/28/10	4768.800	4768.857
CM-244	4320A	2/28/10	5795.020	5795.116

Energy/Channel Equation : see above
 Energy Calibration Zero : 2365.986
 Energy Calibration Slope : 4.960846
 Energy Calibration Quadratic : 3.0533157E-04
 Energy Calibration Range : 7766.000

Instrument : CHAMBER 156
 Detector : 75554
 Calibration Date/Time : 17-JUL-2009 14:29:35
 Calibration Source Id : AESS-046

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.180
NP-237	4341	2/28/10	4768.800	4768.829
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2358.748
 Energy Calibration Slope : 4.995668
 Energy Calibration Quadratic : 2.7021556E-04
 Energy Calibration Range : 7758.000

Instrument : CHAMBER 157
 Detector : 75555
 Calibration Date/Time : 17-JUL-2009 14:29:49
 Calibration Source Id : AESS-041

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.132
NP-237	4341	2/28/10	4768.800	4768.802
CM-244	4320A	2/28/10	5795.020	5795.161

Energy/Channel Equation : see above
 Energy Calibration Zero : 2355.714
 Energy Calibration Slope : 4.974587
 Energy Calibration Quadratic : 2.8556405E-04
 Energy Calibration Range : 7749.000

Instrument : CHAMBER 158
 Detector : 33451
 Calibration Date/Time : 17-JUL-2009 14:30:01
 Calibration Source Id : AESS-047
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.110
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2380.269
 Energy Calibration Slope : 4.995139
 Energy Calibration Quadratic : 3.1028705E-04
 Energy Calibration Range : 7821.000

Instrument : CHAMBER 159
 Detector : 76225
 Calibration Date/Time : 17-JUL-2009 14:30:14
 Calibration Source Id : AESS-042
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.190
 NP-237 4341 2/28/10 4768.800 4768.913
 CM-244 4320A 2/28/10 5795.020 5795.044
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.142
 Energy Calibration Slope : 4.981561
 Energy Calibration Quadratic : 2.9250194E-04
 Energy Calibration Range : 7761.000

Instrument : CHAMBER 160
 Detector : 76226
 Calibration Date/Time : 17-JUL-2009 14:30:32
 Calibration Source Id : AESS-048
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.999
 NP-237 4341 2/28/10 4768.800 4768.958
 CM-244 4320A 2/28/10 5795.020 5795.070
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2355.931
 Energy Calibration Slope : 4.980661
 Energy Calibration Quadratic : 2.9644801E-04
 Energy Calibration Range : 7767.000

Instrument : CHAMBER 161
 Detector : 70321
 Calibration Date/Time : 22-JUN-2009 14:58:45
 Calibration Source Id : AESS-001

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2376.262
 Energy Calibration Slope : 4.896393
 Energy Calibration Quadratic : 3.3797286E-04
 Energy Calibration Range : 7745.000

Instrument : CHAMBER 162
 Detector : 70323
 Calibration Date/Time : 22-JUN-2009 14:59:02
 Calibration Source Id : AESS-007

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.662
NP-237	4341	2/28/10	4768.800	4769.615
CM-244	4320A	2/28/10	5795.020	5795.417

Energy/Channel Equation : see above
 Energy Calibration Zero : 2370.305
 Energy Calibration Slope : 4.919915
 Energy Calibration Quadratic : 3.0847988E-04
 Energy Calibration Range : 7732.000

Instrument : CHAMBER 163
 Detector : 70324
 Calibration Date/Time : 22-JUN-2009 14:59:20
 Calibration Source Id : AESS-002

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2381.293
 Energy Calibration Slope : 4.927099
 Energy Calibration Quadratic : 3.2329891E-04
 Energy Calibration Range : 7766.000

Instrument : CHAMBER 164
 Detector : 70325
 Calibration Date/Time : 22-JUN-2009 14:59:35
 Calibration Source Id : AESS-008
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.405
 NP-237 4341 2/28/10 4768.800 4768.212
 CM-244 4320A 2/28/10 5795.020 5795.019

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2382.304
 Energy Calibration Slope : 4.931757
 Energy Calibration Quadratic : 3.2424228E-04
 Energy Calibration Range : 7772.000

Instrument : CHAMBER 165
 Detector : 72544
 Calibration Date/Time : 22-JUN-2009 15:00:00
 Calibration Source Id : AESS-003
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5794.717

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2386.365
 Energy Calibration Slope : 4.964369
 Energy Calibration Quadratic : 2.8651269E-04
 Energy Calibration Range : 7770.000

Instrument : CHAMBER 166
 Detector : 74545
 Calibration Date/Time : 22-JUN-2009 15:00:15
 Calibration Source Id : AESS-009
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3182.357
 NP-237 4341 2/28/10 4768.800 4768.476
 CM-244 4320A 2/28/10 5795.020 5794.620

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2377.530
 Energy Calibration Slope : 4.930614
 Energy Calibration Quadratic : 3.2020407E-04
 Energy Calibration Range : 7762.000

Instrument : CHAMBER 167
 Detector : 72546
 Calibration Date/Time : 22-JUN-2009 15:00:26
 Calibration Source Id : AESS-004

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2378.454
 Energy Calibration Slope : 4.916844
 Energy Calibration Quadratic : 3.3378412E-04
 Energy Calibration Range : 7763.000

Instrument : CHAMBER 168
 Detector : 72547
 Calibration Date/Time : 22-JUN-2009 15:00:38
 Calibration Source Id : AESS-010

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.481
NP-237	4341	2/28/10	4768.800	4769.733
CM-244	4320A	2/28/10	5795.020	5795.360

Energy/Channel Equation : see above
 Energy Calibration Zero : 2378.216
 Energy Calibration Slope : 4.943952
 Energy Calibration Quadratic : 3.0569665E-04
 Energy Calibration Range : 7761.000

Instrument : CHAMBER 169
 Detector : 72548
 Calibration Date/Time : 22-JUN-2009 15:00:51
 Calibration Source Id : AESS-005

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.437
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.019

Energy/Channel Equation : see above
 Energy Calibration Zero : 2381.692
 Energy Calibration Slope : 4.923065
 Energy Calibration Quadratic : 3.2510224E-04
 Energy Calibration Range : 7764.000

Instrument : CHAMBER 170
 Detector : 72549
 Calibration Date/Time : 22-JUN-2009 15:01:02
 Calibration Source Id : AESS-011
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.574
 NP-237 4341 2/28/10 4768.800 4769.165
 CM-244 4320A 2/28/10 5795.020 5795.548

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2379.378
 Energy Calibration Slope : 4.940187
 Energy Calibration Quadratic : 3.2377098E-04
 Energy Calibration Range : 7778.000

Instrument : CHAMBER 171
 Detector : 78260
 Calibration Date/Time : 22-JUN-2009 15:01:15
 Calibration Source Id : AESS-006
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.011
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.025

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.143
 Energy Calibration Slope : 4.905009
 Energy Calibration Quadratic : 3.4086173E-04
 Energy Calibration Range : 7747.000

Instrument : CHAMBER 172
 Detector : 78772
 Calibration Date/Time : 22-JUN-2009 15:01:28
 Calibration Source Id : AESS-012
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2364.889
 Energy Calibration Slope : 4.905996
 Energy Calibration Quadratic : 3.5168754E-04
 Energy Calibration Range : 7757.000

Instrument : CHAMBER 173
 Detector : 74431
 Calibration Date/Time : 22-JUN-2009 15:01:41
 Calibration Source Id : AESS-013
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.716
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.857
 Energy Calibration Slope : 4.989556
 Energy Calibration Quadratic : 2.6047556E-04
 Energy Calibration Range : 7745.000

Instrument : CHAMBER 174
 Detector : 74432
 Calibration Date/Time : 22-JUN-2009 15:01:51
 Calibration Source Id : AESS-019
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.008
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.090
 Energy Calibration Slope : 5.020361
 Energy Calibration Quadratic : 2.1951902E-04
 Energy Calibration Range : 7732.000

Instrument : CHAMBER 175
 Detector : 74433
 Calibration Date/Time : 22-JUN-2009 15:02:01
 Calibration Source Id : AESS-014
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2356.841
 Energy Calibration Slope : 4.985576
 Energy Calibration Quadratic : 2.6544777E-04
 Energy Calibration Range : 7740.000

Instrument : CHAMBER 176
 Detector : 74434
 Calibration Date/Time : 22-JUN-2009 15:02:12
 Calibration Source Id : AESS-020

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.343
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2354.481
 Energy Calibration Slope : 5.029559
 Energy Calibration Quadratic : 2.1999818E-04
 Energy Calibration Range : 7735.000

Instrument : CHAMBER 177
 Detector : 74435
 Calibration Date/Time : 22-JUN-2009 15:02:24
 Calibration Source Id : AESS-015

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2360.728
 Energy Calibration Slope : 4.966811
 Energy Calibration Quadratic : 2.8411727E-04
 Energy Calibration Range : 7745.000

Instrument : CHAMBER 178
 Detector : 74436
 Calibration Date/Time : 22-JUN-2009 15:02:37
 Calibration Source Id : AESS-021

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.016
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2350.840
 Energy Calibration Slope : 5.018156
 Energy Calibration Quadratic : 2.2526548E-04
 Energy Calibration Range : 7726.000

Instrument : CHAMBER 179
 Detector : 74437
 Calibration Date/Time : 22-JUN-2009 15:02:54
 Calibration Source Id : AESS-016
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.008
 NP-237 4341 2/28/10 4768.800 4768.694
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2358.137
 Energy Calibration Slope : 4.971311
 Energy Calibration Quadratic : 2.7695790E-04
 Energy Calibration Range : 7739.000

Instrument : CHAMBER 180
 Detector : 74438
 Calibration Date/Time : 22-JUN-2009 15:03:14
 Calibration Source Id : AESS-022
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.026

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2352.778
 Energy Calibration Slope : 5.029830
 Energy Calibration Quadratic : 2.1214969E-04
 Energy Calibration Range : 7726.000

Instrument : CHAMBER 181
 Detector : 74439
 Calibration Date/Time : 22-JUN-2009 15:03:27
 Calibration Source Id : AESS-017
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.903
 CM-244 4320A 2/28/10 5795.020 5795.074

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2356.310
 Energy Calibration Slope : 4.974973
 Energy Calibration Quadratic : 2.7404417E-04
 Energy Calibration Range : 7738.000

Instrument : CHAMBER 182
 Detector : 74440
 Calibration Date/Time : 22-JUN-2009 15:03:39
 Calibration Source Id : AESS-023

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.403
NP-237	4341	2/28/10	4768.800	4768.970
CM-244	4320A	2/28/10	5795.020	5795.165

Energy/Channel Equation : see above
 Energy Calibration Zero : 2349.923
 Energy Calibration Slope : 4.986344
 Energy Calibration Quadratic : 2.5572060E-04
 Energy Calibration Range : 7724.000

Instrument : CHAMBER 183
 Detector : 74441
 Calibration Date/Time : 22-JUN-2009 15:03:53
 Calibration Source Id : AESS-018

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2359.238
 Energy Calibration Slope : 4.971895
 Energy Calibration Quadratic : 2.8019695E-04
 Energy Calibration Range : 7744.000

Instrument : CHAMBER 184
 Detector : 74442
 Calibration Date/Time : 22-JUN-2009 15:04:06
 Calibration Source Id : AESS-024

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2353.759
 Energy Calibration Slope : 5.027183
 Energy Calibration Quadratic : 2.1329588E-04
 Energy Calibration Range : 7725.000

Instrument : CHAMBER 185
 Detector : 68615
 Calibration Date/Time : 22-JUN-2009 15:04:16
 Calibration Source Id : AESS-025

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2356.756
 Energy Calibration Slope : 4.942091
 Energy Calibration Quadratic : 2.7517328E-04
 Energy Calibration Range : 7706.000

Instrument : CHAMBER 186
 Detector : 68616
 Calibration Date/Time : 22-JUN-2009 15:04:28
 Calibration Source Id : AESS-031

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.797
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2360.497
 Energy Calibration Slope : 4.943951
 Energy Calibration Quadratic : 2.8680658E-04
 Energy Calibration Range : 7724.000

Instrument : CHAMBER 187
 Detector : 68620
 Calibration Date/Time : 22-JUN-2009 15:04:38
 Calibration Source Id : AESS-026

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.853
CM-244	4320A	2/28/10	5795.020	5795.115

Energy/Channel Equation : see above
 Energy Calibration Zero : 2371.605
 Energy Calibration Slope : 4.963061
 Energy Calibration Quadratic : 3.0924208E-04
 Energy Calibration Range : 7778.000

Instrument : CHAMBER 188
 Detector : 68621
 Calibration Date/Time : 22-JUN-2009 15:04:49
 Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.832
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.401
 Energy Calibration Slope : 4.951802
 Energy Calibration Quadratic : 3.1090144E-04
 Energy Calibration Range : 7764.000

Instrument : CHAMBER 189
 Detector : 68622
 Calibration Date/Time : 22-JUN-2009 15:05:00
 Calibration Source Id : AESS-027

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.746
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2356.776
 Energy Calibration Slope : 4.949914
 Energy Calibration Quadratic : 2.7563065E-04
 Energy Calibration Range : 7715.000

Instrument : CHAMBER 190
 Detector : 68623
 Calibration Date/Time : 22-JUN-2009 15:05:13
 Calibration Source Id : AESS-033

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3182.750
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2355.469
 Energy Calibration Slope : 4.940720
 Energy Calibration Quadratic : 2.9352074E-04
 Energy Calibration Range : 7723.000

Instrument : CHAMBER 191
 Detector : 68624
 Calibration Date/Time : 22-JUN-2009 15:05:24
 Calibration Source Id : AESS-028

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.750
CM-244	4320A	2/28/10	5795.020	5794.952

Energy/Channel Equation : see above
 Energy Calibration Zero : 2370.162
 Energy Calibration Slope : 4.969944
 Energy Calibration Quadratic : 3.0237788E-04
 Energy Calibration Range : 7776.000

Instrument : CHAMBER 192
 Detector : 74430
 Calibration Date/Time : 22-JUN-2009 15:05:39
 Calibration Source Id : AESS-034

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2364.866
 Energy Calibration Slope : 4.974655
 Energy Calibration Quadratic : 2.9466255E-04
 Energy Calibration Range : 7768.000

Instrument : CHAMBER 193
 Detector : 68627
 Calibration Date/Time : 22-JUN-2009 15:05:50
 Calibration Source Id : AESS-029

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.252
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.004
 Energy Calibration Slope : 4.933344
 Energy Calibration Quadratic : 3.0485235E-04
 Energy Calibration Range : 7732.000

Instrument : CHAMBER 194
 Detector : 68635
 Calibration Date/Time : 22-JUN-2009 15:06:02
 Calibration Source Id : AESS-035
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.956
 CM-244 4320A 2/28/10 5795.020 5795.088

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2356.275
 Energy Calibration Slope : 4.943244
 Energy Calibration Quadratic : 2.9090239E-04
 Energy Calibration Range : 7723.000

Instrument : CHAMBER 195
 Detector : 68636
 Calibration Date/Time : 22-JUN-2009 15:06:11
 Calibration Source Id : AESS-030
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.227
 NP-237 4341 2/28/10 4768.800 4769.136
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.543
 Energy Calibration Slope : 4.955566
 Energy Calibration Quadratic : 2.8235061E-04
 Energy Calibration Range : 7732.000

Instrument : CHAMBER 196
 Detector : 68637
 Calibration Date/Time : 22-JUN-2009 15:06:21
 Calibration Source Id : AESS-036
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.134

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.497
 Energy Calibration Slope : 4.932623
 Energy Calibration Quadratic : 2.9964585E-04
 Energy Calibration Range : 7727.000

Instrument : CHAMBER 197
 Detector : 78894
 Calibration Date/Time : 23-JUN-2009 13:40:27
 Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.236
NP-237	4341	2/28/10	4768.800	4768.958
CM-244	4320A	2/28/10	5795.020	5795.067

Energy/Channel Equation : see above
 Energy Calibration Zero : 2365.861
 Energy Calibration Slope : 4.977748
 Energy Calibration Quadratic : 2.8034966E-04
 Energy Calibration Range : 7757.000

Instrument : CHAMBER 198
 Detector : 78895
 Calibration Date/Time : 22-JUN-2009 15:06:54
 Calibration Source Id : AESS-043

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2365.894
 Energy Calibration Slope : 4.963814
 Energy Calibration Quadratic : 2.8298626E-04
 Energy Calibration Range : 7746.000

Instrument : CHAMBER 199
 Detector : 78896
 Calibration Date/Time : 22-JUN-2009 15:07:05
 Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.091
NP-237	4341	2/28/10	4768.800	4768.800
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2364.930
 Energy Calibration Slope : 4.986914
 Energy Calibration Quadratic : 2.6706583E-04
 Energy Calibration Range : 7752.000

Instrument : CHAMBER 200
 Detector : 78900
 Calibration Date/Time : 22-JUN-2009 15:07:19
 Calibration Source Id : AESS-044

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2368.921
 Energy Calibration Slope : 4.942559
 Energy Calibration Quadratic : 3.1796028E-04
 Energy Calibration Range : 7764.000

Instrument : CHAMBER 201
 Detector : 78902
 Calibration Date/Time : 22-JUN-2009 15:07:30
 Calibration Source Id : AESS-039

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5795.093

Energy/Channel Equation : see above
 Energy Calibration Zero : 2363.354
 Energy Calibration Slope : 4.963643
 Energy Calibration Quadratic : 3.0018482E-04
 Energy Calibration Range : 7761.000

Instrument : CHAMBER 202
 Detector : 78903
 Calibration Date/Time : 22-JUN-2009 15:07:41
 Calibration Source Id : AESS-045

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.121
NP-237	4341	2/28/10	4768.800	4768.801
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2352.562
 Energy Calibration Slope : 4.948048
 Energy Calibration Quadratic : 3.0442388E-04
 Energy Calibration Range : 7739.000

Instrument : CHAMBER 203
 Detector : 78905
 Calibration Date/Time : 22-JUN-2009 15:07:50
 Calibration Source Id : AESS-040
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.175
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2359.840
 Energy Calibration Slope : 4.964388
 Energy Calibration Quadratic : 2.9003547E-04
 Energy Calibration Range : 7747.000

Instrument : CHAMBER 204
 Detector : 78907
 Calibration Date/Time : 22-JUN-2009 15:08:00
 Calibration Source Id : AESS-046
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.082
 NP-237 4341 2/28/10 4768.800 4768.826
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2361.510
 Energy Calibration Slope : 4.952772
 Energy Calibration Quadratic : 3.0013063E-04
 Energy Calibration Range : 7748.000

Instrument : CHAMBER 205
 Detector : 78908
 Calibration Date/Time : 22-JUN-2009 15:08:10
 Calibration Source Id : AESS-041
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.169
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.027

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2362.907
 Energy Calibration Slope : 4.968532
 Energy Calibration Quadratic : 2.9018772E-04
 Energy Calibration Range : 7755.000

Instrument : CHAMBER 206
 Detector : 78909
 Calibration Date/Time : 22-JUN-2009 15:08:23
 Calibration Source Id : AESS-047
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.146
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.042

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2357.156
 Energy Calibration Slope : 4.978078
 Energy Calibration Quadratic : 2.6590825E-04
 Energy Calibration Range : 7734.000

Instrument : CHAMBER 207
 Detector : 78910
 Calibration Date/Time : 22-JUN-2009 15:08:36
 Calibration Source Id : AESS-042
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2367.255
 Energy Calibration Slope : 4.968539
 Energy Calibration Quadratic : 2.9294274E-04
 Energy Calibration Range : 7762.000

Instrument : CHAMBER 208
 Detector : 78911
 Calibration Date/Time : 22-JUN-2009 15:08:47
 Calibration Source Id : AESS-048
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2364.810
 Energy Calibration Slope : 4.972878
 Energy Calibration Quadratic : 2.8153346E-04
 Energy Calibration Range : 7752.000

Instrument : CHAMBER 209
 Detector : 79188
 Calibration Date/Time : 30-JUN-2009 13:25:14
 Calibration Source Id : AESS-001
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.726
 Energy Calibration Slope : 4.931397
 Energy Calibration Quadratic : 3.2478853E-04
 Energy Calibration Range : 7778.000

Instrument : CHAMBER 210
 Detector : 79189
 Calibration Date/Time : 30-JUN-2009 13:25:32
 Calibration Source Id : AESS-002
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.637
 Energy Calibration Slope : 4.939270
 Energy Calibration Quadratic : 3.1113683E-04
 Energy Calibration Range : 7768.000

Instrument : CHAMBER 211
 Detector : 79190
 Calibration Date/Time : 30-JUN-2009 13:25:46
 Calibration Source Id : AESS-003
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.518
 Energy Calibration Slope : 4.955431
 Energy Calibration Quadratic : 3.0932875E-04
 Energy Calibration Range : 7788.000

Instrument : CHAMBER 212
 Detector : 79191
 Calibration Date/Time : 30-JUN-2009 13:25:56
 Calibration Source Id : AESS-004
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.357
 Energy Calibration Slope : 4.935492
 Energy Calibration Quadratic : 3.2339373E-04
 Energy Calibration Range : 7780.000

Instrument : CHAMBER 213
 Detector : 79192
 Calibration Date/Time : 30-JUN-2009 13:26:06
 Calibration Source Id : AESS-005
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2392.713
 Energy Calibration Slope : 4.948073
 Energy Calibration Quadratic : 3.1151611E-04
 Energy Calibration Range : 7786.000

Instrument : CHAMBER 214
 Detector : 79193
 Calibration Date/Time : 30-JUN-2009 13:26:15
 Calibration Source Id : AESS-006
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2381.982
 Energy Calibration Slope : 4.949060
 Energy Calibration Quadratic : 3.1146532E-04
 Energy Calibration Range : 7776.000

Instrument : CHAMBER 215
 Detector : 79194
 Calibration Date/Time : 30-JUN-2009 13:26:24
 Calibration Source Id : AESS-007
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2392.654
 Energy Calibration Slope : 4.938601
 Energy Calibration Quadratic : 3.3165864E-04
 Energy Calibration Range : 7798.000

Instrument : CHAMBER 216
 Detector : 79195
 Calibration Date/Time : 30-JUN-2009 13:26:33
 Calibration Source Id : AESS-008
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.258
 Energy Calibration Slope : 4.954875
 Energy Calibration Quadratic : 3.0062834E-04
 Energy Calibration Range : 7772.000

Instrument : CHAMBER 217
 Detector : 79410
 Calibration Date/Time : 30-JUN-2009 13:26:43
 Calibration Source Id : AESS-009
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.657
 Energy Calibration Slope : 4.940731
 Energy Calibration Quadratic : 3.2290843E-04
 Energy Calibration Range : 7788.000

Instrument : CHAMBER 218
 Detector : 79411
 Calibration Date/Time : 30-JUN-2009 13:26:51
 Calibration Source Id : AESS-010
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.019
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.484
 Energy Calibration Slope : 4.945539
 Energy Calibration Quadratic : 3.2147722E-04
 Energy Calibration Range : 7789.000

Instrument : CHAMBER 219
 Detector : 79412
 Calibration Date/Time : 30-JUN-2009 13:27:01
 Calibration Source Id : AESS-011
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.001
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2385.324
 Energy Calibration Slope : 4.953215
 Energy Calibration Quadratic : 3.0849627E-04
 Energy Calibration Range : 7781.000

Instrument : CHAMBER 220
 Detector : 79413
 Calibration Date/Time : 30-JUN-2009 13:27:10
 Calibration Source Id : AESS-012
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.523
 Energy Calibration Slope : 4.935628
 Energy Calibration Quadratic : 3.2036271E-04
 Energy Calibration Range : 7774.000

Instrument : CHAMBER 221
 Detector : 79414
 Calibration Date/Time : 30-JUN-2009 13:27:19
 Calibration Source Id : AESS-013

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2386.554
 Energy Calibration Slope : 4.965968
 Energy Calibration Quadratic : 3.1077291E-04
 Energy Calibration Range : 7798.000

Instrument : CHAMBER 222
 Detector : 79415
 Calibration Date/Time : 30-JUN-2009 13:27:29
 Calibration Source Id : AESS-014

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.799
CM-244	4320A	2/28/10	5795.020	5794.573

Energy/Channel Equation : see above
 Energy Calibration Zero : 2380.427
 Energy Calibration Slope : 5.024710
 Energy Calibration Quadratic : 2.4253939E-04
 Energy Calibration Range : 7780.000

Instrument : CHAMBER 223
 Detector : 79416
 Calibration Date/Time : 30-JUN-2009 13:27:39
 Calibration Source Id : AESS-015

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2391.487
 Energy Calibration Slope : 4.944519
 Energy Calibration Quadratic : 3.4526619E-04
 Energy Calibration Range : 7817.000

Instrument : CHAMBER 224
 Detector : 79417
 Calibration Date/Time : 30-JUN-2009 13:27:48
 Calibration Source Id : AESS-016
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.036
 Energy Calibration Slope : 4.998024
 Energy Calibration Quadratic : 2.7591022E-04
 Energy Calibration Range : 7796.000

Instrument : CHAMBER 225
 Detector : 79418
 Calibration Date/Time : 30-JUN-2009 13:28:00
 Calibration Source Id : AESS-017
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2391.820
 Energy Calibration Slope : 4.947299
 Energy Calibration Quadratic : 3.2222894E-04
 Energy Calibration Range : 7796.000

Instrument : CHAMBER 226
 Detector : 79419
 Calibration Date/Time : 30-JUN-2009 13:28:10
 Calibration Source Id : AESS-018
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.001
 NP-237 4341 2/28/10 4768.800 4768.798
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.017
 Energy Calibration Slope : 4.975819
 Energy Calibration Quadratic : 2.9400751E-04
 Energy Calibration Range : 7788.000

Instrument : CHAMBER 227
 Detector : 79420
 Calibration Date/Time : 30-JUN-2009 13:28:21
 Calibration Source Id : AESS-019
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.902
 Energy Calibration Slope : 4.944205
 Energy Calibration Quadratic : 3.2253028E-04
 Energy Calibration Range : 7792.000

Instrument : CHAMBER 228
 Detector : 79421
 Calibration Date/Time : 30-JUN-2009 13:28:30
 Calibration Source Id : AESS-020
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2382.530
 Energy Calibration Slope : 4.981592
 Energy Calibration Quadratic : 2.8075394E-04
 Energy Calibration Range : 7778.000

Instrument : CHAMBER 229
 Detector : 79422
 Calibration Date/Time : 30-JUN-2009 13:28:39
 Calibration Source Id : AESS-021
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.282
 Energy Calibration Slope : 4.954379
 Energy Calibration Quadratic : 3.1871718E-04
 Energy Calibration Range : 7796.000

Instrument : CHAMBER 230
 Detector : 79423
 Calibration Date/Time : 30-JUN-2009 13:28:51
 Calibration Source Id : AESS-022
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.798
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.651
 Energy Calibration Slope : 4.970551
 Energy Calibration Quadratic : 2.9692691E-04
 Energy Calibration Range : 7786.000

Instrument : CHAMBER 231
 Detector : 79424
 Calibration Date/Time : 30-JUN-2009 13:29:03
 Calibration Source Id : AESS-023
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.801
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.183
 Energy Calibration Slope : 4.959881
 Energy Calibration Quadratic : 3.0125881E-04
 Energy Calibration Range : 7782.000

Instrument : CHAMBER 232
 Detector : 79425
 Calibration Date/Time : 30-JUN-2009 13:29:13
 Calibration Source Id : AESS-024
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.233
 Energy Calibration Slope : 5.017519
 Energy Calibration Quadratic : 2.4404455E-04
 Energy Calibration Range : 7778.000

Instrument : CHAMBER 233
 Detector : 79426
 Calibration Date/Time : 30-JUN-2009 13:29:22
 Calibration Source Id : AESS-025

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.418
 Energy Calibration Slope : 4.917979
 Energy Calibration Quadratic : 3.4538476E-04
 Energy Calibration Range : 7782.000

Instrument : CHAMBER 234
 Detector : 79427
 Calibration Date/Time : 30-JUN-2009 13:29:34
 Calibration Source Id : AESS-026

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2382.356
 Energy Calibration Slope : 4.914772
 Energy Calibration Quadratic : 3.4141311E-04
 Energy Calibration Range : 7773.000

Instrument : CHAMBER 235
 Detector : 79428
 Calibration Date/Time : 30-JUN-2009 13:29:43
 Calibration Source Id : AESS-027

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.058
 Energy Calibration Slope : 4.936741
 Energy Calibration Quadratic : 3.3184959E-04
 Energy Calibration Range : 7790.000

Instrument : CHAMBER 236
 Detector : 79429
 Calibration Date/Time : 30-JUN-2009 13:29:51
 Calibration Source Id : AESS-028

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.647
 Energy Calibration Slope : 4.918993
 Energy Calibration Quadratic : 3.4496849E-04
 Energy Calibration Range : 7786.000

Instrument : CHAMBER 237
 Detector : 79430
 Calibration Date/Time : 30-JUN-2009 13:30:00
 Calibration Source Id : AESS-029

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.033
 Energy Calibration Slope : 4.937141
 Energy Calibration Quadratic : 3.3584173E-04
 Energy Calibration Range : 7797.000

Instrument : CHAMBER 238
 Detector : 79431
 Calibration Date/Time : 30-JUN-2009 13:30:09
 Calibration Source Id : AESS-030

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2383.856
 Energy Calibration Slope : 4.918208
 Energy Calibration Quadratic : 3.4156963E-04
 Energy Calibration Range : 7778.000

Instrument : CHAMBER 239
 Detector : 79432
 Calibration Date/Time : 30-JUN-2009 13:30:18
 Calibration Source Id : AESS-031

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.888
 Energy Calibration Slope : 4.920895
 Energy Calibration Quadratic : 3.5708703E-04
 Energy Calibration Range : 7803.000

Instrument : CHAMBER 240
 Detector : 79433
 Calibration Date/Time : 30-JUN-2009 13:30:27
 Calibration Source Id : AESS-032

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4768.798
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2386.559
 Energy Calibration Slope : 4.907694
 Energy Calibration Quadratic : 3.6268227E-04
 Energy Calibration Range : 7792.000

Instrument : CHAMBER 241
 Detector : 79434
 Calibration Date/Time : 30-JUN-2009 13:30:36
 Calibration Source Id : AESS-033

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2384.510
 Energy Calibration Slope : 4.923378
 Energy Calibration Quadratic : 3.4127611E-04
 Energy Calibration Range : 7784.000

Instrument : CHAMBER 242
 Detector : 79435
 Calibration Date/Time : 30-JUN-2009 13:30:45
 Calibration Source Id : AESS-034
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.798
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.047
 Energy Calibration Slope : 4.916013
 Energy Calibration Quadratic : 3.5139045E-04
 Energy Calibration Range : 7793.000

Instrument : CHAMBER 243
 Detector : 79436
 Calibration Date/Time : 30-JUN-2009 13:30:54
 Calibration Source Id : AESS-035
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2388.583
 Energy Calibration Slope : 4.932609
 Energy Calibration Quadratic : 3.3716374E-04
 Energy Calibration Range : 7793.000

Instrument : CHAMBER 244
 Detector : 79437
 Calibration Date/Time : 30-JUN-2009 13:31:04
 Calibration Source Id : AESS-036
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2389.087
 Energy Calibration Slope : 4.916673
 Energy Calibration Quadratic : 3.5015366E-04
 Energy Calibration Range : 7791.000

Instrument : CHAMBER 245
 Detector : 79438
 Calibration Date/Time : 30-JUN-2009 13:31:18
 Calibration Source Id : AESS-037

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.036
CM-244	4320A	2/28/10	5795.020	5795.020

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.120
 Energy Calibration Slope : 4.932529
 Energy Calibration Quadratic : 3.4877865E-04
 Energy Calibration Range : 7807.000

Instrument : CHAMBER 246
 Detector : 78912
 Calibration Date/Time : 30-JUN-2009 13:31:31
 Calibration Source Id : AESS-038

Cal. Isotopes	Source Id	Expiration Date	Standard Energy	Actual Energy
GD-148	6445-278	2/28/10	3183.000	3183.000
NP-237	4341	2/28/10	4768.800	4769.115
CM-244	4320A	2/28/10	5795.020	5795.021

Energy/Channel Equation : see above
 Energy Calibration Zero : 2391.179
 Energy Calibration Slope : 4.943339
 Energy Calibration Quadratic : 3.2214838E-04
 Energy Calibration Range : 7791.000

Instrument : CHAMBER 247
 Detector : 79440
 Calibration Date/Time : 30-JUN-2009 13:31:41
 Calibration Source Id : AESS-039

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2391.692
 Energy Calibration Slope : 4.933953
 Energy Calibration Quadratic : 3.4777186E-04
 Energy Calibration Range : 7809.000

Instrument : CHAMBER 248
 Detector : 79441
 Calibration Date/Time : 30-JUN-2009 13:31:51
 Calibration Source Id : AESS-040
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.938
 Energy Calibration Slope : 4.919151
 Energy Calibration Quadratic : 3.5771105E-04
 Energy Calibration Range : 7800.000

Instrument : CHAMBER 249
 Detector : 79442
 Calibration Date/Time : 30-JUN-2009 13:32:04
 Calibration Source Id : AESS-041
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.381
 Energy Calibration Slope : 4.922509
 Energy Calibration Quadratic : 3.6959481E-04
 Energy Calibration Range : 7816.000

Instrument : CHAMBER 250
 Detector : 79443
 Calibration Date/Time : 30-JUN-2009 13:32:16
 Calibration Source Id : AESS-042
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.799
 CM-244 4320A 2/28/10 5795.020 5795.021

 Energy/Channel Equation : see above
 Energy Calibration Zero : 2381.157
 Energy Calibration Slope : 4.929844
 Energy Calibration Quadratic : 3.4039136E-04
 Energy Calibration Range : 7786.000

Instrument : CHAMBER 251
 Detector : 79444
 Calibration Date/Time : 30-JUN-2009 13:32:48
 Calibration Source Id : AESS-043
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.225
 Energy Calibration Slope : 4.925405
 Energy Calibration Quadratic : 3.6185942E-04
 Energy Calibration Range : 7810.000

Instrument : CHAMBER 252
 Detector : 79445
 Calibration Date/Time : 30-JUN-2009 13:33:09
 Calibration Source Id : AESS-044
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.020
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2382.012
 Energy Calibration Slope : 4.929501
 Energy Calibration Quadratic : 3.4806953E-04
 Energy Calibration Range : 7795.000

Instrument : CHAMBER 253
 Detector : 79446
 Calibration Date/Time : 30-JUN-2009 13:33:20
 Calibration Source Id : AESS-045
 Cal. Isotopes Source Id Expiration Date Standard Energy Actual Energy
 GD-148 6445-278 2/28/10 3183.000 3183.000
 NP-237 4341 2/28/10 4768.800 4768.800
 CM-244 4320A 2/28/10 5795.020 5795.021
 Energy/Channel Equation : see above
 Energy Calibration Zero : 2394.239
 Energy Calibration Slope : 4.943881
 Energy Calibration Quadratic : 3.5968810E-04
 Energy Calibration Range : 7834.000

Instrument : CHAMBER 254
 Detector : 79447
 Calibration Date/Time : 30-JUN-2009 13:33:32
 Calibration Source Id : AESS-046

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.188
 Energy Calibration Slope : 4.926832
 Energy Calibration Quadratic : 3.5614919E-04
 Energy Calibration Range : 7809.000

Instrument : CHAMBER 255
 Detector : 79448
 Calibration Date/Time : 30-JUN-2009 13:33:42
 Calibration Source Id : AESS-047

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2390.725
 Energy Calibration Slope : 4.926145
 Energy Calibration Quadratic : 3.6522237E-04
 Energy Calibration Range : 7818.000

Instrument : CHAMBER 256
 Detector : 79449
 Calibration Date/Time : 30-JUN-2009 13:33:53
 Calibration Source Id : AESS-048

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

Energy/Channel Equation : see above
 Energy Calibration Zero : 2387.915
 Energy Calibration Slope : 4.925013
 Energy Calibration Quadratic : 3.5367915E-04
 Energy Calibration Range : 7802.000

Subsection 2: Background Calibration

Instrument : CHAMBER 001
 Detector : 78788
 Background Analysis Date/Time : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.679	3298.848	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.698	4905.866	9.000000	2.159999	33.33334	95.00000
CM-244	5535.874	5884.629	8.000000	1.919999	35.35534	95.00000

Instrument : CHAMBER 002
 Detector : 78266
 Background Analysis Date/Time : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.715	3301.971	9.000000	2.159999	33.33334	95.00000
NP-237	4433.336	4902.576	8.000000	1.919999	35.35534	95.00000
CM-244	5533.904	5882.845	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 003
 Detector : 67617
 Background Analysis Date/Time : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.494	3301.750	234063.0	56175.08	0.2066967	95.00000
NP-237	4434.514	4906.213	77237.00	18536.87	0.3598217	95.00000
CM-244	5534.317	5886.218	1459.000	350.1598	2.618016	95.00000

Instrument : CHAMBER 004
 Detector : 64279
 Background Analysis Date/Time : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.142	3301.855	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.122	4905.061	9.000000	2.159999	33.33334	95.00000
CM-244	5532.169	5885.896	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 005
 Detector : 67612
 Background Analysis Date/Time : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.844	3301.859	6.000000	1.439999	40.82483	95.00000
NP-237	4432.372	4905.723	7.000000	1.679999	37.79645	95.00000
CM-244	5534.445	5887.312	11.00000	2.639998	30.15113	95.00000

Instrument : CHAMBER 006
 Detector : 67613
 Background Analysis Date/Time : 5-JUL-2009 15:11:54
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.836	3301.578	1.000000	0.2399998	100.0000	95.00000
NP-237	4433.162	4904.315	5.000000	1.199999	44.72136	95.00000
CM-244	5534.623	5882.438	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 007
 Detector : 67607
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.476	3300.975	5.000000	1.199999	44.72136	95.00000
NP-237	4436.790	4906.439	13.00000	3.119998	27.73501	95.00000
CM-244	5534.241	5887.079	16.00000	3.839998	25.00000	95.00000

Instrument : CHAMBER 008
 Detector : 78788
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.921	3300.406	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.107	4902.387	10.00000	2.399998	31.62278	95.00000
CM-244	5534.594	5883.502	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 009
 Detector : 72528
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.628	3299.090	3.000000	0.7199996	57.73503	95.00000
NP-237	4437.197	4904.633	13.000000	3.119998	27.73501	95.00000
CM-244	5532.440	5887.594	10.000000	2.399998	31.62278	95.00000

Instrument : CHAMBER 010
 Detector : 72529
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.348	3298.595	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.835	4903.545	8.000000	1.919999	35.35534	95.00000
CM-244	5530.435	5886.972	9.000000	2.159999	33.33334	95.00000

Instrument : CHAMBER 011
 Detector : 72531
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.311	3301.519	2.000000	0.4799997	70.71068	95.00000
NP-237	4434.837	4904.180	7.000000	1.679999	37.79645	95.00000
CM-244	5534.270	5885.159	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 012
 Detector : 67594
 Background Analysis Date/Time : 5-JUL-2009 15:11:55
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.530	3302.430	7.000000	1.679999	37.79645	95.00000
NP-237	4435.245	4904.394	9.000000	2.159999	33.33334	95.00000
CM-244	5531.663	5882.971	9.000000	2.159999	33.33334	95.00000

Instrument : CHAMBER 013
 Detector : 78790
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.215	3297.934	1.000000	0.2400001	100.0000	95.00000
NP-237	4433.681	4905.322	9.000000	2.160001	33.33334	95.00000
CM-244	5534.510	5884.075	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 014
 Detector : 67616
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.044	3301.205	4.000000	0.9600002	50.00000	95.00000
NP-237	4432.568	4904.459	8.000000	1.920000	35.35534	95.00000
CM-244	5531.132	5885.588	19.00000	4.560001	22.94157	95.00000

Instrument : CHAMBER 015
 Detector : 61581
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.992	3300.634	1.000000	0.2400001	100.0000	95.00000
NP-237	4433.750	4904.866	3.000000	0.7200001	57.73503	95.00000
CM-244	5533.850	5883.539	18.00000	4.320001	23.57022	95.00000

Instrument : CHAMBER 016
 Detector : 78774
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.376	3300.188	2.000000	0.4800001	70.71068	95.00000
NP-237	4436.705	4902.519	8.000000	1.920000	35.35534	95.00000
CM-244	5531.791	5887.203	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 017
 Detector : 78791
 Background Analysis Date/Time : 5-JUL-2009 15:11:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.293	3301.593	4.000000	0.9600002	50.00000	95.00000
NP-237	4433.438	4905.522	3.000000	0.7200001	57.73503	95.00000
CM-244	5532.444	5887.037	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 018
 Detector : 21063
 Background Analysis Date/Time : 13-JUL-2009 21:54:51
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.459	3300.768	2.000000	0.4800001	70.71068	95.00000
NP-237	4435.720	4903.495	7.000000	1.680000	37.79645	95.00000
CM-244	5531.358	5886.349	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 019
 Detector : 78786
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.589	3299.131	2.000000	0.4800001	70.71068	95.00000
NP-237	4435.520	4903.560	5.000000	1.200000	44.72136	95.00000
CM-244	5534.981	5882.589	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 020
 Detector : 78787
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.028	3300.317	3.000000	0.7200001	57.73503	95.00000
NP-237	4434.663	4901.954	7.000000	1.680000	37.79645	95.00000
CM-244	5534.316	5883.376	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 021
 Detector : 67047
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.930	3300.431	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.207	4905.011	8.000000	1.920000	35.35534	95.00000
CM-244	5533.018	5884.673	17.00000	4.080001	24.25356	95.00000

Instrument : CHAMBER 022
 Detector : 72530
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.087	3302.012	33.00000	7.920002	17.40777	95.00000
NP-237	4436.701	4902.154	23.00000	5.520001	20.85144	95.00000
CM-244	5532.124	5885.279	12.00000	2.880001	28.86751	95.00000

Instrument : CHAMBER 023
 Detector : 78264
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.041	3300.395	2.000000	0.4800001	70.71068	95.00000
NP-237	4437.054	4904.602	10.00000	2.400001	31.62278	95.00000
CM-244	5531.351	5885.314	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 024
 Detector : 76542
 Background Analysis Date/Time : 5-JUL-2009 15:11:57
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.294	3302.013	10.00000	2.400001	31.62278	95.00000
NP-237	4435.963	4904.774	26.00000	6.240001	19.61161	95.00000
CM-244	5530.886	5886.529	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 025
 Detector : 45-149AA5
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.683	3301.317	3.000000	0.7200001	57.73503	95.00000
NP-237	4432.505	4905.964	7.000000	1.680000	37.79645	95.00000
CM-244	5531.275	5884.228	21.00000	5.040001	21.82179	95.00000

Instrument : CHAMBER 026
 Detector : 78204
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.261	3299.610	2.000000	0.4800001	70.71068	95.00000
NP-237	4434.923	4901.784	5.000000	1.200000	44.72136	95.00000
CM-244	5534.672	5884.552	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 027
 Detector : 42484
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.456	3300.321	2.000000	0.4800001	70.71068	95.00000
NP-237	4432.625	4905.570	12.00000	2.880001	28.86751	95.00000
CM-244	5534.870	5882.737	23.00000	5.520001	20.85144	95.00000

Instrument : CHAMBER 028
 Detector : 78792
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.695	3297.894	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.454	4902.851	4.000000	0.9600002	50.00000	95.00000
CM-244	5530.764	5886.057	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 029
 Detector : 33454
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.570	3299.793	4.000000	0.9600002	50.00000	95.00000
NP-237	4434.729	4906.466	6.000000	1.440000	40.82483	95.00000
CM-244	5530.876	5886.187	7.000000	1.680000	37.79645	95.00000

Instrument : CHAMBER 030
 Detector : 33447
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.473	3300.013	5.000000	1.200000	44.72136	95.00000
NP-237	4433.021	4902.873	11.00000	2.640000	30.15113	95.00000
CM-244	5531.626	5884.032	17.00000	4.080001	24.25356	95.00000

Instrument : CHAMBER 031
 Detector : 67042
 Background Analysis Date/Time : 13-JUL-2009 21:54:52
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.104	3299.916	5.000000	1.200000	44.72136	95.00000
NP-237	4436.072	4902.901	16.00000	3.840001	25.00000	95.00000
CM-244	5535.417	5884.932	11.00000	2.640001	30.15113	95.00000

Instrument : CHAMBER 032
 Detector : 67041
 Background Analysis Date/Time : 13-JUL-2009 21:54:52
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.634	3297.499	1.000000	0.2400001	100.0000	95.00000
NP-237	4437.570	4904.884	14.00000	3.360001	26.72612	95.00000
CM-244	5533.522	5884.215	16.00000	3.840001	25.00000	95.00000

Instrument : CHAMBER 033
 Detector : 78785
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.591	3298.173	1.000000	0.2400000	100.0000	95.00000
NP-237	4434.089	4906.364	9.000000	2.160000	33.33334	95.00000
CM-244	5534.061	5883.941	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 034
 Detector : 61586
 Background Analysis Date/Time : 13-JUL-2009 21:54:52
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.268	3300.348	1.000000	0.2400001	100.0000	95.00000
NP-237	4435.287	4906.218	9.000000	2.160001	33.33334	95.00000
CM-244	5533.837	5886.701	12.00000	2.880001	28.86751	95.00000

Instrument : CHAMBER 035
 Detector : 78202
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.841	3298.805	1.000000	0.2400000	100.0000	95.00000
NP-237	4433.680	4901.942	20.00000	4.800001	22.36068	95.00000
CM-244	5530.913	5886.751	8.000000	1.920000	35.35534	95.00000

Instrument : CHAMBER 036
 Detector : 78203
 Background Analysis Date/Time : 5-JUL-2009 15:11:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.719	3297.679	1.000000	0.2400000	100.0000	95.00000
NP-237	4436.454	4902.523	2.000000	0.4800001	70.71068	95.00000
CM-244	5534.221	5883.385	6.000000	1.440000	40.82483	95.00000

Instrument : CHAMBER 037
 Detector : 45-149BB5
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.027	3298.587	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.750	4902.017	14.00000	3.360001	26.72612	95.00000
CM-244	5535.521	5884.277	18.00000	4.320001	23.57022	95.00000

Instrument : CHAMBER 038
 Detector : 72532
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.665	3301.822	6.000000	1.440000	40.82483	95.00000
NP-237	4435.489	4906.553	18.00000	4.320001	23.57022	95.00000
CM-244	5532.401	5886.525	16.00000	3.840001	25.00000	95.00000

Instrument : CHAMBER 039
 Detector : 45-149BB2
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.145	3298.732	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.549	4903.088	5.000000	1.200000	44.72136	95.00000
CM-244	5534.287	5885.251	15.00000	3.600001	25.81989	95.00000

Instrument : CHAMBER 040
 Detector : 78773
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.803	3299.657	3.000000	0.7200001	57.73503	95.00000
NP-237	4435.891	4904.106	7.000000	1.680000	37.79645	95.00000
CM-244	5531.706	5883.967	1.000000	0.2400001	100.0000	95.00000

Instrument : CHAMBER 041
 Detector : 78205
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.799	3301.675	4.000000	0.9600002	50.00000	95.00000
NP-237	4434.272	4902.386	12.00000	2.880001	28.86751	95.00000
CM-244	5531.847	5882.877	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 042
 Detector : 78793
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.257	3302.160	1.000000	0.2400001	100.0000	95.00000
NP-237	4435.667	4904.225	11.00000	2.640001	30.15113	95.00000
CM-244	5531.759	5883.730	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 043
 Detector : 76543
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.989	3298.318	1.000000	0.2399998	100.0000	95.00000
NP-237	4436.983	4902.370	4.000000	0.9599994	50.00000	95.00000
CM-244	5532.584	5886.039	3.000000	0.7199996	57.73503	95.00000

Instrument : CHAMBER 044
 Detector : 79459
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.854	3300.902	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.084	4901.492	10.00000	2.400001	31.62278	95.00000
CM-244	5533.776	5883.326	6.000000	1.440000	40.82483	95.00000

Instrument : CHAMBER 045
 Detector : 67601
 Background Analysis Date/Time : 13-JUL-2009 21:54:53
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.909	3300.265	1.000000	0.2400000	100.0000	95.00000
NP-237	4434.212	4905.200	7.000000	1.680000	37.79645	95.00000
CM-244	5530.781	5884.673	1.000000	0.2400000	100.0000	95.00000

Instrument : CHAMBER 046
 Detector : 76544
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.077	3298.635	2.000000	0.4799997	70.71068	95.00000
NP-237	4433.627	4906.487	10.00000	2.399998	31.62278	95.00000
CM-244	5533.329	5885.134	8.000000	1.919999	35.35534	95.00000

Instrument : CHAMBER 047
 Detector : 46-089B1
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.977	3301.361	2.000000	0.4799997	70.71068	95.00000
NP-237	4433.363	4905.447	8.000000	1.919999	35.35534	95.00000
CM-244	5532.313	5886.846	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 048
 Detector : 42483
 Background Analysis Date/Time : 5-JUL-2009 15:12:00
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.411	3301.246	4.000000	0.9599994	50.00000	95.00000
NP-237	4433.969	4903.143	12.00000	2.879998	28.86751	95.00000
CM-244	5530.501	5887.230	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 065
 Detector : 68551
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.172	3297.923	12.00000	2.879998	28.86751	95.00000
NP-237	4436.297	4904.907	10.00000	2.399998	31.62278	95.00000
CM-244	5532.615	5884.733	17.00000	4.079998	24.25356	95.00000

Instrument : CHAMBER 066
 Detector : 46-089C1
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.142	3300.807	4.000000	0.9599994	50.00000	95.00000
NP-237	4436.247	4906.352	9.000000	2.159999	33.33334	95.00000
CM-244	5534.784	5886.688	18.00000	4.319997	23.57022	95.00000

Instrument : CHAMBER 067
 Detector : 46-089B4
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.144	3301.594	1.000000	0.2399998	100.0000	95.00000
NP-237	4436.169	4905.946	11.00000	2.639998	30.15113	95.00000
CM-244	5533.963	5885.648	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 068
 Detector : 78794
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.601	3300.139	1.000000	0.2399998	100.0000	95.00000
NP-237	4435.756	4903.729	4.000000	0.9599994	50.00000	95.00000
CM-244	5531.794	5886.867	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 069
 Detector : 78795
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.901	3298.738	5.000000	1.199999	44.72136	95.00000
NP-237	4437.201	4903.207	6.000000	1.439999	40.82483	95.00000
CM-244	5534.874	5884.048	9.000000	2.159999	33.33334	95.00000

Instrument : CHAMBER 070
 Detector : 46-089B2
 Background Analysis Date/Time : 5-JUL-2009 15:12:01
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.641	3300.492	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.833	4904.443	11.00000	2.639998	30.15113	95.00000
CM-244	5531.433	5882.799	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 071
 Detector : 64259
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.476	3301.614	1.000000	0.2399998	100.0000	95.00000
NP-237	4435.387	4902.436	6.000000	1.439999	40.82483	95.00000
CM-244	5534.462	5883.334	12.00000	2.879998	28.86751	95.00000

Instrument : CHAMBER 072
 Detector : 45-149AA3
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.586	3301.014	2.000000	0.4799997	70.71068	95.00000
NP-237	4432.963	4902.126	5.000000	1.199999	44.72136	95.00000
CM-244	5535.050	5886.750	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 073
 Detector : 78775
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.870	3299.007	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.703	4904.982	6.000000	1.439999	40.82483	95.00000
CM-244	5532.962	5884.931	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 074
 Detector : 78266
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.625	3300.254	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.417	4902.858	9.000000	2.159999	33.33334	95.00000
CM-244	5535.258	5884.259	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 075
 Detector : 68550
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.563	3301.861	2.000000	0.4799997	70.71068	95.00000
NP-237	4432.969	4904.420	19.00000	4.559997	22.94157	95.00000
CM-244	5535.562	5884.044	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 076
 Detector : 78779
 Background Analysis Date/Time : 5-JUL-2009 15:12:02
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.408	3300.679	2.000000	0.4799997	70.71068	95.00000
NP-237	4437.552	4904.251	7.000000	1.679999	37.79645	95.00000
CM-244	5530.870	5885.252	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 077
 Detector : 67576
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.825	3301.085	2.000000	0.4800001	70.71068	95.00000
NP-237	4432.612	4901.681	5.000000	1.200000	44.72136	95.00000
CM-244	5534.546	5886.248	8.000000	1.920000	35.35534	95.00000

Instrument : CHAMBER 078
 Detector : 67577
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.395	3299.584	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.349	4904.419	5.000000	1.200000	44.72136	95.00000
CM-244	5535.593	5884.350	7.000000	1.680000	37.79645	95.00000

Instrument : CHAMBER 079
 Detector : 67598
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.535	3297.935	1.000000	0.2400000	100.0000	95.00000
NP-237	4435.153	4903.332	3.000000	0.7200001	57.73503	95.00000
CM-244	5530.500	5882.333	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 080
 Detector : 78197
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.338	3298.189	3.000000	0.7200001	57.73503	95.00000
NP-237	4434.851	4901.472	10.00000	2.400000	31.62278	95.00000
CM-244	5531.493	5883.930	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 081
 Detector : 72533
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2985.980	3302.417	1.000000	0.2400000	100.0000	95.00000
NP-237	4432.287	4905.979	5.000000	1.200000	44.72136	95.00000
CM-244	5534.795	5885.572	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 082
 Detector : 64263
 Background Analysis Date/Time : 5-JUL-2009 15:12:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.419	3298.608	1.000000	0.2400000	100.0000	95.00000
NP-237	4437.000	4905.115	7.000000	1.680000	37.79645	95.00000
CM-244	5534.320	5885.085	9.000000	2.160000	33.33334	95.00000

Instrument : CHAMBER 083
 Detector : 64278
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.455	3299.407	2.000000	0.4800001	70.71068	95.00000
NP-237	4433.838	4906.607	13.00000	3.120001	27.73501	95.00000
CM-244	5532.253	5885.057	13.00000	3.120001	27.73501	95.00000

Instrument : CHAMBER 084
 Detector : 78265
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.133	3299.227	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.289	4901.844	8.000000	1.920000	35.35534	95.00000
CM-244	5535.275	5884.618	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 085
 Detector : 78776
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.612	3299.207	2.000000	0.4800001	70.71068	95.00000
NP-237	4434.183	4901.520	9.000000	2.160001	33.33334	95.00000
CM-244	5533.754	5882.654	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 086
 Detector : 78198
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.886	3300.091	3.000000	0.7200001	57.73503	95.00000
NP-237	4433.582	4903.927	6.000000	1.440000	40.82483	95.00000
CM-244	5531.751	5882.863	5.000000	1.200000	44.72136	95.00000

Instrument : CHAMBER 087
 Detector : 78199
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.385	3299.009	4.000000	0.9600002	50.00000	95.00000
NP-237	4436.772	4904.542	10.00000	2.400001	31.62278	95.00000
CM-244	5534.083	5883.178	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 088
 Detector : 33452
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.970	3298.296	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.463	4902.334	8.000000	1.920000	35.35534	95.00000
CM-244	5534.583	5887.587	9.000000	2.160001	33.33334	95.00000

Instrument : CHAMBER 089
 Detector : 78262
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.075	3297.767	4.000000	0.9599994	50.00000	95.00000
NP-237	4432.406	4901.978	7.000000	1.679999	37.79645	95.00000
CM-244	5532.097	5882.869	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 090
 Detector : 78263
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.462	3300.982	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.552	4903.775	8.000000	1.919999	35.35534	95.00000
CM-244	5532.754	5885.804	3.000000	0.7199996	57.73503	95.00000

Instrument : CHAMBER 091
 Detector : 78259
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.268	3298.949	1.000000	0.2399998	100.0000	95.00000
NP-237	4433.436	4901.824	7.000000	1.679999	37.79645	95.00000
CM-244	5531.214	5887.413	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 092
 Detector : 79457
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.198	3300.849	49.00000	11.75999	14.28572	95.00000
NP-237	4435.896	4905.687	19.00000	4.559997	22.94157	95.00000
CM-244	5533.567	5885.099	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 093
 Detector : 33206
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.963	3299.960	1.000000	0.2399998	100.0000	95.00000
NP-237	4434.063	4902.978	9.000000	2.159999	33.33334	95.00000
CM-244	5531.085	5883.424	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 094
 Detector : 78267
 Background Analysis Date/Time : 5-JUL-2009 15:12:04
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.912	3298.303	4.000000	0.9599994	50.00000	95.00000
NP-237	4435.971	4905.664	4.000000	0.9599994	50.00000	95.00000
CM-244	5534.211	5886.502	4.000000	0.9599994	50.00000	95.00000

Instrument : CHAMBER 095
 Detector : 64279
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.056	3301.826	3.000000	0.7199996	57.73503	95.00000
NP-237	4435.330	4905.275	10.00000	2.399998	31.62278	95.00000
CM-244	5534.057	5886.430	24.00000	5.759996	20.41241	95.00000

Instrument : CHAMBER 096
 Detector : 67605
 Background Analysis Date/Time : 8-JUL-2009 15:03:56
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.311	3298.177	2.000000	0.4799997	70.71068	95.00000
NP-237	4434.251	4906.198	29.00000	6.959996	18.56953	95.00000
CM-244	5533.120	5882.408	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 097
 Detector : 67599
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.746	3302.068	2.000000	0.4799997	70.71068	95.00000
NP-237	4437.101	4903.794	1.000000	0.2399998	100.0000	95.00000
CM-244	5531.052	5886.116	14.00000	3.359998	26.72612	95.00000

Instrument : CHAMBER 098
 Detector : 68644
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.589	3298.128	1.000000	0.2399998	100.0000	95.00000
NP-237	4432.836	4901.640	12.00000	2.879998	28.86751	95.00000
CM-244	5531.873	5883.257	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 099
 Detector : 70317
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.876	3301.163	3.000000	0.7199996	57.73503	95.00000
NP-237	4434.526	4903.945	4.000000	0.9599994	50.00000	95.00000
CM-244	5533.432	5886.885	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 100
 Detector : 79456
 Background Analysis Date/Time : 5-JUL-2009 15:12:05
 Background Count Time : 59999.99

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.287	3297.799	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.422	4905.631	13.00000	3.119998	27.73501	95.00000
CM-244	5534.572	5887.590	7.000000	1.679999	37.79645	95.00000

Instrument : CHAMBER 101
 Detector : 64253
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.433	3299.297	2.000000	0.4800001	70.71068	95.00000
NP-237	4436.714	4901.796	4.000000	0.9600002	50.00000	95.00000
CM-244	5531.777	5885.188	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 102
 Detector : 72525
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.102	3300.657	3.000000	0.7200001	57.73503	95.00000
NP-237	4432.858	4904.949	7.000000	1.680000	37.79645	95.00000
CM-244	5531.106	5882.690	2.000000	0.4800001	70.71068	95.00000

Instrument : CHAMBER 103
 Detector : 79461
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.996	3300.314	1.000000	0.2400000	100.0000	95.00000
NP-237	4436.805	4901.981	2.000000	0.4800001	70.71068	95.00000
CM-244	5532.506	5886.425	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 104
 Detector : 72524
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.719	3300.868	1.000000	0.2400000	100.0000	95.00000
NP-237	4437.132	4904.901	12.00000	2.880001	28.86751	95.00000
CM-244	5531.506	5883.017	4.000000	0.9600002	50.00000	95.00000

Instrument : CHAMBER 105
 Detector : 78777
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.574	3300.708	1.000000	0.2400000	100.0000	95.00000
NP-237	4435.406	4903.467	4.000000	0.9600002	50.00000	95.00000
CM-244	5531.275	5883.854	1.000000	0.2400000	100.0000	95.00000

Instrument : CHAMBER 106
 Detector : 64274
 Background Analysis Date/Time : 5-JUL-2009 15:12:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.941	3301.958	4.000000	0.9600002	50.00000	95.00000
NP-237	4435.855	4902.069	6.000000	1.440000	40.82483	95.00000
CM-244	5534.023	5883.359	3.000000	0.7200001	57.73503	95.00000

Instrument : CHAMBER 107
 Detector : 67578
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.523	3301.257	5.000000	1.199999	44.72136	95.00000
NP-237	4435.381	4903.438	5.000000	1.199999	44.72136	95.00000
CM-244	5532.229	5882.600	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 108
 Detector : 78778
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.937	3298.136	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.160	4903.491	6.000000	1.439999	40.82483	95.00000
CM-244	5531.067	5883.227	1.000000	0.2399998	100.0000	95.00000

Instrument : CHAMBER 109
 Detector : 79463
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.195	3299.997	2.000000	0.4799997	70.71068	95.00000
NP-237	4435.631	4906.161	7.000000	1.679999	37.79645	95.00000
CM-244	5531.938	5886.333	2.000000	0.4799997	70.71068	95.00000

Instrument : CHAMBER 110
 Detector : 67602
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.370	3301.157	2.000000	0.4799997	70.71068	95.00000
NP-237	4436.284	4904.992	4.000000	0.9599993	50.00000	95.00000
CM-244	5535.250	5883.287	6.000000	1.439999	40.82483	95.00000

Instrument : CHAMBER 111
 Detector : 79462
 Background Analysis Date/Time : 5-JUL-2009 15:12:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.820	3300.305	5.000000	1.199999	44.72136	95.00000
NP-237	4436.744	4905.500	6.000000	1.439999	40.82483	95.00000
CM-244	5535.002	5885.661	0.000000E+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	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4433.404	4902.114	4.000000	1.200000	50.00000	95.00000
CM-244	5533.832	5884.575	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 128
 Detector : 75549
 Background Analysis Date/Time : 12-JUL-2009 18:15:48
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.441	3299.762	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.479	4901.607	5.000000	1.500000	44.72136	95.00000
CM-244	5532.807	5882.614	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 129
 Detector : 76227
 Background Analysis Date/Time : 12-JUL-2009 18:15:53
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.626	3298.866	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.006	4901.792	4.000000	1.200000	50.00000	95.00000
CM-244	5532.320	5882.430	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 130
 Detector : 76228
 Background Analysis Date/Time : 12-JUL-2009 18:15:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.724	3301.129	4.000000	1.200000	50.00000	95.00000
NP-237	4432.733	4905.256	8.000000	2.400000	35.35534	95.00000
CM-244	5534.221	5882.991	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 131
 Detector : 33448
 Background Analysis Date/Time : 12-JUL-2009 18:16:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.041	3301.703	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.470	4901.500	6.000000	1.800000	40.82483	95.00000
CM-244	5535.040	5887.344	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 132
 Detector : 67579
 Background Analysis Date/Time : 12-JUL-2009 18:16:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.722	3299.982	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.189	4902.037	8.000000	2.400000	35.35534	95.00000
CM-244	5533.193	5884.042	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 133
 Detector : 76229
 Background Analysis Date/Time : 12-JUL-2009 18:16:11
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.784	3301.677	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.798	4901.797	5.000000	1.500000	44.72136	95.00000
CM-244	5532.072	5884.338	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 134
 Detector : 76230
 Background Analysis Date/Time : 12-JUL-2009 18:16:16
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.526	3299.017	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.982	4903.287	19.00000	5.700000	22.94157	95.00000
CM-244	5532.080	5886.000	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 135
 Detector : 64270
 Background Analysis Date/Time : 12-JUL-2009 18:16:20
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.277	3299.628	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.221	4904.200	5.000000	1.500000	44.72136	95.00000
CM-244	5533.869	5883.613	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 136
 Detector : 68549
 Background Analysis Date/Time : 12-JUL-2009 18:16:24
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.353	3301.238	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.739	4902.455	15.00000	4.500000	25.81989	95.00000
CM-244	5530.869	5887.561	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 137
 Detector : 64288
 Background Analysis Date/Time : 12-JUL-2009 18:16:27
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.740	3300.102	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.224	4902.644	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.374	5886.101	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 138
 Detector : 65877
 Background Analysis Date/Time : 12-JUL-2009 18:16:31
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.573	3299.020	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.563	4906.044	32.00000	9.600000	17.67767	95.00000
CM-244	5532.867	5887.098	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 139
 Detector : 76231
 Background Analysis Date/Time : 12-JUL-2009 18:16:35
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.505	3300.432	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.030	4903.806	6.000000	1.800000	40.82483	95.00000
CM-244	5532.176	5884.231	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 140
 Detector : 78771
 Background Analysis Date/Time : 12-JUL-2009 18:16:39
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.854	3298.685	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.882	4903.279	10.00000	3.000000	31.62278	95.00000
CM-244	5532.806	5885.667	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 141
 Detector : 76232
 Background Analysis Date/Time : 12-JUL-2009 18:16:43
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.144	3299.081	4.000000	1.200000	50.00000	95.00000
NP-237	4432.714	4902.455	11.00000	3.300000	30.15113	95.00000
CM-244	5530.738	5882.724	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 142
 Detector : 64261
 Background Analysis Date/Time : 12-JUL-2009 18:16:47
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.865	3298.794	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.947	4903.147	17.00000	5.100000	24.25356	95.00000
CM-244	5532.255	5884.805	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 143
 Detector : 65882
 Background Analysis Date/Time : 12-JUL-2009 18:16:51
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.701	3299.952	4.000000	1.200000	50.00000	95.00000
NP-237	4432.480	4904.917	14.00000	4.200000	26.72612	95.00000
CM-244	5535.542	5887.375	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 144
 Detector : 75551
 Background Analysis Date/Time : 12-JUL-2009 18:16:55
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.490	3300.379	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.137	4902.257	6.000000	1.800000	40.82483	95.00000
CM-244	5534.787	5886.106	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 145
 Detector : 72526
 Background Analysis Date/Time : 12-JUL-2009 18:16:59
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.366	3298.098	0.000000E+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 : 21-JUN-2009 15:55:13
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.612	3298.684	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.424	4903.719	10.00000	3.000000	31.62278	95.00000
CM-244	5531.313	5883.518	18.00000	5.400000	23.57022	95.00000

Instrument : CHAMBER 162
 Detector : 70323
 Background Analysis Date/Time : 21-JUN-2009 15:55:18
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.114	3301.116	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.153	4902.154	3.000000	0.9000000	57.73503	95.00000
CM-244	5533.930	5885.193	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 163
 Detector : 70324
 Background Analysis Date/Time : 21-JUN-2009 15:55:23
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.217	3298.824	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.987	4904.671	13.00000	3.900000	27.73501	95.00000
CM-244	5533.739	5886.581	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 164
 Detector : 70325
 Background Analysis Date/Time : 21-JUN-2009 15:55:27
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.804	3300.725	3.000000	0.9000000	57.73503	95.00000
NP-237	4432.850	4902.971	5.000000	1.500000	44.72136	95.00000
CM-244	5532.641	5885.829	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 165
 Detector : 72544
 Background Analysis Date/Time : 21-JUN-2009 15:55:31
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.249	3299.371	4.000000	1.200000	50.00000	95.00000
NP-237	4433.539	4903.436	6.000000	1.800000	40.82483	95.00000
CM-244	5531.871	5883.913	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 166
 Detector : 74545
 Background Analysis Date/Time : 21-JUN-2009 15:55:36
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.840	3300.652	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.331	4901.890	3.000000	0.9000000	57.73503	95.00000
CM-244	5530.967	5883.776	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 167
 Detector : 72546
 Background Analysis Date/Time : 21-JUN-2009 15:55:40
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.275	3299.494	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.900	4904.573	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.886	5886.993	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 168
 Detector : 72547
 Background Analysis Date/Time : 21-JUN-2009 15:55:45
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.947	3298.253	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.851	4905.623	7.000000	2.100000	37.79645	95.00000
CM-244	5534.369	5886.817	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 169
 Detector : 72548
 Background Analysis Date/Time : 21-JUN-2009 15:55:49
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.147	3298.542	3.000000	0.9000000	57.73503	95.00000
NP-237	4434.044	4903.513	27.00000	8.100000	19.24501	95.00000
CM-244	5532.339	5885.069	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 170
 Detector : 72549
 Background Analysis Date/Time : 21-JUN-2009 15:55:53
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.920	3299.334	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.260	4904.103	11.00000	3.300000	30.15113	95.00000
CM-244	5534.714	5883.037	6.000000	1.800000	40.82483	95.00000

Instrument : CHAMBER 171
 Detector : 78260
 Background Analysis Date/Time : 21-JUN-2009 15:55:59
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.586	3301.332	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.496	4904.863	5.000000	1.500000	44.72136	95.00000
CM-244	5533.949	5887.016	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 172
 Detector : 78772
 Background Analysis Date/Time : 21-JUN-2009 15:56:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.628	3299.646	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.466	4905.809	6.000000	1.800000	40.82483	95.00000
CM-244	5531.112	5885.129	4.000000	1.200000	50.00000	95.00000

Instrument : CHAMBER 173
 Detector : 74431
 Background Analysis Date/Time : 21-JUN-2009 15:56:08
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.621	3299.926	3.000000	0.9000000	57.73503	95.00000
NP-237	4436.753	4901.757	3.000000	0.9000000	57.73503	95.00000
CM-244	5535.262	5886.887	17.00000	5.100000	24.25356	95.00000

Instrument : CHAMBER 174
 Detector : 74432
 Background Analysis Date/Time : 21-JUN-2009 15:56:12
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.065	3302.471	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.541	4905.194	4.000000	1.200000	50.00000	95.00000
CM-244	5531.639	5887.080	14.00000	4.200000	26.72612	95.00000

Instrument : CHAMBER 175
 Detector : 74433
 Background Analysis Date/Time : 21-JUN-2009 15:56:17
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.238	3298.426	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.144	4905.490	4.000000	1.200000	50.00000	95.00000
CM-244	5533.995	5885.818	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 176
 Detector : 74434
 Background Analysis Date/Time : 21-JUN-2009 15:56:21
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.698	3297.590	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.745	4903.265	5.000000	1.500000	44.72136	95.00000
CM-244	5530.868	5886.966	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 177
 Detector : 74435
 Background Analysis Date/Time : 21-JUN-2009 15:56:26
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.057	3299.457	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.482	4904.663	3.000000	0.9000000	57.73503	95.00000
CM-244	5533.411	5885.598	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 178
 Detector : 74436
 Background Analysis Date/Time : 21-JUN-2009 15:56:30
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.779	3302.215	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.746	4905.748	7.000000	2.100000	37.79645	95.00000
CM-244	5532.798	5883.324	9.000000	2.700000	33.33334	95.00000

Instrument : CHAMBER 179
 Detector : 74437
 Background Analysis Date/Time : 21-JUN-2009 15:56:35
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.919	3302.532	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.536	4902.537	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.871	5882.740	14.00000	4.200000	26.72612	95.00000

Instrument : CHAMBER 180
 Detector : 74438
 Background Analysis Date/Time : 21-JUN-2009 15:56:39
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.905	3300.775	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.062	4905.007	6.000000	1.800000	40.82483	95.00000
CM-244	5531.655	5887.118	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 181
 Detector : 74439
 Background Analysis Date/Time : 21-JUN-2009 15:56:44
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.507	3301.291	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.916	4901.810	8.000000	2.400000	35.35534	95.00000
CM-244	5535.507	5887.405	26.00000	7.800000	19.61161	95.00000

Instrument : CHAMBER 182
 Detector : 74440
 Background Analysis Date/Time : 21-JUN-2009 15:56:48
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.364	3301.476	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.311	4901.783	4.000000	1.200000	50.00000	95.00000
CM-244	5534.452	5885.559	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 183
 Detector : 74441
 Background Analysis Date/Time : 21-JUN-2009 15:56:53
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.145	3298.781	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4434.414	4904.732	8.000000	2.400000	35.35534	95.00000
CM-244	5533.565	5885.751	14.00000	4.200000	26.72612	95.00000

Instrument : CHAMBER 184
 Detector : 74442
 Background Analysis Date/Time : 21-JUN-2009 15:56:57
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.570	3301.301	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.154	4904.955	5.000000	1.500000	44.72136	95.00000
CM-244	5531.440	5886.825	18.00000	5.400000	23.57022	95.00000

Instrument : CHAMBER 185
 Detector : 68615
 Background Analysis Date/Time : 21-JUN-2009 15:57:01
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.840	3300.640	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.438	4901.812	3.000000	0.9000000	57.73503	95.00000
CM-244	5531.912	5887.166	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 186
 Detector : 68616
 Background Analysis Date/Time : 21-JUN-2009 15:57:05
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.988	3300.097	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.729	4904.174	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.696	5887.018	17.00000	5.100000	24.25356	95.00000

Instrument : CHAMBER 187
 Detector : 68620
 Background Analysis Date/Time : 21-JUN-2009 15:57:10
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.780	3300.355	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.583	4904.093	7.000000	2.100000	37.79645	95.00000
CM-244	5535.508	5884.097	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 188
 Detector : 68621
 Background Analysis Date/Time : 21-JUN-2009 15:57:14
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.235	3299.192	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.285	4905.242	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.351	5883.763	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 189
 Detector : 68622
 Background Analysis Date/Time : 21-JUN-2009 15:57:17
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.861	3302.155	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.574	4905.866	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.675	5887.456	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 190
 Detector : 68623
 Background Analysis Date/Time : 21-JUN-2009 15:57:21
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.675	3299.750	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.687	4904.443	33.00000	9.900001	17.40777	95.00000
CM-244	5531.545	5882.933	33.00000	9.900001	17.40777	95.00000

Instrument : CHAMBER 191
 Detector : 68624
 Background Analysis Date/Time : 21-JUN-2009 15:57:25
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.084	3299.950	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.587	4904.375	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.362	5884.163	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 192
 Detector : 74430
 Background Analysis Date/Time : 21-JUN-2009 15:57:29
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.302	3300.346	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.147	4904.787	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.391	5883.883	7.000000	2.100000	37.79645	95.00000

Instrument : CHAMBER 193
 Detector : 68627
 Background Analysis Date/Time : 21-JUN-2009 15:57:33
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.456	3299.248	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.921	4903.889	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.552	5883.390	5.000000	1.500000	44.72136	95.00000

Instrument : CHAMBER 194
 Detector : 68635
 Background Analysis Date/Time : 21-JUN-2009 15:57:37
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.759	3300.939	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4437.087	4905.856	9.000000	2.700000	33.33334	95.00000
CM-244	5532.909	5884.238	18.00000	5.400000	23.57022	95.00000

Instrument : CHAMBER 195
 Detector : 68636
 Background Analysis Date/Time : 21-JUN-2009 15:57:41
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.427	3298.108	5.000000	1.500000	44.72136	95.00000
NP-237	4435.602	4904.677	9.000000	2.700000	33.33334	95.00000
CM-244	5531.920	5883.250	12.00000	3.600000	28.86751	95.00000

Instrument : CHAMBER 196
 Detector : 68637
 Background Analysis Date/Time : 21-JUN-2009 15:57:46
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.764	3299.421	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.243	4902.720	4.000000	1.200000	50.00000	95.00000
CM-244	5534.908	5886.289	16.00000	4.800000	25.00000	95.00000

Instrument : CHAMBER 197
 Detector : 78894
 Background Analysis Date/Time : 21-JUN-2009 15:57:50
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.459	3301.421	4.000000	1.200000	50.00000	95.00000
NP-237	4433.039	4903.794	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5533.211	5885.723	10.00000	3.000000	31.62278	95.00000

Instrument : CHAMBER 198
 Detector : 78895
 Background Analysis Date/Time : 21-JUN-2009 15:57:54
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.792	3298.953	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.042	4902.810	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.984	5882.838	25.00000	7.500000	20.00000	95.00000

Instrument : CHAMBER 199
 Detector : 78896
 Background Analysis Date/Time : 21-JUN-2009 15:57:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.467	3301.736	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.639	4904.142	6.000000	1.800000	40.82483	95.00000
CM-244	5532.893	5884.873	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 200
 Detector : 78900
 Background Analysis Date/Time : 21-JUN-2009 15:58:02
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.709	3299.237	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.212	4903.912	12.00000	3.600000	28.86751	95.00000
CM-244	5534.189	5887.638	19.00000	5.700000	22.94157	95.00000

Instrument : CHAMBER 201
 Detector : 78902
 Background Analysis Date/Time : 21-JUN-2009 15:58:05
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.500	3302.053	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.282	4904.434	4.000000	1.200000	50.00000	95.00000
CM-244	5534.865	5882.809	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 202
 Detector : 78903
 Background Analysis Date/Time : 21-JUN-2009 15:58:09
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.900	3298.618	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.436	4902.692	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.047	5884.818	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 203
 Detector : 78905
 Background Analysis Date/Time : 21-JUN-2009 15:58:13
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.958	3298.323	6.000000	1.800000	40.82483	95.00000
NP-237	4433.591	4904.036	9.000000	2.700000	33.33334	95.00000
CM-244	5533.281	5885.816	21.00000	6.300000	21.82179	95.00000

Instrument : CHAMBER 204
 Detector : 78907
 Background Analysis Date/Time : 21-JUN-2009 15:58:17
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.324	3298.173	16.00000	4.800000	25.00000	95.00000
NP-237	4437.399	4902.424	14.00000	4.200000	26.72612	95.00000
CM-244	5531.626	5884.261	27.00000	8.100000	19.24501	95.00000

Instrument : CHAMBER 205
 Detector : 78908
 Background Analysis Date/Time : 21-JUN-2009 15:58:22
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.508	3302.170	4.000000	1.200000	50.00000	95.00000
NP-237	4433.168	4903.946	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.636	5886.419	11.00000	3.300000	30.15113	95.00000

Instrument : CHAMBER 206
 Detector : 78909
 Background Analysis Date/Time : 21-JUN-2009 15:58:26
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.616	3302.433	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.477	4902.186	2.000000	0.6000000	70.71068	95.00000
CM-244	5535.166	5886.569	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 207
 Detector : 78910
 Background Analysis Date/Time : 21-JUN-2009 15:58:30
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.858	3301.538	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.769	4903.719	4.000000	1.200000	50.00000	95.00000
CM-244	5533.705	5886.686	13.00000	3.900000	27.73501	95.00000

Instrument : CHAMBER 208
 Detector : 78911
 Background Analysis Date/Time : 21-JUN-2009 15:58:34
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.819	3299.505	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.407	4905.872	8.000000	2.400000	35.35534	95.00000
CM-244	5534.932	5887.260	15.00000	4.500000	25.81989	95.00000

Instrument : CHAMBER 209
 Detector : 79188
 Background Analysis Date/Time : 28-JUN-2009 17:00:00
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.181	3301.049	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4433.021	4903.097	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5532.718	5885.886	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 210
 Detector : 79189
 Background Analysis Date/Time : 28-JUN-2009 17:00:05
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.859	3297.943	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.076	4904.812	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5533.646	5886.210	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 211
 Detector : 79190
 Background Analysis Date/Time : 28-JUN-2009 17:00:09
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.624	3301.653	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4436.794	4902.468	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.766	5886.120	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 212
 Detector : 79191
 Background Analysis Date/Time : 28-JUN-2009 17:00:13
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.287	3301.382	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4434.079	4904.410	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.335	5887.654	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 213
 Detector : 79192
 Background Analysis Date/Time : 28-JUN-2009 17:00:17
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.968	3298.520	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4437.380	4902.572	2.000000	0.6000000	70.71068	95.00000
CM-244	5532.282	5885.336	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 214
 Detector : 79193
 Background Analysis Date/Time : 28-JUN-2009 17:00:21
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.403	3298.091	1.000000	0.3000000	100.0000	95.00000
NP-237	4437.439	4902.827	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5532.795	5885.993	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 215
 Detector : 79194
 Background Analysis Date/Time : 28-JUN-2009 17:00:25
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.062	3302.465	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4436.774	4902.728	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.954	5882.708	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 216
 Detector : 79195
 Background Analysis Date/Time : 28-JUN-2009 17:00:29
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.227	3300.068	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.095	4904.331	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5533.563	5886.220	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 217
 Detector : 79410
 Background Analysis Date/Time : 28-JUN-2009 17:00:33
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.213	3299.566	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.215	4903.920	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.328	5882.531	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 218
 Detector : 79411
 Background Analysis Date/Time : 28-JUN-2009 17:00:38
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.601	3298.221	1.000000	0.3000000	100.0000	95.00000
NP-237	4432.747	4903.769	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.561	5882.956	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 219
 Detector : 79412
 Background Analysis Date/Time : 28-JUN-2009 17:00:42
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.180	3302.094	4.000000	1.200000	50.00000	95.00000
NP-237	4436.774	4902.239	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.237	5885.415	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 220
 Detector : 79413
 Background Analysis Date/Time : 28-JUN-2009 17:00:46
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.438	3302.525	1.000000	0.3000000	100.0000	95.00000
NP-237	4435.000	4905.156	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.774	5882.515	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 221
 Detector : 79414
 Background Analysis Date/Time : 28-JUN-2009 17:00:50
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.987	3300.655	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.096	4905.038	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.434	5885.564	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 222
 Detector : 79415
 Background Analysis Date/Time : 28-JUN-2009 17:00:54
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.968	3297.845	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.336	4906.032	2.000000	0.6000000	70.71068	95.00000
CM-244	5530.429	5882.613	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 223
 Detector : 79416
 Background Analysis Date/Time : 28-JUN-2009 17:00:59
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.801	3297.756	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.980	4902.483	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.752	5886.350	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 224
 Detector : 79417
 Background Analysis Date/Time : 28-JUN-2009 17:01:03
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.708	3297.620	2.000000	0.6000000	70.71068	95.00000
NP-237	4432.391	4904.314	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5535.163	5883.043	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 225
 Detector : 79418
 Background Analysis Date/Time : 28-JUN-2009 17:01:07
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.136	3297.838	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4432.708	4903.892	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.915	5883.445	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 226
 Detector : 79419
 Background Analysis Date/Time : 28-JUN-2009 17:01:11
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.396	3299.355	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4437.021	4903.289	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.002	5887.398	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 227
 Detector : 79420
 Background Analysis Date/Time : 28-JUN-2009 17:01:15
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.851	3301.430	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4435.798	4901.523	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5532.218	5885.954	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 228
 Detector : 79421
 Background Analysis Date/Time : 28-JUN-2009 17:01:19
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.413	3298.479	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.708	4901.434	2.000000	0.6000000	70.71068	95.00000
CM-244	5531.094	5883.745	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 229
 Detector : 79422
 Background Analysis Date/Time : 28-JUN-2009 17:01:24
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.428	3300.536	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4436.659	4902.986	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.392	5883.088	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 230
 Detector : 79423
 Background Analysis Date/Time : 28-JUN-2009 17:01:28
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.435	3299.126	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.006	4902.037	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5532.506	5885.804	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 231
 Detector : 79424
 Background Analysis Date/Time : 28-JUN-2009 17:01:32
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.739	3299.860	2.000000	0.6000000	70.71068	95.00000
NP-237	4434.942	4905.625	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
CM-244	5535.464	5883.098	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 232
 Detector : 79425
 Background Analysis Date/Time : 28-JUN-2009 17:01:36
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.849	3300.399	0.000000E+00	0.000000E+00	0.000000E+00	95.00000
NP-237	4435.500	4901.412	1.000000	0.3000000	100.0000	95.00000
CM-244	5530.414	5887.598	0.000000E+00	0.000000E+00	0.000000E+00	95.00000

Instrument : CHAMBER 233
 Detector : 79426
 Background Analysis Date/Time : 28-JUN-2009 17:01:40
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.552	3300.019	3.000000	0.9000000	57.73503	95.00000
NP-237	4437.049	4902.445	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5533.265	5887.350	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 234
 Detector : 79427
 Background Analysis Date/Time : 28-JUN-2009 17:01:43
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.038	3298.233	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.030	4904.076	1.000000	0.3000000	100.0000	95.00000
CM-244	5534.071	5887.649	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 235
 Detector : 79428
 Background Analysis Date/Time : 28-JUN-2009 17:01:48
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.263	3301.595	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.665	4901.527	1.000000	0.3000000	100.0000	95.00000
CM-244	5532.636	5886.715	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 236
 Detector : 79429
 Background Analysis Date/Time : 28-JUN-2009 17:01:52
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.896	3299.376	3.000000	0.9000000	57.73503	95.00000
NP-237	4436.423	4901.814	3.000000	0.9000000	57.73503	95.00000
CM-244	5532.618	5886.688	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 237
 Detector : 79430
 Background Analysis Date/Time : 28-JUN-2009 17:01:56
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.344	3298.717	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.245	4904.669	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5531.003	5885.403	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 238
 Detector : 79431
 Background Analysis Date/Time : 28-JUN-2009 17:02:00
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.961	3300.370	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.951	4902.062	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.406	5886.179	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 239
 Detector : 79432
 Background Analysis Date/Time : 28-JUN-2009 17:02:04
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.544	3302.370	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4436.212	4902.679	6.000000	1.800000	40.82483	95.00000
CM-244	5535.220	5884.998	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 240
 Detector : 79433
 Background Analysis Date/Time : 28-JUN-2009 17:02:08
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.696	3301.853	3.000000	0.9000000	57.73503	95.00000
NP-237	4433.664	4904.733	3.000000	0.9000000	57.73503	95.00000
CM-244	5531.260	5886.094	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 241
 Detector : 79434
 Background Analysis Date/Time : 28-JUN-2009 17:02:12
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.242	3301.966	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.457	4905.204	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5530.782	5884.826	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 242
 Detector : 79435
 Background Analysis Date/Time : 28-JUN-2009 17:02:17
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.030	3301.446	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.469	4904.310	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5535.605	5884.633	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 243
 Detector : 79436
 Background Analysis Date/Time : 28-JUN-2009 17:02:21
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2990.365	3297.486	2.000000	0.6000000	70.71068	95.00000
NP-237	4436.388	4902.306	1.000000	0.3000000	100.0000	95.00000
CM-244	5533.622	5882.491	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 244
 Detector : 79437
 Background Analysis Date/Time : 28-JUN-2009 17:02:26
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.131	3300.564	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4432.574	4903.374	3.000000	0.9000000	57.73503	95.00000
CM-244	5534.584	5883.551	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 245
 Detector : 79438
 Background Analysis Date/Time : 28-JUN-2009 17:02:30
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.063	3299.394	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.575	4906.628	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.102	5883.894	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 246
 Detector : 78912
 Background Analysis Date/Time : 28-JUN-2009 17:02:34
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.019	3301.538	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.665	4906.544	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.825	5885.470	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 247
 Detector : 79440
 Background Analysis Date/Time : 28-JUN-2009 17:02:38
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.774	3301.191	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.556	4903.380	3.000000	0.9000000	57.73503	95.00000
CM-244	5530.809	5885.967	2.000000	0.6000000	70.71068	95.00000

Instrument : CHAMBER 248
 Detector : 79441
 Background Analysis Date/Time : 28-JUN-2009 17:02:43
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.392	3300.122	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4433.659	4905.293	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5532.437	5887.556	8.000000	2.400000	35.35534	95.00000

Instrument : CHAMBER 249
 Detector : 79442
 Background Analysis Date/Time : 28-JUN-2009 17:02:46
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.416	3300.577	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.398	4904.007	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.011	5883.893	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 250
 Detector : 79443
 Background Analysis Date/Time : 28-JUN-2009 17:02:50
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.664	3299.772	1.000000	0.3000000	100.0000	95.00000
NP-237	4433.576	4904.834	2.000000	0.6000000	70.71068	95.00000
CM-244	5531.060	5885.456	3.000000	0.9000000	57.73503	95.00000

Instrument : CHAMBER 251
 Detector : 79444
 Background Analysis Date/Time : 28-JUN-2009 17:02:54
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.497	3300.693	1.000000	0.3000000	100.0000	95.00000
NP-237	4436.150	4903.399	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5531.737	5887.575	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 252
 Detector : 79445
 Background Analysis Date/Time : 28-JUN-2009 17:02:58
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2988.592	3300.825	3.000000	0.9000000	57.73503	95.00000
NP-237	4435.553	4902.127	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
CM-244	5534.590	5884.216	1.000000	0.3000000	100.0000	95.00000

Instrument : CHAMBER 253
 Detector : 79446
 Background Analysis Date/Time : 28-JUN-2009 17:03:02
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2987.654	3300.865	1.000000	0.3000000	100.0000	95.00000
NP-237	4434.573	4903.102	2.000000	0.6000000	70.71068	95.00000
CM-244	5533.082	5884.383	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 254
 Detector : 79447
 Background Analysis Date/Time : 28-JUN-2009 17:03:06
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2991.549	3298.669	2.000000	0.6000000	70.71068	95.00000
NP-237	4433.543	4905.678	6.000000	1.800000	40.82483	95.00000
CM-244	5533.440	5883.478	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 255
 Detector : 79448
 Background Analysis Date/Time : 28-JUN-2009 17:03:11
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2992.136	3299.381	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000
NP-237	4435.277	4902.796	1.000000	0.3000000	100.0000	95.00000
CM-244	5531.573	5887.697	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Instrument : CHAMBER 256
 Detector : 79449
 Background Analysis Date/Time : 28-JUN-2009 17:03:15
 Background Count Time : 60000.00

Cal. Isotopes	Start Energy	End Energy	Counts in 1000 min	Counts during Cal	% Error	Confidence
GD-148	2989.020	3301.037	2.000000	0.6000000	70.71068	95.00000
NP-237	4435.346	4901.908	2.000000	0.6000000	70.71068	95.00000
CM-244	5534.491	5884.250	0.0000000E+00	0.0000000E+00	0.0000000E+00	95.00000

Subsection 3: Efficiency Calibration

Instrument : CHAMBER 001
 Detector : 78788
 Standard ID : AESS-001
 Standard Reference Date : 20-FEB-2008 09:54:53
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:30:47
 Average Efficiency : 0.2968604
 Average Efficiency Error : 8.1920959E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2988.679	3298.848	14368.00	0.2905553	1.2499626E-02	54.37264
NP-237	171.0024	28-FEB-2010	4436.698	4905.866	12378.00	0.3015518	1.5319364E-02	65.40276
CM-244	158.1060	28-FEB-2010	5535.874	5884.629	10862.00	0.3016641	1.5358537E-02	54.23344

Instrument : CHAMBER 002
 Detector : 78266
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:31:01
 Average Efficiency : 0.3091908
 Average Efficiency Error : 8.5140709E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2987.715	3301.971	14528.00	0.3063232	1.3175298E-02	49.84956
NP-237	200.4990	28-FEB-2010	4433.336	4902.576	15147.00	0.3147377	1.5943376E-02	61.42959
CM-244	196.5558	28-FEB-2010	5533.904	5882.845	13779.00	0.3078977	1.5616762E-02	53.40513

Instrument : CHAMBER 003
 Detector : 67617
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 1-JUL-2009 14:34:18
 Average Efficiency : 0.3600250
 Average Efficiency Error : 1.0207428E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2989.494	3301.750	51088.00	0.5304641	2.2688475E-02	17.25958
NP-237	203.2080	28-FEB-2010	4434.514	4906.213	23507.00	0.2944960	1.5031389E-02	23.33439
CM-244	197.2236	28-FEB-2010	5534.317	5886.218	303.0000	0.3473051	1.7597629E-02	23.27553

Instrument : CHAMBER 004
 Detector : 64279
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:31:14
 Average Efficiency : 0.3320934
 Average Efficiency Error : 9.1318591E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2991.142	3301.855	16052.00	0.3286779	1.4111746E-02	51.04387
NP-237	204.2586	28-FEB-2010	4434.122	4905.061	16497.00	0.3364784	1.7026719E-02	57.46174
CM-244	198.8100	28-FEB-2010	5532.169	5885.896	15051.00	0.3326688	1.6853061E-02	54.96896

Instrument : CHAMBER 005
 Detector : 67612
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:31:33
 Average Efficiency : 6.5707625E-03
 Average Efficiency Error : 3.8320033E-04
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2987.844	3301.859	3508.000	7.0225731E-02	1.923207E-03	0.0000000E+00
NP-237	209.5938	28-FEB-2010	4432.372	4905.723	2125.000	4.2211074E-02	3.009577E-03	0.0000000E+00
CM-244	202.7478	28-FEB-2010	5534.445	5887.312	214.0000	4.5812004E-03	9.153980E-04	0.0000000E+00

Instrument : CHAMBER 006
 Detector : 67613
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:09
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:31:42
 Average Efficiency : 0.3023717
 Average Efficiency Error : 8.3279395E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2987.836	3301.578	14382.00	0.2979915	1.2819309E-02	52.92189
NP-237	204.7038	28-FEB-2010	4433.162	4904.315	14912.00	0.3035040	1.5377419E-02	64.79807
CM-244	195.0060	28-FEB-2010	5534.623	5882.438	13655.00	0.3076988	1.5608697E-02	55.89266

Instrument : CHAMBER 007
 Detector : 67607
 Standard ID : AESS-007
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:31:52
 Average Efficiency : 0.2957362
 Average Efficiency Error : 8.1475200E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2987.476	3300.975	14142.00	0.2886904	1.2423181E-02	50.35310
NP-237	205.0260	28-FEB-2010	4436.790	4906.439	14907.00	0.3028864	1.5346253E-02	60.44886
CM-244	199.6806	28-FEB-2010	5534.241	5887.079	13602.00	0.2992603	1.5181582E-02	51.78771

Instrument : CHAMBER 008
 Detector : 78788
 Standard ID : AESS-008
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:01
 Average Efficiency : 0.3188090
 Average Efficiency Error : 8.7708440E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2990.921	3300.406	15479.00	0.3170527	1.3621154E-02	48.62412
NP-237	209.2716	28-FEB-2010	4435.107	4902.387	15876.00	0.3160491	1.6000355E-02	65.04717
CM-244	199.6488	28-FEB-2010	5534.594	5883.502	14733.00	0.3242763	1.6432470E-02	50.70723

Instrument : CHAMBER 009
 Detector : 72528
 Standard ID : AESS-009
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:10
 Average Efficiency : 0.3375995
 Average Efficiency Error : 9.2831012E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2990.628	3299.090	15971.00	0.3313866	1.4229259E-02	50.85649
NP-237	204.0192	28-FEB-2010	4437.197	4904.633	16709.00	0.3411832	1.7262230E-02	60.63605
CM-244	197.2128	28-FEB-2010	5532.440	5887.594	15414.00	0.3432376	1.7383220E-02	53.31252

Instrument : CHAMBER 010
 Detector : 72529
 Standard ID : AESS-010
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:19
 Average Efficiency : 0.3172926
 Average Efficiency Error : 8.7324297E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2991.348	3298.595	15125.00	0.3160139	1.3582063E-02	48.55328
NP-237	202.9926	28-FEB-2010	4434.835	4903.545	15667.00	0.3215450	1.6281251E-02	62.71636
CM-244	196.2330	28-FEB-2010	5530.435	5886.972	14067.00	0.3149689	1.5970867E-02	52.28595

Instrument : CHAMBER 011
 Detector : 72531
 Standard ID : AESS-011
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:29
 Average Efficiency : 0.2985433
 Average Efficiency Error : 8.2169101E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2991.311	3301.519	14980.00	0.2970565	1.2769507E-02	51.39855
NP-237	214.4868	28-FEB-2010	4434.837	4904.180	15445.00	0.3000057	1.5193330E-02	59.19451
CM-244	208.4184	28-FEB-2010	5534.270	5885.159	14191.00	0.2991836	1.5168598E-02	51.74621

Instrument : CHAMBER 012
 Detector : 67594
 Standard ID : AESS-012
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:37
 Average Efficiency : 0.2994599
 Average Efficiency Error : 8.2469108E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2989.530	3302.430	14453.00	0.2957655	1.2722428E-02	49.93941
NP-237	205.8930	28-FEB-2010	4435.245	4904.394	15165.00	0.3068516	1.5543667E-02	68.21289
CM-244	203.1954	28-FEB-2010	5531.663	5882.971	13767.00	0.2976886	1.5099200E-02	52.18476

Instrument : CHAMBER 013
 Detector : 78790
 Standard ID : AESS-013
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:45
 Average Efficiency : 0.3386290
 Average Efficiency Error : 9.3077216E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2992.215	3297.934	16446.00	0.3408228	1.4627260E-02	48.82562
NP-237	210.2526	28-FEB-2010	4433.681	4905.322	17035.00	0.3375474	1.7074423E-02	66.72312
CM-244	201.9108	28-FEB-2010	5534.510	5884.075	15472.00	0.3367262	1.7052578E-02	51.74340

Instrument : CHAMBER 014
 Detector : 67616
 Standard ID : AESS-014
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:32:56
 Average Efficiency : 0.3118280
 Average Efficiency Error : 8.5774874E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2988.044	3301.205	15708.00	0.3087174	1.3259654E-02	54.69494
NP-237	211.7160	28-FEB-2010	4432.568	4904.459	16091.00	0.3166406	1.6027654E-02	64.49153
CM-244	207.3882	28-FEB-2010	5531.132	5885.588	14716.00	0.3115681	1.5788864E-02	58.20748

Instrument : CHAMBER 015
 Detector : 61581
 Standard ID : AESS-015
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:33:12
 Average Efficiency : 0.3223390
 Average Efficiency Error : 8.8713039E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2990.992	3300.634	15182.00	0.3140531	1.3496879E-02	59.83858
NP-237	200.6460	28-FEB-2010	4433.750	4904.866	15926.00	0.3307087	1.6741820E-02	75.43053
CM-244	195.9270	28-FEB-2010	5533.850	5883.539	14567.00	0.3266208	1.6553897E-02	63.39113

Instrument : CHAMBER 016
 Detector : 78774
 Standard ID : AESS-016
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:33:38
 Average Efficiency : 0.3364573
 Average Efficiency Error : 9.2521459E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2991.376	3300.188	16062.00	0.3322090	1.4263208E-02	47.94983
NP-237	199.3962	28-FEB-2010	4436.705	4902.519	16457.00	0.3438525	1.7400362E-02	59.25246
CM-244	198.6402	28-FEB-2010	5531.791	5887.203	15163.00	0.3354346	1.6991531E-02	53.20901

Instrument : CHAMBER 017
 Detector : 78791
 Standard ID : AESS-017
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:33:47
 Average Efficiency : 0.2933579
 Average Efficiency Error : 8.0790650E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2988.293	3301.593	14424.00	0.2897618	1.2464617E-02	48.04712
NP-237	208.5846	28-FEB-2010	4433.438	4905.522	14920.00	0.2980264	1.5099768E-02	63.18722
CM-244	205.5828	28-FEB-2010	5532.444	5887.037	13752.00	0.2939516	1.4909811E-02	52.23705

Instrument : CHAMBER 018
 Detector : 21063
 Standard ID : AESS-018
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:40
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:05
 Average Efficiency : 0.3223269
 Average Efficiency Error : 8.8674370E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2991.459	3300.768	15427.00	0.3220896	1.3838380E-02	41.77474
NP-237	208.8990	28-FEB-2010	4435.720	4903.495	16011.00	0.3193196	1.6164232E-02	59.35002
CM-244	198.1458	28-FEB-2010	5531.358	5886.349	14679.00	0.3258023	1.6510617E-02	49.83286

Instrument : CHAMBER 019
 Detector : 78786
 Standard ID : AESS-019
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:03
 Average Efficiency : 0.2886755
 Average Efficiency Error : 7.9575144E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2991.589	3299.131	13636.00	0.2811793	1.2108484E-02	45.78609
NP-237	202.9140	28-FEB-2010	4435.520	4903.560	14455.00	0.2967967	1.5043795E-02	63.86615
CM-244	199.3140	28-FEB-2010	5534.981	5882.589	13252.00	0.2920234	1.4819912E-02	48.96563

Instrument : CHAMBER 020
 Detector : 78787
 Standard ID : AESS-020
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:12
 Average Efficiency : 0.3430721
 Average Efficiency Error : 9.4324267E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2991.028	3300.317	16260.00	0.3337892	1.4328116E-02	49.41795
NP-237	203.4984	28-FEB-2010	4434.663	4901.954	17092.00	0.3499276	1.7699974E-02	68.09825
CM-244	197.1096	28-FEB-2010	5534.316	5883.376	15719.00	0.3504178	1.7742448E-02	47.75075

Instrument : CHAMBER 021
 Detector : 67047
 Standard ID : AESS-021
 Standard Reference Date : 19-FEB-2008 15:31:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:21
 Average Efficiency : 0.3007418
 Average Efficiency Error : 8.2816491E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2991.930	3300.431	14520.00	0.2940652	1.2648145E-02	54.30077
NP-237	210.1548	28-FEB-2010	4435.207	4905.011	15253.00	0.3023781	1.5315918E-02	63.06406
CM-244	200.7390	28-FEB-2010	5533.018	5884.673	14140.00	0.3092899	1.5681855E-02	54.78833

Instrument : CHAMBER 022
 Detector : 72530
 Standard ID : AESS-022
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:44
 Average Efficiency : 0.3177471
 Average Efficiency Error : 8.7433932E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.087	3302.012	15372.00	0.3092707	1.3288673E-02	50.08852
NP-237	206.8830	28-FEB-2010	4436.701	4902.154	16304.00	0.3282550	1.6613014E-02	63.36660
CM-244	203.0208	28-FEB-2010	5532.124	5885.279	14804.00	0.3203634	1.6233236E-02	52.02282

Instrument : CHAMBER 023
 Detector : 78264
 Standard ID : AESS-023
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:34:52
 Average Efficiency : 0.3327100
 Average Efficiency Error : 9.1472948E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.041	3300.395	16228.00	0.3301035	1.4170360E-02	46.67713
NP-237	207.4998	28-FEB-2010	4437.054	4904.602	16550.00	0.3322816	1.6813723E-02	63.18299
CM-244	199.8804	28-FEB-2010	5531.351	5885.314	15327.00	0.3369316	1.7065044E-02	50.76911

Instrument : CHAMBER 024
 Detector : 76542
 Standard ID : AESS-024
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:13
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:01
 Average Efficiency : 0.3278600
 Average Efficiency Error : 9.0207923E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2988.294	3302.013	15351.00	0.3182911	1.3676404E-02	53.01509
NP-237	205.6662	28-FEB-2010	4435.963	4904.774	16397.00	0.3320666	1.6804798E-02	66.65491
CM-244	198.3060	28-FEB-2010	5530.886	5886.529	15278.00	0.3385208	1.7146233E-02	56.84327

Instrument : CHAMBER 025
 Detector : 45-149AA5
 Standard ID : AESS-025
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:10
 Average Efficiency : 0.3244141
 Average Efficiency Error : 8.9428928E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.683	3301.317	15182.00	0.3276230	1.4080081E-02	58.08860
NP-237	167.9916	28-FEB-2010	4432.505	4905.964	12934.00	0.3207583	1.6284095E-02	71.50992
CM-244	157.2432	28-FEB-2010	5531.275	5884.228	11591.00	0.3237635	1.6465405E-02	65.55542

Instrument : CHAMBER 026
 Detector : 78204
 Standard ID : AESS-026
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:19
 Average Efficiency : 0.3149063
 Average Efficiency Error : 9.2313625E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2992.261	3299.610	15024.00	0.3178152	1.6101750E-02	48.28163
NP-237	168.0294	28-FEB-2010	4434.923	4901.784	12780.00	0.3168793	1.6090054E-02	60.42010
CM-244	160.5822	28-FEB-2010	5534.672	5884.552	11338.00	0.3102135	1.5781984E-02	48.50001

Instrument : CHAMBER 027
 Detector : 42484
 Standard ID : AESS-027
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:28
 Average Efficiency : 0.3410775
 Average Efficiency Error : 9.9962037E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2992.456	3300.321	15132.00	0.3301674	1.6726010E-02	62.71494
NP-237	161.6154	28-FEB-2010	4432.625	4905.570	13412.00	0.3457057	1.7541273E-02	89.17722
CM-244	148.1754	28-FEB-2010	5534.870	5882.737	11761.00	0.3486037	1.7724430E-02	78.01683

Instrument : CHAMBER 028
 Detector : 78792
 Standard ID : AESS-028
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:37
 Average Efficiency : 0.3059801
 Average Efficiency Error : 8.9743091E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2989.695	3297.894	14335.00	0.3030114	1.5361304E-02	46.74673
NP-237	168.1992	28-FEB-2010	4435.454	4902.851	12365.00	0.3062848	1.5560016E-02	61.29473
CM-244	156.7614	28-FEB-2010	5530.764	5886.057	11017.00	0.3087767	1.5716689E-02	48.99289

Instrument : CHAMBER 029
 Detector : 33454
 Standard ID : AESS-029
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:45
 Average Efficiency : 0.3133109
 Average Efficiency Error : 9.1862464E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2989.570	3299.793	14696.00	0.3076786	1.5592718E-02	62.98538
NP-237	169.7700	28-FEB-2010	4434.729	4906.466	12891.00	0.3163488	1.6061027E-02	66.74791
CM-244	154.8234	28-FEB-2010	5530.876	5886.187	11145.00	0.3162610	1.6094424E-02	59.70258

Instrument : CHAMBER 030
 Detector : 33447
 Standard ID : AESS-030
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:14
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:35:54
 Average Efficiency : 0.3190225
 Average Efficiency Error : 9.3542365E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2992.473	3300.013	14522.00	0.3079955	1.5611262E-02	56.22778
NP-237	166.3758	28-FEB-2010	4433.021	4902.873	13108.00	0.3282070	1.6658967E-02	66.10047
CM-244	157.1856	28-FEB-2010	5531.626	5884.032	11533.00	0.3222875	1.6391672E-02	59.45288

Instrument : CHAMBER 031
 Detector : 67042
 Standard ID : AESS-031
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:42
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:24
 Average Efficiency : 0.3338314
 Average Efficiency Error : 9.2027988E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2992.104	3299.916	15053.00	0.3280614	1.4101115E-02	64.46095
NP-237	162.9186	28-FEB-2010	4436.072	4902.901	13435.00	0.3435040	1.7429167E-02	93.20530
CM-244	153.1968	28-FEB-2010	5535.417	5884.932	11607.00	0.3330215	1.6935715E-02	63.05283

Instrument : CHAMBER 032
 Detector : 67041
 Standard ID : AESS-032
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:42
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:35
 Average Efficiency : 0.3120490
 Average Efficiency Error : 8.6091449E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.634	3297.499	14436.00	0.3121021	1.3425405E-02	53.99254
NP-237	165.9822	28-FEB-2010	4437.570	4904.884	12360.00	0.3101901	1.5758617E-02	64.26519
CM-244	153.7938	28-FEB-2010	5533.522	5884.215	10984.00	0.3138851	1.5977694E-02	52.03965

Instrument : CHAMBER 033
 Detector : 78785
 Standard ID : AESS-033
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:36:20
 Average Efficiency : 0.3132727
 Average Efficiency Error : 8.6470284E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2990.591	3298.173	14059.00	0.3083428	1.3270319E-02	45.02124
NP-237	161.7816	28-FEB-2010	4434.089	4906.364	12264.00	0.3158025	1.6045660E-02	60.74144
CM-244	147.2670	28-FEB-2010	5534.061	5883.941	10663.00	0.3180395	1.6197534E-02	44.95700

Instrument : CHAMBER 034
 Detector : 61586
 Standard ID : AESS-034
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:42
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:46
 Average Efficiency : 0.3171561
 Average Efficiency Error : 8.7465709E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2990.268	3300.348	14798.00	0.3114539	1.3391386E-02	50.21013
NP-237	167.2962	28-FEB-2010	4435.287	4906.218	12784.00	0.3183437	1.6164379E-02	67.44197
CM-244	154.4388	28-FEB-2010	5533.837	5886.701	11405.00	0.3245862	1.6511625E-02	55.32959

Instrument : CHAMBER 035
 Detector : 78202
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:36:36
 Average Efficiency : 0.3039385
 Average Efficiency Error : 8.3862301E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2989.841	3298.805	14385.00	0.3055661	1.3145097E-02	44.60017
NP-237	168.2934	28-FEB-2010	4433.680	4901.942	12309.00	0.3046319	1.5477315E-02	57.84991
CM-244	158.8128	28-FEB-2010	5530.913	5886.751	10886.00	0.3010460	1.5326467E-02	49.59610

Instrument : CHAMBER 036
 Detector : 78203
 Standard ID : AESS-036
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:36:45
 Average Efficiency : 0.3217056
 Average Efficiency Error : 8.8684531E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2990.719	3297.679	15140.00	0.3173648	1.3639865E-02	54.98193
NP-237	167.4312	28-FEB-2010	4436.454	4902.523	13140.00	0.3269882	1.6596414E-02	66.33447
CM-244	156.4188	28-FEB-2010	5534.221	5883.385	11497.00	0.3228255	1.6419753E-02	57.03784

Instrument : CHAMBER 037
 Detector : 45-149BB5
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:36:53
 Average Efficiency : 0.3609357
 Average Efficiency Error : 9.9339429E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.027	3298.587	16638.00	0.3550694	1.5235793E-02	70.66451
NP-237	167.1294	28-FEB-2010	4435.750	4902.017	14747.00	0.3675707	1.8626243E-02	87.35378
CM-244	154.7664	28-FEB-2010	5535.521	5884.277	12795.00	0.3630245	1.8432988E-02	72.91970

Instrument : CHAMBER 038
 Detector : 72532
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 7-JUL-2009 20:14:26
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 8-JUL-2009 07:31:06
 Average Efficiency : 0.3440174
 Average Efficiency Error : 9.4721830E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2989.665	3301.822	16315.00	0.3439969	1.4765469E-02	56.35861
NP-237	170.0886	28-FEB-2010	4435.489	4906.553	14189.00	0.3474887	1.7617788E-02	67.43947
CM-244	157.7460	28-FEB-2010	5532.401	5886.525	12237.00	0.3406941	1.7311083E-02	58.94252

Instrument : CHAMBER 039
 Detector : 45-149BB2
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:12
 Average Efficiency : 0.3633558
 Average Efficiency Error : 1.0003410E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.145	3298.732	16409.00	0.3601976	1.5459352E-02	56.41948
NP-237	159.1506	28-FEB-2010	4435.549	4903.088	13988.00	0.3661838	1.8569179E-02	74.12836
CM-244	151.7142	28-FEB-2010	5534.287	5885.251	12613.00	0.3650793	1.8541345E-02	65.99350

Instrument : CHAMBER 040
 Detector : 78773
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:21
 Average Efficiency : 0.3236358
 Average Efficiency Error : 8.9229112E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2989.803	3299.657	15035.00	0.3262324	1.4022750E-02	46.94137
NP-237	166.8174	28-FEB-2010	4435.891	4904.106	12881.00	0.3216923	1.6332518E-02	63.17031
CM-244	155.0100	28-FEB-2010	5531.706	5883.967	11365.00	0.3220472	1.6383301E-02	50.43327

Instrument : CHAMBER 041
 Detector : 78205
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:34
 Average Efficiency : 0.3271760
 Average Efficiency Error : 9.0137199E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2988.799	3301.675	15672.00	0.3243389	1.3931162E-02	49.27284
NP-237	171.2268	28-FEB-2010	4434.272	4902.386	13569.00	0.3301208	1.6747680E-02	61.97926
CM-244	159.5796	28-FEB-2010	5531.847	5882.877	11929.00	0.3283235	1.6689207E-02	48.64401

Instrument : CHAMBER 042
 Detector : 78793
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:16
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:44
 Average Efficiency : 0.3312008
 Average Efficiency Error : 9.1335429E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2991.257	3302.160	14934.00	0.3339659	1.4356897E-02	46.01327
NP-237	159.6558	28-FEB-2010	4435.667	4904.225	12775.00	0.3333308	1.6925573E-02	66.93758
CM-244	150.5208	28-FEB-2010	5531.759	5883.730	11154.00	0.3254806	1.6563315E-02	47.72076

Instrument : CHAMBER 043
 Detector : 76543
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:37:56
 Average Efficiency : 0.3406220
 Average Efficiency Error : 9.3815317E-03
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2990.989	3298.318	15838.00	0.3379508	1.4513168E-02	53.32027
NP-237	168.7422	28-FEB-2010	4436.983	4902.370	13848.00	0.3419185	1.7341113E-02	70.53008
CM-244	156.3252	28-FEB-2010	5532.584	5886.039	12214.00	0.3431670	1.7437097E-02	50.59512

Instrument : CHAMBER 044
 Detector : 79459
 Standard ID : AESS-044
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 7-JUL-2009 08:06:38
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 7-JUL-2009 13:33:56
 Average Efficiency : 0.3539364
 Average Efficiency Error : 9.7440388E-03
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2988.854	3300.902	16237.00	0.3523722	1.5126155E-02	49.91737
NP-237	166.6248	28-FEB-2010	4435.084	4901.492	14193.00	0.3548543	1.7991094E-02	62.49409
CM-244	155.8290	28-FEB-2010	5533.776	5883.326	12603.00	0.3552387	1.8041683E-02	52.59266

Instrument : CHAMBER 045
 Detector : 67601
 Standard ID : AESS-045
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 14-JUL-2009 15:04:44
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 07:50:59
 Average Efficiency : 0.3430506
 Average Efficiency Error : 9.4568562E-03
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2987.909	3300.265	15299.00	0.3453356	1.4839282E-02	39.68650
NP-237	160.8066	28-FEB-2010	4434.212	4905.200	12955.00	0.3356342	1.7038893E-02	56.79002
CM-244	145.8384	28-FEB-2010	5530.781	5884.673	11538.00	0.3477968	1.7688734E-02	40.32752

Instrument : CHAMBER 046
 Detector : 76544
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:38:21
 Average Efficiency : 0.3406382
 Average Efficiency Error : 9.3857087E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2989.077	3298.635	15535.00	0.3366195	1.4460829E-02	49.62128
NP-237	164.6658	28-FEB-2010	4433.627	4906.487	13519.00	0.3420215	1.7352322E-02	69.09070
CM-244	151.3824	28-FEB-2010	5533.329	5885.134	11898.00	0.3451394	1.7544771E-02	55.17302

Instrument : CHAMBER 047
 Detector : 46-089B1
 Standard ID : AESS-047
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:38:30
 Average Efficiency : 0.3442340
 Average Efficiency Error : 9.4810873E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2987.977	3301.361	15865.00	0.3390196	1.4558652E-02	55.57606
NP-237	168.3948	28-FEB-2010	4433.363	4905.447	13899.00	0.3438680	1.7439116E-02	74.62081
CM-244	154.6032	28-FEB-2010	5532.313	5886.846	12409.00	0.3525089	1.7907353E-02	58.04284

Instrument : CHAMBER 048
 Detector : 42483
 Standard ID : AESS-048
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 6-JUL-2009 09:46:17
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 6-JUL-2009 14:38:39
 Average Efficiency : 0.3178092
 Average Efficiency Error : 8.7683024E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.411	3301.246	14378.00	0.3162740	1.3605888E-02	55.68159
NP-237	161.5530	28-FEB-2010	4433.969	4903.143	12372.00	0.3190103	1.6206456E-02	67.40500
CM-244	151.1856	28-FEB-2010	5530.501	5887.230	10976.00	0.3187887	1.6227484E-02	60.96161

Instrument : CHAMBER 065
 Detector : 68551
 Standard ID : AESS-001
 Standard Reference Date : 20-FEB-2008 09:54:53
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:06:51
 Average Efficiency : 0.3167298
 Average Efficiency Error : 8.7357797E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2992.172	3297.923	15001.00	0.3033305	1.3038947E-02	62.70693
NP-237	171.0024	28-FEB-2010	4436.297	4904.907	13337.00	0.3249072	1.6487280E-02	73.64597
CM-244	158.1060	28-FEB-2010	5532.615	5884.733	11898.00	0.3304830	1.6799837E-02	62.05407

Instrument : CHAMBER 066
 Detector : 46-089C1
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:05
 Average Efficiency : 0.3104099
 Average Efficiency Error : 8.5468190E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2992.142	3300.807	14611.00	0.3081217	1.3251217E-02	57.90394
NP-237	200.4990	28-FEB-2010	4436.247	4906.352	15119.00	0.3141508	1.5914036E-02	71.36474
CM-244	196.5558	28-FEB-2010	5534.784	5886.688	13872.00	0.3099799	1.5721031E-02	60.13244

Instrument : CHAMBER 067
 Detector : 46-089B4
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:16
 Average Efficiency : 0.3225107
 Average Efficiency Error : 8.8746333E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2988.144	3301.594	15198.00	0.3160322	1.3581690E-02	73.87538
NP-237	203.2080	28-FEB-2010	4436.169	4905.946	16027.00	0.3285710	1.6632373E-02	84.27850
CM-244	197.2236	28-FEB-2010	5533.963	5885.648	14635.00	0.3261202	1.6527411E-02	74.53841

Instrument : CHAMBER 068
 Detector : 78794
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:28
 Average Efficiency : 0.3018608
 Average Efficiency Error : 8.3120642E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2990.601	3300.139	14643.00	0.2998493	1.2894920E-02	46.91775
NP-237	204.2586	28-FEB-2010	4435.756	4903.729	14909.00	0.3041092	1.5408116E-02	62.03638
CM-244	198.8100	28-FEB-2010	5531.794	5886.867	13681.00	0.3024790	1.5343496E-02	51.78417

Instrument : CHAMBER 069
 Detector : 78795
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:42
 Average Efficiency : 0.3159011
 Average Efficiency Error : 8.6903321E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2991.901	3298.738	15562.00	0.3116586	1.3388185E-02	51.55959
NP-237	209.5938	28-FEB-2010	4437.201	4903.207	15965.00	0.3173516	1.6065169E-02	63.95503
CM-244	202.7478	28-FEB-2010	5534.874	5884.048	14792.00	0.3206663	1.6248737E-02	52.59375

Instrument : CHAMBER 070
 Detector : 46-089B2
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:10
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:07:53
 Average Efficiency : 0.3520789
 Average Efficiency Error : 9.6757710E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2988.641	3300.492	16713.00	0.3463008	1.4858479E-02	61.95700
NP-237	204.7038	28-FEB-2010	4435.833	4904.443	17344.00	0.3529772	1.7851282E-02	74.78303
CM-244	195.0060	28-FEB-2010	5531.433	5882.799	15964.00	0.3598273	1.8215435E-02	68.73500

Instrument : CHAMBER 071
 Detector : 64259
 Standard ID : AESS-007
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:08:07
 Average Efficiency : 0.3163752
 Average Efficiency Error : 8.7076994E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2992.476	3301.614	15079.00	0.3078622	1.3232440E-02	56.06450
NP-237	205.0260	28-FEB-2010	4435.387	4902.436	15763.00	0.3203167	1.6217813E-02	68.61439
CM-244	199.6806	28-FEB-2010	5534.462	5883.334	14790.00	0.3255263	1.6495051E-02	58.90277

Instrument : CHAMBER 072
 Detector : 45-149AA3
 Standard ID : AESS-008
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:08:19
 Average Efficiency : 0.3234064
 Average Efficiency Error : 8.8950237E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2988.586	3301.014	15743.00	0.3224942	1.3850860E-02	54.24233
NP-237	209.2716	28-FEB-2010	4432.963	4902.126	16207.00	0.3226633	1.6331071E-02	69.06731
CM-244	199.6488	28-FEB-2010	5535.050	5886.750	14785.00	0.3254575	1.6491652E-02	56.72540

Instrument : CHAMBER 073
 Detector : 78775
 Standard ID : AESS-009
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:08:30
 Average Efficiency : 0.3320738
 Average Efficiency Error : 9.1329338E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2991.870	3299.007	15813.00	0.3281374	1.4092137E-02	50.25317
NP-237	204.0192	28-FEB-2010	4435.703	4904.982	16193.00	0.3306793	1.6736971E-02	68.87427
CM-244	197.2128	28-FEB-2010	5532.962	5884.931	15235.00	0.3394034	1.7191524E-02	49.27633

Instrument : CHAMBER 074
 Detector : 78266
 Standard ID : AESS-010
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:08:42
 Average Efficiency : 0.3124804
 Average Efficiency Error : 8.6027775E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.625	3300.254	14705.00	0.3072563	1.3212435E-02	51.15489
NP-237	202.9926	28-FEB-2010	4435.417	4902.858	15345.00	0.3149306	1.5950510E-02	57.41002
CM-244	196.2330	28-FEB-2010	5535.258	5884.259	14186.00	0.3177475	1.6109865E-02	49.01177

Instrument : CHAMBER 075
 Detector : 68550
 Standard ID : AESS-011
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:08:53
 Average Efficiency : 0.2973897
 Average Efficiency Error : 8.1859389E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2988.563	3301.861	14863.00	0.2947582	1.2672522E-02	56.94482
NP-237	214.4868	28-FEB-2010	4432.969	4904.420	15483.00	0.3006926	1.5227719E-02	69.06491
CM-244	208.4184	28-FEB-2010	5535.562	5884.044	14125.00	0.2978785	1.5103404E-02	58.86678

Instrument : CHAMBER 076
 Detector : 78779
 Standard ID : AESS-012
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:09:04
 Average Efficiency : 0.3059446
 Average Efficiency Error : 8.4217470E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2992.408	3300.679	14839.00	0.3037126	1.3057882E-02	46.65081
NP-237	205.8930	28-FEB-2010	4437.552	4904.251	15221.00	0.3079897	1.5600574E-02	59.39308
CM-244	203.1954	28-FEB-2010	5530.870	5885.252	14195.00	0.3070807	1.5568880E-02	50.95067

Instrument : CHAMBER 077
 Detector : 67576
 Standard ID : AESS-013
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:09:15
 Average Efficiency : 0.3220192
 Average Efficiency Error : 8.8578872E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2988.825	3301.085	15444.00	0.3200761	1.3751586E-02	52.27526
NP-237	210.2526	28-FEB-2010	4432.612	4901.681	16184.00	0.3207017	1.6232070E-02	64.77522
CM-244	201.9108	28-FEB-2010	5534.546	5886.248	14985.00	0.3261909	1.6525861E-02	54.87537

Instrument : CHAMBER 078
 Detector : 67577
 Standard ID : AESS-014
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:09:25
 Average Efficiency : 0.3269402
 Average Efficiency Error : 8.9888843E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2992.395	3299.584	16294.00	0.3202777	1.3747618E-02	52.02948
NP-237	211.7160	28-FEB-2010	4433.349	4904.419	17152.00	0.3375357	1.7072473E-02	63.87207
CM-244	207.3882	28-FEB-2010	5535.593	5884.350	15420.00	0.3266392	1.6542494E-02	56.64688

Instrument : CHAMBER 079
 Detector : 67598
 Standard ID : AESS-015
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:09:33
 Average Efficiency : 0.3269641
 Average Efficiency Error : 8.9949844E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2987.535	3297.935	15565.00	0.3219998	1.3832338E-02	51.91238
NP-237	200.6460	28-FEB-2010	4435.153	4903.332	15964.00	0.3314978	1.6781278E-02	65.57870
CM-244	195.9270	28-FEB-2010	5530.500	5882.333	14697.00	0.3297131	1.6708534E-02	52.00982

Instrument : CHAMBER 080
 Detector : 78197
 Standard ID : AESS-016
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:09:43
 Average Efficiency : 0.3342651
 Average Efficiency Error : 9.1930544E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2992.338	3298.189	15890.00	0.3286708	1.4113899E-02	49.39791
NP-237	199.3962	28-FEB-2010	4434.851	4901.472	16357.00	0.3417528	1.7295377E-02	67.37957
CM-244	198.6402	28-FEB-2010	5531.493	5883.930	15145.00	0.3351447	1.6977096E-02	53.36457

Instrument : CHAMBER 081
 Detector : 72533
 Standard ID : AESS-017
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:09:58
 Average Efficiency : 1.0059110E-03
 Average Efficiency Error : 1.4002950E-04
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2985.980	3302.417	45.00000	8.9930405E-04	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	2.4471347E-03	0.0000000E+00

Instrument : CHAMBER 082
 Detector : 64263
 Standard ID : AESS-018
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:11
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:10:11
 Average Efficiency : 0.3262649
 Average Efficiency Error : 8.9742821E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2990.419	3298.608	15507.00	0.3237216	1.3907208E-02	58.84102
NP-237	208.8990	28-FEB-2010	4437.000	4905.115	16371.00	0.3264953	1.6523048E-02	77.98001
CM-244	198.1458	28-FEB-2010	5534.320	5885.085	14864.00	0.3296992	1.6705383E-02	70.67408

Instrument : CHAMBER 083
 Detector : 64278
 Standard ID : AESS-019
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:10:22
 Average Efficiency : 0.3331127
 Average Efficiency Error : 9.1688316E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2987.455	3299.407	15432.00	0.3182384	1.3672802E-02	55.81121
NP-237	202.9140	28-FEB-2010	4433.838	4906.607	17206.00	0.3532467	1.7866544E-02	69.77620
CM-244	199.3140	28-FEB-2010	5532.253	5885.057	15334.00	0.3379439	1.7116275E-02	60.81681

Instrument : CHAMBER 084
 Detector : 78265
 Standard ID : AESS-020
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:10:32
 Average Efficiency : 0.3434564
 Average Efficiency Error : 9.4431741E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2988.133	3299.227	16254.00	0.3337056	1.4324601E-02	49.70576
NP-237	203.4984	28-FEB-2010	4433.289	4901.844	17176.00	0.3516426	1.7785732E-02	63.55498
CM-244	197.1096	28-FEB-2010	5535.275	5884.618	15707.00	0.3502632	1.7734783E-02	51.80883

Instrument : CHAMBER 085
 Detector : 78776
 Standard ID : AESS-021
 Standard Reference Date : 19-FEB-2008 15:31:52
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:10:43
 Average Efficiency : 0.3254945
 Average Efficiency Error : 8.9515289E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2989.612	3299.207	15817.00	0.3203625	1.3758179E-02	45.89981
NP-237	210.1548	28-FEB-2010	4434.183	4901.520	16560.00	0.3282868	1.6611453E-02	60.08111
CM-244	200.7390	28-FEB-2010	5533.754	5882.654	15090.00	0.3302506	1.6729988E-02	50.06017

Instrument : CHAMBER 086
 Detector : 78198
 Standard ID : AESS-022
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:10:52
 Average Efficiency : 0.2987570
 Average Efficiency Error : 8.2268827E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.886	3300.091	14561.00	0.2931078	1.2606329E-02	46.08396
NP-237	206.8830	28-FEB-2010	4433.582	4903.927	15096.00	0.3040077	1.5400495E-02	61.33533
CM-244	203.0208	28-FEB-2010	5531.751	5882.863	13945.00	0.3018999	1.5310007E-02	49.24375

Instrument : CHAMBER 087
 Detector : 78199
 Standard ID : AESS-023
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:11:02
 Average Efficiency : 0.3162691
 Average Efficiency Error : 8.7025622E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.385	3299.009	15285.00	0.3109341	1.3361266E-02	44.58315
NP-237	207.4998	28-FEB-2010	4436.772	4904.542	15818.00	0.3175828	1.6078727E-02	57.63754
CM-244	199.8804	28-FEB-2010	5534.083	5883.178	14684.00	0.3229105	1.6363984E-02	49.88237

Instrument : CHAMBER 088
 Detector : 33452
 Standard ID : AESS-024
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:12
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:11:13
 Average Efficiency : 0.2998269
 Average Efficiency Error : 8.2606915E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2990.970	3298.296	14025.00	0.2908646	1.2518696E-02	52.96125
NP-237	205.6662	28-FEB-2010	4436.463	4902.334	15055.00	0.3049660	1.5449598E-02	63.94186
CM-244	198.3060	28-FEB-2010	5534.583	5887.587	13923.00	0.3085581	1.5648056E-02	61.30964

Instrument : CHAMBER 089
 Detector : 78262
 Standard ID : AESS-025
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:11:23
 Average Efficiency : 0.2963288
 Average Efficiency Error : 8.1822695E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2992.075	3297.767	13916.00	0.3003191	1.2927603E-02	50.98783
NP-237	167.9916	28-FEB-2010	4432.406	4901.978	12013.00	0.2979151	1.5141796E-02	61.57396
CM-244	157.2432	28-FEB-2010	5532.097	5882.869	10361.00	0.2896218	1.4757983E-02	57.67693

Instrument : CHAMBER 090
 Detector : 78263
 Standard ID : AESS-026
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:11:39
 Average Efficiency : 0.3241549
 Average Efficiency Error : 9.4982684E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2990.462	3300.982	15417.00	0.3261584	1.6518990E-02	52.53284
NP-237	168.0294	28-FEB-2010	4434.552	4903.775	13172.00	0.3265822	1.6575273E-02	66.40552
CM-244	160.5822	28-FEB-2010	5532.754	5885.804	11687.00	0.3198750	1.6265199E-02	57.74523

Instrument : CHAMBER 091
 Detector : 78259
 Standard ID : AESS-027
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:11:52
 Average Efficiency : 0.3403451
 Average Efficiency Error : 9.9735688E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2990.268	3298.949	15270.00	0.3332087	1.6878121E-02	49.79137
NP-237	161.6154	28-FEB-2010	4433.436	4901.824	13289.00	0.3425658	1.7384235E-02	66.53712
CM-244	148.1754	28-FEB-2010	5531.214	5887.413	11658.00	0.3458194	1.7585119E-02	55.76472

Instrument : CHAMBER 092
 Detector : 79457
 Standard ID : AESS-028
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 10-JUL-2009 08:15:23
 Average Efficiency : 0.3244753
 Average Efficiency Error : 9.5090605E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2992.198	3300.849	15511.00	0.3276620	1.6594216E-02	50.13194
NP-237	168.1992	28-FEB-2010	4435.896	4905.687	13201.00	0.3269055	1.6591255E-02	61.53701
CM-244	156.7614	28-FEB-2010	5533.567	5885.099	11382.00	0.3190994	1.6232992E-02	50.67320

Instrument : CHAMBER 093
 Detector : 33206
 Standard ID : AESS-029
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:12:10
 Average Efficiency : 0.3253579
 Average Efficiency Error : 9.5347259E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2988.963	3299.960	15194.00	0.3181445	1.6116098E-02	50.56812
NP-237	169.7700	28-FEB-2010	4434.063	4902.978	13286.00	0.3260259	1.6544953E-02	75.56580
CM-244	154.8234	28-FEB-2010	5531.085	5883.424	11716.00	0.3326032	1.6911702E-02	57.95201

Instrument : CHAMBER 094
 Detector : 78267
 Standard ID : AESS-030
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:13
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:12:19
 Average Efficiency : 0.3085452
 Average Efficiency Error : 9.0499781E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2990.912	3298.303	14487.00	0.3072813	1.5575566E-02	44.68866
NP-237	166.3758	28-FEB-2010	4435.971	4905.664	12598.00	0.3154770	1.6022354E-02	64.16422
CM-244	157.1856	28-FEB-2010	5534.211	5886.502	10849.00	0.3033472	1.5444501E-02	48.21400

Instrument : CHAMBER 095
 Detector : 64279
 Standard ID : AESS-031
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:12:27
 Average Efficiency : 0.3068112
 Average Efficiency Error : 8.4704254E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2989.056	3301.826	13965.00	0.3043179	1.3098821E-02	55.82520
NP-237	162.9186	28-FEB-2010	4435.330	4905.275	12386.00	0.3167128	1.6089419E-02	68.30973
CM-244	153.1968	28-FEB-2010	5534.057	5886.430	10508.00	0.3012262	1.5345651E-02	56.59253

Instrument : CHAMBER 096
 Detector : 67605
 Standard ID : AESS-032
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:12:36
 Average Efficiency : 0.3103104
 Average Efficiency Error : 8.5620275E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.311	3298.177	14291.00	0.3089209	1.3291076E-02	50.28194
NP-237	165.9822	28-FEB-2010	4434.251	4906.198	12426.00	0.3117568	1.5837051E-02	61.11779
CM-244	153.7938	28-FEB-2010	5533.120	5882.408	10880.00	0.3108360	1.5824955E-02	51.23636

Instrument : CHAMBER 097
 Detector : 67599
 Standard ID : AESS-033
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:12:44
 Average Efficiency : 0.3440487
 Average Efficiency Error : 9.4836140E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2989.746	3302.068	15243.00	0.3343306	1.4367314E-02	49.90135
NP-237	161.7816	28-FEB-2010	4437.101	4903.794	13519.00	0.3481746	1.7664408E-02	69.66666
CM-244	147.2670	28-FEB-2010	5531.052	5886.116	11904.00	0.3550793	1.8049983E-02	57.03643

Instrument : CHAMBER 098
 Detector : 68644
 Standard ID : AESS-034
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:12:53
 Average Efficiency : 0.3341772
 Average Efficiency Error : 9.2099942E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2989.589	3298.128	15405.00	0.3241865	1.3928778E-02	51.17890
NP-237	167.2962	28-FEB-2010	4432.836	4901.640	13623.00	0.3392162	1.7208137E-02	68.23425
CM-244	154.4388	28-FEB-2010	5531.873	5883.257	12118.00	0.3447607	1.7520264E-02	52.08022

Instrument : CHAMBER 099
 Detector : 70317
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:03
 Average Efficiency : 0.3431231
 Average Efficiency Error : 9.4483467E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2990.876	3301.163	16106.00	0.3421397	1.4688905E-02	50.68632
NP-237	168.2934	28-FEB-2010	4434.526	4903.945	13954.00	0.3454547	1.7518591E-02	61.64373
CM-244	158.8128	28-FEB-2010	5533.432	5886.885	12370.00	0.3422045	1.7384758E-02	52.31840

Instrument : CHAMBER 100
 Detector : 79456
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:14
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:12
 Average Efficiency : 0.3427027
 Average Efficiency Error : 9.4427206E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2992.287	3297.799	15520.00	0.3363194	1.4448194E-02	50.00877
NP-237	164.6658	28-FEB-2010	4436.422	4905.631	13582.00	0.3435974	1.7431144E-02	61.98585
CM-244	151.3824	28-FEB-2010	5534.572	5887.590	12114.00	0.3515212	1.7863980E-02	52.94975

Instrument : CHAMBER 101
 Detector : 64253
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:22
 Average Efficiency : 0.3390052
 Average Efficiency Error : 9.3409885E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.433	3299.297	15460.00	0.3299631	1.4176095E-02	61.39046
NP-237	167.1294	28-FEB-2010	4436.714	4901.796	13907.00	0.3466887	1.7581994E-02	74.45712
CM-244	154.7664	28-FEB-2010	5531.777	5885.188	12159.00	0.3452022	1.7541731E-02	61.78313

Instrument : CHAMBER 102
 Detector : 72525
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:31
 Average Efficiency : 0.3328035
 Average Efficiency Error : 9.1680549E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2992.102	3300.657	15781.00	0.3327644	1.4291358E-02	57.28693
NP-237	170.0886	28-FEB-2010	4432.858	4904.949	13683.00	0.3351520	1.7000843E-02	70.05949
CM-244	157.7460	28-FEB-2010	5531.106	5882.690	11868.00	0.3305628	1.6804401E-02	60.52639

Instrument : CHAMBER 103
 Detector : 79461
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:40
 Average Efficiency : 0.3354990
 Average Efficiency Error : 9.2500327E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.996	3300.314	15148.00	0.3325511	1.4292428E-02	46.53494
NP-237	159.1506	28-FEB-2010	4436.805	4901.981	13231.00	0.3463839	1.7579062E-02	65.39693
CM-244	151.7142	28-FEB-2010	5532.506	5886.425	11383.00	0.3296518	1.6769741E-02	53.08098

Instrument : CHAMBER 104
 Detector : 72524
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:48
 Average Efficiency : 0.3172685
 Average Efficiency Error : 8.7505886E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2990.719	3300.868	14808.00	0.3213409	1.3816299E-02	52.43279
NP-237	166.8174	28-FEB-2010	4437.132	4904.901	12602.00	0.3146936	1.5982572E-02	60.08082
CM-244	155.0100	28-FEB-2010	5531.506	5883.017	11092.00	0.3143873	1.6000355E-02	48.93826

Instrument : CHAMBER 105
 Detector : 78777
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:13:56
 Average Efficiency : 0.3238136
 Average Efficiency Error : 8.9225518E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2991.574	3300.708	15632.00	0.3235499	1.3897874E-02	47.98710
NP-237	171.2268	28-FEB-2010	4435.406	4903.467	13447.00	0.3271988	1.6601518E-02	65.57580
CM-244	159.5796	28-FEB-2010	5531.275	5883.854	11655.00	0.3209064	1.6318357E-02	49.59695

Instrument : CHAMBER 106
 Detector : 64274
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:15
 Calibration Count Time : 240.0000
 Efficiency Calibration Date/Time : 9-JUL-2009 13:14:04
 Average Efficiency : 0.3300298
 Average Efficiency Error : 9.1015678E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2989.941	3301.958	14641.00	0.3274217	1.4080711E-02	51.04536
NP-237	159.6558	28-FEB-2010	4435.855	4902.069	12766.00	0.3331273	1.6915364E-02	68.33770
CM-244	150.5208	28-FEB-2010	5534.023	5883.359	11329.00	0.3306891	1.6823869E-02	57.44720

Instrument : CHAMBER 107
 Detector : 67578
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:14:15
 Average Efficiency : 0.3045647
 Average Efficiency Error : 8.4048761E-03
 Confidence : 95.00000

Cal. Isteps	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. Isteps	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. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2989.195	3299.997	15695.00	0.3542219	1.5214318E-02	44.90919
NP-237	160.8066	28-FEB-2010	4435.631	4906.161	13634.00	0.3532281	1.7918682E-02	60.71558
CM-244	145.8384	28-FEB-2010	5531.938	5886.333	11971.00	0.3606424	1.8330947E-02	47.40115

Instrument : CHAMBER 110
 Detector : 67602
 Standard ID : AESS-046
 Standard Reference Date : 8-JAN-2007 09:29:00
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:15:06
 Average Efficiency : 0.3174780
 Average Efficiency Error : 8.7590944E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.6531	28-FEB-2010	2989.370	3301.157	14395.00	0.3105389	1.3360999E-02	53.22070
NP-237	164.3834	28-FEB-2010	4436.284	4904.992	12802.00	0.3244717	1.6475134E-02	64.57879
CM-244	159.4253	28-FEB-2010	5535.250	5883.287	11162.00	0.3209743	1.6333863E-02	56.77616

Instrument : CHAMBER 111
 Detector : 79462
 Standard ID : AESS-047
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:15:22
 Average Efficiency : 0.3410317
 Average Efficiency Error : 9.3937013E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2990.820	3300.305	15891.00	0.3395850	1.4582562E-02	46.16263
NP-237	168.3948	28-FEB-2010	4436.744	4905.500	13621.00	0.3369952	1.7095437E-02	61.95173
CM-244	154.6032	28-FEB-2010	5535.002	5885.661	12226.00	0.3474574	1.7654790E-02	55.37262

Instrument : CHAMBER 112
 Detector : 78261
 Standard ID : AESS-048
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 9-JUL-2009 08:08:16
 Calibration Count Time : 239.9998
 Efficiency Calibration Date/Time : 9-JUL-2009 13:15:42
 Average Efficiency : 0.3101838
 Average Efficiency Error : 8.5619837E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.969	3300.635	14006.00	0.3081187	1.3261668E-02	44.59222
NP-237	161.5530	28-FEB-2010	4436.114	4905.135	12212.00	0.3149208	1.6001921E-02	60.98758
CM-244	151.1856	28-FEB-2010	5532.983	5884.981	10616.00	0.3085150	1.5713703E-02	48.71024

Instrument : CHAMBER 113
 Detector : 45-111B4
 Standard ID : AESS-001
 Standard Reference Date : 20-FEB-2008 09:54:53
 Calibration Analysis Date/Time : 15-JUL-2009 08:37:50
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:43:32
 Average Efficiency : 0.2519916
 Average Efficiency Error : 6.9467155E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2988.779	3298.785	15298.00	0.2475491	1.0637350E-02	69.86681
NP-237	171.0024	28-FEB-2010	4433.559	4905.331	12963.00	0.2526515	1.2826058E-02	72.30716
CM-244	158.1060	28-FEB-2010	5530.517	5883.481	11603.00	0.2580627	1.3123710E-02	68.28992

Instrument : CHAMBER 114
 Detector : 78258
 Standard ID : AESS-007
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 15-JUL-2009 08:37:55
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:43:44
 Average Efficiency : 0.2556549
 Average Efficiency Error : 7.0340075E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2990.441	3298.868	15389.00	0.2513953	1.0801502E-02	44.39313
NP-237	205.0260	28-FEB-2010	4436.900	4905.218	15927.00	0.2589234	1.3107756E-02	58.50210
CM-244	199.6806	28-FEB-2010	5530.599	5885.790	14679.00	0.2586593	1.3108032E-02	49.91982

Instrument : CHAMBER 115
 Detector : 45-132FF4
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 15-JUL-2009 08:37:59
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:43:54
 Average Efficiency : 0.2654886
 Average Efficiency Error : 7.3024337E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2991.839	3301.816	15791.00	0.2664527	1.1443332E-02	55.36104
NP-237	200.4990	28-FEB-2010	4436.001	4902.052	15786.00	0.2624403	1.3287230E-02	64.95200
CM-244	196.5558	28-FEB-2010	5531.697	5884.118	14942.00	0.2673051	1.3543067E-02	65.53946

Instrument : CHAMBER 116
 Detector : 45-132FF2
 Standard ID : AESS-008
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:05
 Average Efficiency : 0.2629267
 Average Efficiency Error : 7.2302124E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2988.005	3302.013	16058.00	0.2632007	1.1300448E-02	59.26229
NP-237	209.2716	28-FEB-2010	4432.895	4903.021	16270.00	0.2591243	1.3114552E-02	68.78876
CM-244	199.6488	28-FEB-2010	5531.311	5883.052	15125.00	0.2665666	1.3503457E-02	63.98270

Instrument : CHAMBER 117
 Detector : 33450
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:07
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:15
 Average Efficiency : 0.2535850
 Average Efficiency Error : 6.9797374E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2992.173	3300.224	14948.00	0.2486987	1.0691201E-02	65.60831
NP-237	203.2080	28-FEB-2010	4434.403	4904.427	15595.00	0.2557888	1.2952457E-02	67.83129
CM-244	197.2236	28-FEB-2010	5533.135	5885.381	14502.00	0.2586756	1.3111014E-02	62.53085

Instrument : CHAMBER 118
 Detector : 75544
 Standard ID : AESS-009
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:11
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:26
 Average Efficiency : 0.2598683
 Average Efficiency Error : 7.1489667E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2992.199	3301.179	15535.00	0.2579420	1.1080938E-02	44.86411
NP-237	204.0192	28-FEB-2010	4437.404	4902.417	15842.00	0.2588220	1.3103474E-02	58.11101
CM-244	197.2128	28-FEB-2010	5530.853	5882.689	14791.00	0.2637591	1.3365132E-02	41.32130

Instrument : CHAMBER 119
 Detector : 74429
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:16
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 2-FEB-2009 15:15:38
 Average Efficiency : 0.2936279
 Average Efficiency Error : 1.2630888E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2992.004	3299.253	9998.000	0.2936279	1.2630888E-02	0.0000000E+00
NP-237	204.2586	28-FEB-2010	4432.548	4906.013	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00
CM-244	198.8100	28-FEB-2010	5530.584	5883.165	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00

Instrument : CHAMBER 120
 Detector : 74430
 Standard ID : AESS-010
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:20
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 16-JUL-2009 09:29:36
 Average Efficiency : 0.2329810
 Average Efficiency Error : 6.4206291E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.522	3298.404	13848.00	0.2315074	9.9664843E-03	47.05631
NP-237	202.9926	28-FEB-2010	4435.328	4903.588	14182.00	0.2328624	1.1806204E-02	59.86080
CM-244	196.2330	28-FEB-2010	5534.528	5884.756	13118.00	0.2352170	1.1938849E-02	50.37906

Instrument : CHAMBER 121
 Detector : 75545
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:24
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:36
 Average Efficiency : 0.2481502
 Average Efficiency Error : 6.8278033E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2988.023	3300.631	15450.00	0.2475892	1.0637230E-02	49.92188
NP-237	209.5938	28-FEB-2010	4432.658	4901.599	15670.00	0.2492075	1.2618415E-02	57.40462
CM-244	202.7478	28-FEB-2010	5533.997	5885.295	14284.00	0.2478847	1.2566634E-02	53.21548

Instrument : CHAMBER 122
 Detector : 75546
 Standard ID : AESS-011
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:29
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:46
 Average Efficiency : 0.2535488
 Average Efficiency Error : 6.9723255E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2990.563	3298.589	16028.00	0.2543318	1.0920011E-02	51.38880
NP-237	214.4868	28-FEB-2010	4436.782	4905.890	16182.00	0.2514608	1.2727518E-02	56.55112
CM-244	208.4184	28-FEB-2010	5532.955	5884.078	15083.00	0.2546007	1.2897825E-02	50.53276

Instrument : CHAMBER 123
 Detector : 45-142V3
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:33
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:44:55
 Average Efficiency : 0.2599957
 Average Efficiency Error : 7.1522635E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2990.850	3299.223	15663.00	0.2596899	1.1154454E-02	71.05709
NP-237	204.7038	28-FEB-2010	4437.241	4905.636	15899.00	0.2588749	1.3105587E-02	67.04378
CM-244	195.0060	28-FEB-2010	5531.191	5886.517	14497.00	0.2615748	1.3257999E-02	62.26140

Instrument : CHAMBER 124
 Detector : 45-142V2
 Standard ID : AESS-012
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 15-JUL-2009 08:38:38
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 15-JUL-2009 13:45:05
 Average Efficiency : 0.2587920
 Average Efficiency Error : 7.1179173E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2988.169	3298.838	15692.00	0.2569794	1.1037684E-02	70.68444
NP-237	205.8930	28-FEB-2010	4434.514	4905.983	16135.00	0.2612102	1.3221423E-02	71.87656
CM-244	203.1954	28-FEB-2010	5535.498	5887.649	14956.00	0.2589717	1.3120654E-02	72.67943

Instrument : CHAMBER 125
 Detector : 75547
 Standard ID : AESS-013
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:11:36
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:23:54
 Average Efficiency : 0.2576947
 Average Efficiency Error : 7.0884591E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2992.438	3299.892	15734.00	0.2609255	1.1206666E-02	46.30545
NP-237	210.2526	28-FEB-2010	4435.342	4903.042	16013.00	0.2538552	1.2850333E-02	59.85715
CM-244	201.9108	28-FEB-2010	5533.267	5883.118	14760.00	0.2572743	1.3036882E-02	47.93466

Instrument : CHAMBER 126
 Detector : 75548
 Standard ID : AESS-019
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 17-JUL-2009 09:11:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:06
 Average Efficiency : 0.2541045
 Average Efficiency Error : 6.9944067E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2988.642	3299.863	14987.00	0.2472976	1.0630463E-02	48.38591
NP-237	202.9140	28-FEB-2010	4434.022	4903.287	15977.00	0.2624101	1.3283804E-02	54.76476
CM-244	199.3140	28-FEB-2010	5533.750	5882.833	14524.00	0.2563267	1.2991657E-02	55.65510

Instrument : CHAMBER 127
 Detector : 78770
 Standard ID : AESS-014
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 17-JUL-2009 09:11:52
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:19
 Average Efficiency : 0.2465067
 Average Efficiency Error : 6.7814202E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2987.930	3300.925	15708.00	0.2470578	1.0611333E-02	45.78584
NP-237	211.7160	28-FEB-2010	4433.404	4902.114	15685.00	0.2469317	1.2503051E-02	55.80547
CM-244	207.3882	28-FEB-2010	5533.832	5884.575	14464.00	0.2453295	1.2434963E-02	52.15766

Instrument : CHAMBER 128
 Detector : 75549
 Standard ID : AESS-020
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 17-JUL-2009 09:11:58
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:31
 Average Efficiency : 0.2568552
 Average Efficiency Error : 7.0680329E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2989.441	3299.762	15295.00	0.2512498	1.0796450E-02	45.99468
NP-237	203.4984	28-FEB-2010	4437.479	4901.607	16011.00	0.2622381	1.3274715E-02	55.45222
CM-244	197.1096	28-FEB-2010	5532.807	5882.614	14556.00	0.2598990	1.3172311E-02	50.77409

Instrument : CHAMBER 129
 Detector : 76227
 Standard ID : AESS-015
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:41
 Average Efficiency : 0.2644528
 Average Efficiency Error : 7.2740684E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2991.626	3298.866	15762.00	0.2609125	1.1205764E-02	46.80607
NP-237	200.6460	28-FEB-2010	4434.006	4901.792	16185.00	0.2688618	1.3608224E-02	54.56116
CM-244	195.9270	28-FEB-2010	5532.320	5882.430	14766.00	0.2652449	1.3440695E-02	49.47559

Instrument : CHAMBER 130
 Detector : 76228
 Standard ID : AESS-021
 Standard Reference Date : 19-FEB-2008 15:31:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:07
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:24:51
 Average Efficiency : 0.2468057
 Average Efficiency Error : 6.7924876E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2987.724	3301.129	15063.00	0.2441104	1.0492519E-02	52.03590
NP-237	210.1548	28-FEB-2010	4432.733	4905.256	15645.00	0.2481126	1.2563273E-02	57.61189
CM-244	200.7390	28-FEB-2010	5534.221	5882.991	14232.00	0.2493957	1.2643824E-02	52.52812

Instrument : CHAMBER 131
 Detector : 33448
 Standard ID : AESS-016
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:11
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:01
 Average Efficiency : 0.2570197
 Average Efficiency Error : 7.0734182E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2990.041	3301.703	15183.00	0.2512954	1.0799803E-02	73.19037
NP-237	199.3962	28-FEB-2010	4437.470	4901.500	15793.00	0.2639839	1.3365344E-02	77.05526
CM-244	198.6402	28-FEB-2010	5535.040	5887.344	14606.00	0.2587552	1.3113786E-02	69.05248

Instrument : CHAMBER 132
 Detector : 67579
 Standard ID : AESS-022
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:16
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:11
 Average Efficiency : 0.2430298
 Average Efficiency Error : 6.6918936E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2991.722	3299.982	14858.00	0.2393249	1.0289361E-02	82.35345
NP-237	206.8830	28-FEB-2010	4436.189	4902.037	15718.00	0.2532126	1.2820771E-02	110.8838
CM-244	203.0208	28-FEB-2010	5533.193	5884.042	13792.00	0.2390666	1.2125478E-02	95.32550

Instrument : CHAMBER 133
 Detector : 76229
 Standard ID : AESS-017
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:20
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:22
 Average Efficiency : 0.2443746
 Average Efficiency Error : 6.7256871E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2991.784	3301.677	15064.00	0.2421688	1.0409047E-02	50.61230
NP-237	208.5846	28-FEB-2010	4432.798	4901.797	15477.00	0.2473098	1.2524300E-02	59.86257
CM-244	205.5828	28-FEB-2010	5532.072	5884.338	14290.00	0.2446276	1.2401419E-02	51.55180

Instrument : CHAMBER 134
 Detector : 76230
 Standard ID : AESS-023
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:25
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:32
 Average Efficiency : 0.2446093
 Average Efficiency Error : 6.7343172E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2990.526	3299.017	14780.00	0.2405785	1.0344269E-02	47.58438
NP-237	207.4998	28-FEB-2010	4435.982	4903.287	15238.00	0.2446961	1.2394482E-02	57.76377
CM-244	199.8804	28-FEB-2010	5532.080	5886.000	14233.00	0.2505983	1.2704798E-02	45.62634

Instrument : CHAMBER 135
 Detector : 64270
 Standard ID : AESS-018
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:30
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:42
 Average Efficiency : 0.2559817
 Average Efficiency Error : 7.0438967E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2988.277	3299.628	15593.00	0.2604657	1.1188660E-02	51.52015
NP-237	208.8990	28-FEB-2010	4437.221	4904.200	15580.00	0.2485812	1.2587634E-02	59.07031
CM-244	198.1458	28-FEB-2010	5533.869	5883.613	14517.00	0.2578413	1.3068504E-02	58.17161

Instrument : CHAMBER 136
 Detector : 68549
 Standard ID : AESS-024
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:34
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:25:52
 Average Efficiency : 0.2467655
 Average Efficiency Error : 6.7935060E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2990.353	3301.238	14853.00	0.2464695	1.0596607E-02	65.72455
NP-237	205.6662	28-FEB-2010	4436.739	4902.455	15465.00	0.2505761	1.2689904E-02	90.78280
CM-244	198.3060	28-FEB-2010	5530.869	5887.561	13725.00	0.2435561	1.2354044E-02	84.13201

Instrument : CHAMBER 137
 Detector : 64288
 Standard ID : AESS-025
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:02
 Average Efficiency : 0.2552701
 Average Efficiency Error : 7.0390012E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.740	3300.102	14923.00	0.2576955	1.1078311E-02	64.99760
NP-237	167.9916	28-FEB-2010	4437.224	4902.644	12892.00	0.2557947	1.2986653E-02	75.28851
CM-244	157.2432	28-FEB-2010	5534.374	5886.101	11242.00	0.2515239	1.2798158E-02	68.25955

Instrument : CHAMBER 138
 Detector : 65877
 Standard ID : AESS-031
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:11
 Average Efficiency : 0.2546351
 Average Efficiency Error : 7.0242025E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2989.573	3299.020	14588.00	0.2543695	1.0939864E-02	53.70593
NP-237	162.9186	28-FEB-2010	4433.563	4906.044	12608.00	0.2577648	1.3091444E-02	63.94941
CM-244	153.1968	28-FEB-2010	5532.867	5887.098	10976.00	0.2519955	1.2827461E-02	58.23169

Instrument : CHAMBER 139
 Detector : 76231
 Standard ID : AESS-026
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:48
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:21
 Average Efficiency : 0.2504273
 Average Efficiency Error : 7.3419176E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2987.505	3300.432	14828.00	0.2510030	1.2718994E-02	48.79321
NP-237	168.0294	28-FEB-2010	4434.030	4903.806	12788.00	0.2536503	1.2879401E-02	56.03834
CM-244	160.5822	28-FEB-2010	5532.176	5884.231	11264.00	0.2468024	1.2557442E-02	47.42265

Instrument : CHAMBER 140
 Detector : 78771
 Standard ID : AESS-032
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:53
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:31
 Average Efficiency : 0.2551487
 Average Efficiency Error : 7.0366412E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.854	3298.685	14731.00	0.2547957	1.0956220E-02	48.77175
NP-237	165.9822	28-FEB-2010	4432.882	4903.279	12676.00	0.2545053	1.2924591E-02	56.74310
CM-244	153.7938	28-FEB-2010	5532.806	5885.667	11205.00	0.2563040	1.3041983E-02	50.50342

Instrument : CHAMBER 141
 Detector : 76232
 Standard ID : AESS-027
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:12:58
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:40
 Average Efficiency : 0.2558747
 Average Efficiency Error : 7.5053386E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2991.144	3299.081	14344.00	0.2504358	1.2695894E-02	52.97828
NP-237	161.6154	28-FEB-2010	4432.714	4902.455	12501.00	0.2577664	1.3093018E-02	59.69727
CM-244	148.1754	28-FEB-2010	5530.738	5882.724	10942.00	0.2598479	1.3227826E-02	52.14254

Instrument : CHAMBER 142
 Detector : 64261
 Standard ID : AESS-033
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:26:50
 Average Efficiency : 0.2578609
 Average Efficiency Error : 7.1141319E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2990.865	3298.794	14538.00	0.2551434	1.0973847E-02	59.26533
NP-237	161.7816	28-FEB-2010	4432.947	4903.147	12416.00	0.2557132	1.2990172E-02	60.24754
CM-244	147.2670	28-FEB-2010	5532.255	5884.805	11064.00	0.2642446	1.3449099E-02	59.08084

Instrument : CHAMBER 143
 Detector : 65882
 Standard ID : AESS-028
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:09
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:11
 Average Efficiency : 0.2247539
 Average Efficiency Error : 6.6391113E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2987.701	3299.952	14717.00	0.2489303	1.2615234E-02	59.75106
NP-237	168.1992	28-FEB-2010	4432.480	4904.917	12257.00	0.2428234	1.2337844E-02	78.49762
CM-244	156.7614	28-FEB-2010	5535.542	5887.375	8790.000	0.1972357	1.0083942E-02	0.0000000E+00

Instrument : CHAMBER 144
 Detector : 75551
 Standard ID : AESS-034
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:14
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:26
 Average Efficiency : 0.2489190
 Average Efficiency Error : 6.8659927E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2987.490	3300.379	14854.00	0.2501176	1.0753425E-02	46.53134
NP-237	167.2962	28-FEB-2010	4433.137	4902.257	12414.00	0.2473100	1.2563203E-02	59.28743
CM-244	154.4388	28-FEB-2010	5534.787	5886.106	10929.00	0.2488915	1.2670427E-02	55.09279

Instrument : CHAMBER 145
 Detector : 72526
 Standard ID : AESS-029
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:19
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:37
 Average Efficiency : 0.2495571
 Average Efficiency Error : 7.3171528E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2989.366	3298.098	14915.00	0.2498968	1.2661957E-02	51.73314
NP-237	169.7700	28-FEB-2010	4434.265	4904.885	12751.00	0.2503173	1.2710736E-02	57.53227
CM-244	154.8234	28-FEB-2010	5534.192	5886.678	10933.00	0.2484652	1.2648602E-02	48.31667

Instrument : CHAMBER 146
 Detector : 72527
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:24
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:48
 Average Efficiency : 0.2495693
 Average Efficiency Error : 6.8829530E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2991.494	3297.950	14697.00	0.2498184	1.0742654E-02	54.01461
NP-237	168.2934	28-FEB-2010	4436.761	4904.596	12650.00	0.2505190	1.2722510E-02	56.99129
CM-244	158.8128	28-FEB-2010	5530.438	5886.440	11210.00	0.2482881	1.2634057E-02	52.12059

Instrument : CHAMBER 147
 Detector : 75550
 Standard ID : AESS-030
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:29
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:27:59
 Average Efficiency : 0.2449156
 Average Efficiency Error : 7.1838433E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2987.763	3300.677	14416.00	0.2446455	1.2401544E-02	44.93960
NP-237	166.3758	28-FEB-2010	4433.256	4902.183	12106.00	0.2424534	1.2321484E-02	55.16415
CM-244	157.1856	28-FEB-2010	5534.346	5885.412	11068.00	0.2477740	1.2610656E-02	48.98204

Instrument : CHAMBER 148
 Detector : 74429
 Standard ID : AESS-036
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:34
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:08
 Average Efficiency : 0.2454490
 Average Efficiency Error : 6.7716590E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2989.918	3302.313	14456.00	0.2424625	1.0429571E-02	47.34021
NP-237	167.4312	28-FEB-2010	4434.677	4904.245	12395.00	0.2467024	1.2532696E-02	55.78803
CM-244	156.4188	28-FEB-2010	5532.604	5884.780	11054.00	0.2485659	1.2651297E-02	54.50585

Instrument : CHAMBER 149
 Detector : 33449
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:21
 Average Efficiency : 0.2457679
 Average Efficiency Error : 6.7815189E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2990.126	3302.099	14274.00	0.2437622	1.0487950E-02	64.38747
NP-237	167.1294	28-FEB-2010	4433.957	4903.766	12301.00	0.2453031	1.2463043E-02	67.00629
CM-244	154.7664	28-FEB-2010	5532.840	5885.608	10964.00	0.2491831	1.2684503E-02	59.86861

Instrument : CHAMBER 150
 Detector : 75552
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:35
 Average Efficiency : 0.2487296
 Average Efficiency Error : 6.8612574E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2989.847	3298.390	14400.00	0.2458598	1.0576462E-02	51.08628
NP-237	168.7422	28-FEB-2010	4433.411	4903.355	12733.00	0.2514980	1.2770942E-02	58.74739
CM-244	156.3252	28-FEB-2010	5531.584	5883.380	11116.00	0.2501363	1.2729902E-02	54.38089

Instrument : CHAMBER 151
 Detector : 75556
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:48
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:46
 Average Efficiency : 0.2462034
 Average Efficiency Error : 6.7912084E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2988.196	3299.830	14661.00	0.2473749	1.0638047E-02	50.47650
NP-237	170.0886	28-FEB-2010	4437.520	4904.128	12488.00	0.2447234	1.2430614E-02	54.82476
CM-244	157.7460	28-FEB-2010	5532.939	5887.339	11036.00	0.2460822	1.2525211E-02	55.11473

Instrument : CHAMBER 152
 Detector : 76222
 Standard ID : AESS-044
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:54
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:28:57
 Average Efficiency : 0.2424625
 Average Efficiency Error : 6.6924468E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2992.335	3299.767	14031.00	0.2436645	1.0487170E-02	49.42483
NP-237	166.6248	28-FEB-2010	4435.085	4902.709	12138.00	0.2428150	1.2339183E-02	57.89848
CM-244	155.8290	28-FEB-2010	5532.813	5882.589	10654.00	0.2404757	1.2247530E-02	56.10107

Instrument : CHAMBER 153
 Detector : 76223
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:13:59
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:06
 Average Efficiency : 0.2537628
 Average Efficiency Error : 7.0021353E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2989.763	3301.789	14281.00	0.2508323	1.0792080E-02	43.74009
NP-237	159.1506	28-FEB-2010	4432.699	4901.612	12218.00	0.2558562	1.3000614E-02	52.94971
CM-244	151.7142	28-FEB-2010	5534.359	5886.038	11040.00	0.2559308	1.3026465E-02	50.96056

Instrument : CHAMBER 154
 Detector : 76224
 Standard ID : AESS-045
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:04
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:15
 Average Efficiency : 0.2562141
 Average Efficiency Error : 7.0709228E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2989.543	3301.969	14237.00	0.2571022	1.1062440E-02	44.63987
NP-237	160.8066	28-FEB-2010	4433.171	4901.699	12222.00	0.2533354	1.2872400E-02	53.13824
CM-244	145.8384	28-FEB-2010	5533.478	5884.401	10695.00	0.2579601	1.3137060E-02	43.14489

Instrument : CHAMBER 155
 Detector : 75553
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:09
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:25
 Average Efficiency : 0.2566149
 Average Efficiency Error : 7.0761675E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2990.863	3299.267	14869.00	0.2581782	1.1099775E-02	49.42255
NP-237	166.8174	28-FEB-2010	4435.628	4901.683	12765.00	0.2550453	1.2950568E-02	57.37749
CM-244	155.0100	28-FEB-2010	5532.390	5885.923	11282.00	0.2560498	1.3027489E-02	54.62441

Instrument : CHAMBER 156
 Detector : 75554
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:14
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:35
 Average Efficiency : 0.2473153
 Average Efficiency Error : 6.8258164E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2992.492	3302.387	14104.00	0.2445442	1.0524000E-02	51.31209
NP-237	164.6658	28-FEB-2010	4436.746	4903.077	12183.00	0.2465298	1.2527379E-02	60.35096
CM-244	151.3824	28-FEB-2010	5533.286	5886.114	10859.00	0.2522683	1.2843768E-02	55.38654

Instrument : CHAMBER 157
 Detector : 75555
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:19
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:29:49
 Average Efficiency : 0.2476787
 Average Efficiency Error : 6.8296832E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2992.092	3301.029	14898.00	0.2467154	1.0606610E-02	50.26978
NP-237	171.2268	28-FEB-2010	4432.881	4903.879	12754.00	0.2482167	1.2604078E-02	60.14729
CM-244	159.5796	28-FEB-2010	5533.745	5886.569	11276.00	0.2485061	1.2643948E-02	50.54896

Instrument : CHAMBER 158
 Detector : 33451
 Standard ID : AESS-047
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:24
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:30:01
 Average Efficiency : 0.2485719
 Average Efficiency Error : 6.8571796E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2989.224	3299.662	14546.00	0.2487231	1.0697613E-02	60.48595
NP-237	168.3948	28-FEB-2010	4433.214	4902.387	12467.00	0.2466980	1.2531369E-02	67.30831
CM-244	154.6032	28-FEB-2010	5532.016	5882.536	11002.00	0.2502942	1.2740301E-02	63.12125

Instrument : CHAMBER 159
 Detector : 76225
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:28
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:30:14
 Average Efficiency : 0.2532322
 Average Efficiency Error : 6.9885729E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2990.518	3300.013	14150.00	0.2532160	1.0896488E-02	50.25048
NP-237	159.6558	28-FEB-2010	4434.310	4906.501	12068.00	0.2519211	1.2803175E-02	54.85251
CM-244	150.5208	28-FEB-2010	5532.775	5886.617	10895.00	0.2545989	1.2961634E-02	49.59791

Instrument : CHAMBER 160
 Detector : 76226
 Standard ID : AESS-048
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 17-JUL-2009 09:14:34
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 17-JUL-2009 14:30:32
 Average Efficiency : 0.2469152
 Average Efficiency Error : 6.8162913E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2988.201	3297.681	13856.00	0.2439119	1.0500359E-02	46.45536
NP-237	161.5530	28-FEB-2010	4437.389	4904.545	12040.00	0.2483725	1.2623324E-02	55.48813
CM-244	151.1856	28-FEB-2010	5531.162	5885.243	10738.00	0.2498441	1.2722801E-02	48.70280

Instrument : CHAMBER 161
 Detector : 70321
 Standard ID : AESS-001
 Standard Reference Date : 20-FEB-2008 09:54:53
 Calibration Analysis Date/Time : 22-JUN-2009 09:48:54
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 14:58:45
 Average Efficiency : 0.3680447
 Average Efficiency Error : 1.0097147E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2988.612	3298.684	21898.00	0.3541356	1.5135950E-02	64.95872
NP-237	171.0024	28-FEB-2010	4435.424	4903.719	19609.00	0.3821778	1.9302875E-02	80.01273
CM-244	158.1060	28-FEB-2010	5531.313	5883.518	16964.00	0.3762999	1.9035701E-02	66.25313

Instrument : CHAMBER 162
 Detector : 70323
 Standard ID : AESS-007
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:01
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 14:59:02
 Average Efficiency : 0.3669952
 Average Efficiency Error : 1.0053982E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2990.114	3301.116	21863.00	0.3569376	1.5256034E-02	61.57318
NP-237	205.0260	28-FEB-2010	4434.153	4902.154	23087.00	0.3753361	1.8928697E-02	74.80619
CM-244	199.6806	28-FEB-2010	5533.930	5885.193	21283.00	0.3741003	1.8880047E-02	63.50636

Instrument : CHAMBER 163
 Detector : 70324
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:05
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 14:59:20
 Average Efficiency : 0.3822009
 Average Efficiency Error : 1.0467267E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2992.217	3298.824	22246.00	0.3751688	1.6031768E-02	61.52280
NP-237	200.4990	28-FEB-2010	4434.987	4904.671	23472.00	0.3901615	1.9673660E-02	79.06695
CM-244	196.5558	28-FEB-2010	5533.739	5886.581	21558.00	0.3847618	1.9415820E-02	63.58135

Instrument : CHAMBER 164
 Detector : 70325
 Standard ID : AESS-008
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:10
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 14:59:35
 Average Efficiency : 0.3786111
 Average Efficiency Error : 1.0367543E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2988.804	3300.725	22607.00	0.3703200	1.5821498E-02	54.52739
NP-237	209.2716	28-FEB-2010	4432.850	4902.971	23978.00	0.3819043	1.9253852E-02	71.96546
CM-244	199.6488	28-FEB-2010	5532.641	5885.829	22062.00	0.3878940	1.9569764E-02	60.11813

Instrument : CHAMBER 165
 Detector : 72544
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:16
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:00:00
 Average Efficiency : 0.3793618
 Average Efficiency Error : 1.0392112E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2991.249	3299.371	22074.00	0.3670397	1.5685942E-02	75.43552
NP-237	203.2080	28-FEB-2010	4433.539	4903.436	23735.00	0.3893091	1.9628821E-02	89.50409
CM-244	197.2236	28-FEB-2010	5531.871	5883.913	21843.00	0.3886937	1.9611897E-02	67.83678

Instrument : CHAMBER 166
 Detector : 74545
 Standard ID : AESS-009
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:22
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:00:15
 Average Efficiency : 0.3891973
 Average Efficiency Error : 1.0658387E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2988.840	3300.652	22711.00	0.3768678	1.6100317E-02	54.68238
NP-237	204.0192	28-FEB-2010	4437.331	4901.890	24296.00	0.3969417	2.0009808E-02	77.78448
CM-244	197.2128	28-FEB-2010	5530.967	5883.776	22526.00	0.4007283	2.0213576E-02	56.93469

Instrument : CHAMBER 167
 Detector : 72546
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:28
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:00:26
 Average Efficiency : 0.3907633
 Average Efficiency Error : 1.0697938E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2988.275	3299.494	23296.00	0.3814596	1.6291581E-02	55.56178
NP-237	204.2586	28-FEB-2010	4434.900	4904.573	24286.00	0.3963182	1.9978439E-02	75.18340
CM-244	198.8100	28-FEB-2010	5533.886	5886.993	22618.00	0.3993391	2.0142792E-02	60.08310

Instrument : CHAMBER 168
 Detector : 72547
 Standard ID : AESS-010
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:33
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:00:38
 Average Efficiency : 0.3861204
 Average Efficiency Error : 1.0573328E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.947	3298.253	22591.00	0.3774759	1.6127346E-02	61.24447
NP-237	202.9926	28-FEB-2010	4435.851	4905.623	23946.00	0.3931818	1.9822638E-02	73.08669
CM-244	196.2330	28-FEB-2010	5534.369	5886.817	21920.00	0.3920950	1.9782864E-02	60.02387

Instrument : CHAMBER 169
 Detector : 72548
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:00:51
 Average Efficiency : 0.3767878
 Average Efficiency Error : 1.0317106E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2992.147	3298.542	22931.00	0.3672459	1.5687475E-02	58.28659
NP-237	209.5938	28-FEB-2010	4434.044	4903.513	24256.00	0.3856335	1.9440131E-02	72.53197
CM-244	202.7478	28-FEB-2010	5532.339	5885.069	22094.00	0.3825103	1.9297916E-02	57.36194

Instrument : CHAMBER 170
 Detector : 72549
 Standard ID : AESS-011
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:01:02
 Average Efficiency : 0.3672283
 Average Efficiency Error : 1.0055818E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2991.920	3299.334	22602.00	0.3584369	1.5313840E-02	55.24641
NP-237	214.4868	28-FEB-2010	4433.260	4904.103	24108.00	0.3746104	1.8885318E-02	73.41397
CM-244	208.4184	28-FEB-2010	5534.714	5883.037	22158.00	0.3731794	1.8826678E-02	58.17384

Instrument : CHAMBER 171
 Detector : 78260
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:50
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:01:15
 Average Efficiency : 0.3843338
 Average Efficiency Error : 1.0524615E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2990.586	3301.332	22712.00	0.3763276	1.6077265E-02	51.07104
NP-237	204.7038	28-FEB-2010	4435.496	4904.863	23664.00	0.3853128	1.9427808E-02	72.98476
CM-244	195.0060	28-FEB-2010	5533.949	5887.016	21979.00	0.3956421	1.9961338E-02	55.64689

Instrument : CHAMBER 172
 Detector : 78772
 Standard ID : AESS-012
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 22-JUN-2009 09:49:55
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:01:28
 Average Efficiency : 0.3826092
 Average Efficiency Error : 1.0474577E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2988.628	3299.646	23148.00	0.3788596	1.6181752E-02	48.41407
NP-237	205.8930	28-FEB-2010	4435.466	4905.809	24139.00	0.3907726	1.9699879E-02	75.41741
CM-244	203.1954	28-FEB-2010	5531.112	5885.129	22005.00	0.3801389	1.9178953E-02	52.17172

Instrument : CHAMBER 173
 Detector : 74431
 Standard ID : AESS-013
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:01
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:01:41
 Average Efficiency : 0.2593230
 Average Efficiency Error : 7.1322038E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2990.621	3299.926	15676.00	0.2597894	1.1158522E-02	50.69847
NP-237	210.2526	28-FEB-2010	4436.753	4901.757	16312.00	0.2585954	1.3087362E-02	58.81396
CM-244	201.9108	28-FEB-2010	5535.262	5886.887	14926.00	0.2594097	1.3143276E-02	55.15737

Instrument : CHAMBER 174
 Detector : 74432
 Standard ID : AESS-019
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:07
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:01:51
 Average Efficiency : 0.2561836
 Average Efficiency Error : 7.0509571E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2992.065	3302.471	15121.00	0.2493561	1.0717154E-02	52.25386
NP-237	202.9140	28-FEB-2010	4435.541	4905.194	16194.00	0.2660043	1.3463500E-02	57.47507
CM-244	199.3140	28-FEB-2010	5531.639	5887.080	14608.00	0.2570774	1.3028788E-02	54.29767

Instrument : CHAMBER 175
 Detector : 74433
 Standard ID : AESS-014
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:12
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:02:01
 Average Efficiency : 0.2515986
 Average Efficiency Error : 6.9203642E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2989.238	3298.426	15722.00	0.2471218	1.0613844E-02	45.29536
NP-237	211.7160	28-FEB-2010	4435.144	4905.490	16108.00	0.2535914	1.2836066E-02	57.72879
CM-244	207.3882	28-FEB-2010	5533.995	5885.818	15149.00	0.2562569	1.2980960E-02	47.84649

Instrument : CHAMBER 176
 Detector : 74434
 Standard ID : AESS-020
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:17
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:02:12
 Average Efficiency : 0.2579391
 Average Efficiency Error : 7.0963693E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2991.698	3297.590	15497.00	0.2544173	1.0929942E-02	49.36812
NP-237	203.4984	28-FEB-2010	4432.745	4903.265	15910.00	0.2605837	1.3191990E-02	55.23719
CM-244	197.1096	28-FEB-2010	5530.868	5886.966	14625.00	0.2604272	1.3198279E-02	48.45524

Instrument : CHAMBER 177
 Detector : 74435
 Standard ID : AESS-015
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:23
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:02:24
 Average Efficiency : 0.2681777
 Average Efficiency Error : 7.3747509E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2991.057	3299.457	16007.00	0.2647958	1.1369478E-02	47.28368
NP-237	200.6460	28-FEB-2010	4434.482	4904.663	16304.00	0.2708437	1.3707319E-02	53.90463
CM-244	195.9270	28-FEB-2010	5533.411	5885.598	15098.00	0.2704247	1.3699308E-02	53.91009

Instrument : CHAMBER 178
 Detector : 74436
 Standard ID : AESS-021
 Standard Reference Date : 19-FEB-2008 15:31:52
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:28
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:02:37
 Average Efficiency : 0.2556835
 Average Efficiency Error : 7.0334878E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2991.779	3302.215	15571.00	0.2521989	1.0833724E-02	47.95219
NP-237	210.1548	28-FEB-2010	4435.746	4905.748	16086.00	0.2551121	1.2913272E-02	51.54728
CM-244	200.7390	28-FEB-2010	5532.798	5883.324	14964.00	0.2614959	1.3248475E-02	50.56778

Instrument : CHAMBER 179
 Detector : 74437
 Standard ID : AESS-016
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:33
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:02:54
 Average Efficiency : 0.2622361
 Average Efficiency Error : 7.2137858E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2988.919	3302.532	15791.00	0.2611886	1.1217199E-02	49.05256
NP-237	199.3962	28-FEB-2010	4432.536	4902.537	16046.00	0.2682333	1.3577815E-02	59.11048
CM-244	198.6402	28-FEB-2010	5530.871	5882.740	14609.00	0.2580948	1.3080338E-02	50.98325

Instrument : CHAMBER 180
 Detector : 74438
 Standard ID : AESS-022
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:03:14
 Average Efficiency : 0.2506651
 Average Efficiency Error : 6.8974807E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2989.905	3300.775	15284.00	0.2460265	1.0572049E-02	47.55061
NP-237	206.8830	28-FEB-2010	4435.062	4905.007	15694.00	0.2528355	1.2801906E-02	57.86346
CM-244	203.0208	28-FEB-2010	5531.655	5887.118	14776.00	0.2553983	1.2941745E-02	52.08472

Instrument : CHAMBER 181
 Detector : 74439
 Standard ID : AESS-017
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:03:27
 Average Efficiency : 0.2556638
 Average Efficiency Error : 7.0319269E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2987.507	3301.291	15701.00	0.2522502	1.0834388E-02	45.61578
NP-237	208.5846	28-FEB-2010	4436.916	4901.810	16267.00	0.2599201	1.3154872E-02	58.60517
CM-244	205.5828	28-FEB-2010	5535.507	5887.405	15025.00	0.2564206	1.2990783E-02	53.43116

Instrument : CHAMBER 182
 Detector : 74440
 Standard ID : AESS-023
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:49
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:03:39
 Average Efficiency : 0.2558407
 Average Efficiency Error : 7.0378492E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2992.364	3301.476	15578.00	0.2534181	1.0886028E-02	44.54460
NP-237	207.4998	28-FEB-2010	4437.311	4901.783	16019.00	0.2573143	1.3025383E-02	55.86248
CM-244	199.8804	28-FEB-2010	5534.452	5885.559	14687.00	0.2578480	1.3066921E-02	50.87081

Instrument : CHAMBER 183
 Detector : 74441
 Standard ID : AESS-018
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:53
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:03:53
 Average Efficiency : 0.2616060
 Average Efficiency Error : 7.1956841E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2990.145	3298.781	15838.00	0.2643961	1.1354355E-02	49.09375
NP-237	208.8990	28-FEB-2010	4434.414	4904.732	16046.00	0.2560026	1.2958746E-02	55.38850
CM-244	198.1458	28-FEB-2010	5533.565	5885.751	14889.00	0.2636993	1.3361022E-02	51.92845

Instrument : CHAMBER 184
 Detector : 74442
 Standard ID : AESS-024
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 22-JUN-2009 09:50:58
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:04:06
 Average Efficiency : 0.2583629
 Average Efficiency Error : 7.1082856E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2990.570	3301.301	15320.00	0.2540686	1.0917156E-02	45.64460
NP-237	205.6662	28-FEB-2010	4435.154	4904.955	16035.00	0.2598630	1.3154246E-02	56.52773
CM-244	198.3060	28-FEB-2010	5531.440	5886.825	14876.00	0.2632301	1.3337432E-02	51.73911

Instrument : CHAMBER 185
 Detector : 68615
 Standard ID : AESS-025
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:04
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:04:16
 Average Efficiency : 0.2577632
 Average Efficiency Error : 7.1065617E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.840	3300.640	15138.00	0.2612484	1.1228072E-02	58.07288
NP-237	167.9916	28-FEB-2010	4434.438	4901.812	12961.00	0.2571577	1.3054820E-02	59.76388
CM-244	157.2432	28-FEB-2010	5531.912	5887.166	11372.00	0.2537484	1.2908846E-02	57.77697

Instrument : CHAMBER 186
 Detector : 68616
 Standard ID : AESS-031
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:09
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:04:28
 Average Efficiency : 0.2545925
 Average Efficiency Error : 7.0233443E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2987.988	3300.097	14397.00	0.2508908	1.0792810E-02	50.66381
NP-237	162.9186	28-FEB-2010	4435.729	4904.174	12681.00	0.2594548	1.3175752E-02	61.08182
CM-244	153.1968	28-FEB-2010	5530.696	5887.018	11148.00	0.2552285	1.2988597E-02	55.37442

Instrument : CHAMBER 187
 Detector : 68620
 Standard ID : AESS-026
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:15
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:04:38
 Average Efficiency : 0.2487007
 Average Efficiency Error : 7.2918888E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2991.780	3300.355	14881.00	0.2517360	1.2755483E-02	50.86592
NP-237	168.0294	28-FEB-2010	4437.583	4904.093	12548.00	0.2488833	1.2641029E-02	60.88034
CM-244	160.5822	28-FEB-2010	5535.508	5884.097	11241.00	0.2456087	1.2497237E-02	52.60560

Instrument : CHAMBER 188
 Detector : 68621
 Standard ID : AESS-032
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:20
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:04:49
 Average Efficiency : 0.2586242
 Average Efficiency Error : 7.1308562E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2991.235	3299.192	14866.00	0.2569736	1.1047941E-02	51.13421
NP-237	165.9822	28-FEB-2010	4434.285	4905.242	12979.00	0.2606384	1.3231235E-02	56.78614
CM-244	153.7938	28-FEB-2010	5530.351	5883.763	11355.00	0.2589744	1.3175028E-02	50.04874

Instrument : CHAMBER 189
 Detector : 68622
 Standard ID : AESS-027
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:25
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:05:00
 Average Efficiency : 0.2605101
 Average Efficiency Error : 7.6384274E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2989.861	3302.155	14783.00	0.2579485	1.3071399E-02	55.19755
NP-237	161.6154	28-FEB-2010	4432.574	4905.866	12646.00	0.2608190	1.3245604E-02	56.80165
CM-244	148.1754	28-FEB-2010	5531.675	5887.456	11101.00	0.2628785	1.3378831E-02	53.23755

Instrument : CHAMBER 190
 Detector : 68623
 Standard ID : AESS-033
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:31
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:05:13
 Average Efficiency : 0.2627474
 Average Efficiency Error : 7.2460058E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2987.675	3299.750	14852.00	0.2604897	1.1199310E-02	47.17914
NP-237	161.7816	28-FEB-2010	4435.687	4904.443	12741.00	0.2623105	1.3320174E-02	60.95700
CM-244	147.2670	28-FEB-2010	5531.545	5882.933	11195.00	0.2665110	1.3562006E-02	48.64064

Instrument : CHAMBER 191
 Detector : 68624
 Standard ID : AESS-028
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:36
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:05:24
 Average Efficiency : 0.2624353
 Average Efficiency Error : 7.6893568E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2991.084	3299.950	15363.00	0.2597040	1.3153810E-02	50.65557
NP-237	168.1992	28-FEB-2010	4432.587	4904.375	13466.00	0.2668662	1.3540036E-02	59.46810
CM-244	156.7614	28-FEB-2010	5530.362	5884.163	11655.00	0.2609591	1.3270005E-02	54.62358

Instrument : CHAMBER 192
 Detector : 74430
 Standard ID : AESS-034
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:41
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:05:39
 Average Efficiency : 0.2528592
 Average Efficiency Error : 6.9742138E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2991.302	3300.346	14675.00	0.2469523	1.0619615E-02	46.13663
NP-237	167.2962	28-FEB-2010	4433.147	4904.787	12994.00	0.2588962	1.3142551E-02	54.53447
CM-244	154.4388	28-FEB-2010	5530.391	5883.883	11261.00	0.2558116	1.3015866E-02	47.75322

Instrument : CHAMBER 193
 Detector : 68627
 Standard ID : AESS-029
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:47
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:05:50
 Average Efficiency : 0.2616625
 Average Efficiency Error : 7.6664970E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2992.456	3299.248	15599.00	0.2611919	1.3226620E-02	70.75836
NP-237	169.7700	28-FEB-2010	4434.921	4903.889	13250.00	0.2601501	1.3202393E-02	85.04011
CM-244	154.8234	28-FEB-2010	5531.552	5883.390	11633.00	0.2637065	1.3410171E-02	75.12811

Instrument : CHAMBER 194
 Detector : 68635
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:52
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:06:02
 Average Efficiency : 0.2568864
 Average Efficiency Error : 7.0813606E-03
 Confidence : 95.00000

Cal. Istds	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2988.759	3300.939	14987.00	0.2545973	1.0944160E-02	50.81337
NP-237	168.2934	28-FEB-2010	4437.087	4905.856	13065.00	0.2587210	1.3132677E-02	56.26561
CM-244	158.8128	28-FEB-2010	5532.909	5884.238	11698.00	0.2583487	1.3136664E-02	49.04685

Instrument : CHAMBER 195
 Detector : 68636
 Standard ID : AESS-030
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 22-JUN-2009 09:51:58
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:06:11
 Average Efficiency : 0.2565587
 Average Efficiency Error : 7.5203422E-03
 Confidence : 95.00000

Cal. Istds	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2990.427	3298.108	14898.00	0.2526821	1.2803250E-02	52.36766
NP-237	166.3758	28-FEB-2010	4435.602	4904.677	13066.00	0.2617230	1.3285043E-02	56.16147
CM-244	157.1856	28-FEB-2010	5531.920	5883.250	11450.00	0.2556100	1.3001991E-02	53.60020

Instrument : CHAMBER 196
 Detector : 68637
 Standard ID : AESS-036
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 22-JUN-2009 09:52:03
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:06:21
 Average Efficiency : 0.2579557
 Average Efficiency Error : 7.1107536E-03
 Confidence : 95.00000

Cal. Istds	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2987.764	3299.421	15154.00	0.2540307	1.0917650E-02	54.18713
NP-237	167.4312	28-FEB-2010	4434.243	4902.720	13085.00	0.2604812	1.3221670E-02	59.74107
CM-244	156.4188	28-FEB-2010	5534.908	5886.289	11649.00	0.2612170	1.3283413E-02	54.65987

Instrument : CHAMBER 197
 Detector : 78894
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 23-JUN-2009 08:30:18
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 23-JUN-2009 13:40:27
 Average Efficiency : 0.2567551
 Average Efficiency Error : 7.0790784E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.459	3301.421	14935.00	0.2548909	1.0957510E-02	53.54255
NP-237	167.1294	28-FEB-2010	4433.039	4903.794	12934.00	0.2579639	1.3096124E-02	56.62766
CM-244	154.7664	28-FEB-2010	5533.211	5885.723	11391.00	0.2582181	1.3135778E-02	57.79705

Instrument : CHAMBER 198
 Detector : 78895
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 22-JUN-2009 09:52:14
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:06:54
 Average Efficiency : 0.2558283
 Average Efficiency Error : 7.0531382E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2990.792	3298.953	15029.00	0.2564534	1.1023409E-02	56.63857
NP-237	168.7422	28-FEB-2010	4433.042	4902.810	12945.00	0.2557096	1.2981524E-02	58.76215
CM-244	156.3252	28-FEB-2010	5530.984	5882.838	11372.00	0.2550805	1.2976733E-02	53.96784

Instrument : CHAMBER 199
 Detector : 78896
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 22-JUN-2009 09:52:19
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:07:05
 Average Efficiency : 0.2503328
 Average Efficiency Error : 6.9033257E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2992.467	3301.736	15050.00	0.2537782	1.0908134E-02	52.31808
NP-237	170.0886	28-FEB-2010	4433.639	4904.142	12664.00	0.2481491	1.2601945E-02	58.89103
CM-244	157.7460	28-FEB-2010	5532.893	5884.873	11149.00	0.2479126	1.2616216E-02	52.99783

Instrument : CHAMBER 200
 Detector : 78900
 Standard ID : AESS-044
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 22-JUN-2009 09:52:25
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:07:19
 Average Efficiency : 0.2686577
 Average Efficiency Error : 7.4024275E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2991.709	3299.237	15525.00	0.2694455	1.1575188E-02	52.63724
NP-237	166.6248	28-FEB-2010	4433.212	4903.912	13505.00	0.2700959	1.3703452E-02	61.10624
CM-244	155.8290	28-FEB-2010	5534.189	5887.638	11827.00	0.2661784	1.3532363E-02	53.69180

Instrument : CHAMBER 201
 Detector : 78902
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 22-JUN-2009 09:52:31
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:07:30
 Average Efficiency : 0.2608171
 Average Efficiency Error : 7.1935584E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.500	3302.053	14805.00	0.2599045	1.1174787E-02	49.08611
NP-237	159.1506	28-FEB-2010	4433.282	4904.434	12713.00	0.2662428	1.3519990E-02	52.63206
CM-244	151.7142	28-FEB-2010	5534.865	5882.809	11118.00	0.2569896	1.3078903E-02	48.72089

Instrument : CHAMBER 202
 Detector : 78903
 Standard ID : AESS-045
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 22-JUN-2009 09:52:37
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:07:41
 Average Efficiency : 0.2643825
 Average Efficiency Error : 7.2935103E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2990.900	3298.618	14652.00	0.2644352	1.1371753E-02	43.60920
NP-237	160.8066	28-FEB-2010	4432.436	4902.692	12420.00	0.2574461	1.3077959E-02	54.52970
CM-244	145.8384	28-FEB-2010	5532.047	5884.818	11313.00	0.2720752	1.3842396E-02	44.04590

Instrument : CHAMBER 203
 Detector : 78905
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 22-JUN-2009 09:52:43
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:07:50
 Average Efficiency : 0.2542375
 Average Efficiency Error : 7.0116646E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2989.958	3298.323	14729.00	0.2555648	1.0989280E-02	48.90236
NP-237	166.8174	28-FEB-2010	4433.591	4904.036	12594.00	0.2515985	1.2778236E-02	52.39742
CM-244	155.0100	28-FEB-2010	5533.281	5885.816	11276.00	0.2551089	1.2980009E-02	47.65225

Instrument : CHAMBER 204
 Detector : 78907
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 22-JUN-2009 09:52:49
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:08:00
 Average Efficiency : 0.2538103
 Average Efficiency Error : 7.0014698E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2990.324	3298.173	14541.00	0.2519002	1.0834365E-02	51.17892
NP-237	164.6658	28-FEB-2010	4437.399	4902.424	12509.00	0.2531350	1.2857672E-02	56.33944
CM-244	151.3824	28-FEB-2010	5531.626	5884.261	11110.00	0.2573011	1.3094992E-02	51.37049

Instrument : CHAMBER 205
 Detector : 78908
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 22-JUN-2009 09:52:54
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:08:10
 Average Efficiency : 0.2561495
 Average Efficiency Error : 7.0592412E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2988.508	3302.170	15373.00	0.2544265	1.0931892E-02	47.59354
NP-237	171.2268	28-FEB-2010	4433.168	4903.946	13244.00	0.2578140	1.3083938E-02	59.69577
CM-244	159.5796	28-FEB-2010	5533.636	5886.419	11689.00	0.2569510	1.3065674E-02	49.40511

Instrument : CHAMBER 206
 Detector : 78909
 Standard ID : AESS-047
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 22-JUN-2009 09:53:00
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:08:23
 Average Efficiency : 0.2574005
 Average Efficiency Error : 7.0962599E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2988.616	3302.433	15062.00	0.2573945	1.1063425E-02	48.19839
NP-237	168.3948	28-FEB-2010	4432.477	4902.186	13001.00	0.2573397	1.3063446E-02	52.88721
CM-244	154.6032	28-FEB-2010	5535.166	5886.569	11347.00	0.2574700	1.3098557E-02	52.05136

Instrument : CHAMBER 207
 Detector : 78910
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 22-JUN-2009 09:53:05
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:08:36
 Average Efficiency : 0.2561320
 Average Efficiency Error : 7.0672869E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2987.858	3301.538	14376.00	0.2570925	1.1059917E-02	51.83183
NP-237	159.6558	28-FEB-2010	4432.769	4903.719	12374.00	0.2583224	1.3123268E-02	56.06316
CM-244	150.5208	28-FEB-2010	5533.705	5886.686	10845.00	0.2527259	1.2867418E-02	54.23968

Instrument : CHAMBER 208
 Detector : 78911
 Standard ID : AESS-048
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 22-JUN-2009 09:53:10
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 22-JUN-2009 15:08:47
 Average Efficiency : 0.2524280
 Average Efficiency Error : 6.9653862E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2990.819	3299.505	14260.00	0.2508653	1.0793664E-02	50.33332
NP-237	161.5530	28-FEB-2010	4435.407	4905.872	12192.00	0.2515088	1.2780157E-02	58.56274
CM-244	151.1856	28-FEB-2010	5534.932	5887.260	11020.00	0.2556523	1.3012759E-02	49.93821

Instrument : CHAMBER 209
 Detector : 79188
 Standard ID : AESS-001
 Standard Reference Date : 20-FEB-2008 09:54:53
 Calibration Analysis Date/Time : 29-JUN-2009 11:06:21
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:25:14
 Average Efficiency : 0.3677108
 Average Efficiency Error : 1.0086662E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.6698	28-FEB-2010	2989.181	3301.049	21968.00	0.3553457	1.5187075E-02	65.89574
NP-237	171.0024	28-FEB-2010	4433.021	4903.097	19297.00	0.3761547	1.9001663E-02	90.73633
CM-244	158.1060	28-FEB-2010	5532.718	5885.886	17059.00	0.3788077	1.9161167E-02	62.71068

Instrument : CHAMBER 210
 Detector : 79189
 Standard ID : AESS-002
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 29-JUN-2009 11:06:26
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:25:32
 Average Efficiency : 0.3938951
 Average Efficiency Error : 1.0783576E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1144	28-FEB-2010	2990.859	3297.943	23047.00	0.3887416	1.6604694E-02	57.83068
NP-237	200.4990	28-FEB-2010	4435.076	4904.812	24104.00	0.4007338	2.0202259E-02	76.70370
CM-244	196.5558	28-FEB-2010	5533.646	5886.210	22093.00	0.3946623	1.9910963E-02	61.67818

Instrument : CHAMBER 211
 Detector : 79190
 Standard ID : AESS-003
 Standard Reference Date : 15-FEB-2008 13:12:27
 Calibration Analysis Date/Time : 29-JUN-2009 11:06:32
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:25:46
 Average Efficiency : 0.3797782
 Average Efficiency Error : 1.0400439E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.9740	28-FEB-2010	2988.624	3301.653	22395.00	0.3724639	1.5914930E-02	64.54439
NP-237	203.2080	28-FEB-2010	4436.794	4902.468	23454.00	0.3847243	1.9399559E-02	74.42917
CM-244	197.2236	28-FEB-2010	5532.766	5886.120	21658.00	0.3857397	1.9464286E-02	63.38742

Instrument : CHAMBER 212
 Detector : 79191
 Standard ID : AESS-004
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 29-JUN-2009 11:06:38
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:25:56
 Average Efficiency : 0.3834927
 Average Efficiency Error : 1.0500317E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.1222	28-FEB-2010	2989.287	3301.382	22921.00	0.3754007	1.6035914E-02	59.43782
NP-237	204.2586	28-FEB-2010	4434.079	4904.410	23916.00	0.3902802	1.9676529E-02	70.71378
CM-244	198.8100	28-FEB-2010	5534.335	5887.654	22006.00	0.3888572	1.9618779E-02	58.13512

Instrument : CHAMBER 213
 Detector : 79192
 Standard ID : AESS-005
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 29-JUN-2009 11:06:43
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:26:06
 Average Efficiency : 0.3631246
 Average Efficiency Error : 9.9473838E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.7452	28-FEB-2010	2990.968	3298.520	22030.00	0.3528930	1.5081747E-02	65.96364
NP-237	209.5938	28-FEB-2010	4437.380	4902.572	23193.00	0.3688471	1.8600717E-02	79.66854
CM-244	202.7478	28-FEB-2010	5532.282	5885.336	21539.00	0.3732129	1.8833132E-02	63.84235

Instrument : CHAMBER 214
 Detector : 79193
 Standard ID : AESS-006
 Standard Reference Date : 14-FEB-2008 09:35:18
 Calibration Analysis Date/Time : 29-JUN-2009 11:06:48
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:26:15
 Average Efficiency : 0.3842220
 Average Efficiency Error : 1.0522687E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6952	28-FEB-2010	2990.403	3298.091	22543.00	0.3736039	1.5962366E-02	54.14455
NP-237	204.7038	28-FEB-2010	4437.439	4902.827	23935.00	0.3897505	1.9649688E-02	76.09060
CM-244	195.0060	28-FEB-2010	5532.795	5885.993	21931.00	0.3950915	1.9933926E-02	57.07459

Instrument : CHAMBER 215
 Detector : 79194
 Standard ID : AESS-007
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 29-JUN-2009 11:06:53
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:26:24
 Average Efficiency : 0.3850240
 Average Efficiency Error : 1.0540539E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.7342	28-FEB-2010	2990.062	3302.465	23238.00	0.3794642	1.6206851E-02	59.62454
NP-237	205.0260	28-FEB-2010	4436.774	4902.728	24080.00	0.3914905	1.9736437E-02	77.73202
CM-244	199.6806	28-FEB-2010	5533.954	5882.708	21984.00	0.3867625	1.9513281E-02	61.70960

Instrument : CHAMBER 216
 Detector : 79195
 Standard ID : AESS-008
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 29-JUN-2009 11:06:59
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:26:33
 Average Efficiency : 0.3755702
 Average Efficiency Error : 1.0284359E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.0418	28-FEB-2010	2992.227	3300.068	22506.00	0.3687362	1.5754715E-02	57.73516
NP-237	209.2716	28-FEB-2010	4434.095	4904.331	23839.00	0.3797142	1.9144330E-02	77.62376
CM-244	199.6488	28-FEB-2010	5533.563	5886.220	21686.00	0.3815858	1.9254461E-02	58.78411

Instrument : CHAMBER 217
 Detector : 79410
 Standard ID : AESS-009
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:05
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:26:43
 Average Efficiency : 0.3781467
 Average Efficiency Error : 1.0355381E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.3736	28-FEB-2010	2992.213	3299.566	22448.00	0.3725700	1.5918989E-02	57.23290
NP-237	204.0192	28-FEB-2010	4433.215	4903.920	23291.00	0.3805314	1.9189263E-02	75.68012
CM-244	197.2128	28-FEB-2010	5534.328	5882.531	21567.00	0.3839772	1.9376099E-02	61.18950

Instrument : CHAMBER 218
 Detector : 79411
 Standard ID : AESS-010
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:11
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:26:51
 Average Efficiency : 0.3930978
 Average Efficiency Error : 1.0763295E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.0008	28-FEB-2010	2990.601	3298.221	22913.00	0.3829195	1.6357172E-02	60.17708
NP-237	202.9926	28-FEB-2010	4432.747	4903.769	24319.00	0.3993416	2.0130621E-02	79.18008
CM-244	196.2330	28-FEB-2010	5534.561	5882.956	22479.00	0.4024245	2.0299474E-02	60.89557

Instrument : CHAMBER 219
 Detector : 79412
 Standard ID : AESS-011
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:16
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:27:01
 Average Efficiency : 0.3689672
 Average Efficiency Error : 1.0101880E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	212.8284	28-FEB-2010	2989.180	3302.094	22853.00	0.3624727	1.5484245E-02	56.52708
NP-237	214.4868	28-FEB-2010	4436.774	4902.239	24088.00	0.3743512	1.8872330E-02	86.37078
CM-244	208.4184	28-FEB-2010	5532.237	5885.415	22142.00	0.3732110	1.8828364E-02	61.88073

Instrument : CHAMBER 220
 Detector : 79413
 Standard ID : AESS-012
 Standard Reference Date : 14-FEB-2008 13:39:25
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:21
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:27:10
 Average Efficiency : 0.3750438
 Average Efficiency Error : 1.0269084E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	206.2200	28-FEB-2010	2990.438	3302.525	22663.00	0.3709926	1.5849777E-02	57.01278
NP-237	205.8930	28-FEB-2010	4435.000	4905.156	23426.00	0.3792588	1.9124148E-02	81.06312
CM-244	203.1954	28-FEB-2010	5534.774	5882.515	21789.00	0.3767064	1.9007433E-02	61.18806

Instrument : CHAMBER 221
 Detector : 79414
 Standard ID : AESS-013
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:27
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:27:19
 Average Efficiency : 0.3793155
 Average Efficiency Error : 1.0384974E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.6544	28-FEB-2010	2991.987	3300.655	22692.00	0.3761454	1.6069671E-02	54.91935
NP-237	210.2526	28-FEB-2010	4433.096	4905.038	23943.00	0.3795863	1.9137202E-02	74.16172
CM-244	201.9108	28-FEB-2010	5531.434	5885.564	22050.00	0.3836373	1.9355079E-02	57.98247

Instrument : CHAMBER 222
 Detector : 79415
 Standard ID : AESS-014
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:32
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:27:29
 Average Efficiency : 0.3503861
 Average Efficiency Error : 9.6052606E-03
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	214.7088	28-FEB-2010	2991.968	3297.845	21293.00	0.3347430	1.4312199E-02	57.14749
NP-237	211.7160	28-FEB-2010	4434.336	4906.032	23208.00	0.3653858	1.8426064E-02	76.21756
CM-244	207.3882	28-FEB-2010	5530.429	5882.613	21327.00	0.3610742	1.8222243E-02	61.58858

Instrument : CHAMBER 223
 Detector : 79416
 Standard ID : AESS-015
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:37
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:27:39
 Average Efficiency : 0.3893896
 Average Efficiency Error : 1.0661449E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0270	28-FEB-2010	2989.801	3297.756	23051.00	0.3813936	1.6290823E-02	56.25597
NP-237	200.6460	28-FEB-2010	4434.980	4902.483	23824.00	0.3957835	1.9954618E-02	75.62739
CM-244	195.9270	28-FEB-2010	5530.752	5886.350	22029.00	0.3949774	1.9927377E-02	58.25835

Instrument : CHAMBER 224
 Detector : 79417
 Standard ID : AESS-016
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:43
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:27:48
 Average Efficiency : 0.3855355
 Average Efficiency Error : 1.0559128E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.0534	28-FEB-2010	2987.708	3297.620	22614.00	0.3741145	1.5983578E-02	56.47799
NP-237	199.3962	28-FEB-2010	4432.391	4904.314	23852.00	0.3987372	2.0103335E-02	75.47507
CM-244	198.6402	28-FEB-2010	5535.163	5883.043	22064.00	0.3902014	1.9686140E-02	61.20261

Instrument : CHAMBER 225
 Detector : 79418
 Standard ID : AESS-017
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:48
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:28:00
 Average Efficiency : 0.3784462
 Average Efficiency Error : 1.0361466E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	210.0798	28-FEB-2010	2990.136	3297.838	23025.00	0.3699967	1.5804220E-02	54.96978
NP-237	208.5846	28-FEB-2010	4432.708	4903.892	24244.00	0.3874272	1.9530520E-02	72.92027
CM-244	205.5828	28-FEB-2010	5534.915	5883.445	22371.00	0.3822702	1.9283641E-02	60.31302

Instrument : CHAMBER 226
 Detector : 79419
 Standard ID : AESS-018
 Standard Reference Date : 14-FEB-2008 17:45:04
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:53
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:28:10
 Average Efficiency : 0.3837910
 Average Efficiency Error : 1.0508147E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	202.1856	28-FEB-2010	2990.396	3299.355	22716.00	0.3792837	1.6203530E-02	50.45033
NP-237	208.8990	28-FEB-2010	4437.021	4903.289	23922.00	0.3817108	1.9244449E-02	73.07991
CM-244	198.1458	28-FEB-2010	5534.002	5887.398	22152.00	0.3927352	1.9813271E-02	59.33780

Instrument : CHAMBER 227
 Detector : 79420
 Standard ID : AESS-019
 Standard Reference Date : 19-FEB-2008 11:05:22
 Calibration Analysis Date/Time : 29-JUN-2009 11:07:59
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:28:21
 Average Efficiency : 0.3834471
 Average Efficiency Error : 1.0500080E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	204.6468	28-FEB-2010	2988.851	3301.430	22706.00	0.3745125	1.5999762E-02	61.38483
NP-237	202.9140	28-FEB-2010	4435.798	4901.523	23913.00	0.3928266	1.9804921E-02	69.44127
CM-244	199.3140	28-FEB-2010	5532.218	5885.954	22005.00	0.3876506	1.9557914E-02	59.98711

Instrument : CHAMBER 228
 Detector : 79421
 Standard ID : AESS-020
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 29-JUN-2009 11:08:06
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:28:30
 Average Efficiency : 0.3812083
 Average Efficiency Error : 1.0441090E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	205.5870	28-FEB-2010	2989.413	3298.479	22499.00	0.3694338	1.5784577E-02	57.02933
NP-237	203.4984	28-FEB-2010	4435.708	4901.434	23757.00	0.3891334	1.9619791E-02	78.34894
CM-244	197.1096	28-FEB-2010	5531.094	5883.745	21974.00	0.3916203	1.9758444E-02	59.88309

Instrument : CHAMBER 229
 Detector : 79422
 Standard ID : AESS-021
 Standard Reference Date : 19-FEB-2008 15:31:52
 Calibration Analysis Date/Time : 29-JUN-2009 11:08:14
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:28:39
 Average Efficiency : 0.3777187
 Average Efficiency Error : 1.0341295E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	208.3608	28-FEB-2010	2992.428	3300.536	22973.00	0.3721605	1.5897052E-02	58.77625
NP-237	210.1548	28-FEB-2010	4436.659	4902.986	23961.00	0.3800487	1.9160392E-02	70.52748
CM-244	200.7390	28-FEB-2010	5534.392	5883.088	21930.00	0.3835794	1.9353105E-02	57.32039

Instrument : CHAMBER 230
 Detector : 79423
 Standard ID : AESS-022
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 29-JUN-2009 11:08:21
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:28:51
 Average Efficiency : 0.3723746
 Average Efficiency Error : 1.0199217E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	209.6724	28-FEB-2010	2990.435	3299.126	22423.00	0.3610166	1.5425573E-02	51.30120
NP-237	206.8830	28-FEB-2010	4436.006	4902.037	23676.00	0.3814719	1.9234043E-02	72.62286
CM-244	203.0208	28-FEB-2010	5532.506	5885.804	22015.00	0.3809220	1.9218368E-02	59.56349

Instrument : CHAMBER 231
 Detector : 79424
 Standard ID : AESS-023
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 29-JUN-2009 11:08:27
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:29:03
 Average Efficiency : 0.3858555
 Average Efficiency Error : 1.0562916E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	207.4764	28-FEB-2010	2991.739	3299.860	23293.00	0.3789935	1.6186299E-02	57.20384
NP-237	207.4998	28-FEB-2010	4434.942	4905.625	24373.00	0.3915348	1.9736728E-02	74.61633
CM-244	199.8804	28-FEB-2010	5535.464	5883.098	22212.00	0.3903586	1.9692916E-02	65.42931

Instrument : CHAMBER 232
 Detector : 79425
 Standard ID : AESS-024
 Standard Reference Date : 14-FEB-2008 21:55:55
 Calibration Analysis Date/Time : 29-JUN-2009 11:08:33
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:29:13
 Average Efficiency : 0.3708555
 Average Efficiency Error : 1.0160839E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.5218	28-FEB-2010	2989.849	3300.399	21668.00	0.3594086	1.5363393E-02	54.49700
NP-237	205.6662	28-FEB-2010	4435.500	4901.412	23160.00	0.3753609	1.8929429E-02	74.14132
CM-244	198.3060	28-FEB-2010	5530.414	5887.598	21698.00	0.3843684	1.9394770E-02	61.92214

Instrument : CHAMBER 233
 Detector : 79426
 Standard ID : AESS-025
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 29-JUN-2009 11:08:39
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:29:22
 Average Efficiency : 0.3807971
 Average Efficiency Error : 1.0442032E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.5670	28-FEB-2010	2988.552	3300.019	21743.00	0.3753024	1.6042113E-02	57.53493
NP-237	167.9916	28-FEB-2010	4437.049	4902.445	19555.00	0.3880157	1.9598201E-02	65.87717
CM-244	157.2432	28-FEB-2010	5533.265	5887.350	17089.00	0.3817507	1.9309653E-02	57.89972

Instrument : CHAMBER 234
 Detector : 79427
 Standard ID : AESS-026
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 29-JUN-2009 11:08:46
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:29:34
 Average Efficiency : 0.3715710
 Average Efficiency Error : 1.0840051E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.5072	28-FEB-2010	2992.038	3298.233	21630.00	0.3659885	1.8468786E-02	59.50484
NP-237	168.0294	28-FEB-2010	4434.030	4904.076	19159.00	0.3800664	1.9200675E-02	73.78577
CM-244	160.5822	28-FEB-2010	5534.071	5887.649	16880.00	0.3692411	1.8679539E-02	60.73690

Instrument : CHAMBER 235
 Detector : 79428
 Standard ID : AESS-027
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 29-JUN-2009 11:08:52
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:29:43
 Average Efficiency : 0.3940442
 Average Efficiency Error : 1.1499584E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.4238	28-FEB-2010	2989.263	3301.595	21602.00	0.3770158	1.9025473E-02	58.14516
NP-237	161.6154	28-FEB-2010	4435.665	4901.527	19364.00	0.3993784	2.0174121E-02	80.43070
CM-244	148.1754	28-FEB-2010	5532.636	5886.715	17233.00	0.4085333	2.0662384E-02	62.76055

Instrument : CHAMBER 236
 Detector : 79429
 Standard ID : AESS-028
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 29-JUN-2009 11:08:58
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:29:51
 Average Efficiency : 0.3835090
 Average Efficiency Error : 1.1186651E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	199.6542	28-FEB-2010	2987.896	3299.376	22084.00	0.3733852	1.8838538E-02	56.68213
NP-237	168.1992	28-FEB-2010	4436.423	4901.814	19840.00	0.3931670	1.9855550E-02	67.99222
CM-244	156.7614	28-FEB-2010	5532.618	5886.688	17183.00	0.3850371	1.9474657E-02	58.26772

Instrument : CHAMBER 237
 Detector : 79430
 Standard ID : AESS-029
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 29-JUN-2009 11:09:04
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:30:00
 Average Efficiency : 0.3829979
 Average Efficiency Error : 1.1177646E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.5742	28-FEB-2010	2991.344	3298.717	21746.00	0.3641782	1.8376544E-02	56.31577
NP-237	169.7700	28-FEB-2010	4433.245	4904.669	19754.00	0.3878583	1.9588275E-02	82.97163
CM-244	154.8234	28-FEB-2010	5531.003	5885.403	17660.00	0.4006723	2.0259250E-02	60.27898

Instrument : CHAMBER 238
 Detector : 79431
 Standard ID : AESS-030
 Standard Reference Date : 15-FEB-2008 09:06:52
 Calibration Analysis Date/Time : 29-JUN-2009 11:09:12
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:30:09
 Average Efficiency : 0.3807547
 Average Efficiency Error : 1.1108285E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.9792	28-FEB-2010	2988.961	3300.370	21726.00	0.3685883	1.8599236E-02	56.98843
NP-237	166.3758	28-FEB-2010	4436.951	4902.062	19490.00	0.3904817	1.9723417E-02	79.47810
CM-244	157.1856	28-FEB-2010	5532.406	5886.179	17210.00	0.3846013	1.9452270E-02	57.54609

Instrument : CHAMBER 239
 Detector : 79432
 Standard ID : AESS-031
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 29-JUN-2009 11:09:18
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:30:18
 Average Efficiency : 0.3896177
 Average Efficiency Error : 1.0683284E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	193.6650	28-FEB-2010	2990.544	3302.370	22065.00	0.3845867	1.6435910E-02	56.06851
NP-237	162.9186	28-FEB-2010	4436.212	4902.679	19357.00	0.3960098	2.0004071E-02	74.77979
CM-244	153.1968	28-FEB-2010	5535.220	5884.998	17043.00	0.3906523	1.9760521E-02	60.01815

Instrument : CHAMBER 240
 Detector : 79433
 Standard ID : AESS-032
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 29-JUN-2009 11:09:25
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:30:27
 Average Efficiency : 0.3777754
 Average Efficiency Error : 1.0360904E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	195.2364	28-FEB-2010	2990.696	3301.853	21594.00	0.3733324	1.5959276E-02	54.88348
NP-237	165.9822	28-FEB-2010	4433.664	4904.733	18875.00	0.3790388	1.9151727E-02	72.74045
CM-244	153.7938	28-FEB-2010	5531.260	5886.094	16776.00	0.3830326	1.9378640E-02	59.08883

Instrument : CHAMBER 241
 Detector : 79434
 Standard ID : AESS-033
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 29-JUN-2009 11:09:31
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:30:36
 Average Efficiency : 0.3931700
 Average Efficiency Error : 1.0783223E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.4158	28-FEB-2010	2990.242	3301.966	21884.00	0.3839029	1.6408380E-02	53.49284
NP-237	161.7816	28-FEB-2010	4434.457	4905.204	19269.00	0.3970166	2.0055814E-02	84.30279
CM-244	147.2670	28-FEB-2010	5530.782	5884.826	16923.00	0.4035279	2.0413468E-02	60.66447

Instrument : CHAMBER 242
 Detector : 79435
 Standard ID : AESS-034
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 29-JUN-2009 11:09:38
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:30:45
 Average Efficiency : 0.3846521
 Average Efficiency Error : 1.0549294E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.5488	28-FEB-2010	2990.030	3301.446	22109.00	0.3721264	1.5903009E-02	60.76245
NP-237	167.2962	28-FEB-2010	4433.469	4904.310	19754.00	0.3935935	1.9877926E-02	76.54881
CM-244	154.4388	28-FEB-2010	5535.605	5884.633	17390.00	0.3954074	1.9996468E-02	61.98755

Instrument : CHAMBER 243
 Detector : 79436
 Standard ID : AESS-035
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 29-JUN-2009 11:09:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:30:54
 Average Efficiency : 0.3685505
 Average Efficiency Error : 1.0109218E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	198.6666	28-FEB-2010	2990.365	3297.486	21347.00	0.3626947	1.5506803E-02	57.87182
NP-237	168.2934	28-FEB-2010	4436.388	4902.306	19057.00	0.3774501	1.9069549E-02	79.79286
CM-244	158.8128	28-FEB-2010	5533.622	5882.491	16666.00	0.3685086	1.8645244E-02	59.82504

Instrument : CHAMBER 244
 Detector : 79437
 Standard ID : AESS-036
 Standard Reference Date : 18-FEB-2008 11:28:15
 Calibration Analysis Date/Time : 29-JUN-2009 11:09:51
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:31:04
 Average Efficiency : 0.3725442
 Average Efficiency Error : 1.0218798E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	201.3204	28-FEB-2010	2989.131	3300.564	21635.00	0.3627526	1.5506621E-02	61.82745
NP-237	167.4312	28-FEB-2010	4432.574	4903.374	19014.00	0.3785259	1.9124355E-02	78.29796
CM-244	156.4188	28-FEB-2010	5534.584	5883.551	16999.00	0.3816244	1.9304425E-02	60.38109

Instrument : CHAMBER 245
 Detector : 79438
 Standard ID : AESS-037
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 29-JUN-2009 11:09:58
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:31:18
 Average Efficiency : 0.3871339
 Average Efficiency Error : 1.0614644E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7372	28-FEB-2010	2992.063	3299.394	22212.00	0.3791691	1.6203059E-02	61.13074
NP-237	167.1294	28-FEB-2010	4434.575	4906.628	19802.00	0.3949435	1.9945625E-02	77.95452
CM-244	154.7664	28-FEB-2010	5534.102	5883.894	17248.00	0.3913280	1.9792015E-02	61.02800

Instrument : CHAMBER 246
 Detector : 78912
 Standard ID : AESS-038
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:04
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:31:31
 Average Efficiency : 0.3734691
 Average Efficiency Error : 1.0242580E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	200.1408	28-FEB-2010	2989.019	3301.538	21682.00	0.3656716	1.5630983E-02	62.50508
NP-237	170.0886	28-FEB-2010	4435.665	4906.544	19170.00	0.3756807	1.8979004E-02	73.78893
CM-244	157.7460	28-FEB-2010	5531.825	5885.470	17212.00	0.3831484	1.9378757E-02	60.45332

Instrument : CHAMBER 247
 Detector : 79440
 Standard ID : AESS-039
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:09
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:31:41
 Average Efficiency : 0.3946936
 Average Efficiency Error : 1.0825262E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	192.2418	28-FEB-2010	2988.774	3301.191	21982.00	0.3859695	1.6495787E-02	57.12532
NP-237	159.1506	28-FEB-2010	4436.556	4903.380	19616.00	0.4108289	2.0749848E-02	76.11504
CM-244	151.7142	28-FEB-2010	5530.809	5885.967	16961.00	0.3925581	1.9858034E-02	61.99513

Instrument : CHAMBER 248
 Detector : 79441
 Standard ID : AESS-040
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:15
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:31:51
 Average Efficiency : 0.3902423
 Average Efficiency Error : 1.0700536E-02
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4828	28-FEB-2010	2988.392	3300.122	21933.00	0.3806768	1.6270030E-02	55.85408
NP-237	166.8174	28-FEB-2010	4433.659	4905.293	19807.00	0.3957821	1.9987926E-02	82.39788
CM-244	155.0100	28-FEB-2010	5532.437	5887.556	17631.00	0.3993214	2.0191407E-02	58.45845

Instrument : CHAMBER 249
 Detector : 79442
 Standard ID : AESS-041
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:21
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:32:04
 Average Efficiency : 0.3691239
 Average Efficiency Error : 1.0123477E-02
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	203.9034	28-FEB-2010	2988.416	3300.577	21774.00	0.3604519	1.5407033E-02	52.81279
NP-237	171.2268	28-FEB-2010	4436.398	4904.007	19367.00	0.3770129	1.9044334E-02	66.80524
CM-244	159.5796	28-FEB-2010	5533.011	5883.893	17016.00	0.3744264	1.8940104E-02	54.54869

Instrument : CHAMBER 250
 Detector : 79443
 Standard ID : AESS-042
 Standard Reference Date : 18-FEB-2008 15:31:47
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:26
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:32:16
 Average Efficiency : 0.4029809
 Average Efficiency Error : 1.1048914E-02
 Confidence : 95.00000

Cal. Isteps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	188.7090	28-FEB-2010	2987.664	3299.772	22102.00	0.3953417	1.6895199E-02	54.69497
NP-237	159.6558	28-FEB-2010	4433.576	4904.834	19622.00	0.4096608	2.0690778E-02	72.59711
CM-244	150.5208	28-FEB-2010	5531.060	5885.456	17478.00	0.4077245	2.0618226E-02	53.57324

Instrument : CHAMBER 251
 Detector : 79444
 Standard ID : AESS-043
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:32
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:32:48
 Average Efficiency : 0.3859750
 Average Efficiency Error : 1.0582183E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.7708	28-FEB-2010	2988.497	3300.693	22197.00	0.3788451	1.6189344E-02	55.12341
NP-237	168.7422	28-FEB-2010	4436.150	4903.399	19871.00	0.3925318	1.9823143E-02	75.41560
CM-244	156.3252	28-FEB-2010	5531.737	5887.575	17366.00	0.3900679	1.9726753E-02	56.80479

Instrument : CHAMBER 252
 Detector : 79445
 Standard ID : AESS-044
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:38
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:33:09
 Average Efficiency : 0.3764580
 Average Efficiency Error : 1.0325164E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.4510	28-FEB-2010	2988.592	3300.825	21491.00	0.3730471	1.5948050E-02	52.77084
NP-237	166.6248	28-FEB-2010	4435.553	4902.127	19212.00	0.3843369	1.9415863E-02	79.06938
CM-244	155.8290	28-FEB-2010	5534.590	5884.216	16588.00	0.3737789	1.8912956E-02	58.86968

Instrument : CHAMBER 253
 Detector : 79446
 Standard ID : AESS-045
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:44
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:33:20
 Average Efficiency : 0.4178050
 Average Efficiency Error : 1.1451593E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	186.9936	28-FEB-2010	2987.654	3300.865	23009.00	0.4153371	1.7741047E-02	58.55786
NP-237	160.8066	28-FEB-2010	4434.573	4903.102	19908.00	0.4126572	2.0839127E-02	76.00024
CM-244	145.8384	28-FEB-2010	5533.082	5884.383	17734.00	0.4269842	2.1588651E-02	59.04111

Instrument : CHAMBER 254
 Detector : 79447
 Standard ID : AESS-046
 Standard Reference Date : 19-FEB-2008 19:35:48
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:49
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:33:32
 Average Efficiency : 0.3998787
 Average Efficiency Error : 1.0964696E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	194.7474	28-FEB-2010	2991.549	3298.669	22357.00	0.3874868	1.6557176E-02	61.70351
NP-237	164.6658	28-FEB-2010	4433.543	4905.678	20062.00	0.4060794	2.0505425E-02	75.89950
CM-244	151.3824	28-FEB-2010	5533.440	5883.478	17814.00	0.4131682	2.0889070E-02	60.11974

Instrument : CHAMBER 255
 Detector : 79448
 Standard ID : AESS-047
 Standard Reference Date : 19-FEB-2008 00:32:27
 Calibration Analysis Date/Time : 29-JUN-2009 11:10:56
 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:33:42
 Average Efficiency : 0.3661844
 Average Efficiency Error : 1.0047055E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	197.4804	28-FEB-2010	2992.136	3299.381	20925.00	0.3576654	1.5295714E-02	54.59342
NP-237	168.3948	28-FEB-2010	4435.277	4902.796	18729.00	0.3707303	1.8733418E-02	71.29922
CM-244	154.6032	28-FEB-2010	5531.573	5887.697	16494.00	0.3746144	1.8956492E-02	56.20598

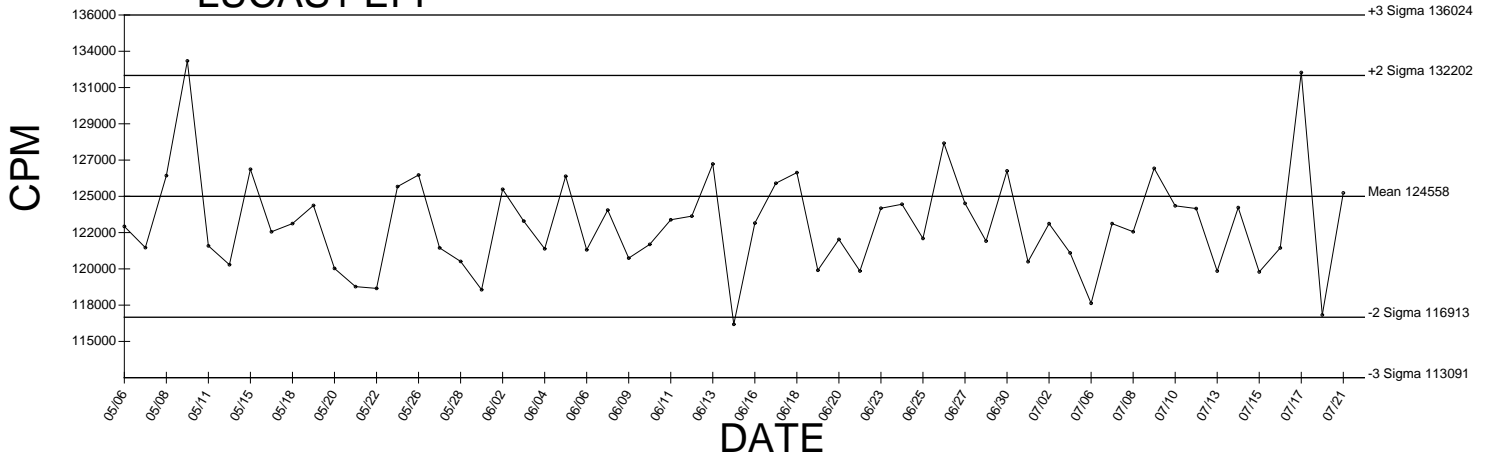
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 Calibration Count Time : 300.0000
 Efficiency Calibration Date/Time : 30-JUN-2009 13:33:53
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 Average Efficiency Error : 1.0406218E-02
 Confidence : 95.00000

Cal. Istps	DPM	Exp. Date	Start Engy	End Engy	Counts	EFF.	EFF Err	Resolution
GD-148	191.8350	28-FEB-2010	2989.020	3301.037	21283.00	0.3744797	1.6011277E-02	53.36488
NP-237	161.5530	28-FEB-2010	4435.346	4901.908	18858.00	0.3890801	1.9659264E-02	69.14060
CM-244	151.1856	28-FEB-2010	5534.491	5884.250	16233.00	0.3770208	1.9081894E-02	56.15398

BACKGROUND AND EFFICIENCY DATA

LUCAS1 EFF

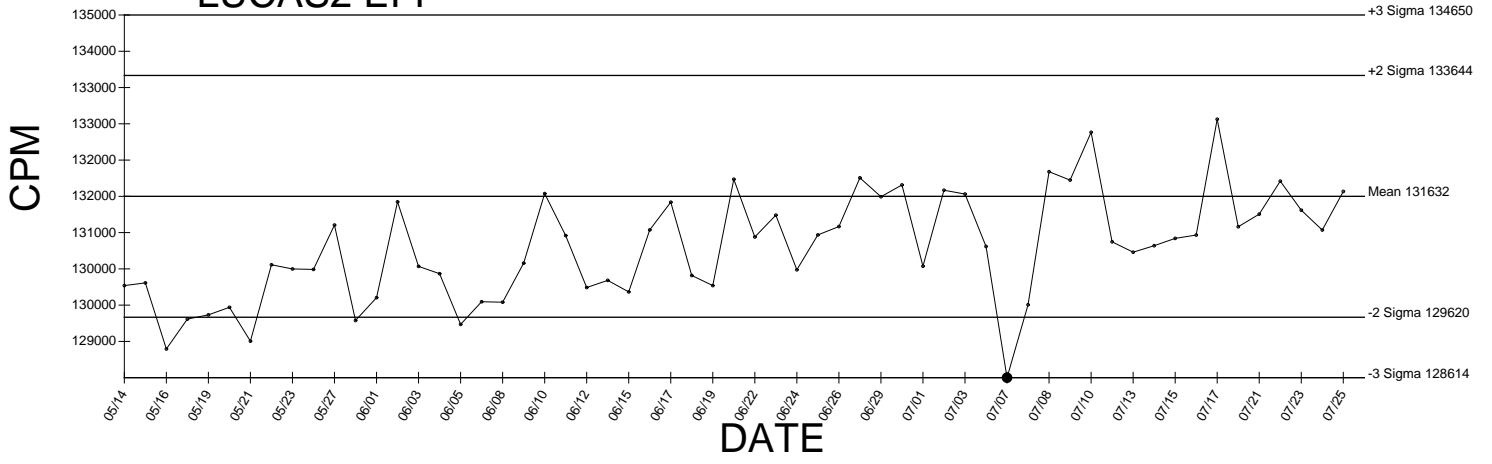
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● Denotes Outlier

LUCAS2 EFF

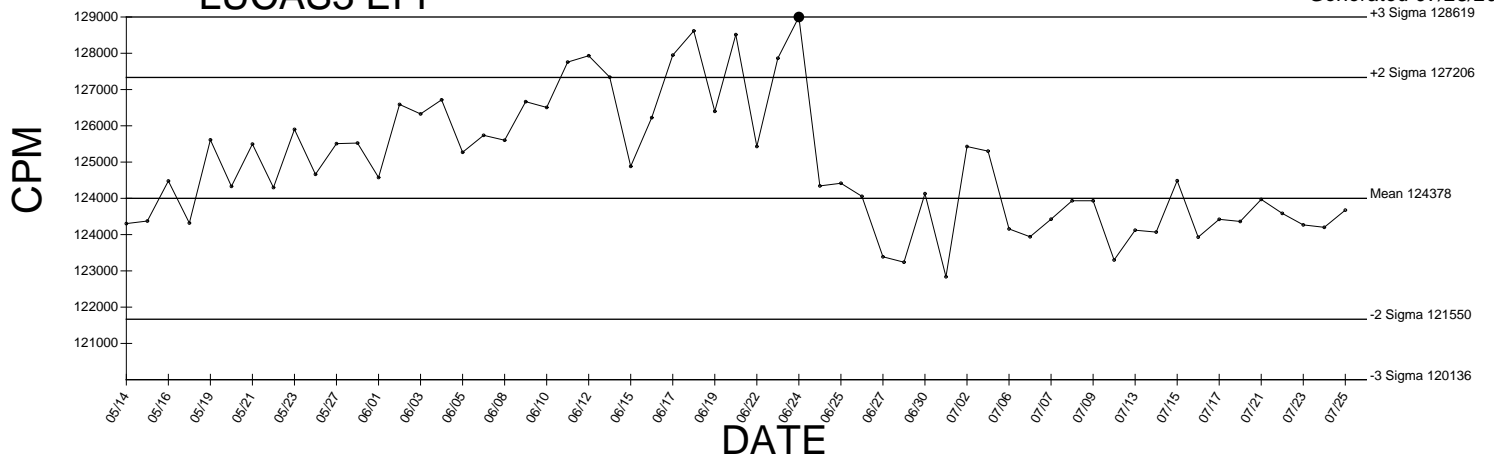
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LUCAS3 EFF

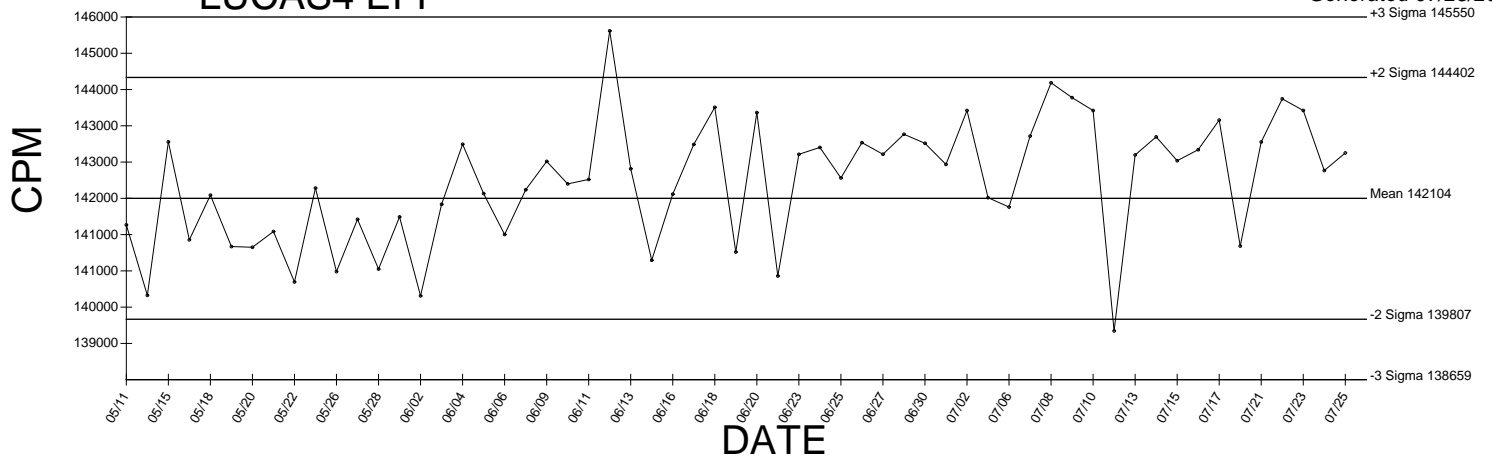
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● Denotes Outlier

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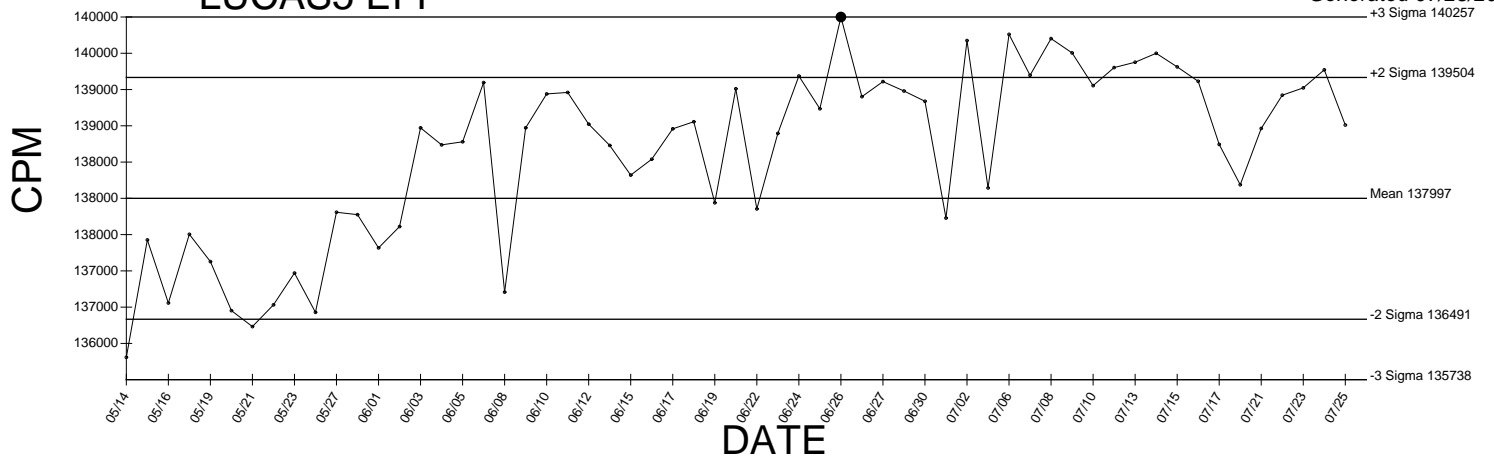
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● Denotes Outlier

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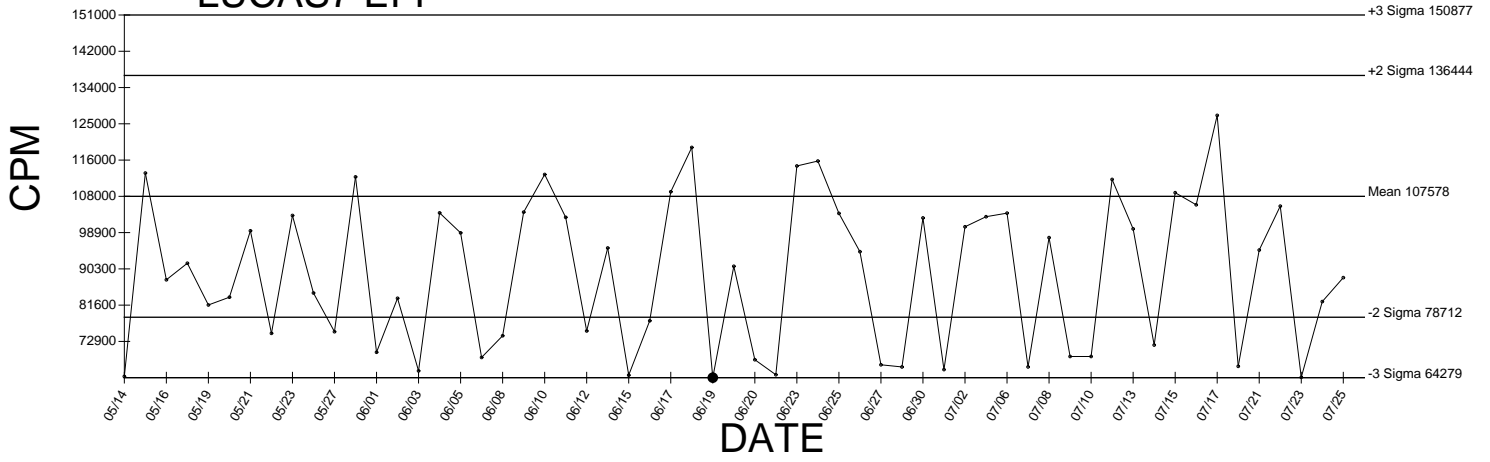
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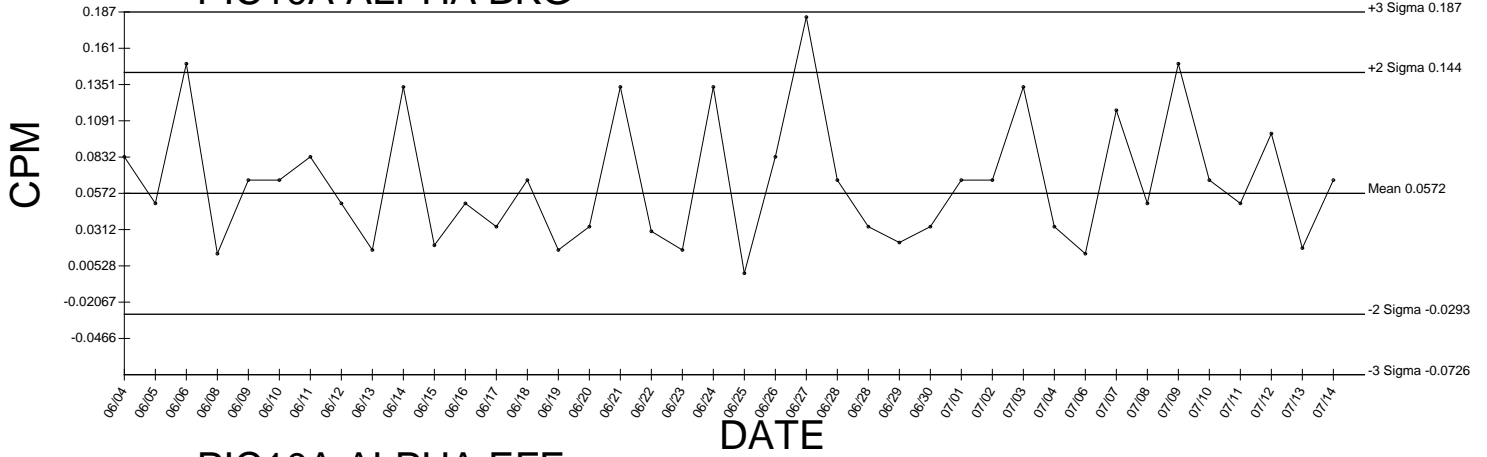
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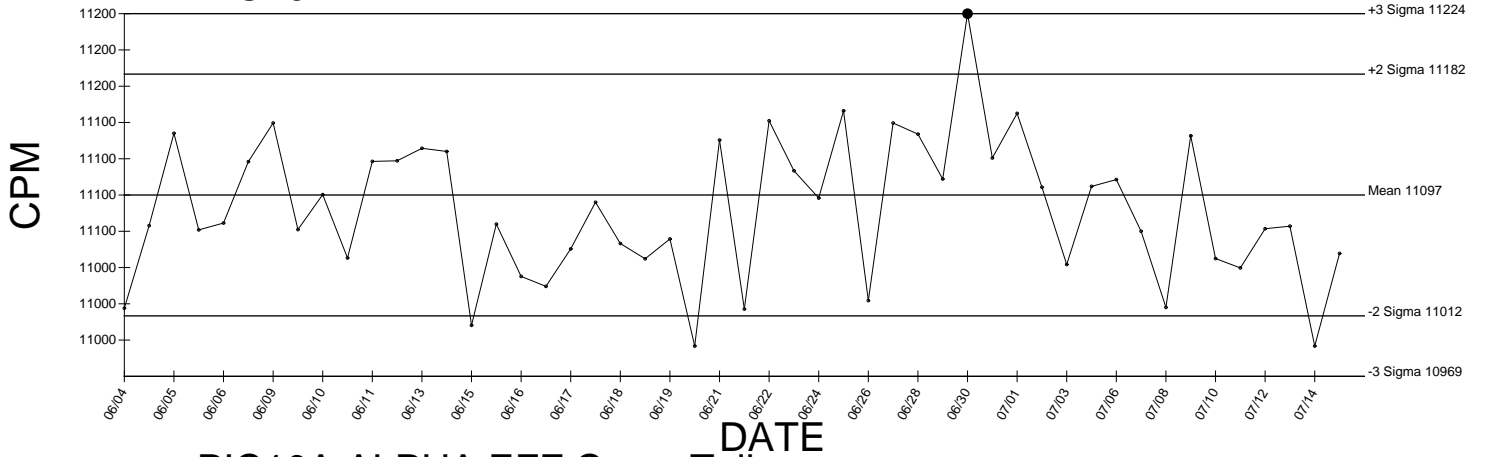


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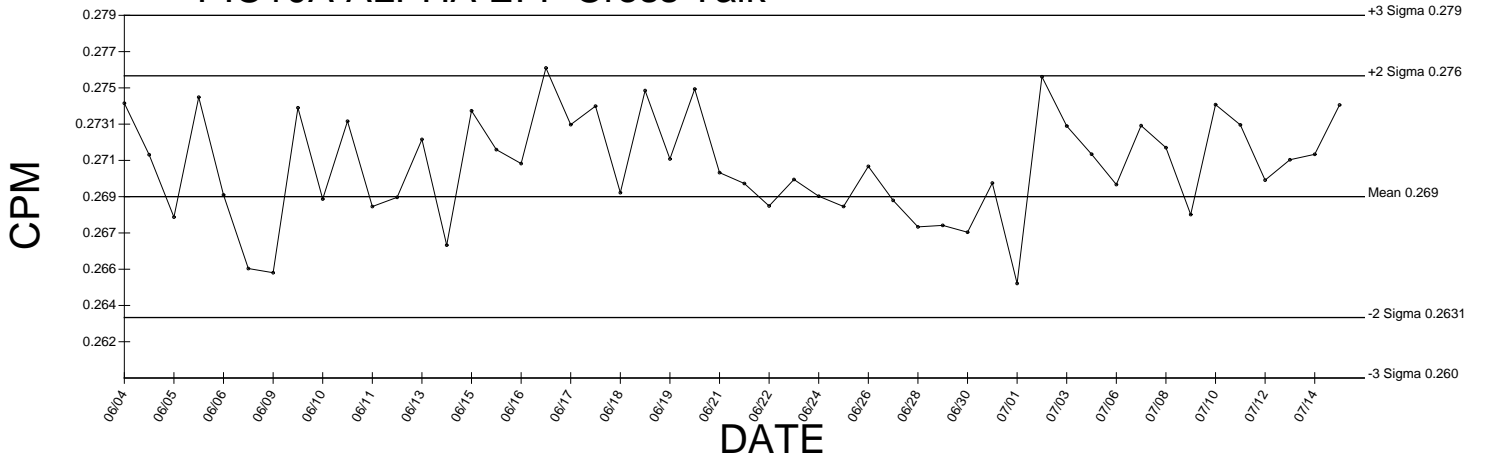
PIC10A ALPHA BKG



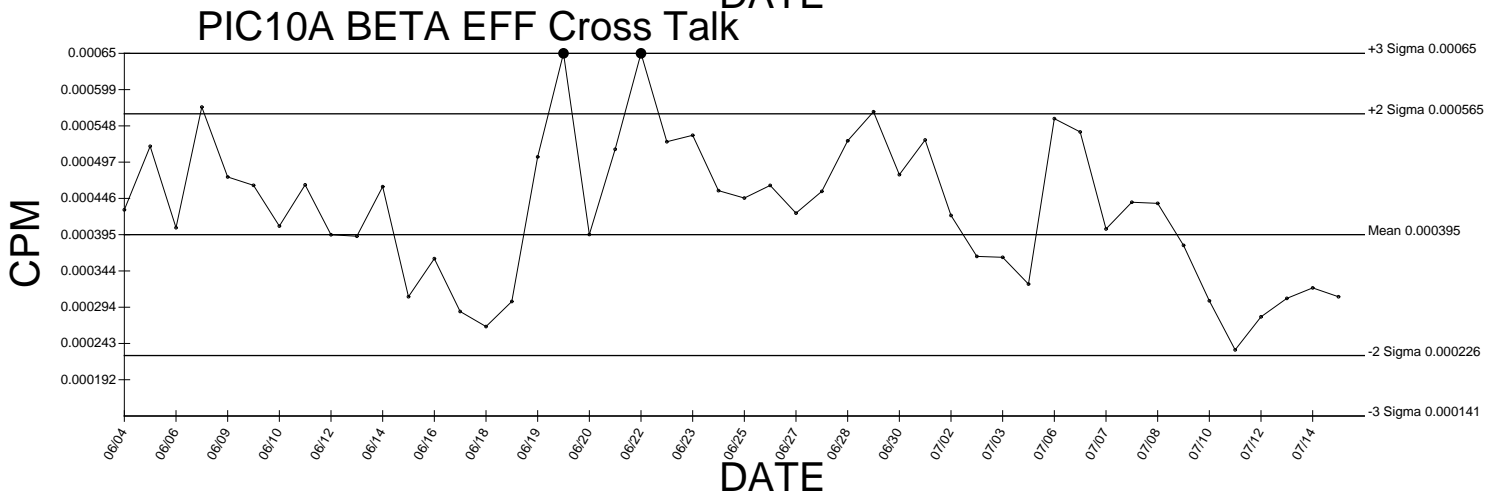
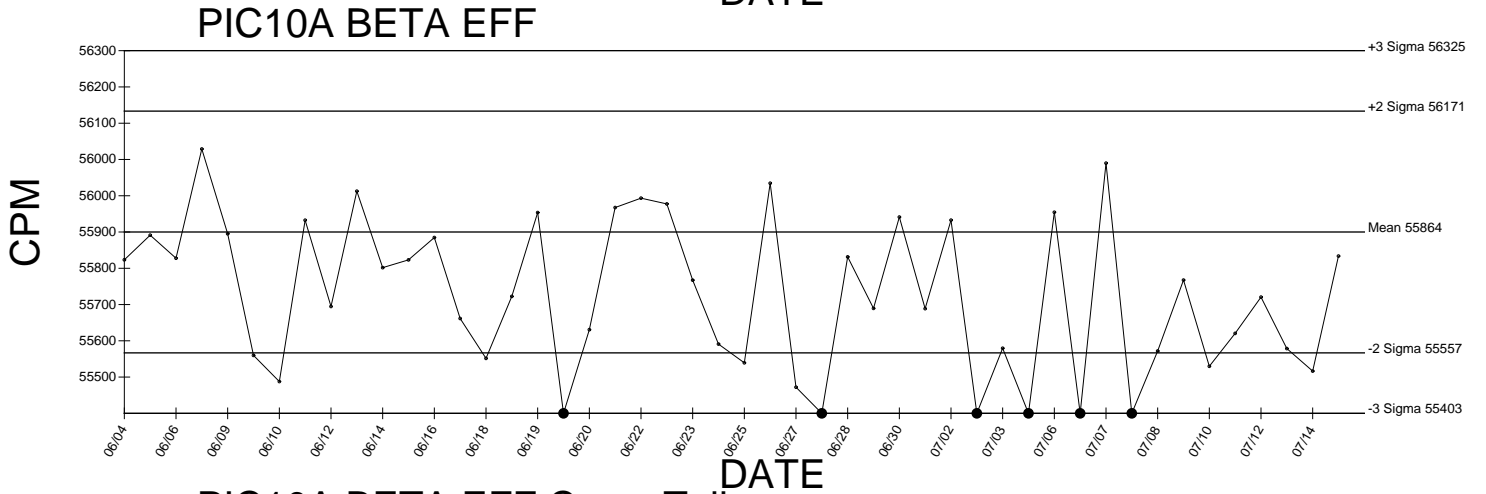
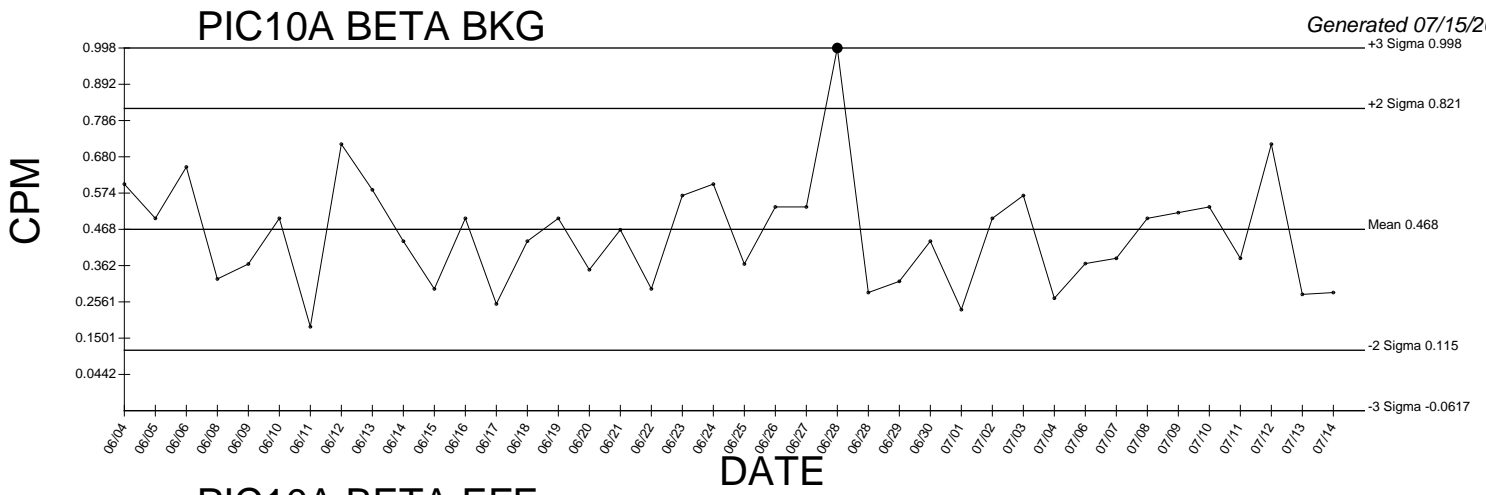
PIC10A ALPHA EFF



PIC10A ALPHA EFF Cross Talk



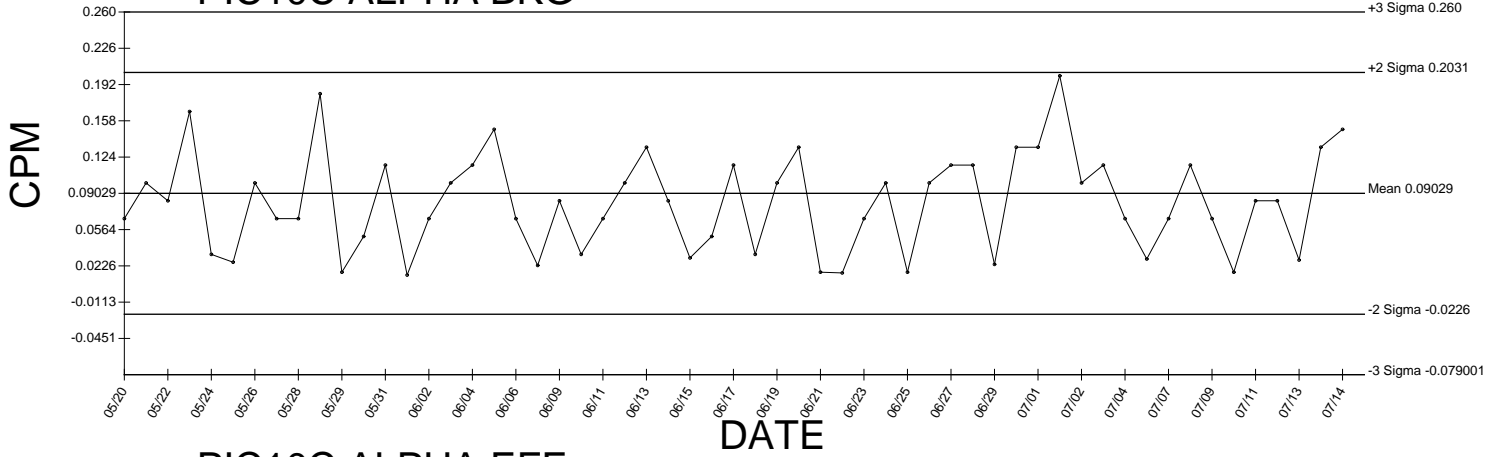
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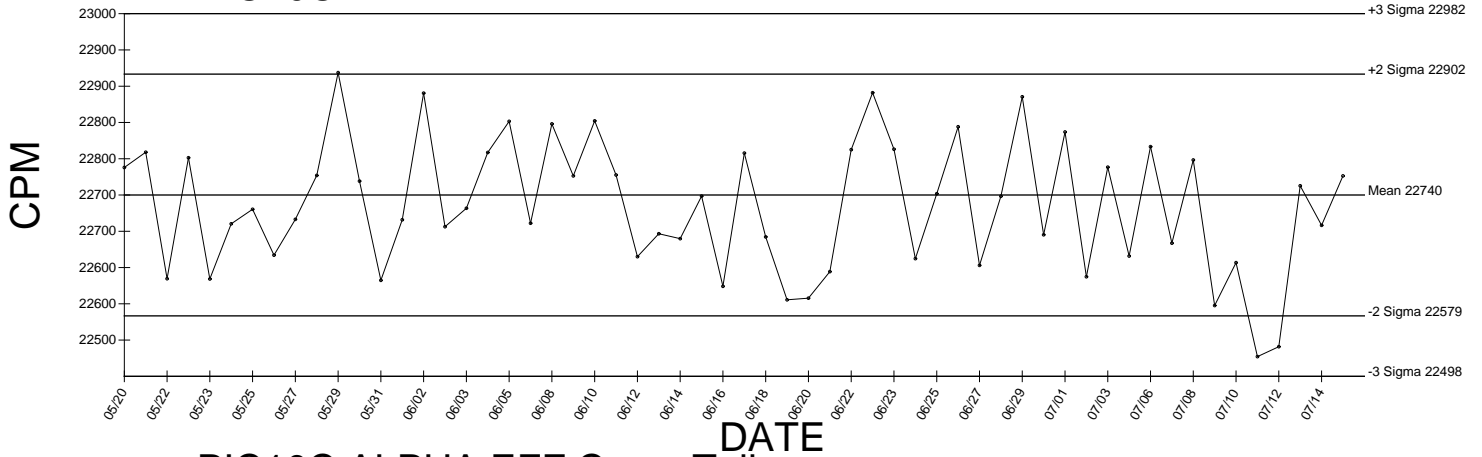
● Denotes Outlier

PIC10C ALPHA BKG

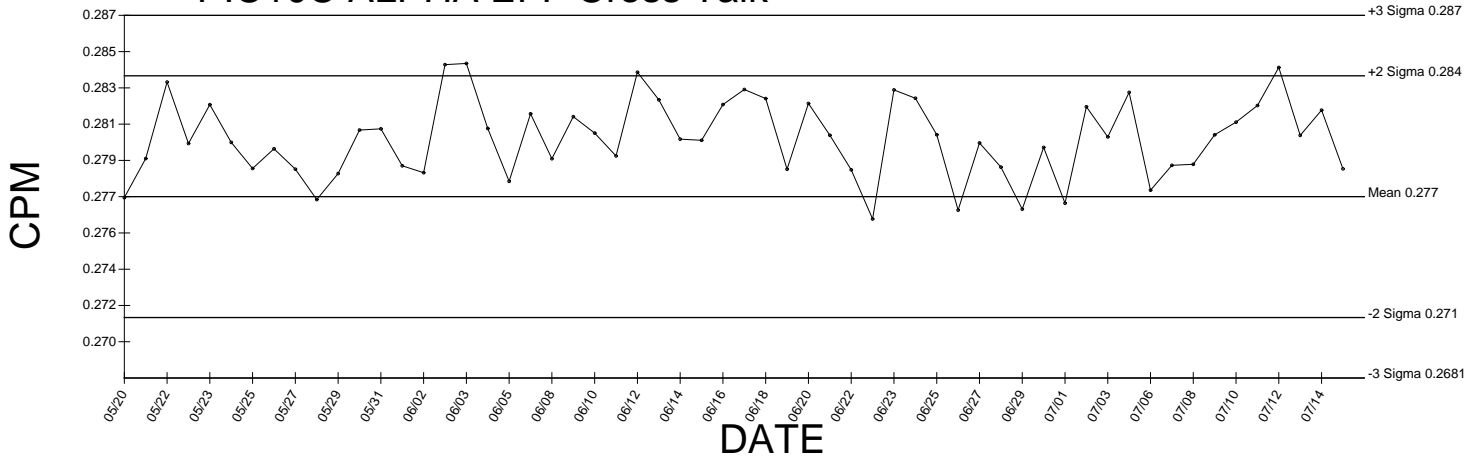
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PIC10C ALPHA EFF

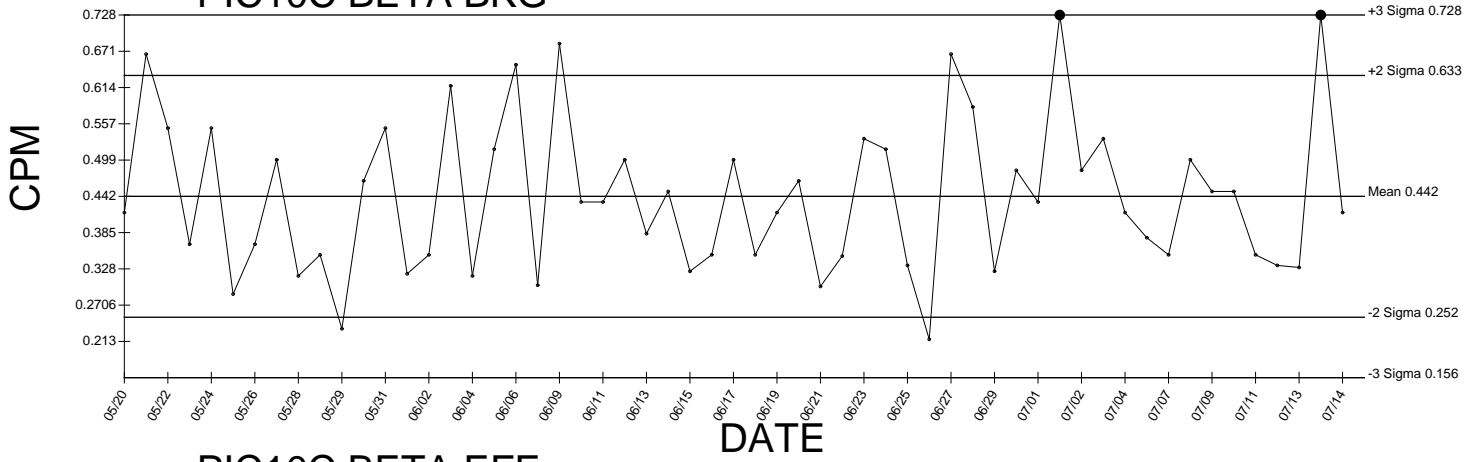


PIC10C ALPHA EFF Cross Talk

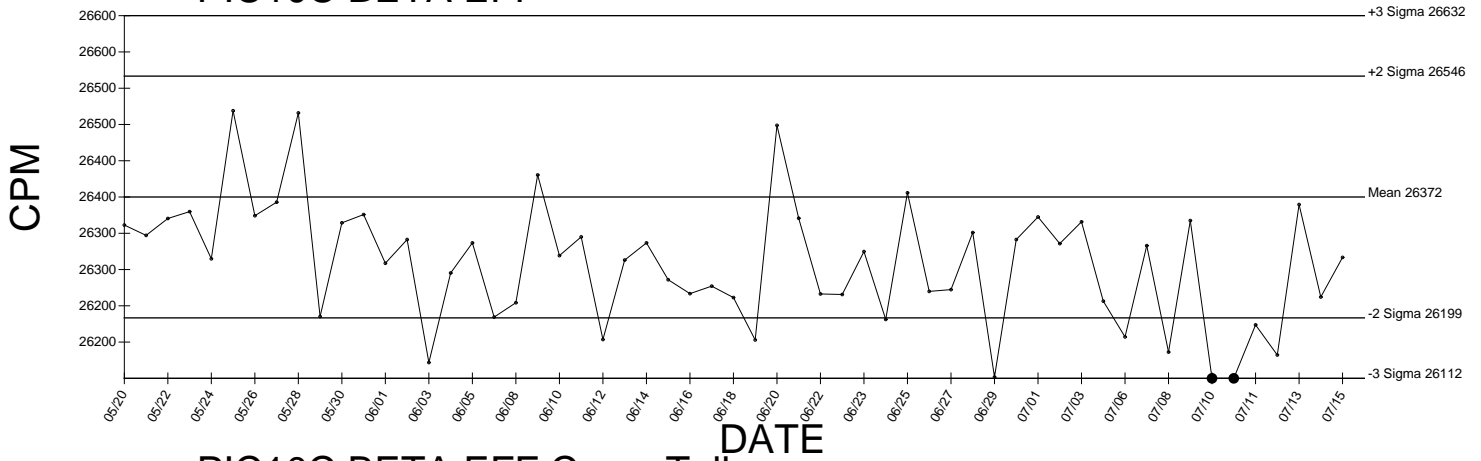


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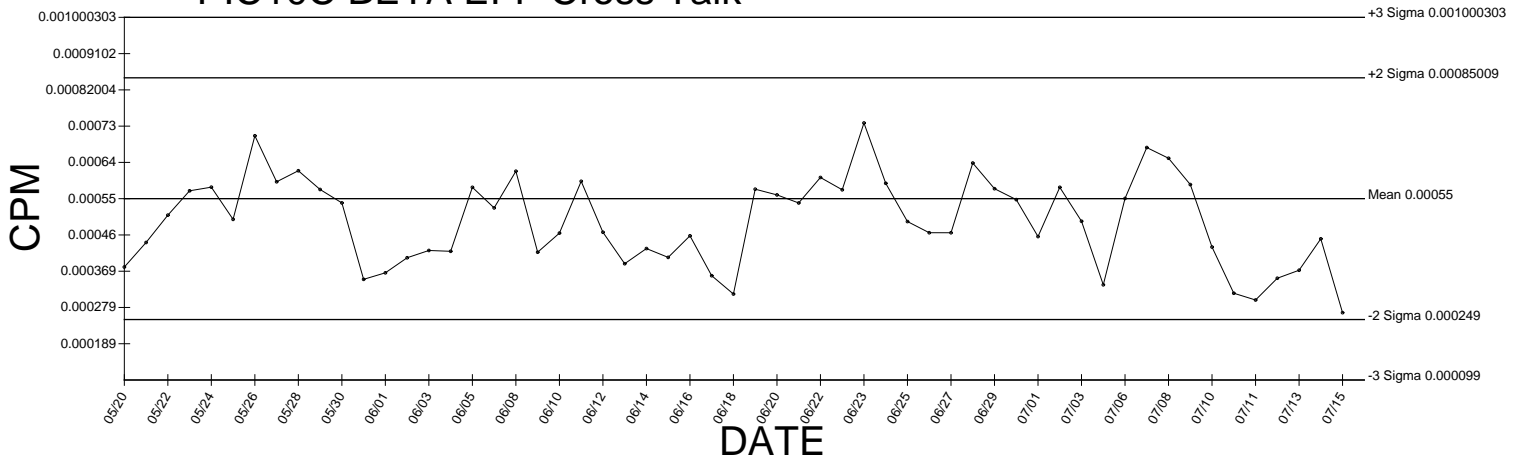
PIC10C BETA BKG



PIC10C BETA EFF



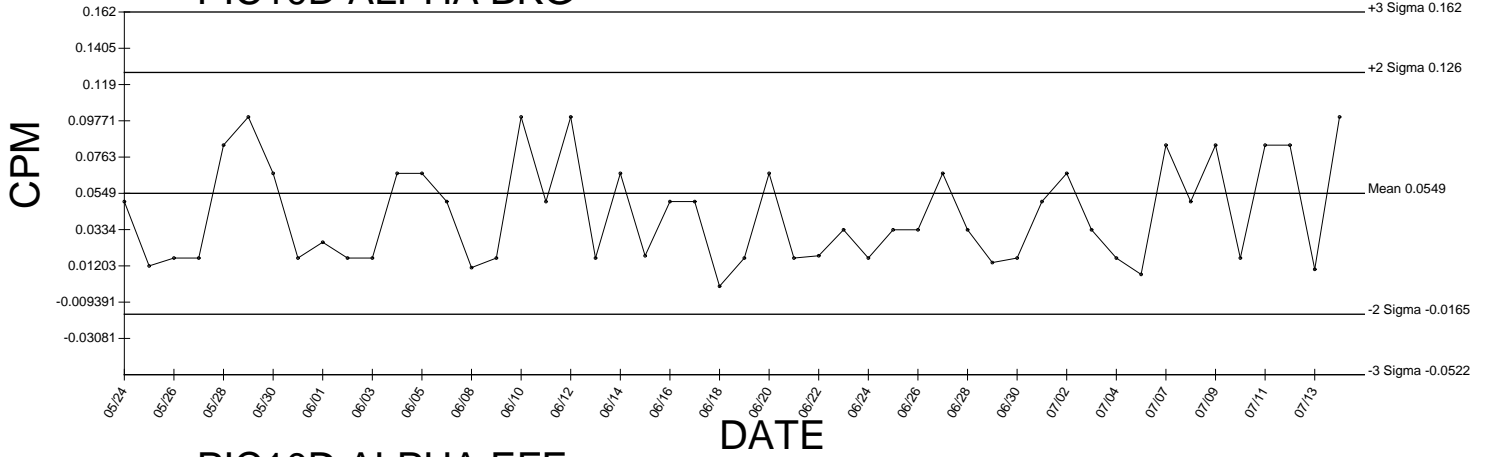
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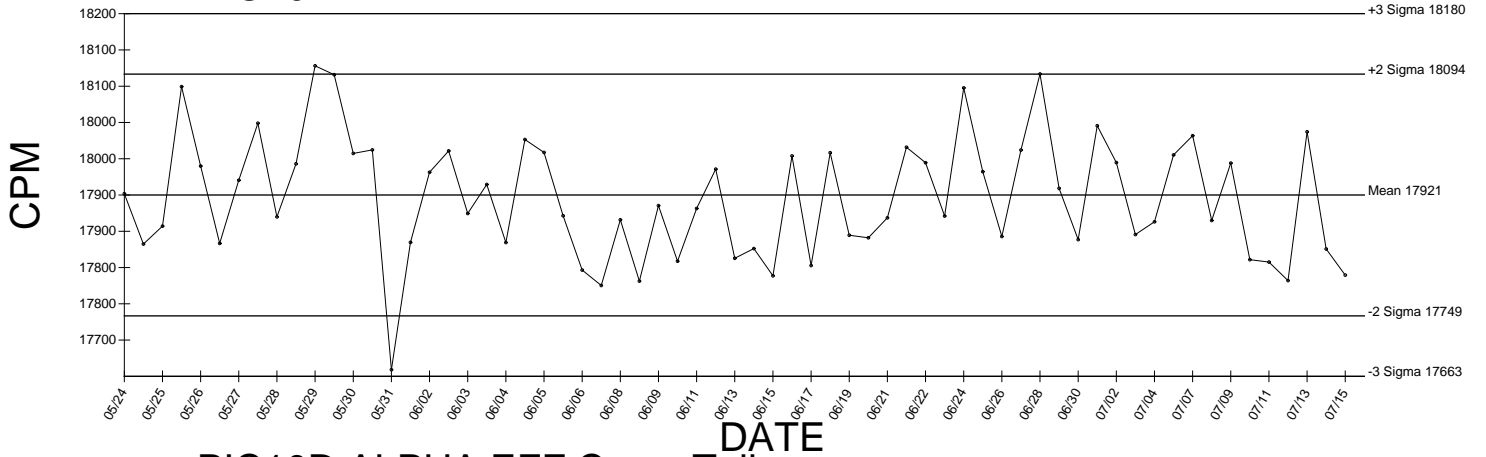
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PIC10D ALPHA BKG

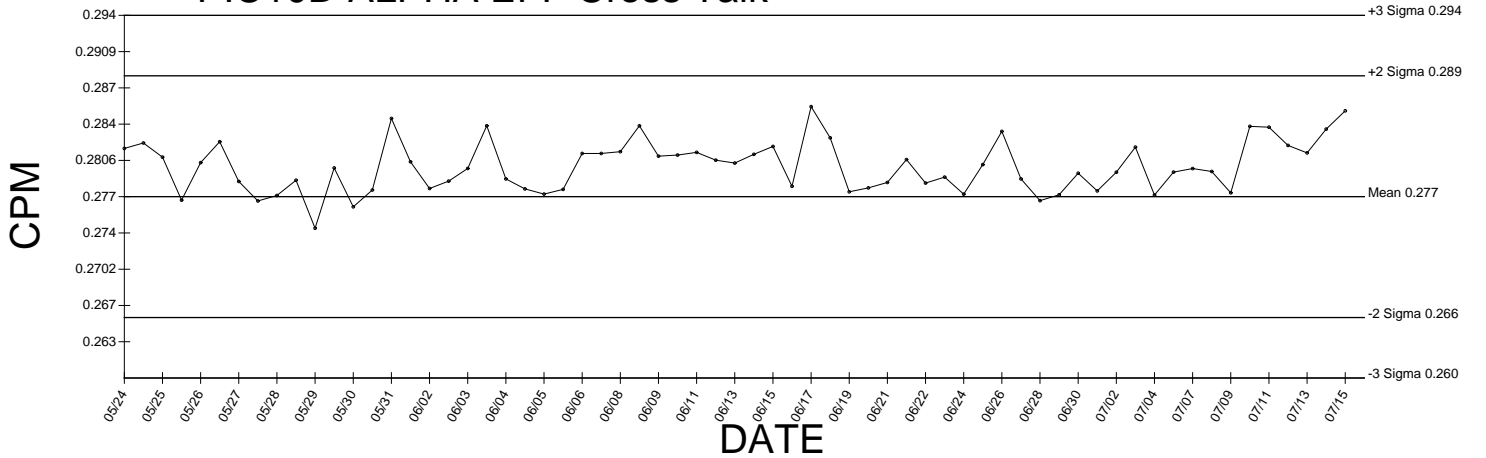
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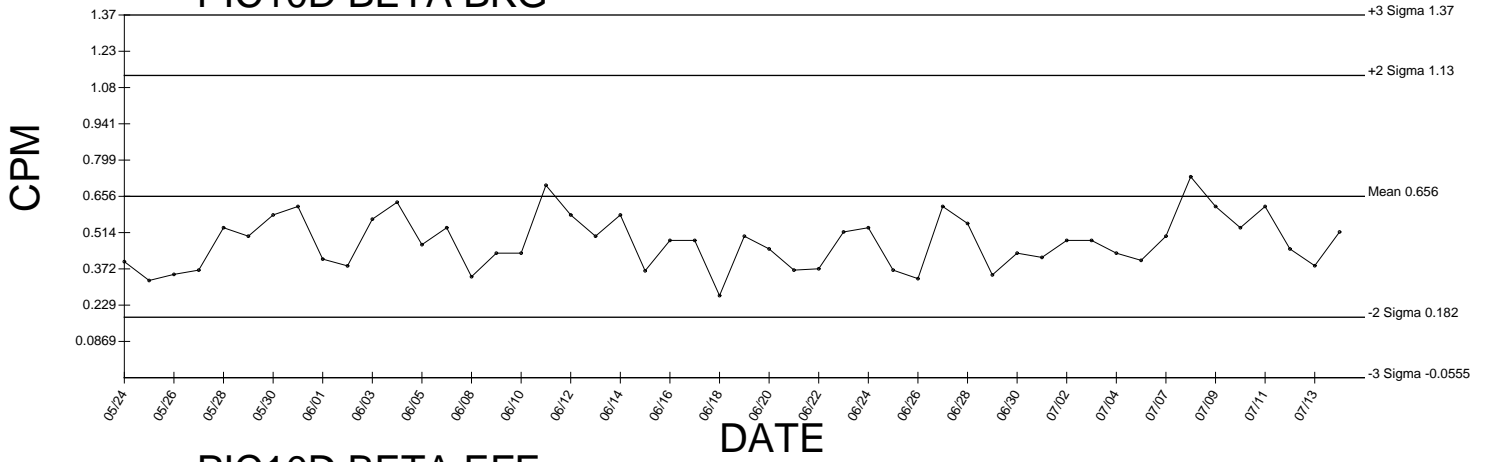
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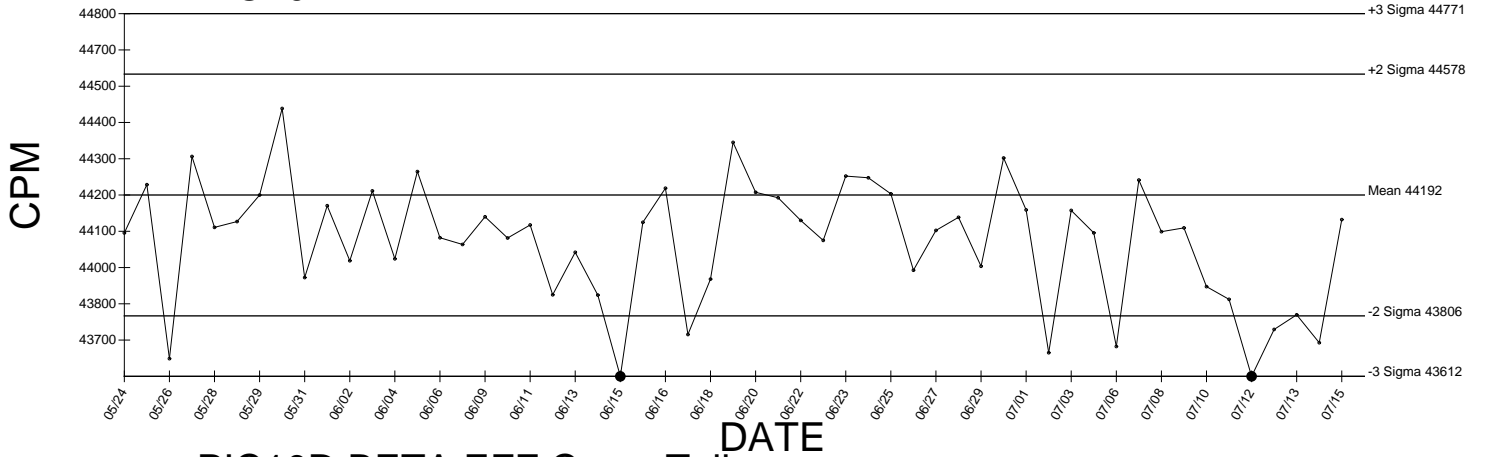
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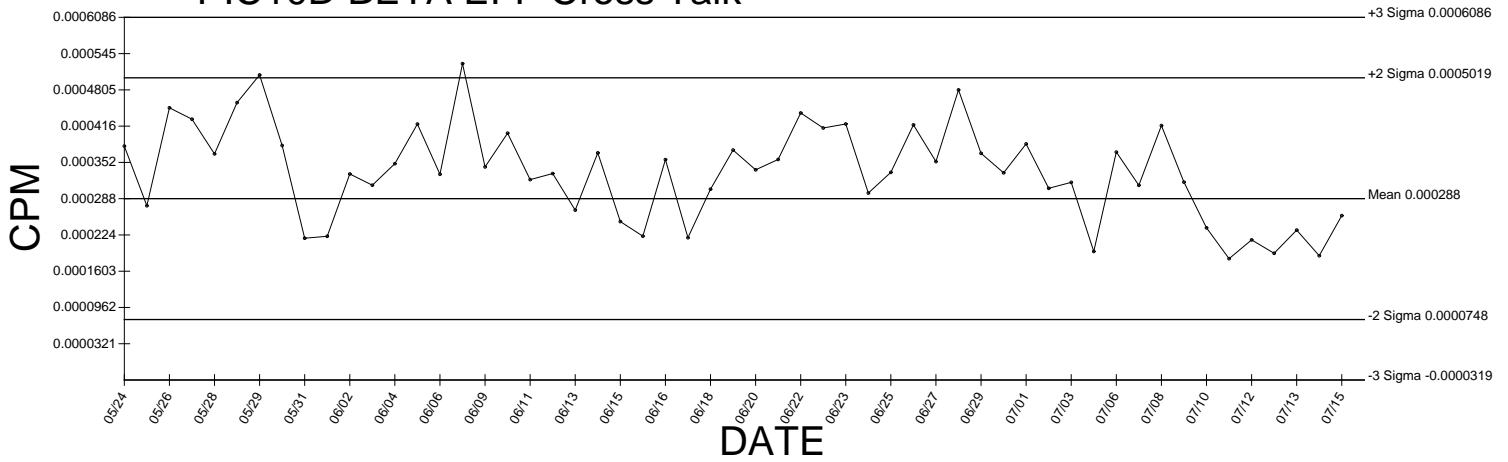
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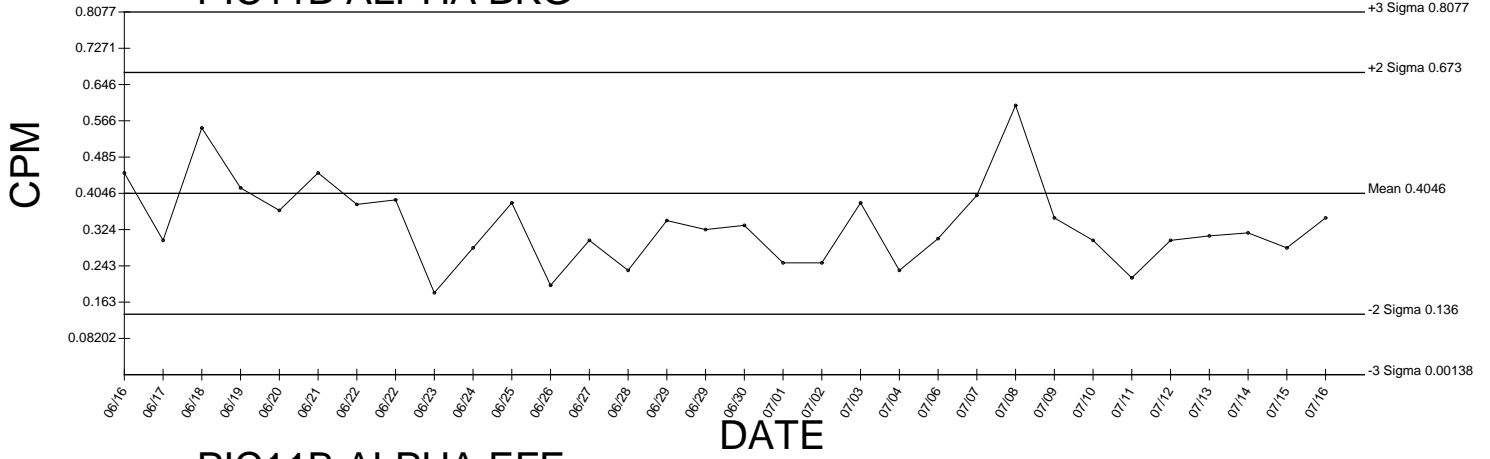
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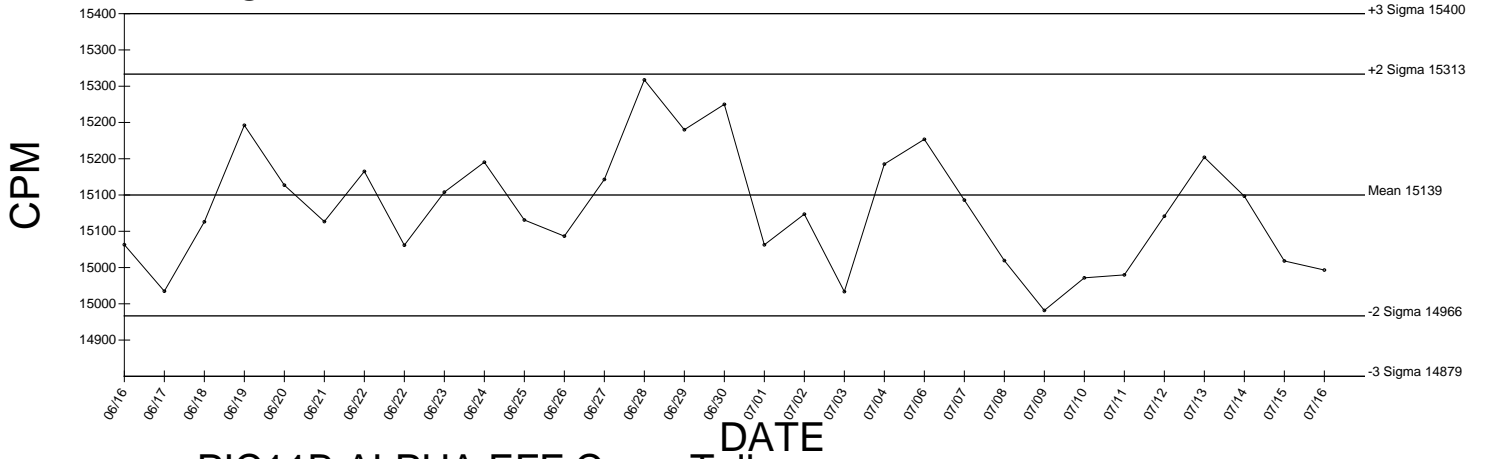
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PIC11B ALPHA BKG

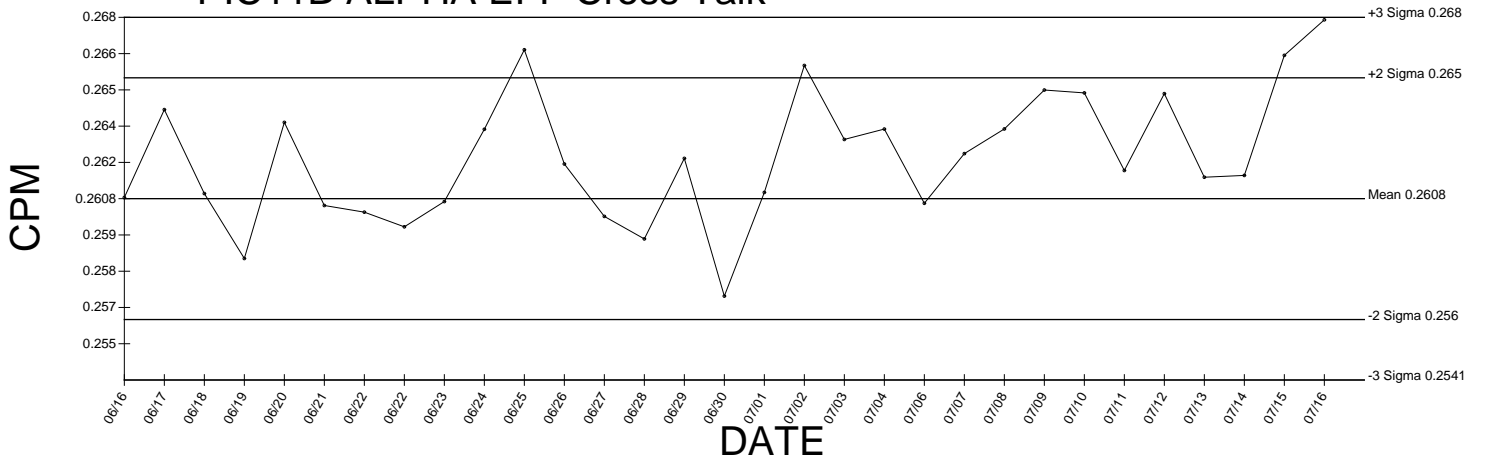
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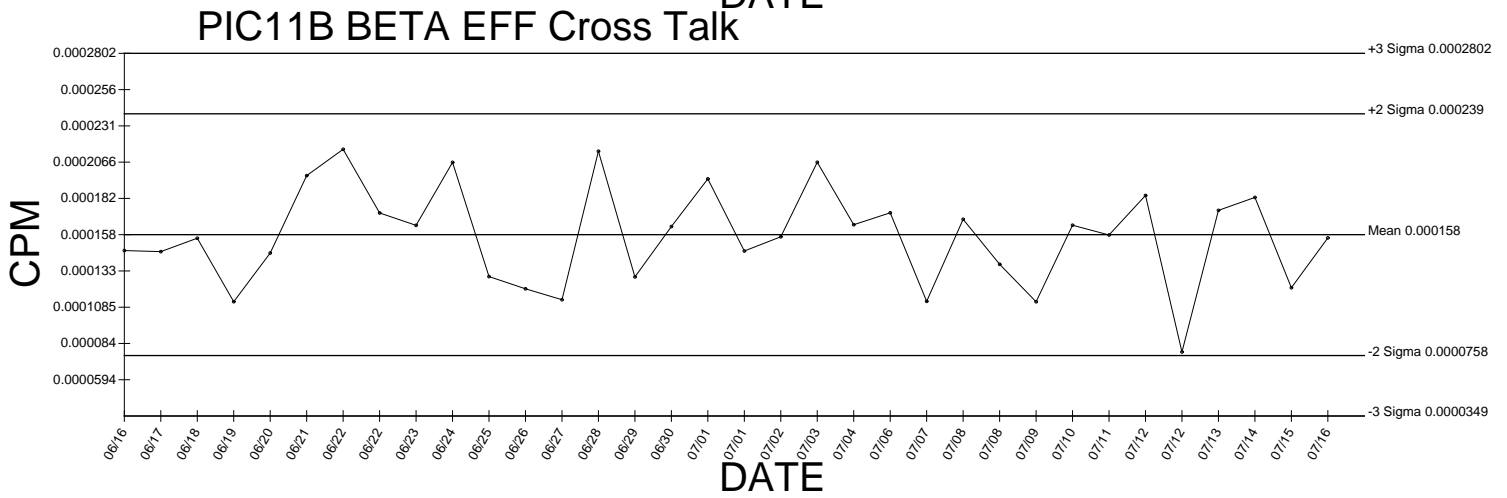
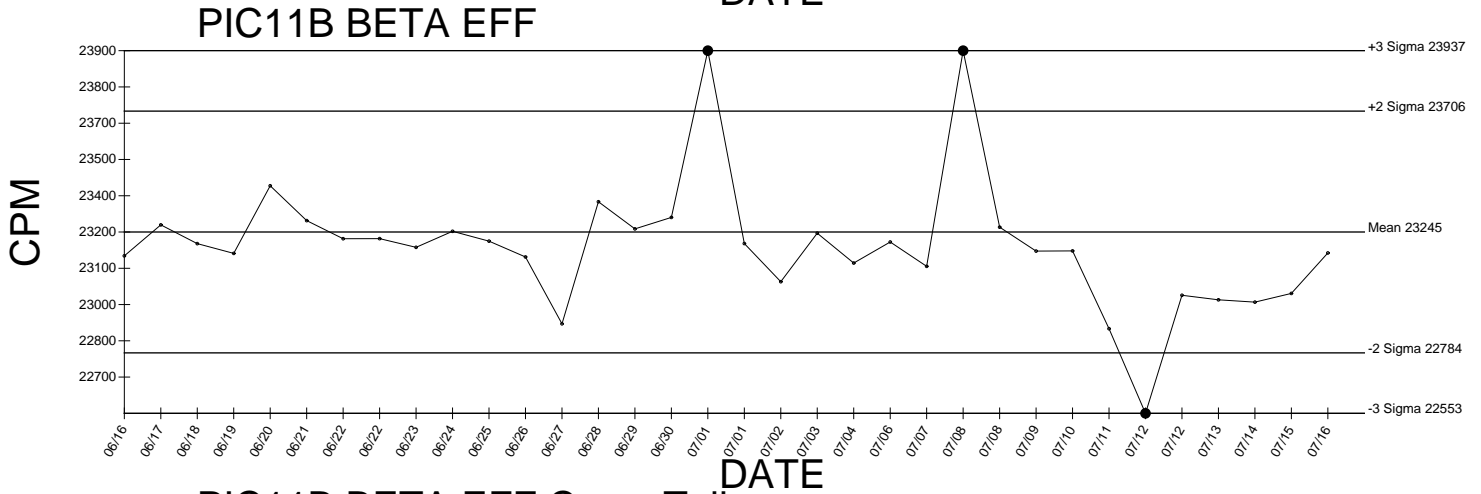
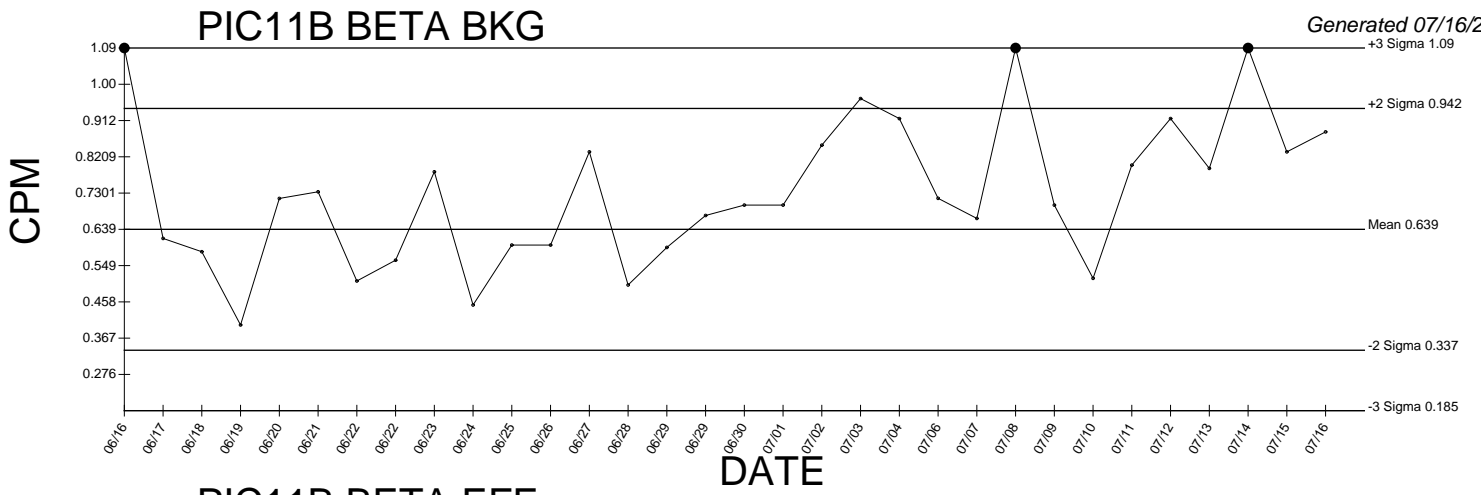
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PIC11B ALPHA EFF Cross Talk



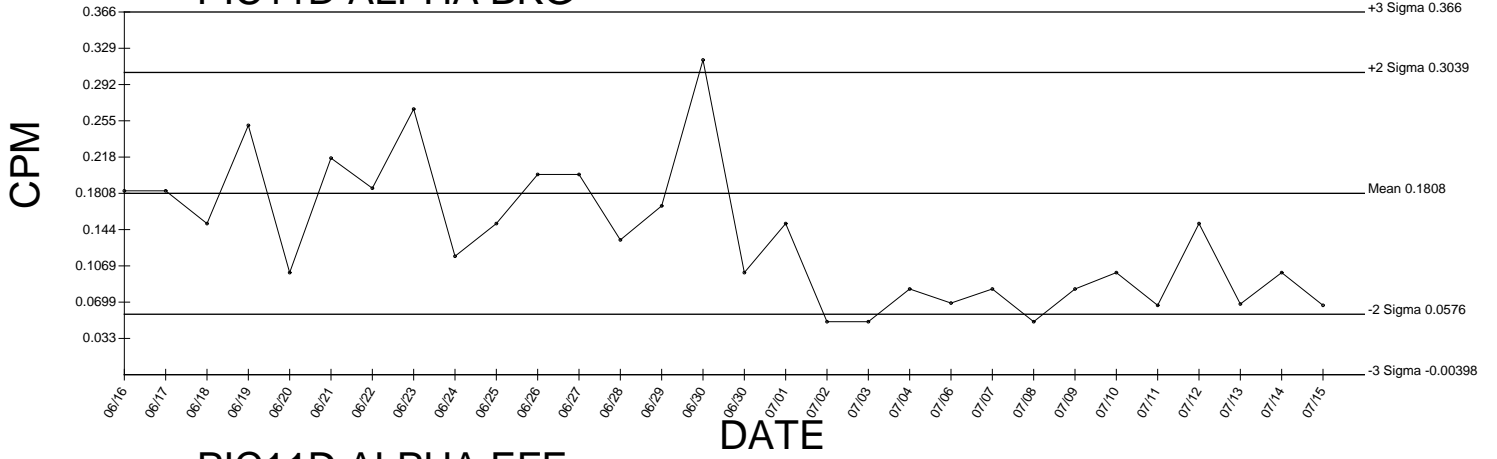
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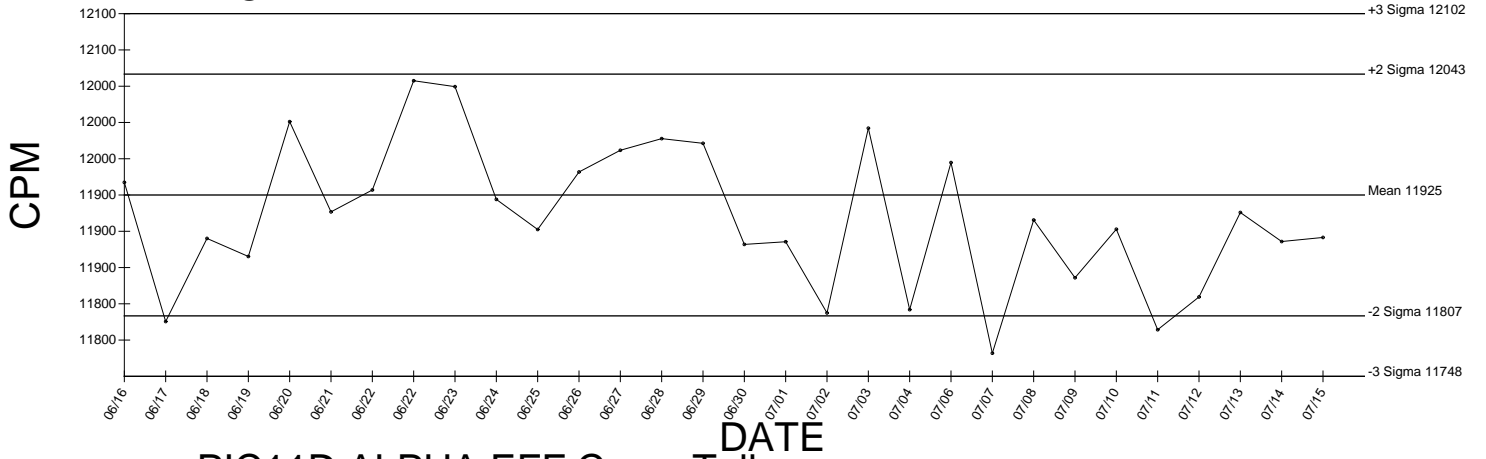
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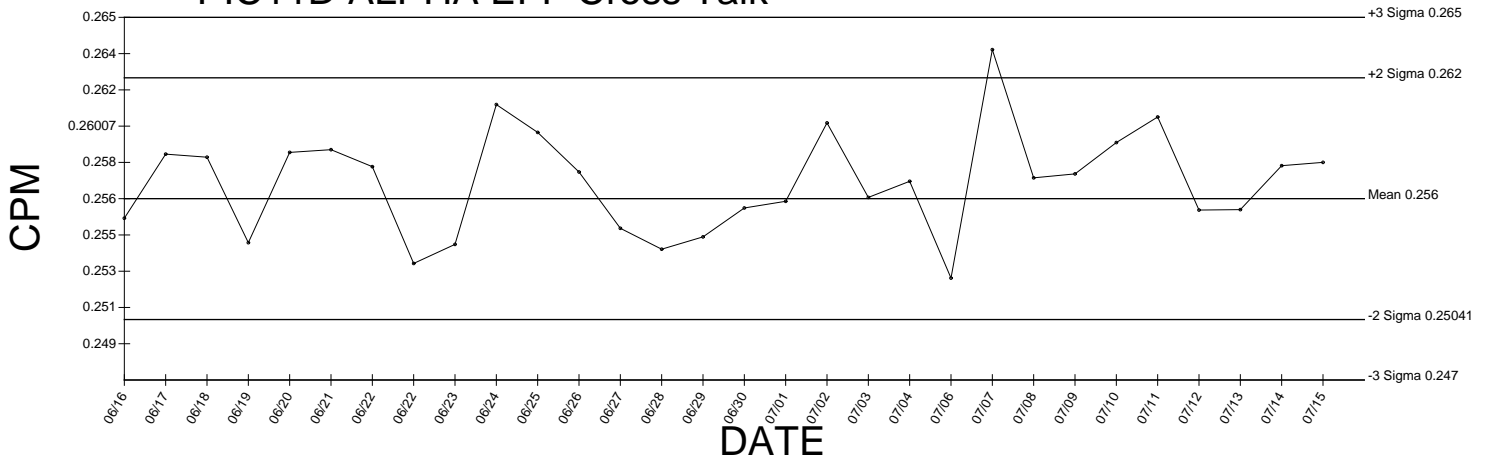
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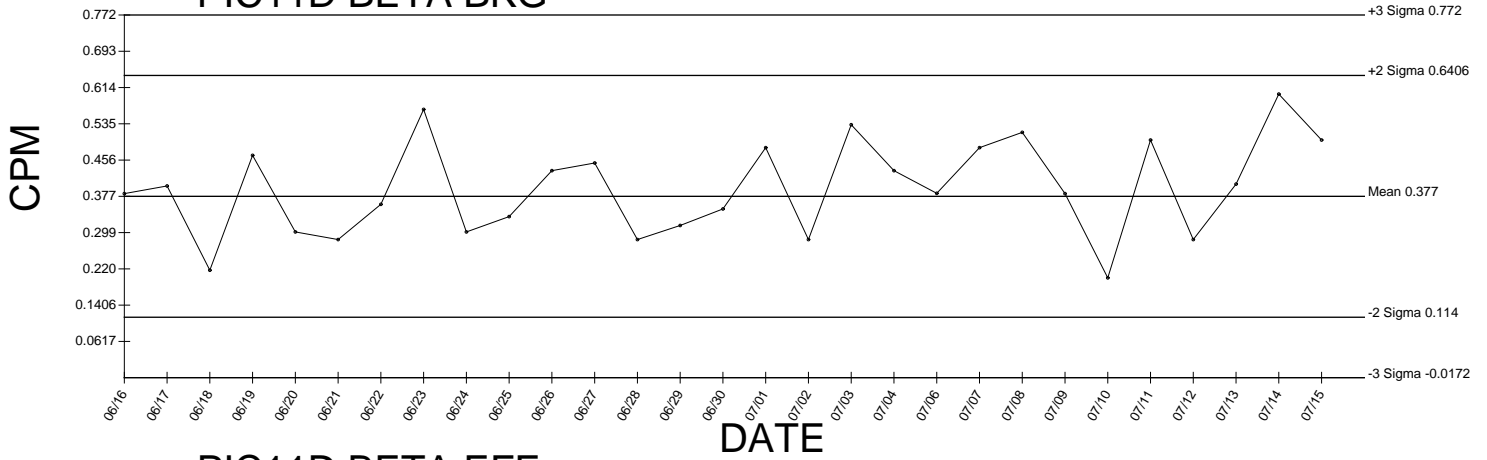


PIC11D ALPHA EFF Cross Talk

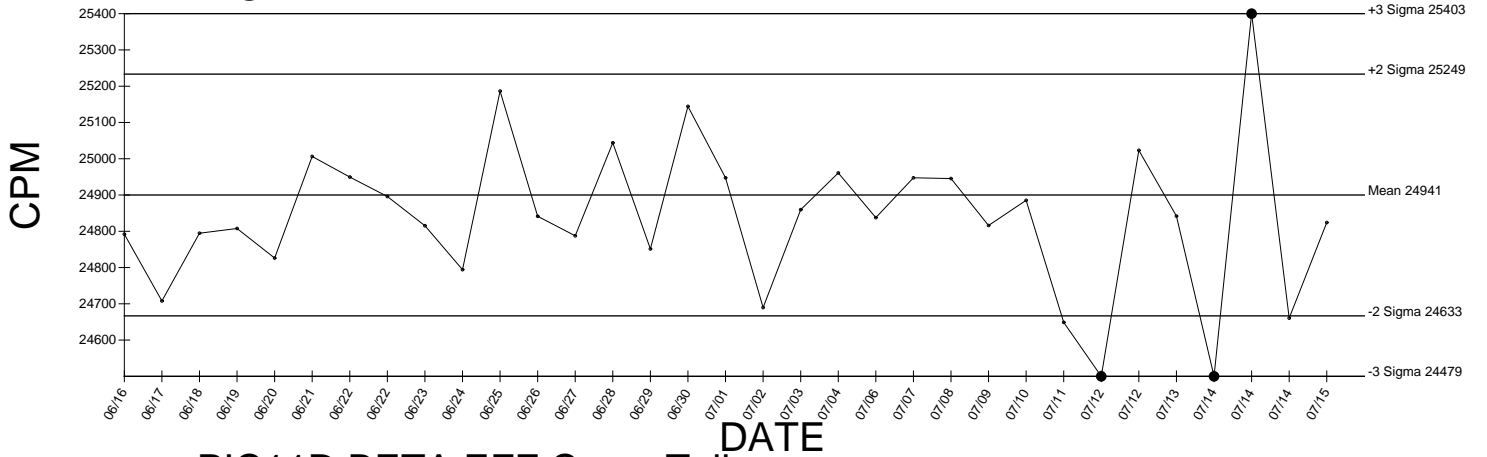


● Denotes Outlier

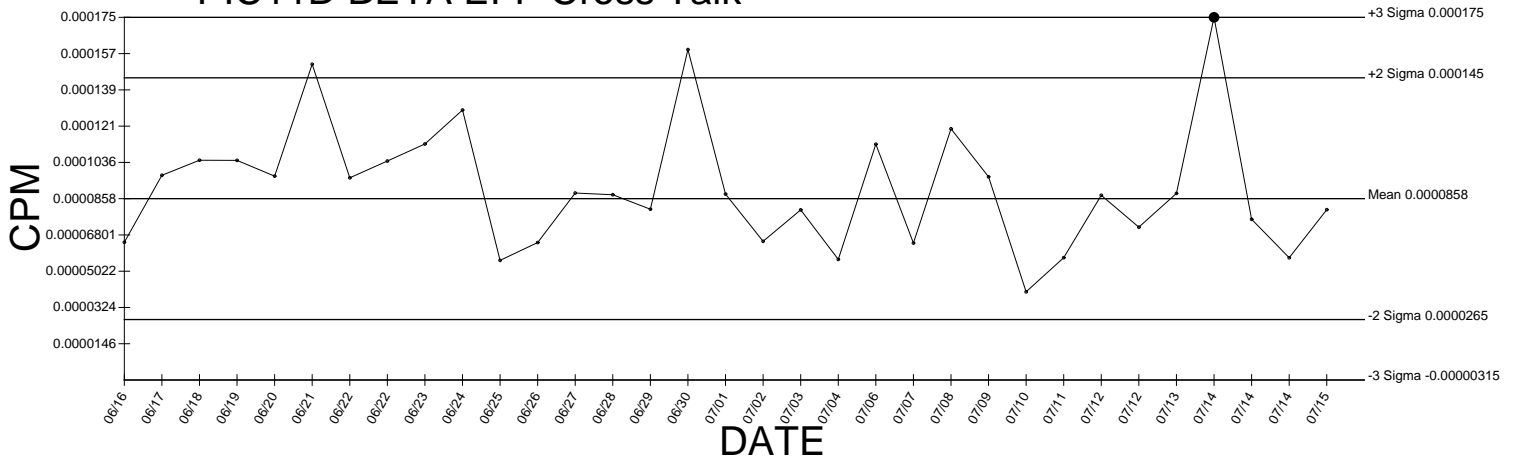
PIC11D BETA BKG



PIC11D BETA EFF

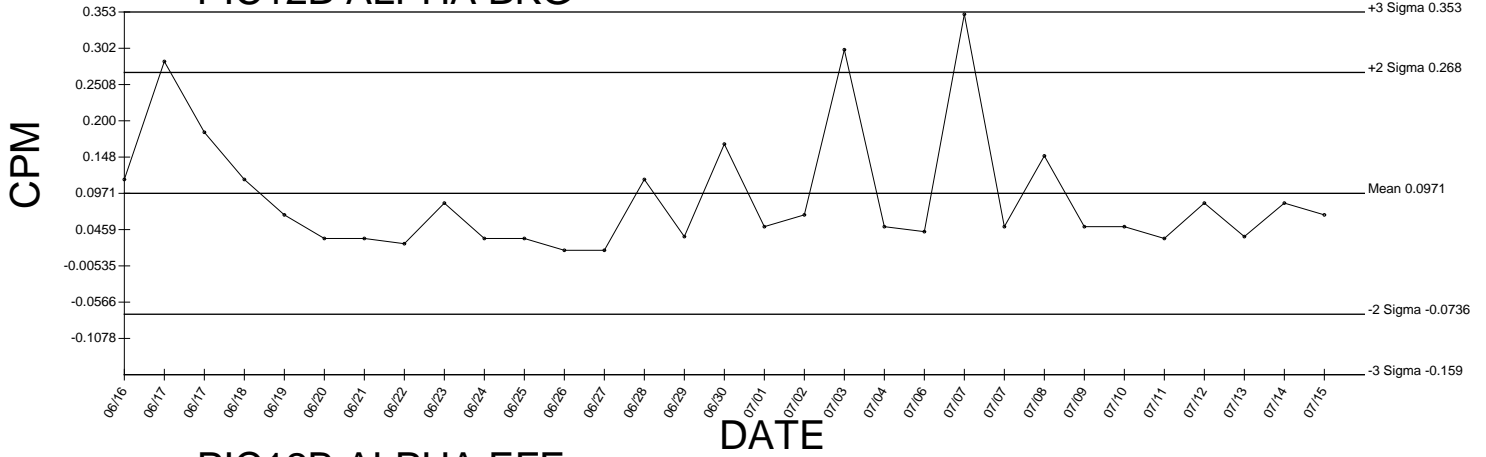


PIC11D BETA EFF Cross Talk

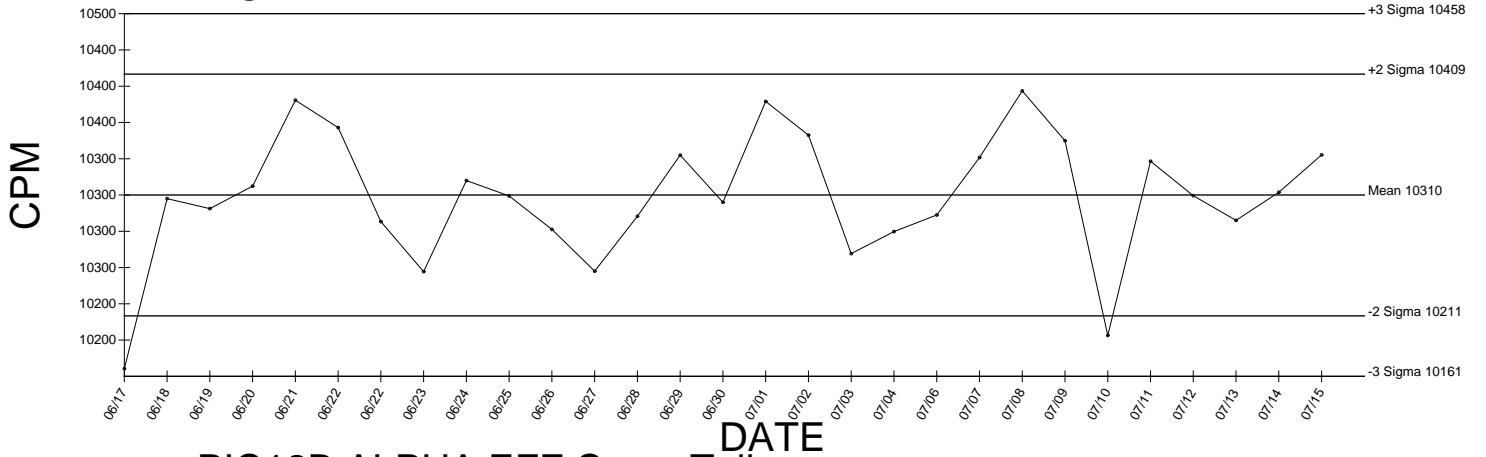


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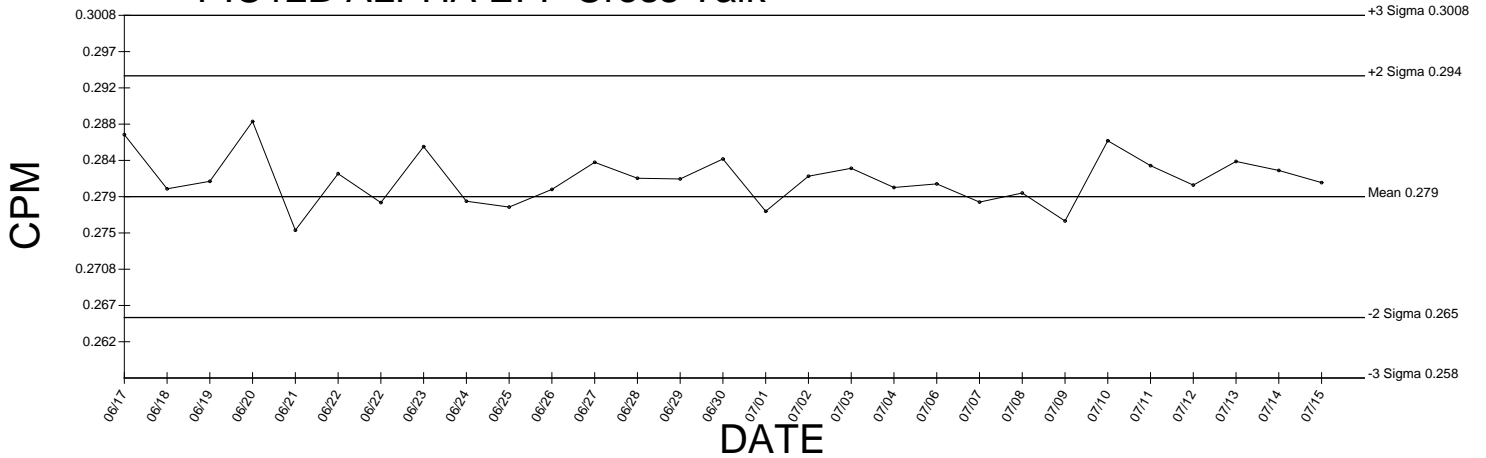
PIC12B ALPHA BKG



PIC12B ALPHA EFF

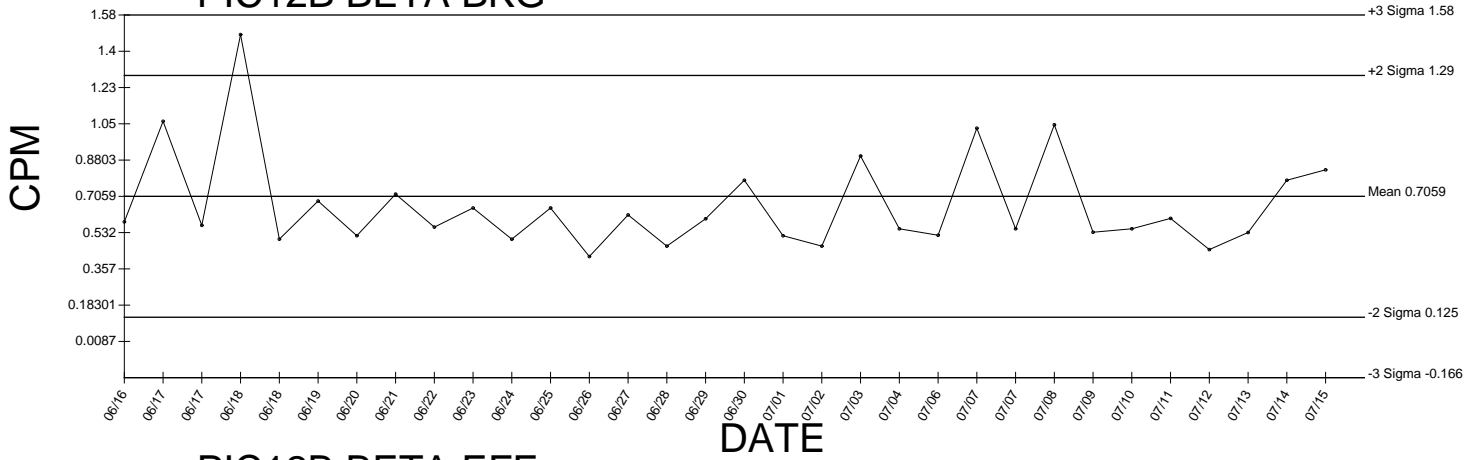


PIC12B ALPHA EFF Cross Talk

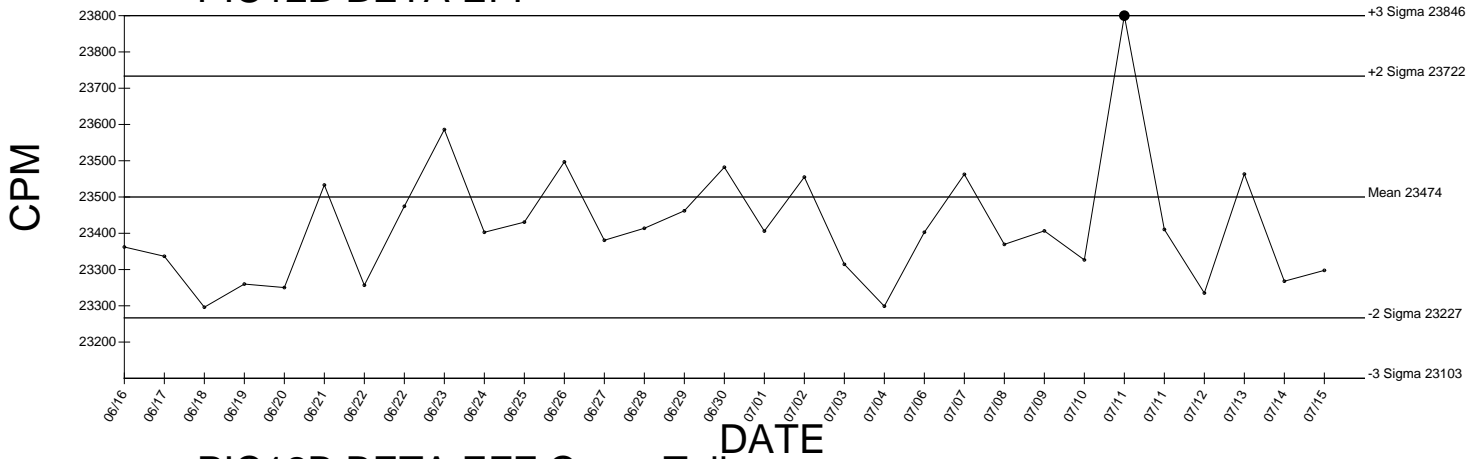


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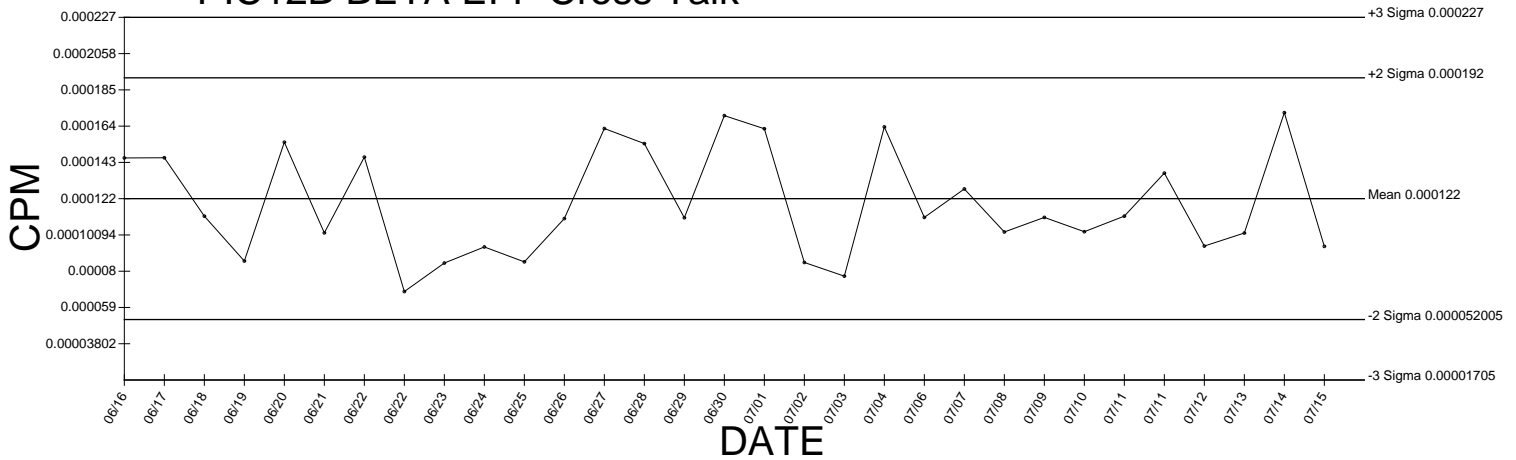
PIC12B BETA BKG



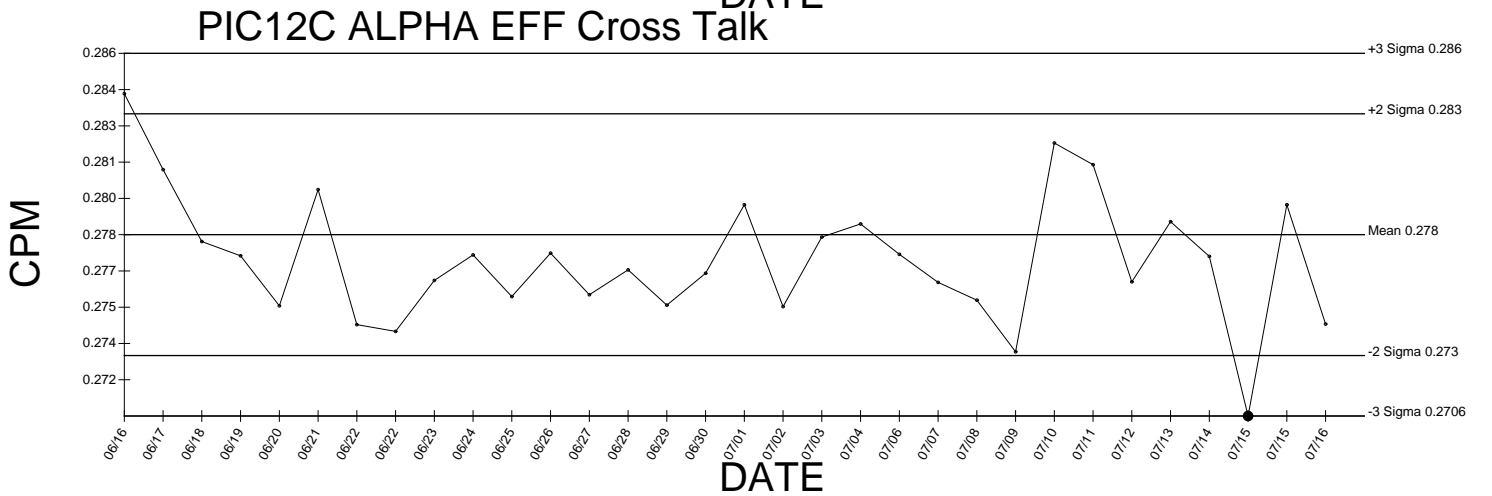
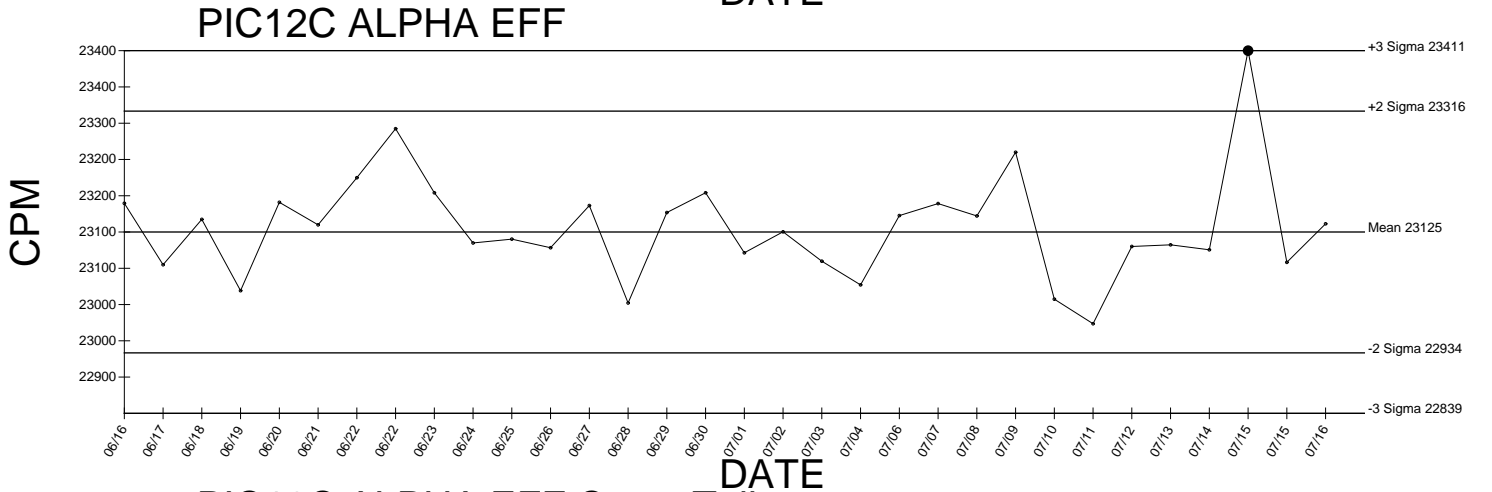
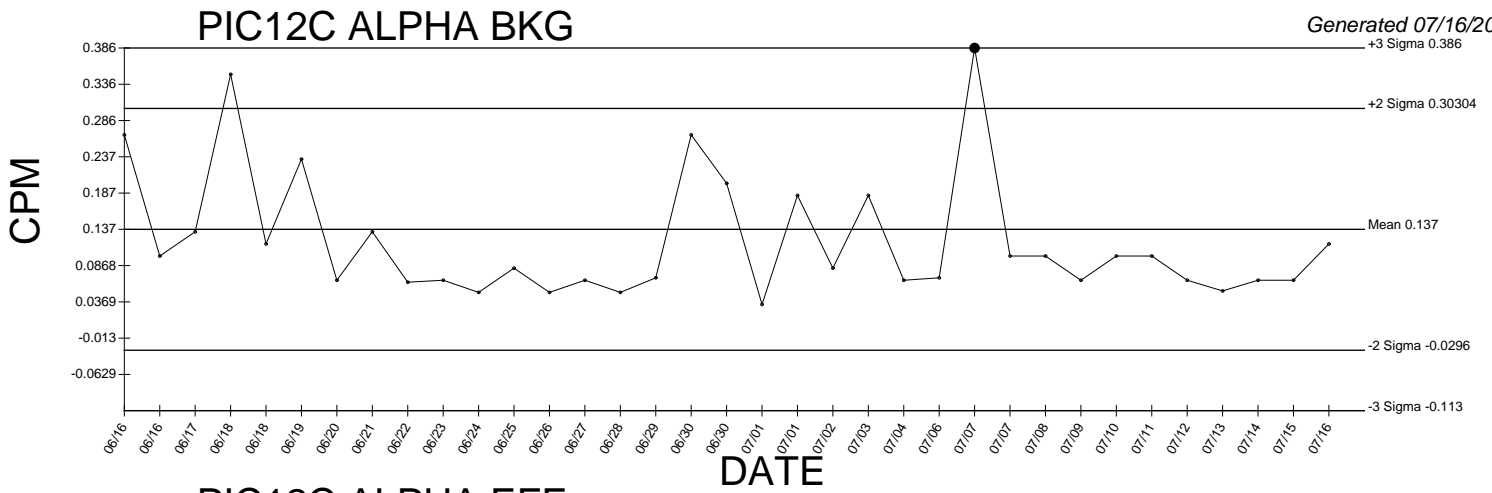
PIC12B BETA EFF



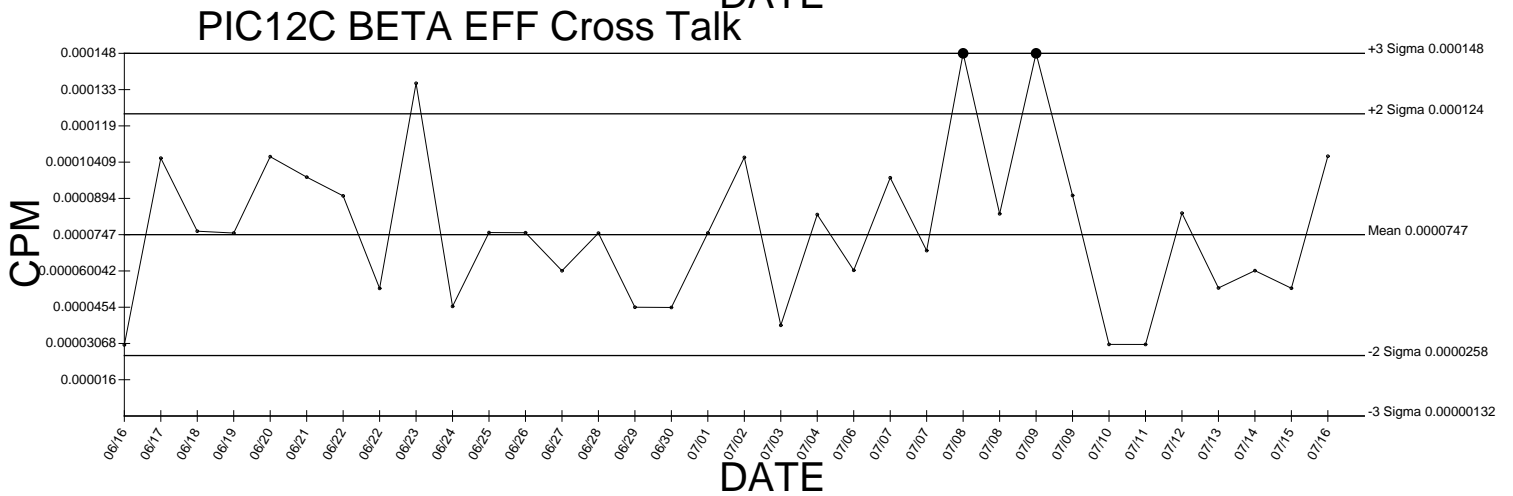
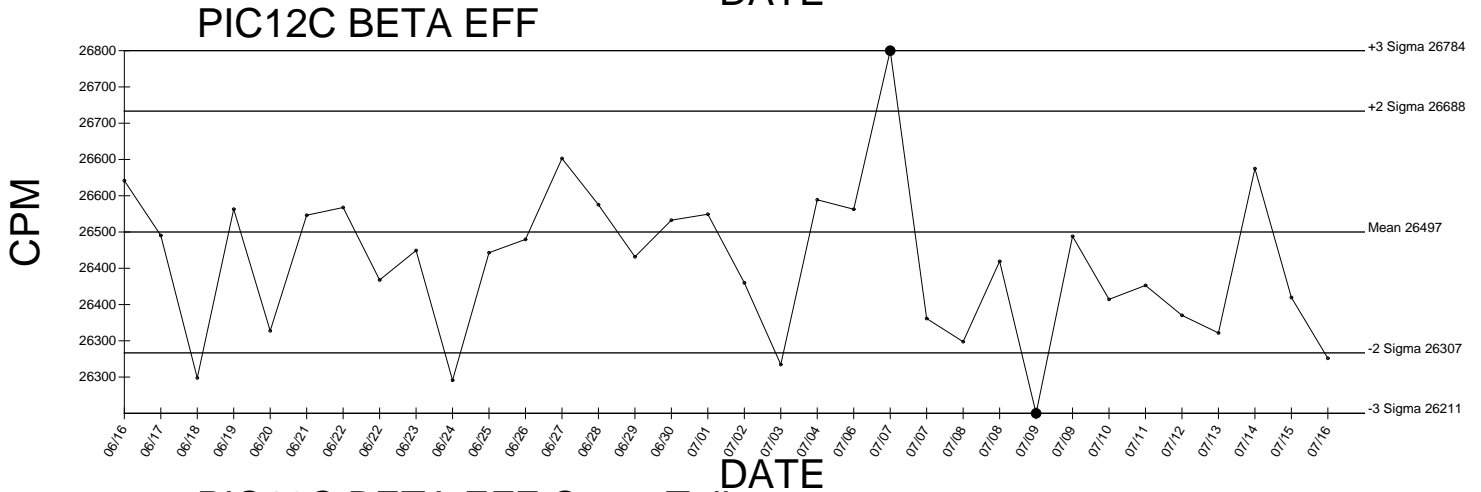
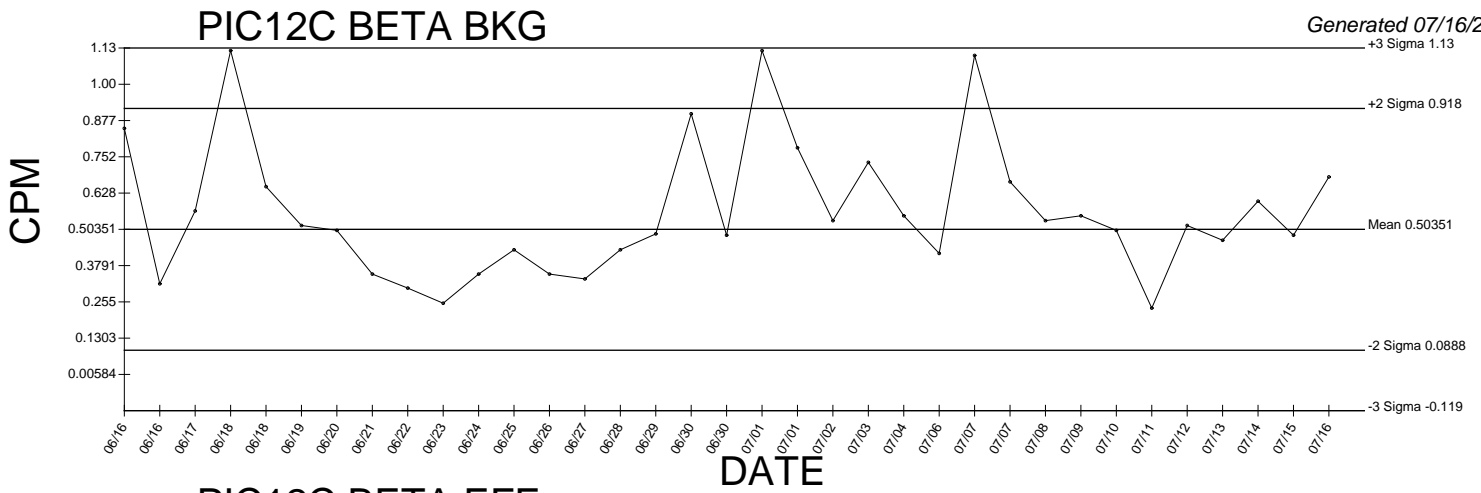
PIC12B BETA EFF Cross Talk



● Denotes Outlier

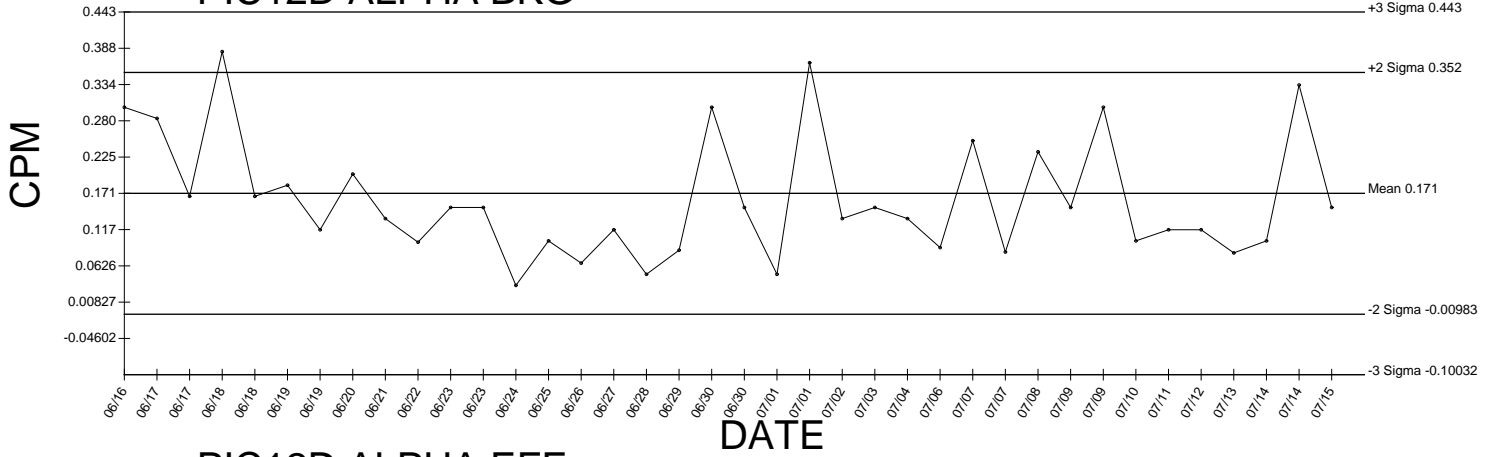


● Denotes Outlier

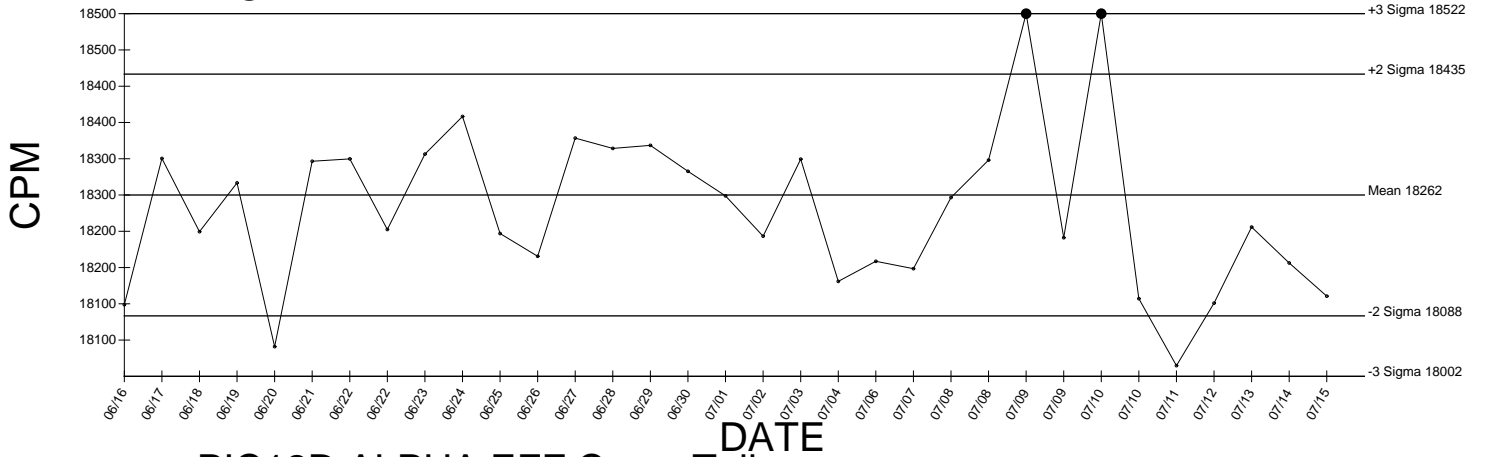


● Denotes Outlier

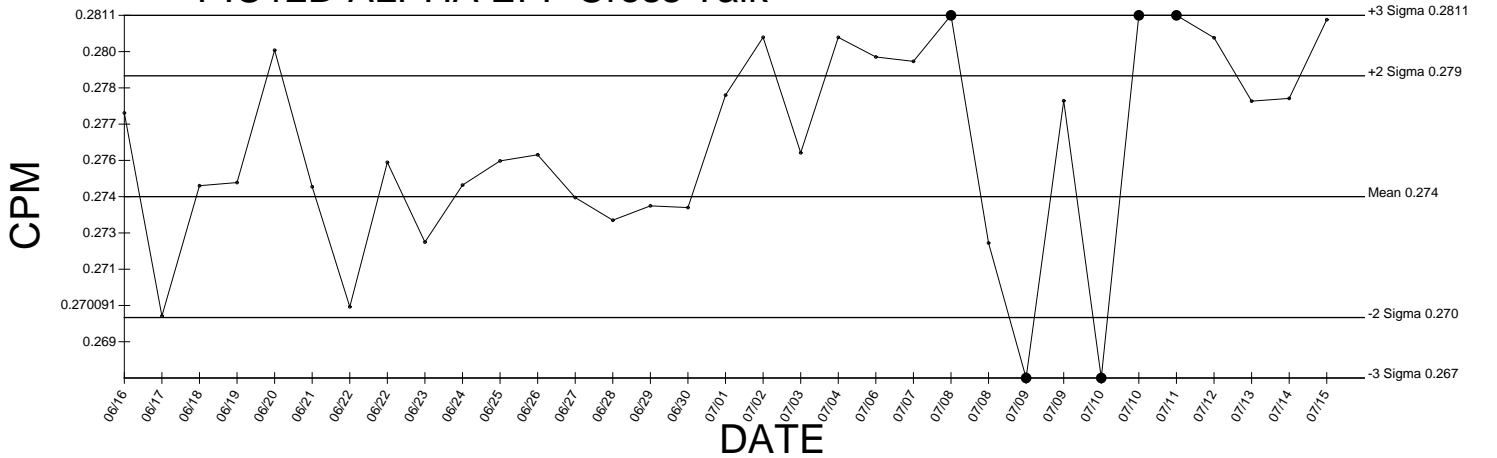
PIC12D ALPHA BKG



PIC12D ALPHA EFF

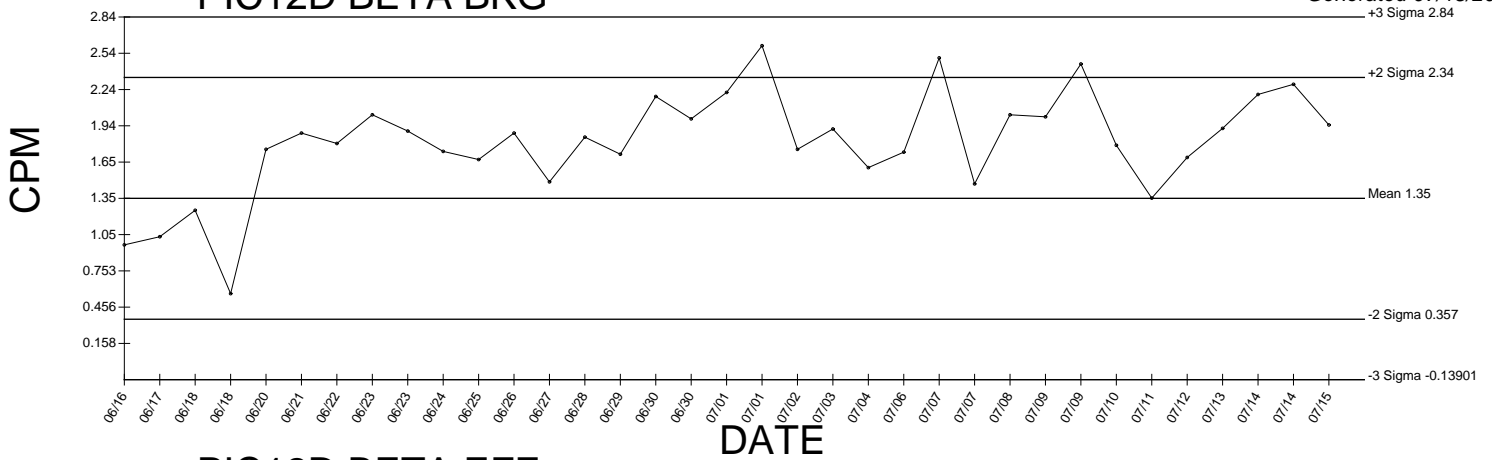


PIC12D ALPHA EFF Cross Talk

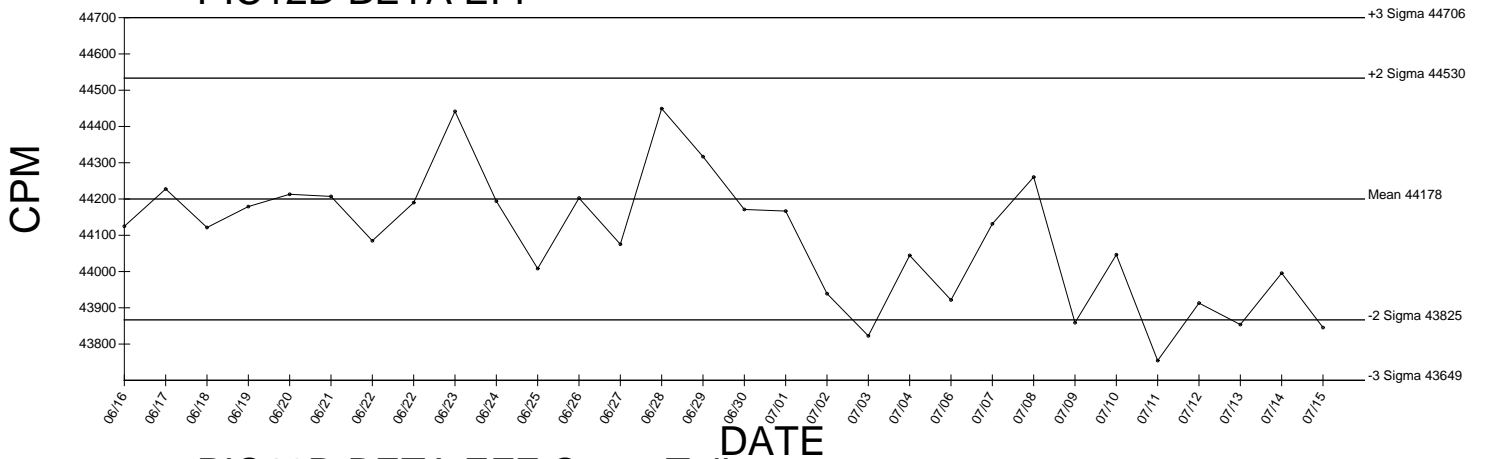


● Denotes Outlier

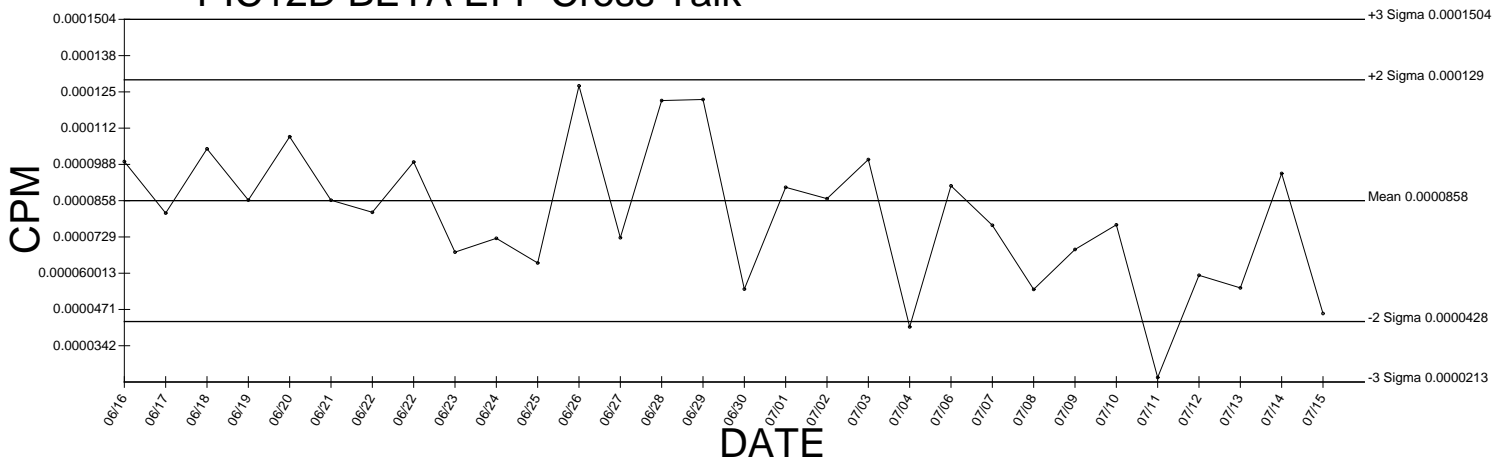
PIC12D BETA BKG



PIC12D BETA EFF



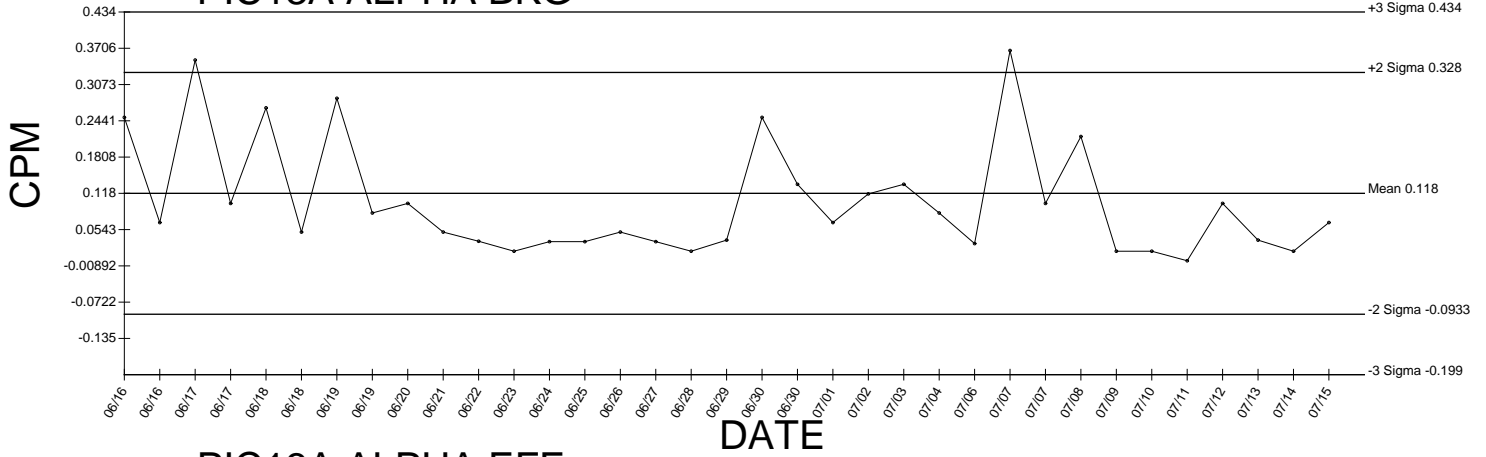
PIC12D BETA EFF Cross Talk



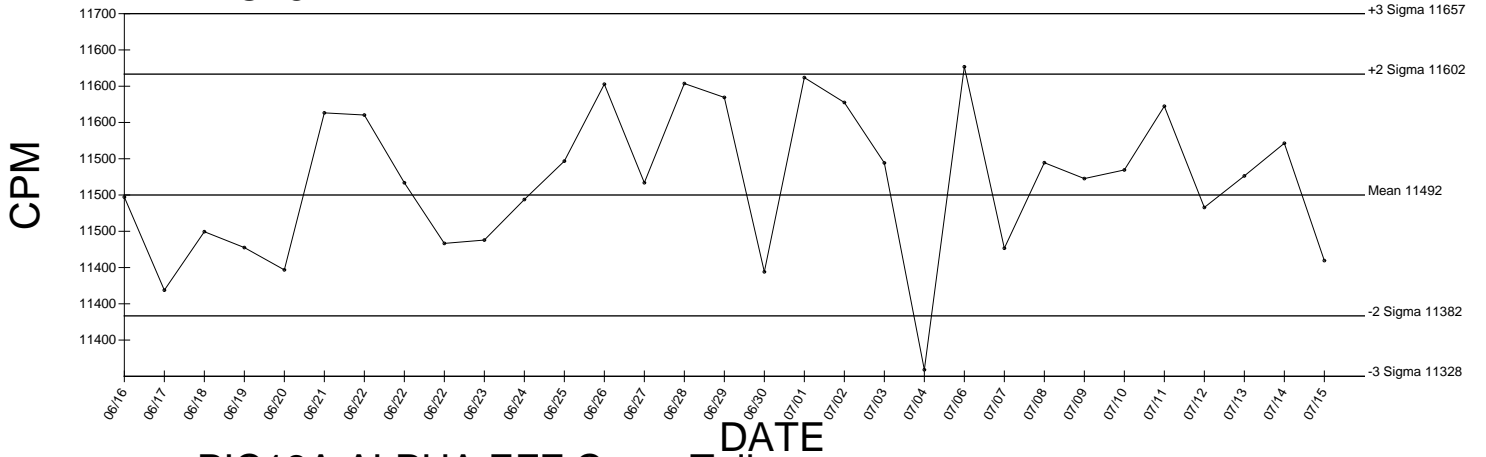
● Denotes Outlier

PIC13A ALPHA BKG

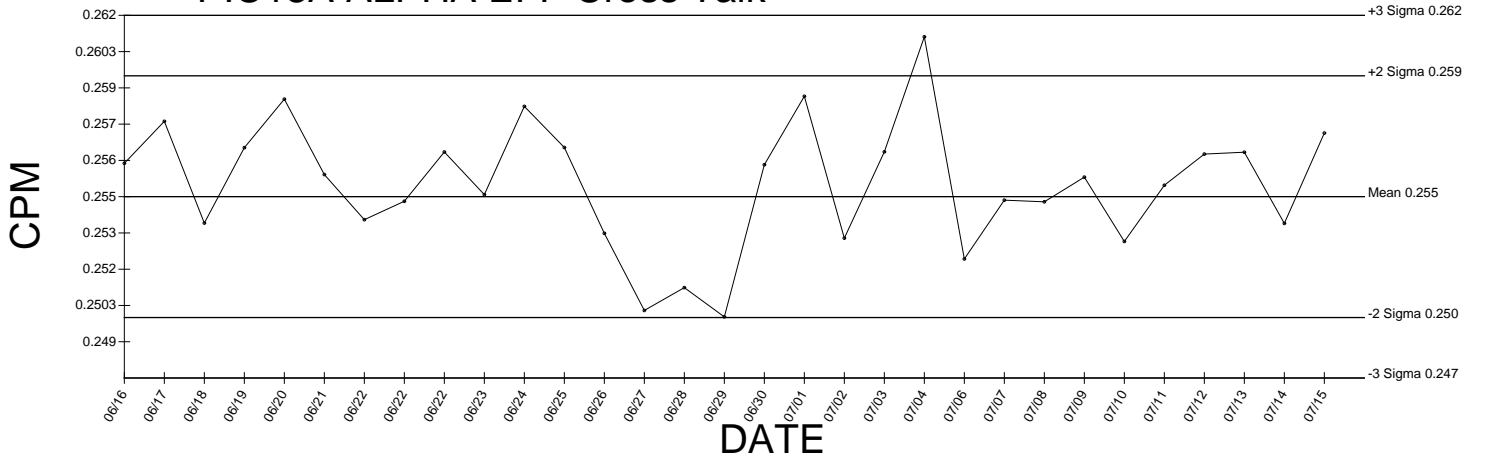
Generated 07/15/2009



PIC13A ALPHA EFF

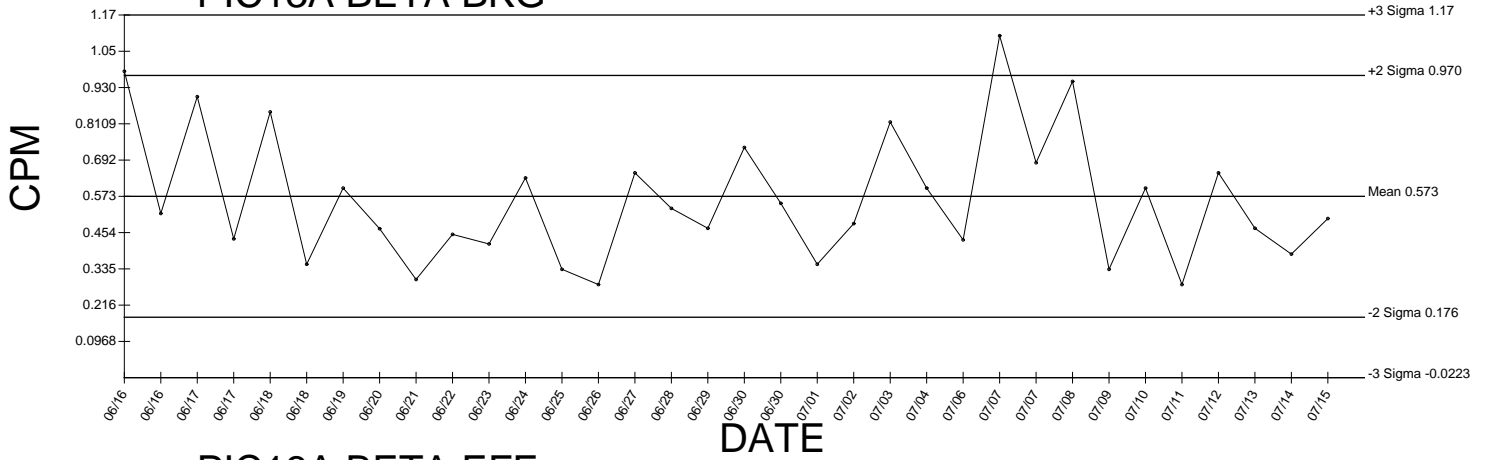


PIC13A ALPHA EFF Cross Talk

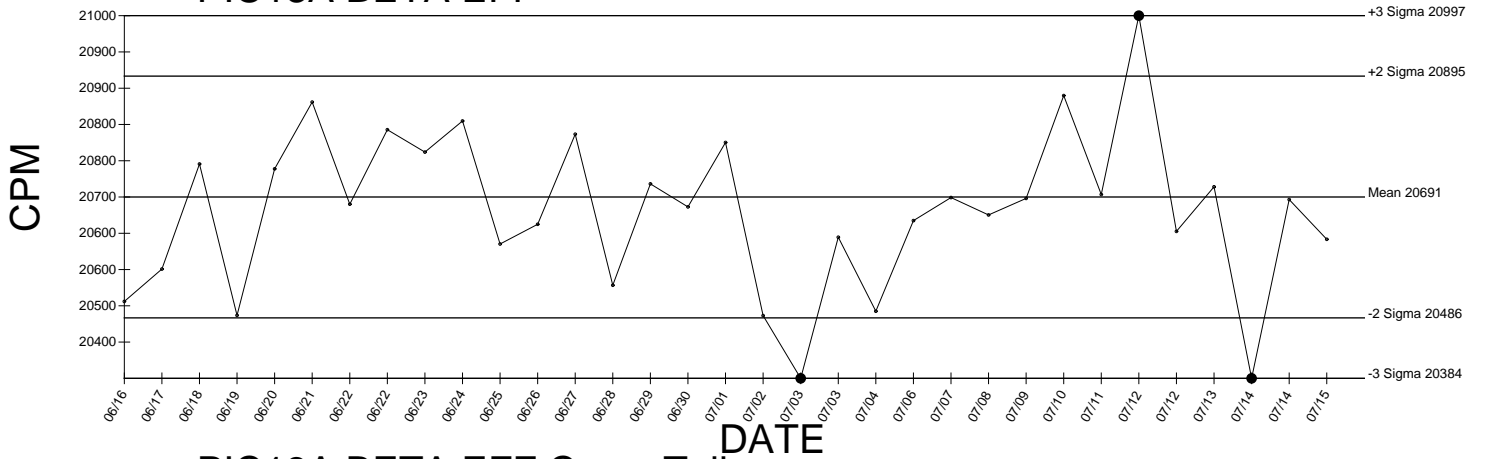


● Denotes Outlier

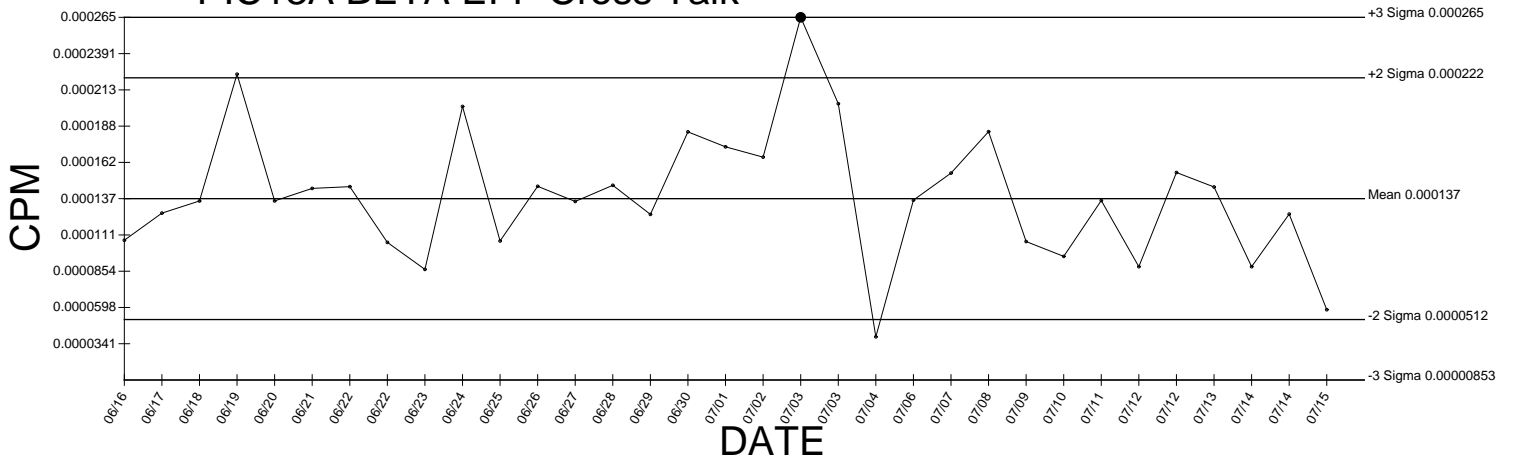
PIC13A BETA BKG



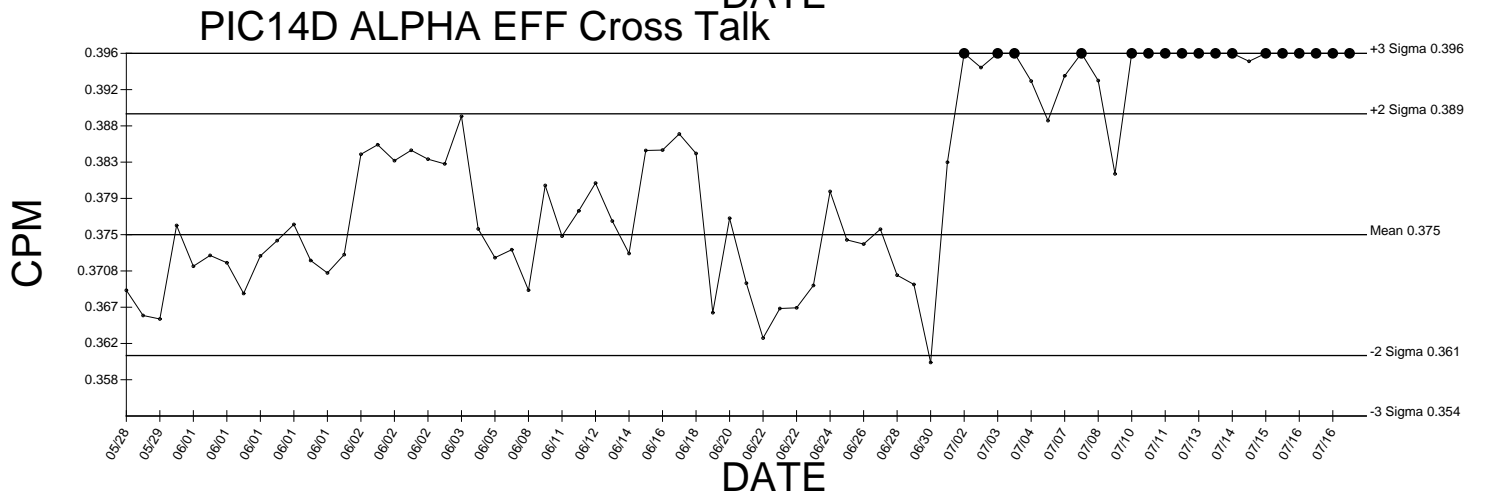
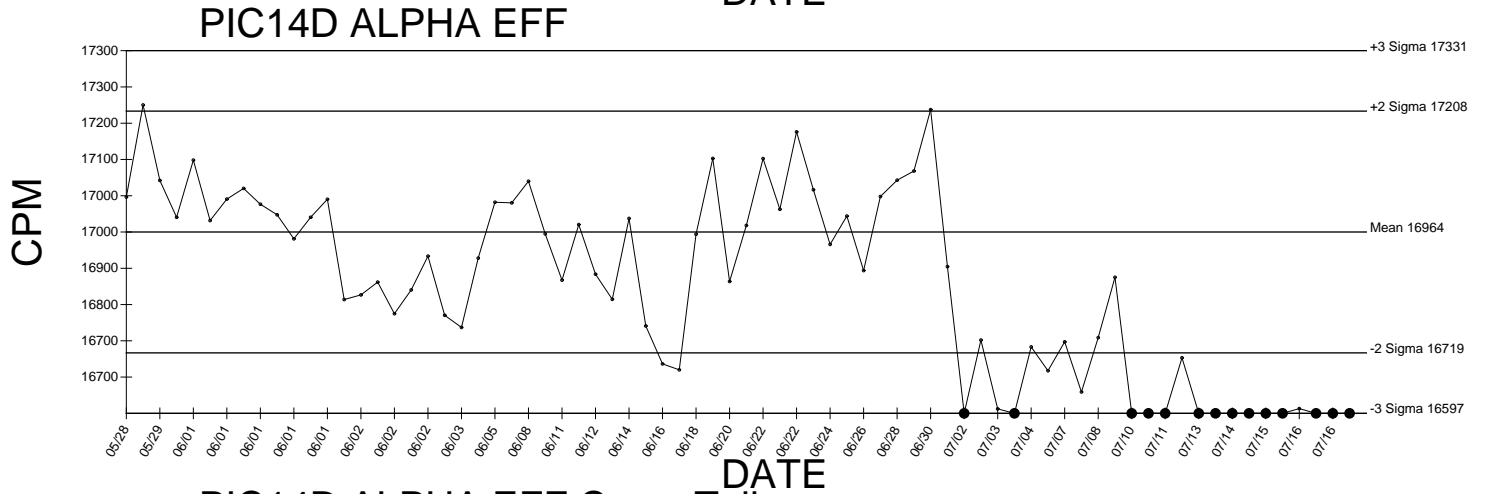
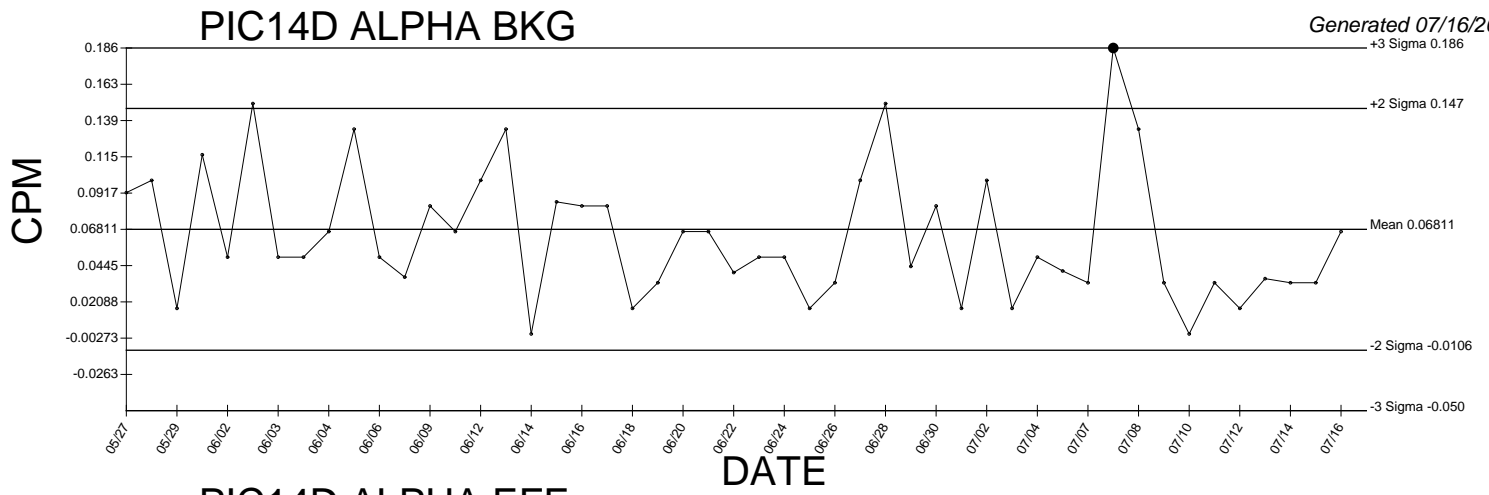
PIC13A BETA EFF



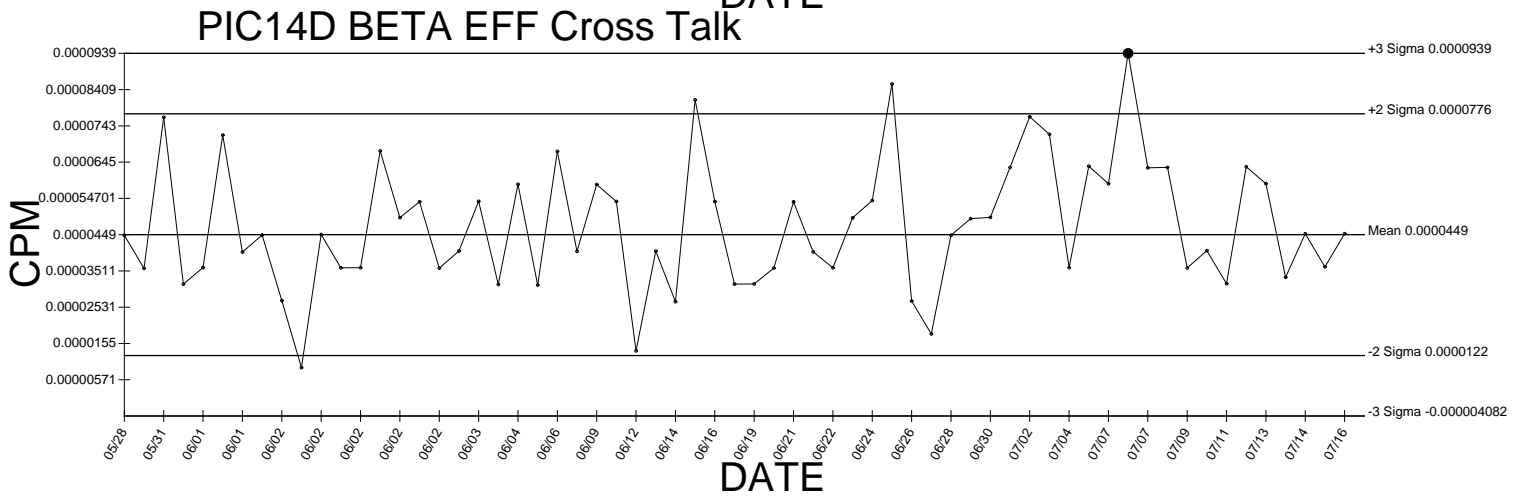
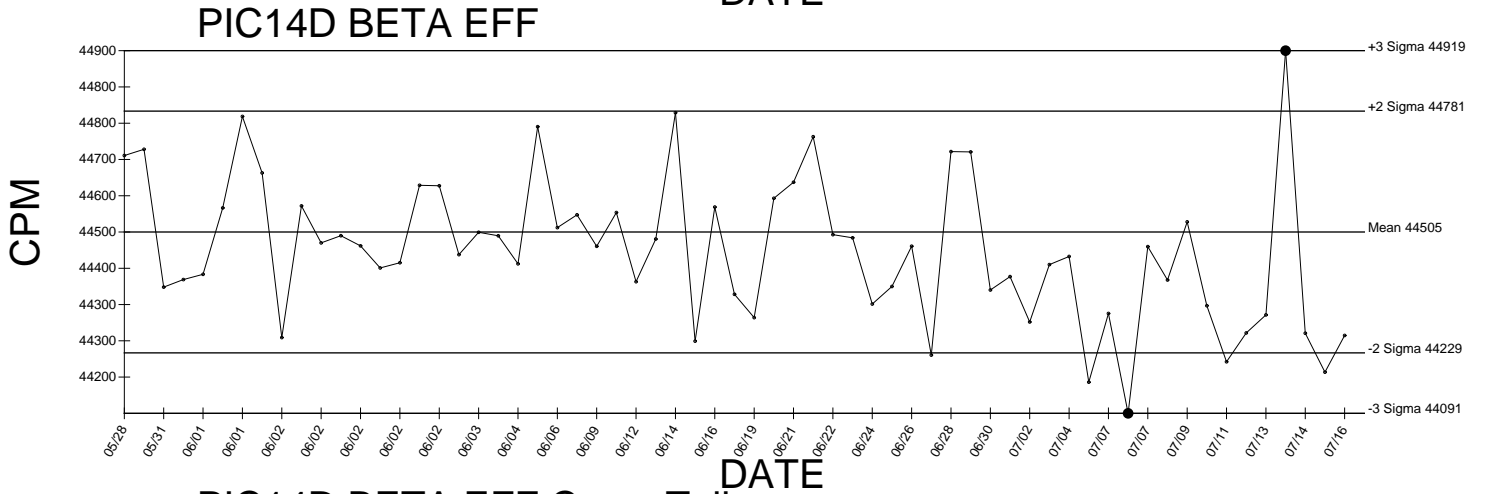
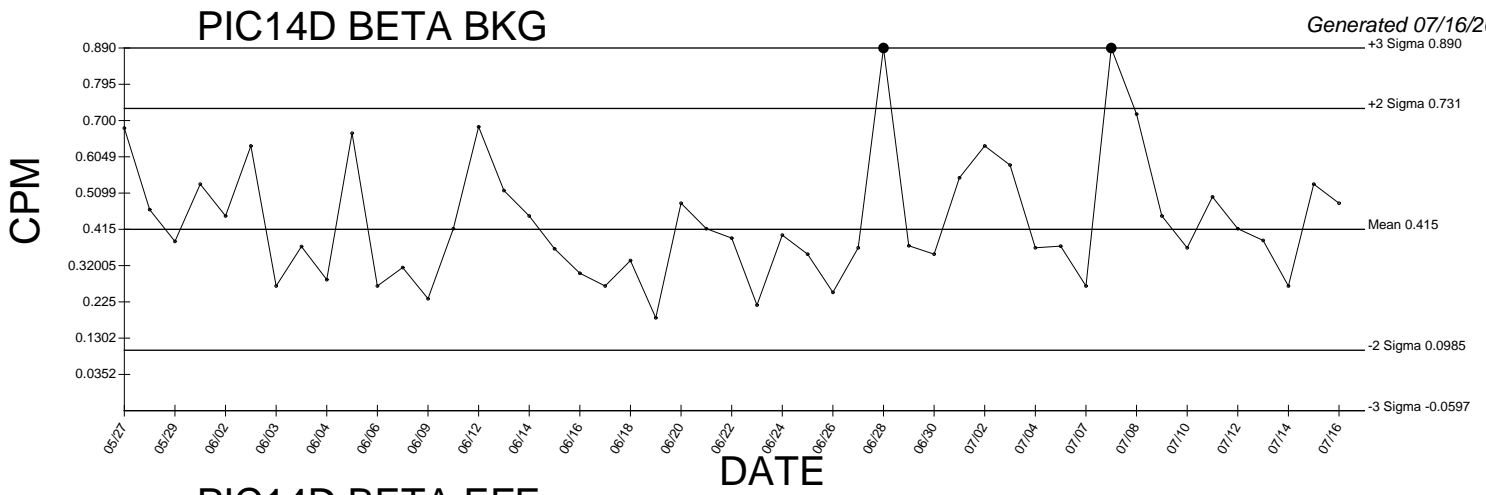
PIC13A BETA EFF Cross Talk



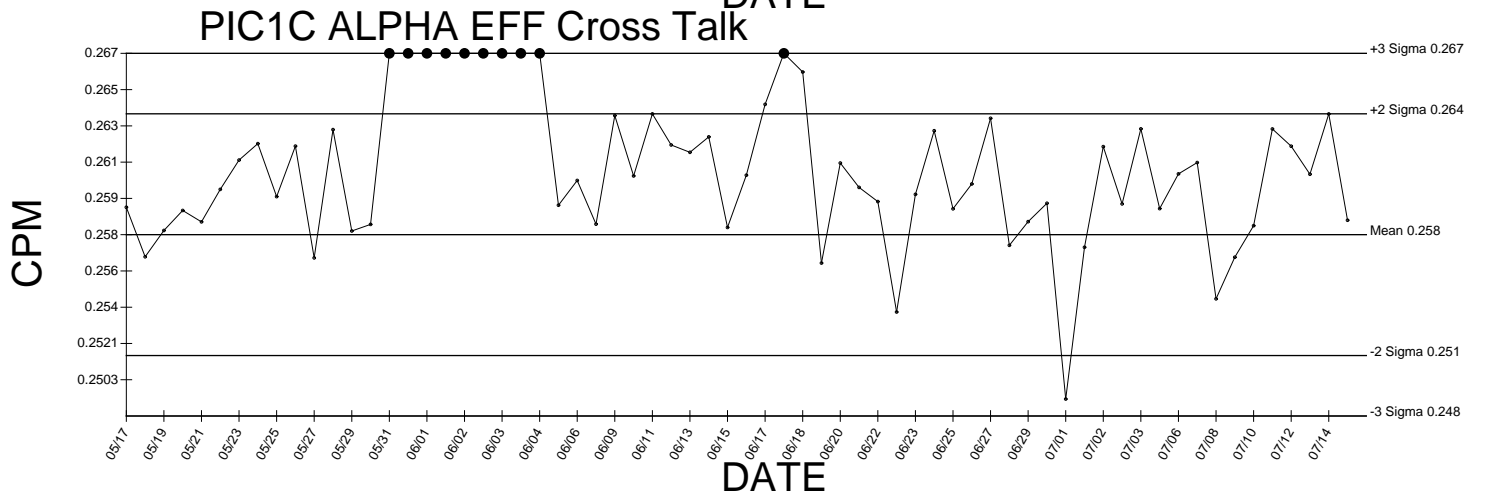
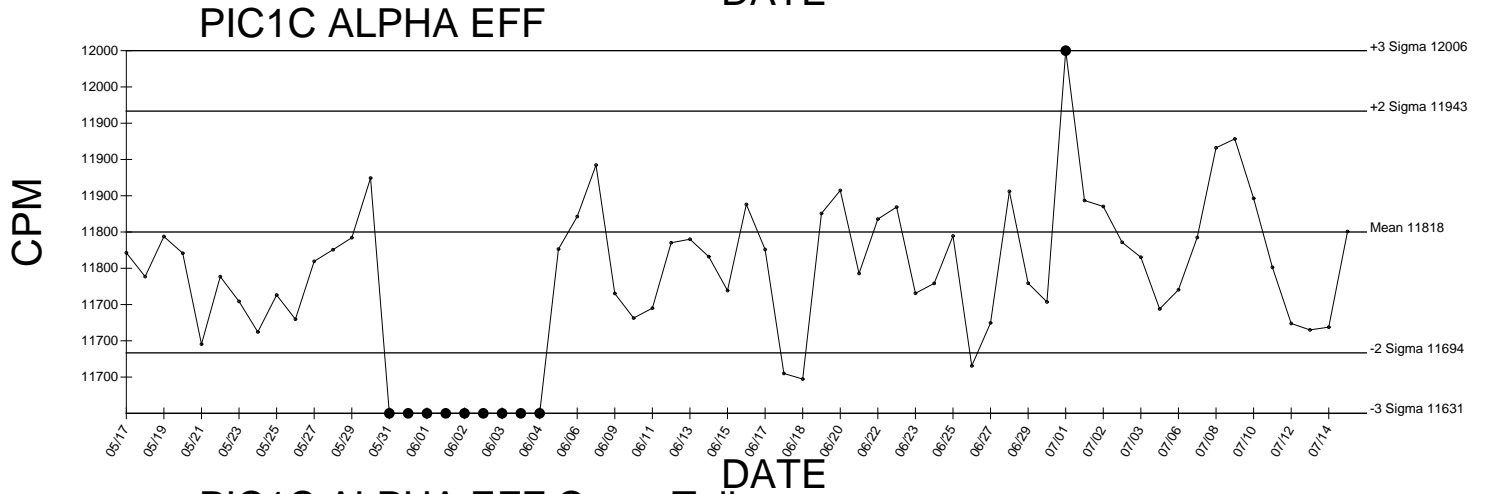
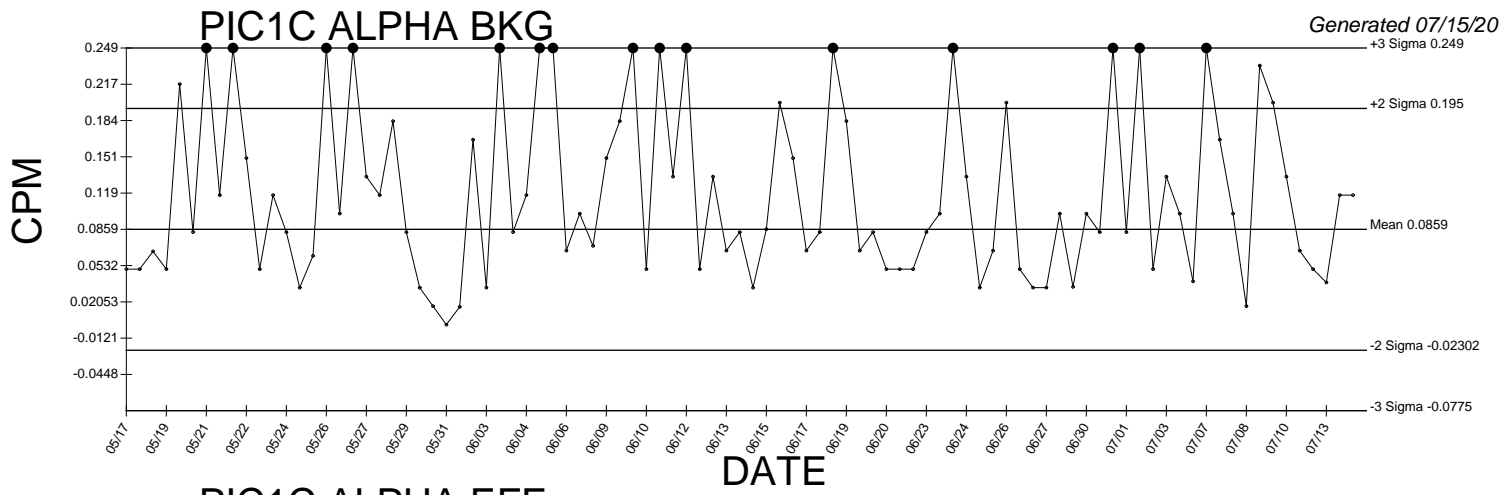
● Denotes Outlier



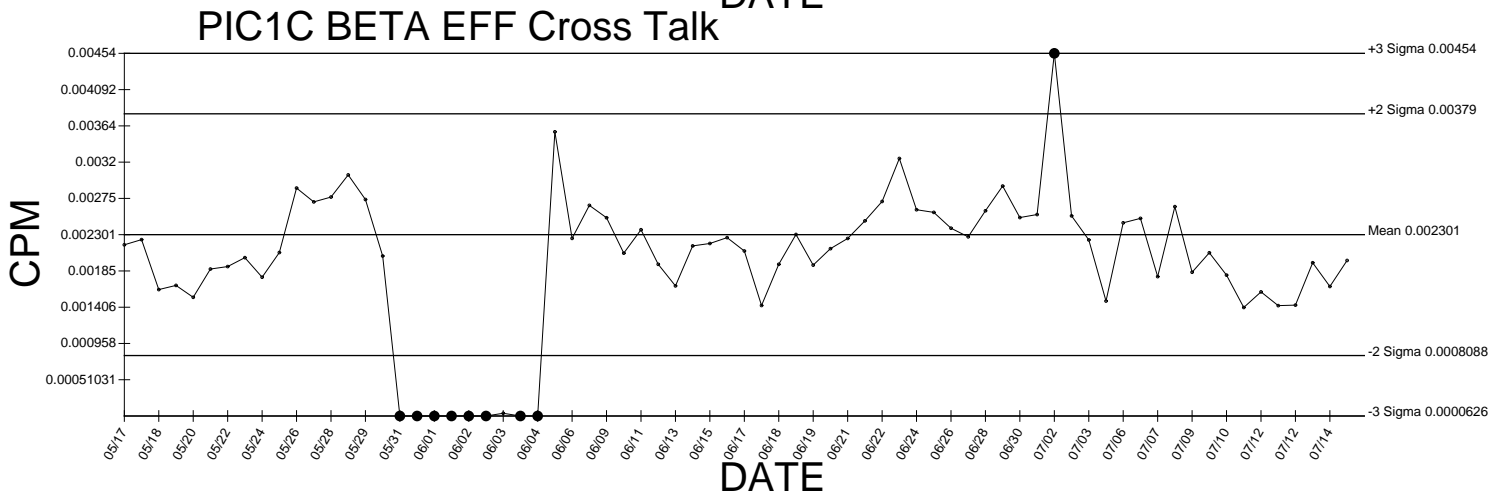
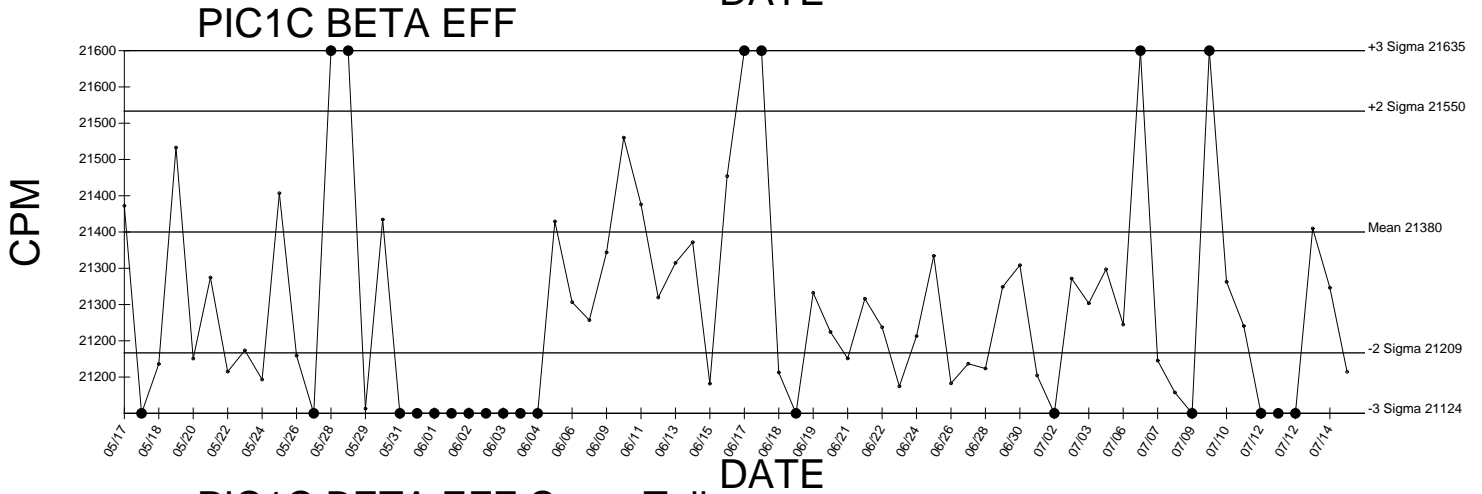
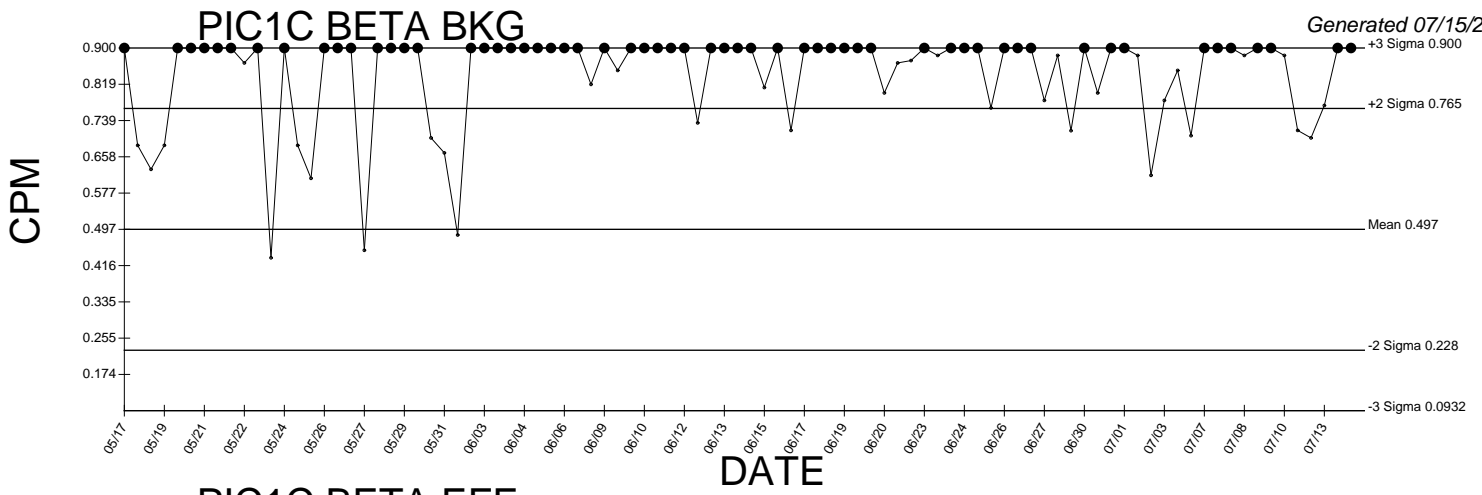
● Denotes Outlier



● Denotes Outlier



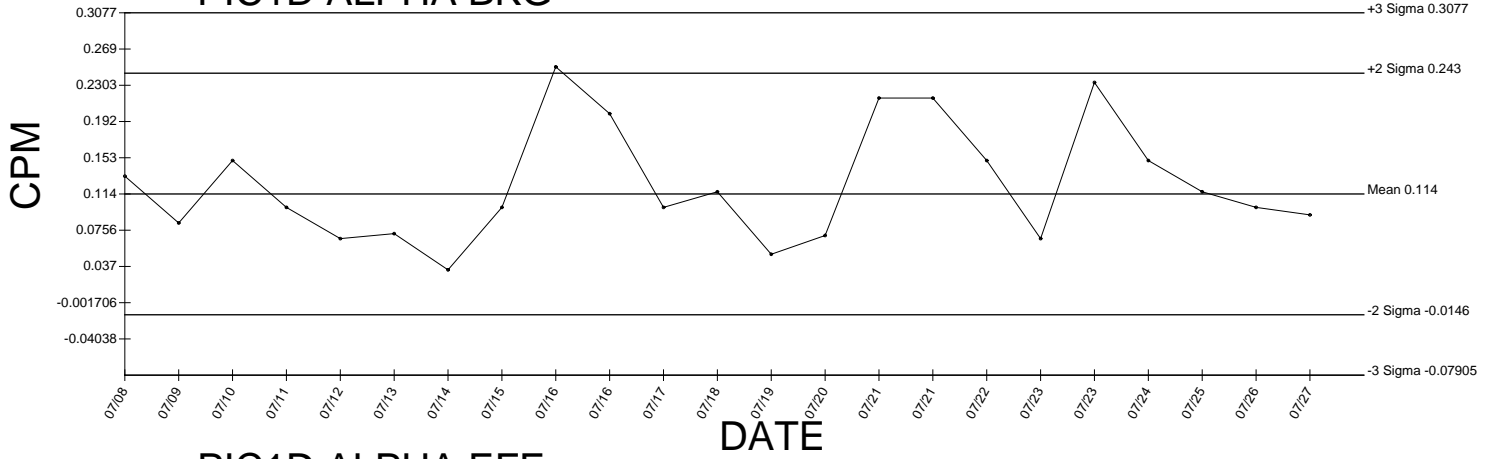
● Denotes Outlier



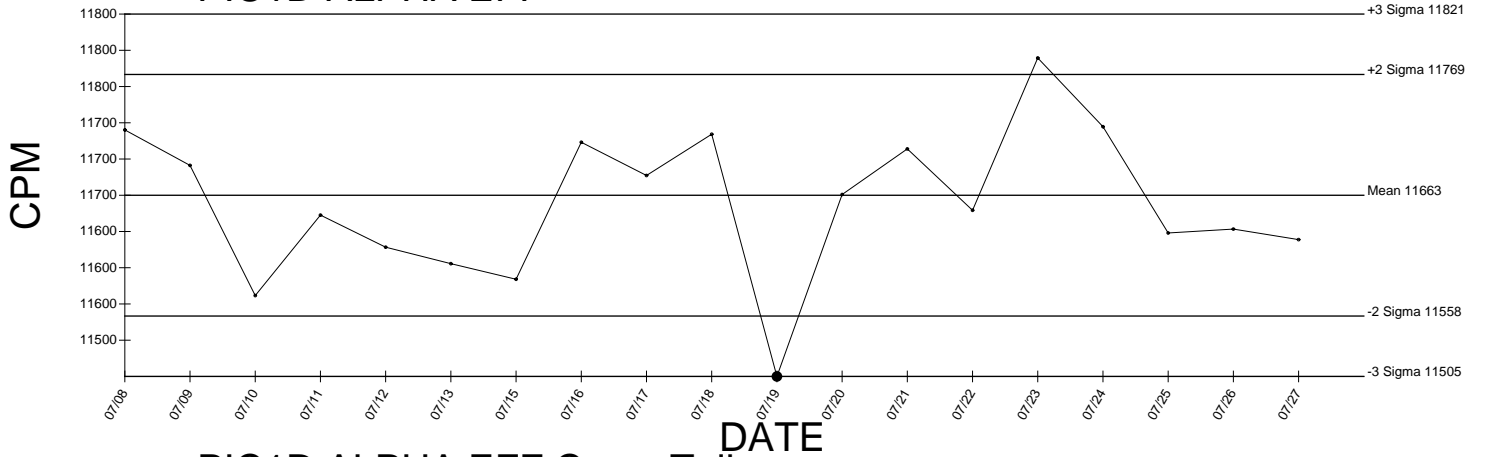
● Denotes Outlier

PIC1D ALPHA BKG

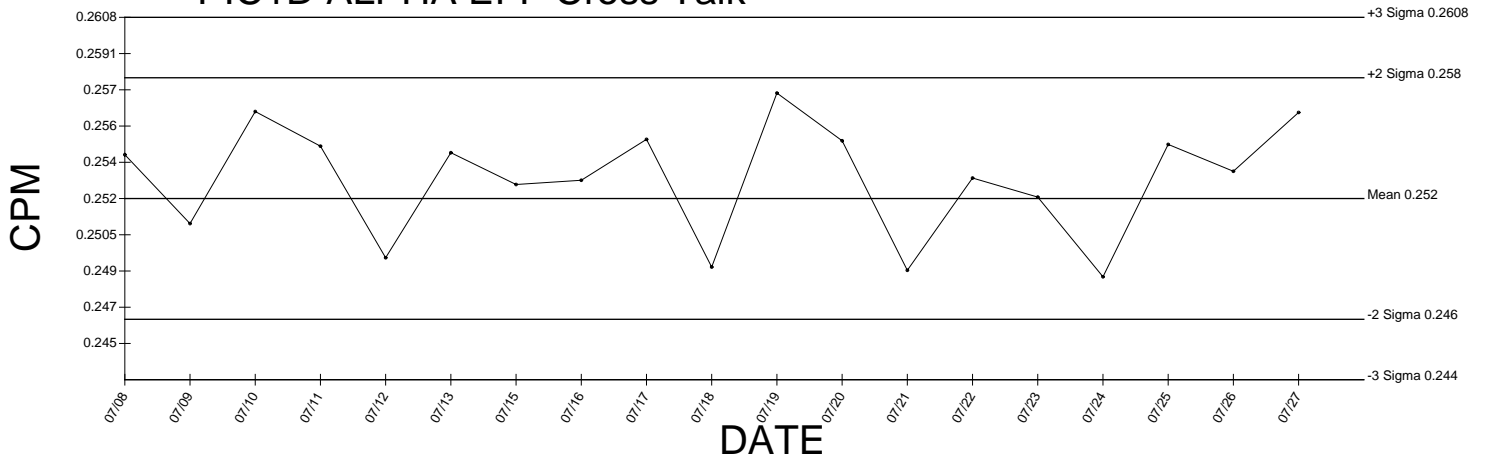
Generated 07/27/2009



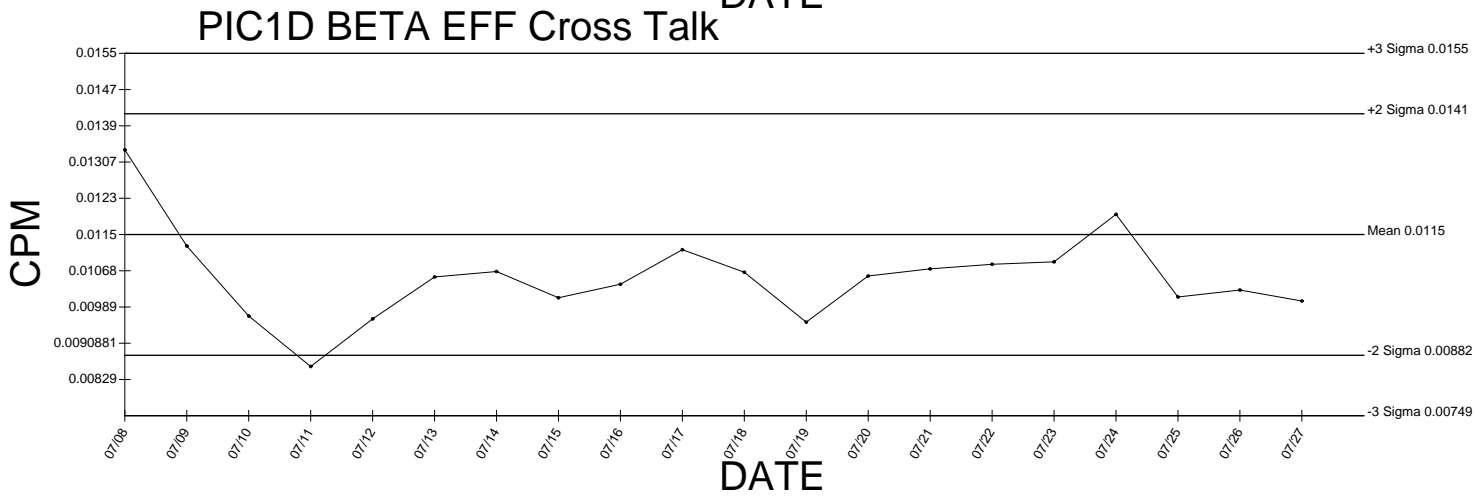
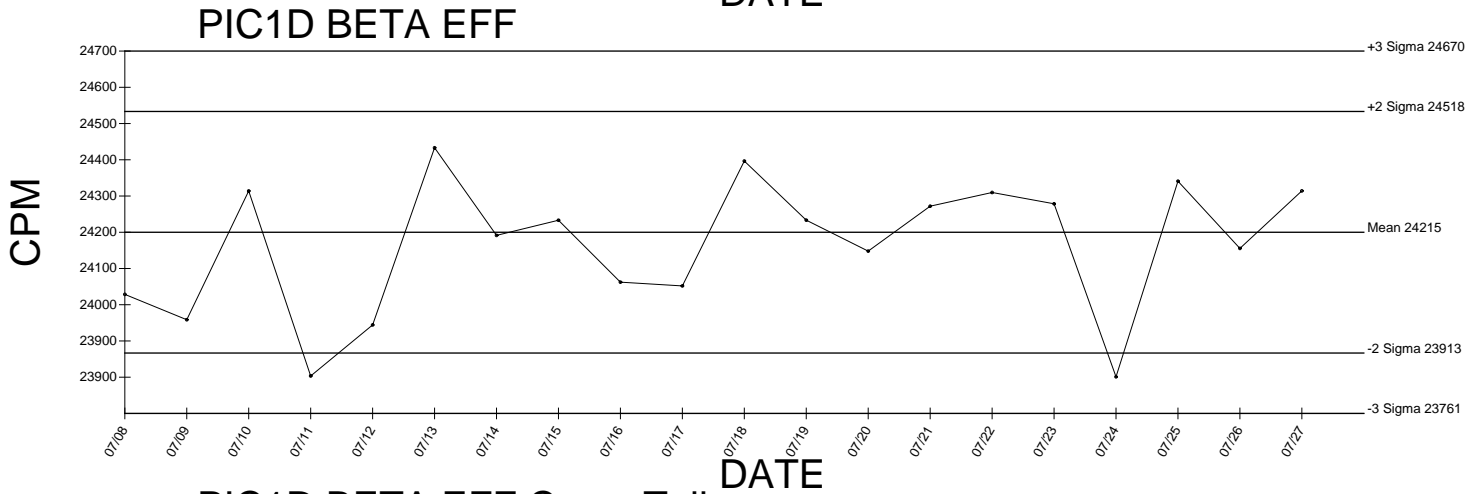
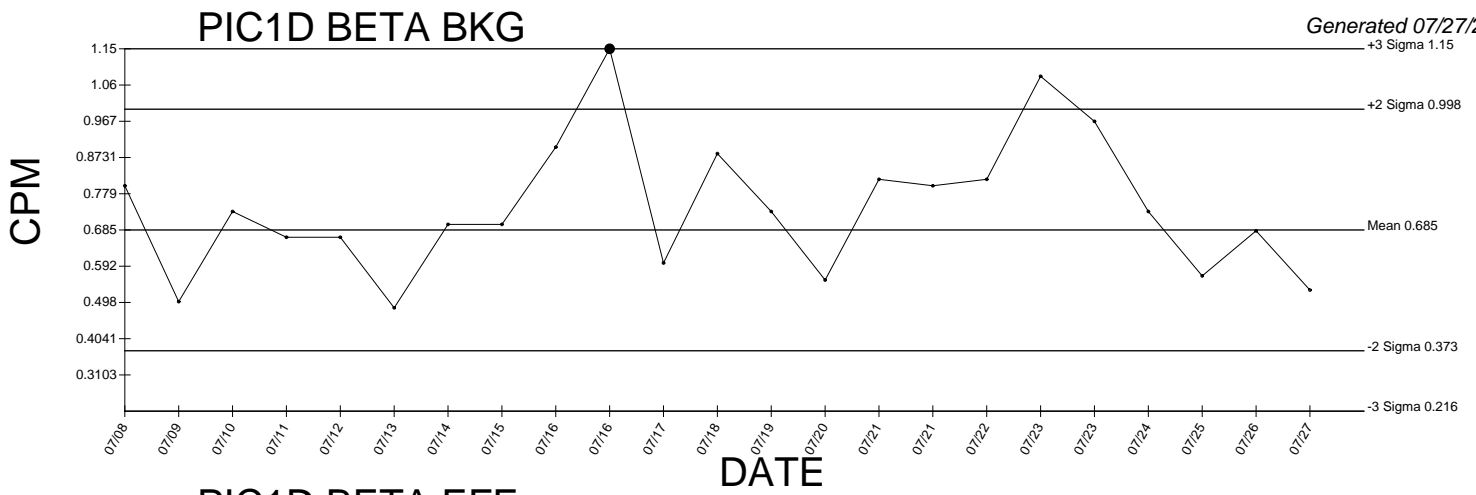
PIC1D ALPHA EFF



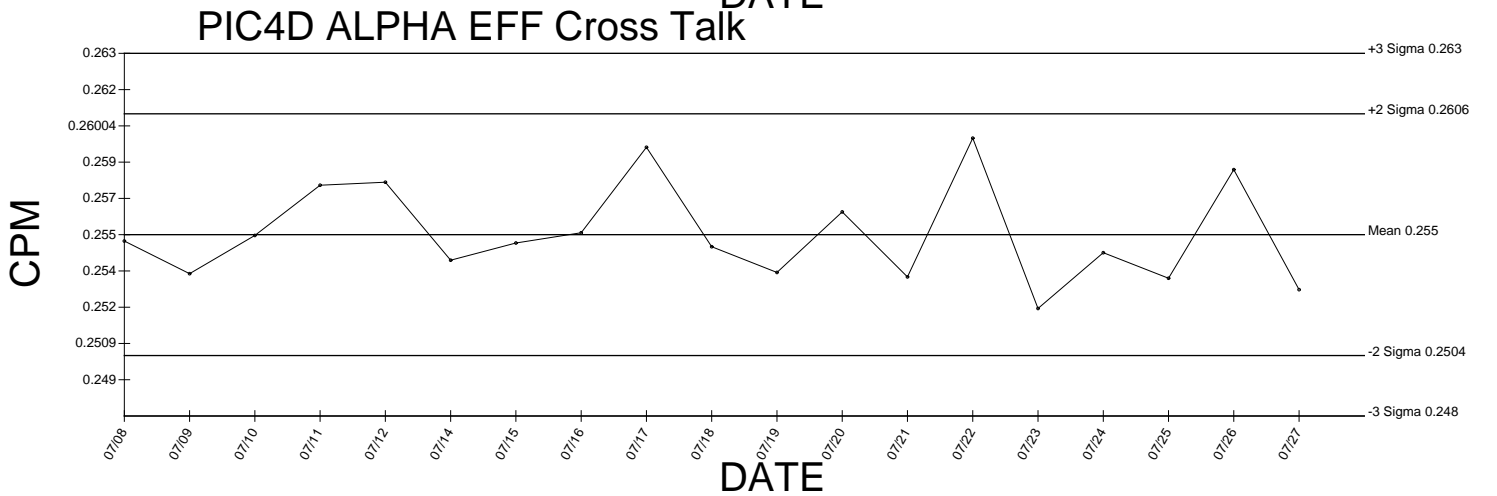
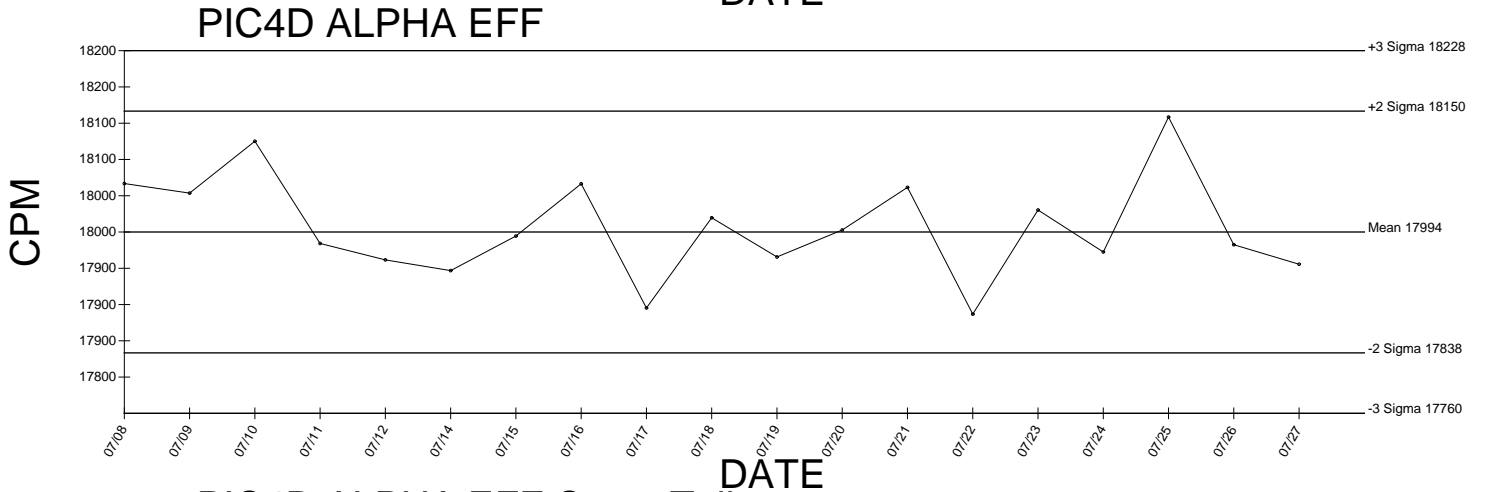
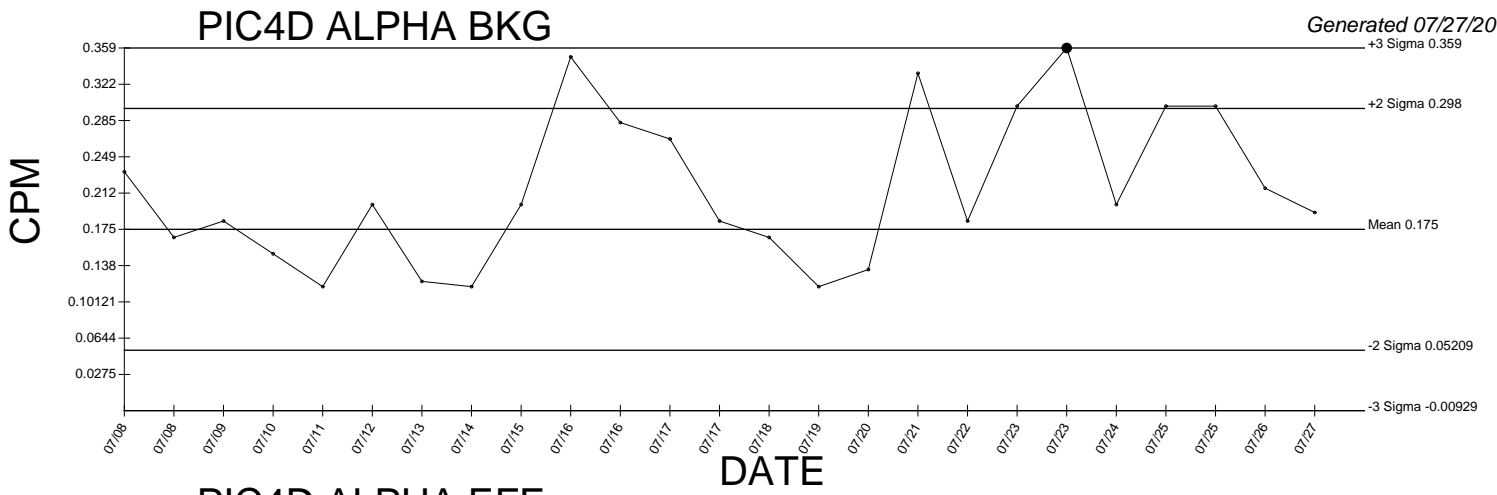
PIC1D ALPHA EFF Cross Talk



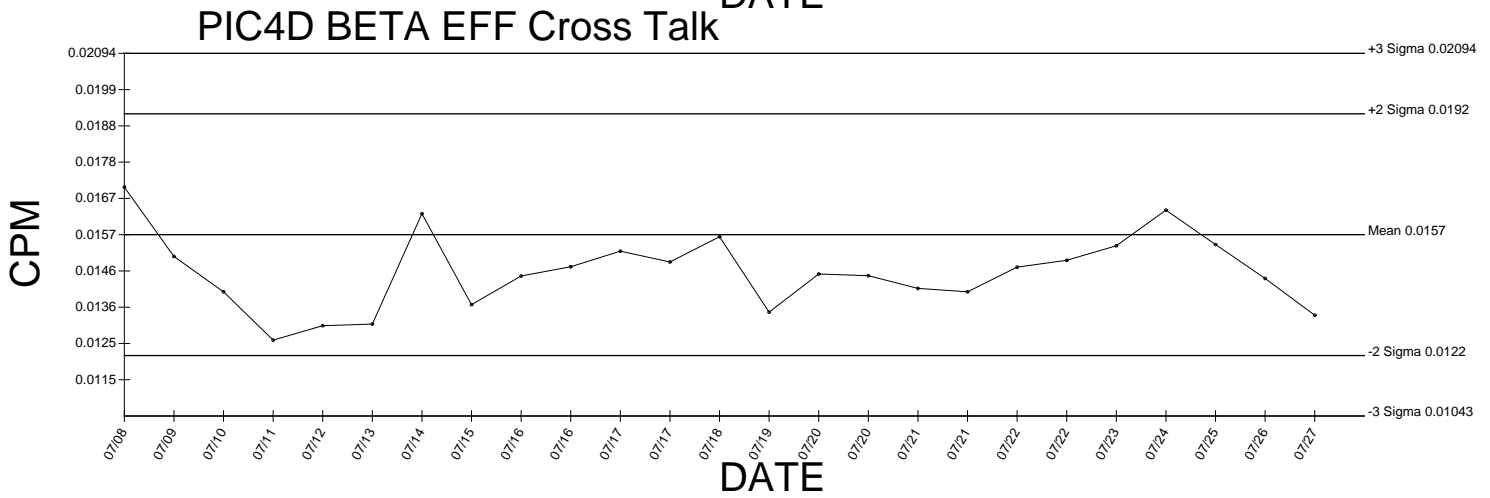
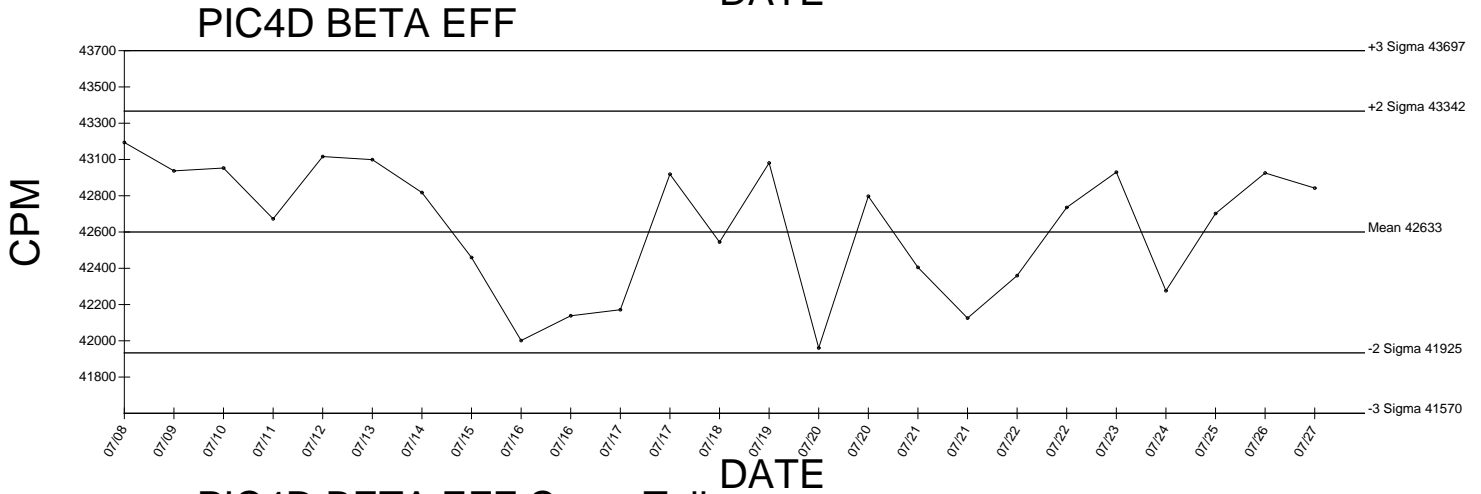
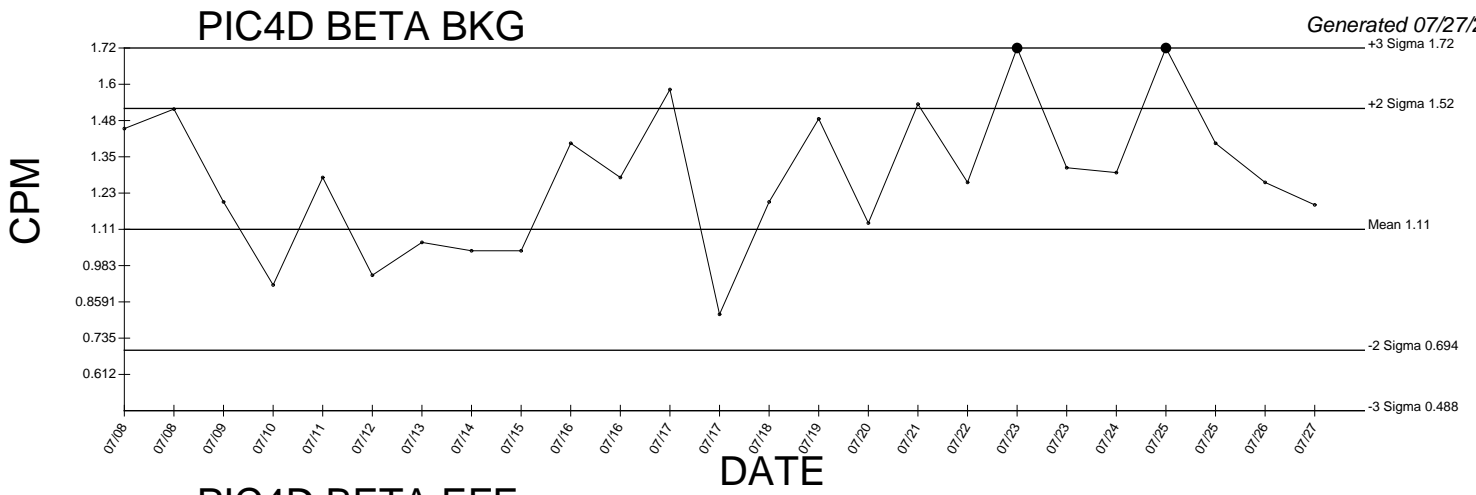
● Denotes Outlier



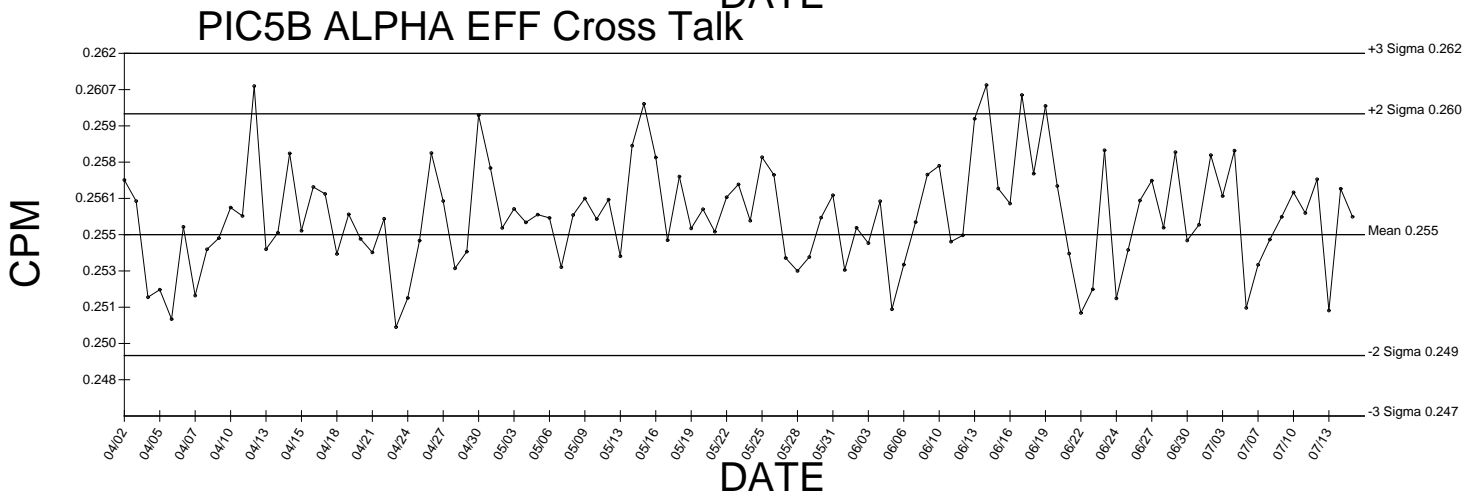
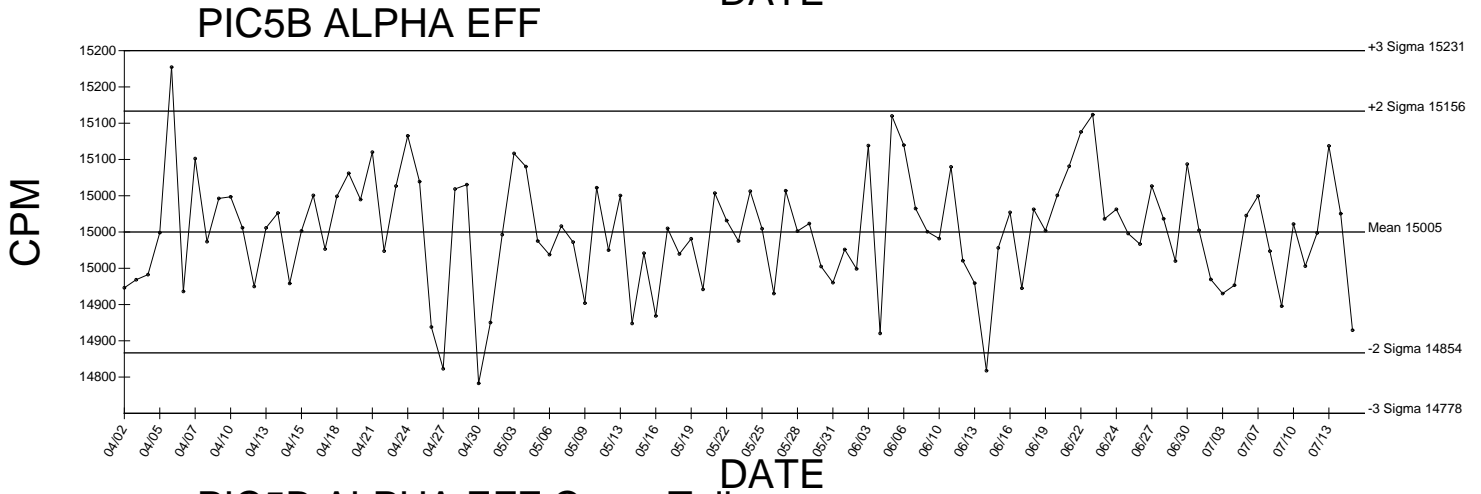
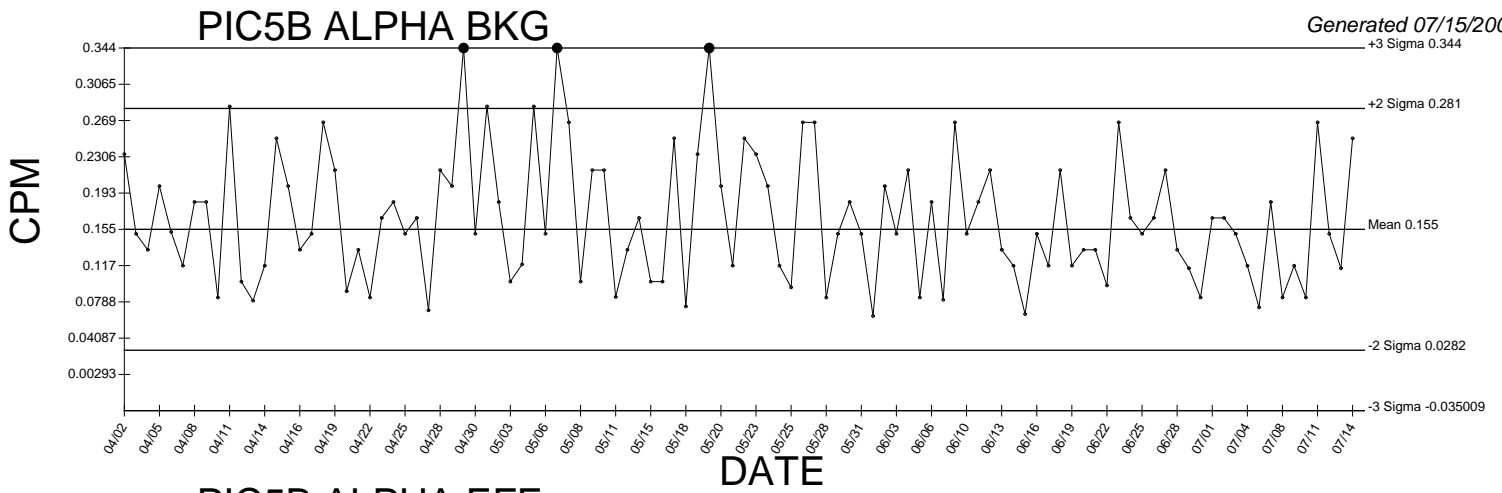
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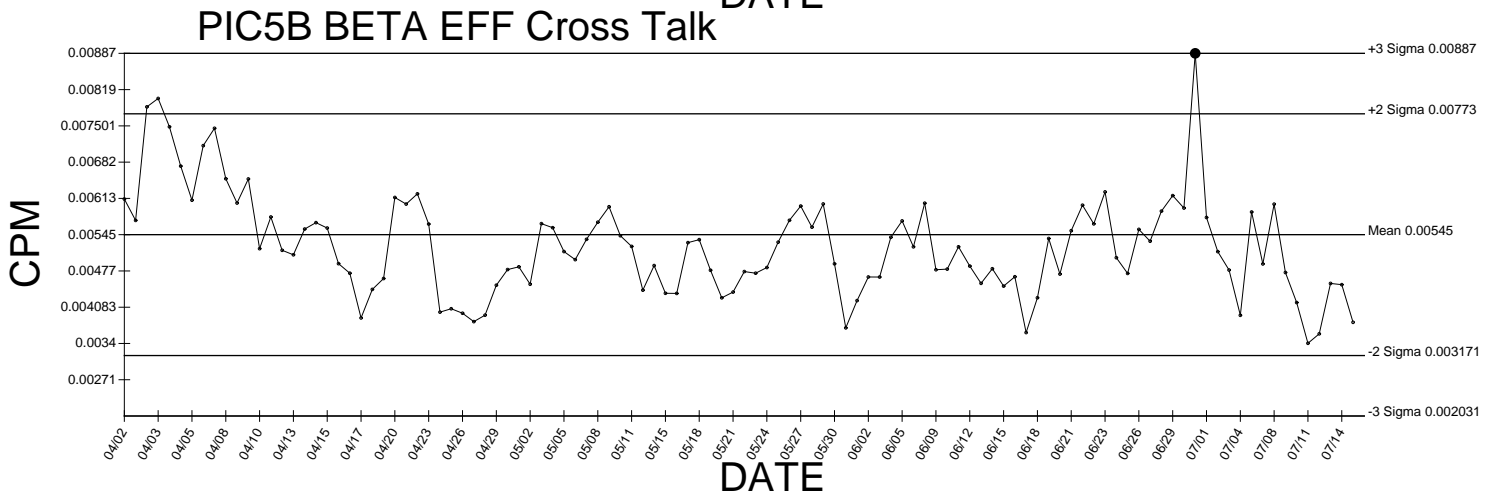
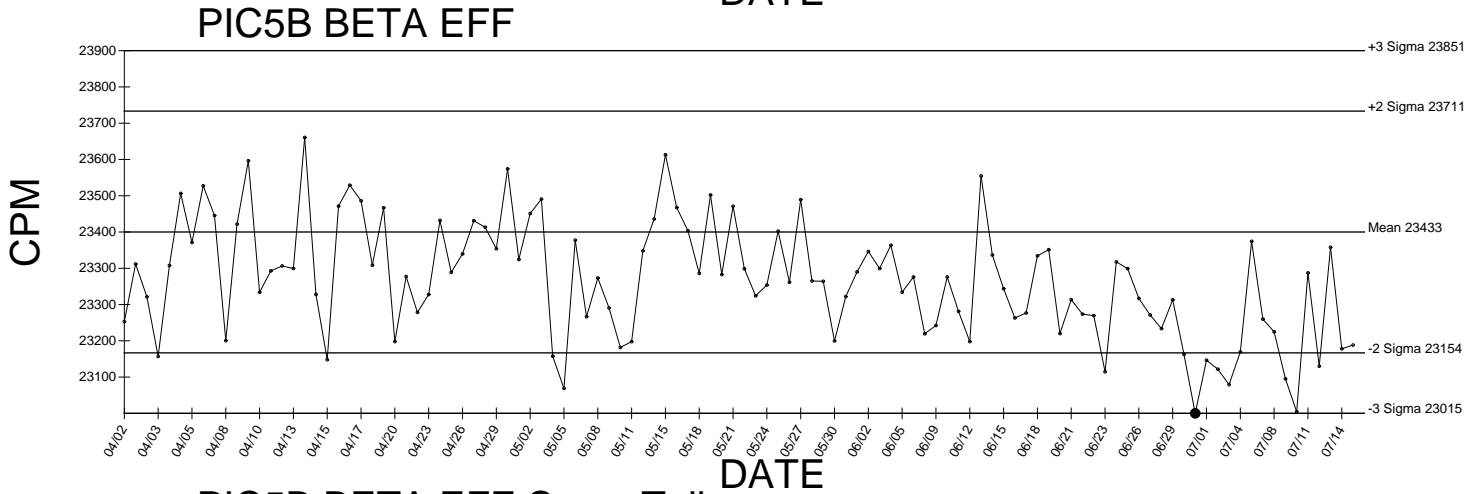
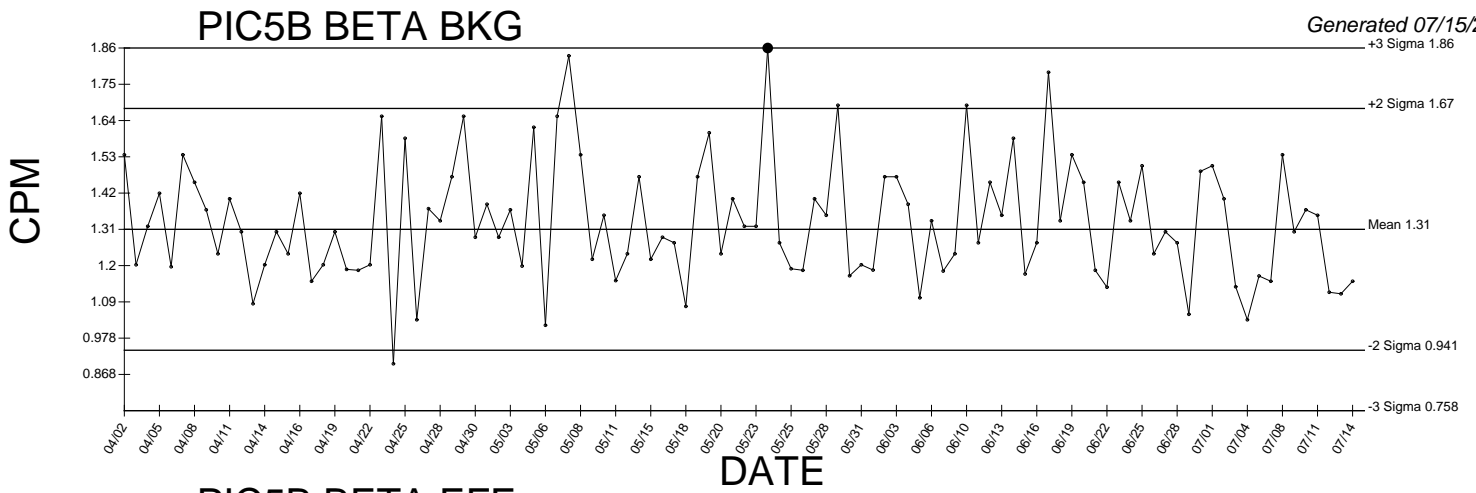
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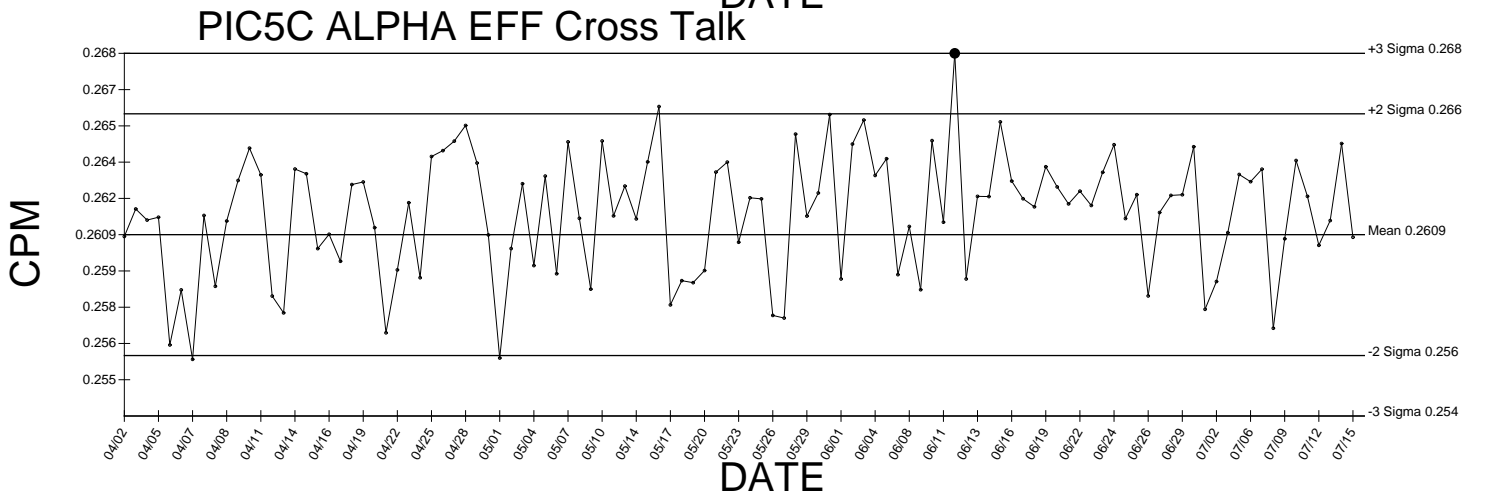
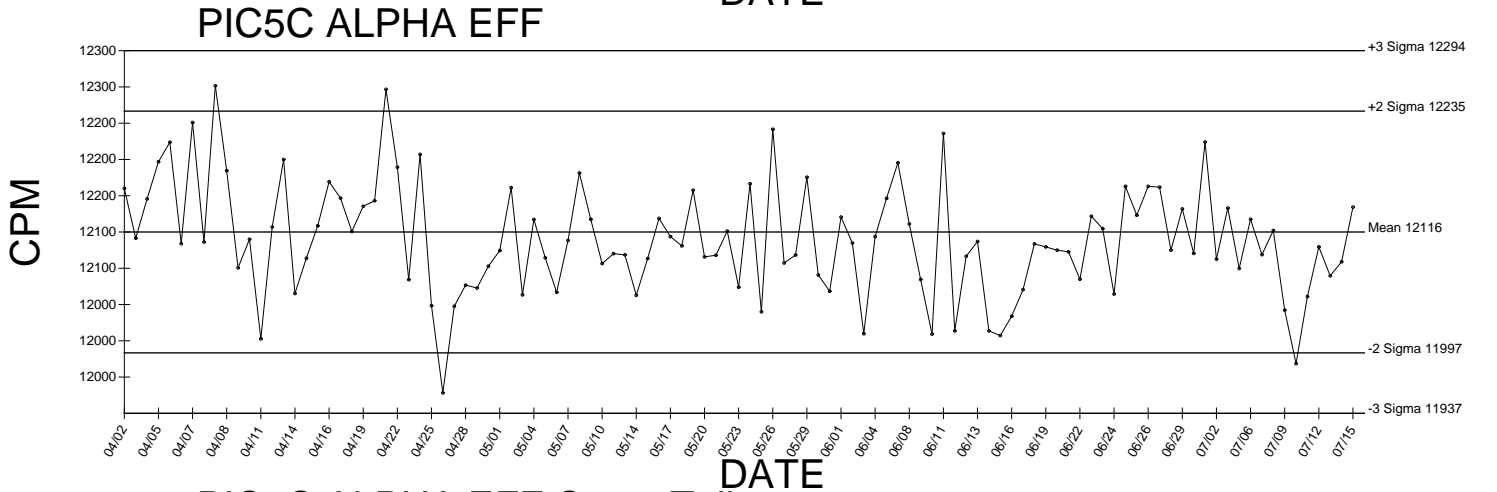
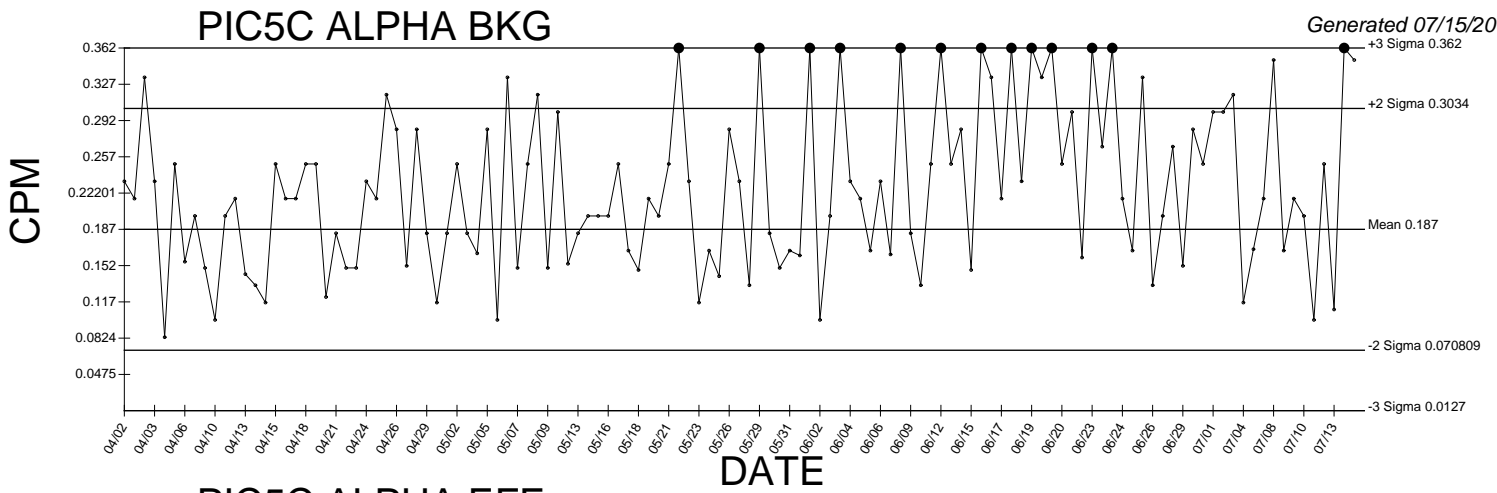
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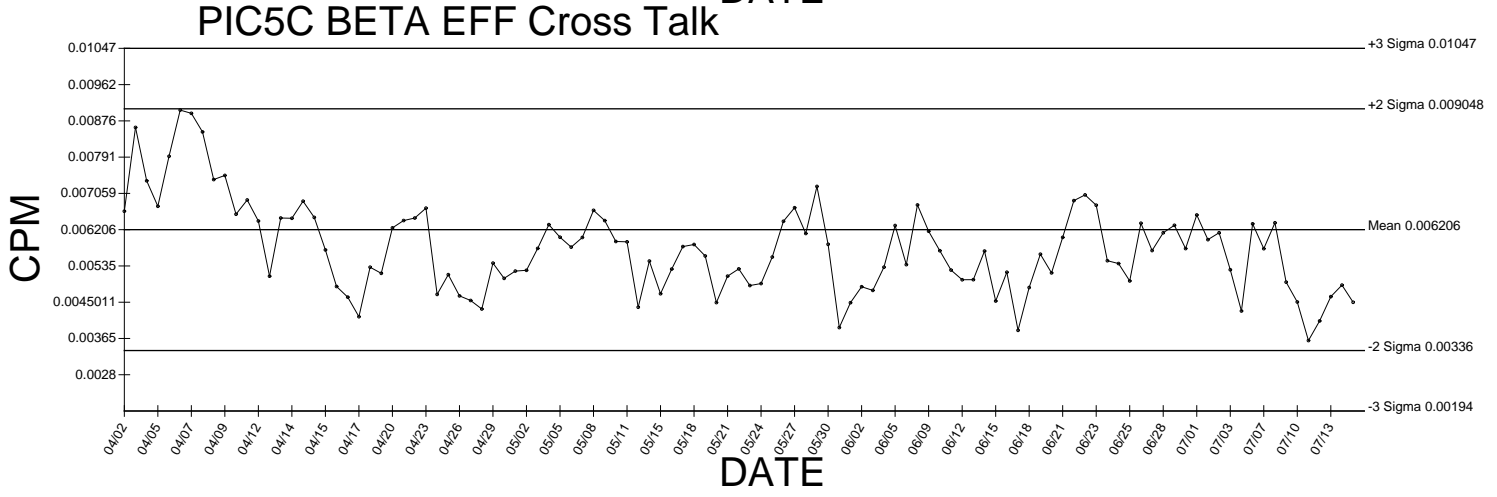
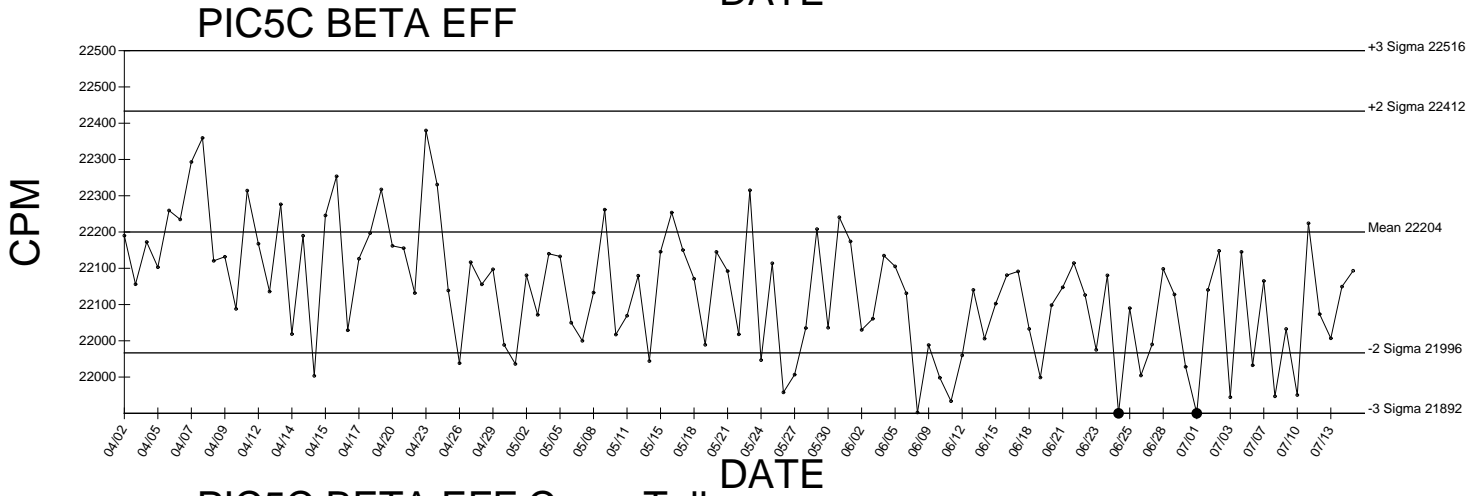
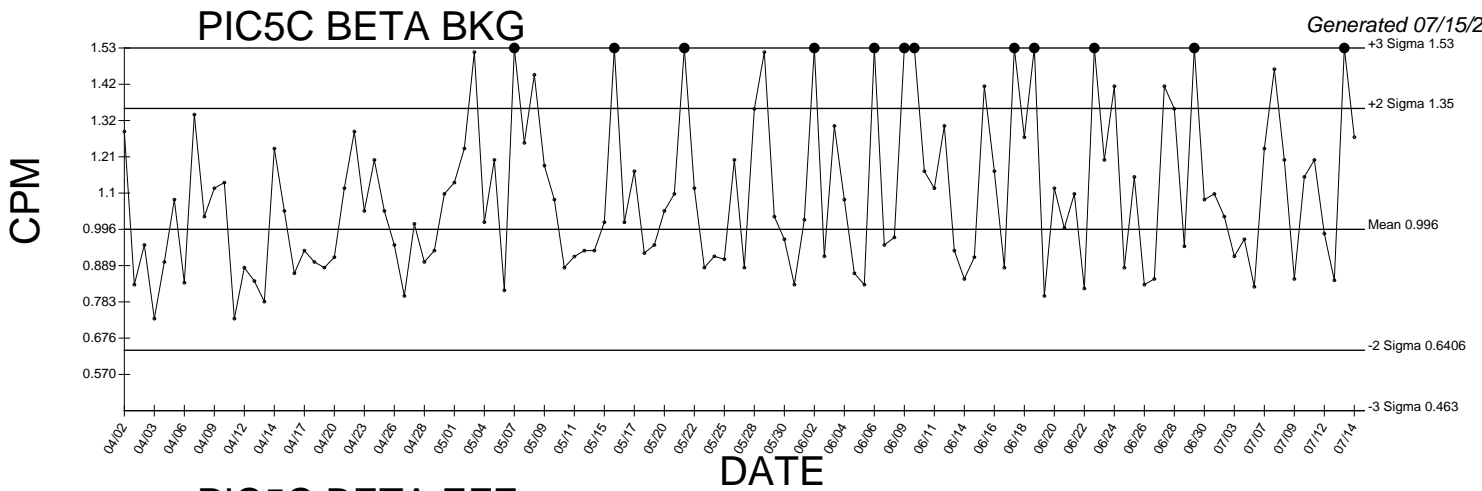
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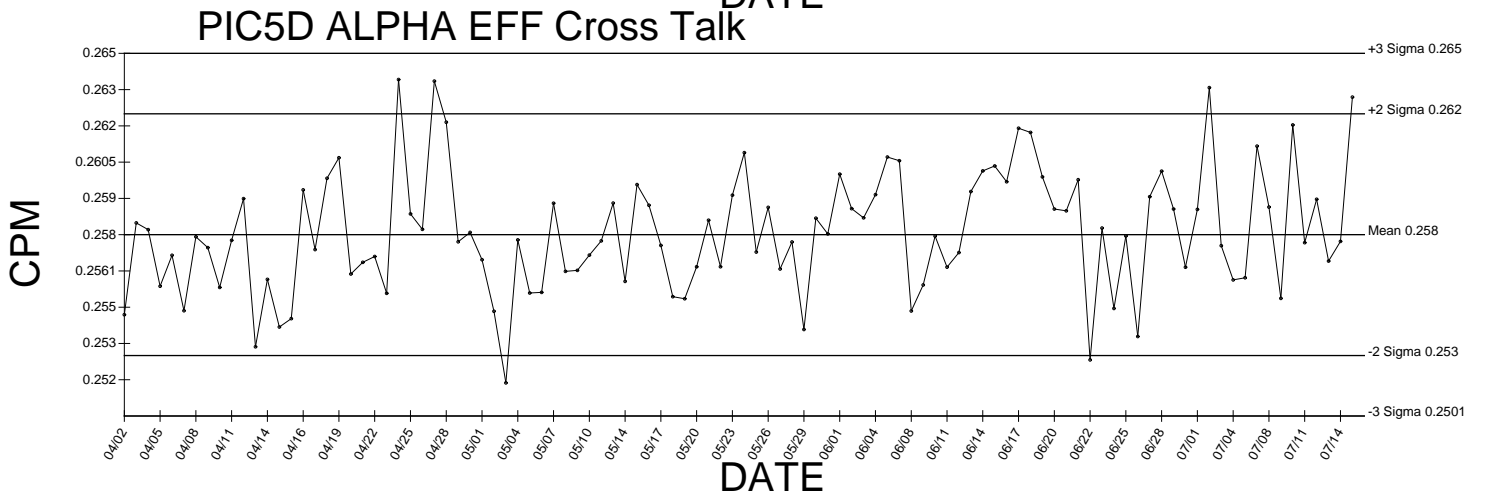
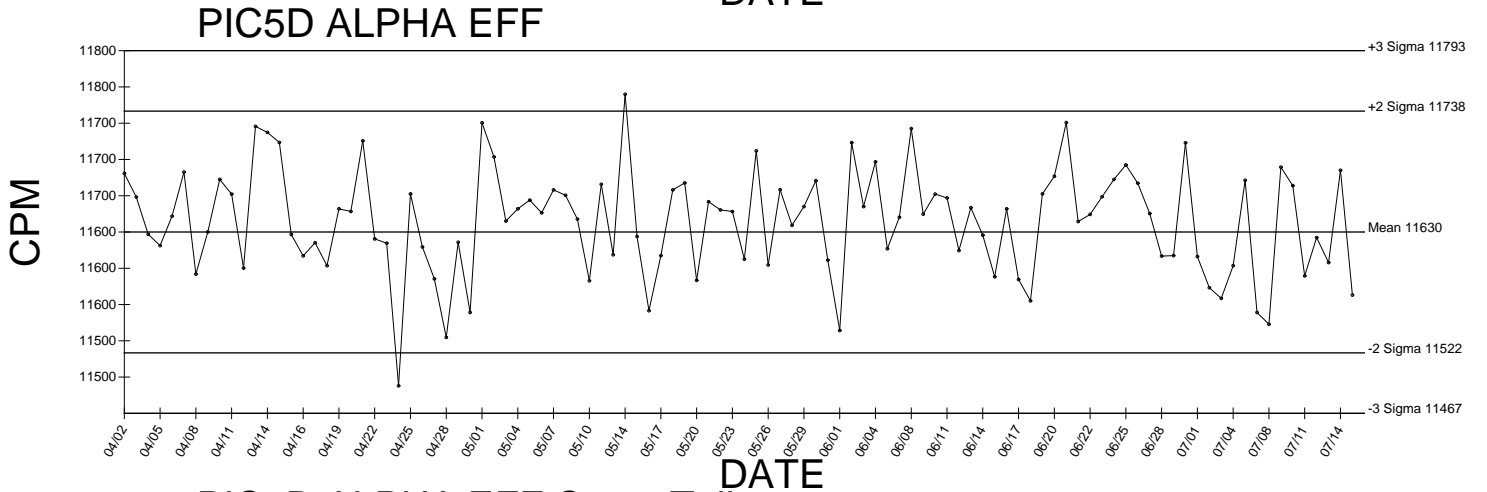
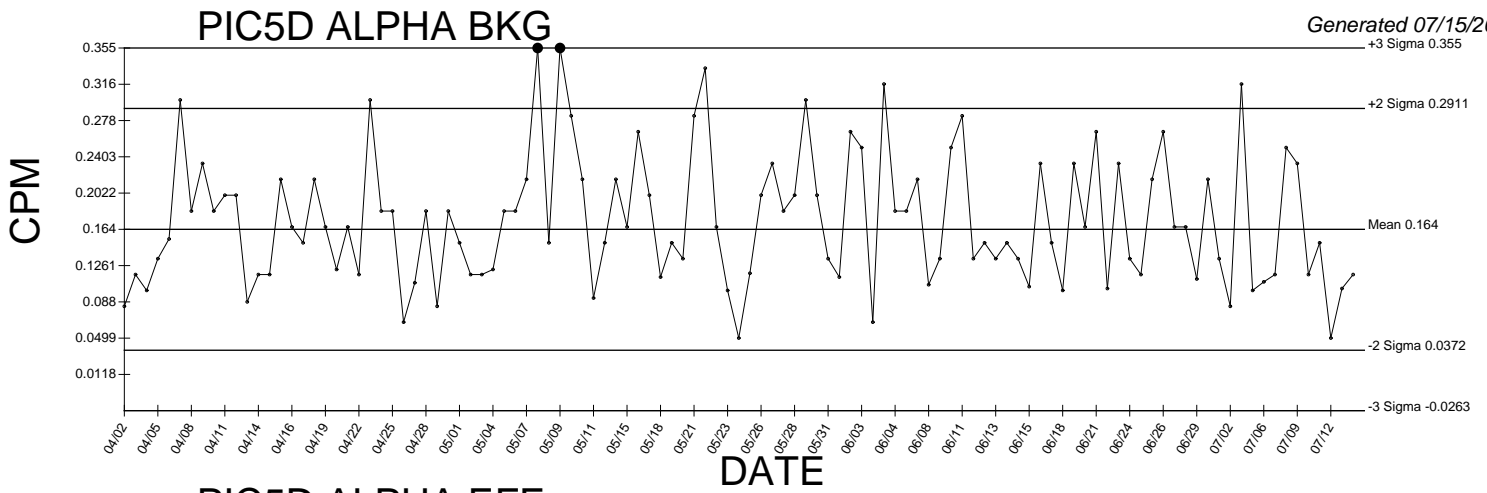
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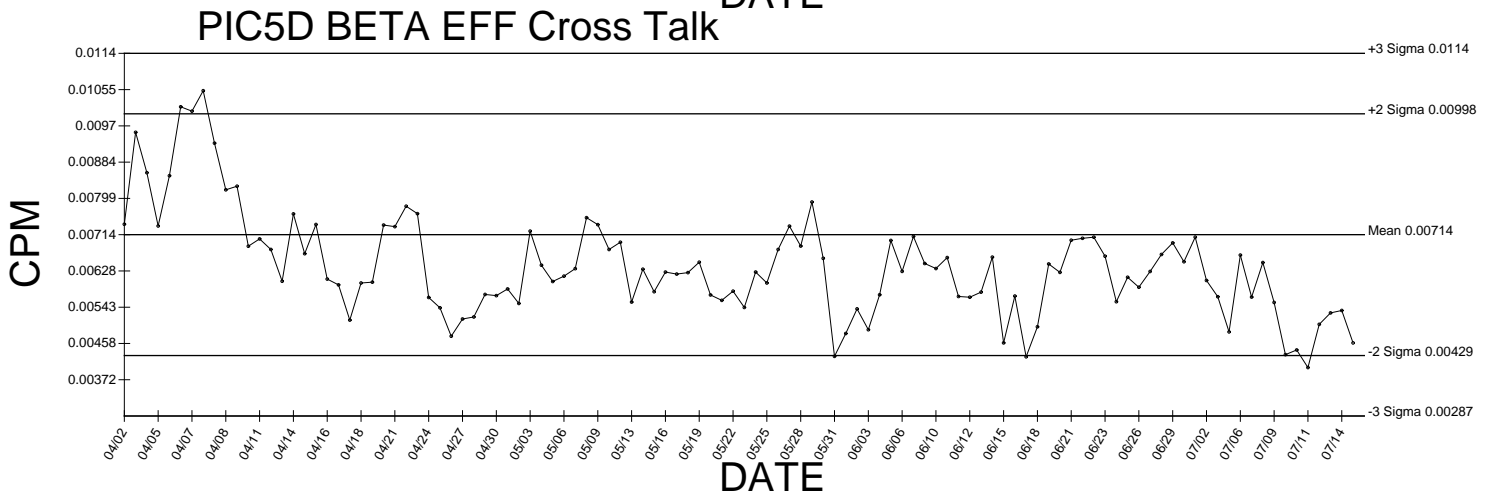
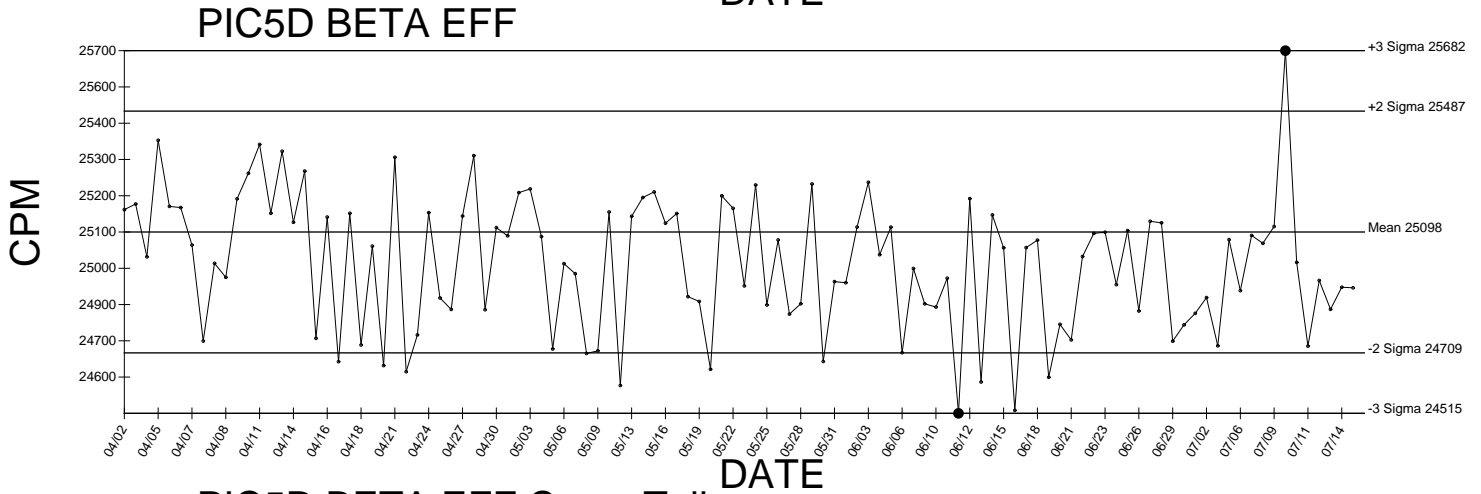
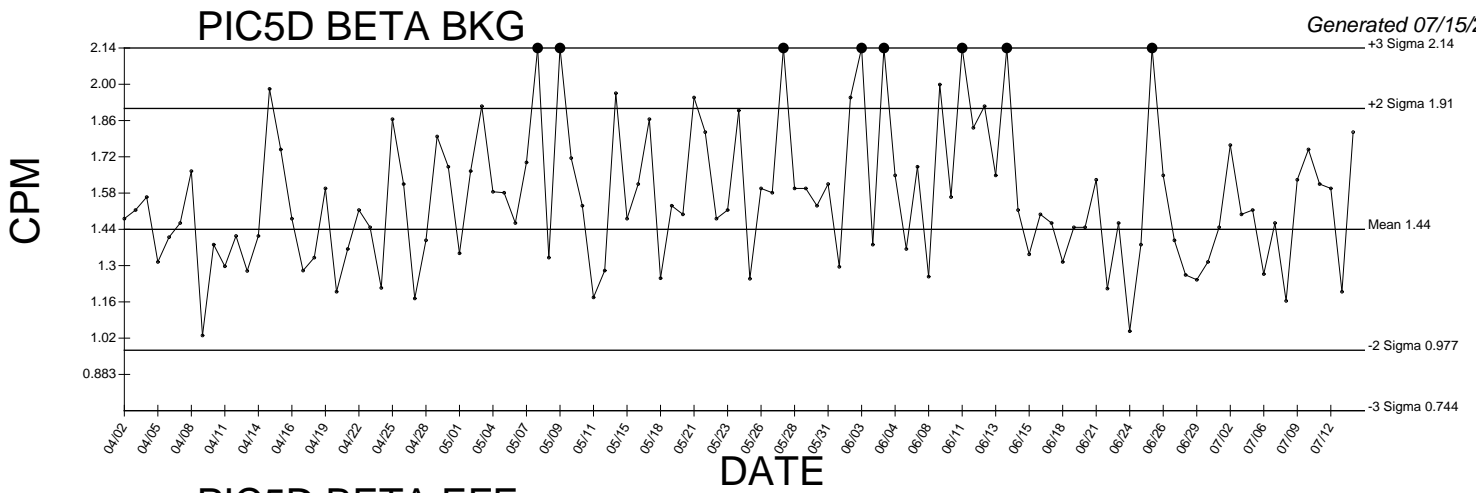
● Denotes Outlier



● Denotes Outlier



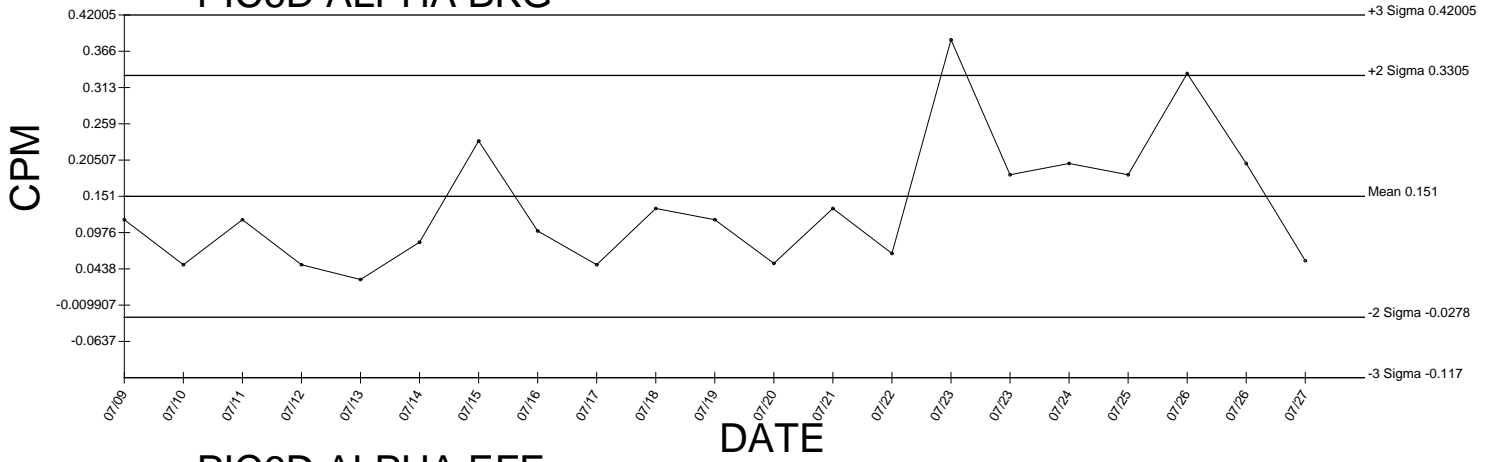
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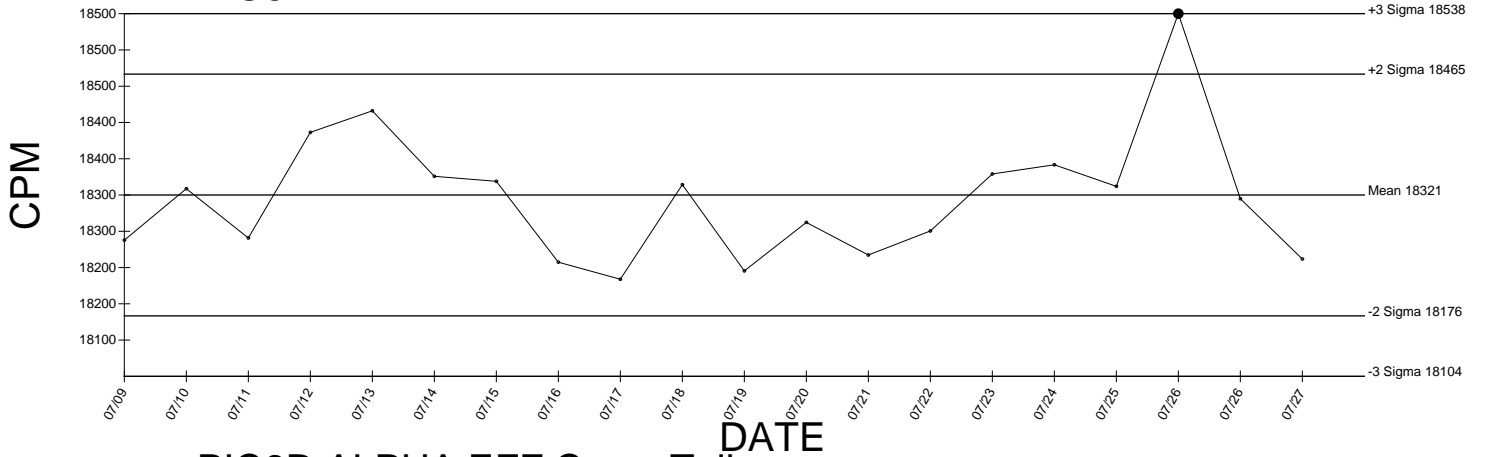
● Denotes Outlier

PIC6D ALPHA BKG

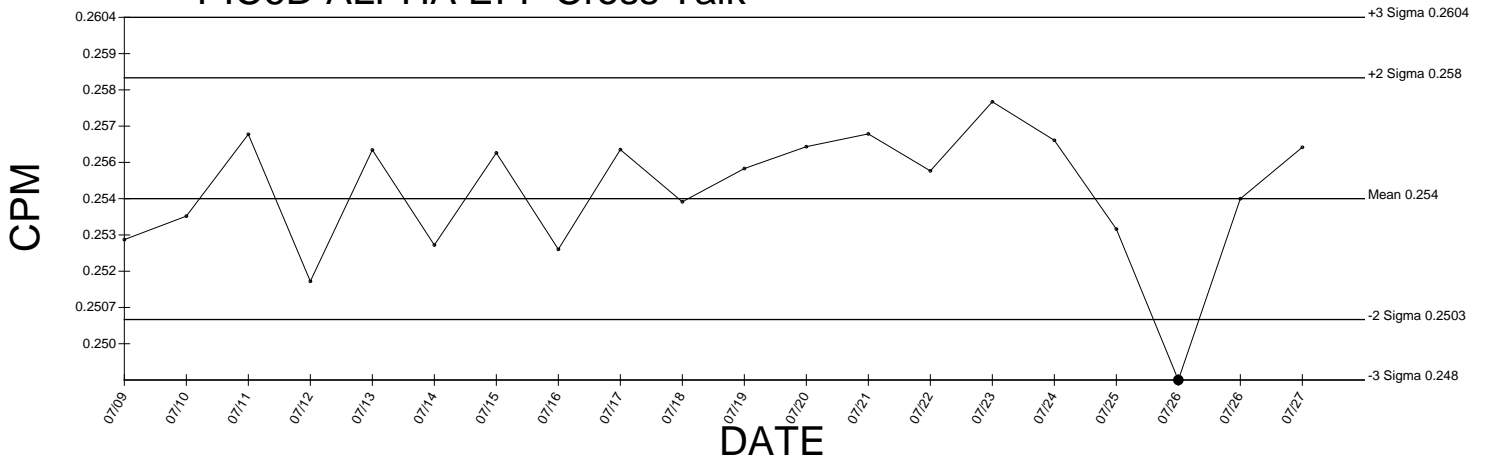
Generated 07/27/2009



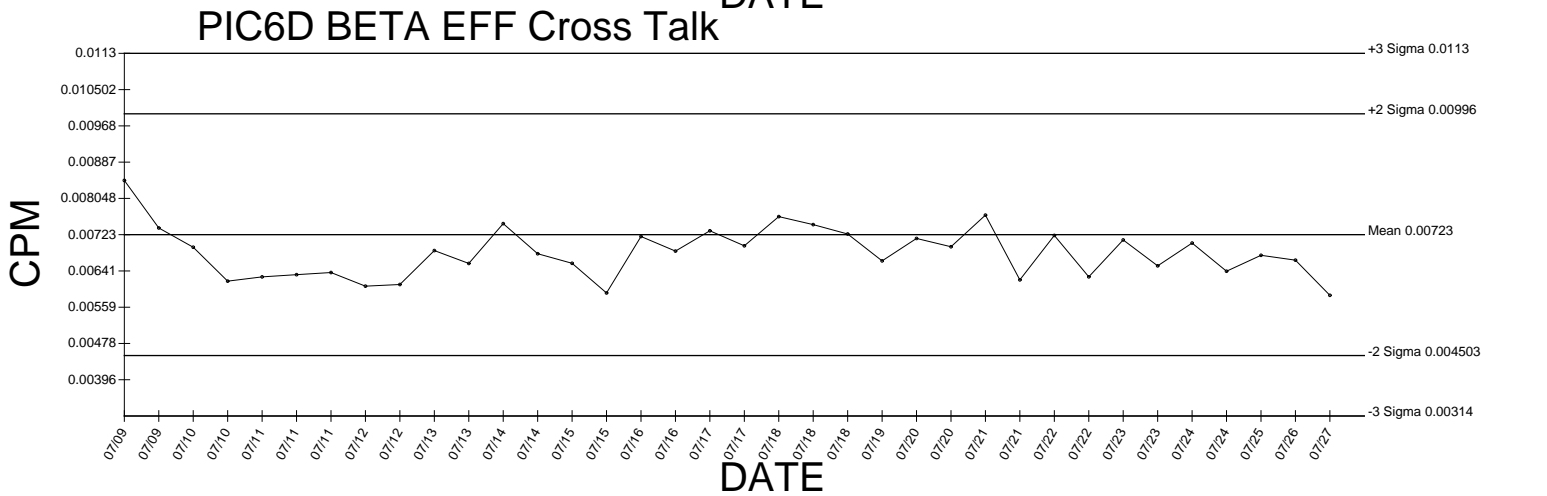
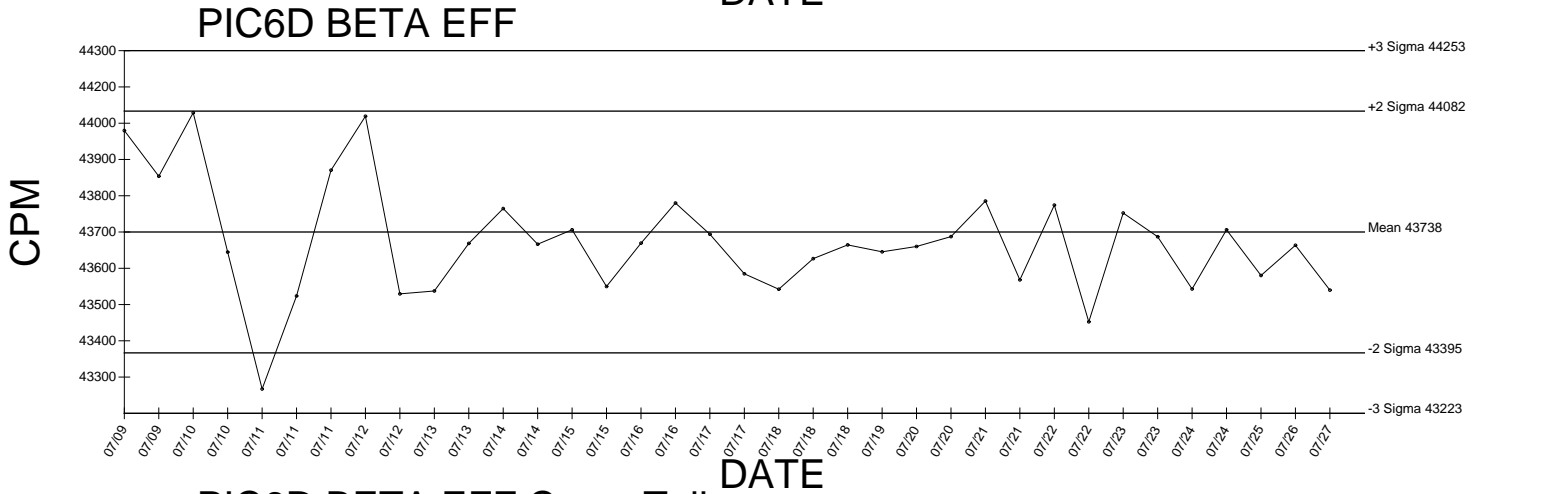
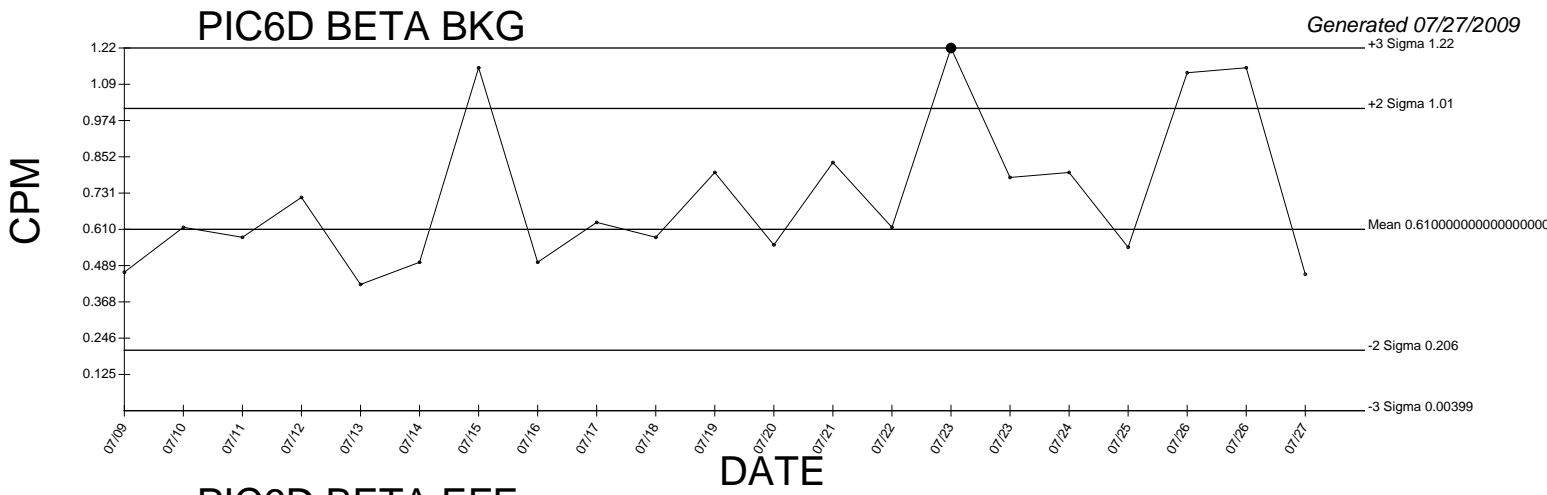
PIC6D ALPHA EFF



PIC6D ALPHA EFF Cross Talk

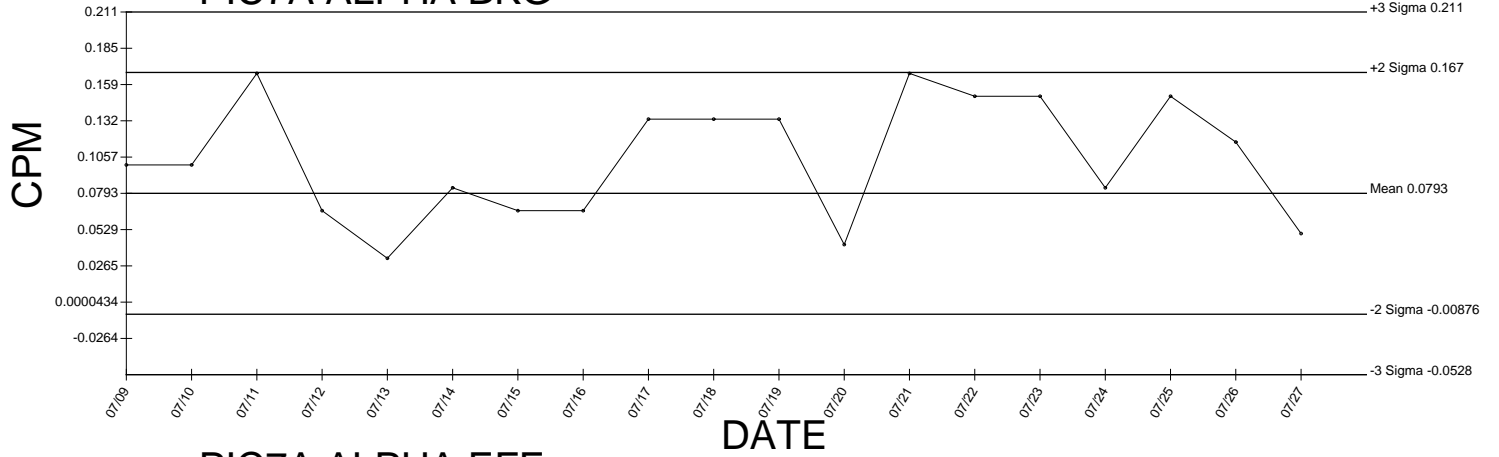


● Denotes Outlier

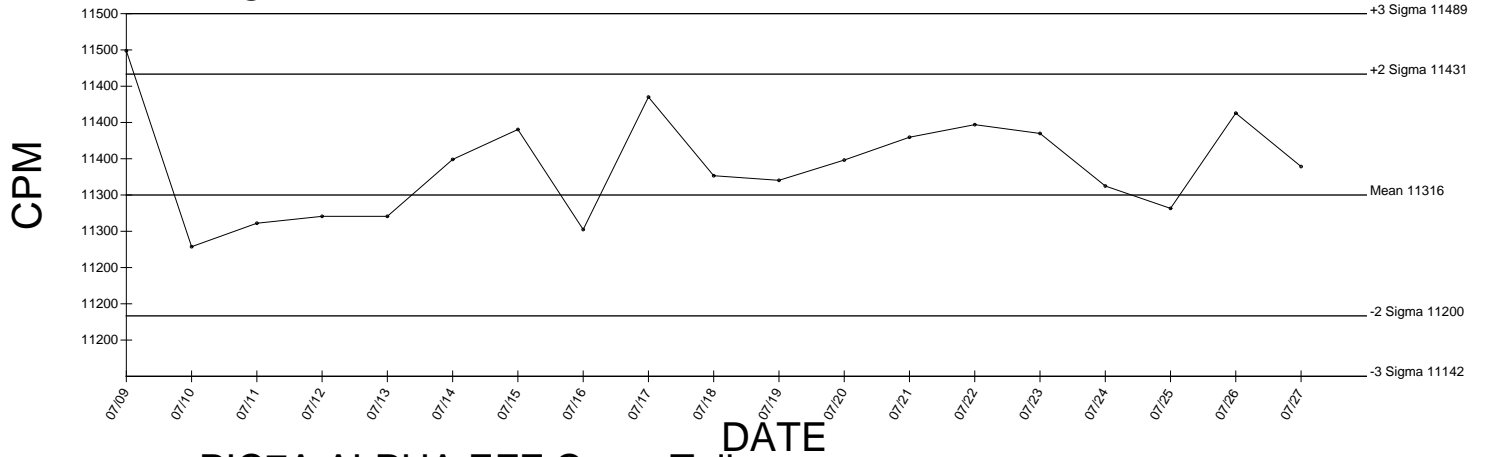


● Denotes Outlier

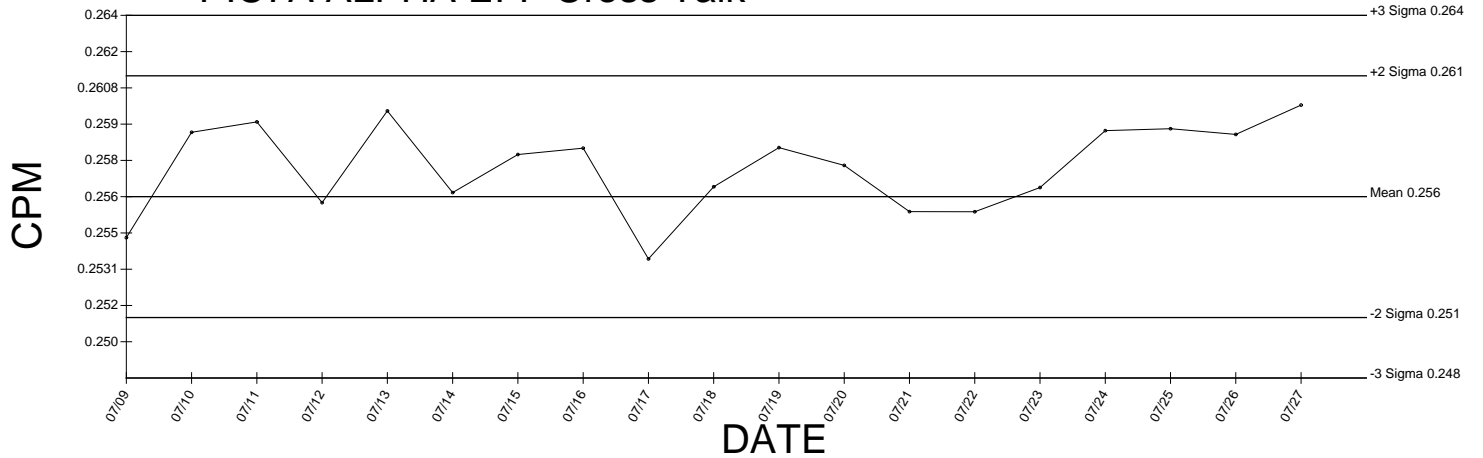
PIC7A ALPHA BKG



PIC7A ALPHA EFF



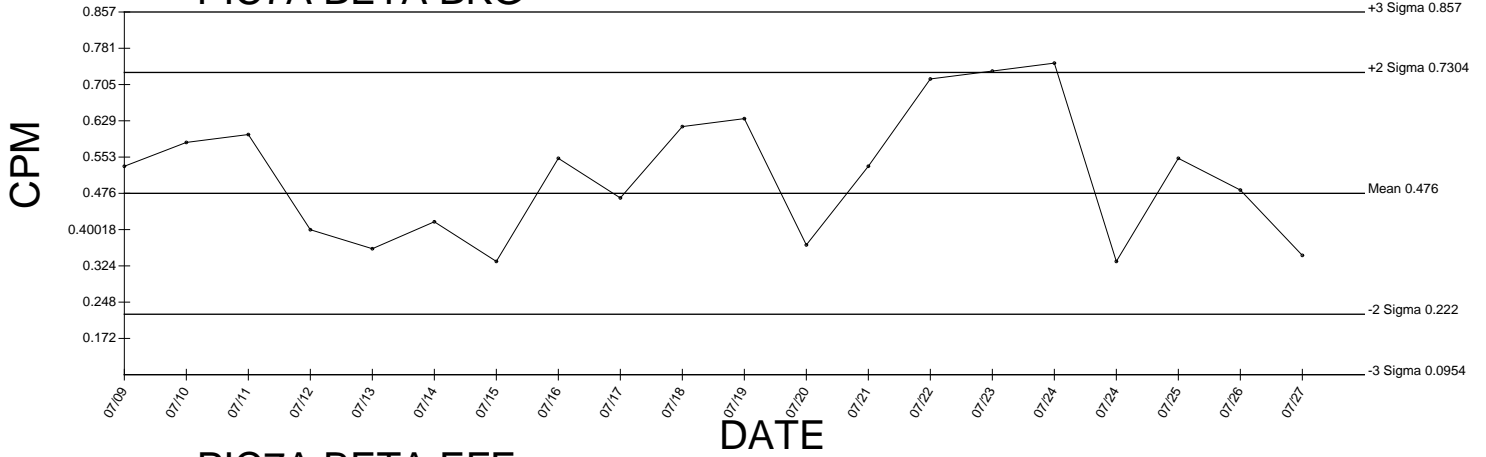
PIC7A ALPHA EFF Cross Talk



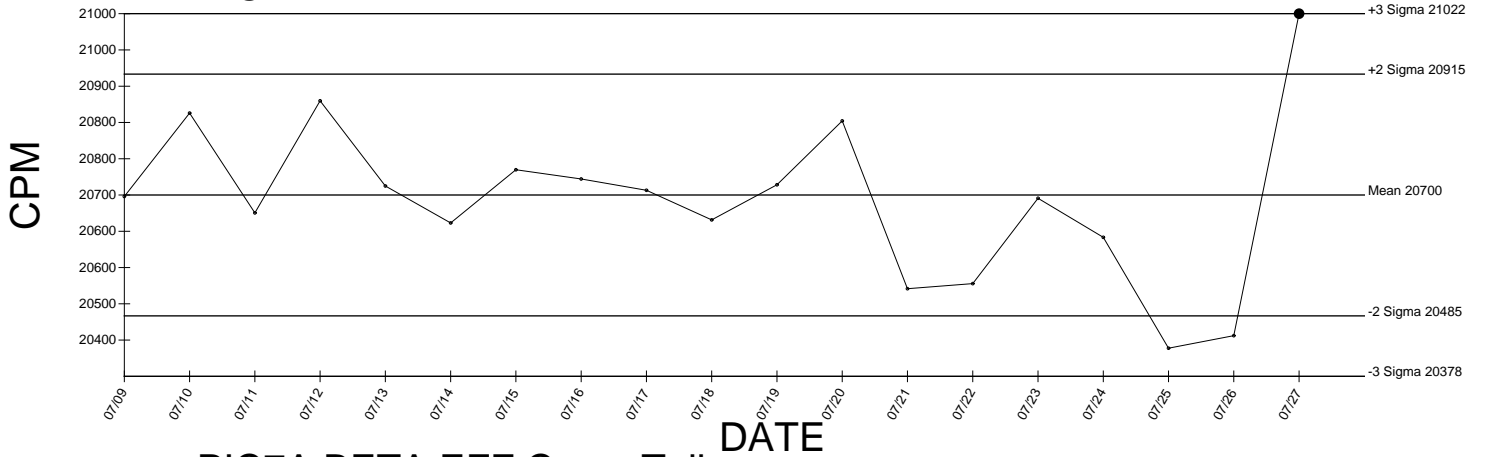
● Denotes Outlier

PIC7A BETA BKG

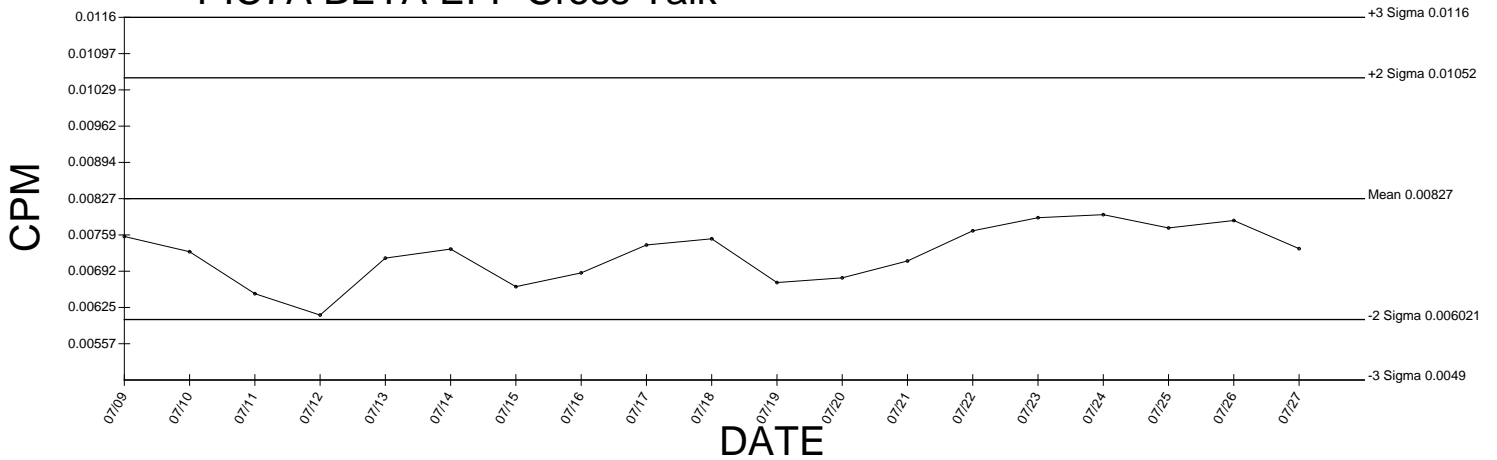
Generated 07/27/2009



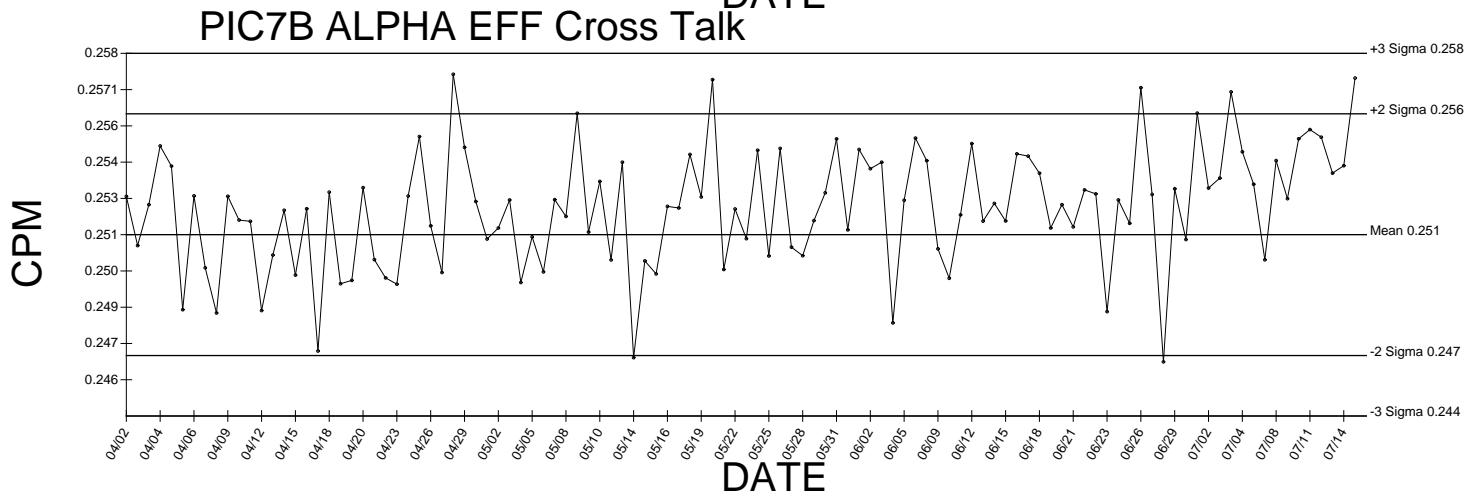
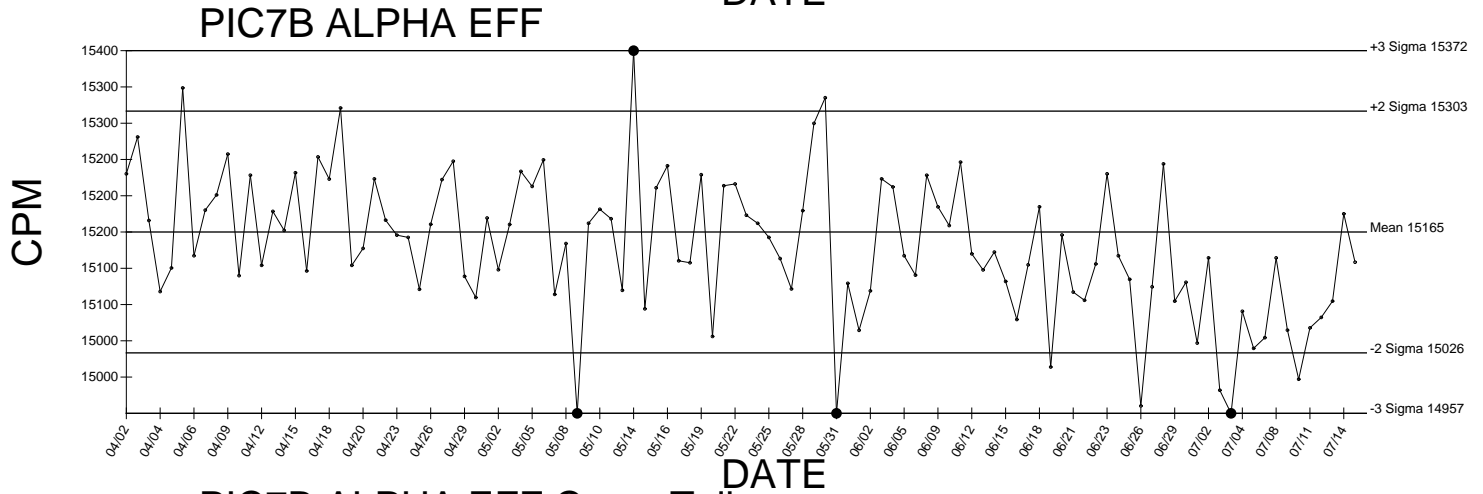
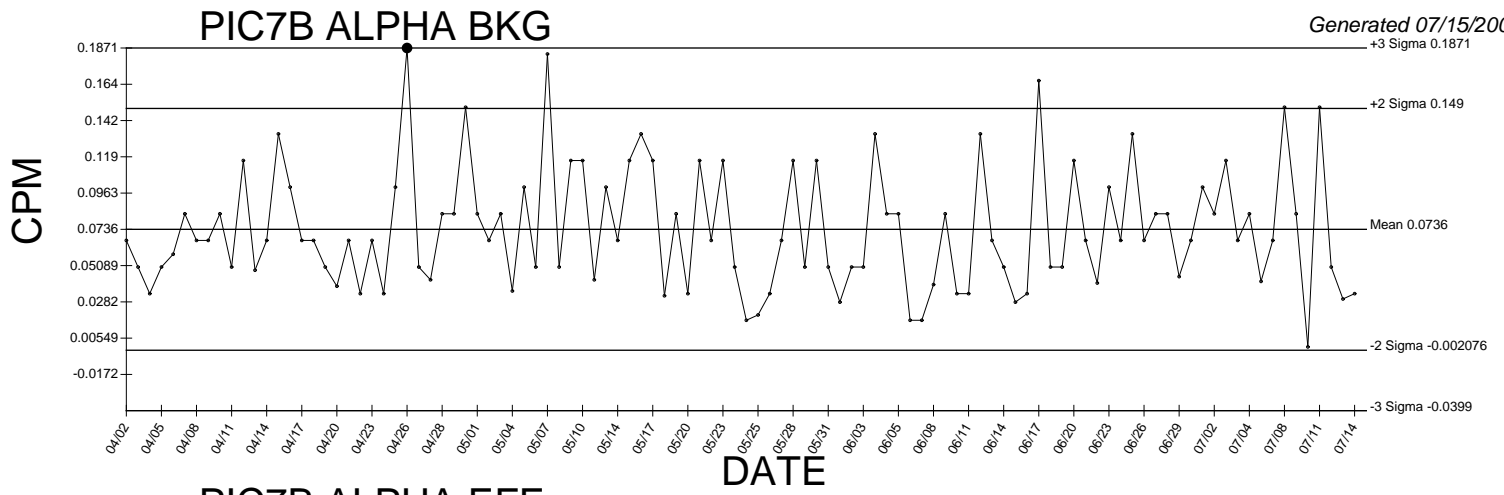
PIC7A BETA EFF



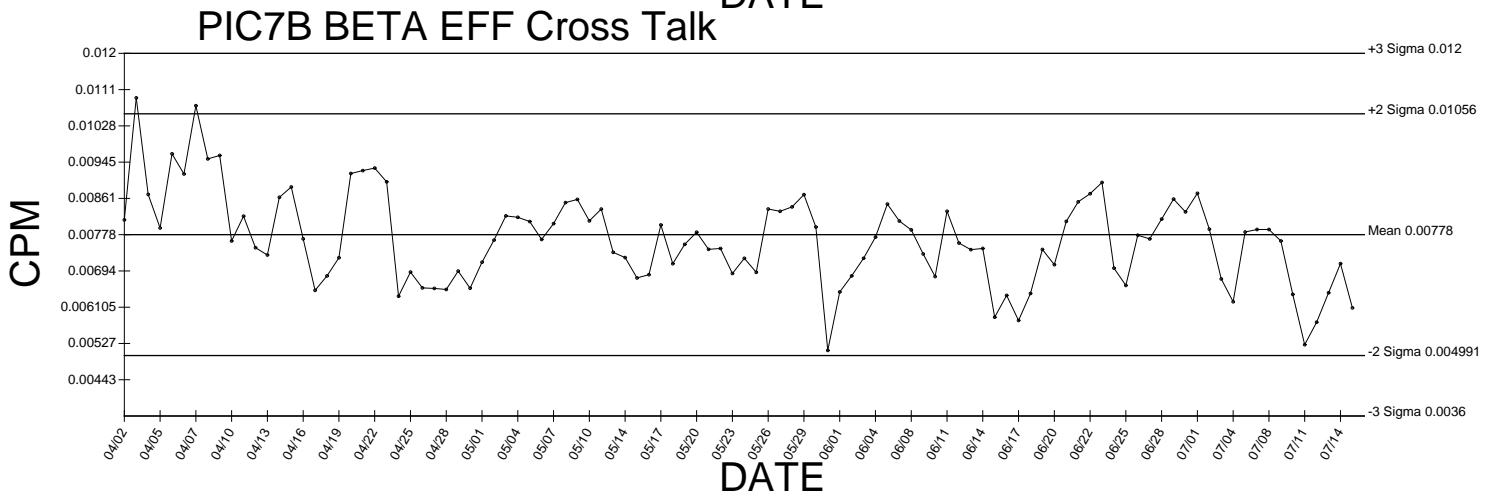
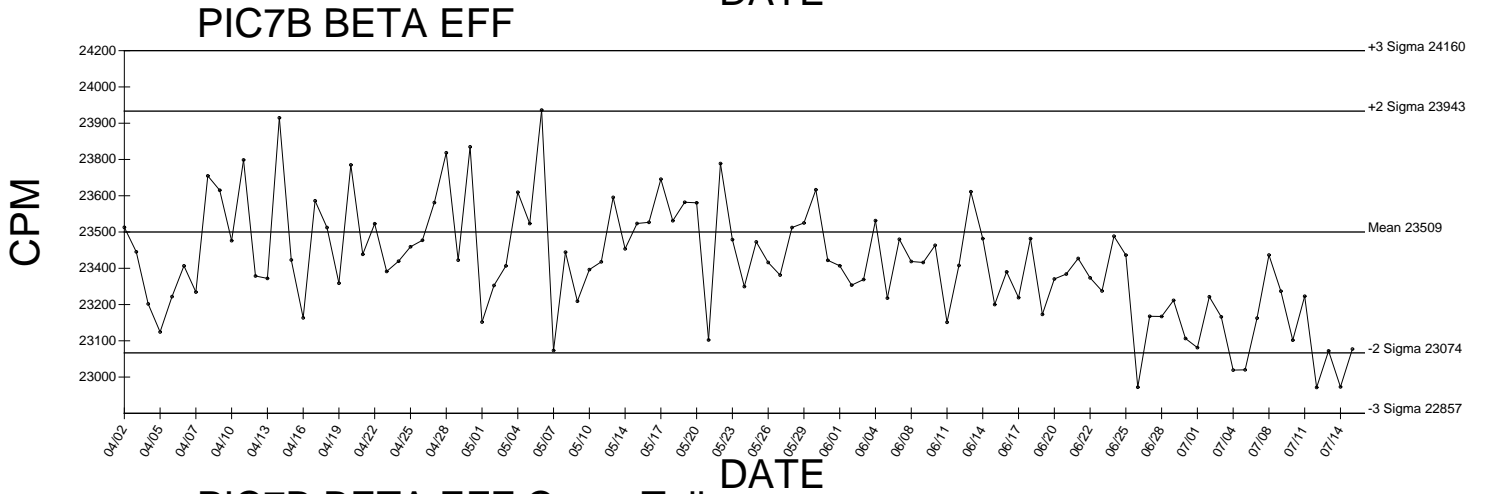
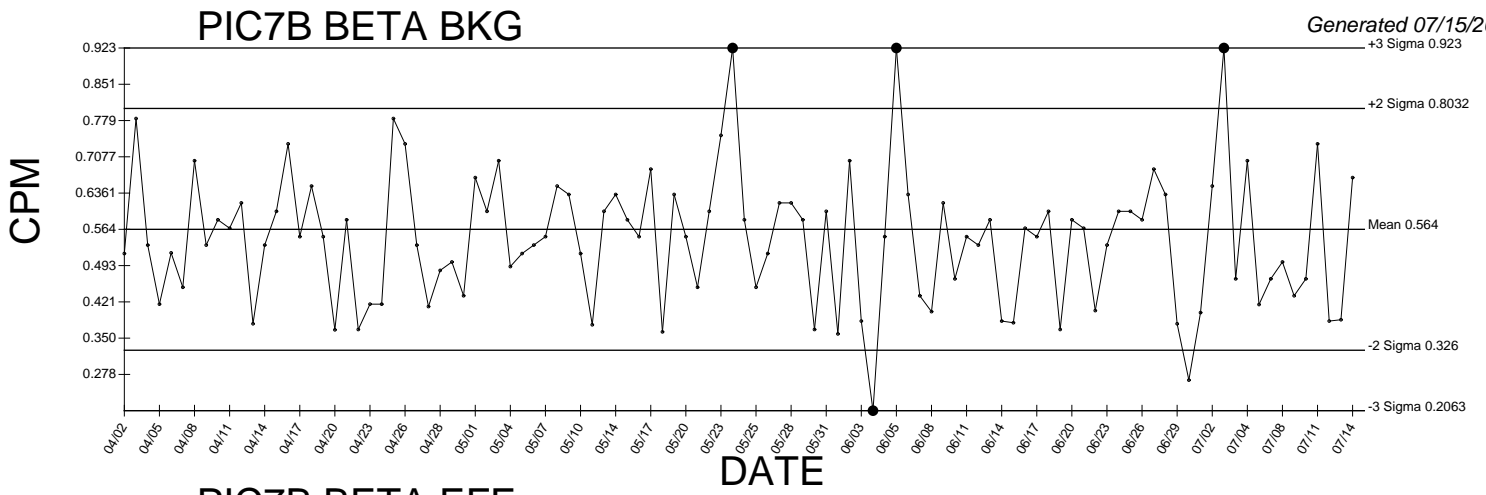
PIC7A BETA EFF Cross Talk



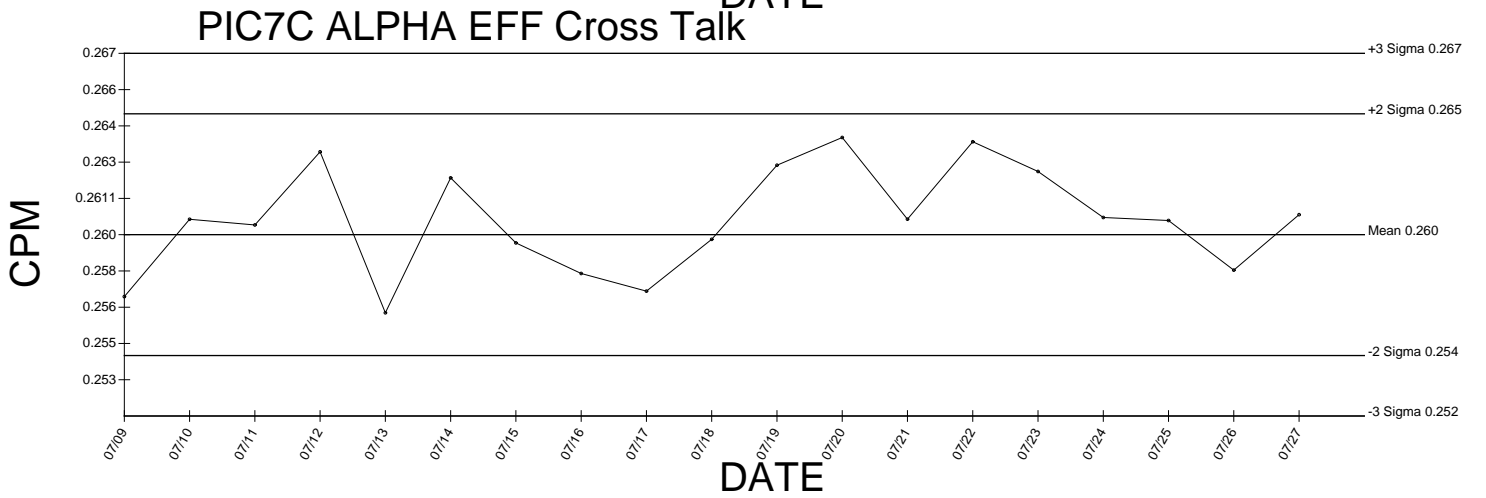
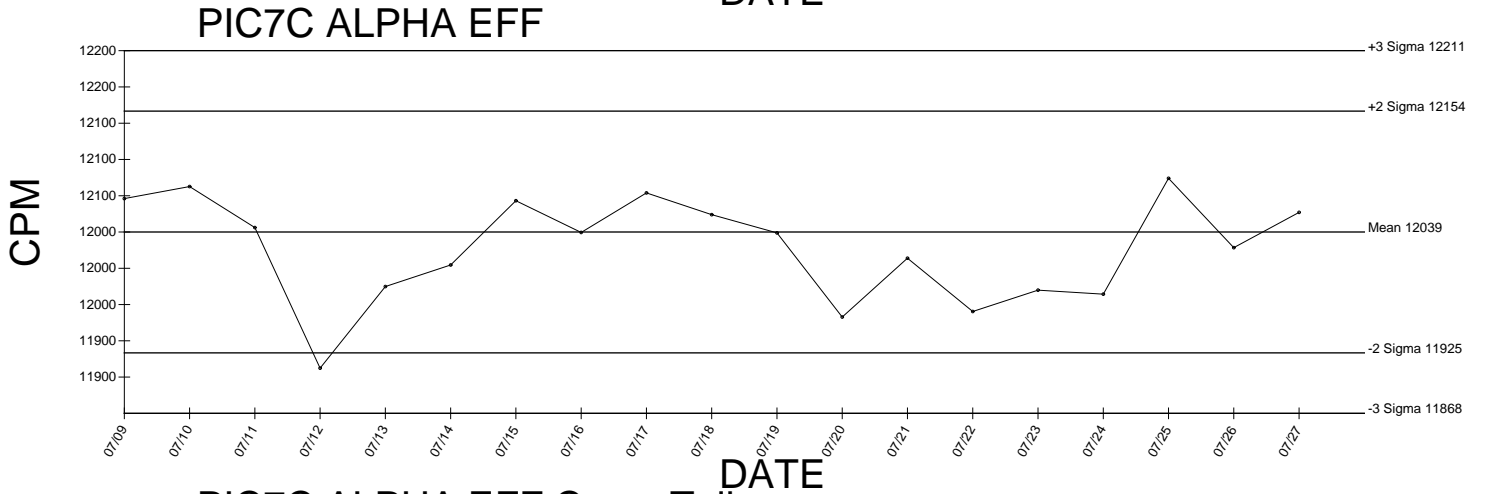
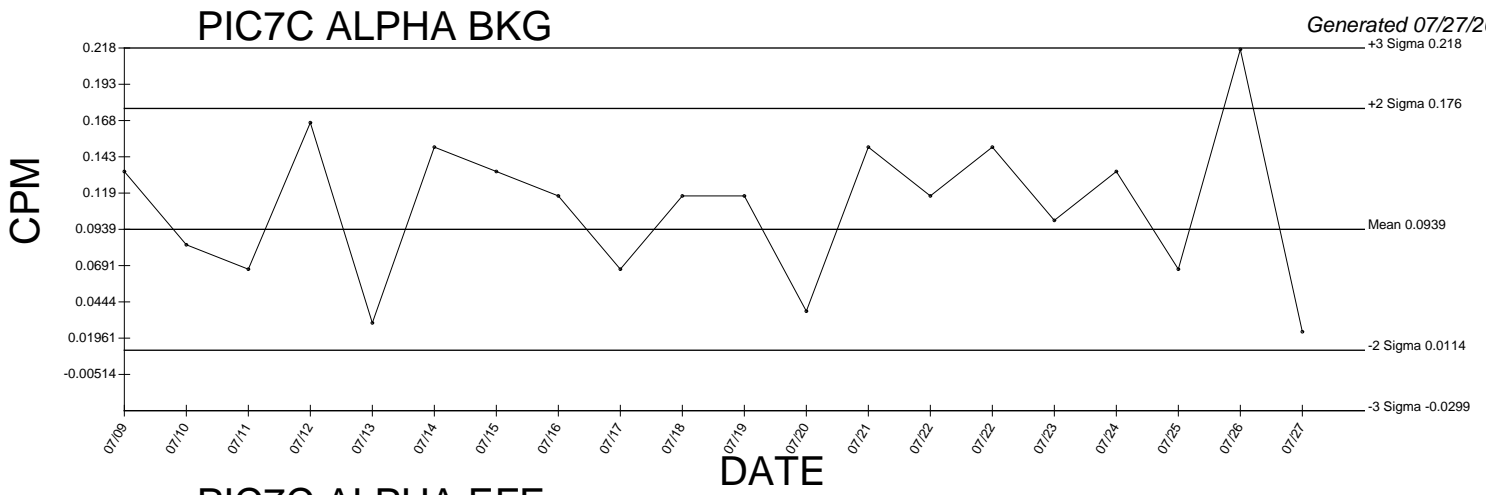
● Denotes Outlier



● Denotes Outlier



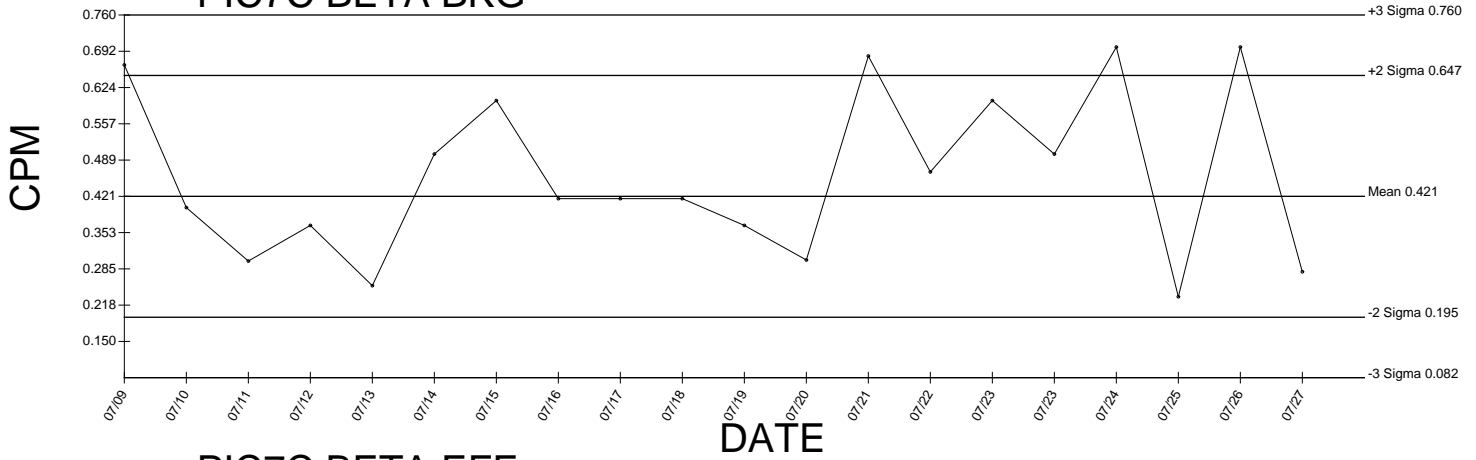
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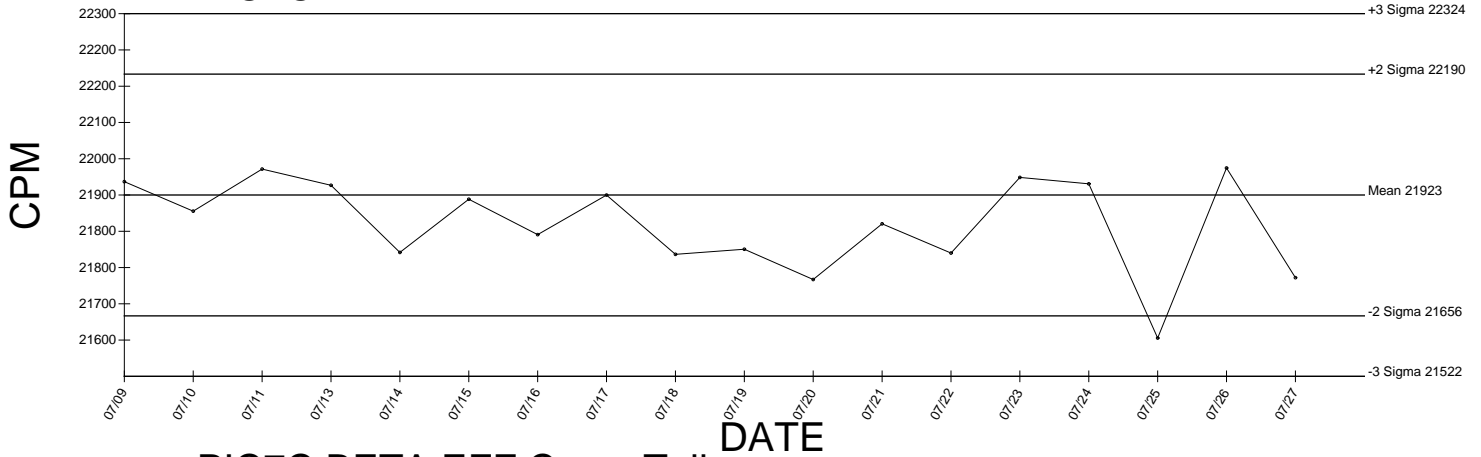
● Denotes Outlier

PIC7C BETA BKG

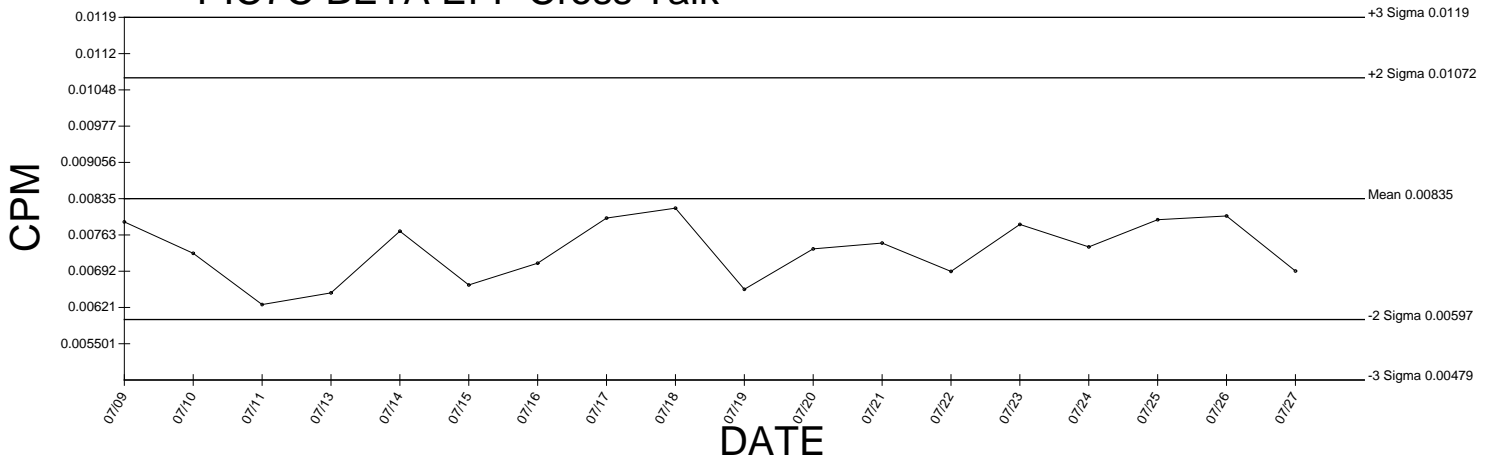
Generated 07/27/2009



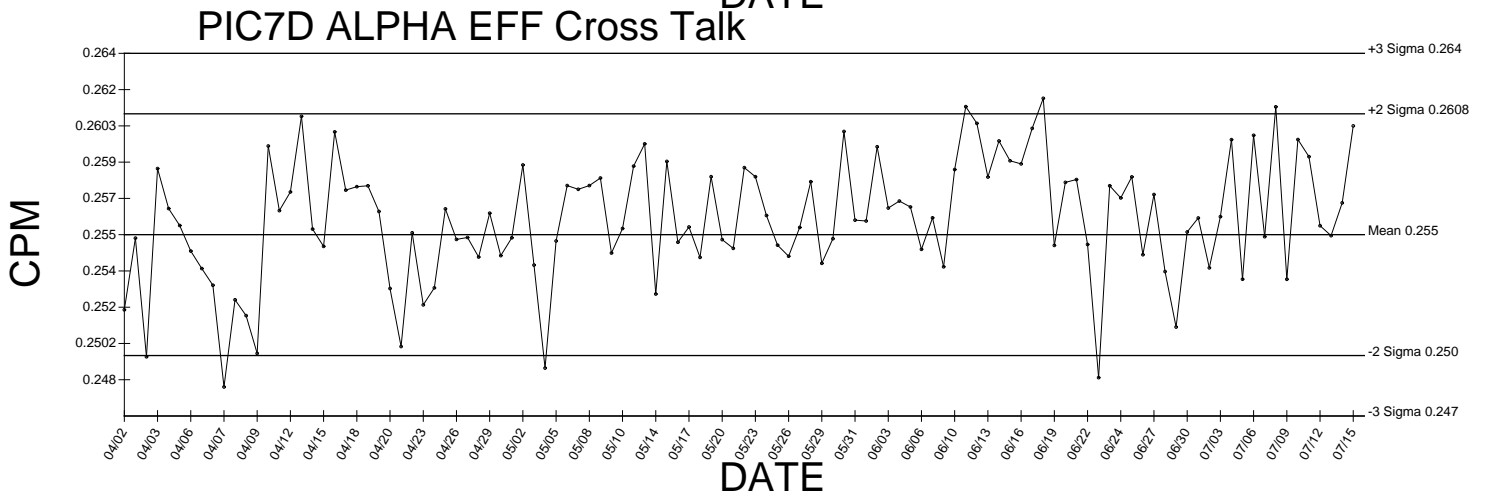
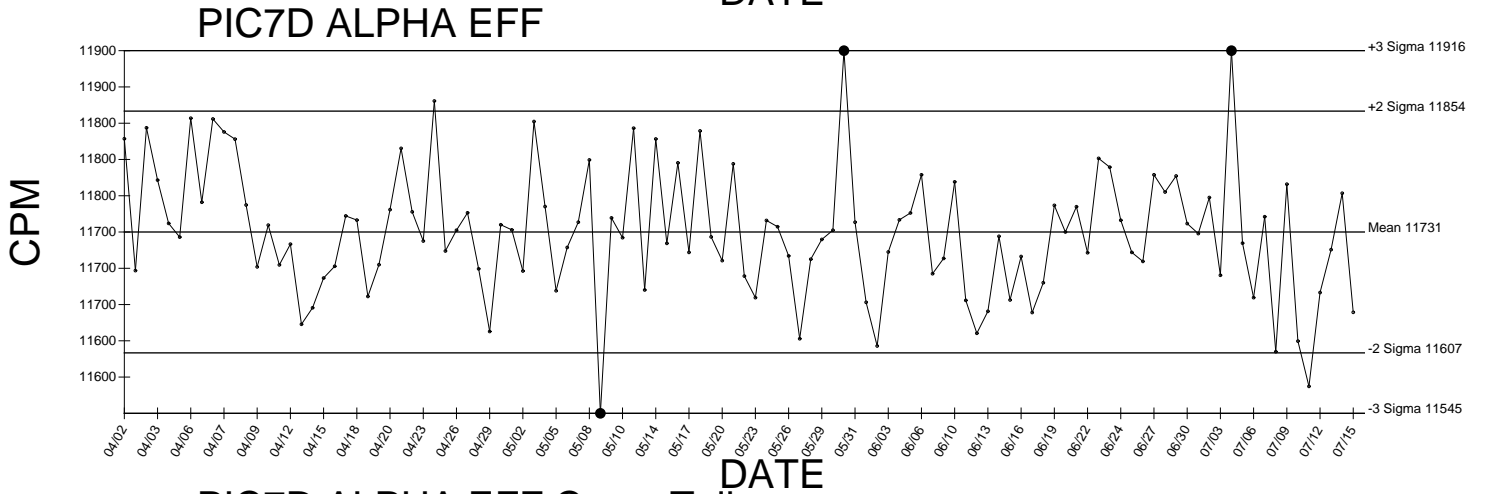
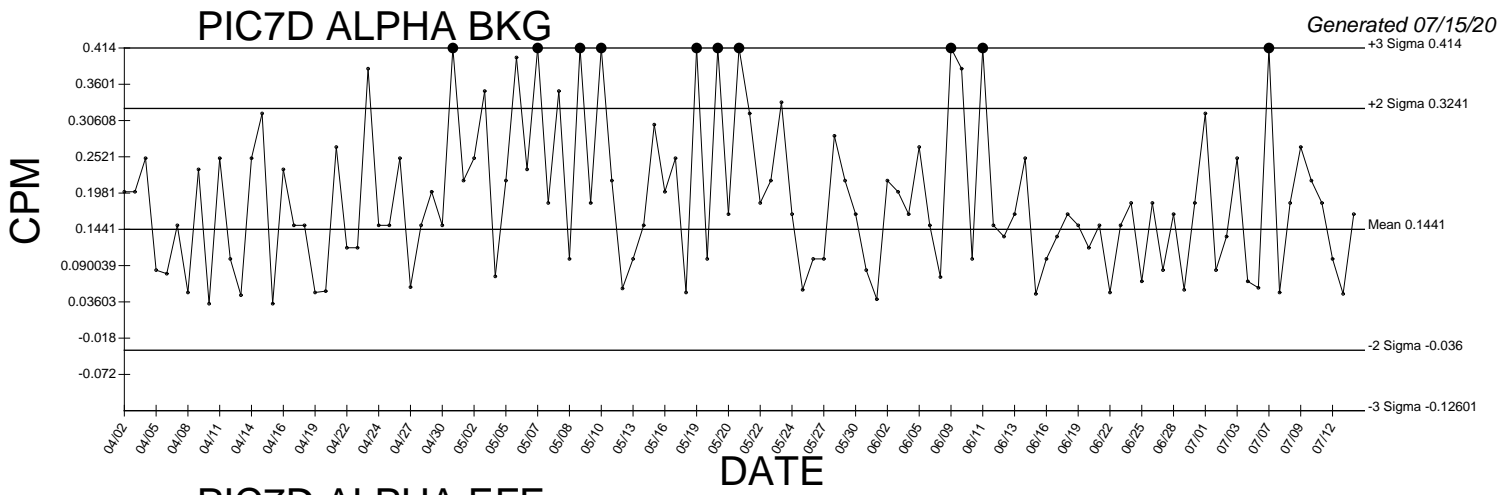
PIC7C BETA EFF



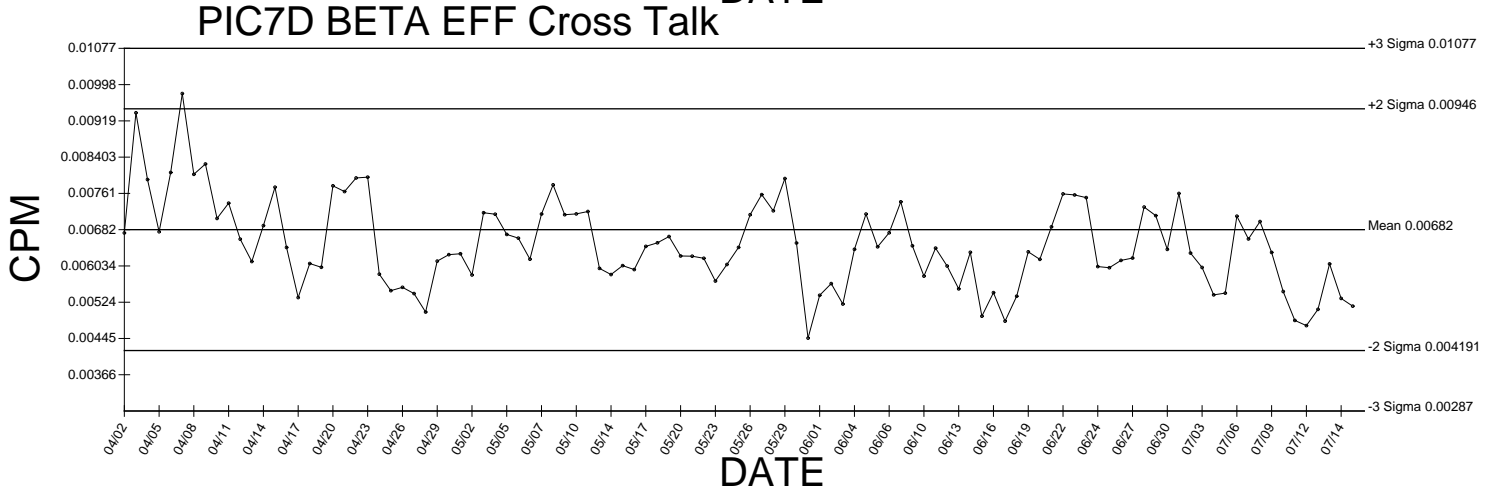
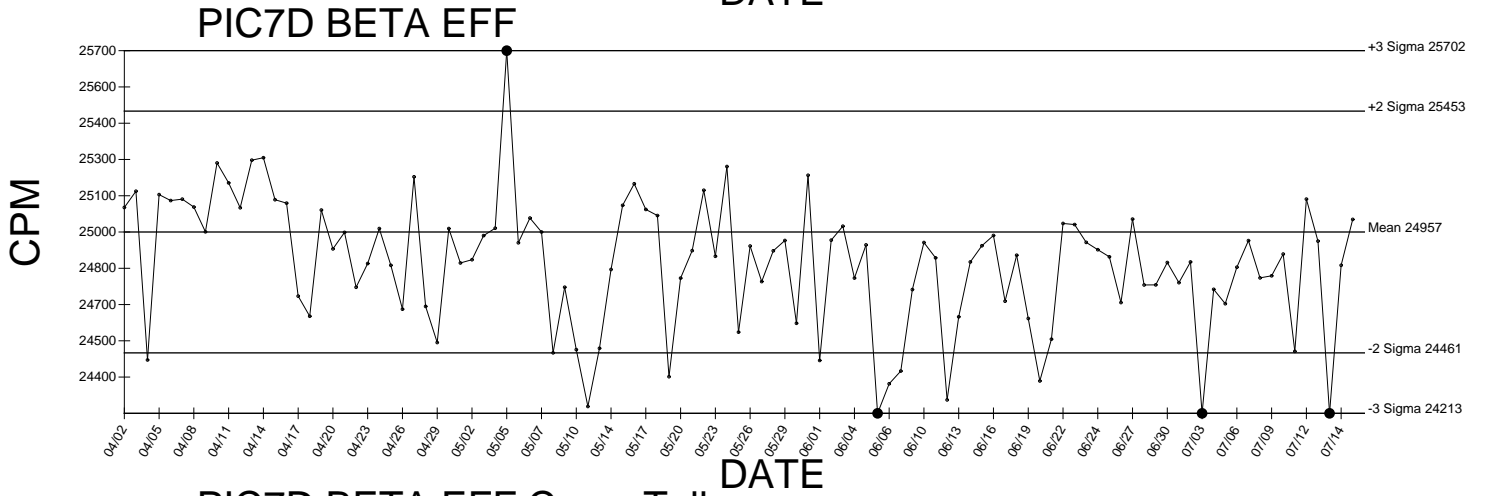
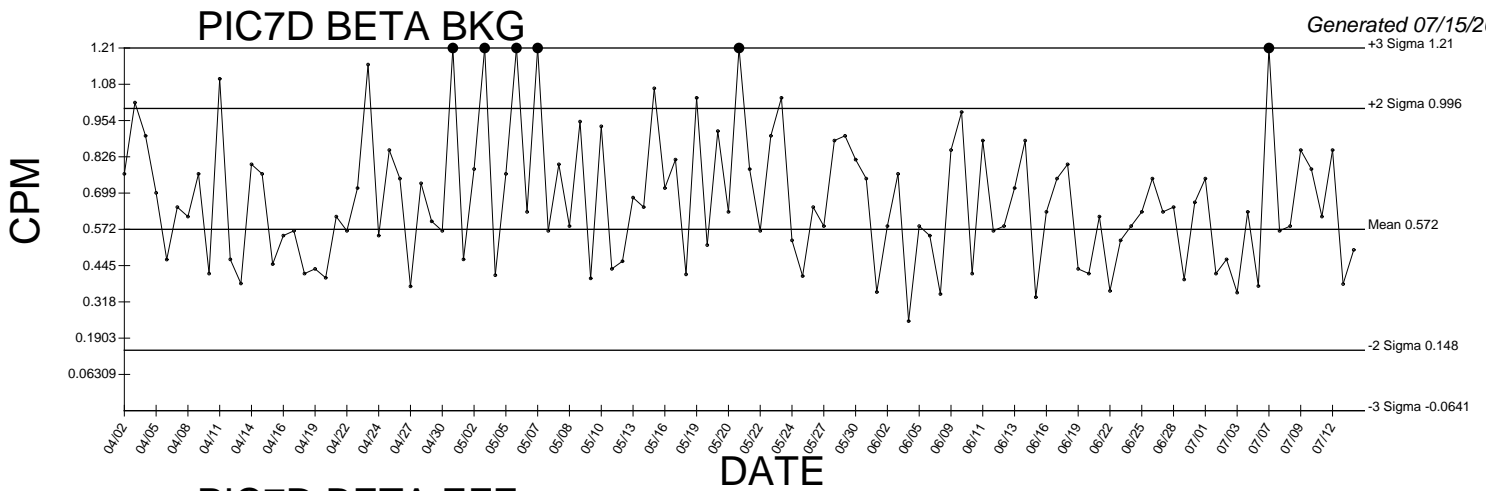
PIC7C BETA EFF Cross Talk



● Denotes Outlier



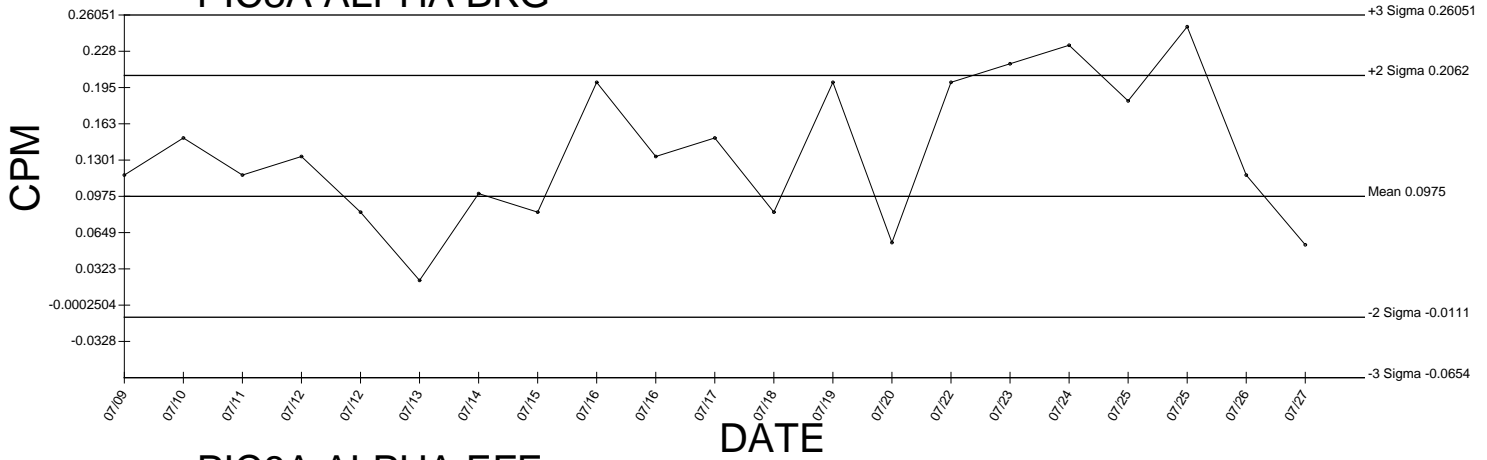
● Denotes Outlier



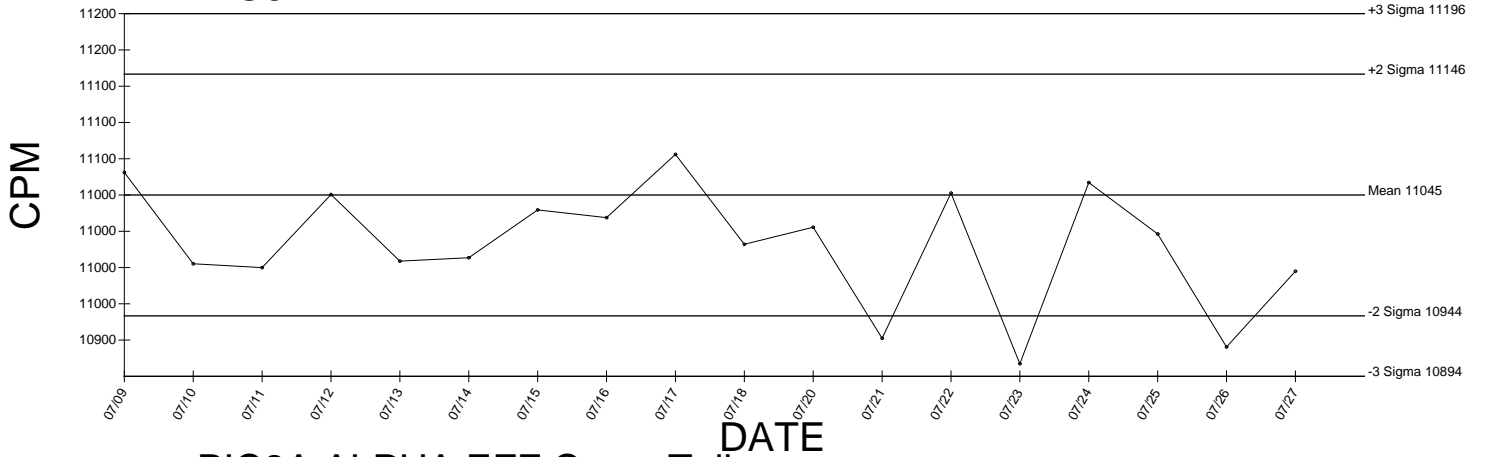
● Denotes Outlier

PIC8A ALPHA BKG

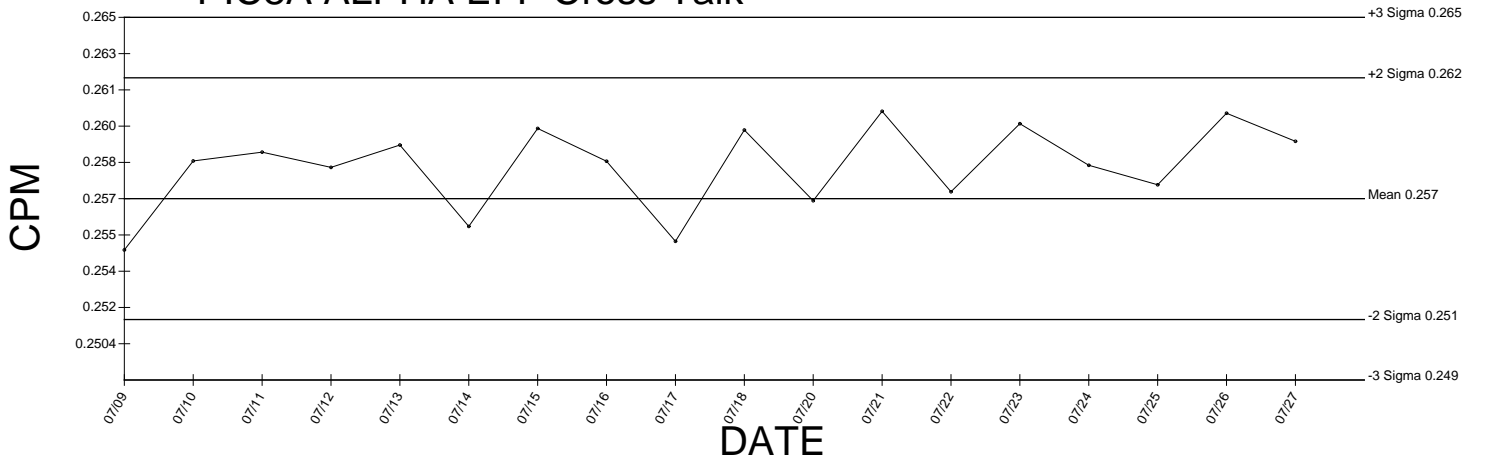
Generated 07/27/2009



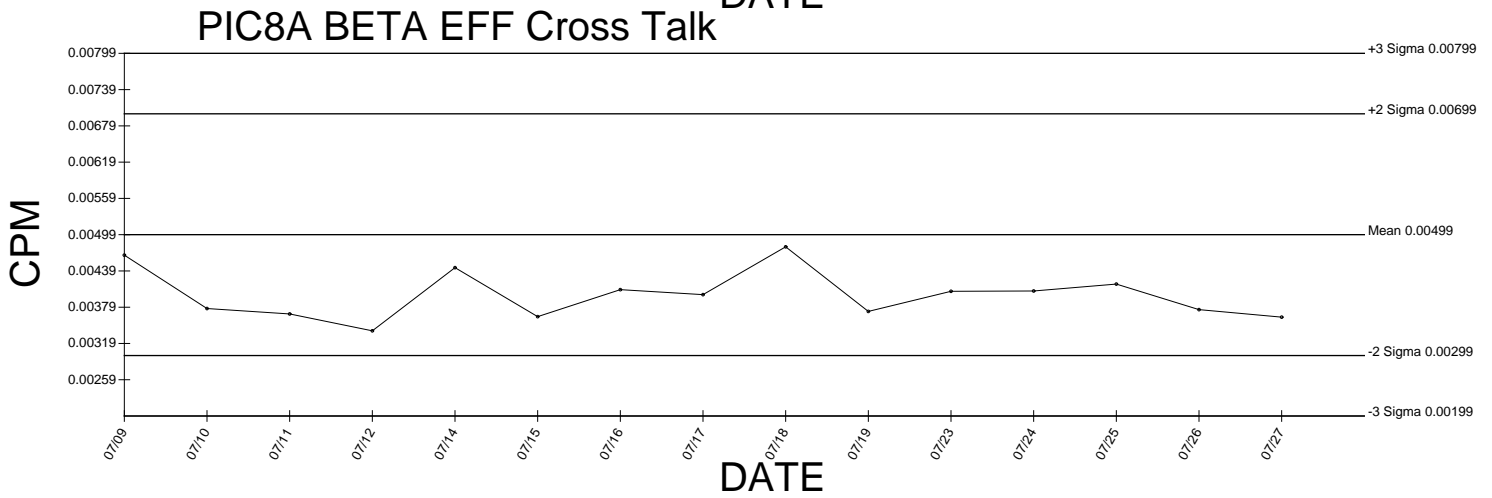
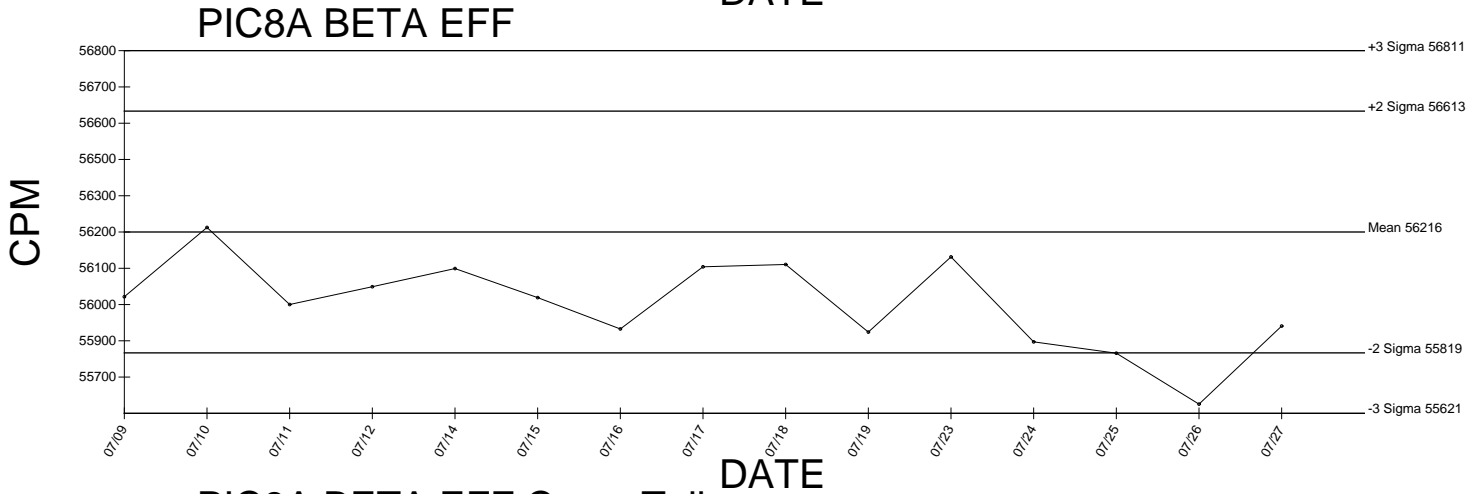
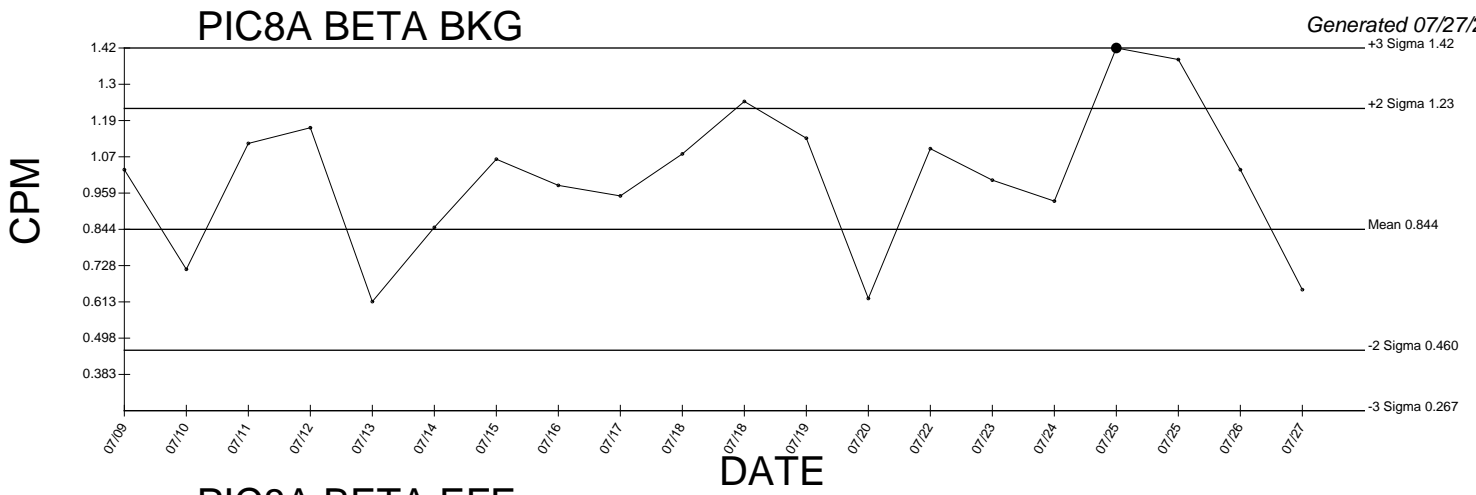
PIC8A ALPHA EFF



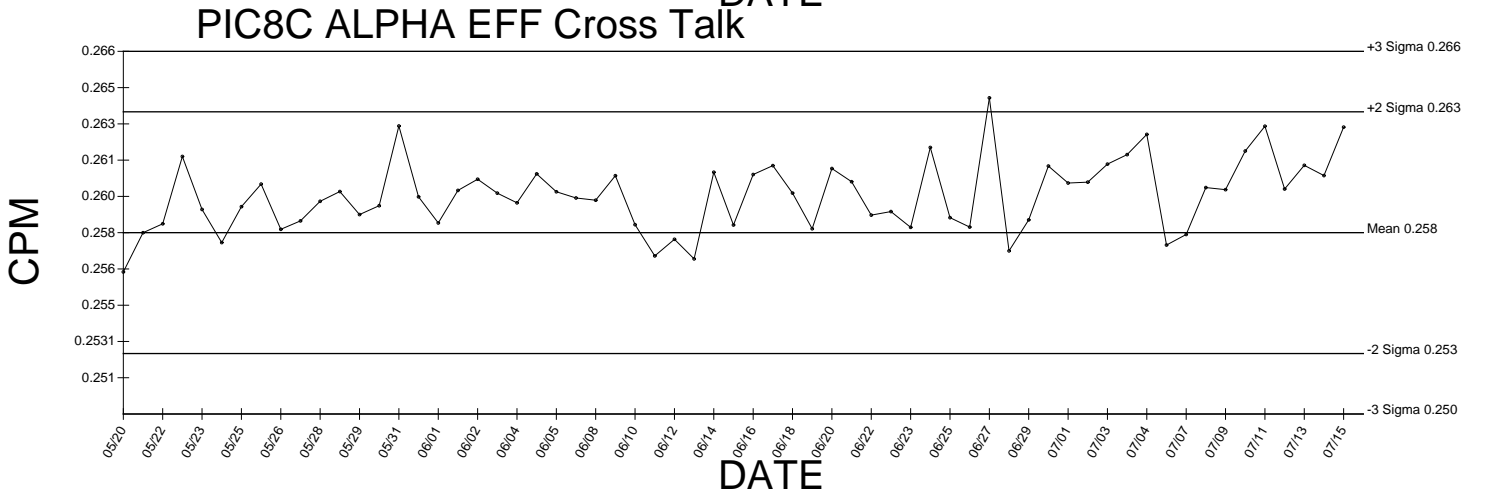
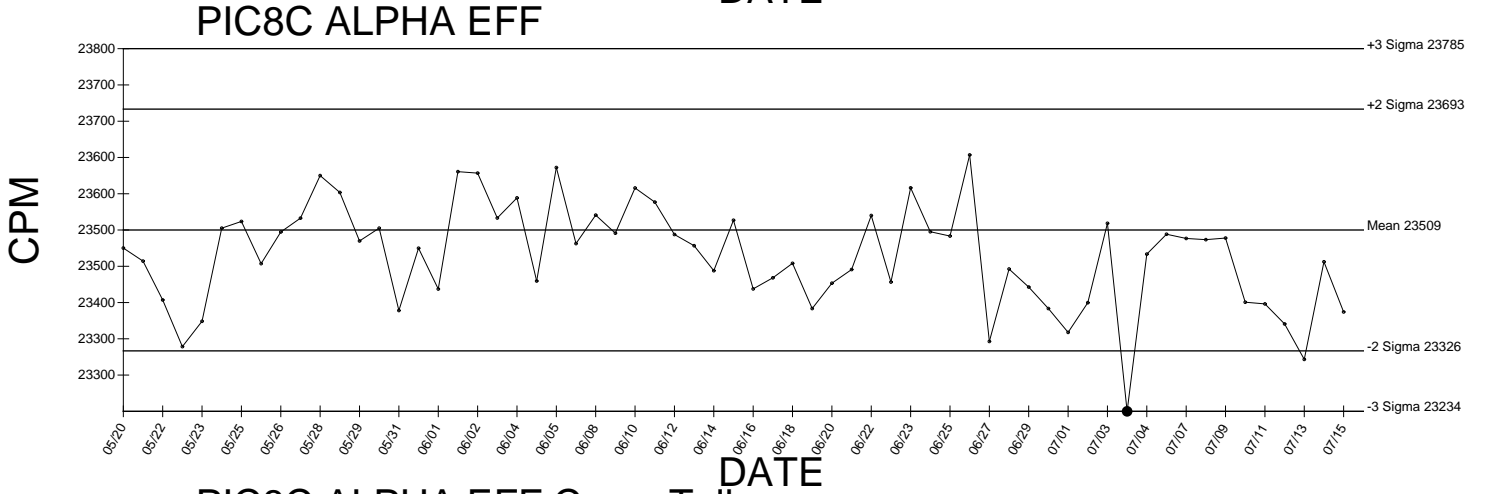
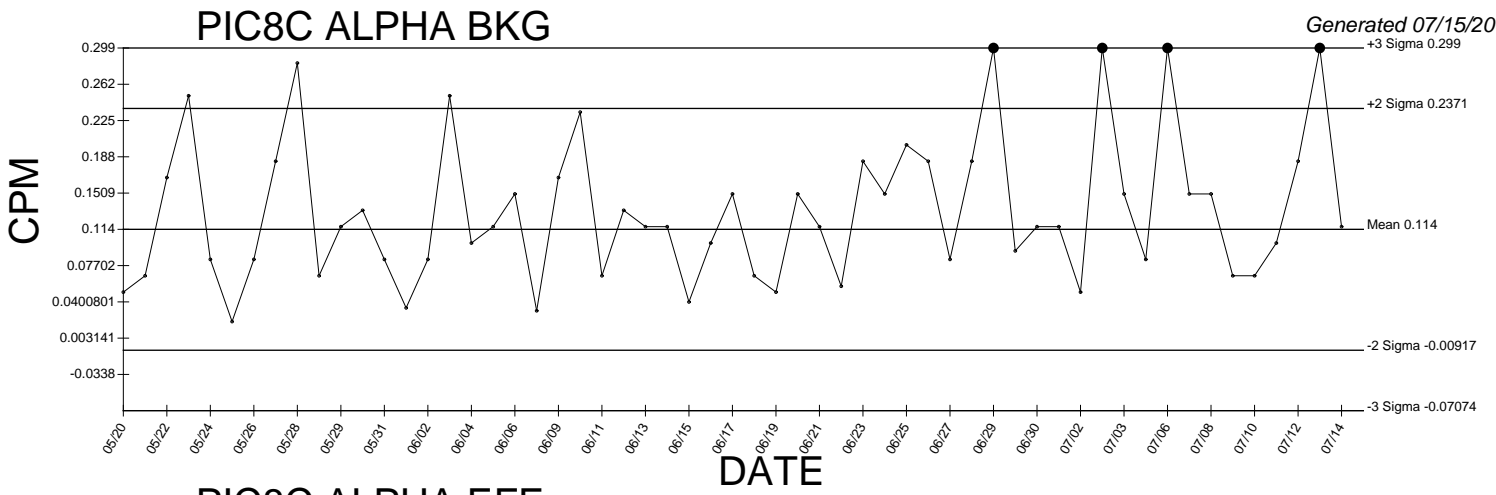
PIC8A ALPHA EFF Cross Talk



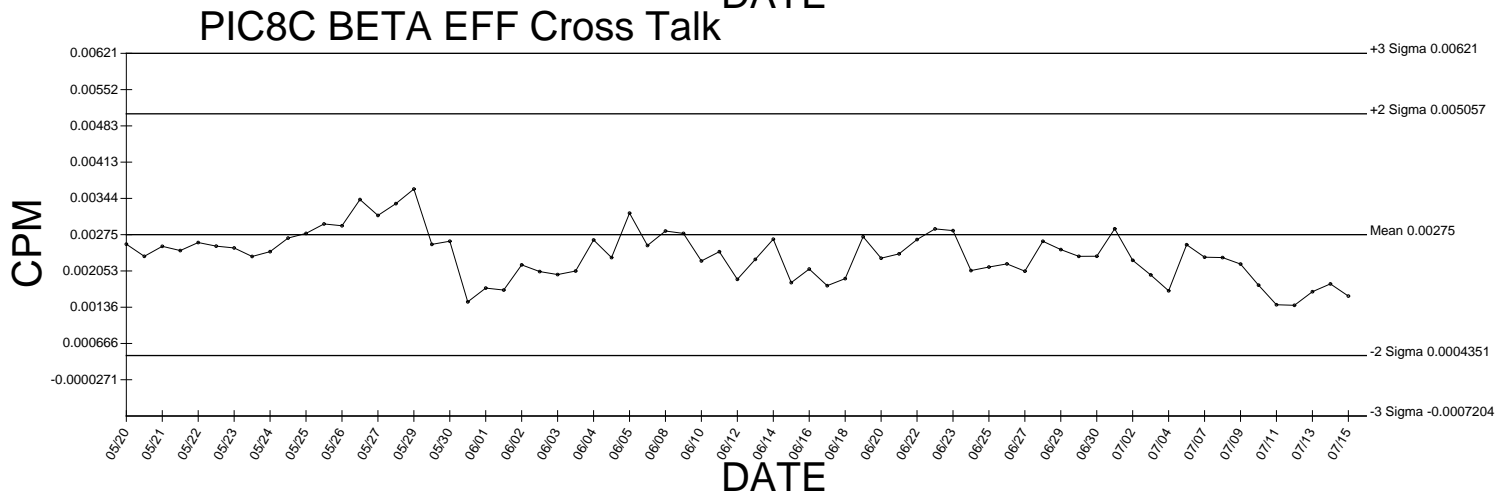
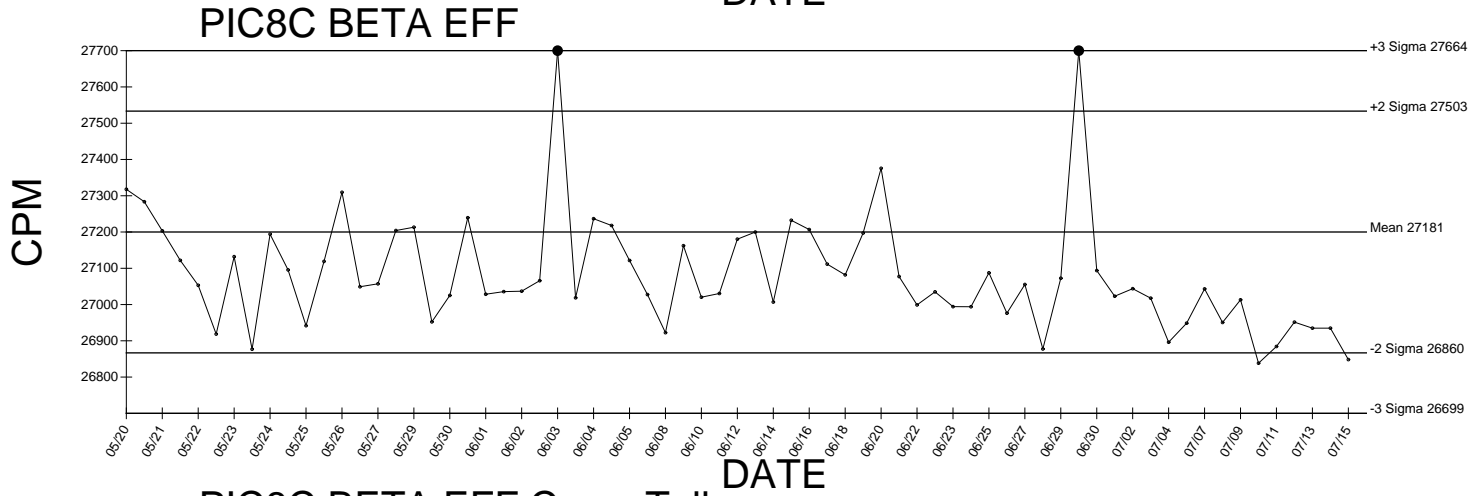
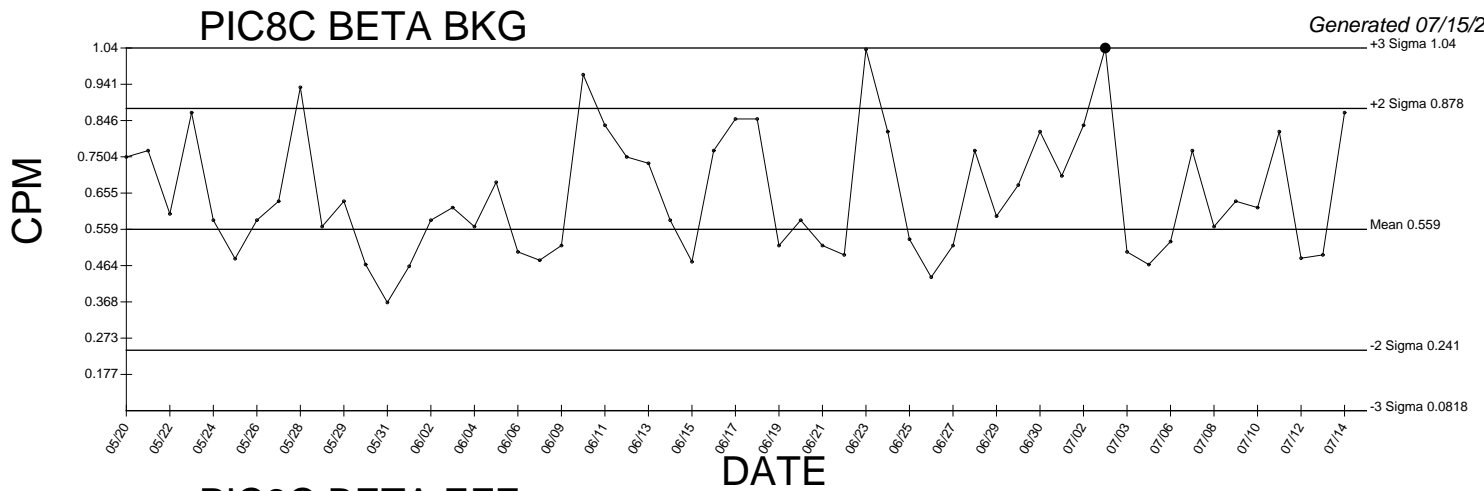
● Denotes Outlier



● Denotes Outlier



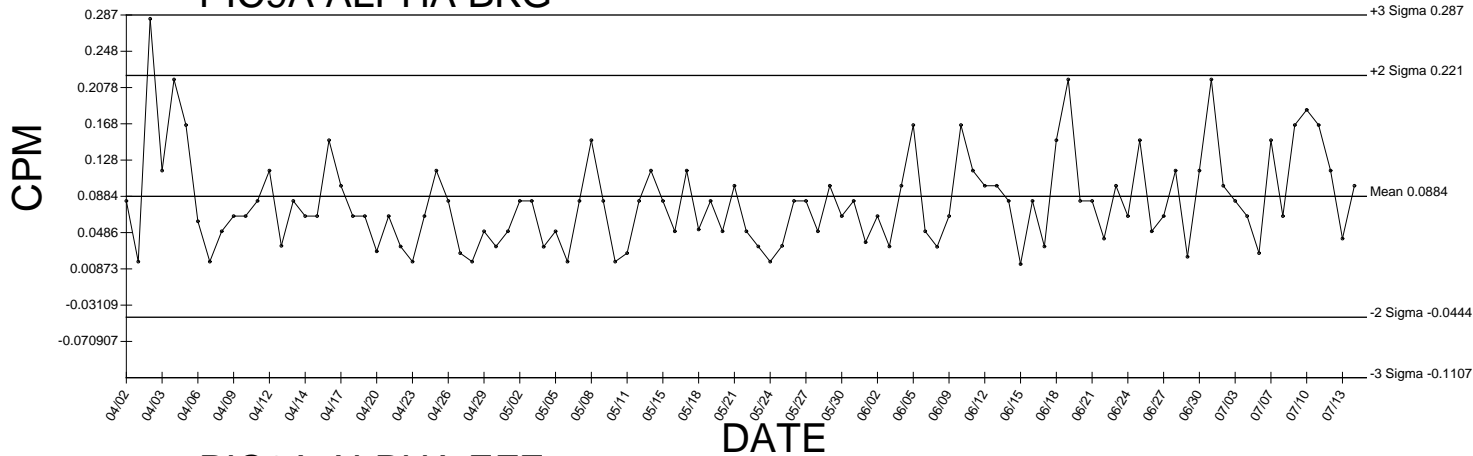
● Denotes Outlier



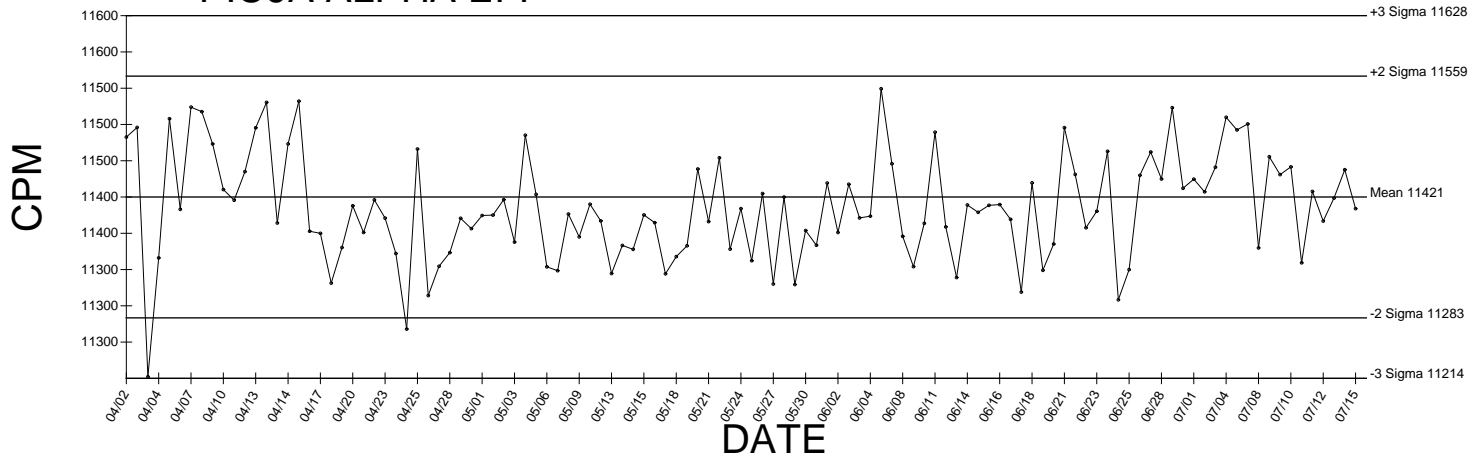
● Denotes Outlier

PIC9A ALPHA BKG

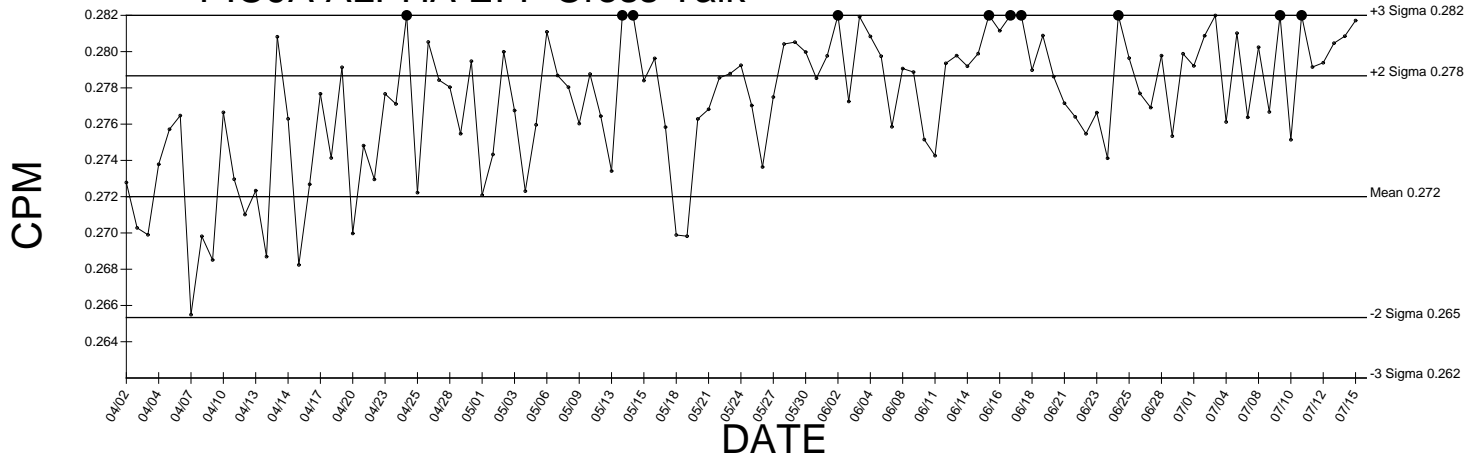
Generated 07/15/2009



PIC9A ALPHA EFF

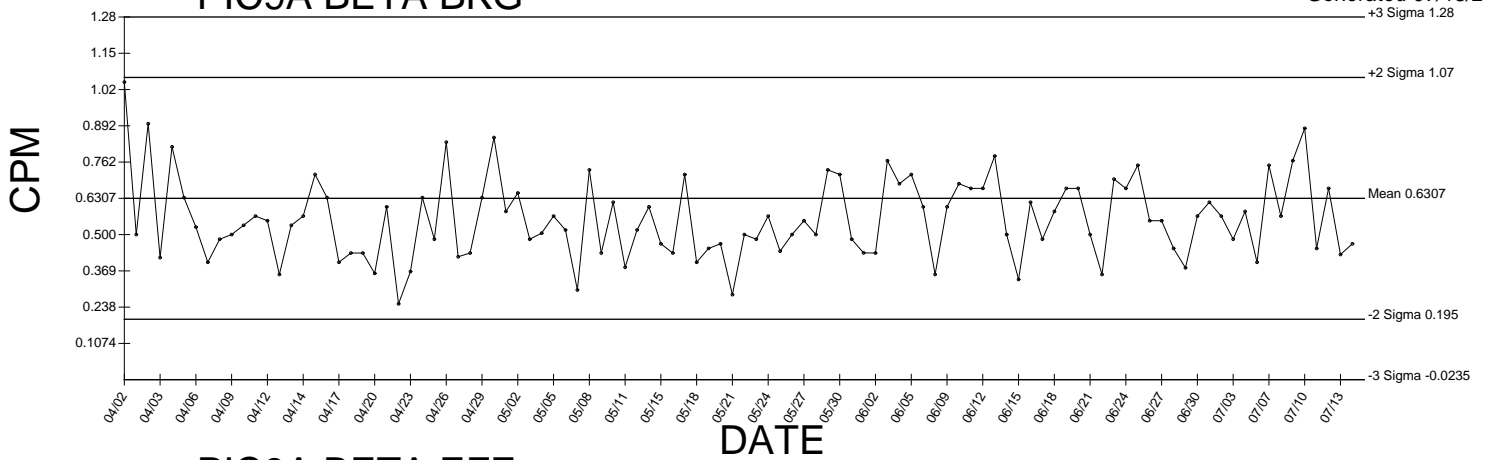


PIC9A ALPHA EFF Cross Talk

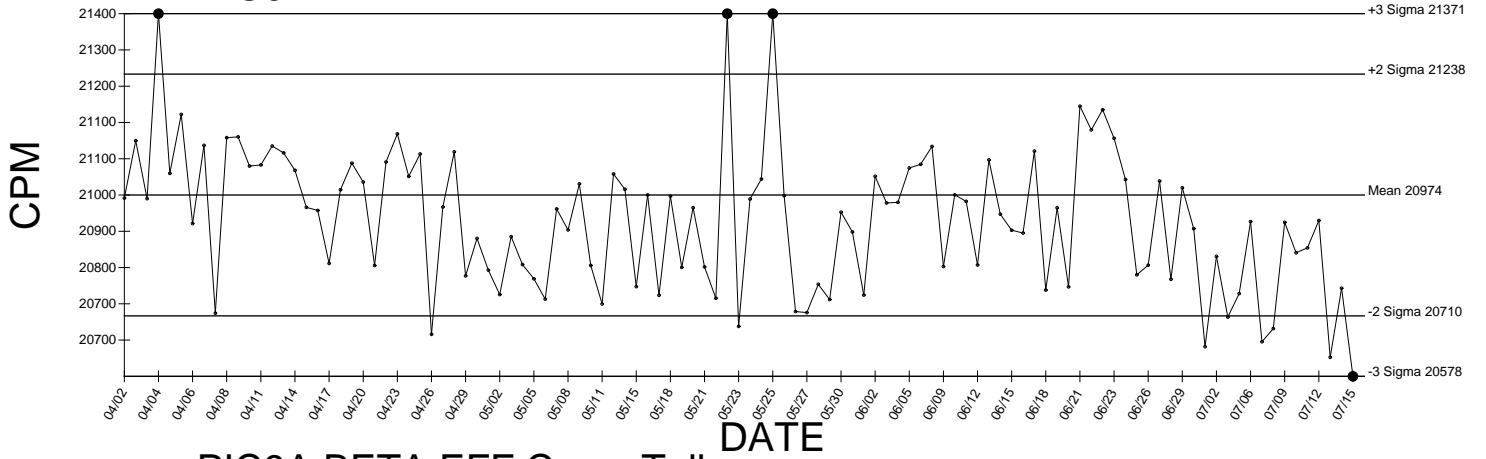


PIC9A BETA BKG

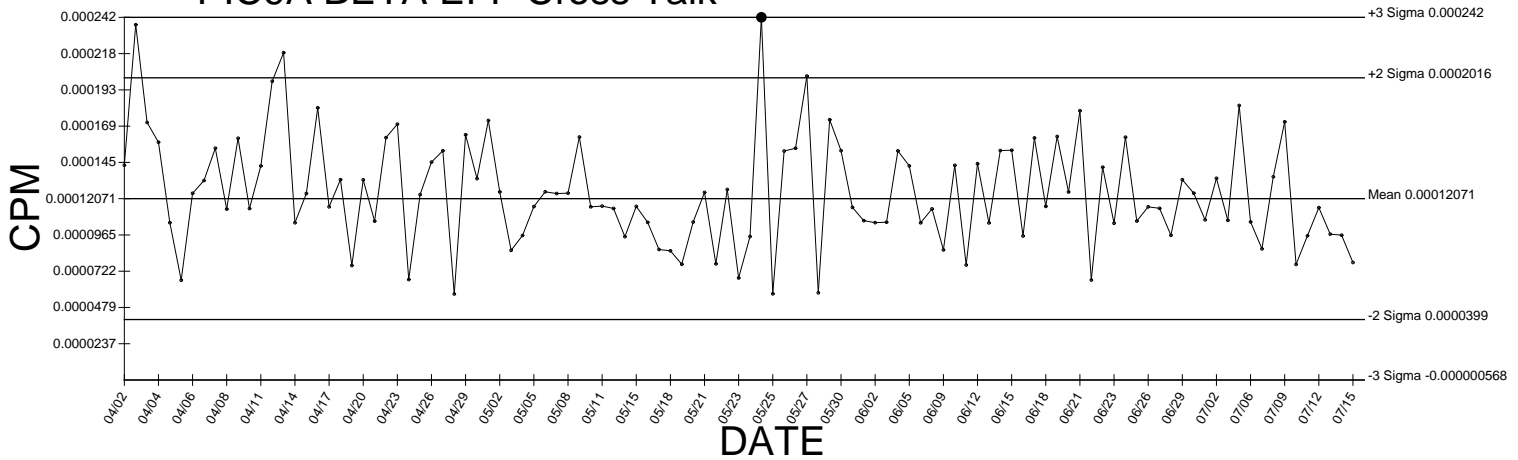
Generated 07/15/2009



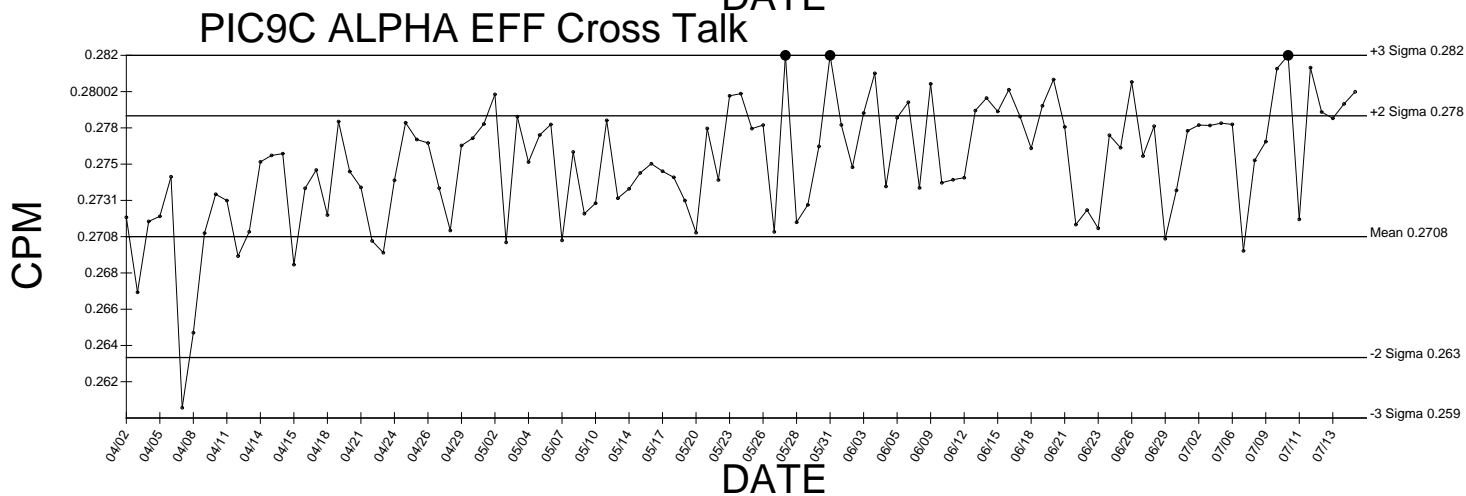
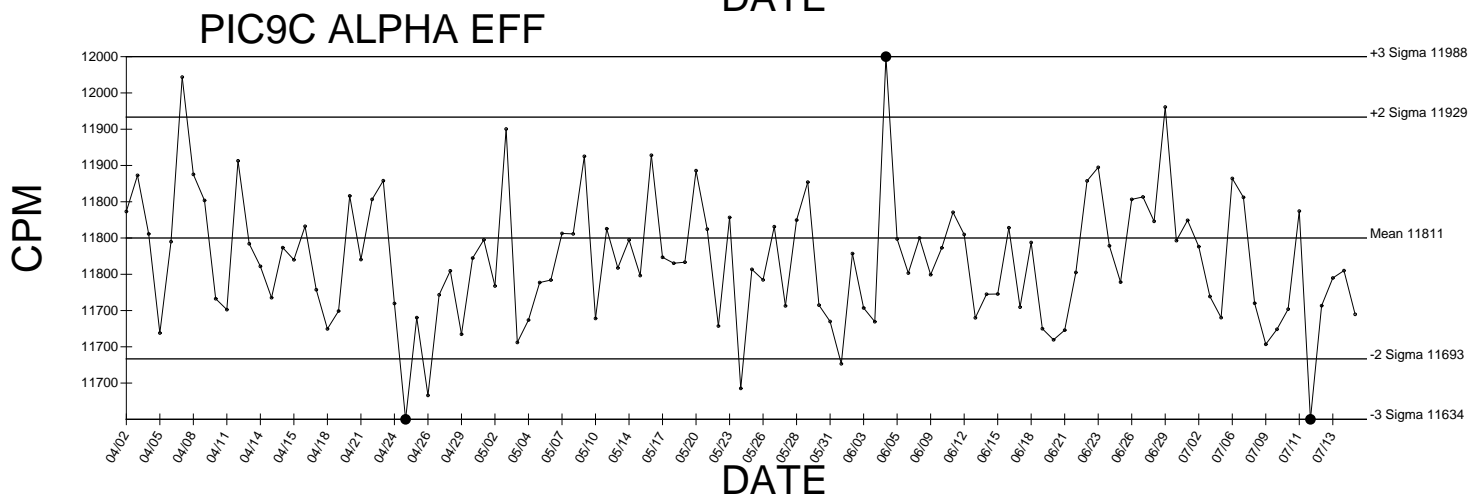
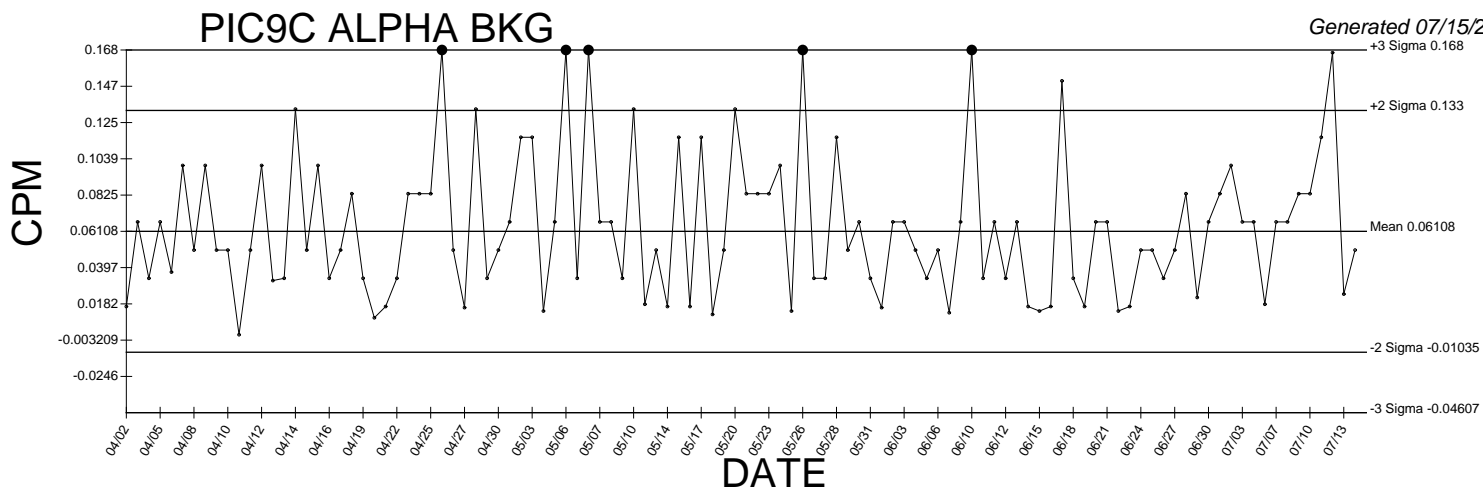
PIC9A BETA EFF



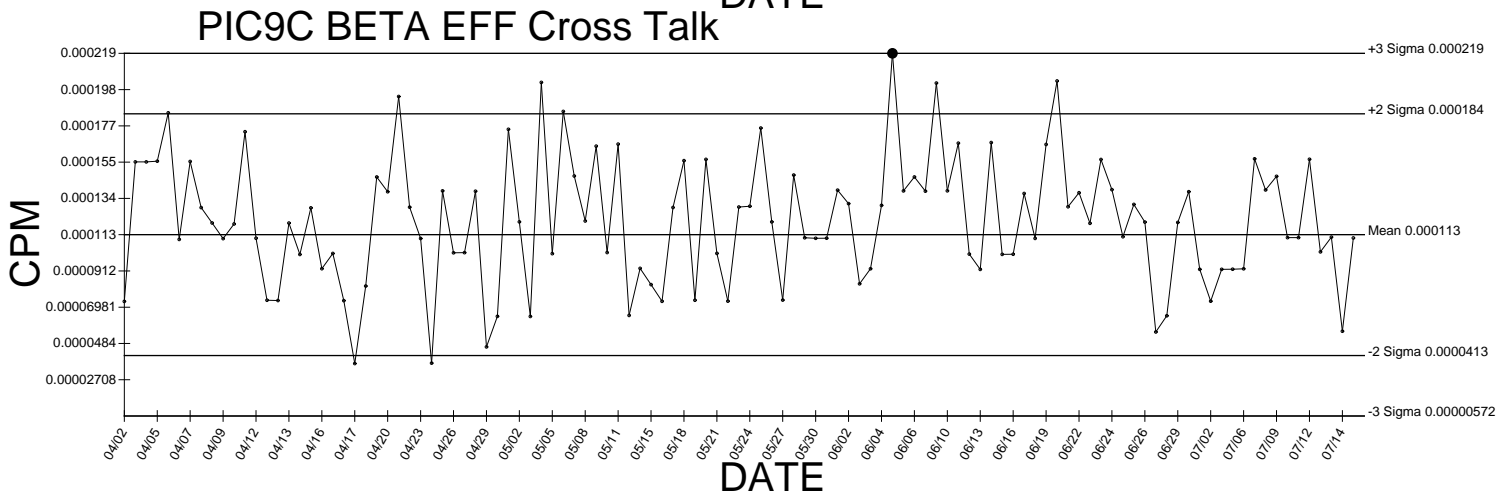
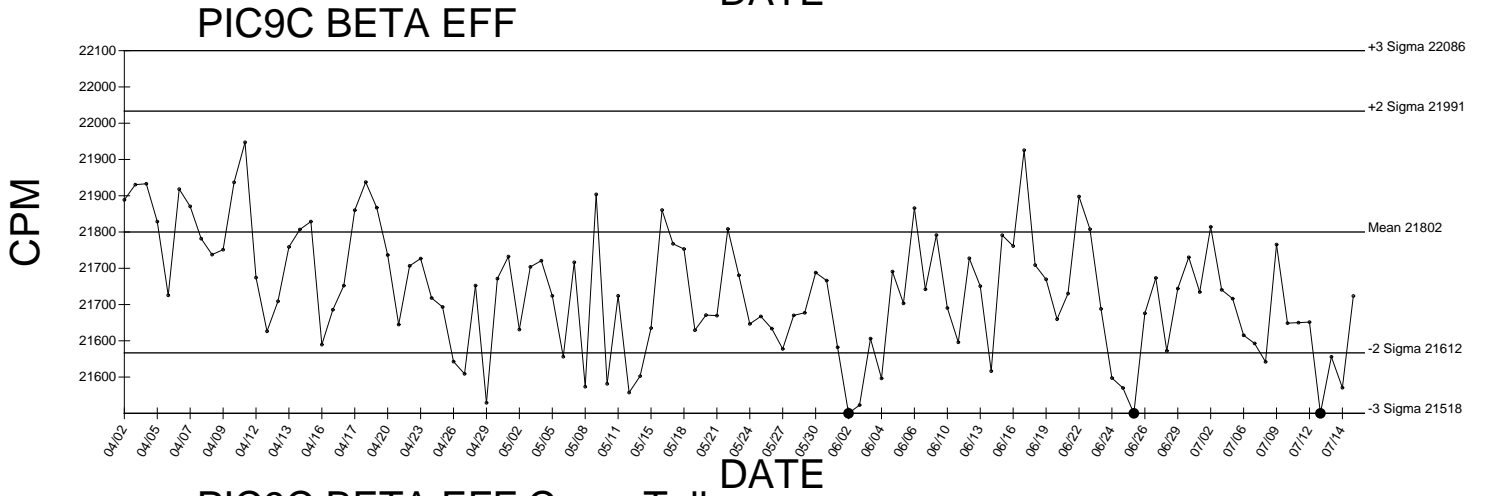
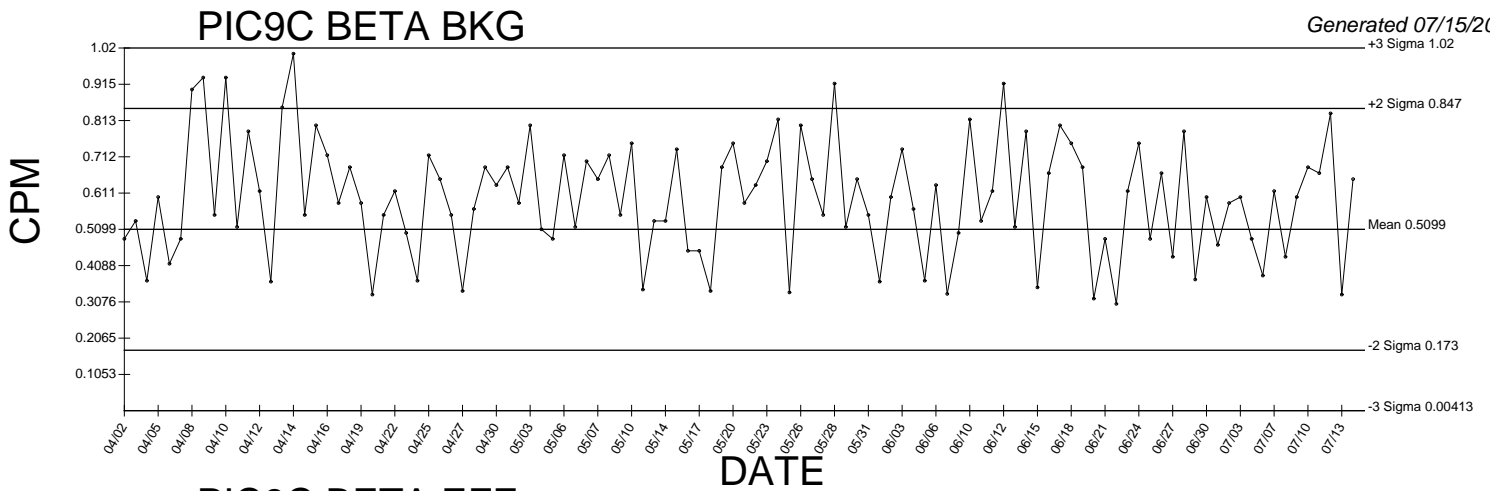
PIC9A BETA EFF Cross Talk



● Denotes Outlier

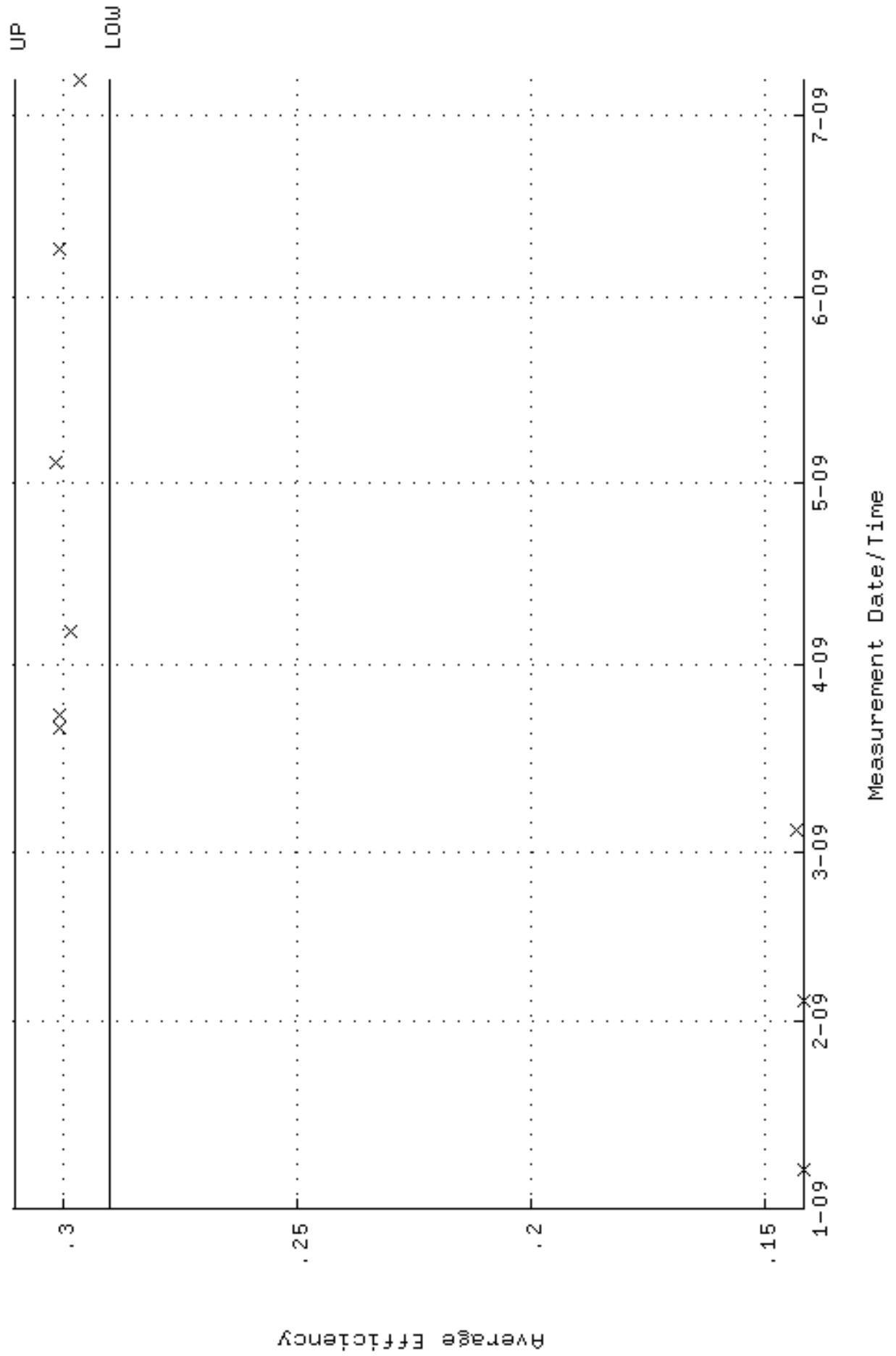


● Denotes Outlier

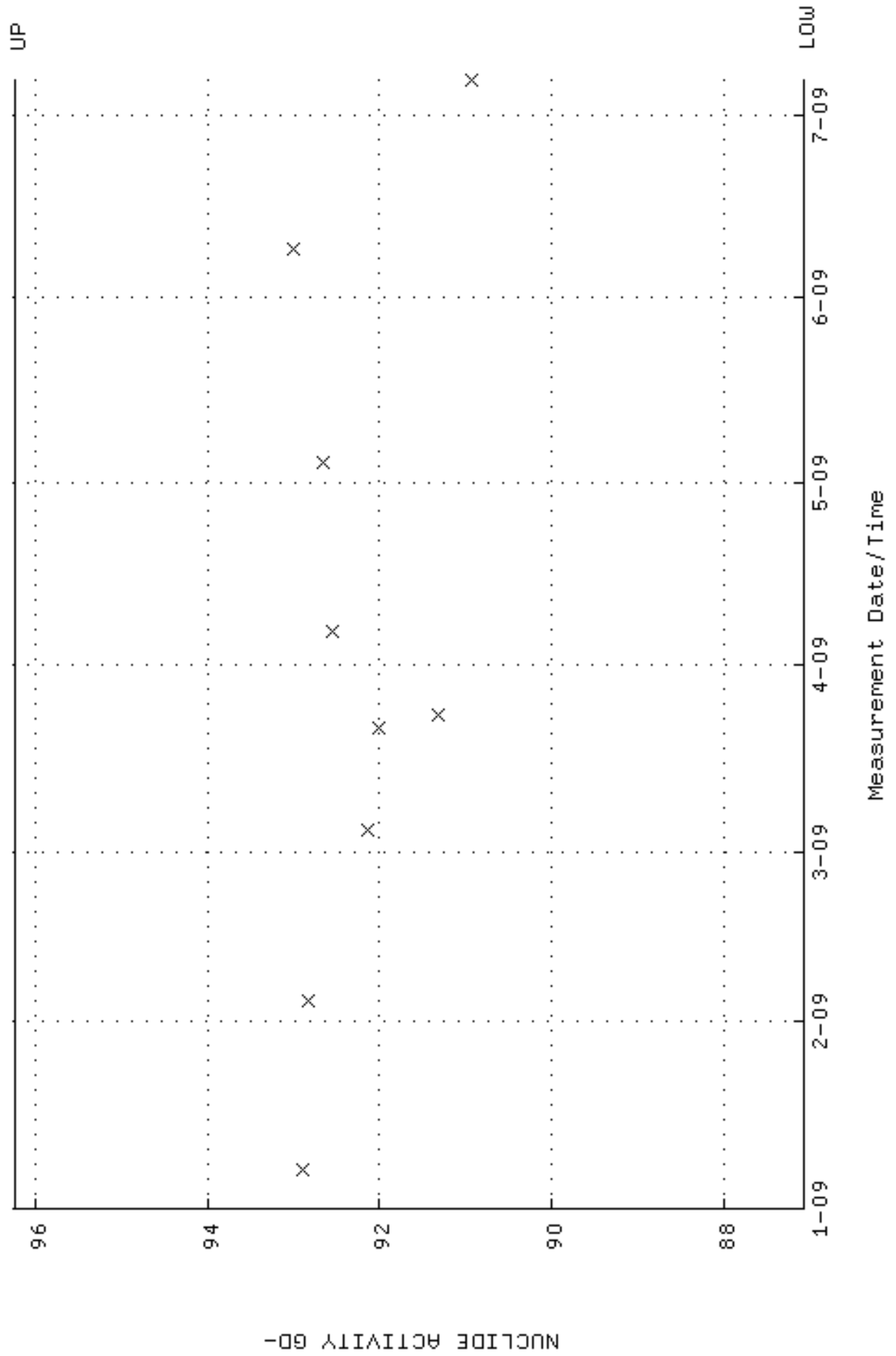


● Denotes Outlier

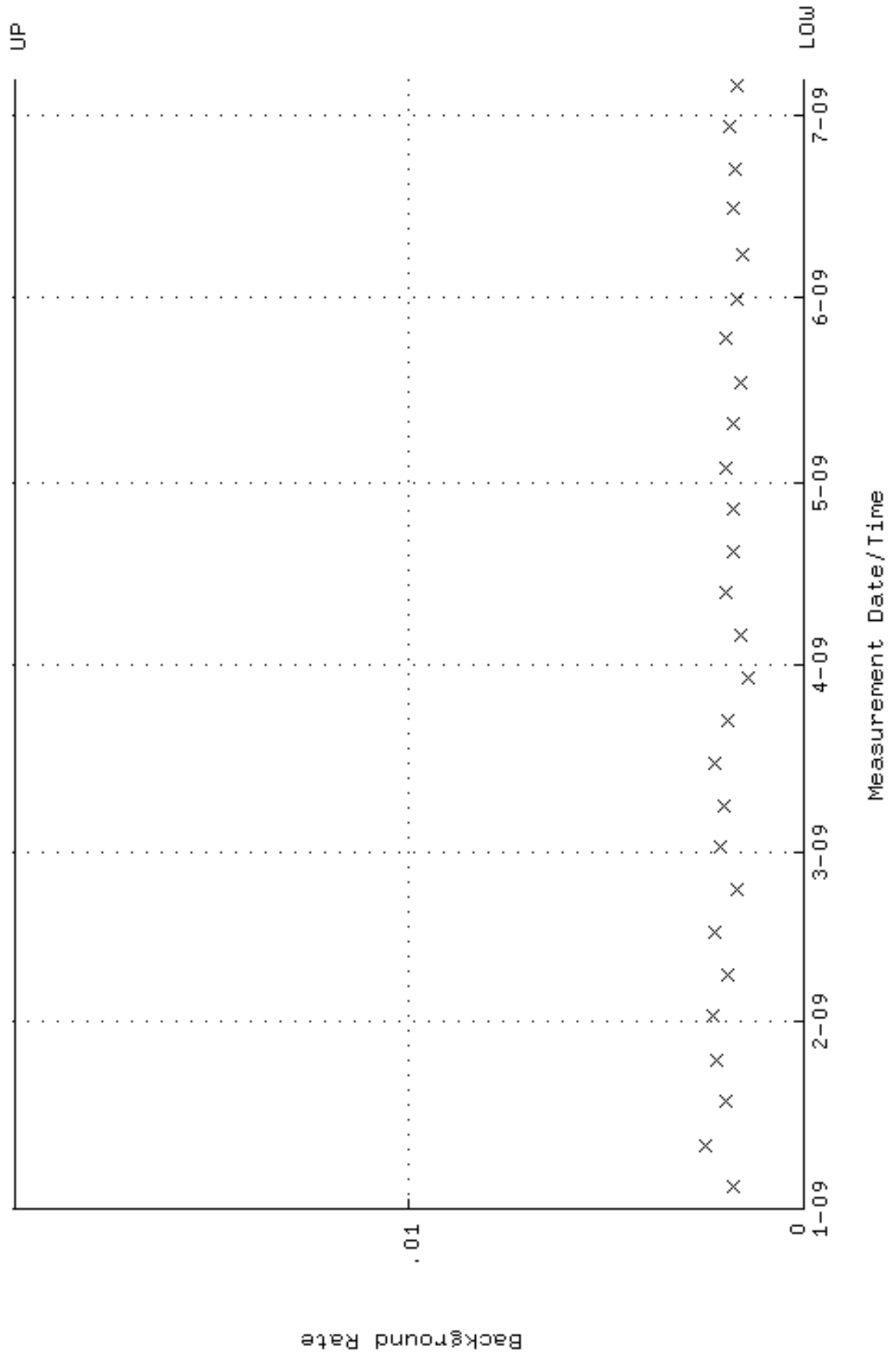
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 7-JAN-2009 07:02:33 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.290108 through 0.310108



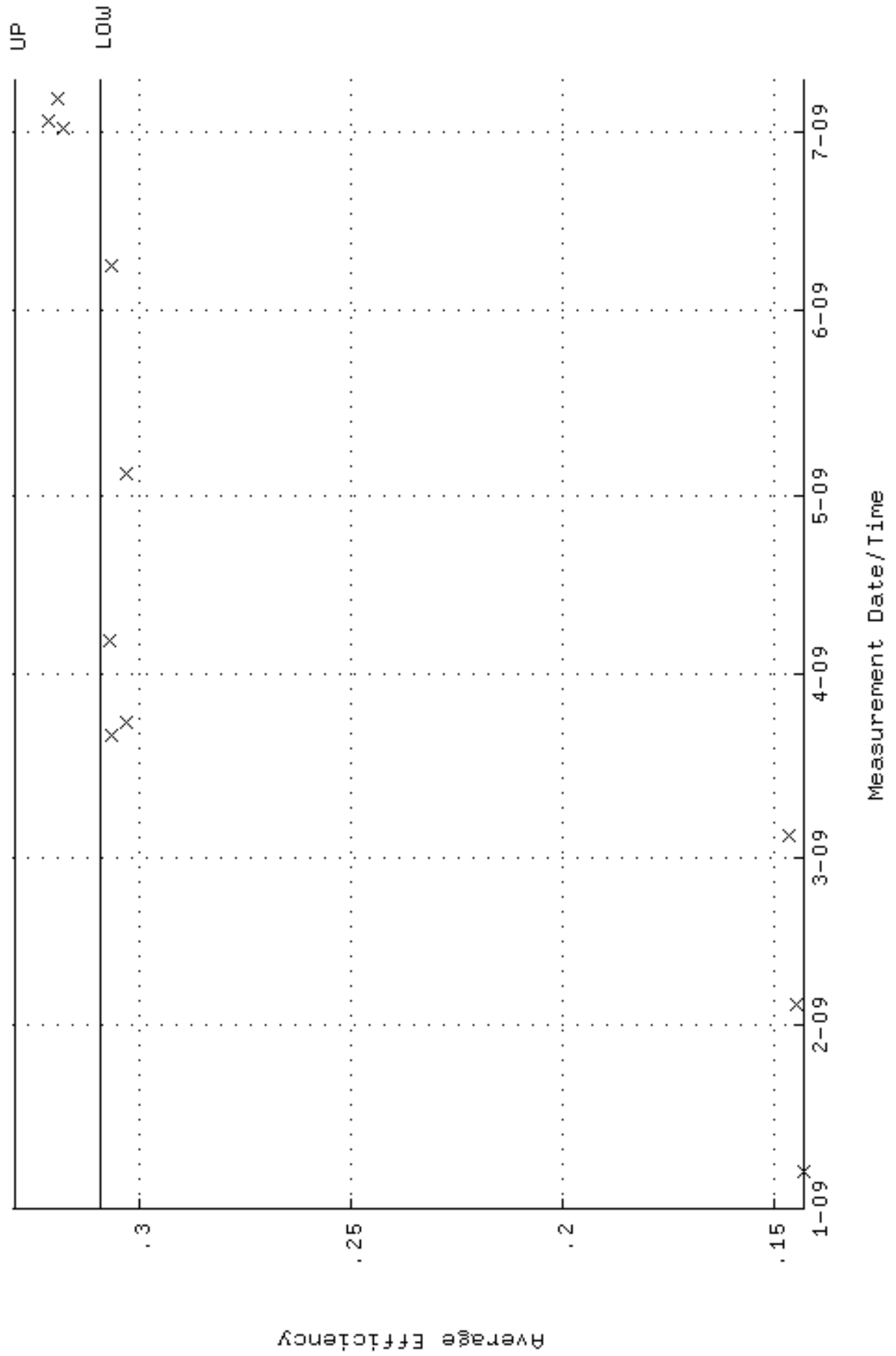
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 7-JAN-2009 07:02:33 through 6-JUL-2009 12:00:00
Lower/Upper Lmts: 87.0687 through 96.2339



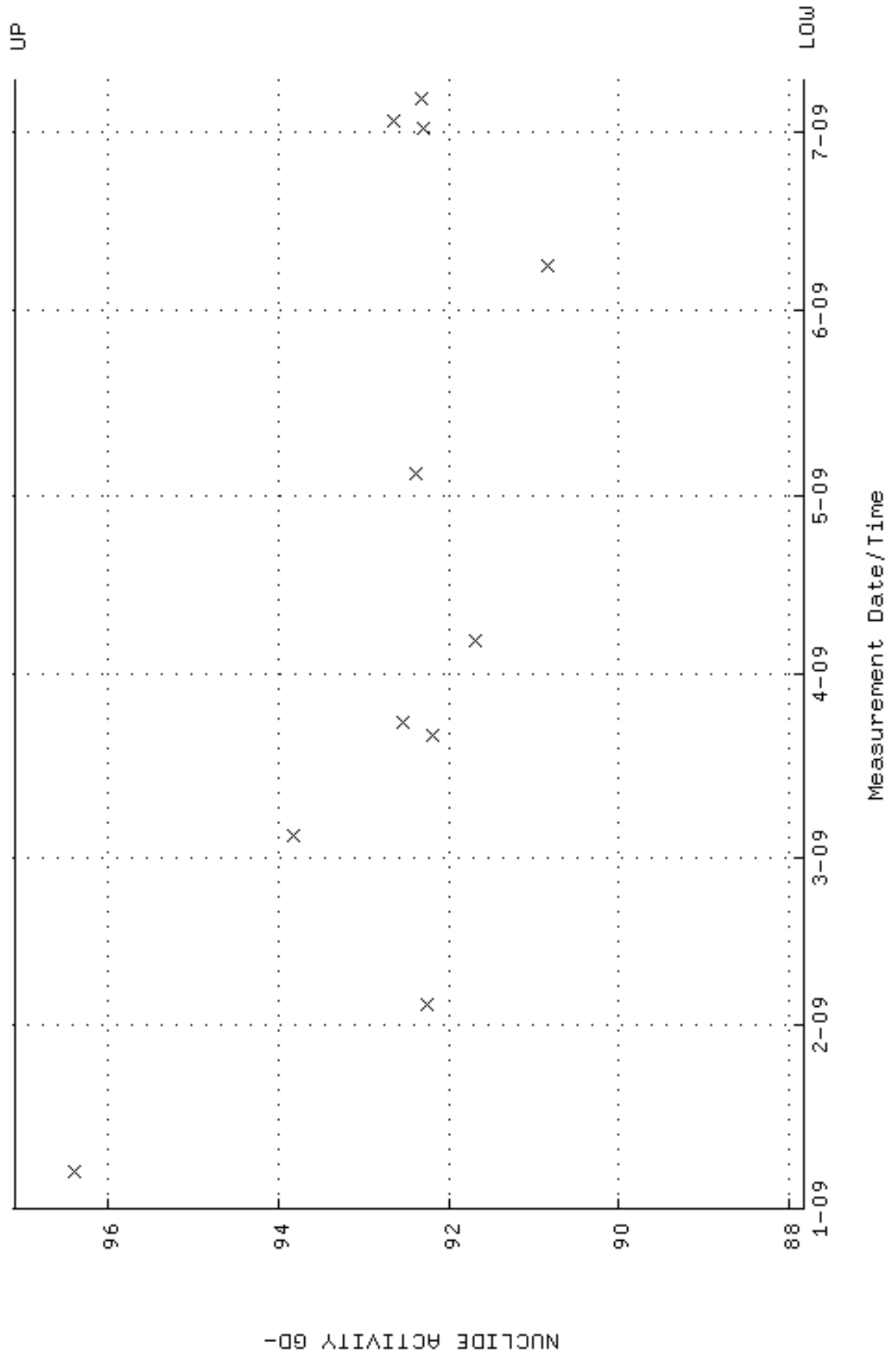
QA filename : DKA100:[ENV_ALPHA.QA.B]B007.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:23 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



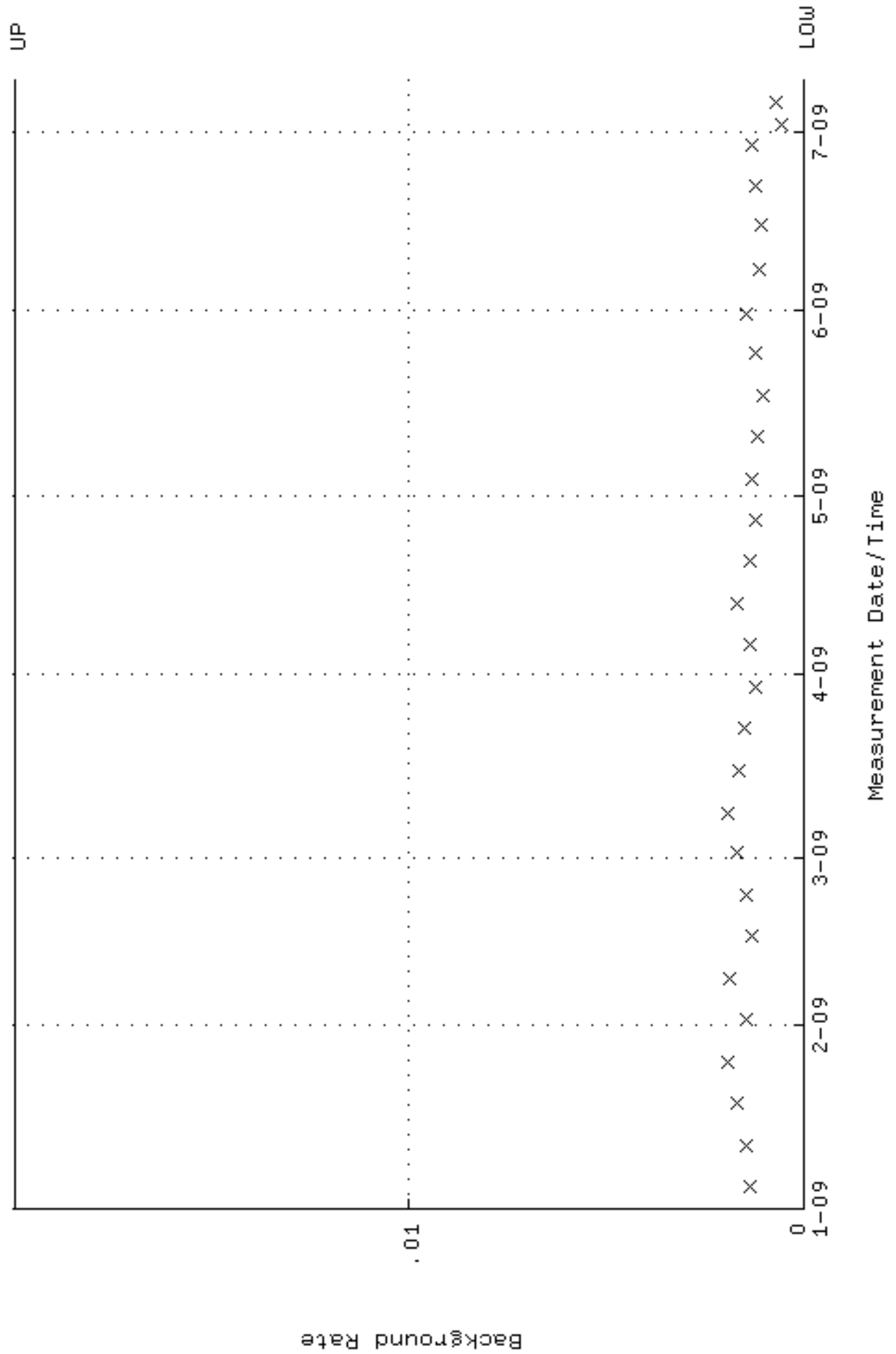
QA filename : DKA100:[ENV_ALPHA.QA.W]W008.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 7-JAN-2009 07:02:33 through 9-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.309318 through 0.329318



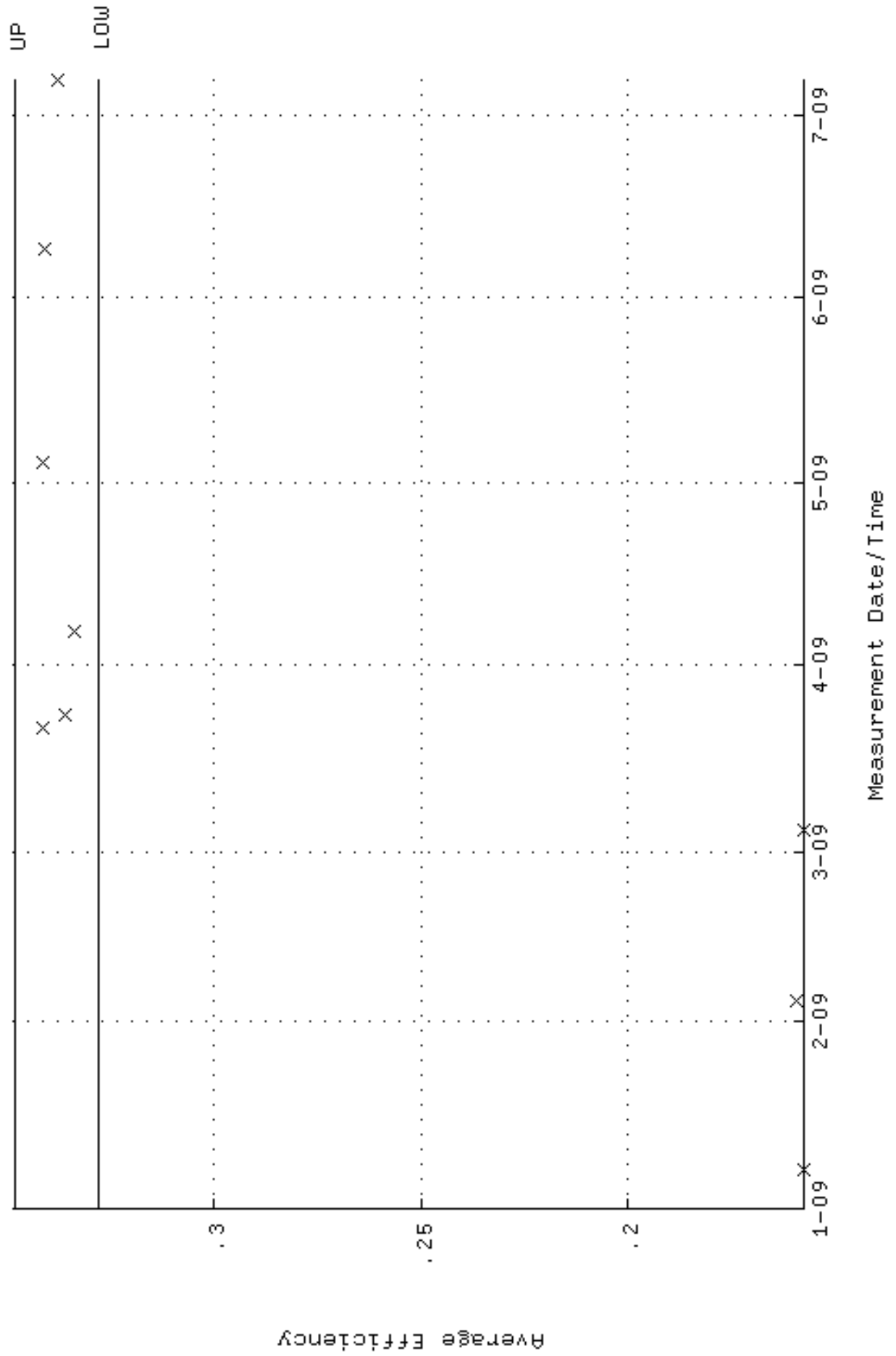
QA filename : DKA100:[ENV_ALPHA.QA.W]W008.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 7-JAN-2009 07:02:33 through 9-JUL-2009 12:00:00
 Lower/Upper Lmts: 87.8346 through 97.0804



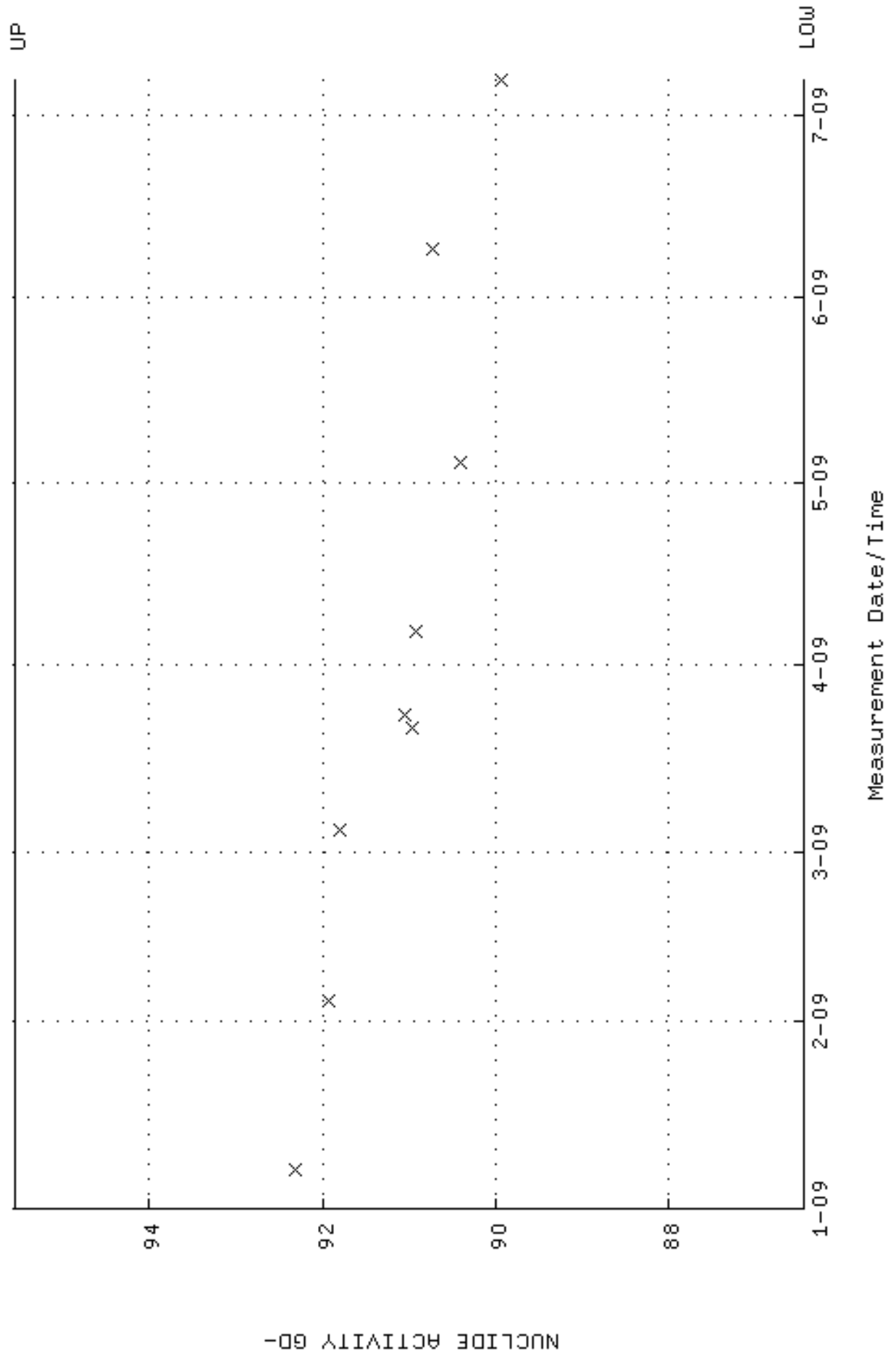
QA filename : DKA100:[ENV_ALPHA.QA.B]B008.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:23 through 9-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



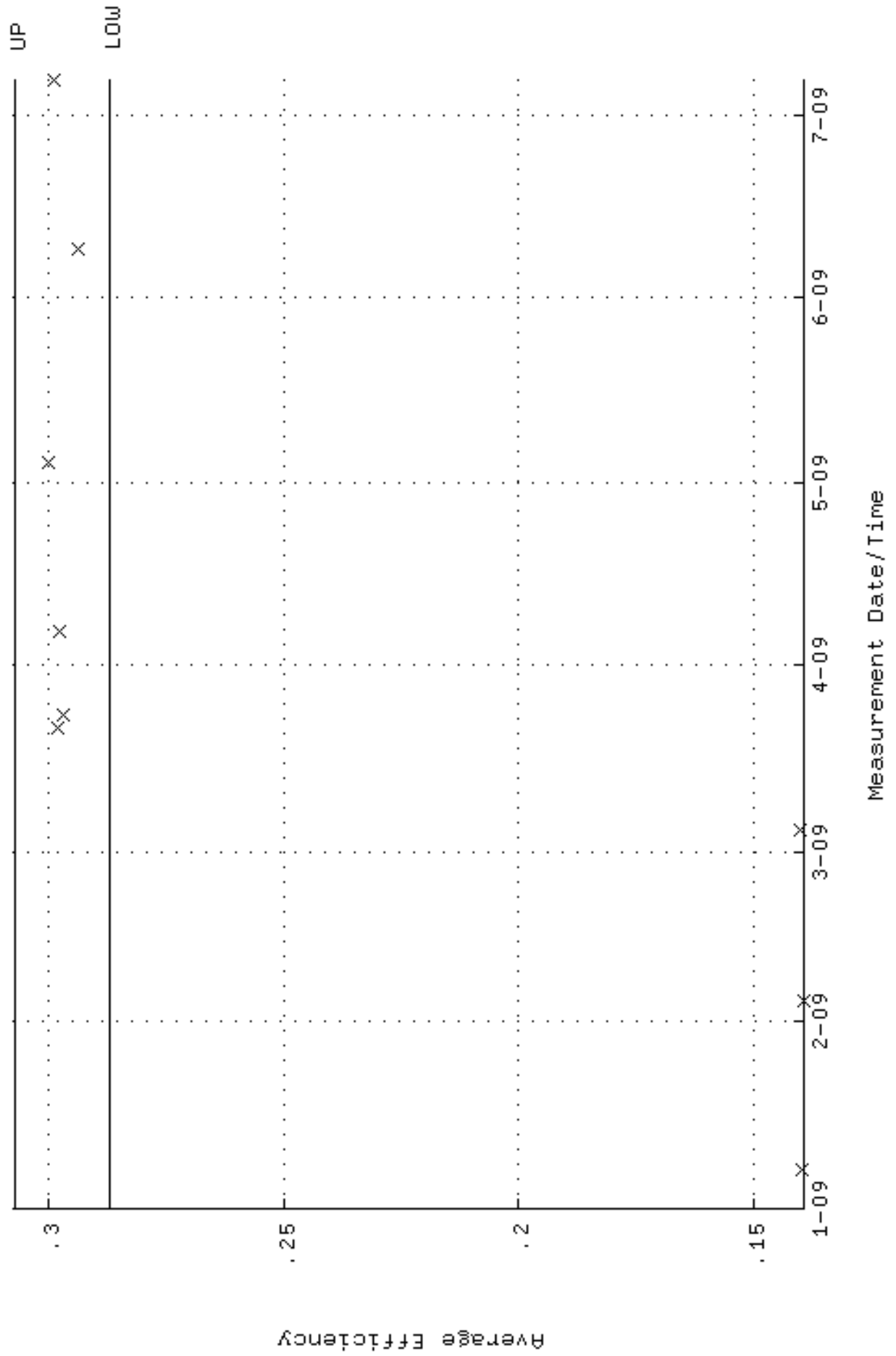
QA filename : DKA100:[ENV_ALPHA.QA.W]W009.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 7-JAN-2009 07:02:33 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.328261 through 0.348261



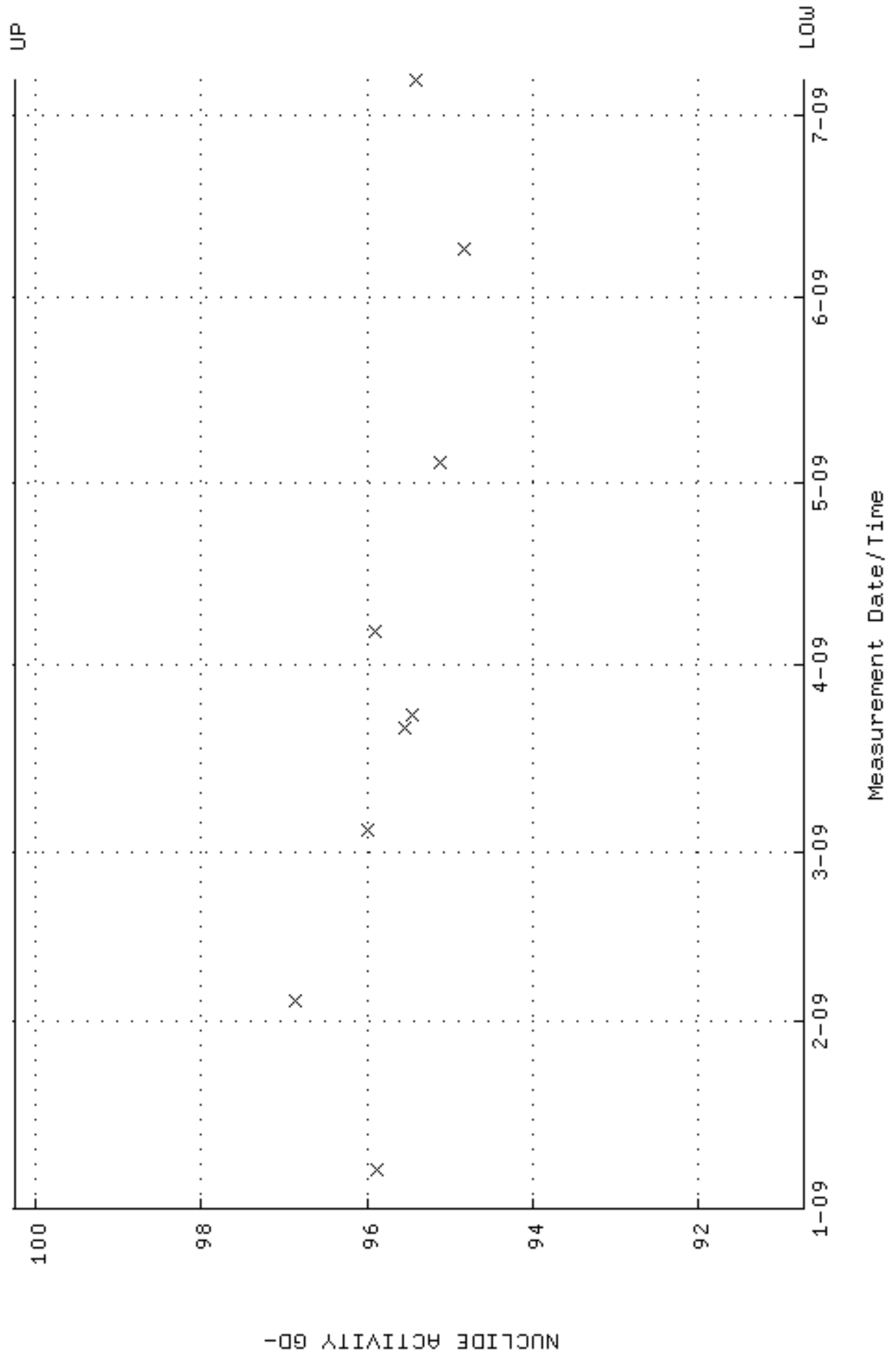
QA filename : DKA100:[ENV_ALPHA.QA.W]W009.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 7-JAN-2009 07:02:33 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 86.4475 through 95.5473



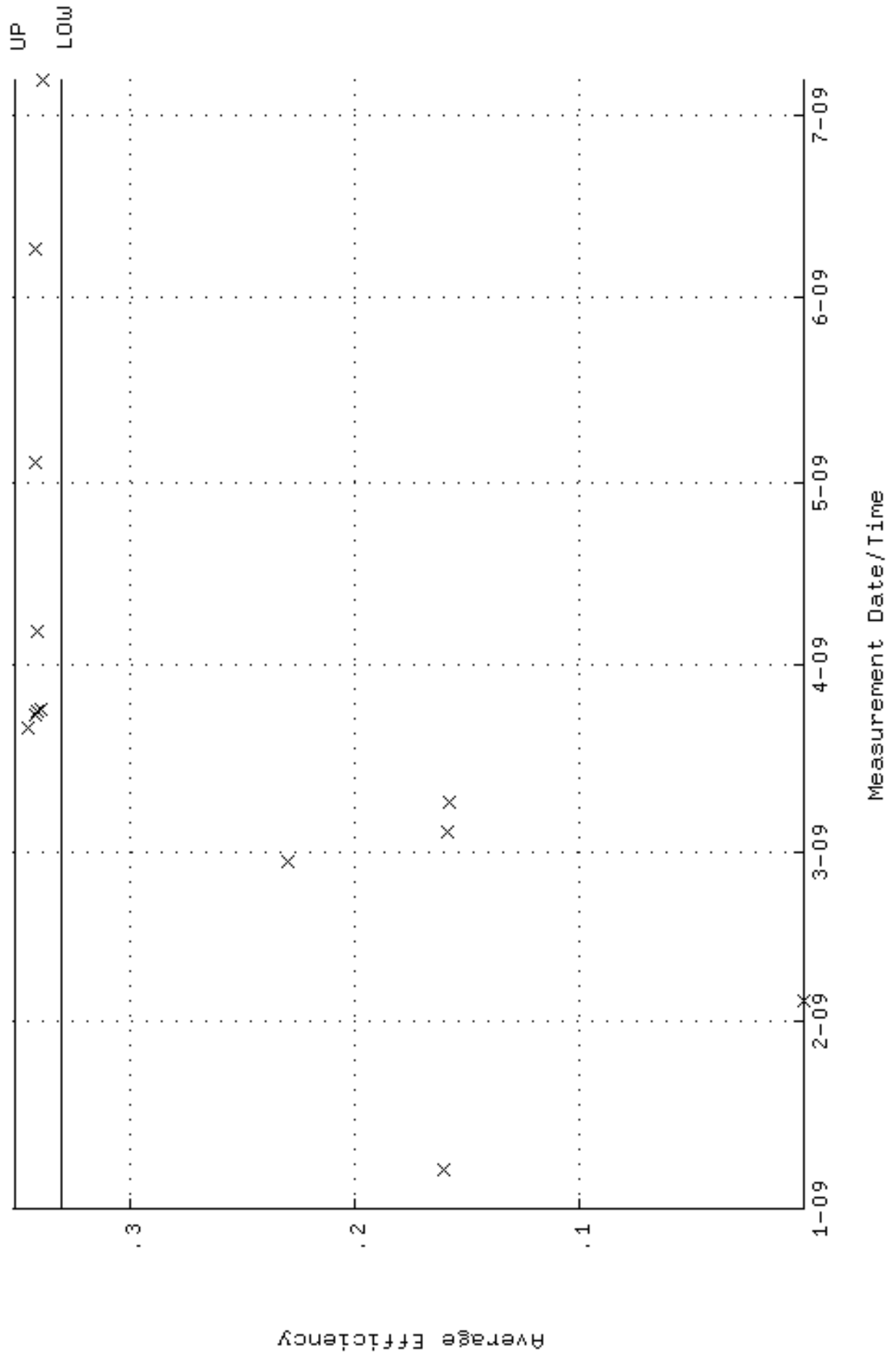
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 7-JAN-2009 07:02:33 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.287129 through 0.307129



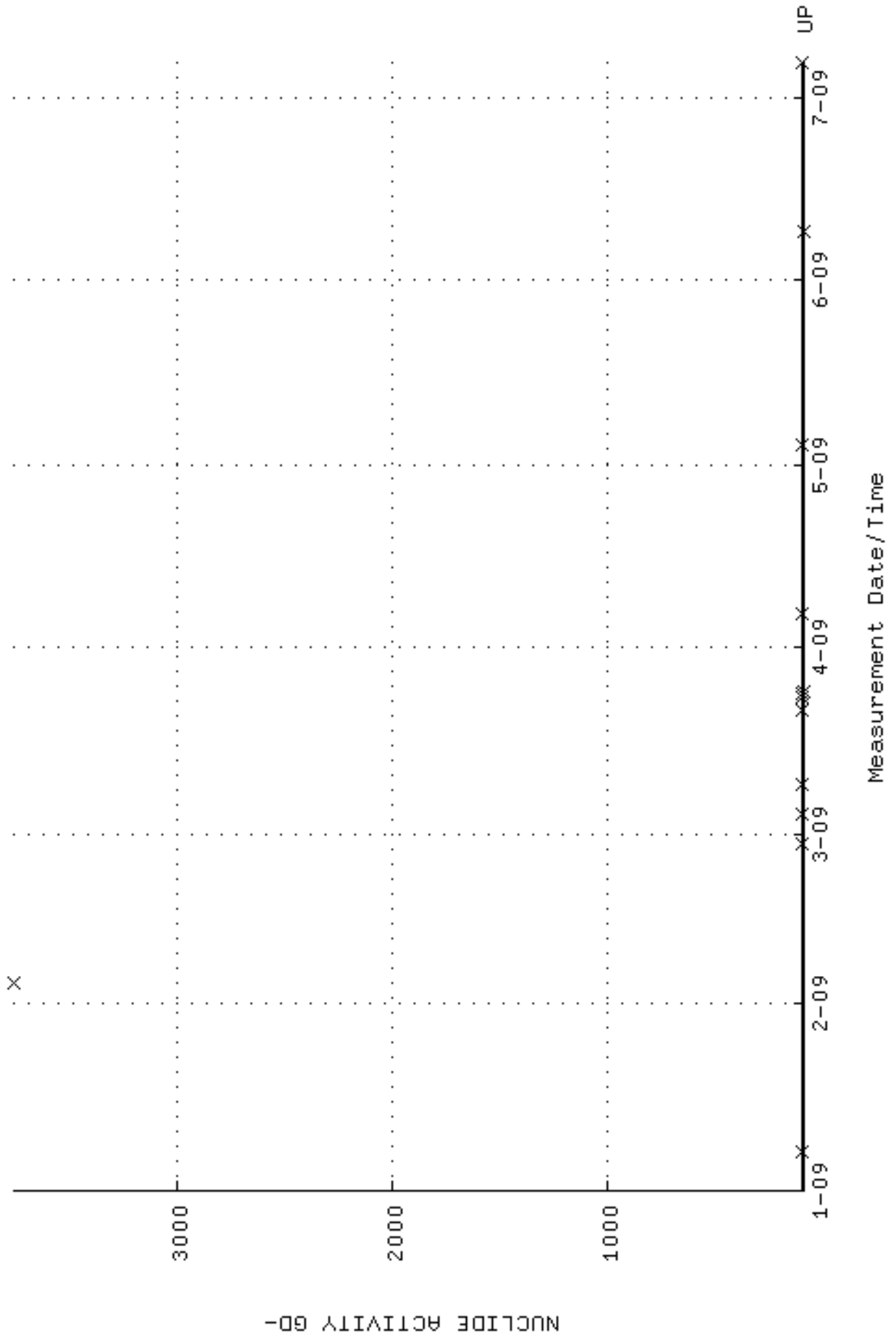
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 7-JAN-2009 07:02:33 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 90.7092 through 100.258



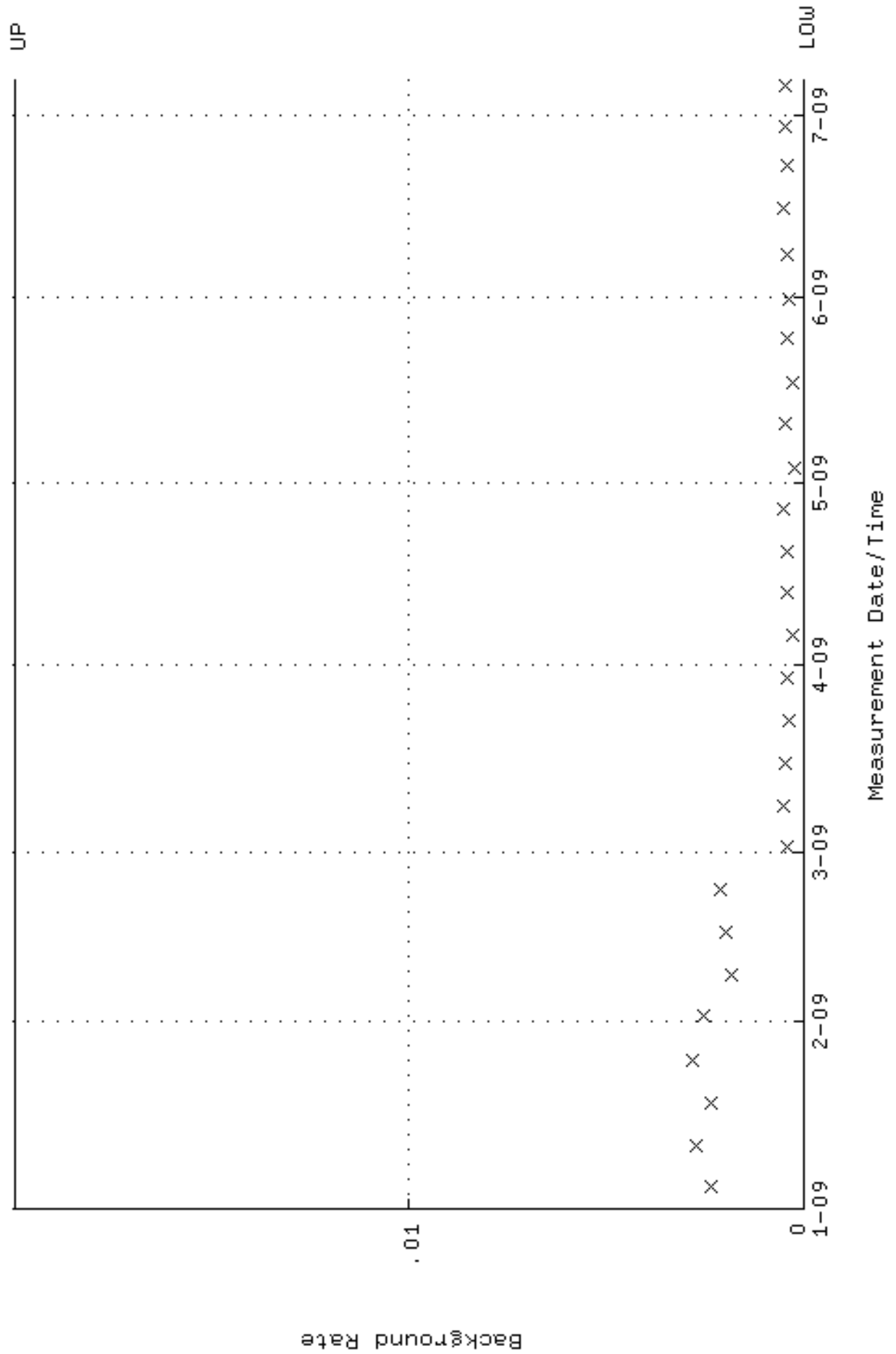
QA filename : DKA100:[ENV_ALPHA.QA.W]W013.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.331676 through 0.351676



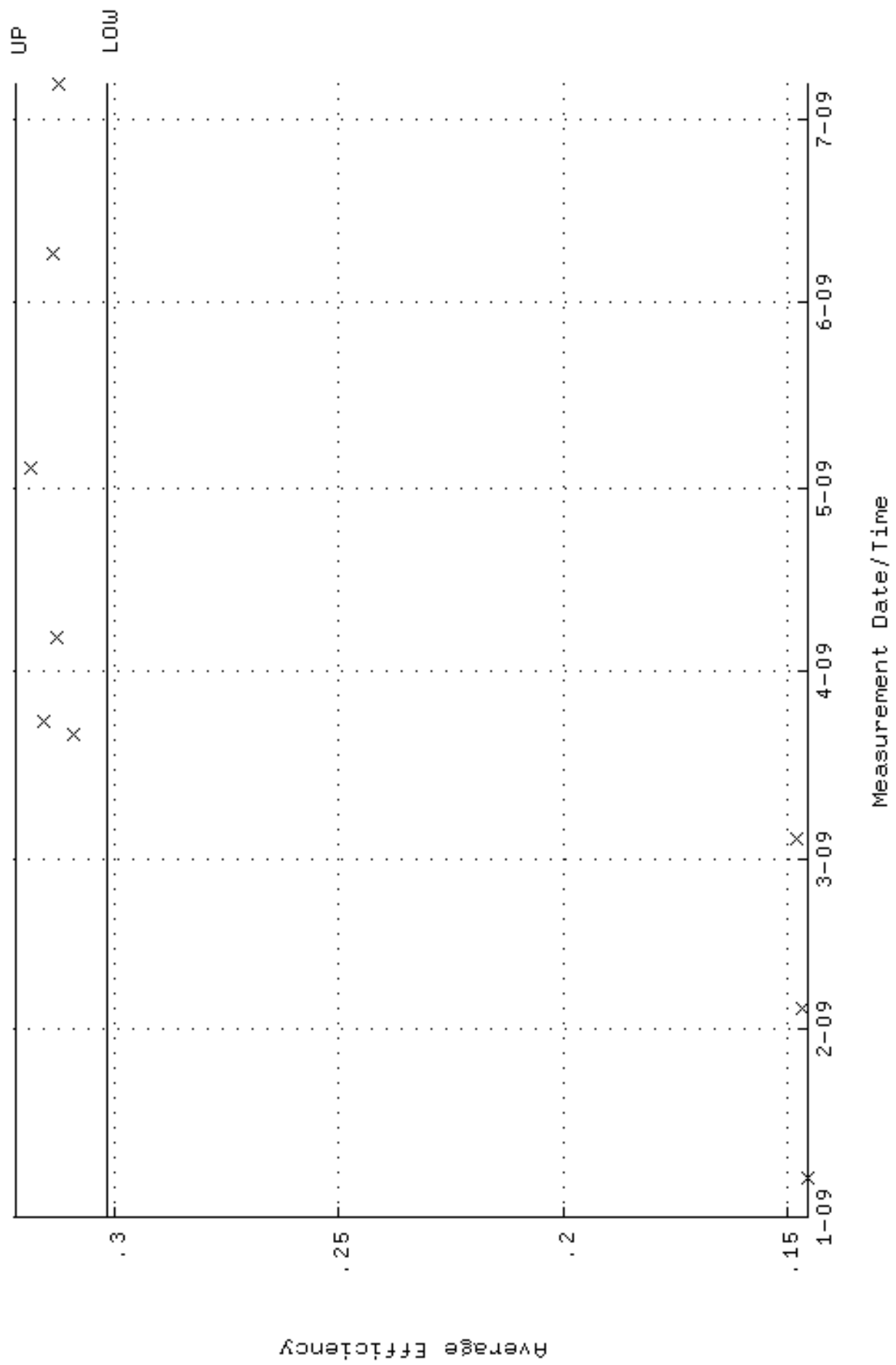
QA filename : DKA100:[ENV_ALPHA.QA.W]W013.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 87.7736 through 97.0130



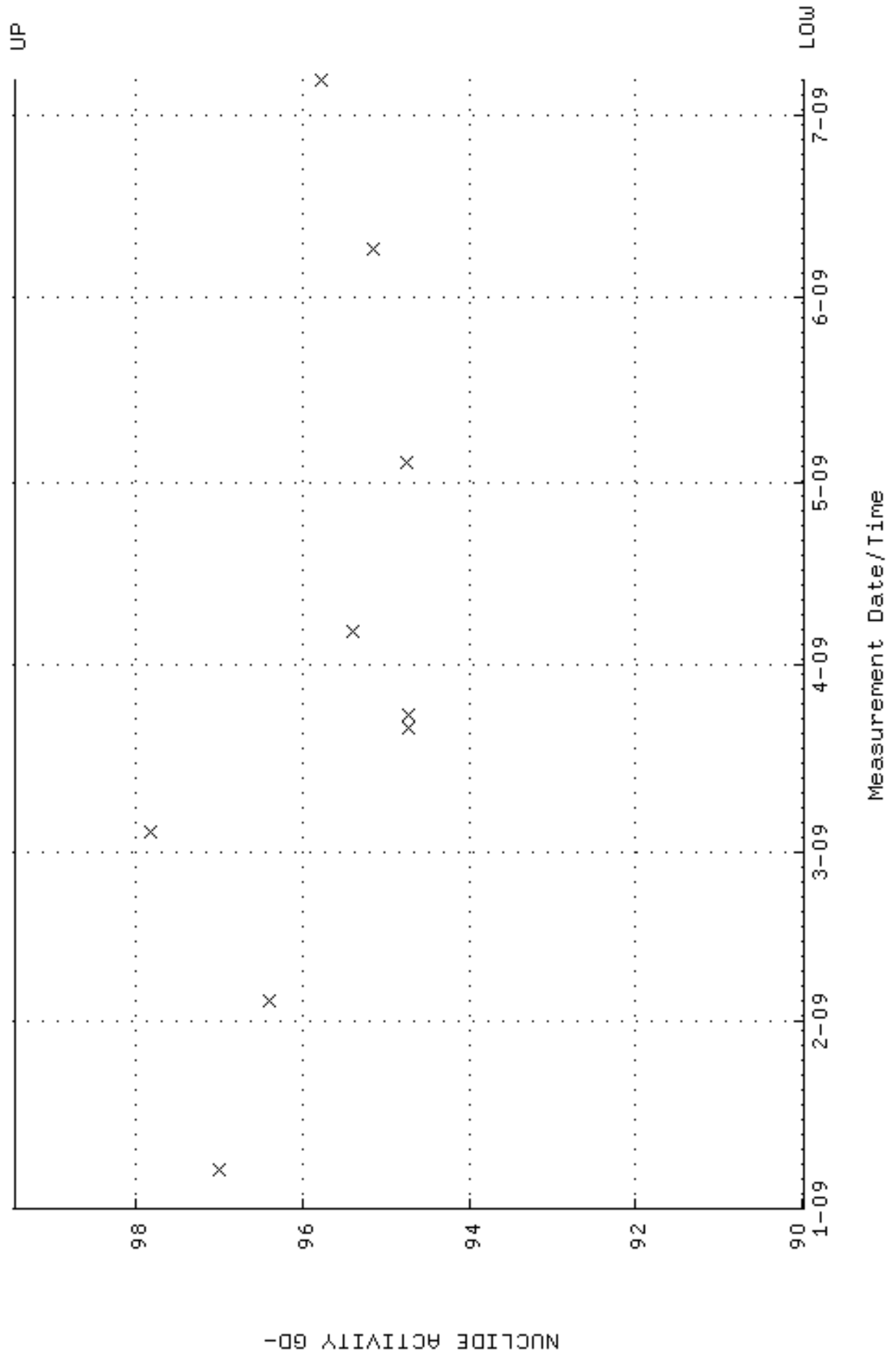
QA filename : DKA100:[ENV_ALPHA.QA.B]B013.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:24 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



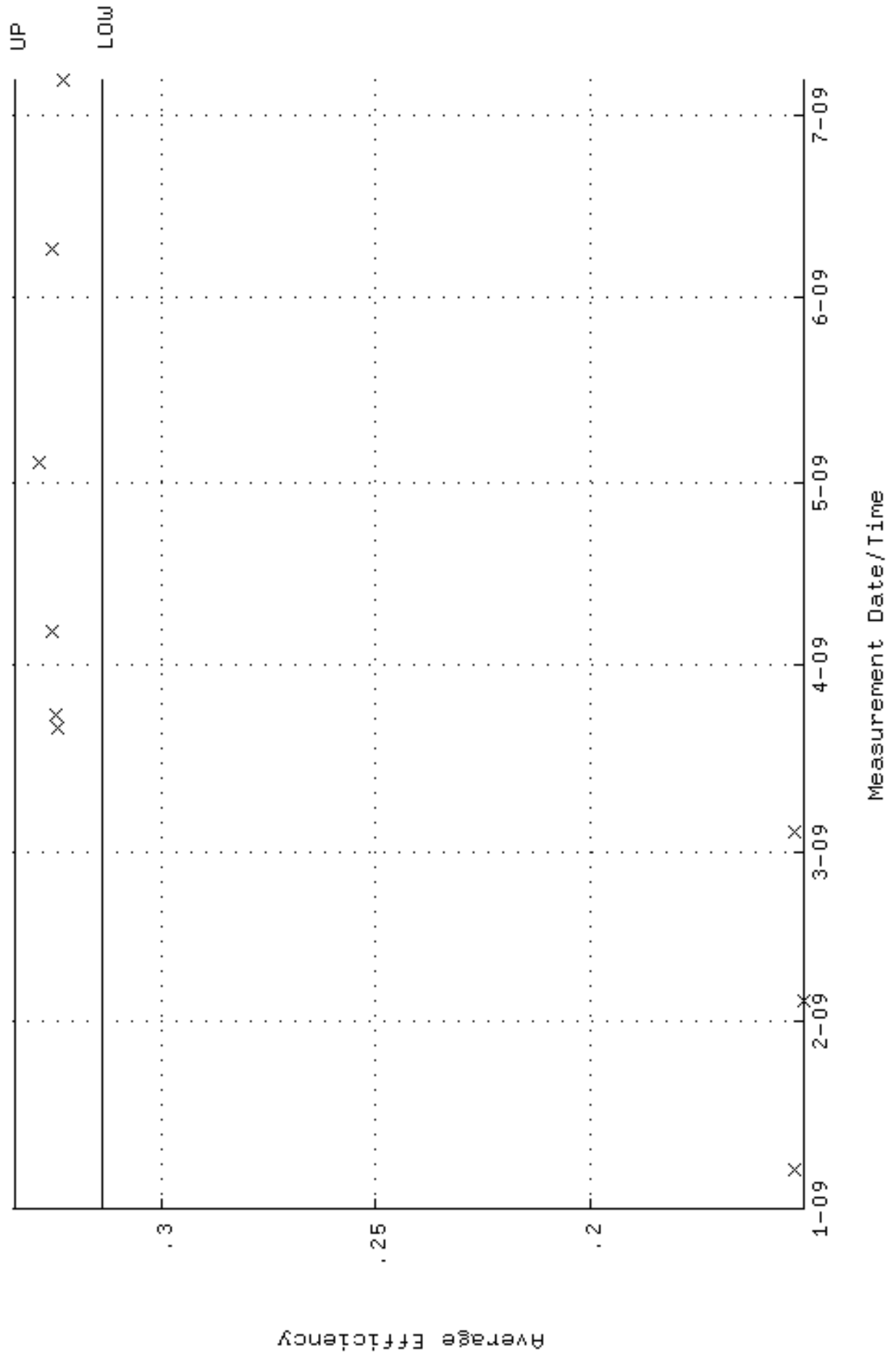
QA filename : DKA100:[ENV_ALPHA.QA.W]W014.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.301834 through 0.321834



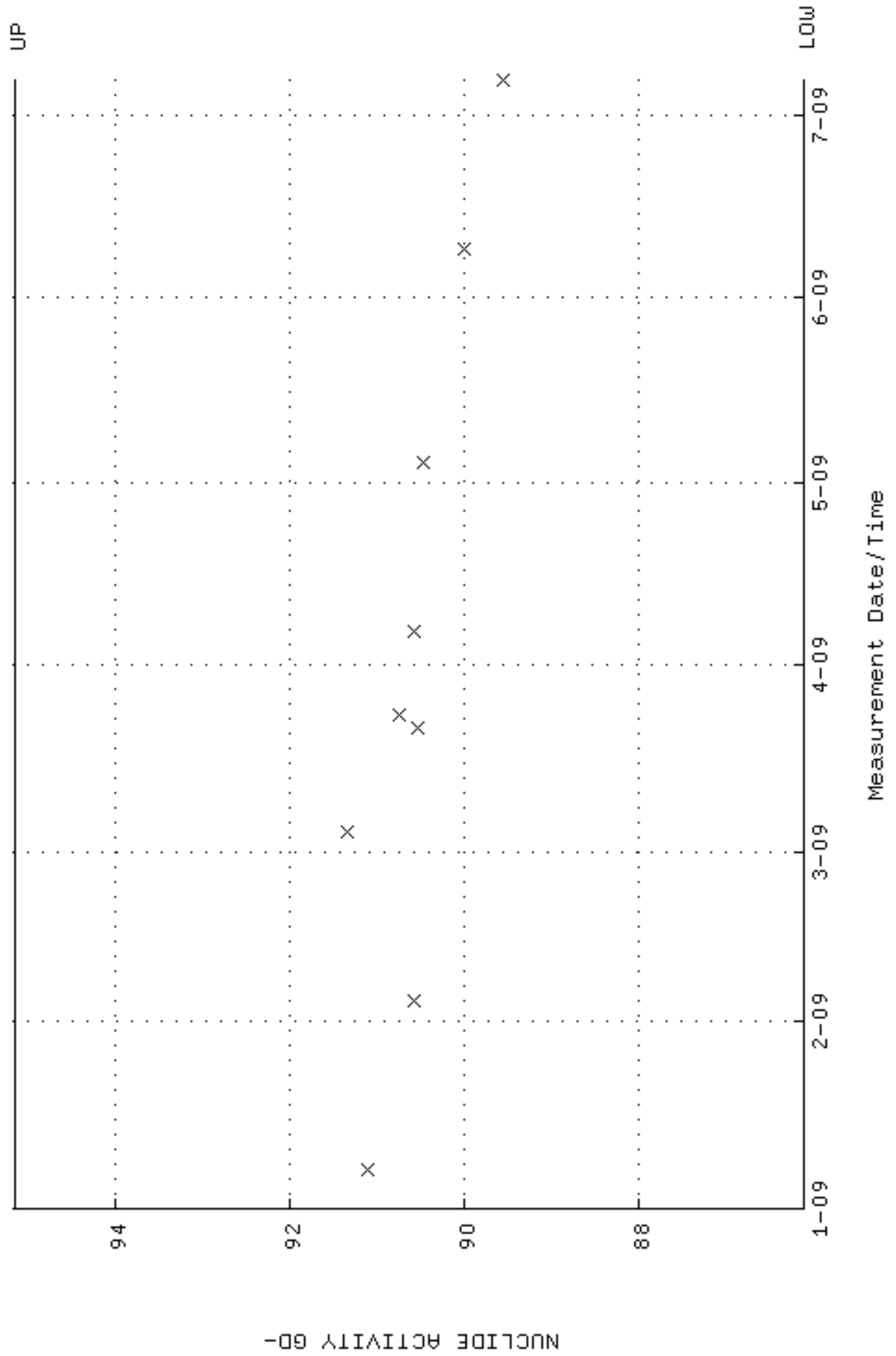
QA filename : DKA100:[ENV_ALPHA.QA.W]W014.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 89.9790 through 99.4504



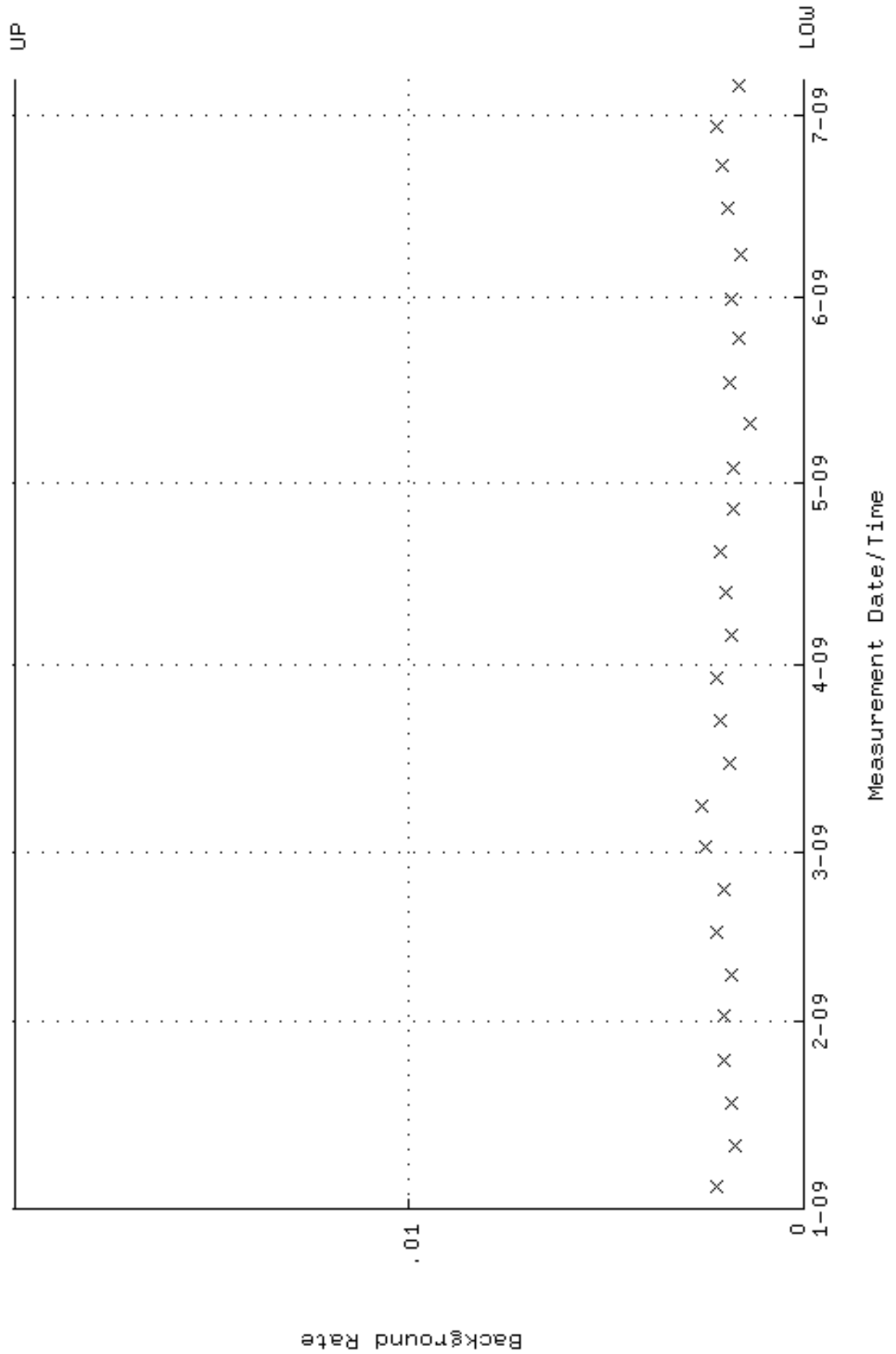
QA filename : DKA100:[ENV_ALPHA.QA.W]W015.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.314211 through 0.334211



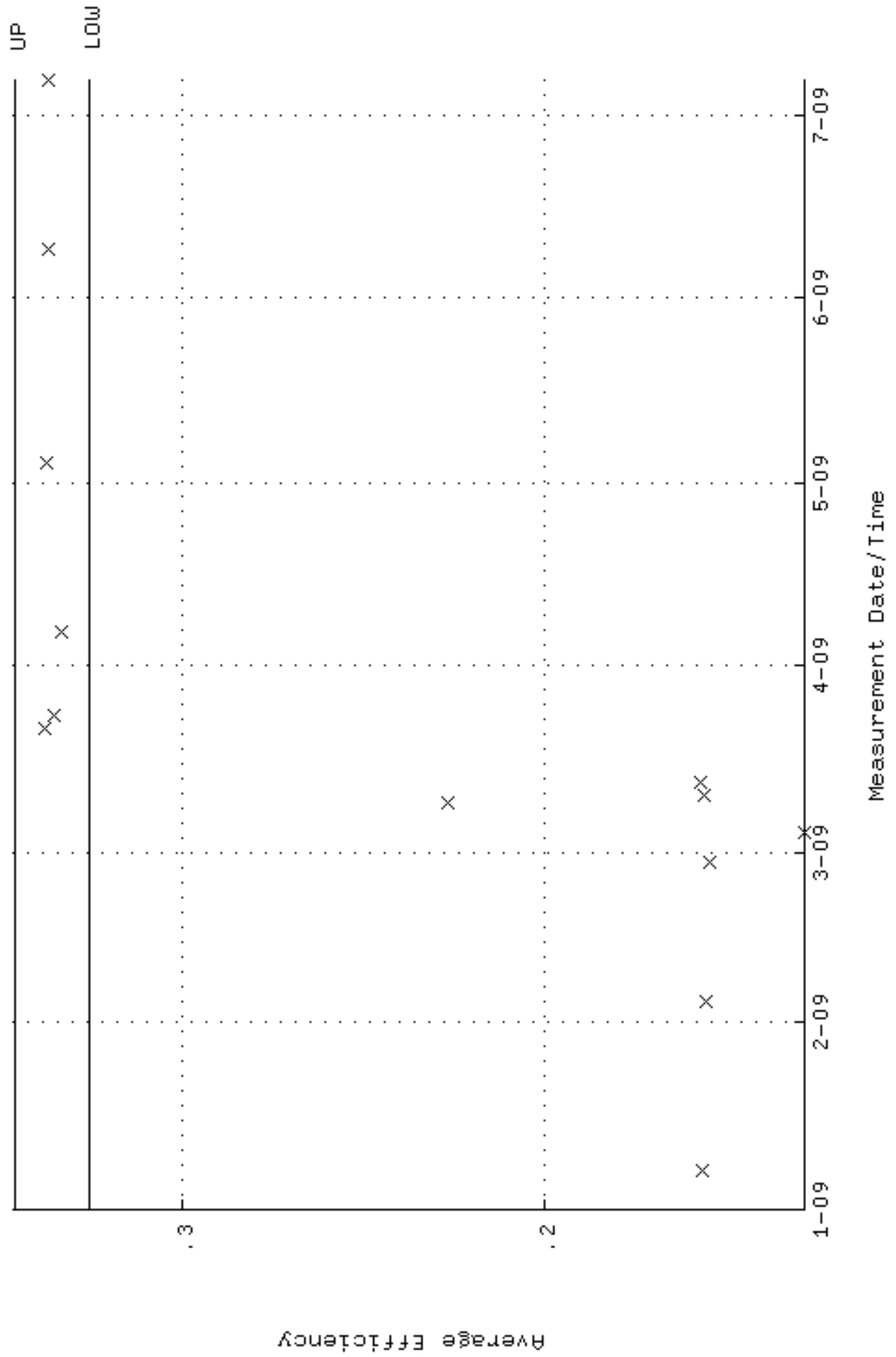
QA filename : DKA100:[ENV_ALPHA.QA.W]W015.QAF;3
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
Lower/Upper Lmts: 86.0931 through 95.1555



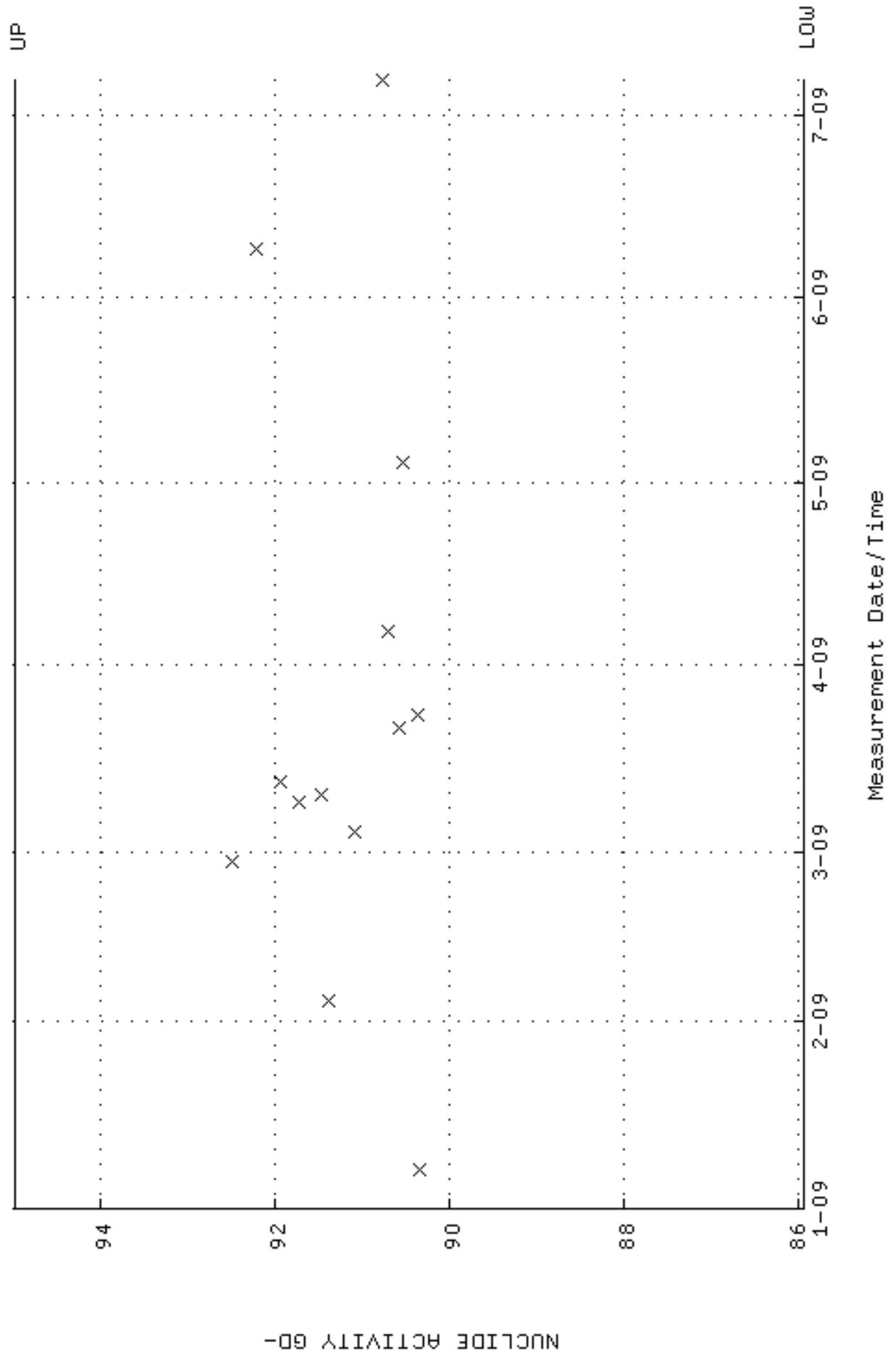
QA filename : DKA100:[ENV_ALPHA.QA.B]B015.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:24 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



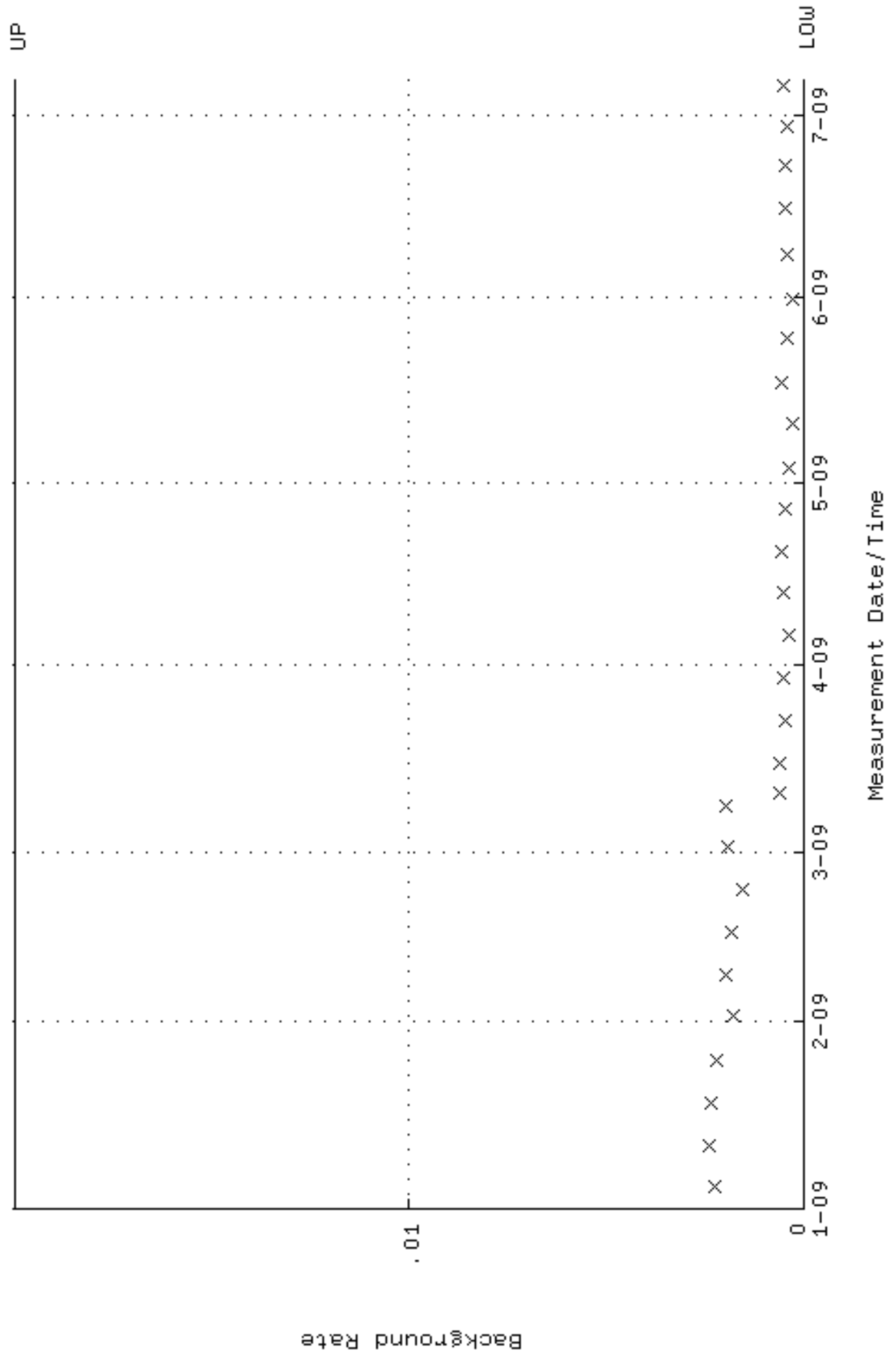
QA filename : DKA100:[ENV_ALPHA.QA.W]W016.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.326058 through 0.346058



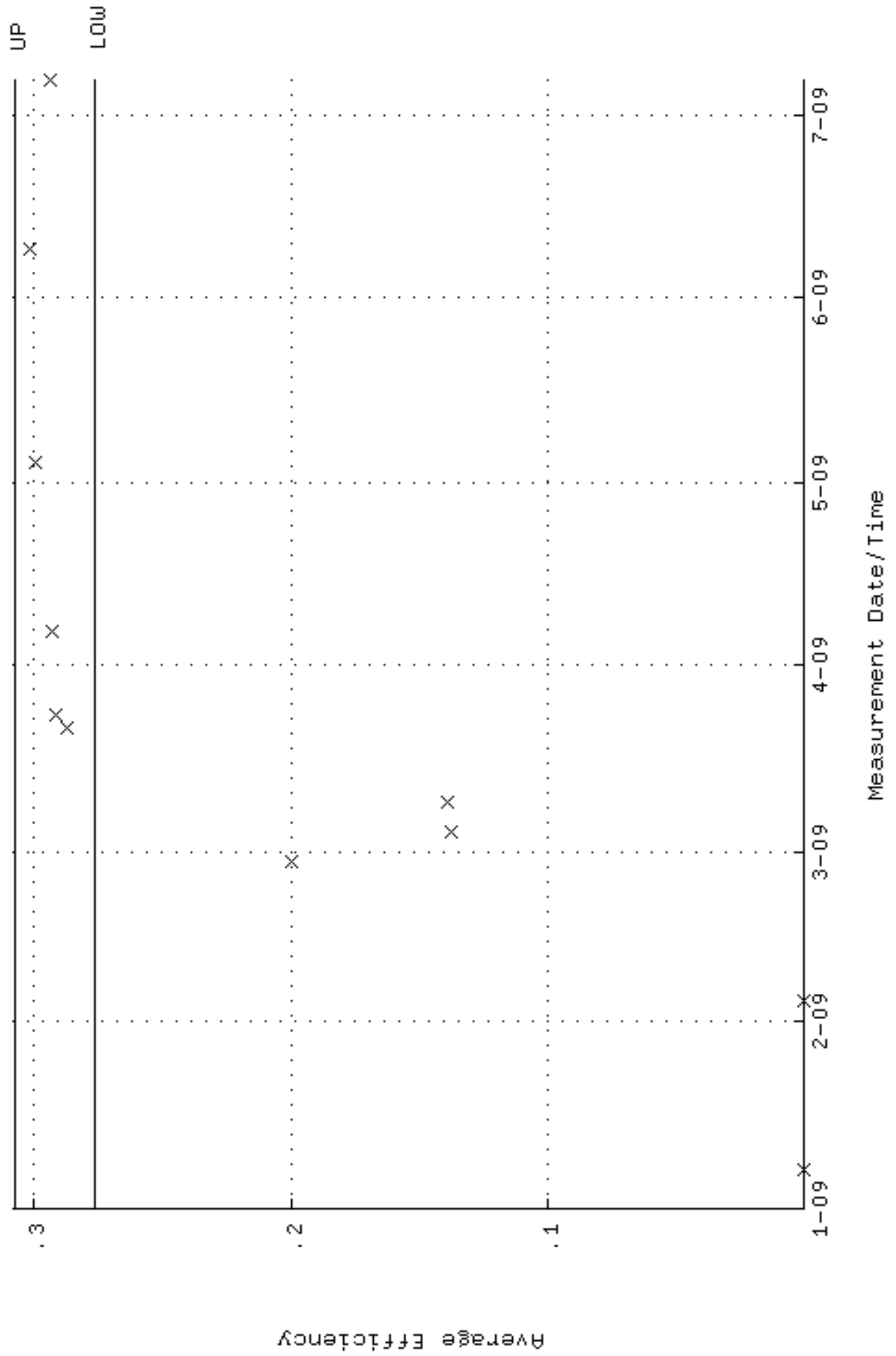
QA filename : DKA100:[ENV_ALPHA.QA.W]W016.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 85.9280 through 94.9730



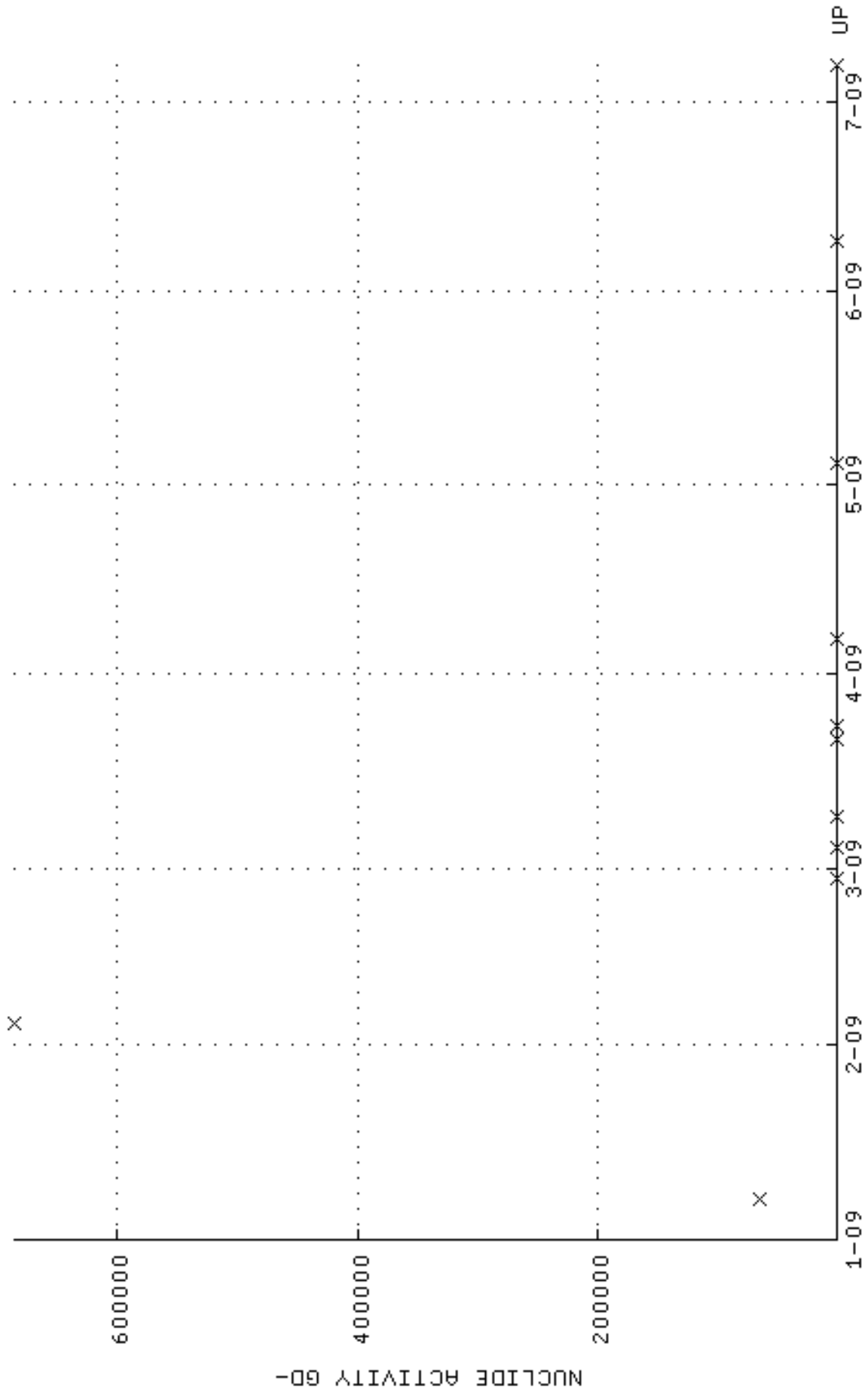
QA filename : DKA100:[ENV_ALPHA.QA.B]B016.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:24 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



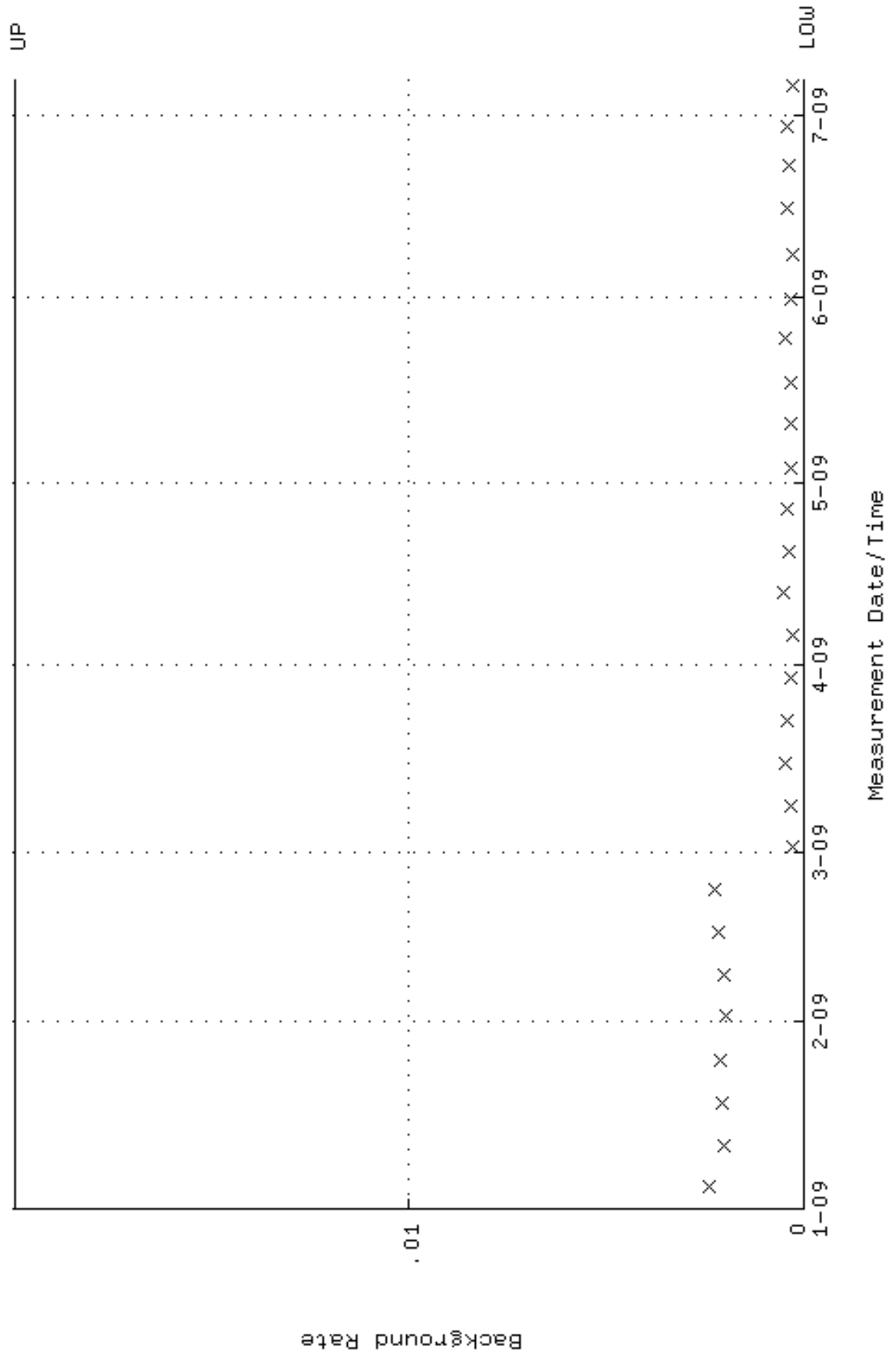
QA filename : DKA100:[ENV_ALPHA.QA.W]W017.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.276771 through 0.307557



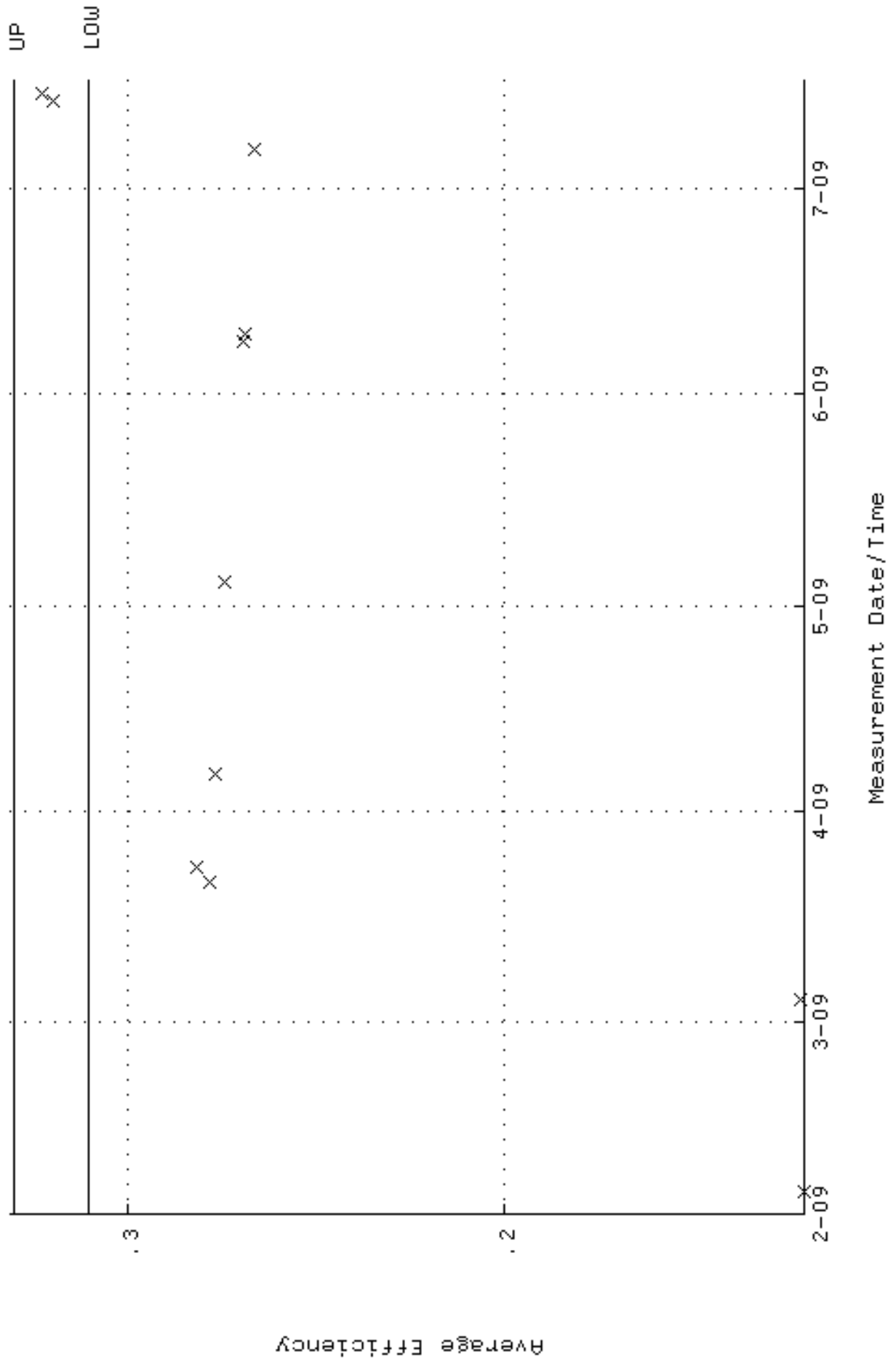
QA filename : DKA100:[ENV_ALPHA.QA.W]W017.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 7-JAN-2009 07:02:34 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 90.6063 through 97.0149



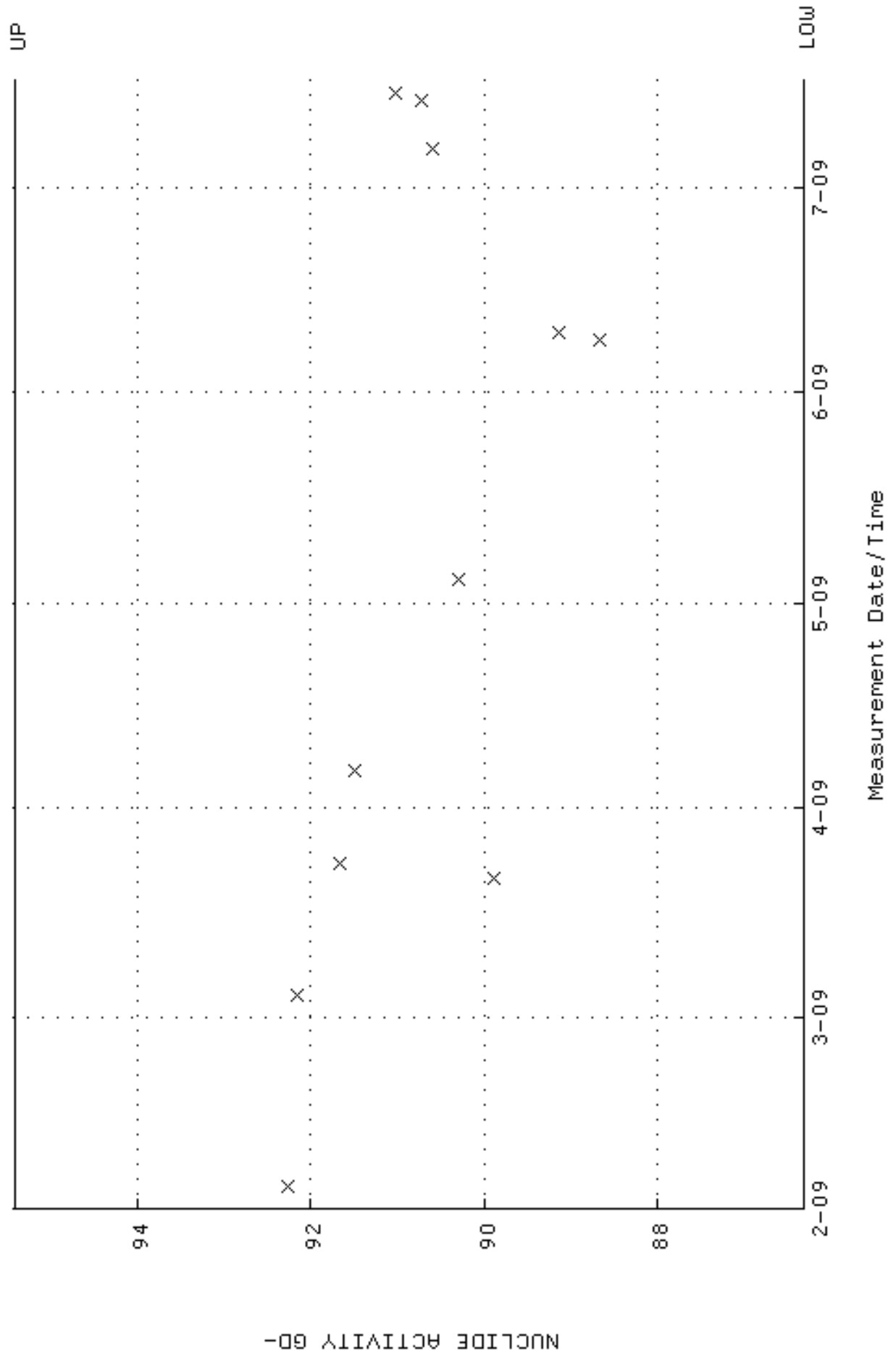
QA filename : DKA100:[ENV_ALPHA.QA.B]B017.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:24 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



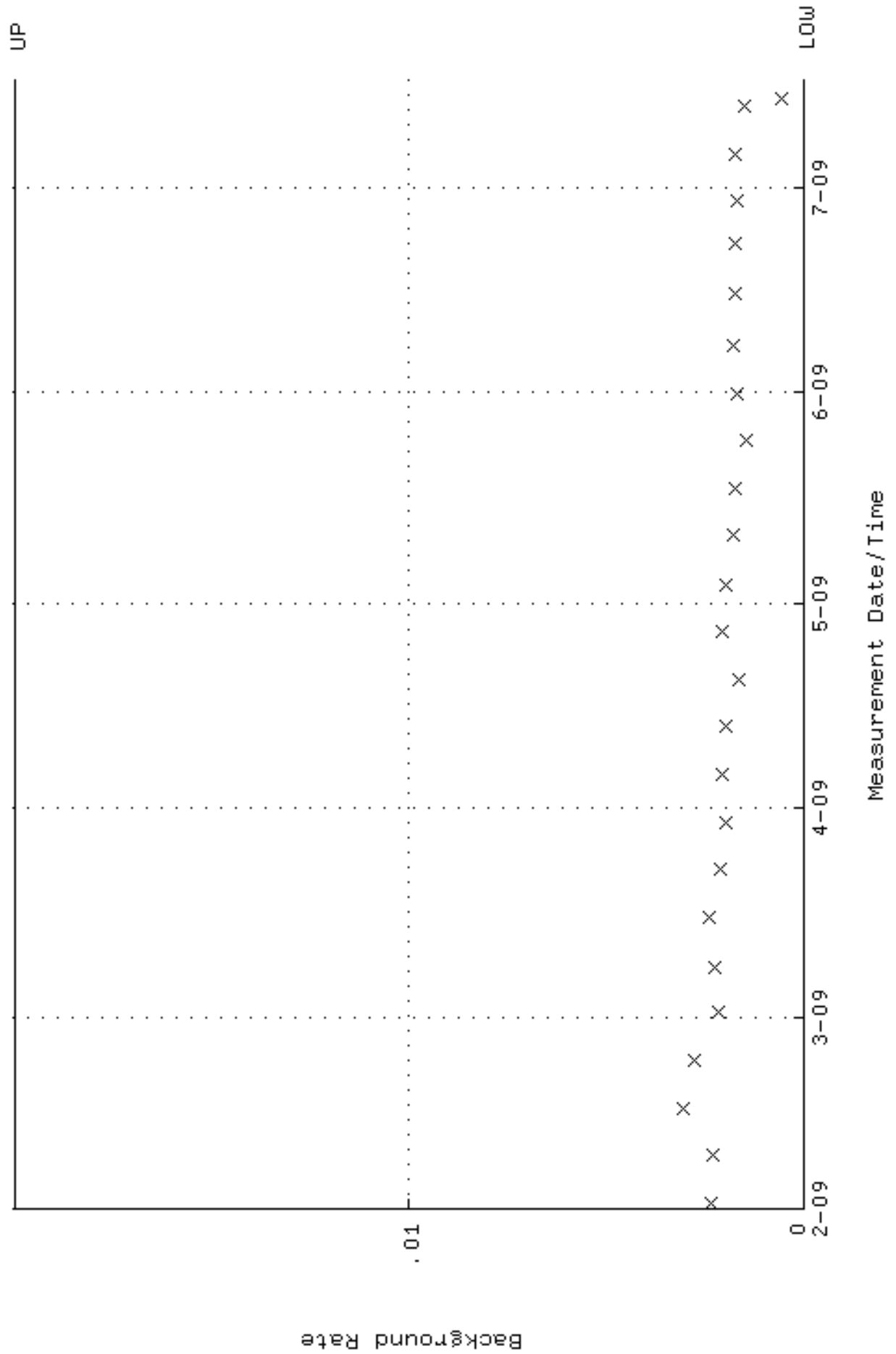
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-FEB-2009 07:05:54 through 16-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.310950 through 0.330950



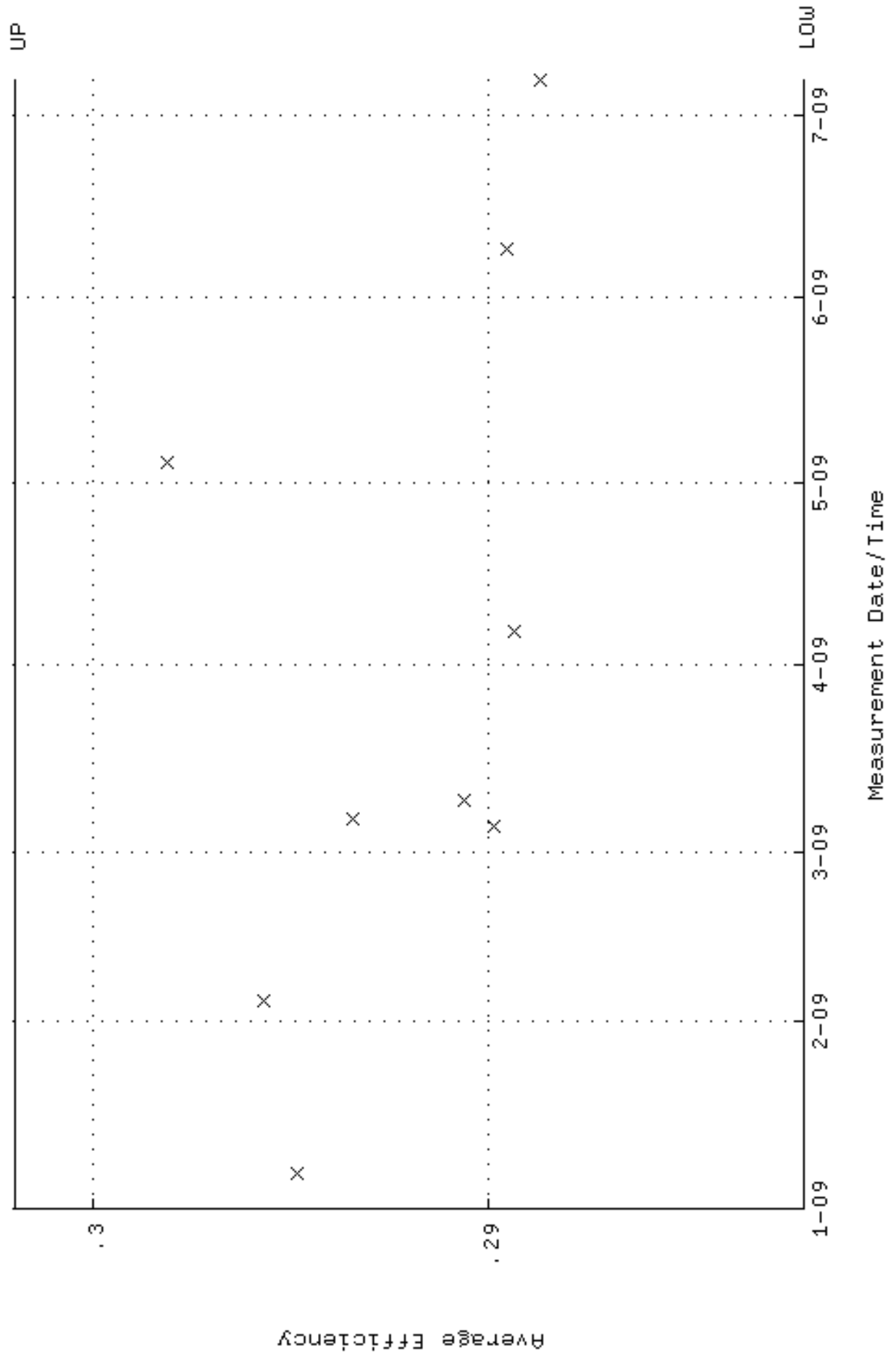
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-FEB-2009 07:05:54 through 16-JUL-2009 12:00:00
 Lower/Upper Lmts: 86.3167 through 95.4027



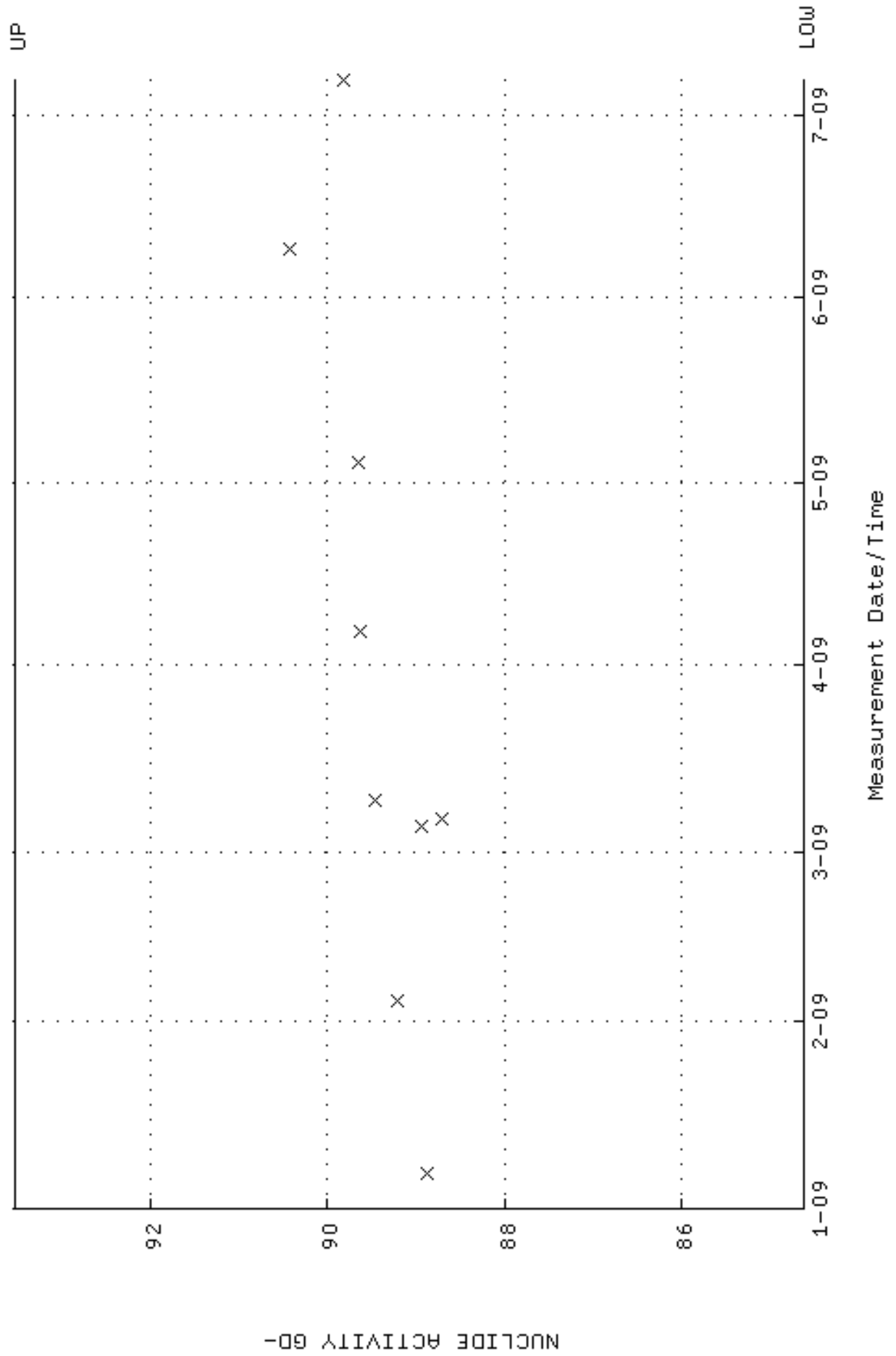
QA filename : DKA100:[ENV_ALPHA.QA.B]B018.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-FEB-2009 20:04:48 through 16-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



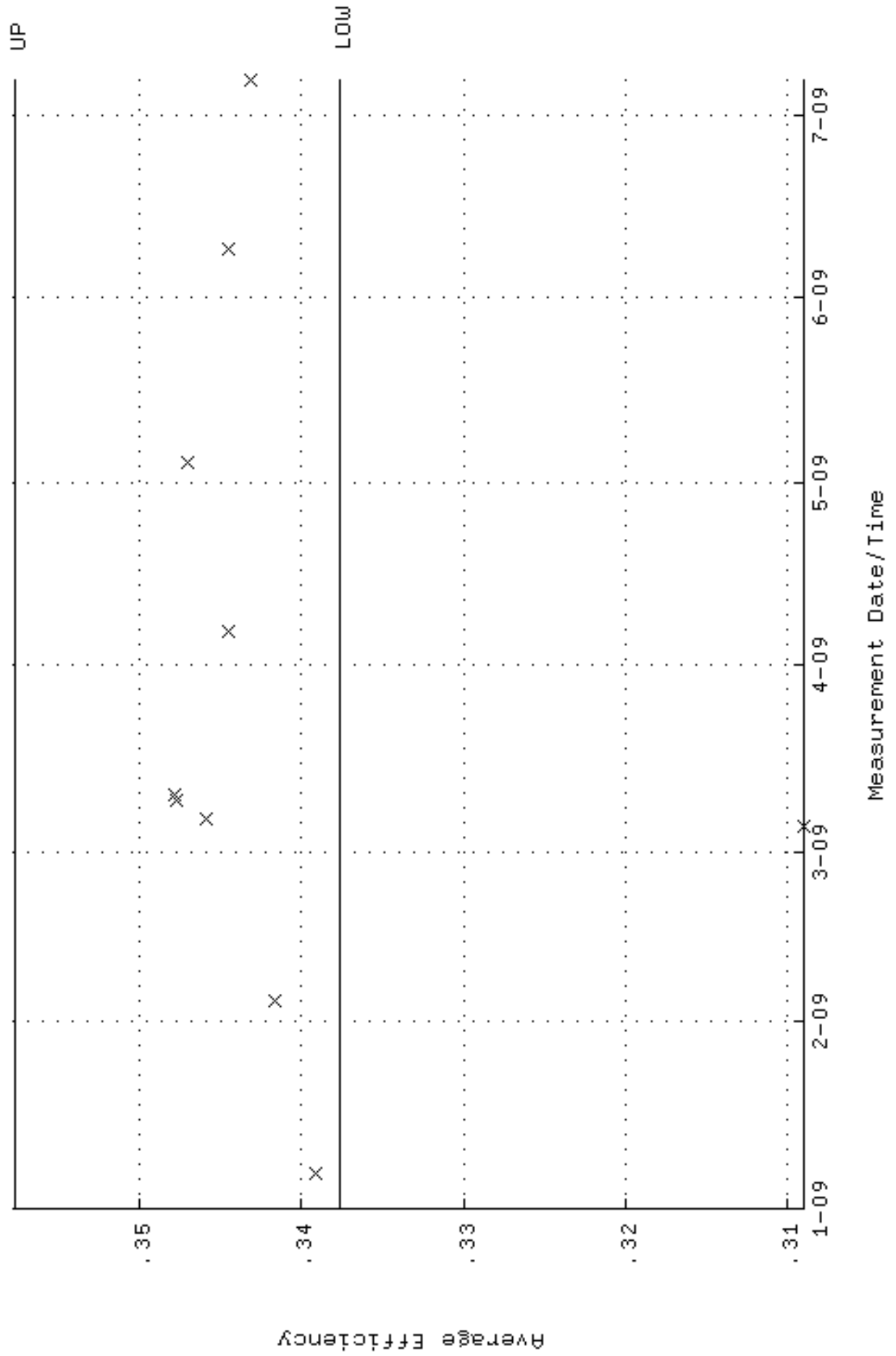
QA filename : DKA100:[ENV_ALPHA.QA.W]W019.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.281988 through 0.301988



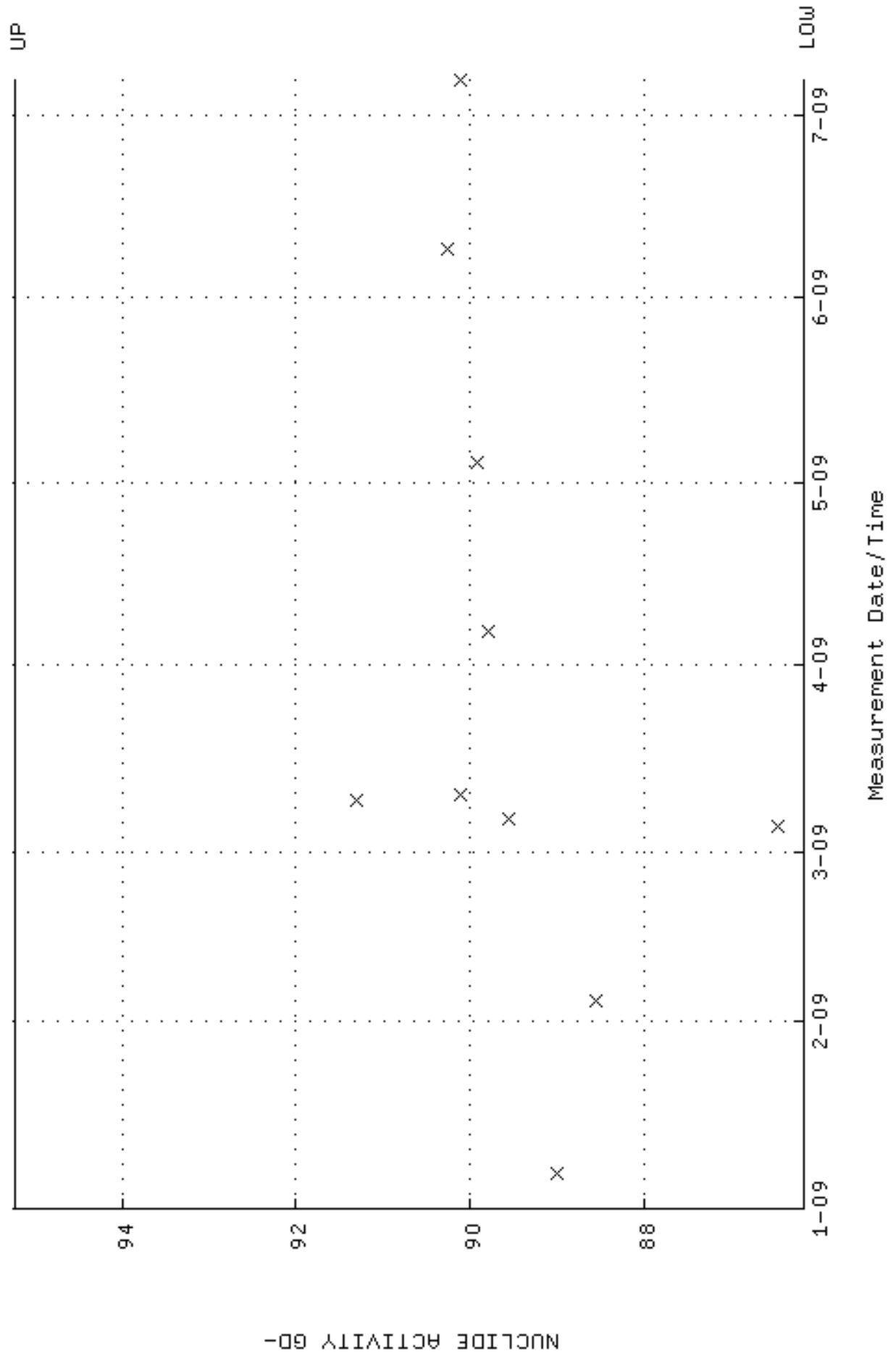
QA filename : DKA100:[ENV_ALPHA.QA.W]w019.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 84.6167 through 93.5237



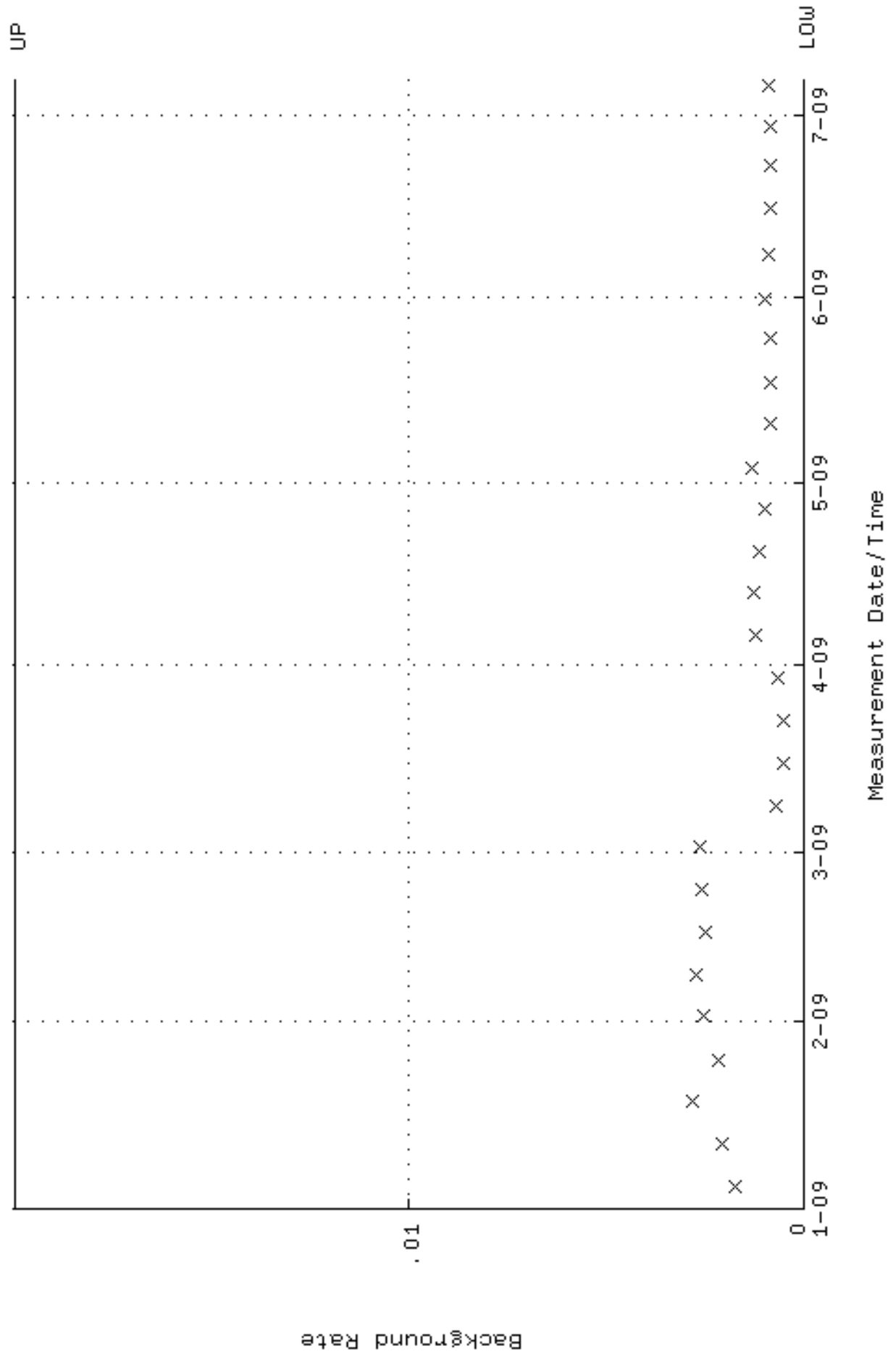
QA filename : DKA100:[ENV_ALPHA.QA.W]W020.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.337708 through 0.357708



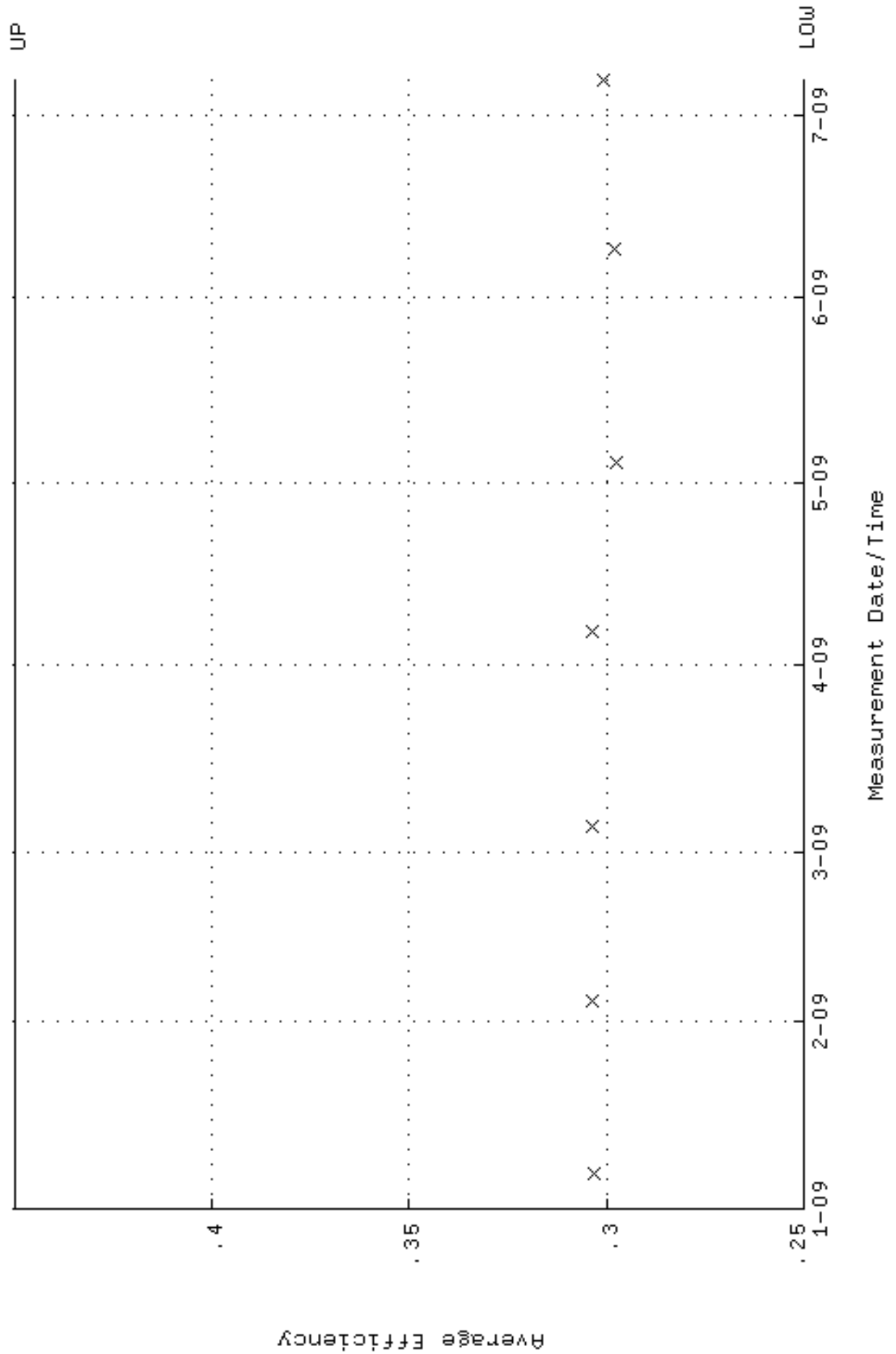
QA filename : DKA100:[ENV_ALPHA.QA.W]W020.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 86.1605 through 95.2301



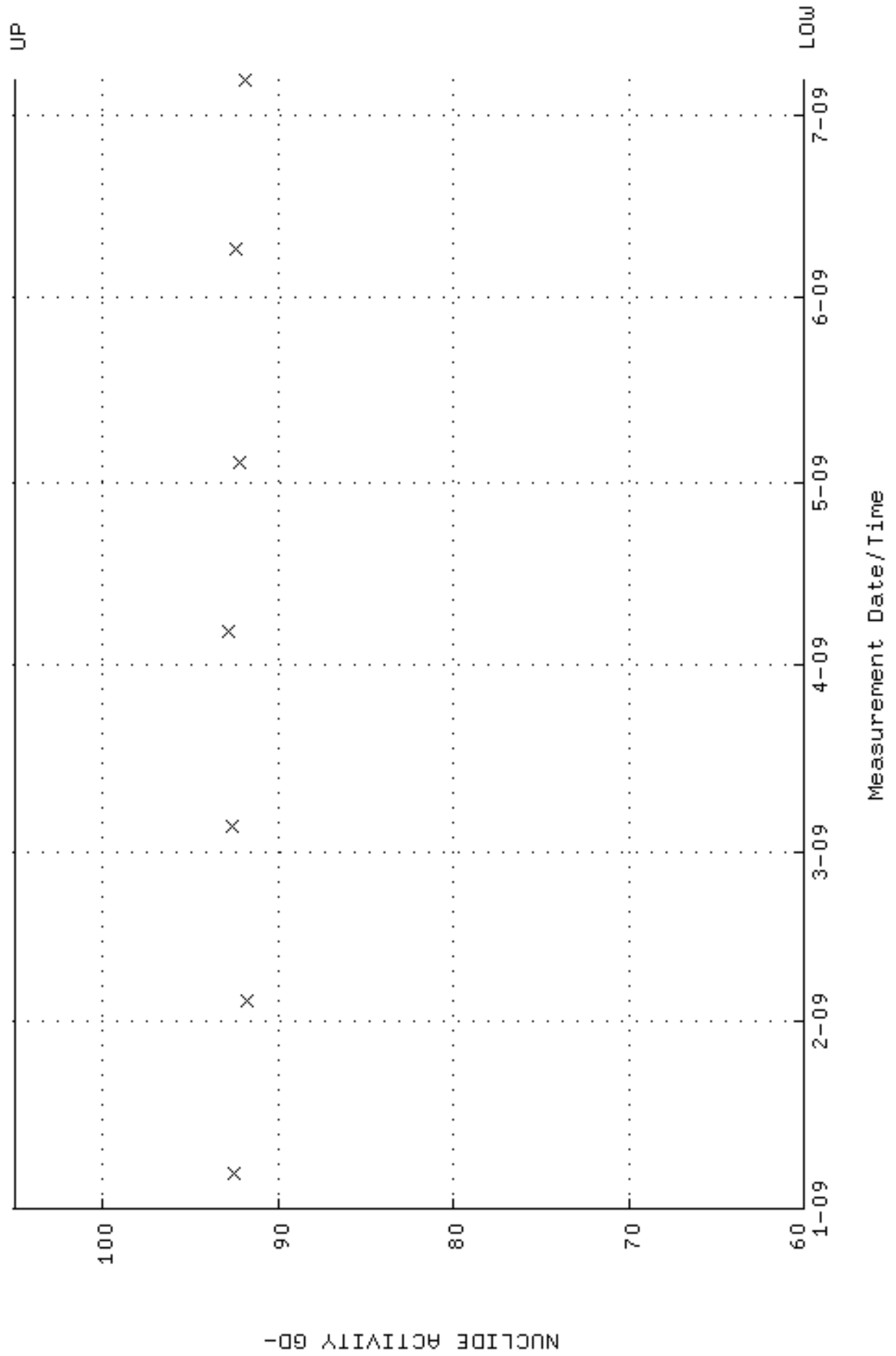
QA filename : DKA100:[ENV_ALPHA.QA.B]B020.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:25 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



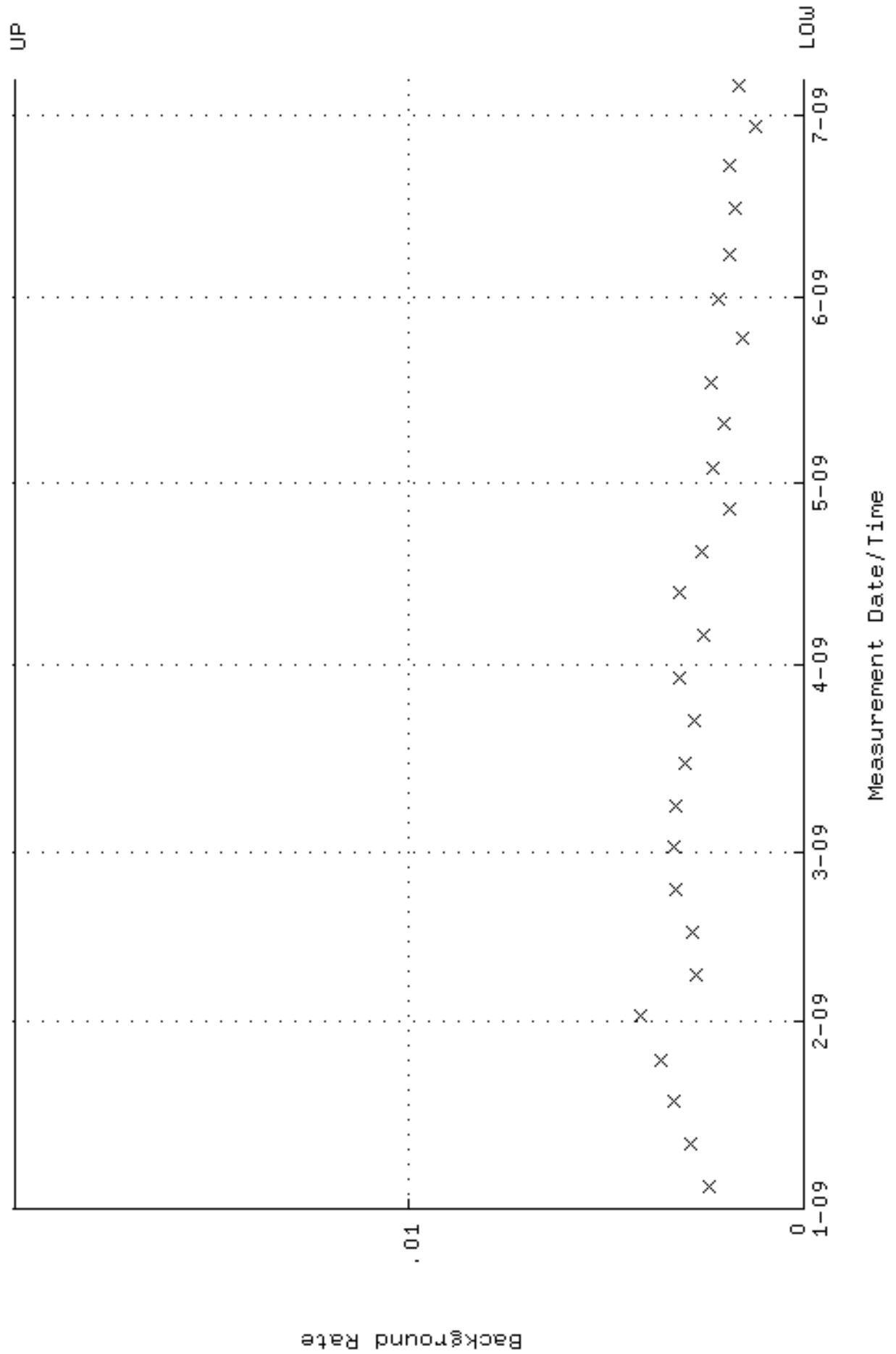
QA filename : DKA100:[ENV_ALPHA.QA.W]W021.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



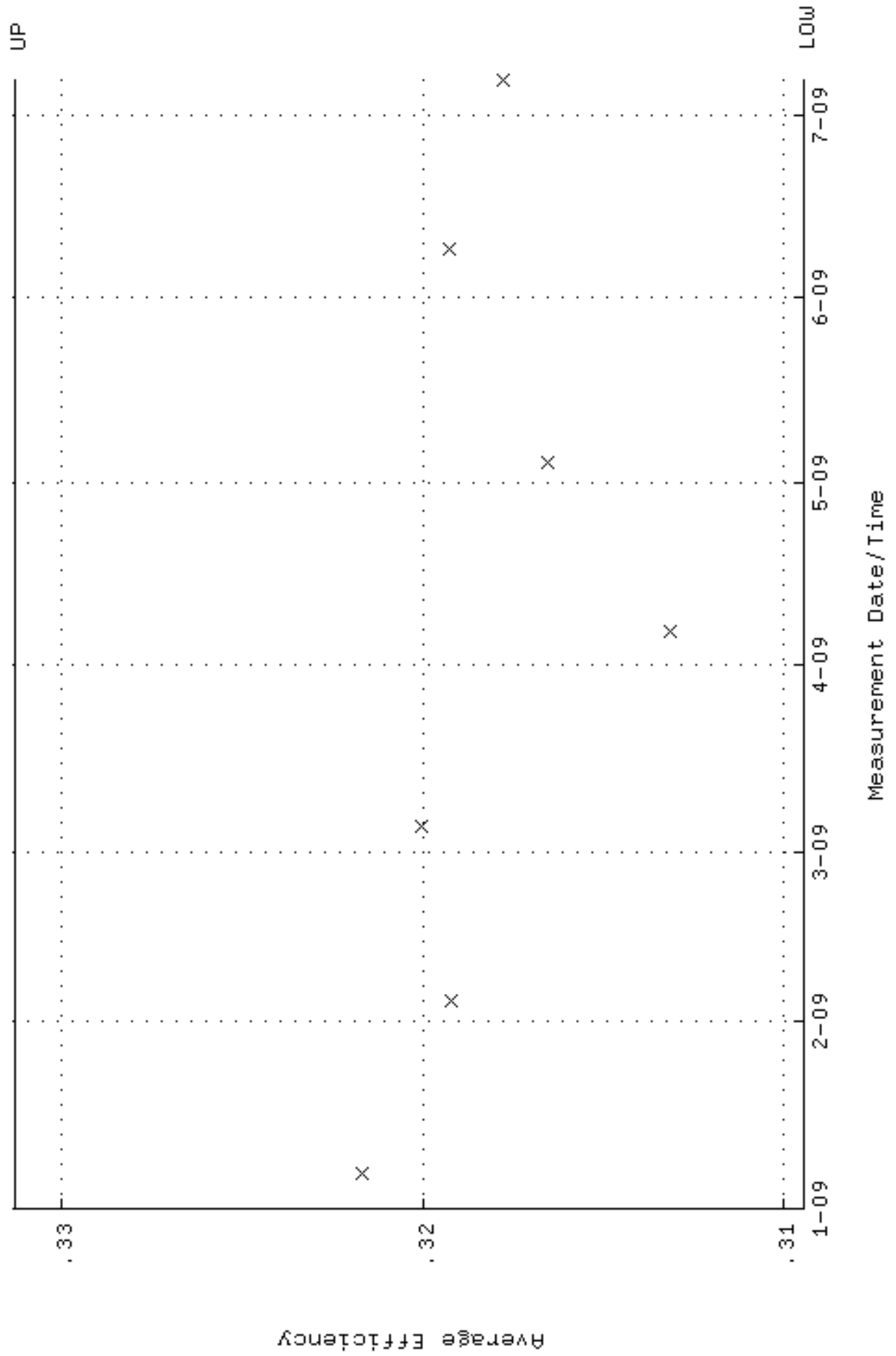
QA filename : DKA100:[ENV_ALPHA.QA.W]W021.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



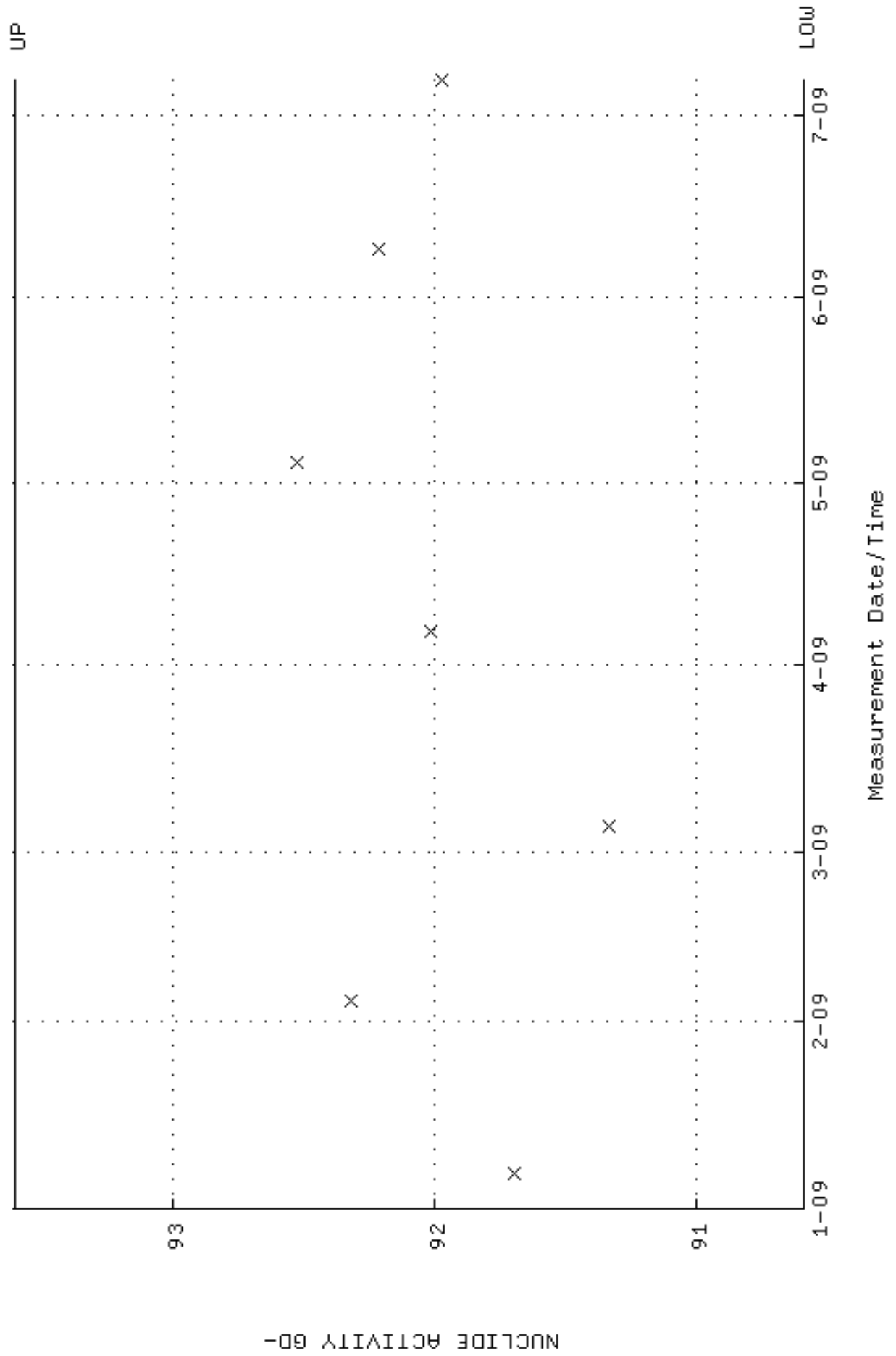
QA filename : DKA100:[ENV_ALPHA.QA.B]B021.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:25 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



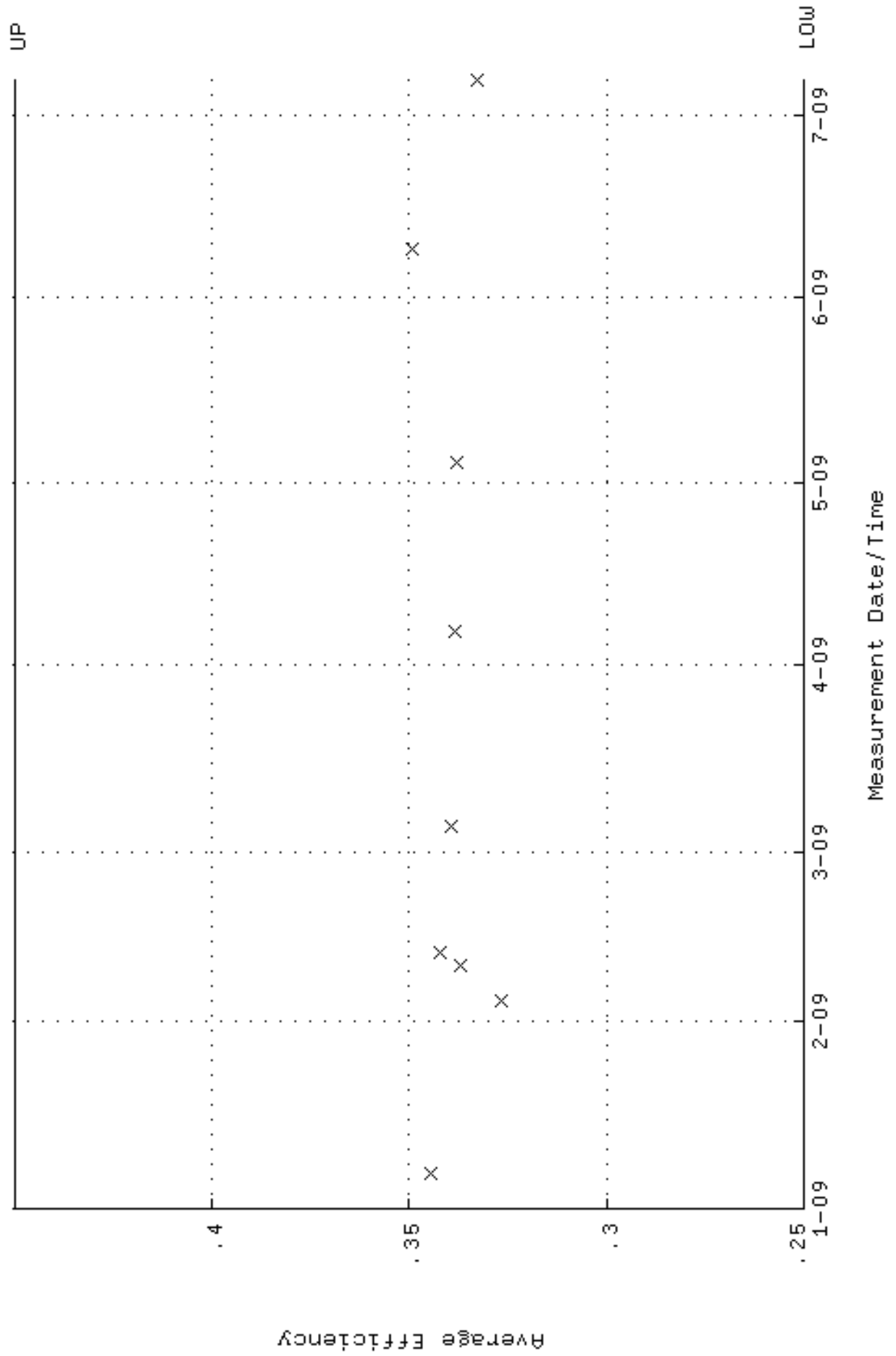
QA filename : DKA100:[ENV_ALPHA.QA.W]W022.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.309441 through 0.331295



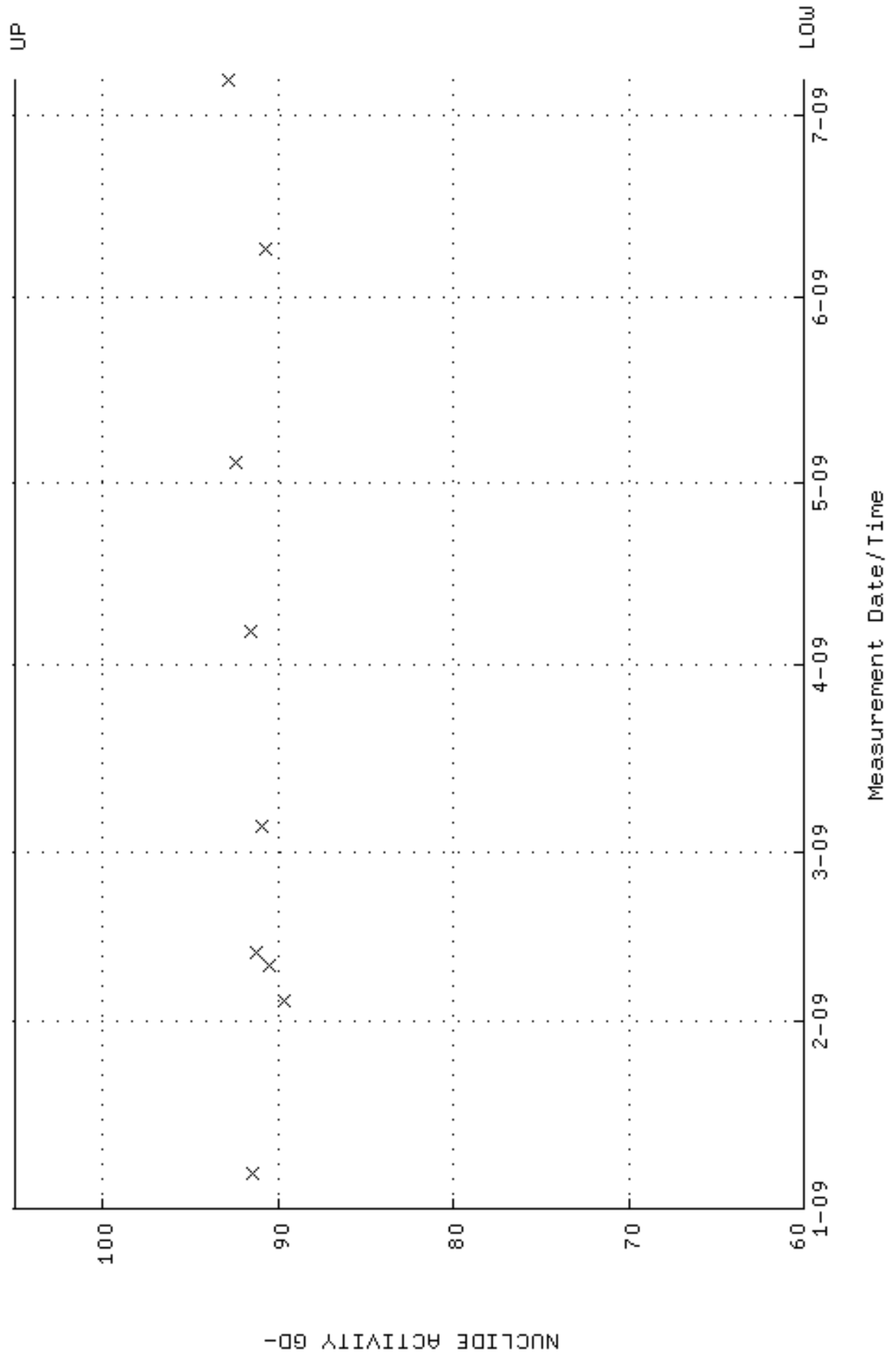
QA filename : DKA100:[ENV_ALPHA.QA.W]w022.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 90.5909 through 93.6045



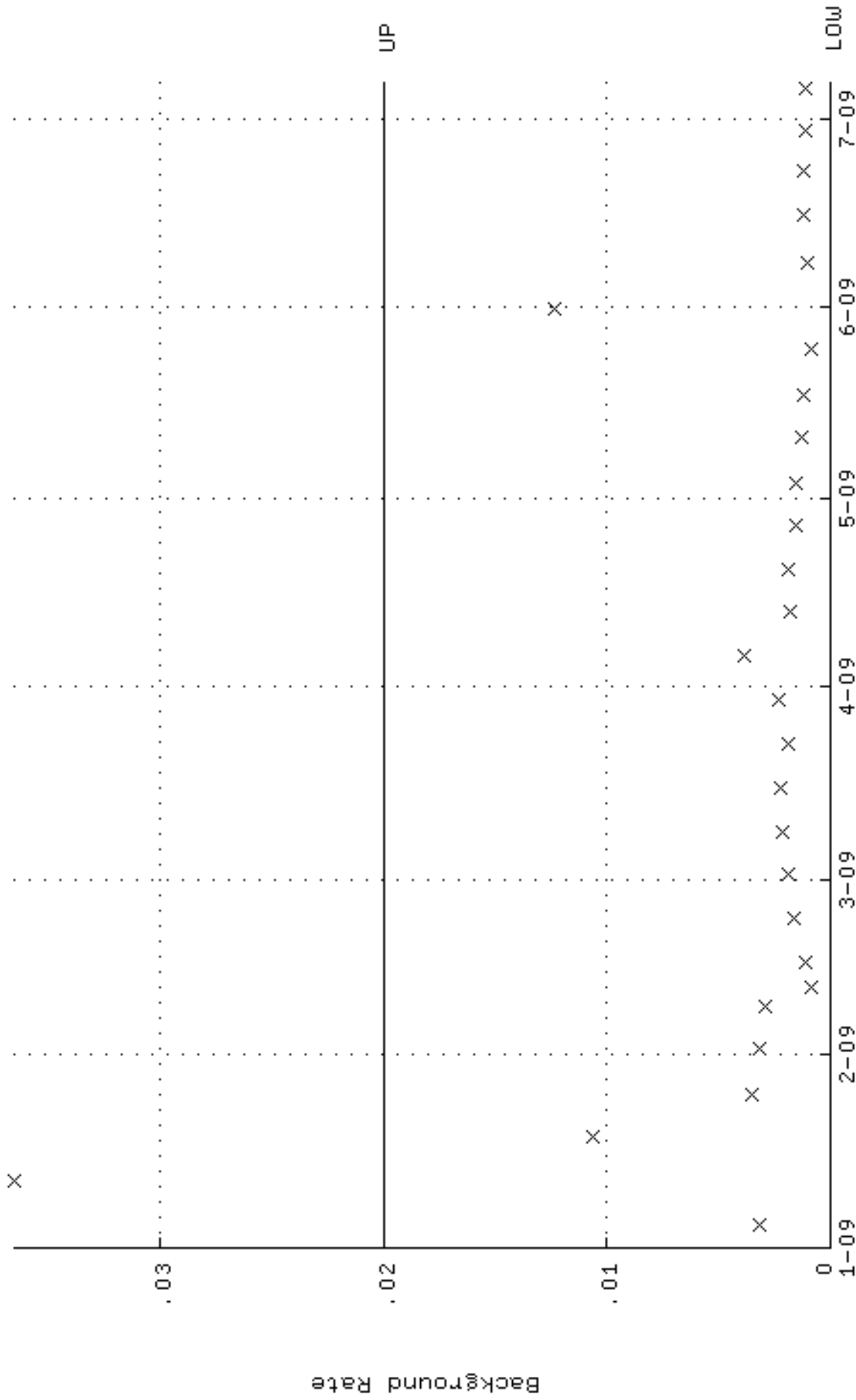
QA filename : DKA100:[ENV_ALPHA.QA.W]W023.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



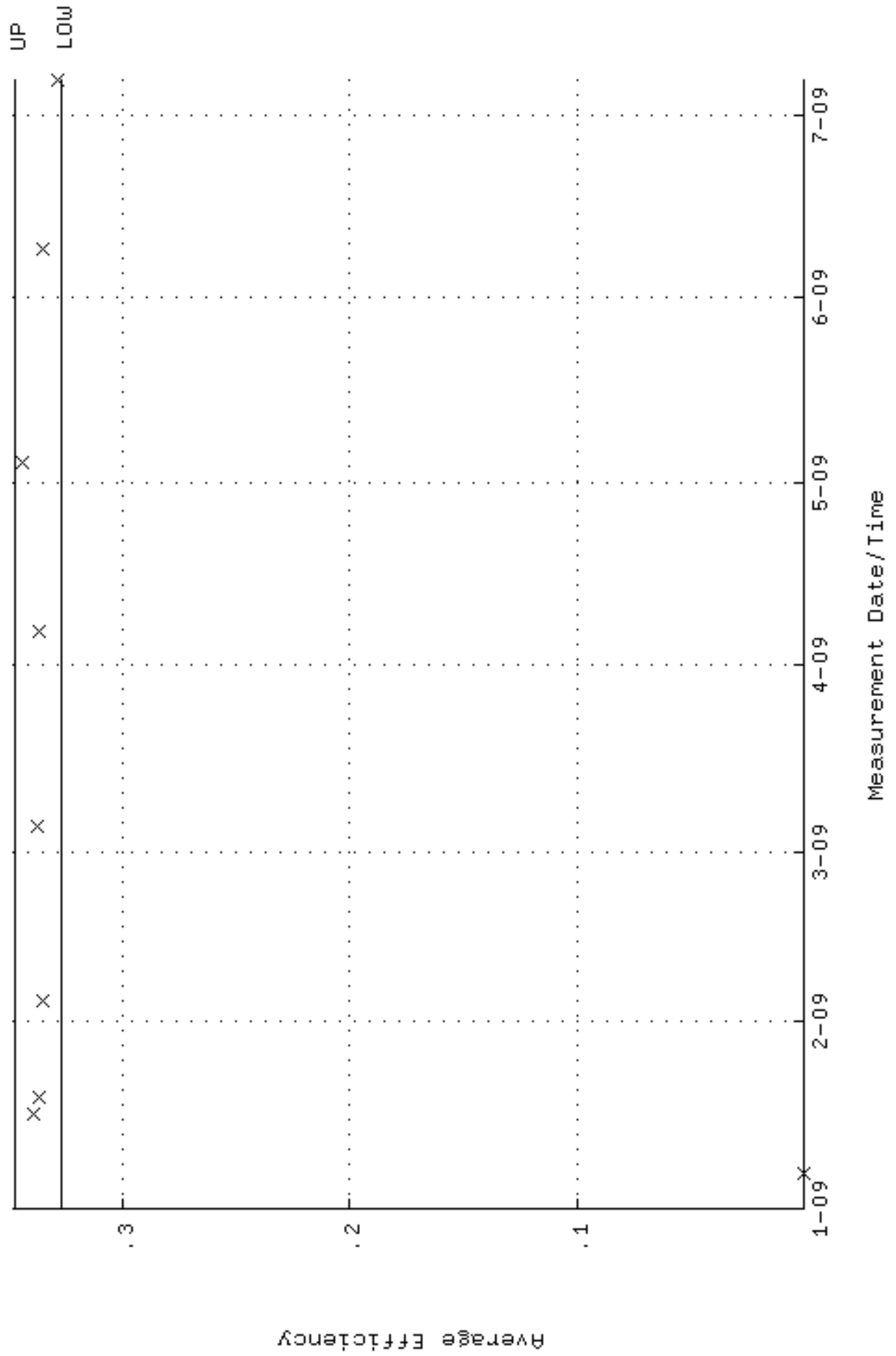
QA filename : DKA100:[ENV_ALPHA.QA.W]W023.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



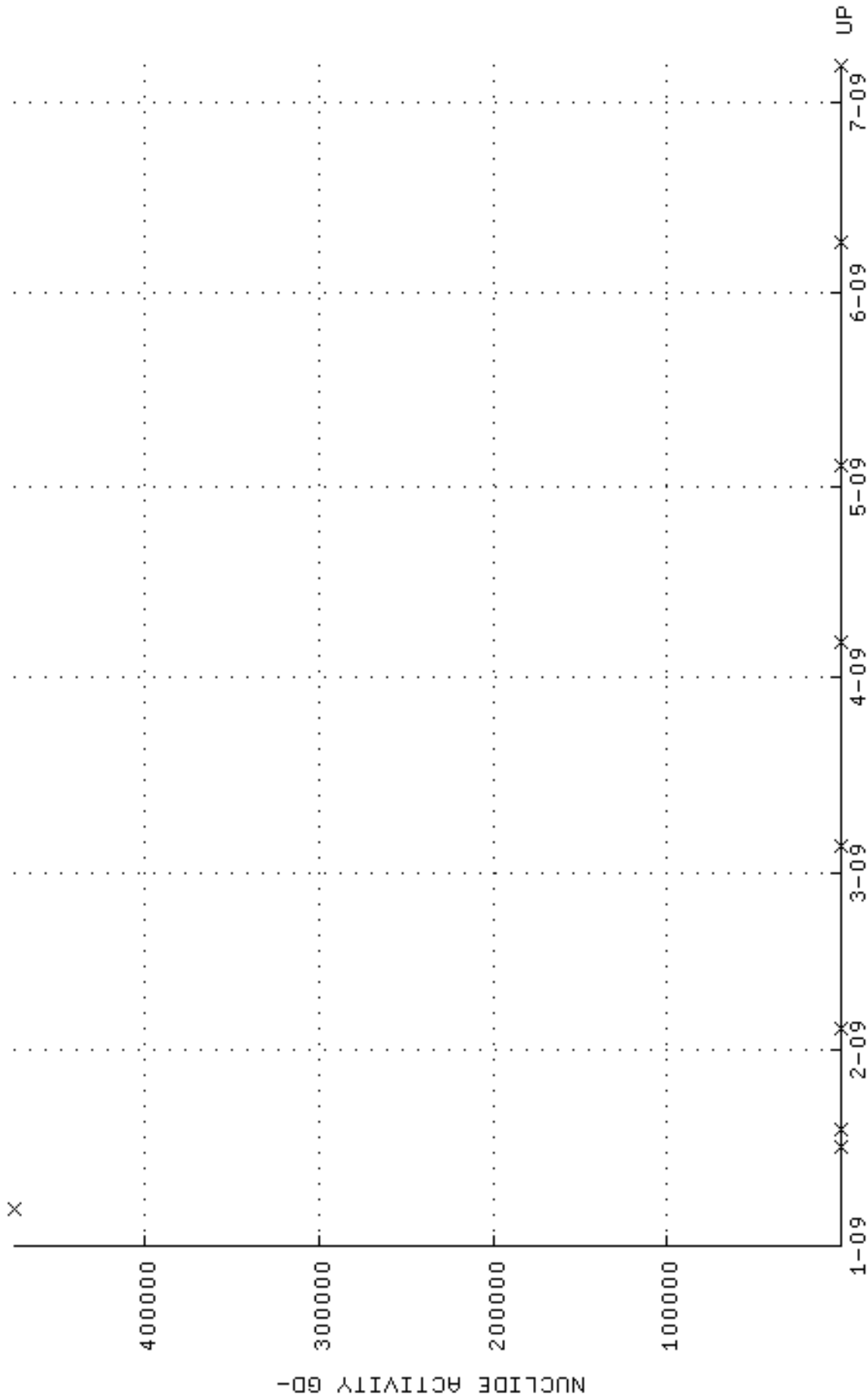
QA filename : DKA100:[ENV_ALPHA.QA.B]B023.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:25 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



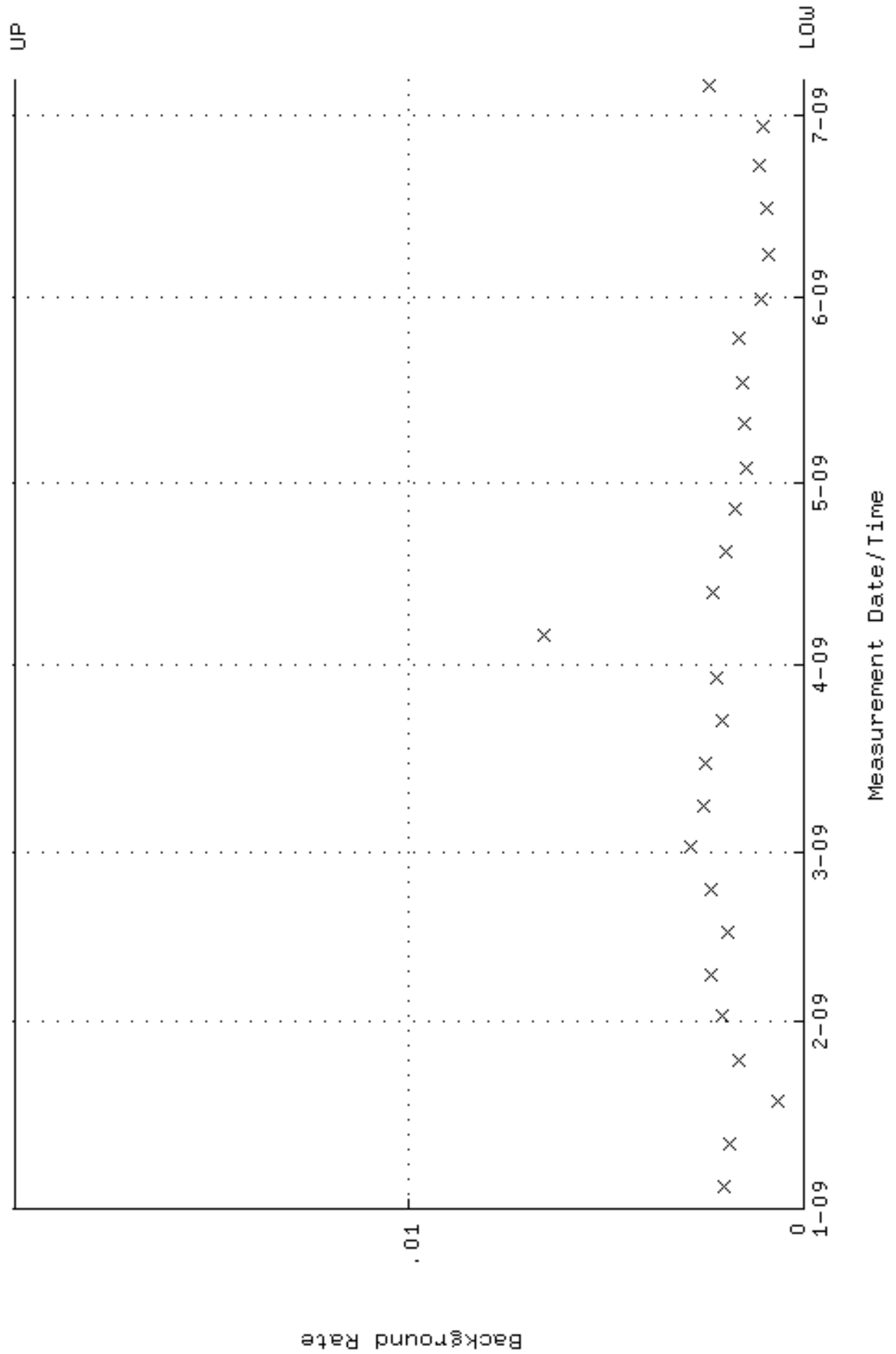
QA filename : DKA100:[ENV_ALPHA.QA.W]W024.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.327512 through 0.347512



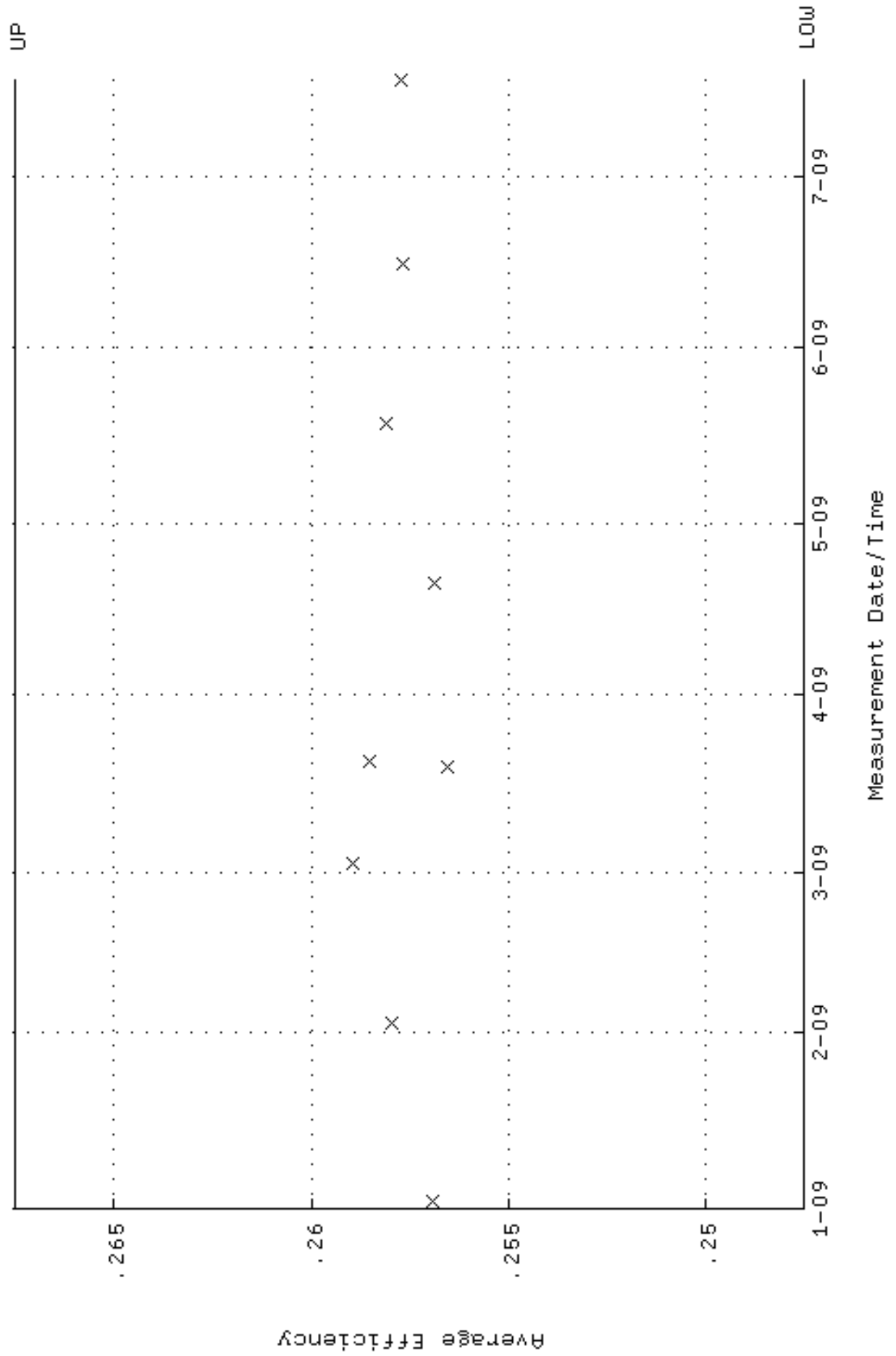
QA filename : DKA100:[ENV_ALPHA.QA.W]W024.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 20:33:40 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 84.5843 through 93.4879



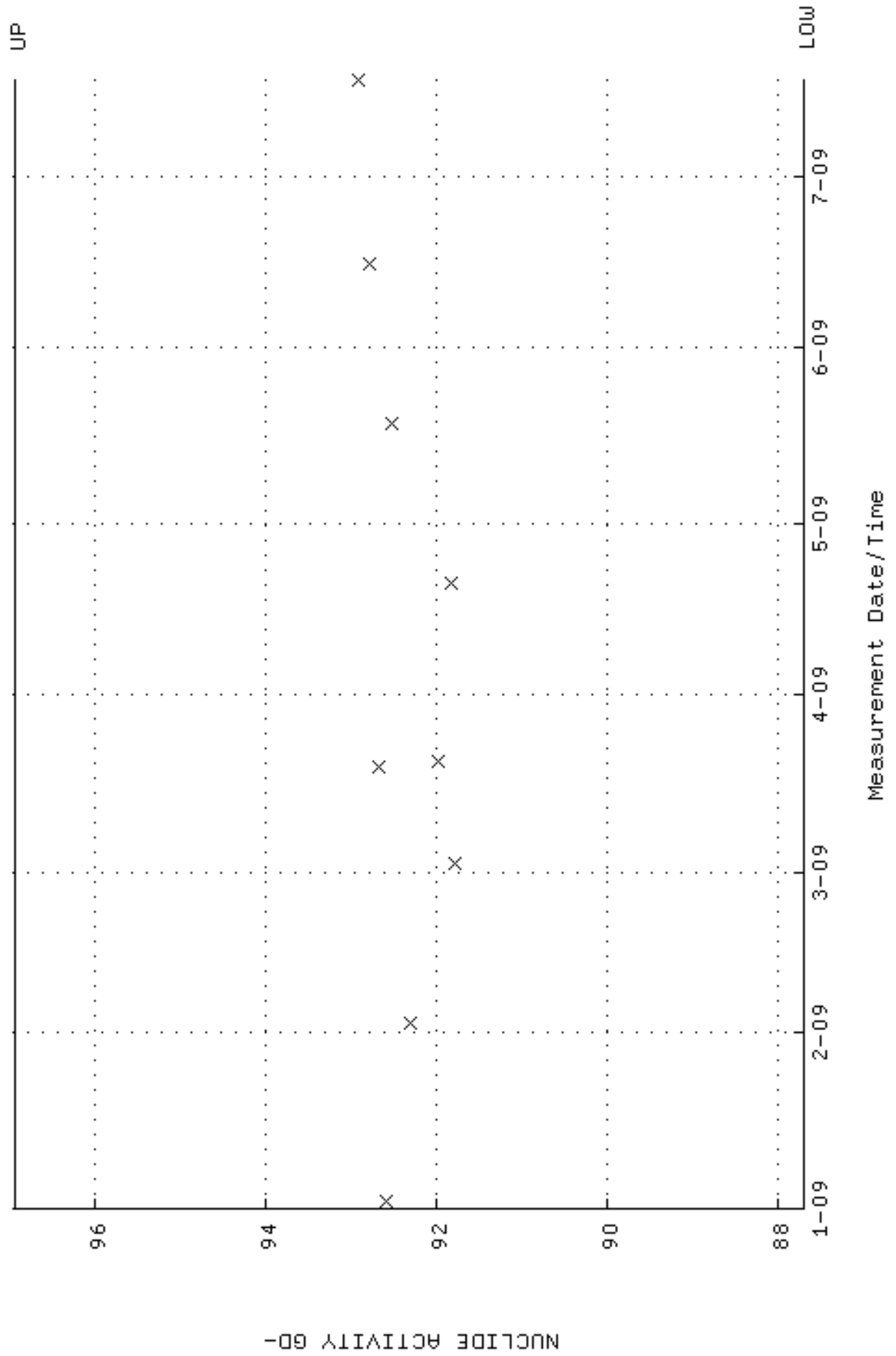
QA filename : DKA100:[ENV_ALPHA.QA.B]B024.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:21:25 through 6-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



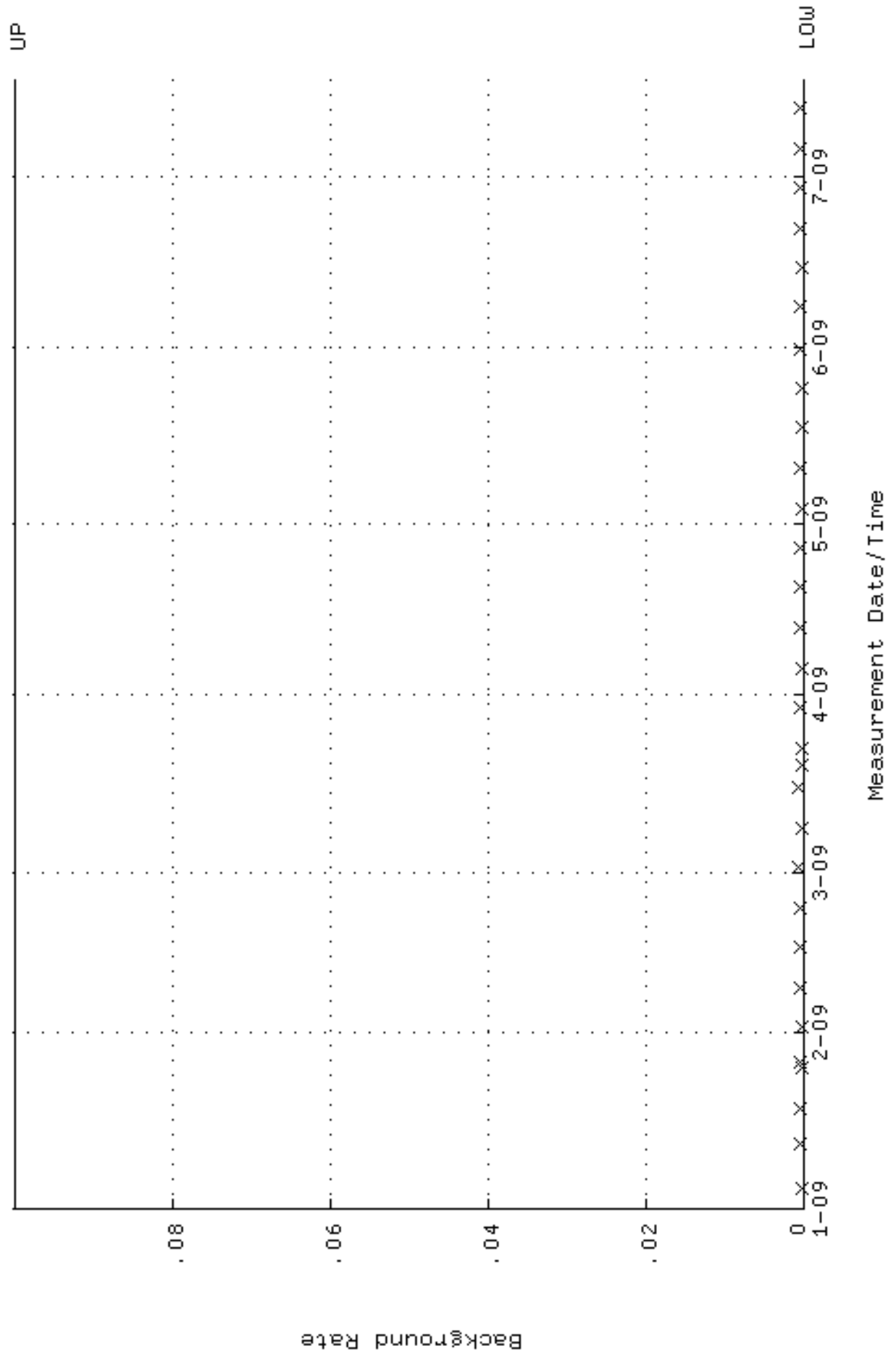
QA filename : DKA100:[ENV_ALPHA.QA.W]W125.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:23:39 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.247512 through 0.267512



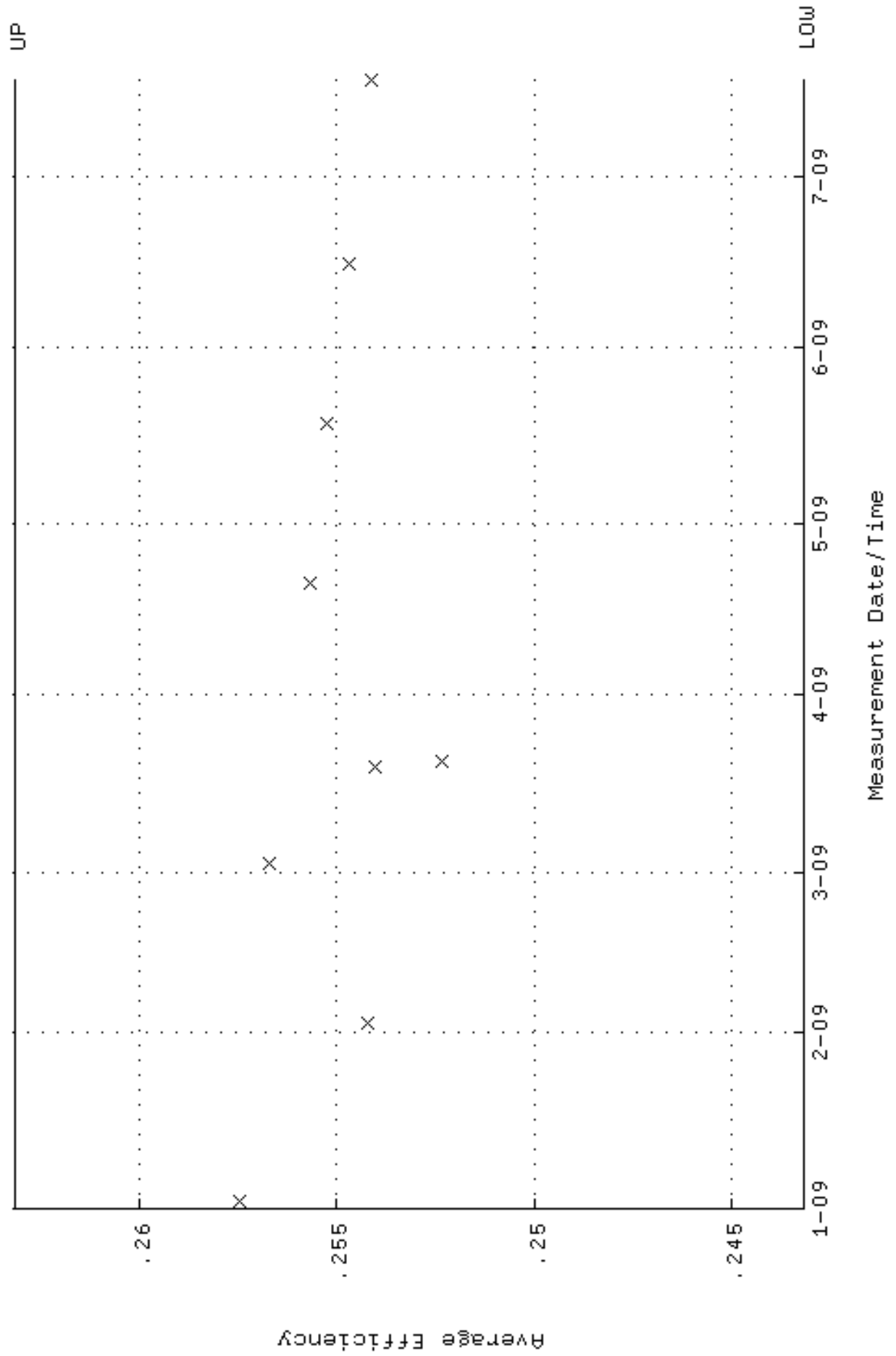
QA filename : DKA100:[ENV_ALPHA.QA.W]W125.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-JAN-2009 07:23:39 through 17-JUL-2009 12:00:00
Lower/Upper Lmts: 87.6956 through 96.9268



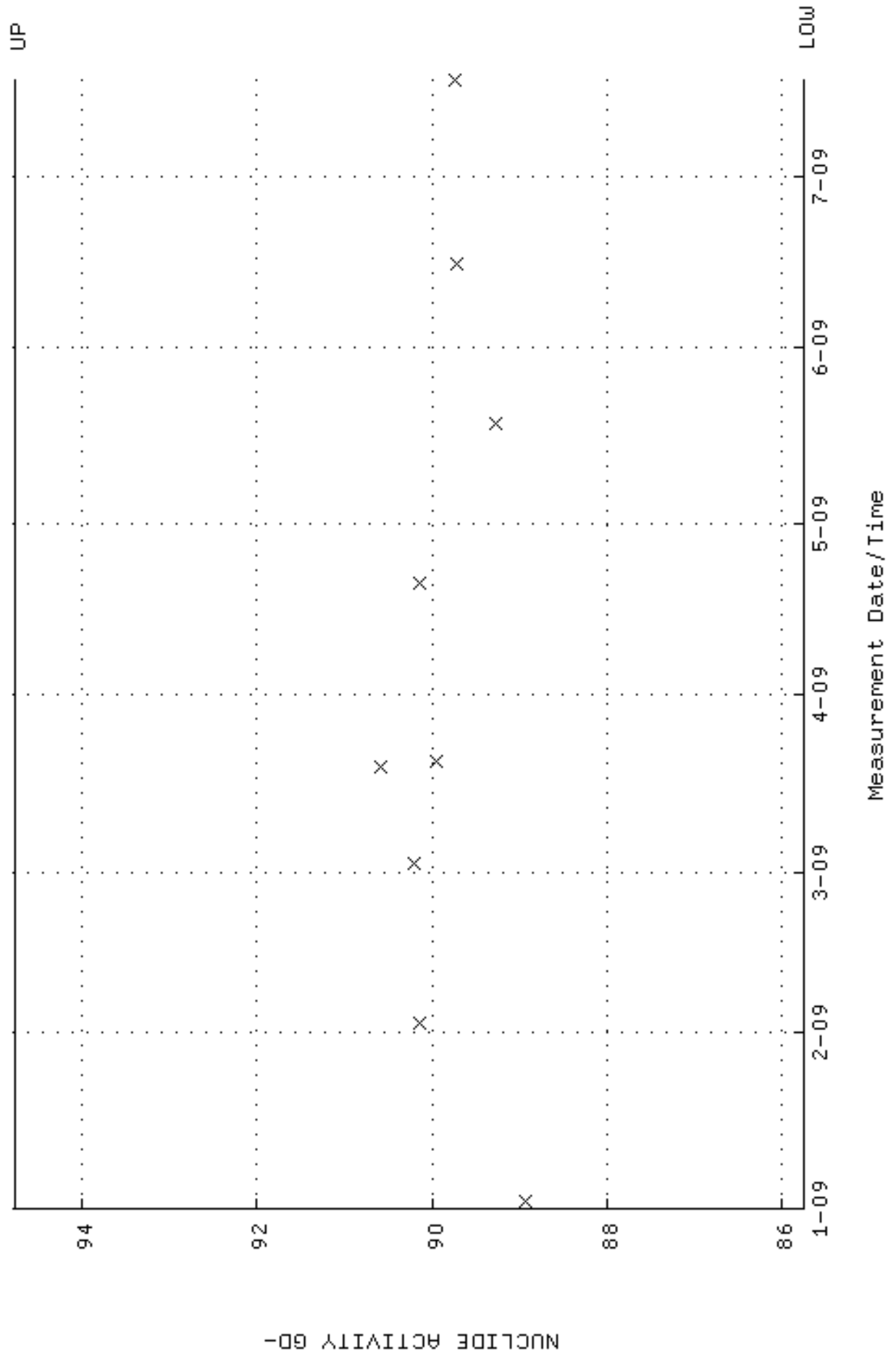
QA filename : DKA100:[ENV_ALPHA.QA.B]B125.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:22:39 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



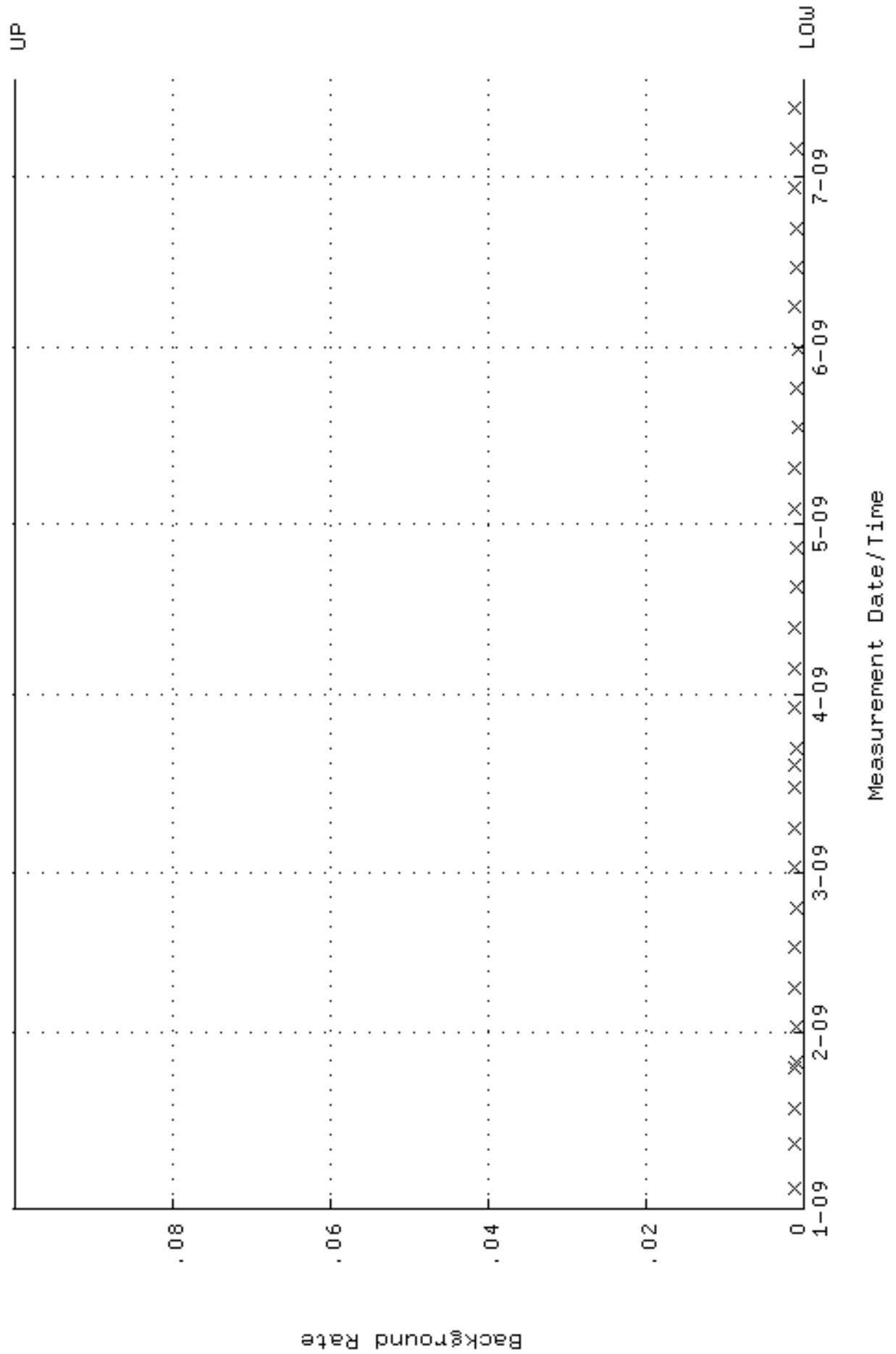
QA filename : DKA100:[ENV_ALPHA.QA.W]W126.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:23:44 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.243156 through 0.263156



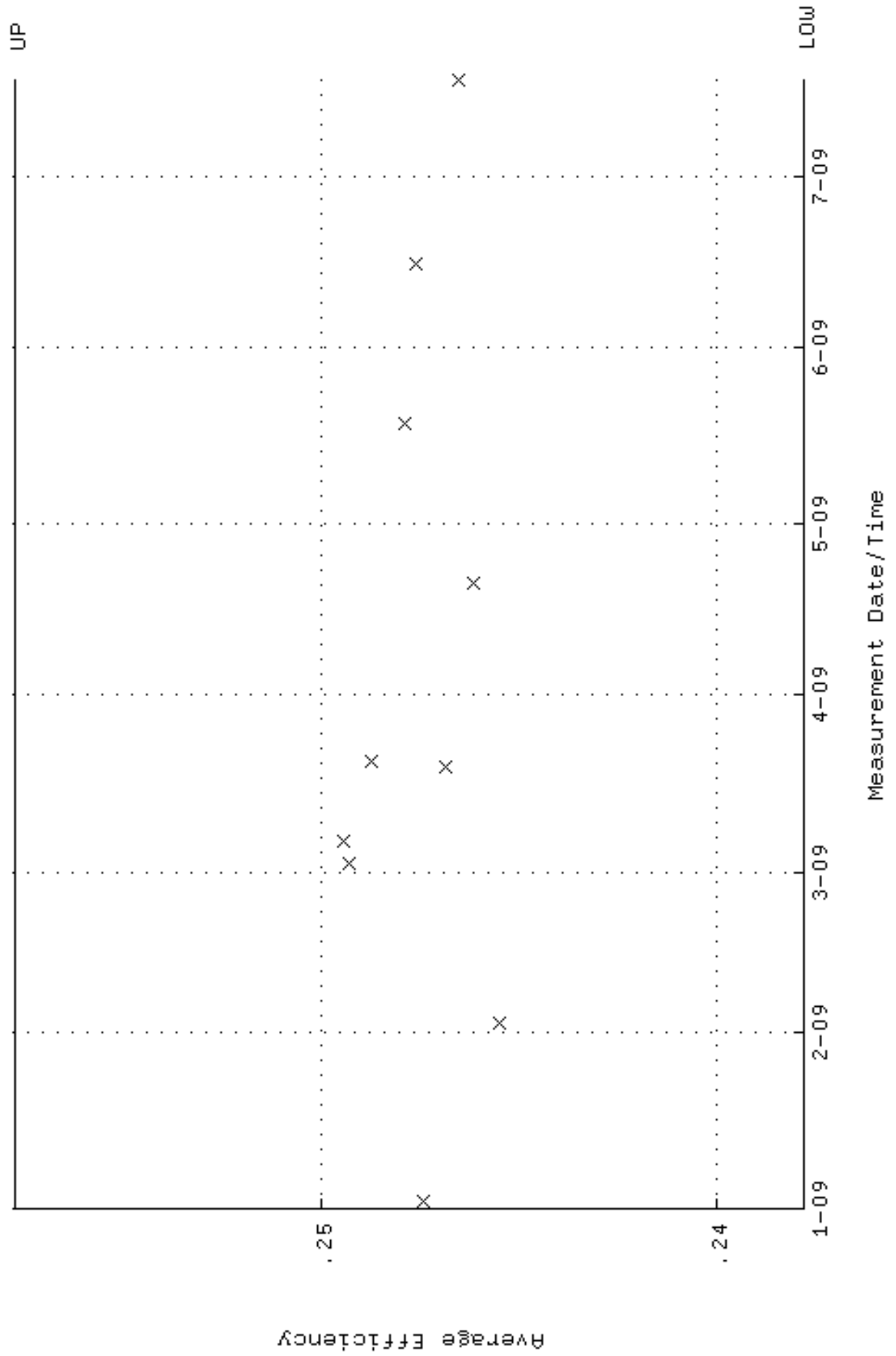
QA filename : DKA100:[ENV_ALPHA.QA.W]w126.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JAN-2009 07:23:44 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 85.7449 through 94.7707



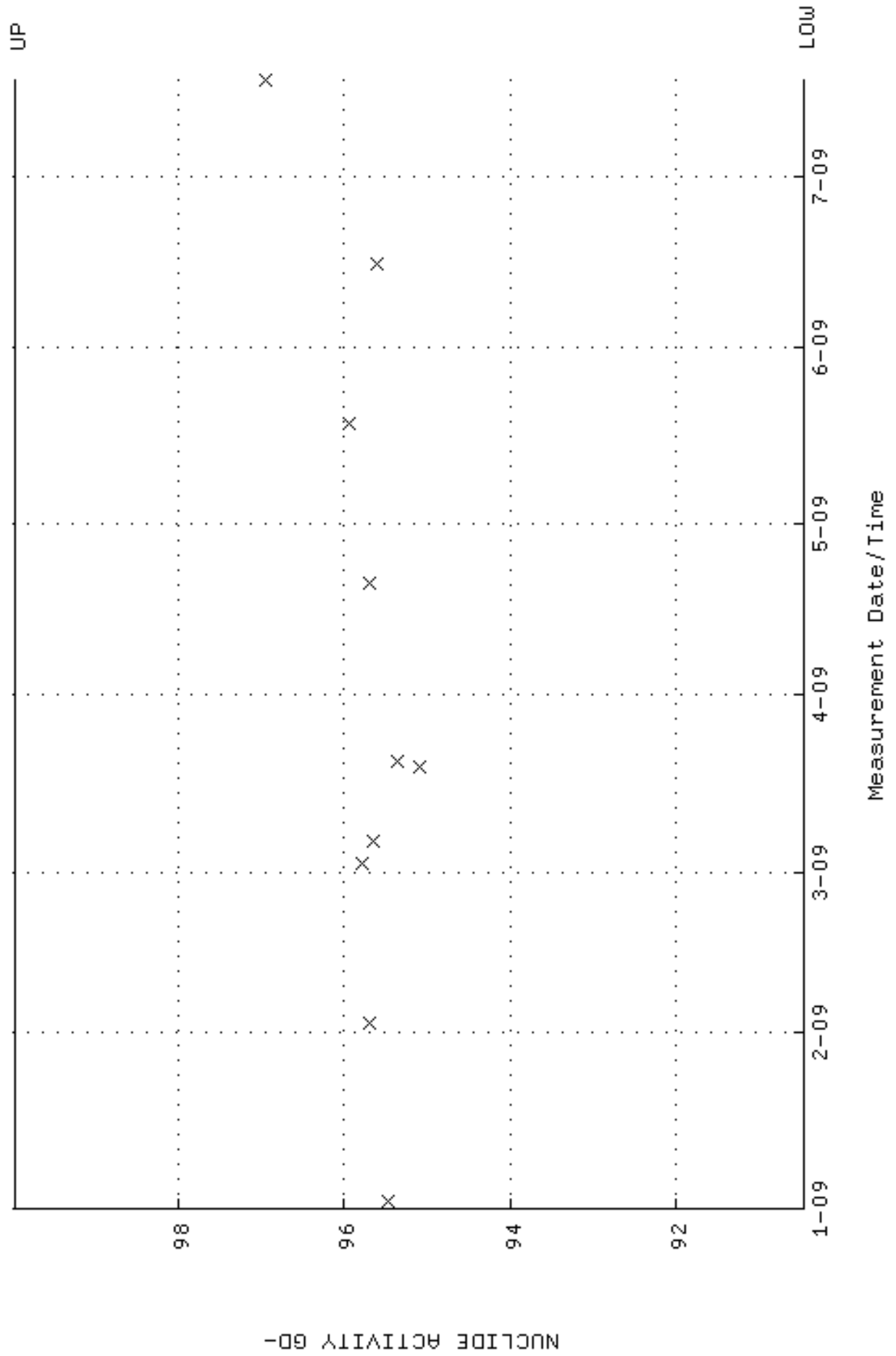
QA filename : DKA100:[ENV_ALPHA.QA.B]B126.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:22:43 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



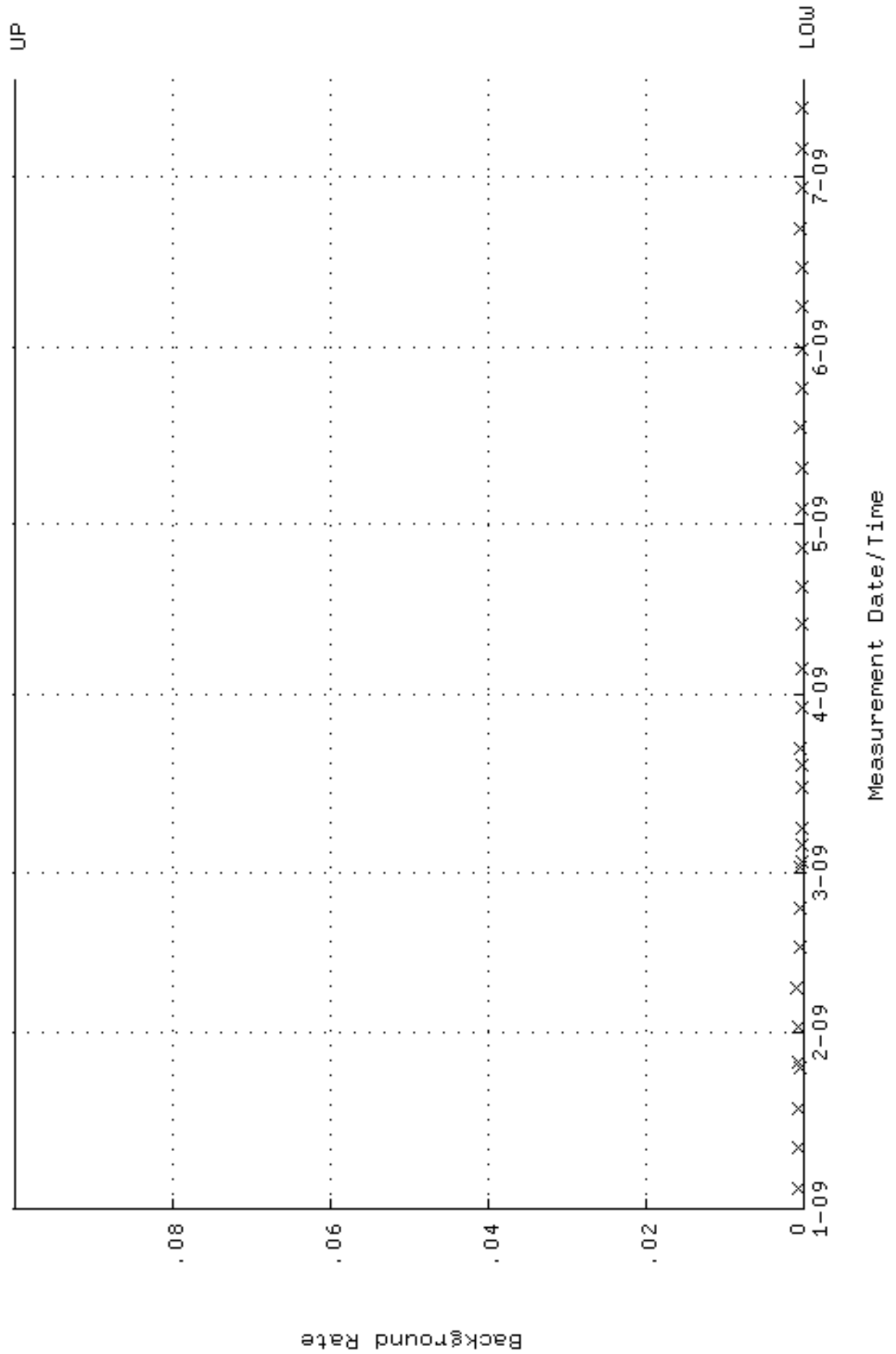
QA filename : DKA100:[ENV_ALPHA.QA.W]W127.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:23:48 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.237773 through 0.257773



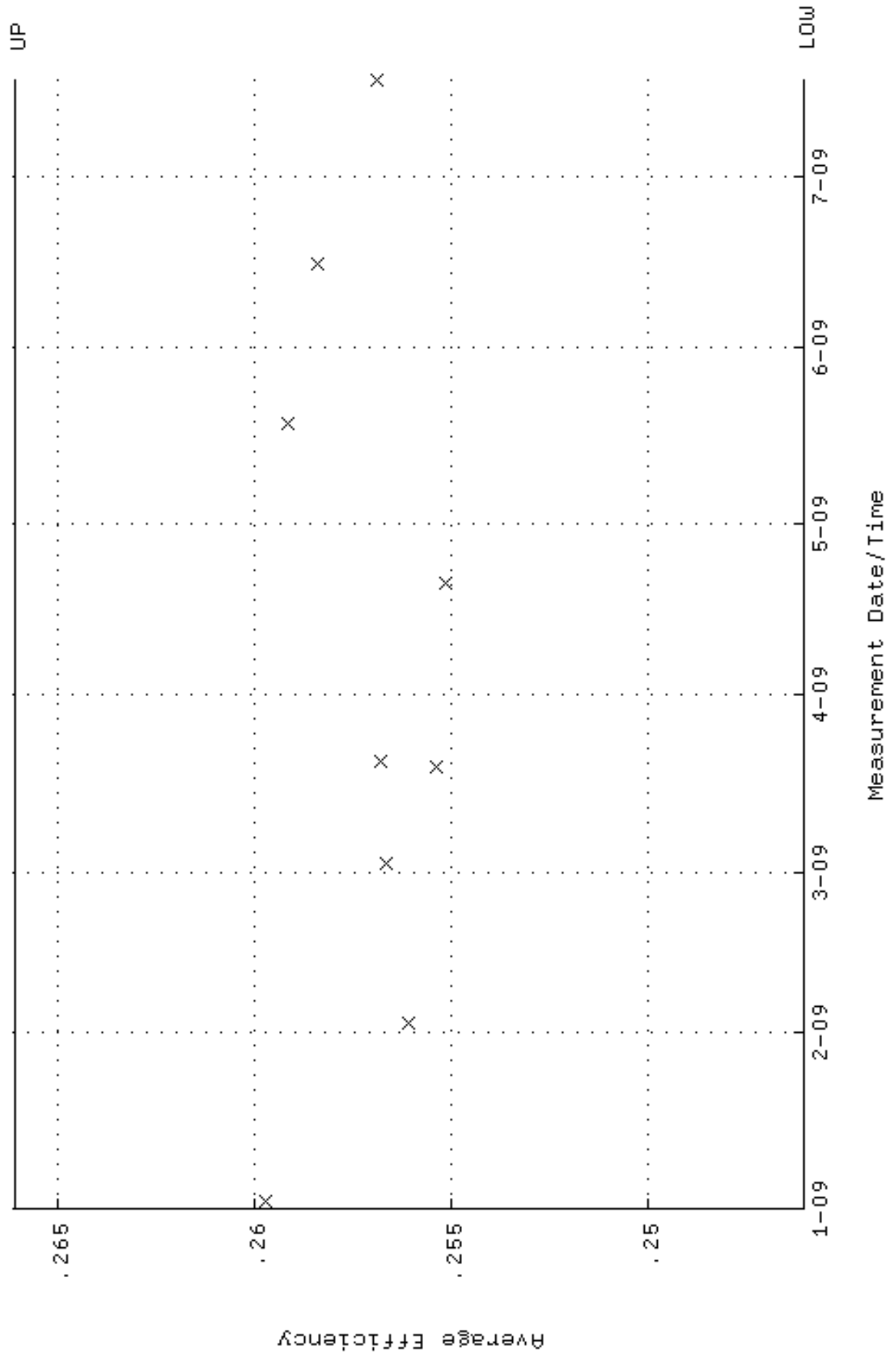
QA filename : DKA100:[ENV_ALPHA.QA.W]W127.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JAN-2009 07:23:48 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 90.4503 through 99.9713



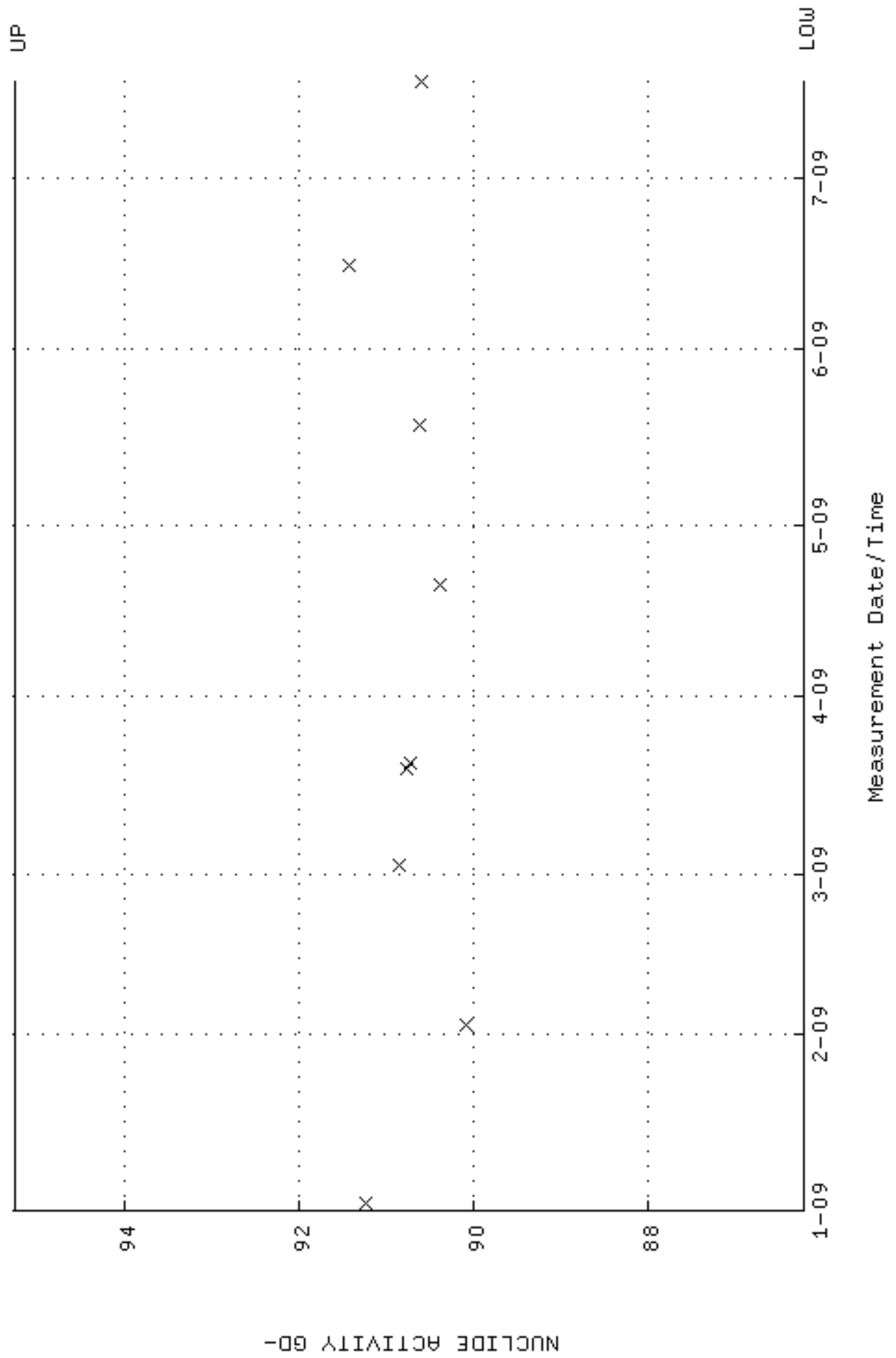
QA filename : DKA100:[ENV_ALPHA.QA.B]B127.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:22:48 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



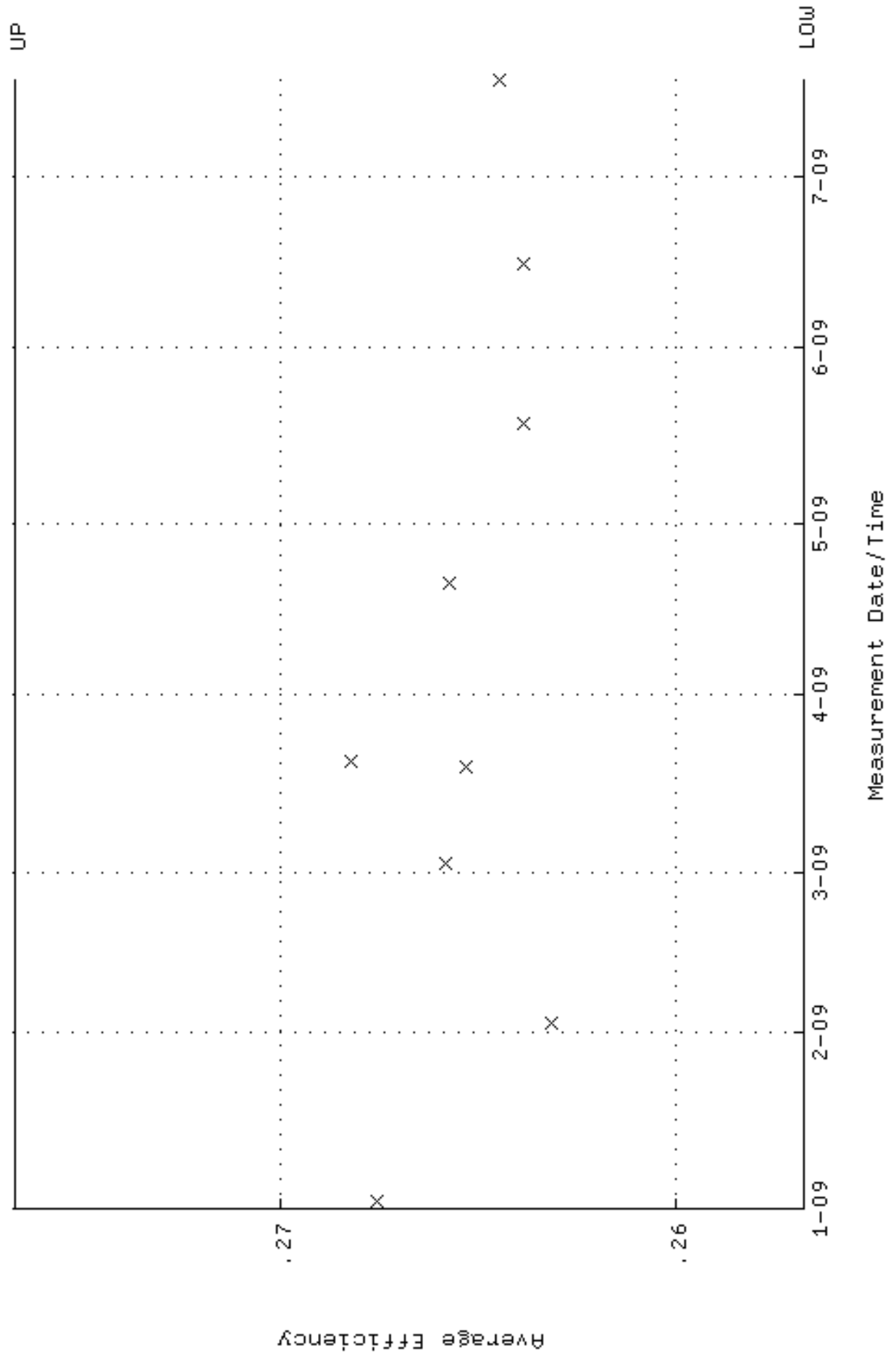
QA filename : DKA100:[ENV_ALPHA.QA.W]W128.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:23:54 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.246062 through 0.266062



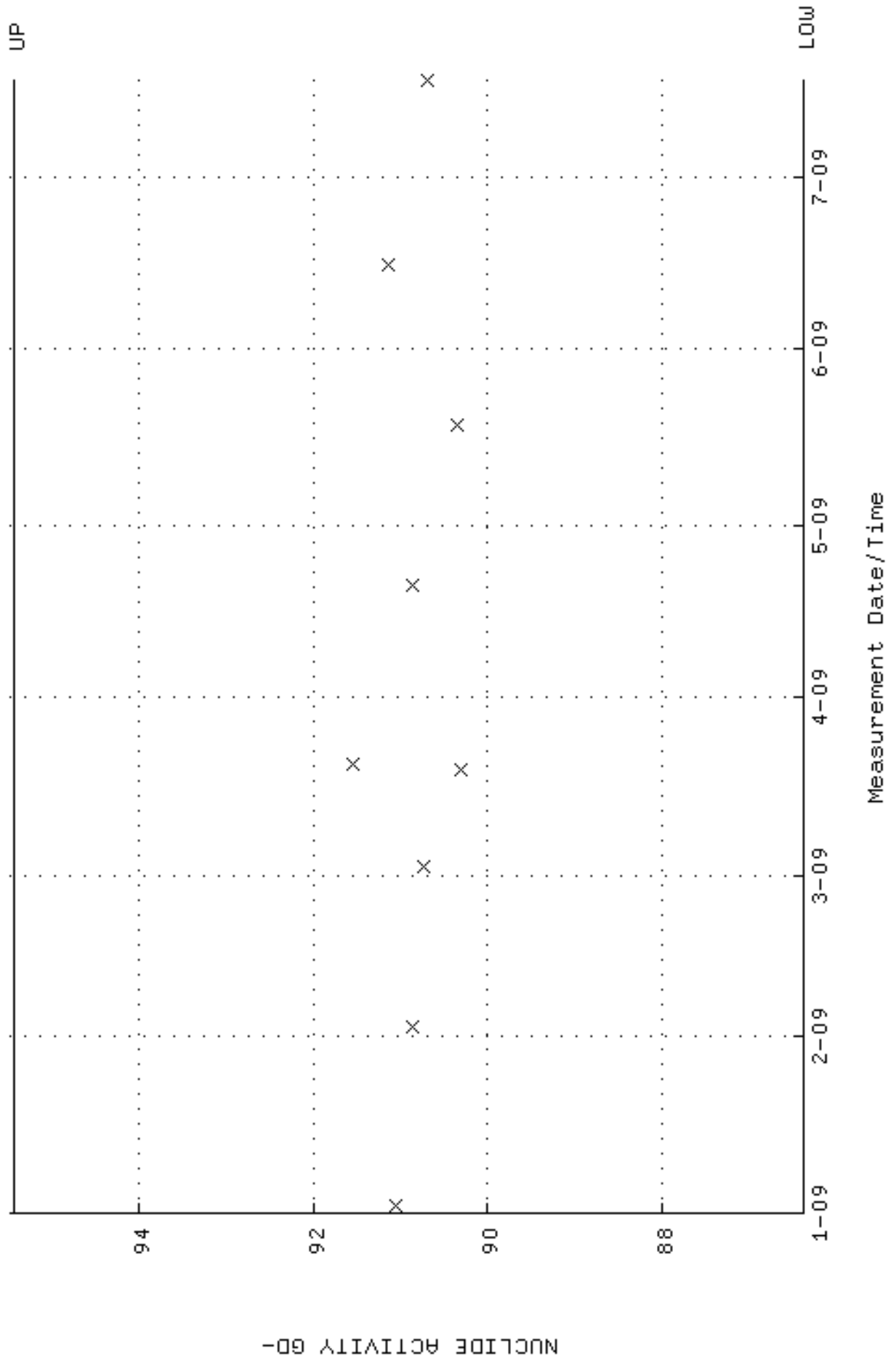
QA filename : DKA100:[ENV_ALPHA.QA.W]W128.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JAN-2009 07:23:54 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 86.1964 through 95.2697



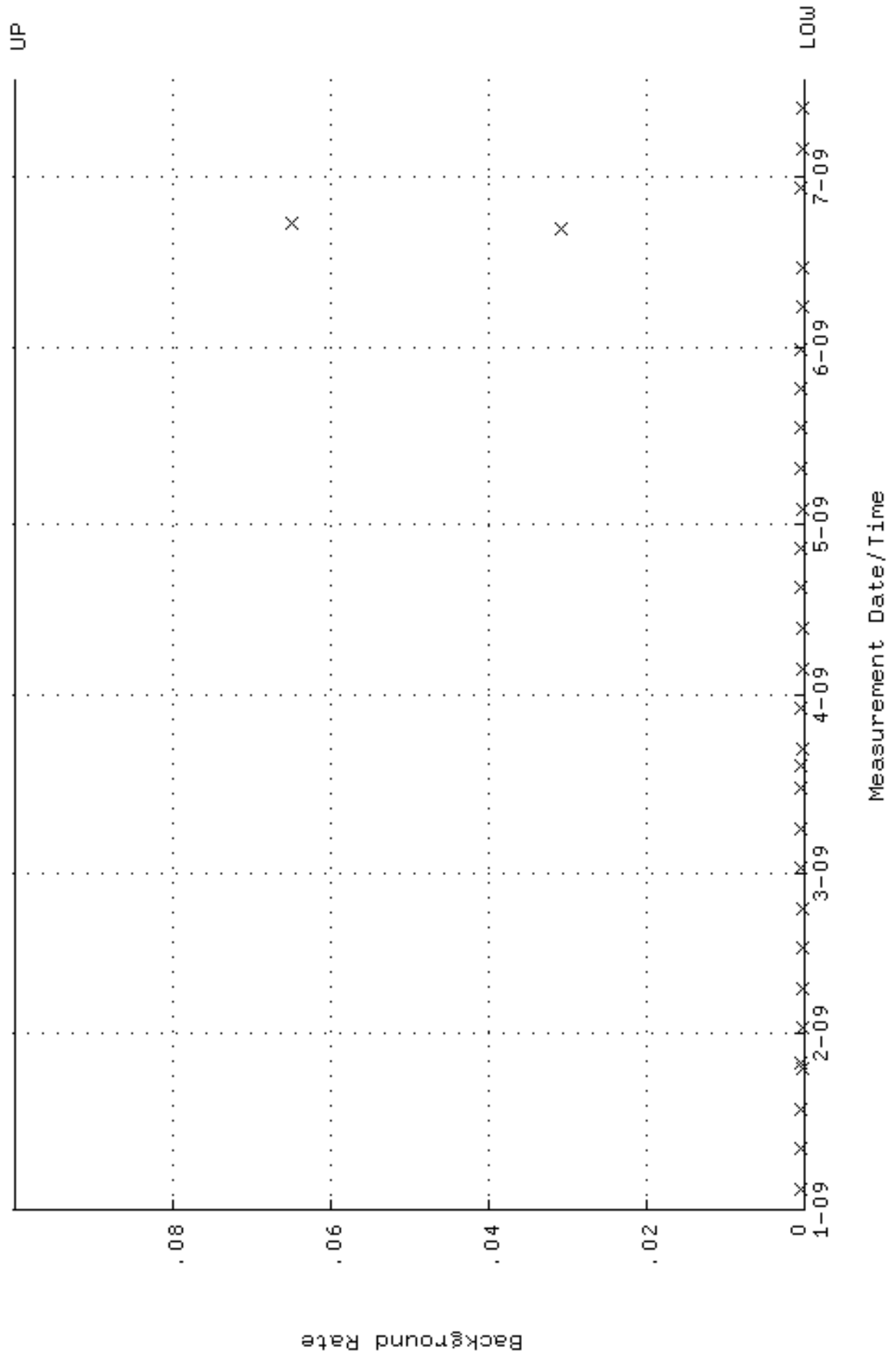
QA filename : DKA100:[ENV_ALPHA.QA.W]W129.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:23:59 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.256741 through 0.276741



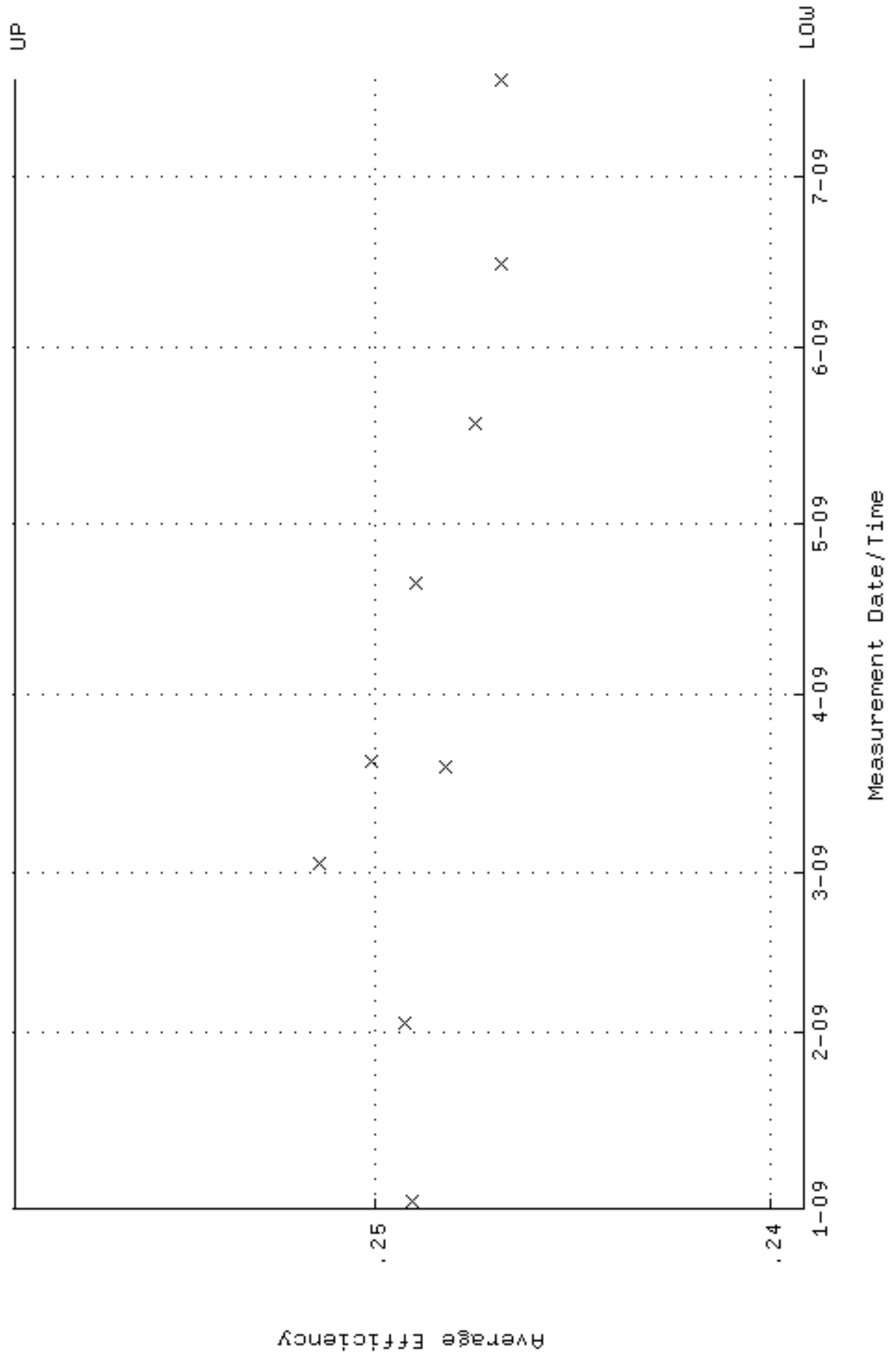
QA filename : DKA100:[ENV_ALPHA.QA.W]W129.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-JAN-2009 07:23:59 through 17-JUL-2009 12:00:00
Lower/Upper Lmts: 86.3646 through 95.4556



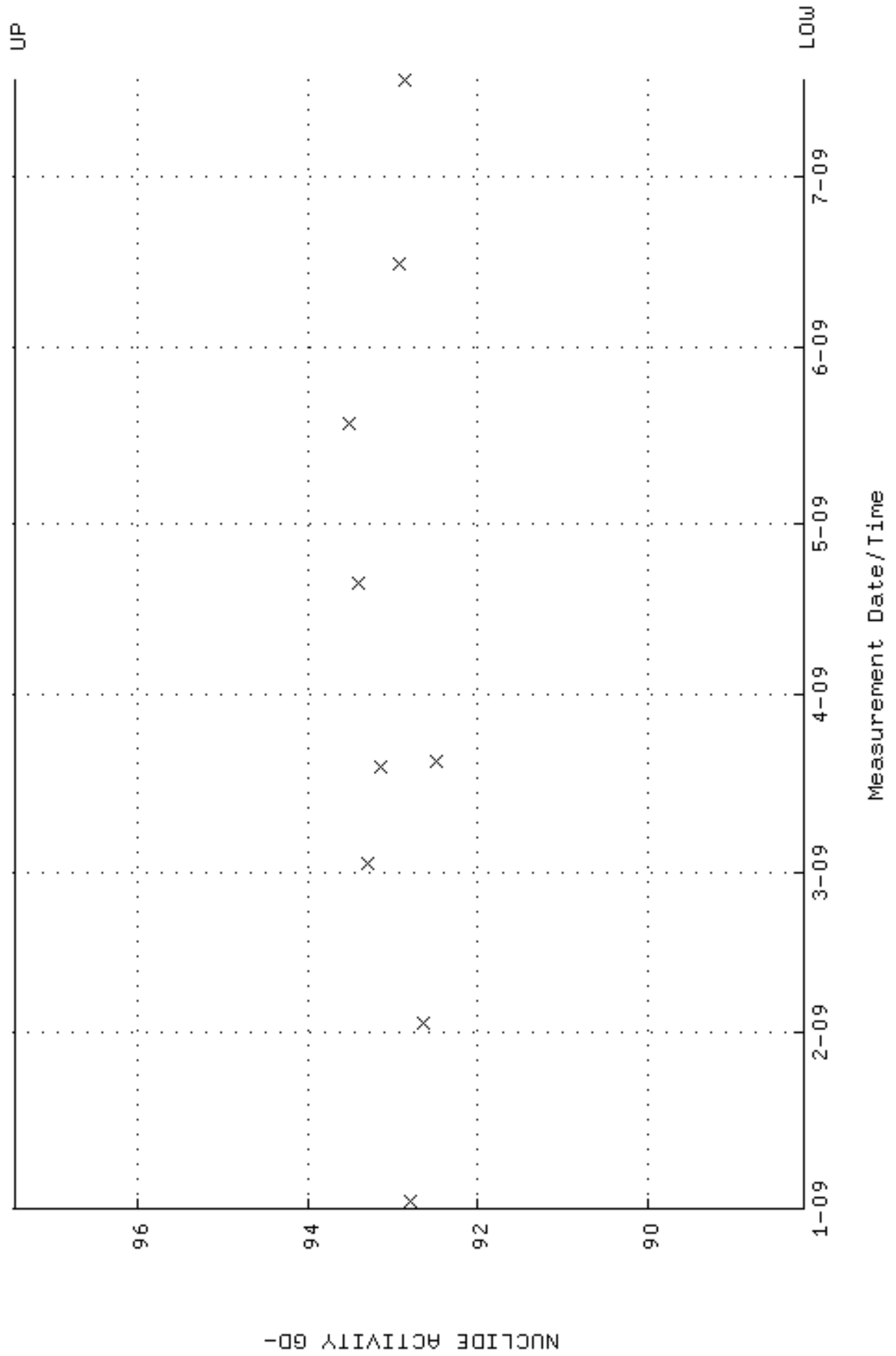
QA filename : DKA100:[ENV_ALPHA.QA.B]B129.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:22:57 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



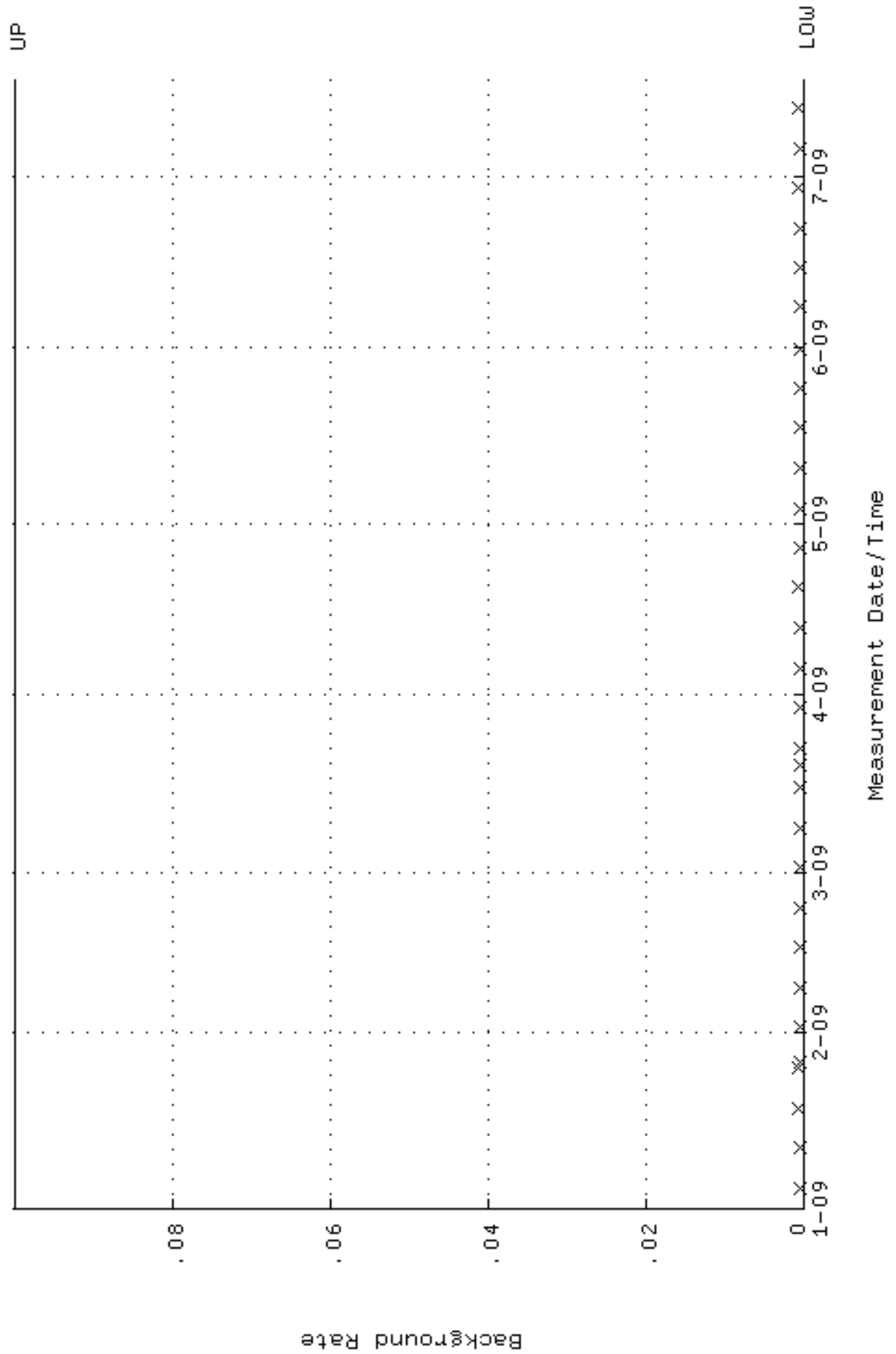
QA filename : DKA100:[ENV_ALPHA.QA.W]W130.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:24:04 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.239131 through 0.259131



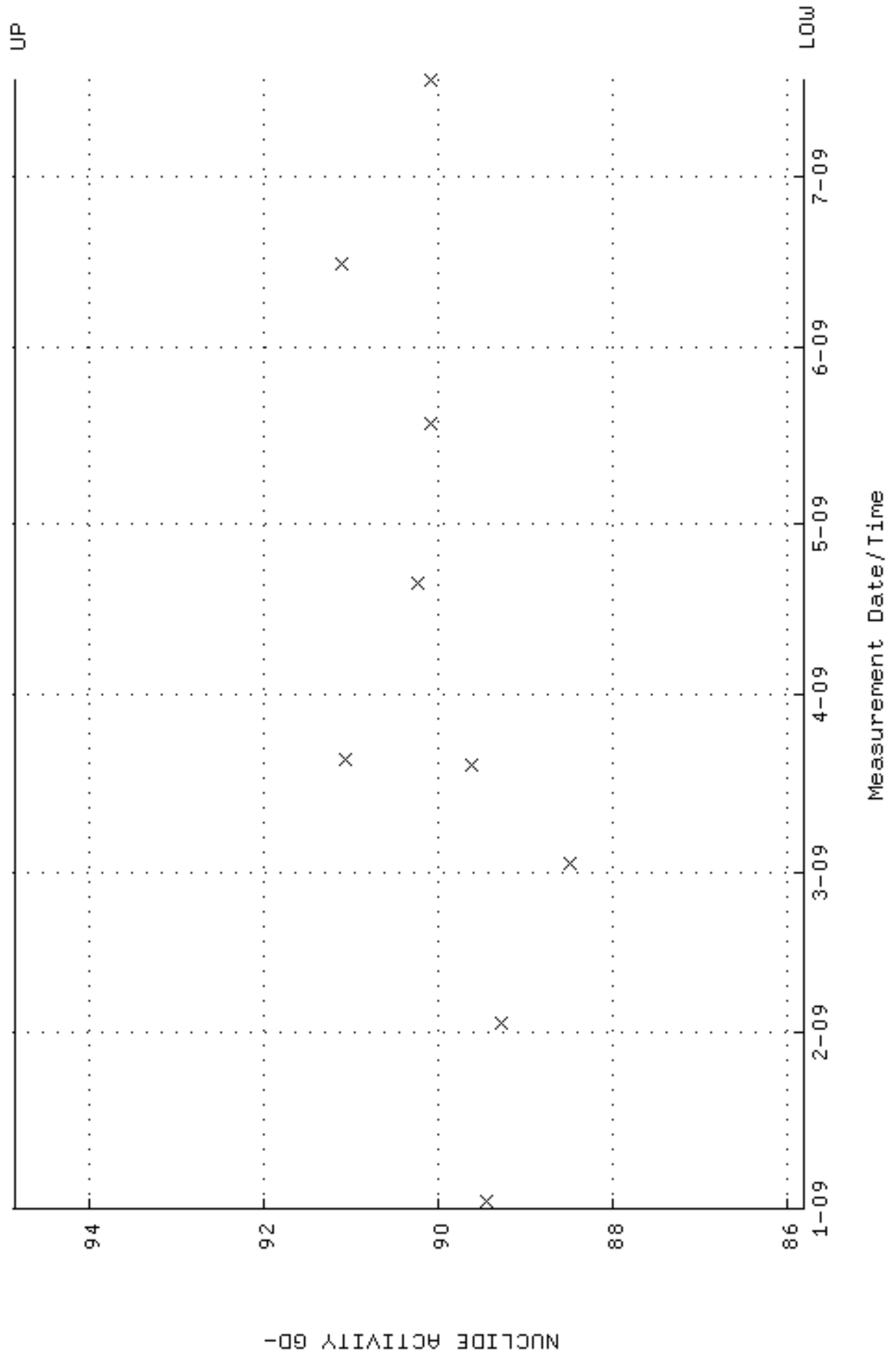
QA filename : DKA100:[ENV_ALPHA.QA.W]W130.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 2-JAN-2009 07:24:04 through 17-JUL-2009 12:00:00
Lower/Upper Lmts: 88.1614 through 97.4416



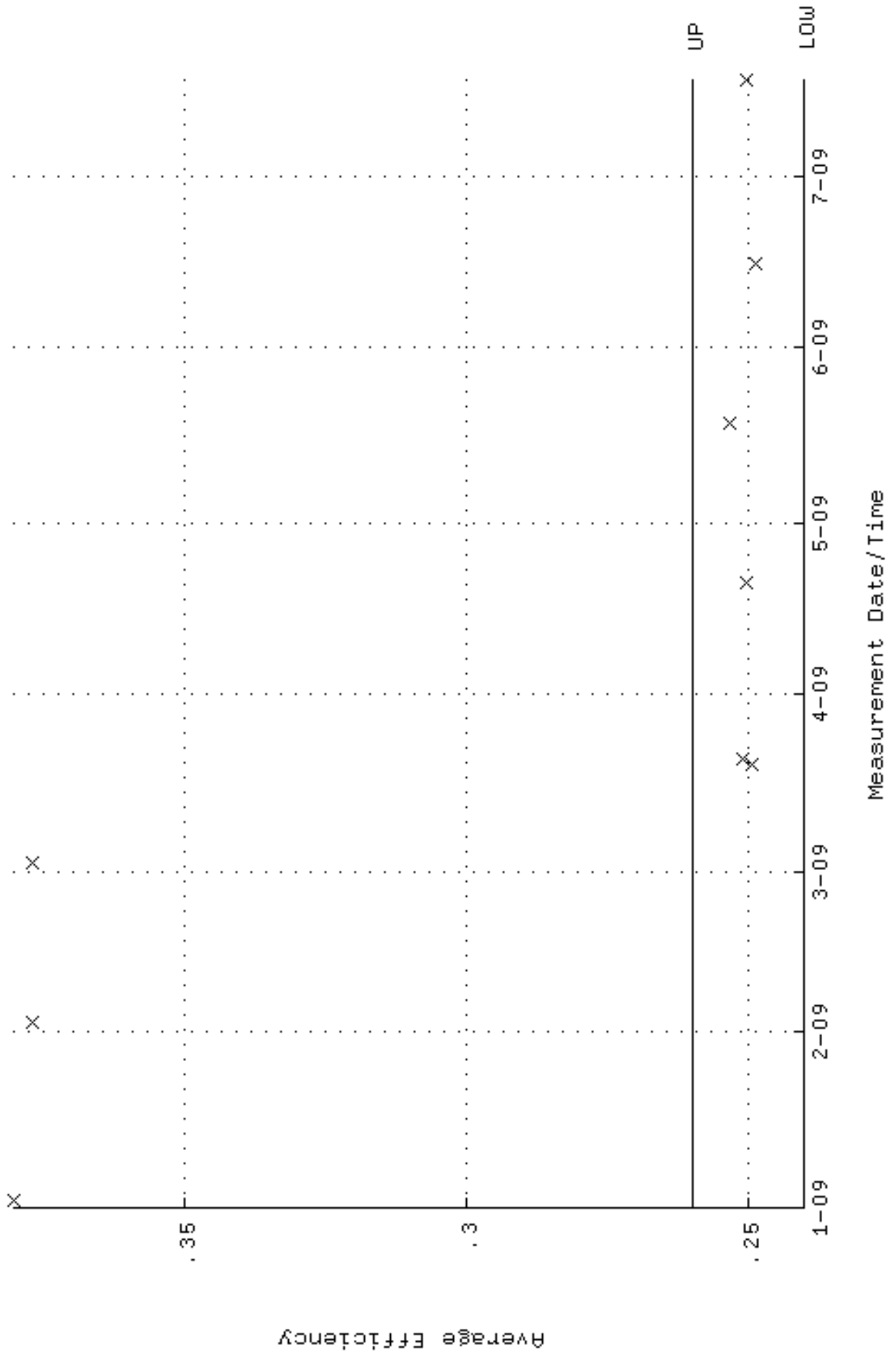
QA filename : DKA100:[ENV_ALPHA.QA.B]B130.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:23:01 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



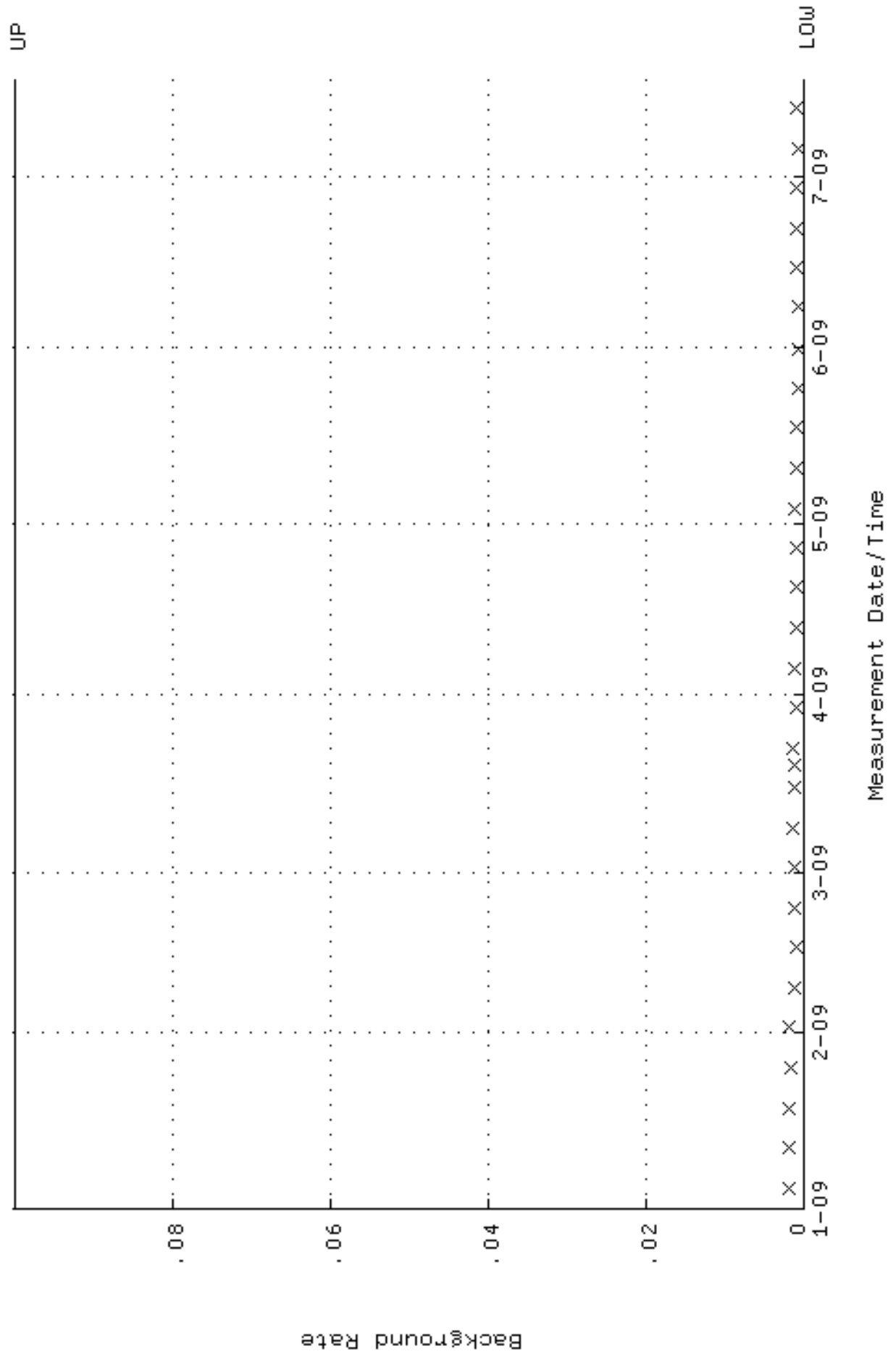
QA filename : DKA100:[ENV_ALPHA.QA.W]w139.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JAN-2009 07:24:47 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 85.8145 through 94.8477



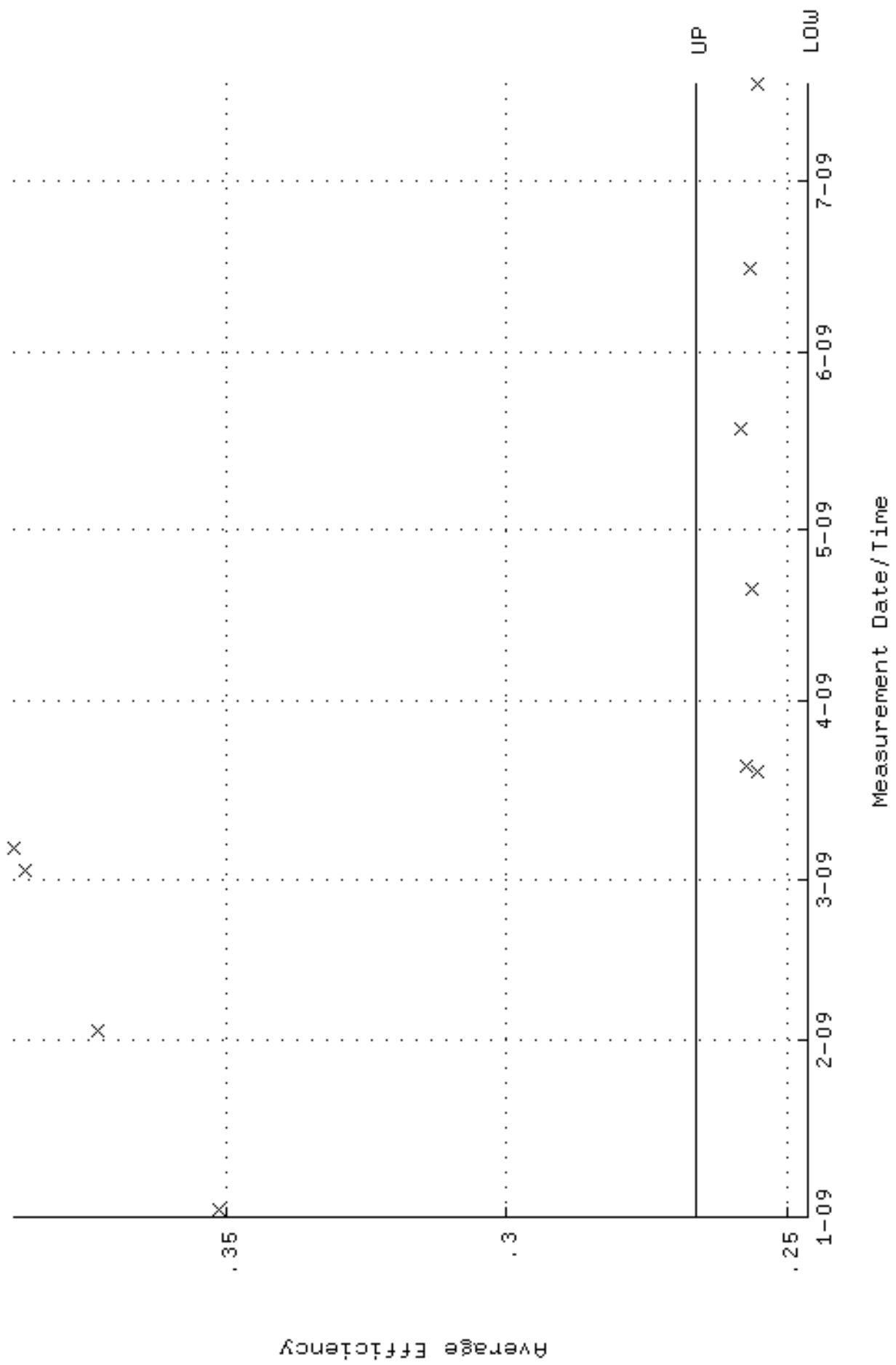
QA filename : DKA100:[ENV_ALPHA.QA.W]W139.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:24:47 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.240299 through 0.260299



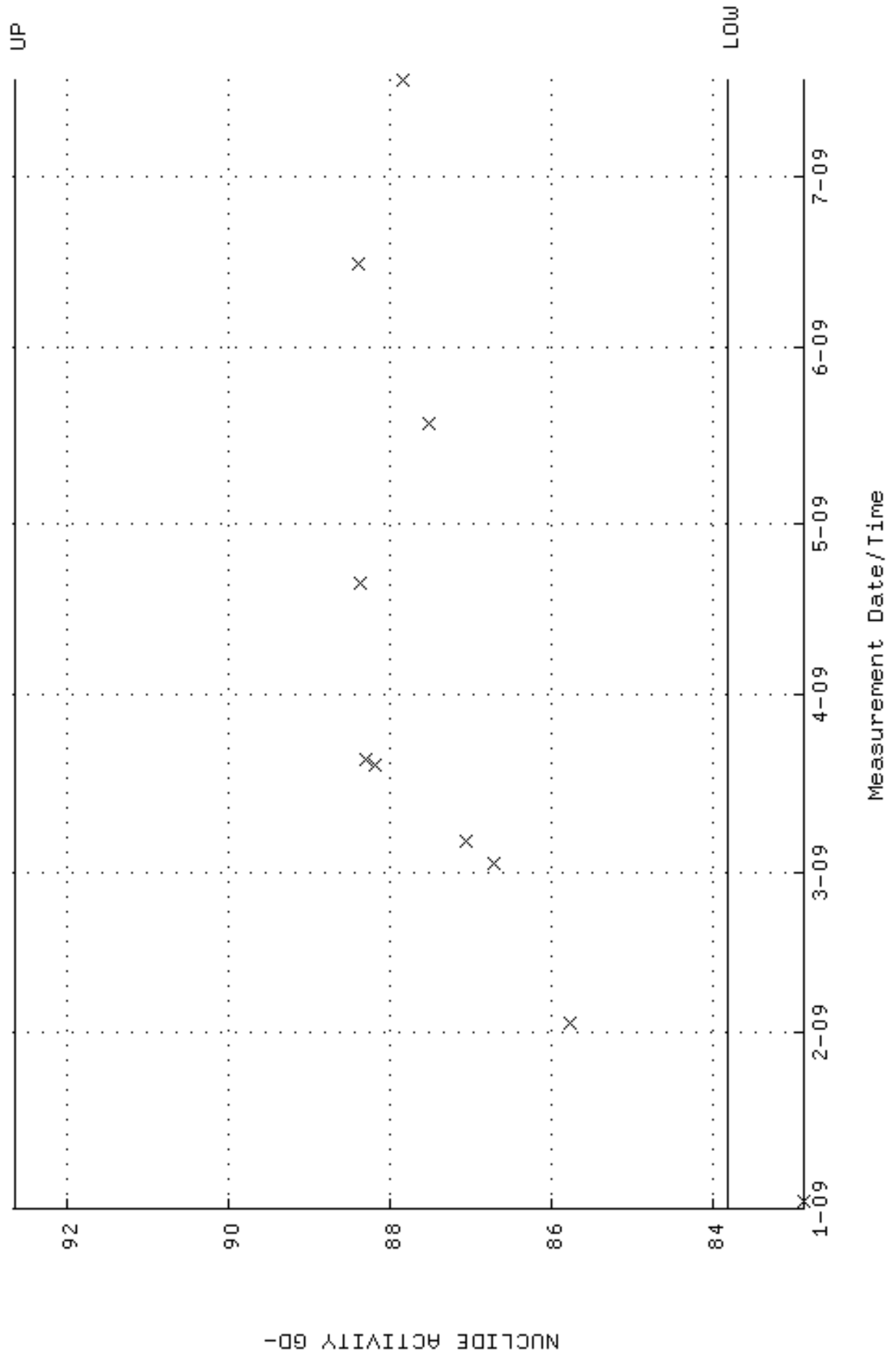
QA filename : DKA100:[ENV_ALPHA.QA.B]B139.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:23:39 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



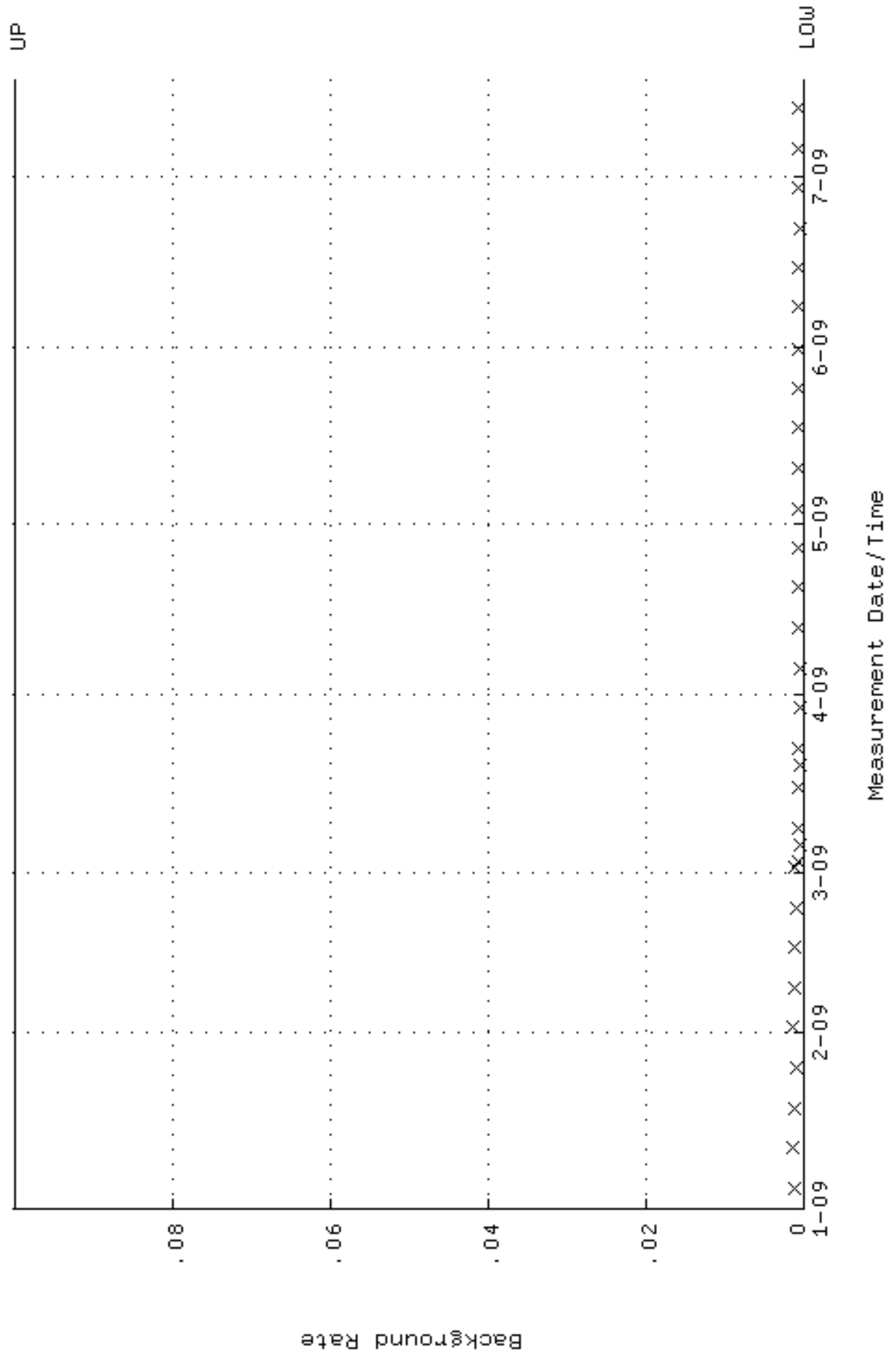
QA filename : DKA100:[ENV_ALPHA.QA.W]W140.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:24:52 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.246178 through 0.266178



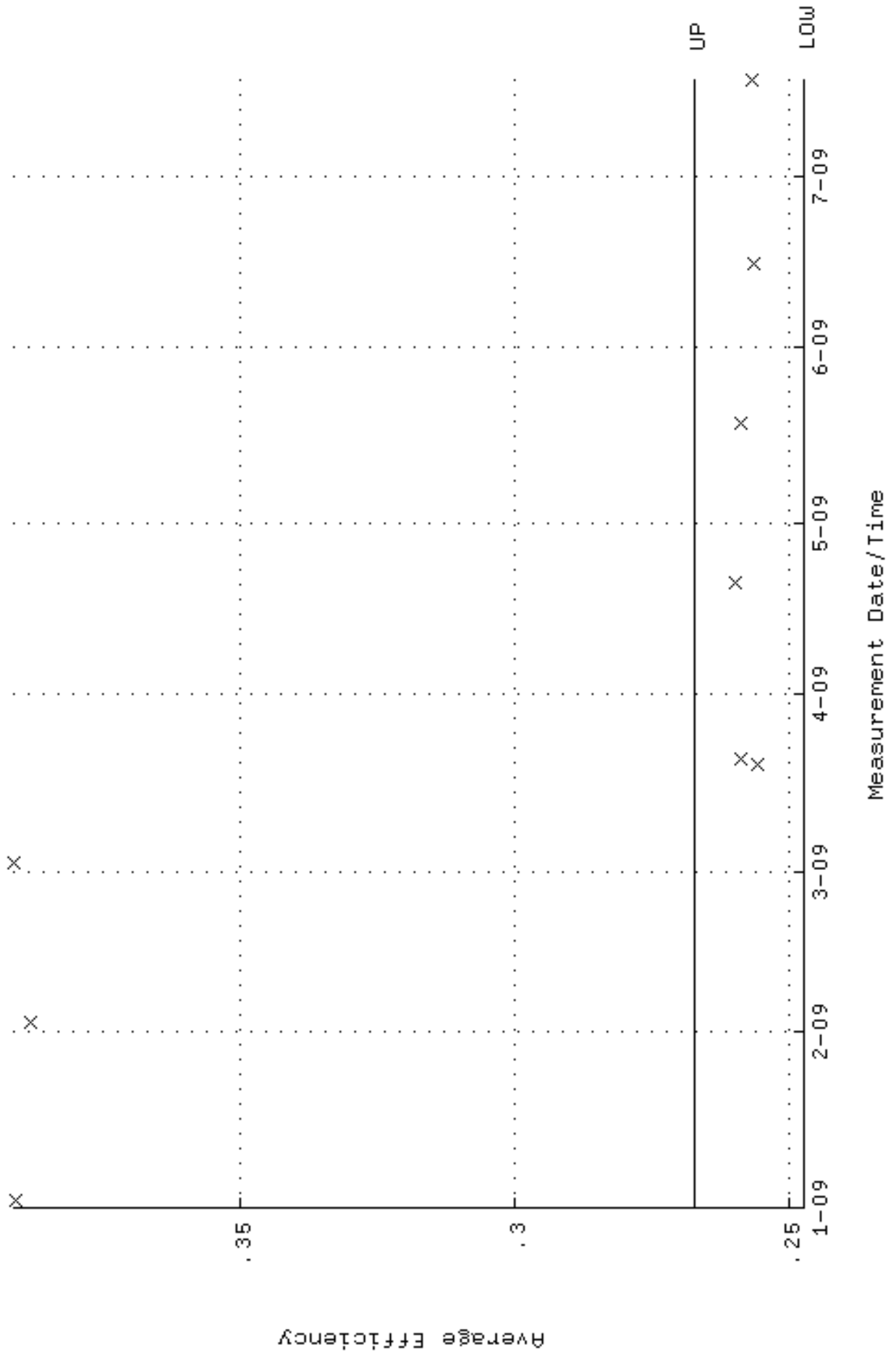
QA filename : DKA100:[ENV_ALPHA.QA.W]w140.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JAN-2009 07:24:52 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 83.8171 through 92.6399



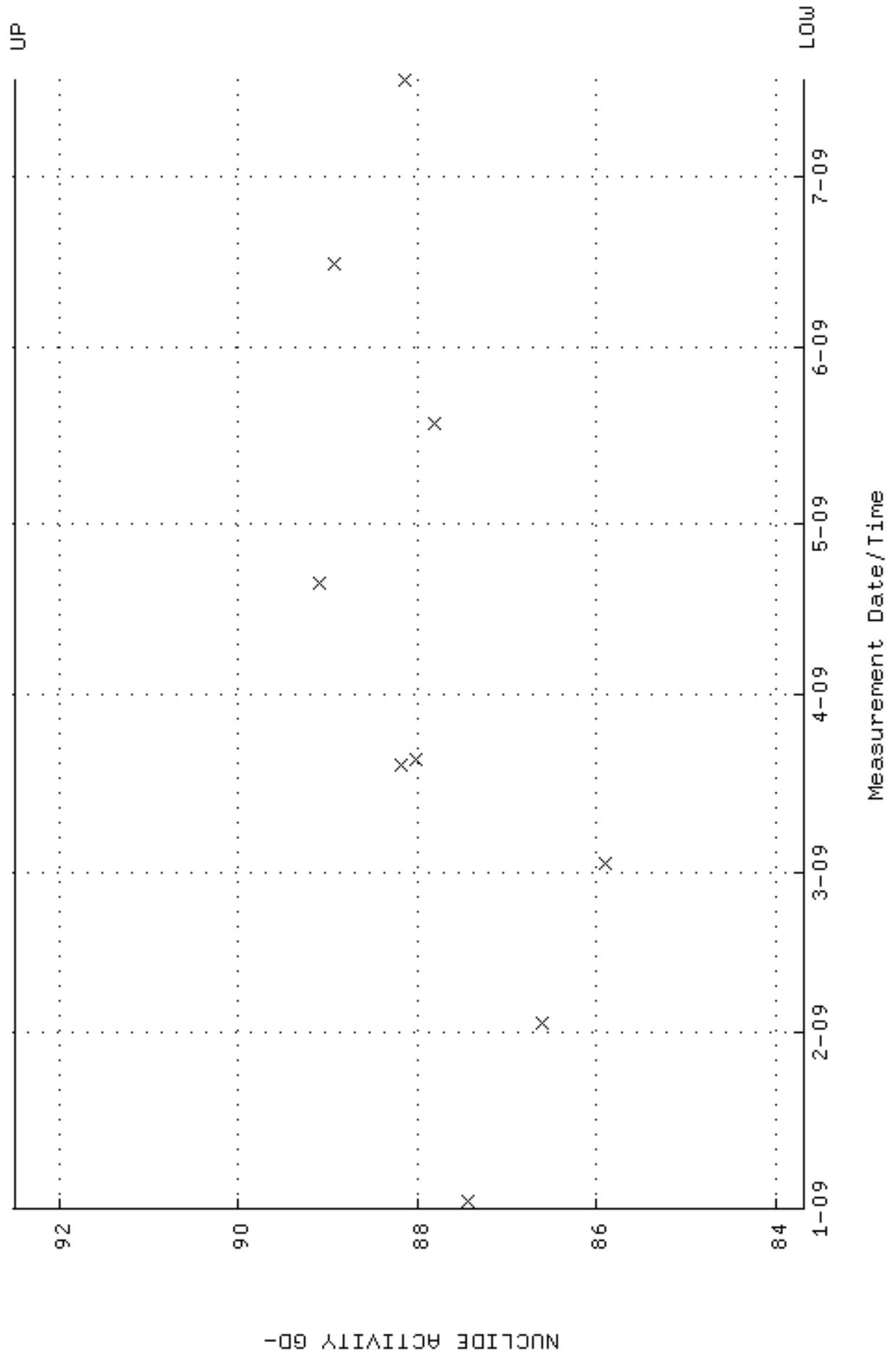
QA filename : DKA100:[ENV_ALPHA.QA.B]B140.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:23:43 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



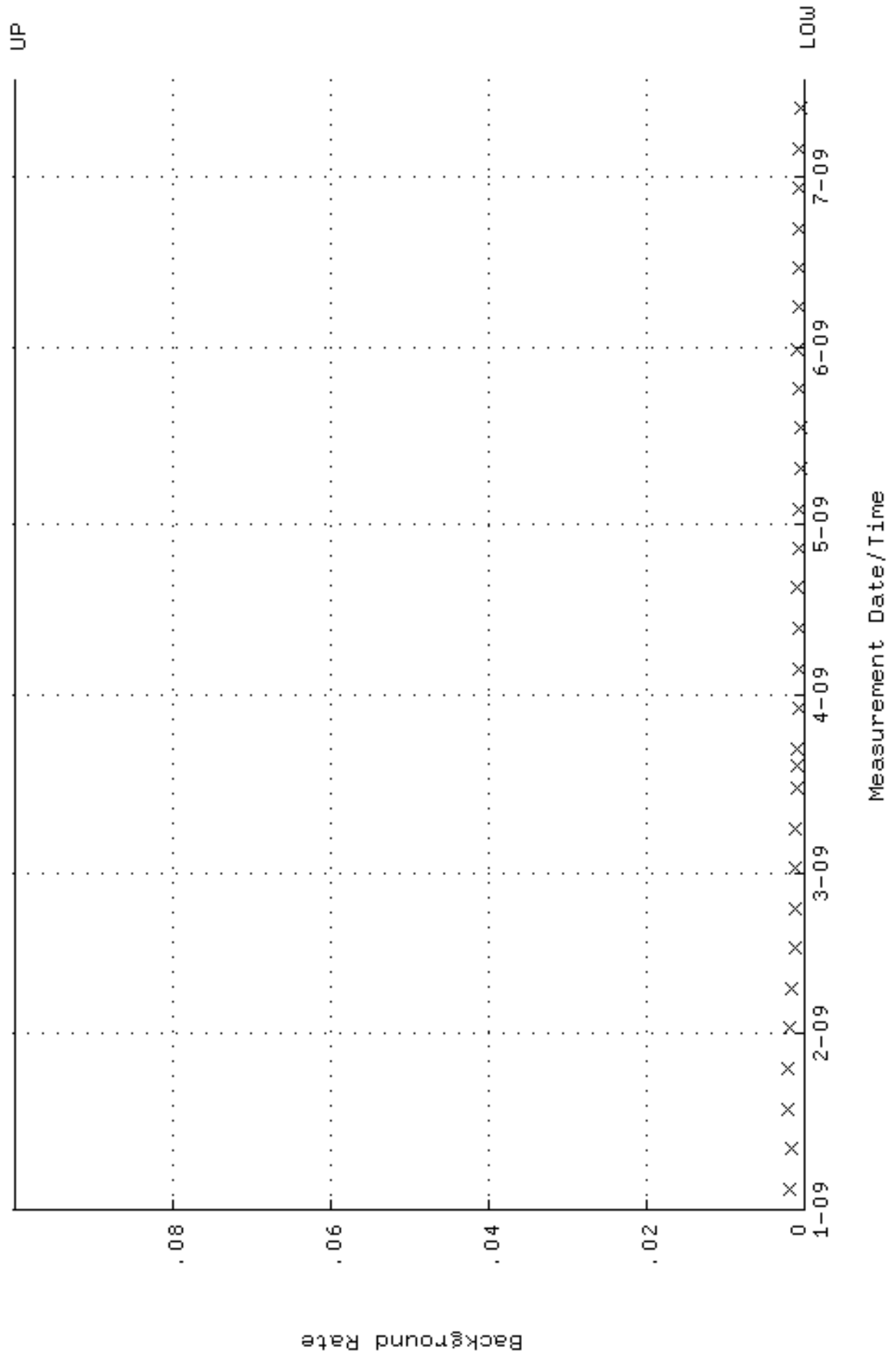
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:26:01 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.247241 through 0.267241



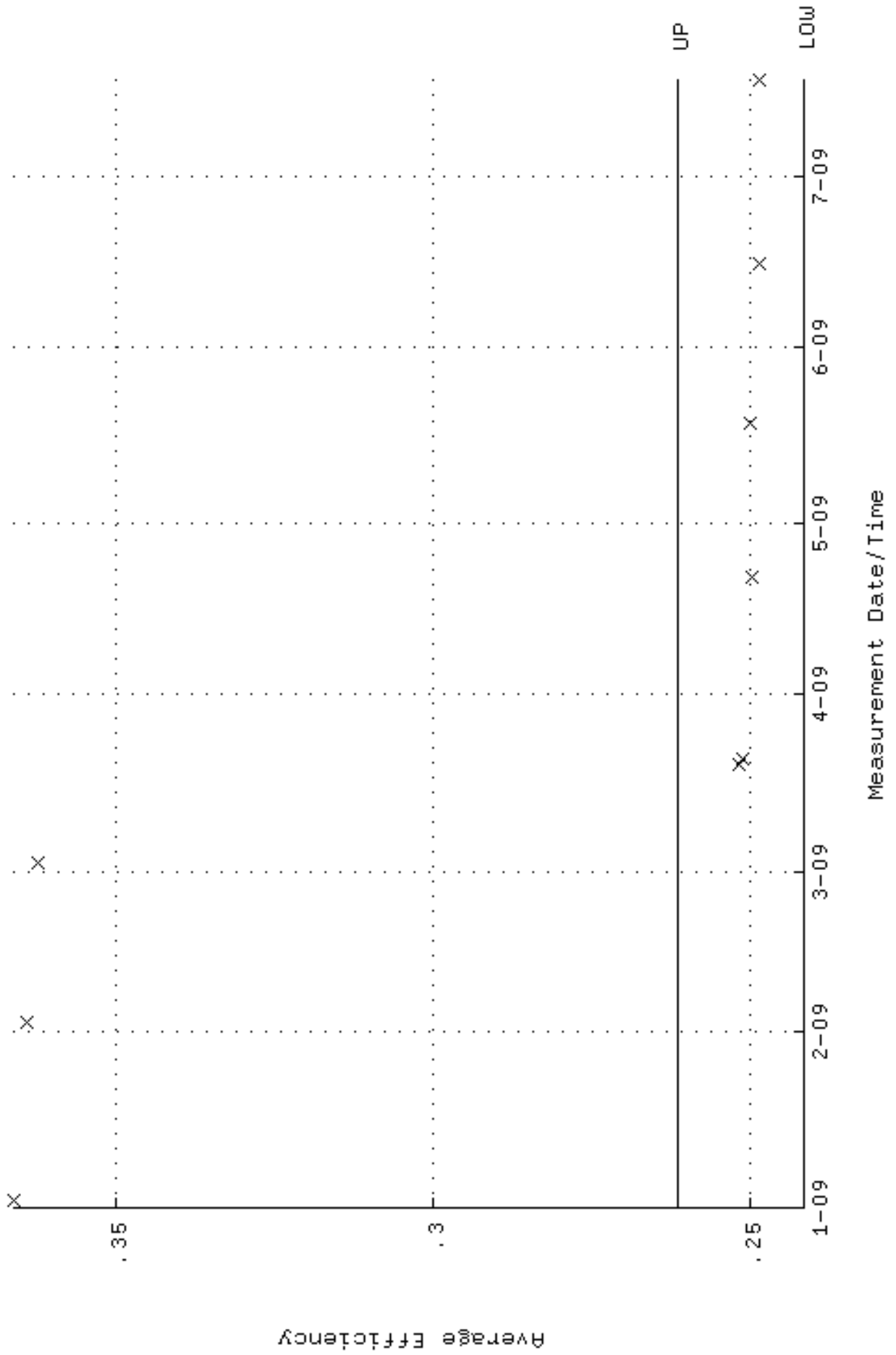
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JAN-2009 07:26:01 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 83.6873 through 92.4965



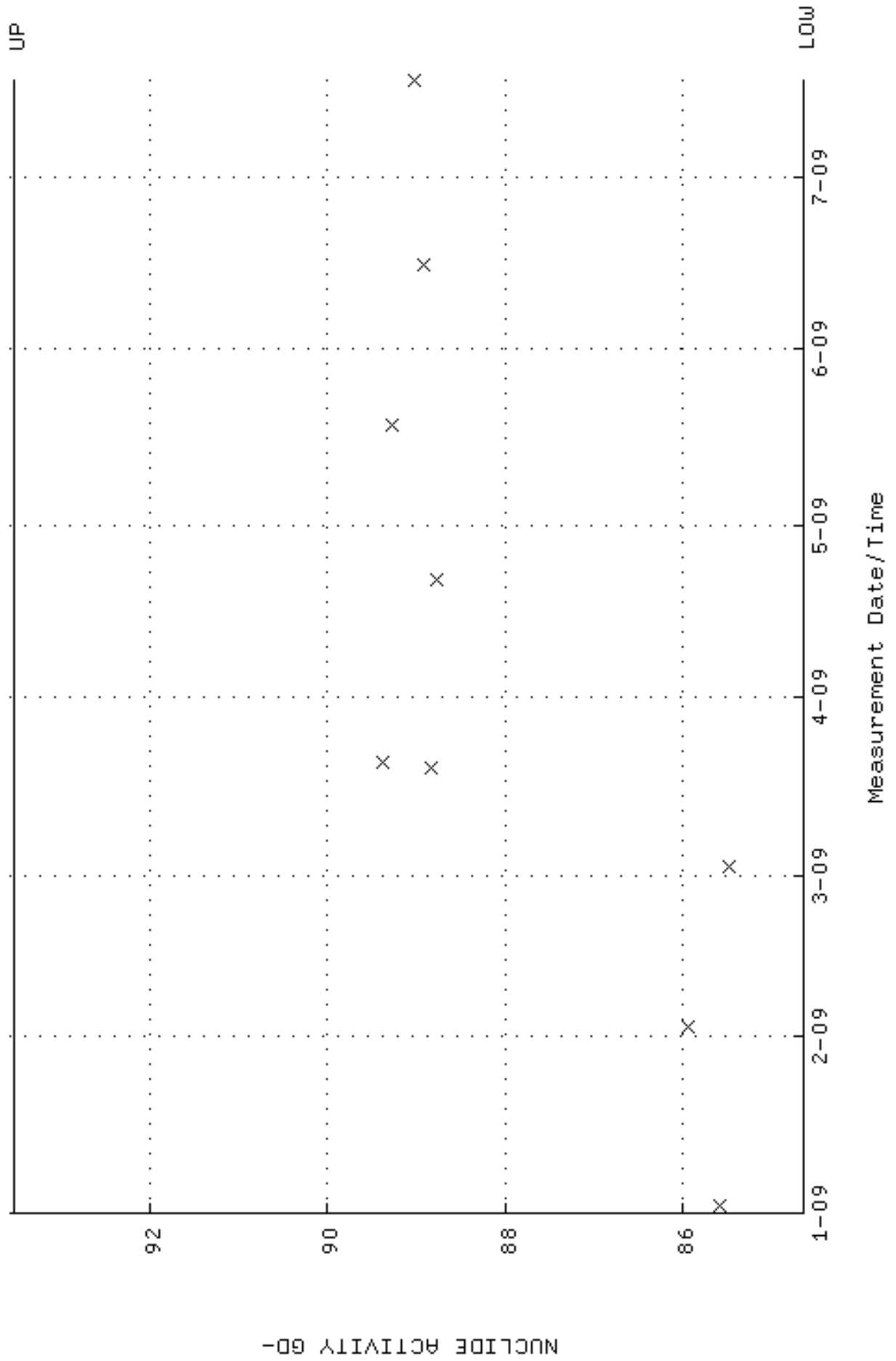
QA filename : DKA100:[ENV_ALPHA.QA.B]B155.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:24:44 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



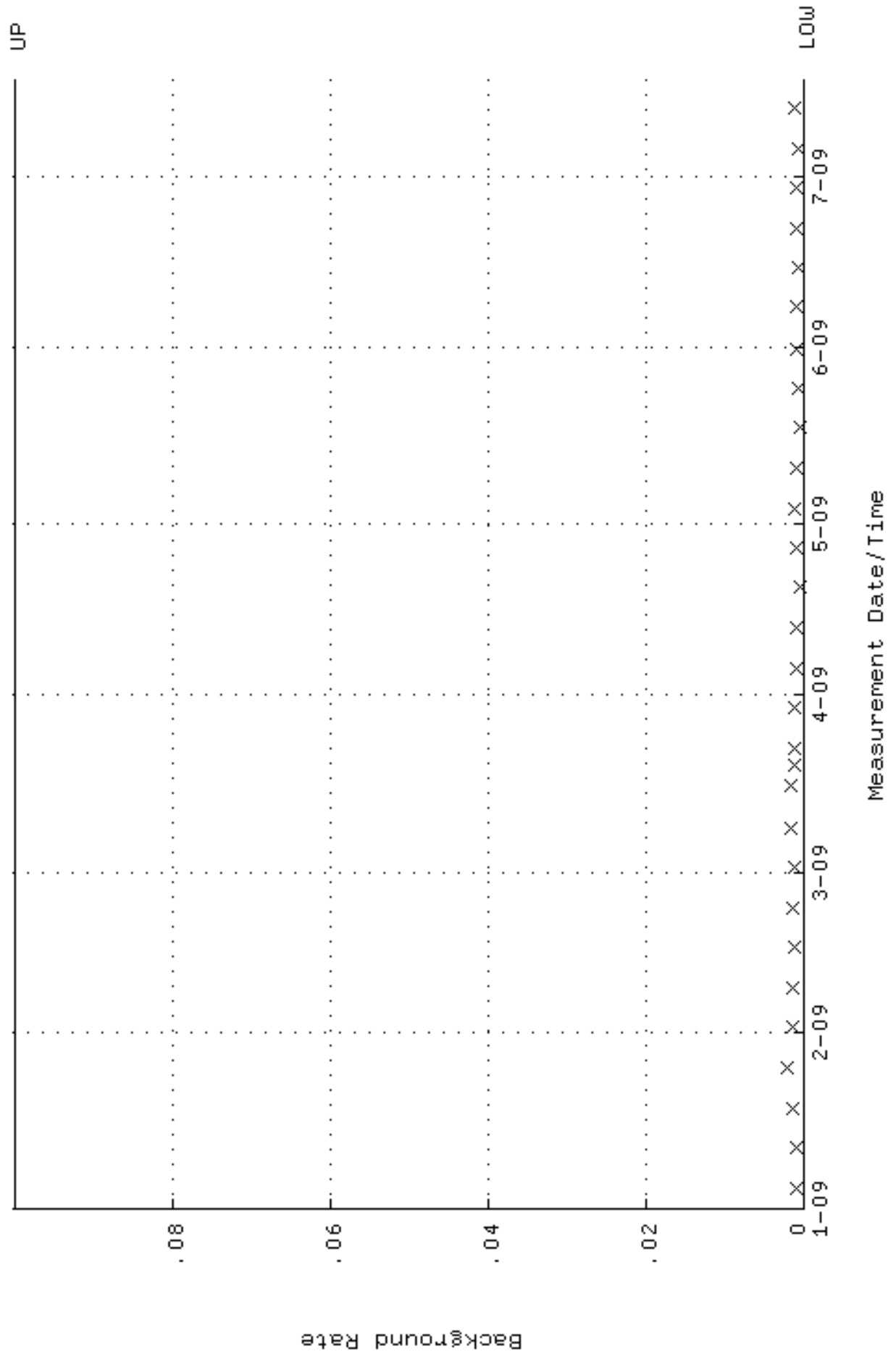
QA filename : DKA100:[ENV_ALPHA.QA.W]W158.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:26:14 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.241466 through 0.261466



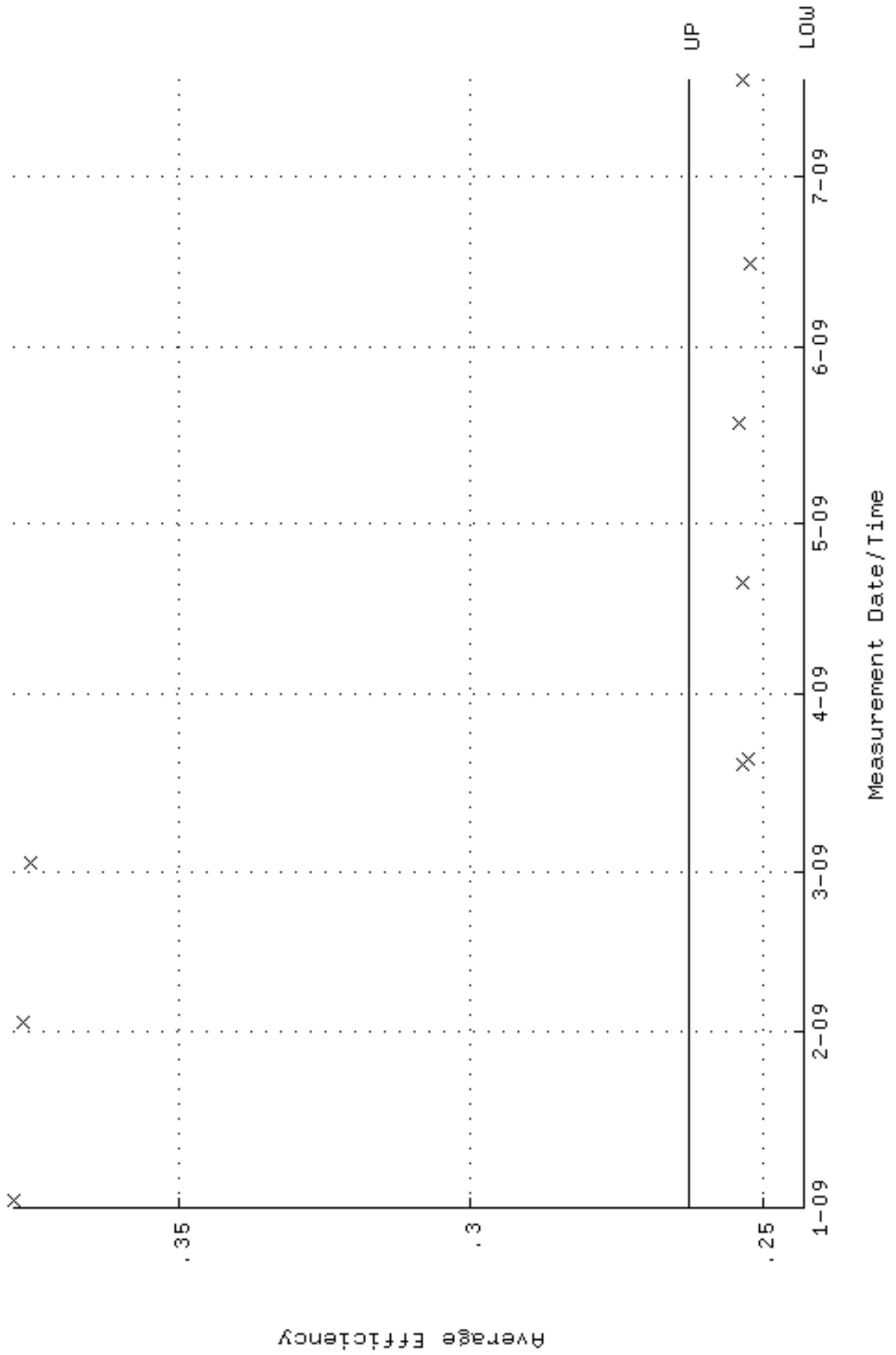
QA filename : DKA100:[ENV_ALPHA.QA.W]w158.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JAN-2009 07:26:14 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 84.6414 through 93.5510



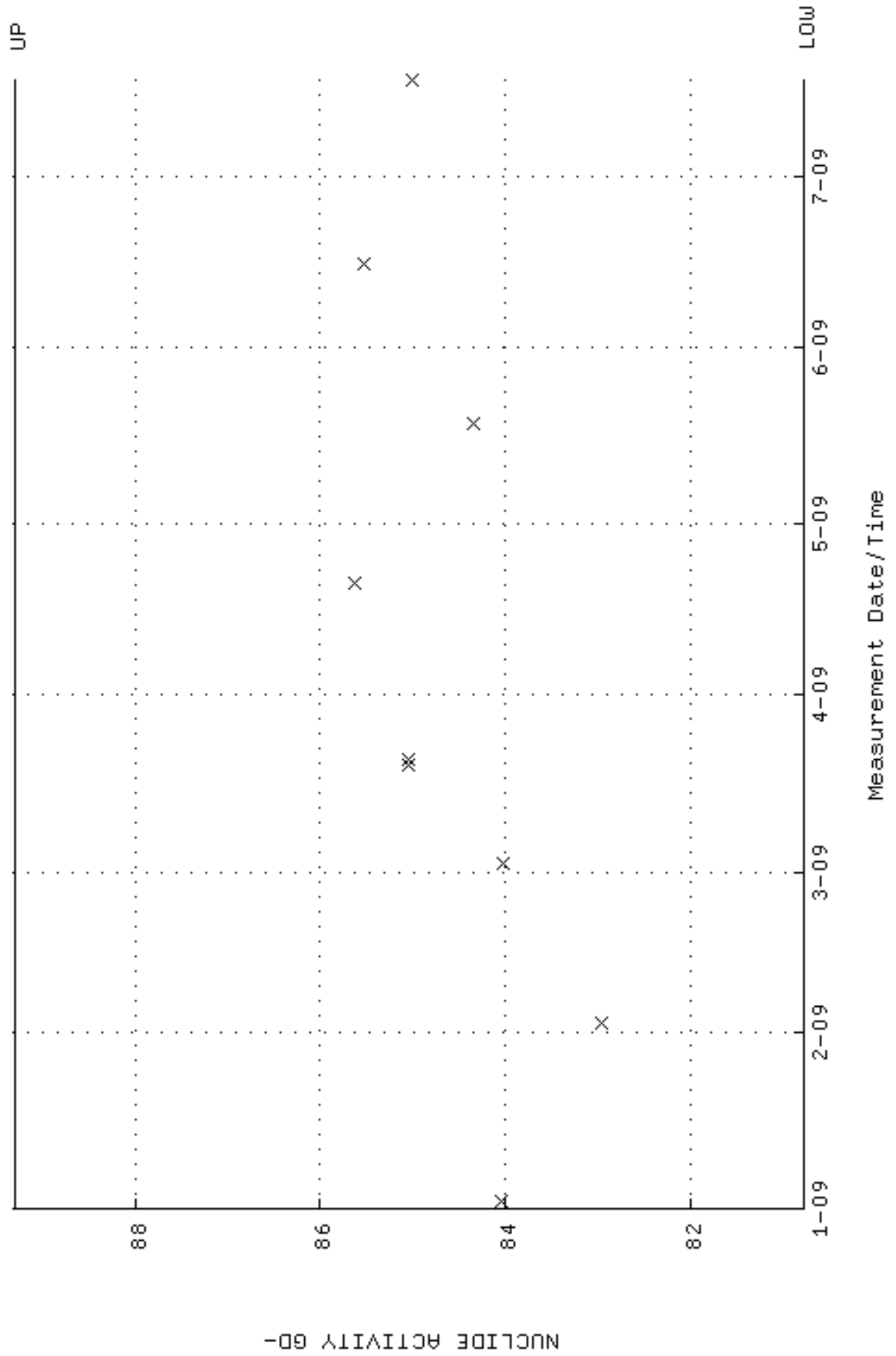
QA filename : DKA100:[ENV_ALPHA.QA.B]B158.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:24:55 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



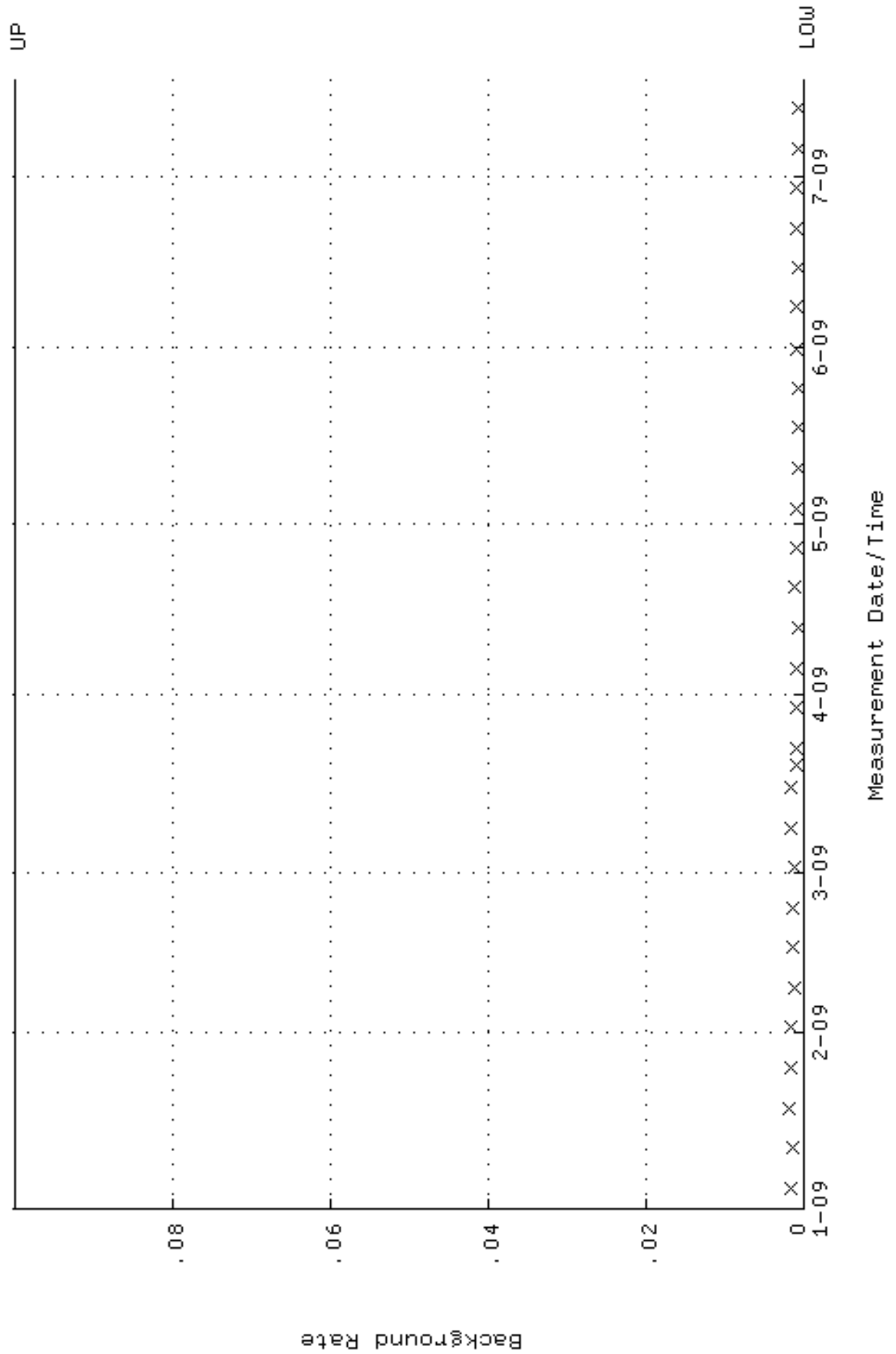
QA filename : DKA100:[ENV_ALPHA.QA.W]W159.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:26:19 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.242851 through 0.262851



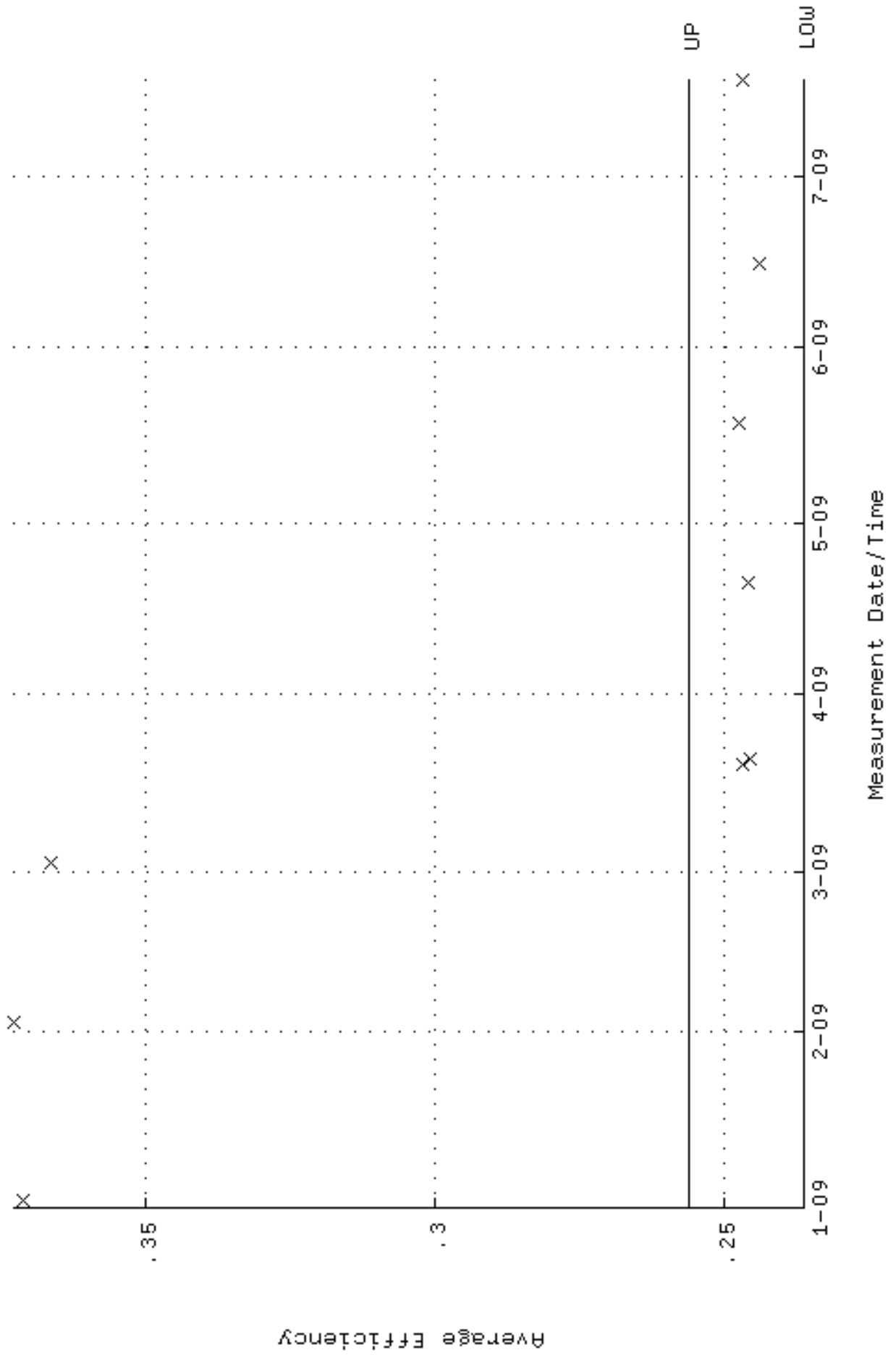
QA filename : DKA100:[ENV_ALPHA.QA.W]w159.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JAN-2009 07:26:19 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 80.7870 through 89.2909



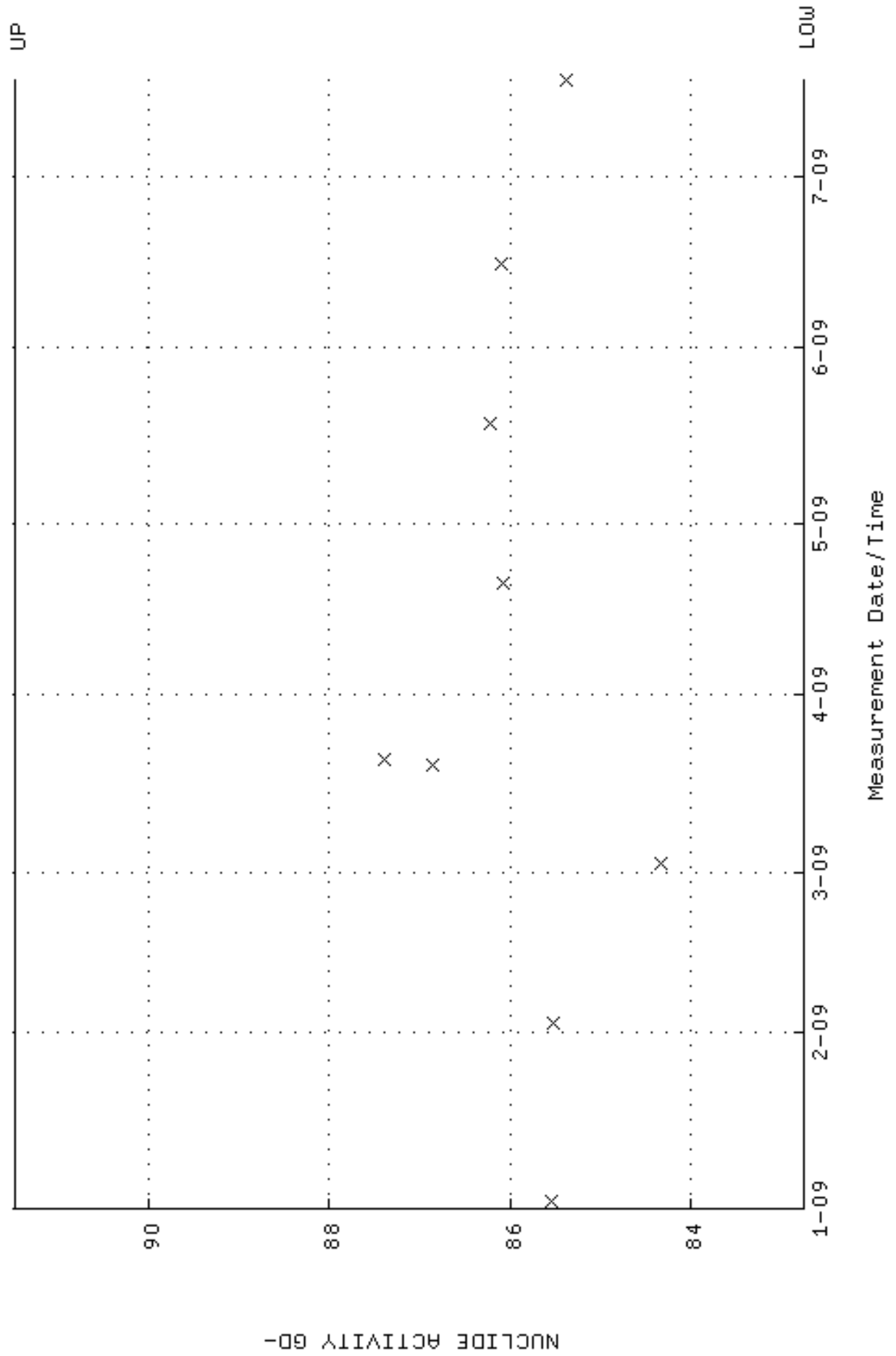
QA filename : DKA100:[ENV_ALPHA.QA.B]B159.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:24:59 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



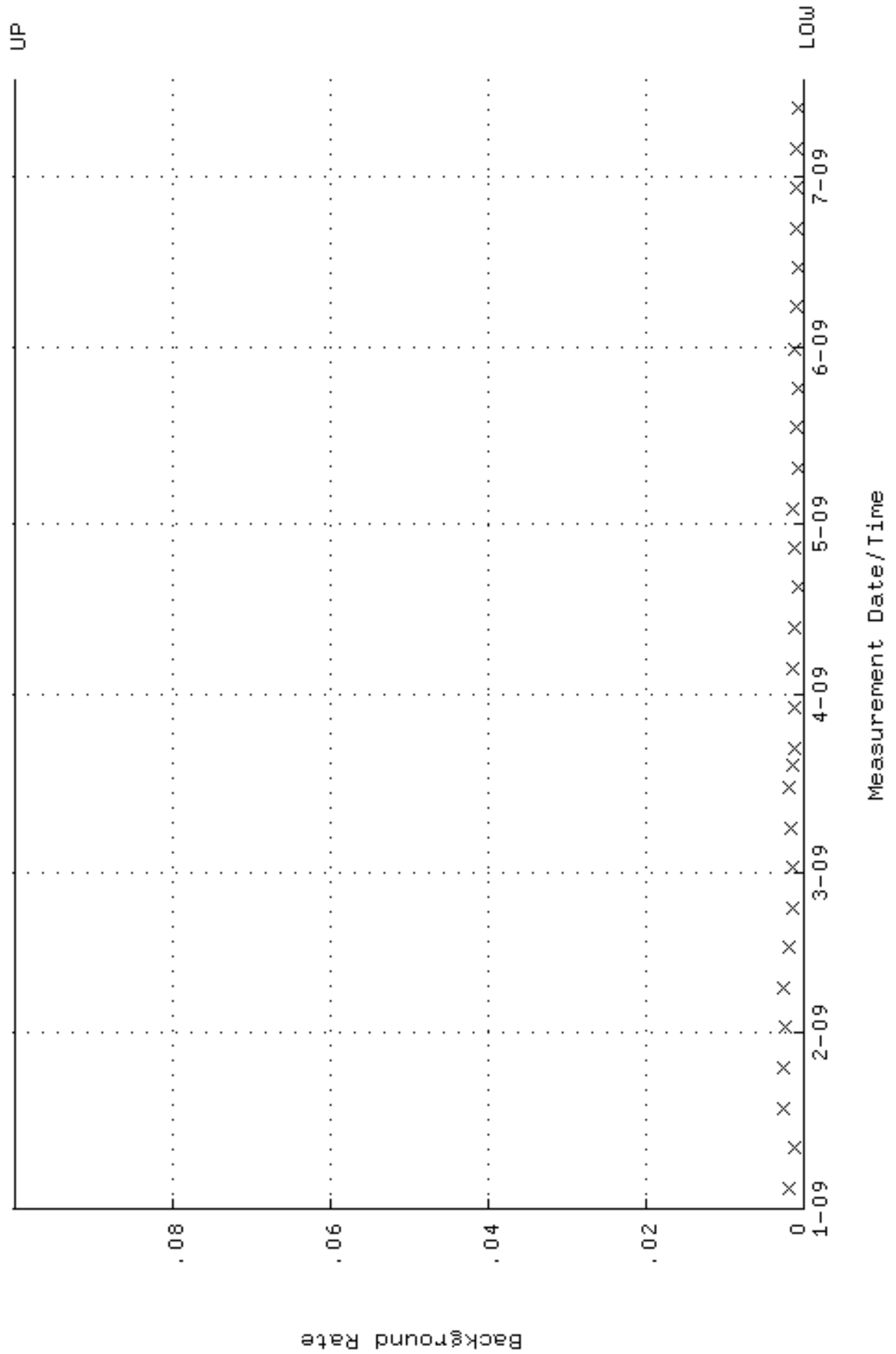
QA filename : DKA100:[ENV_ALPHA.QA.W]W160.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JAN-2009 07:26:23 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.236284 through 0.256284



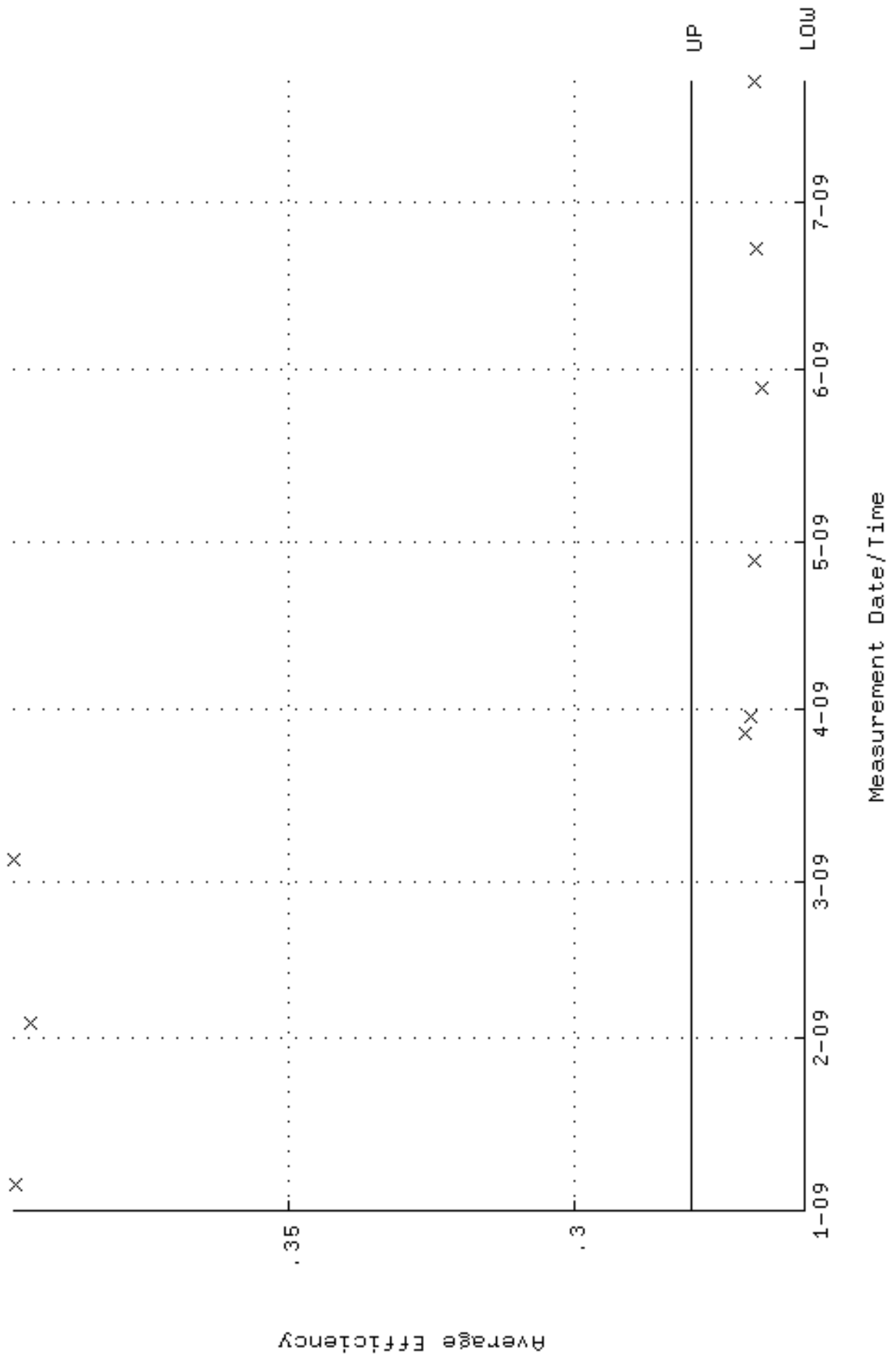
QA filename : DKA100:[ENV_ALPHA.QA.W]w160.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JAN-2009 07:26:23 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 82.7554 through 91.4664



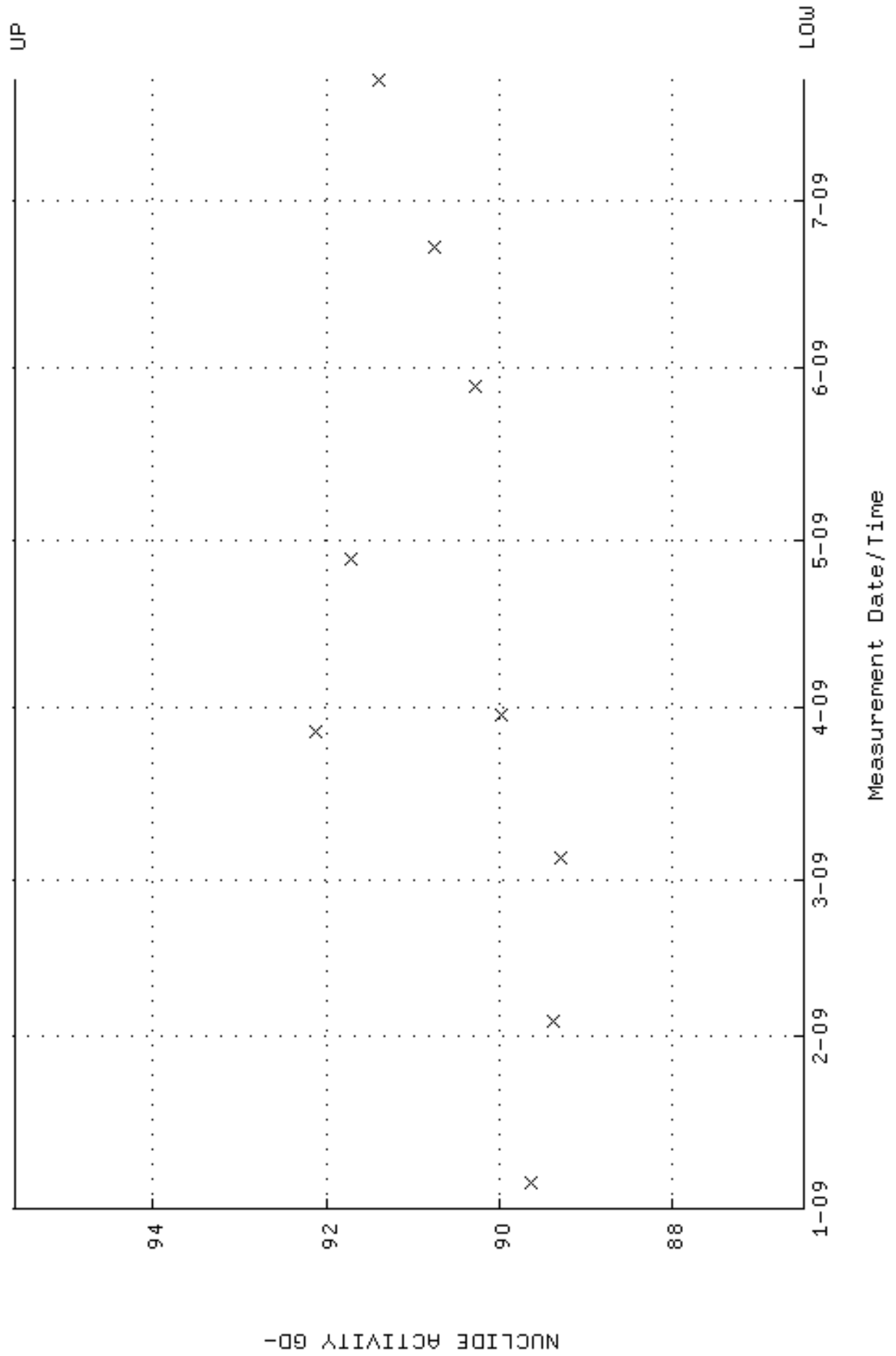
QA filename : DKA100:[ENV_ALPHA.QA.B]B160.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:25:02 through 17-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



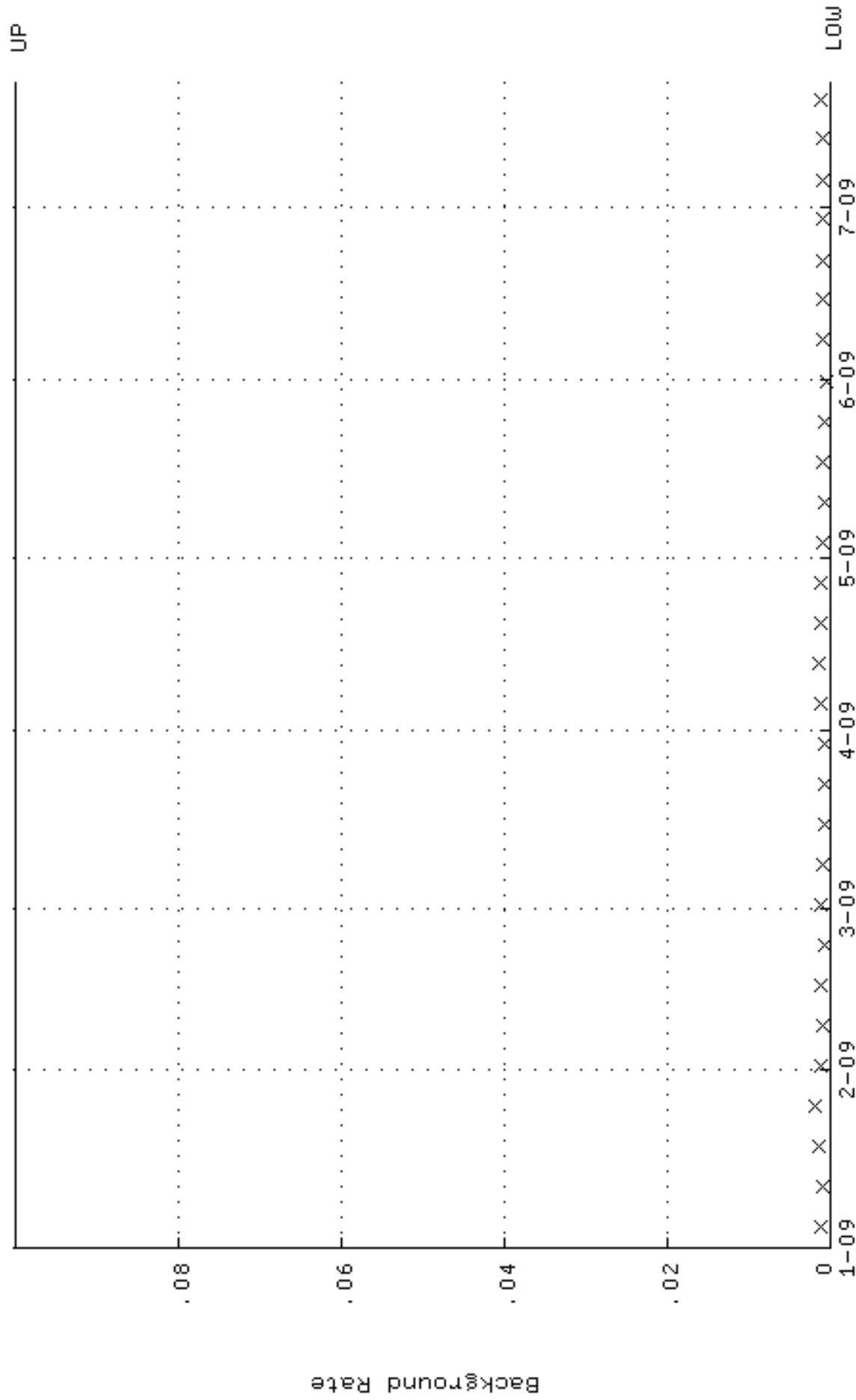
QA filename : DKA100:[ENV_ALPHA.QA.W]W177.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-JAN-2009 12:57:19 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.259935 through 0.279935



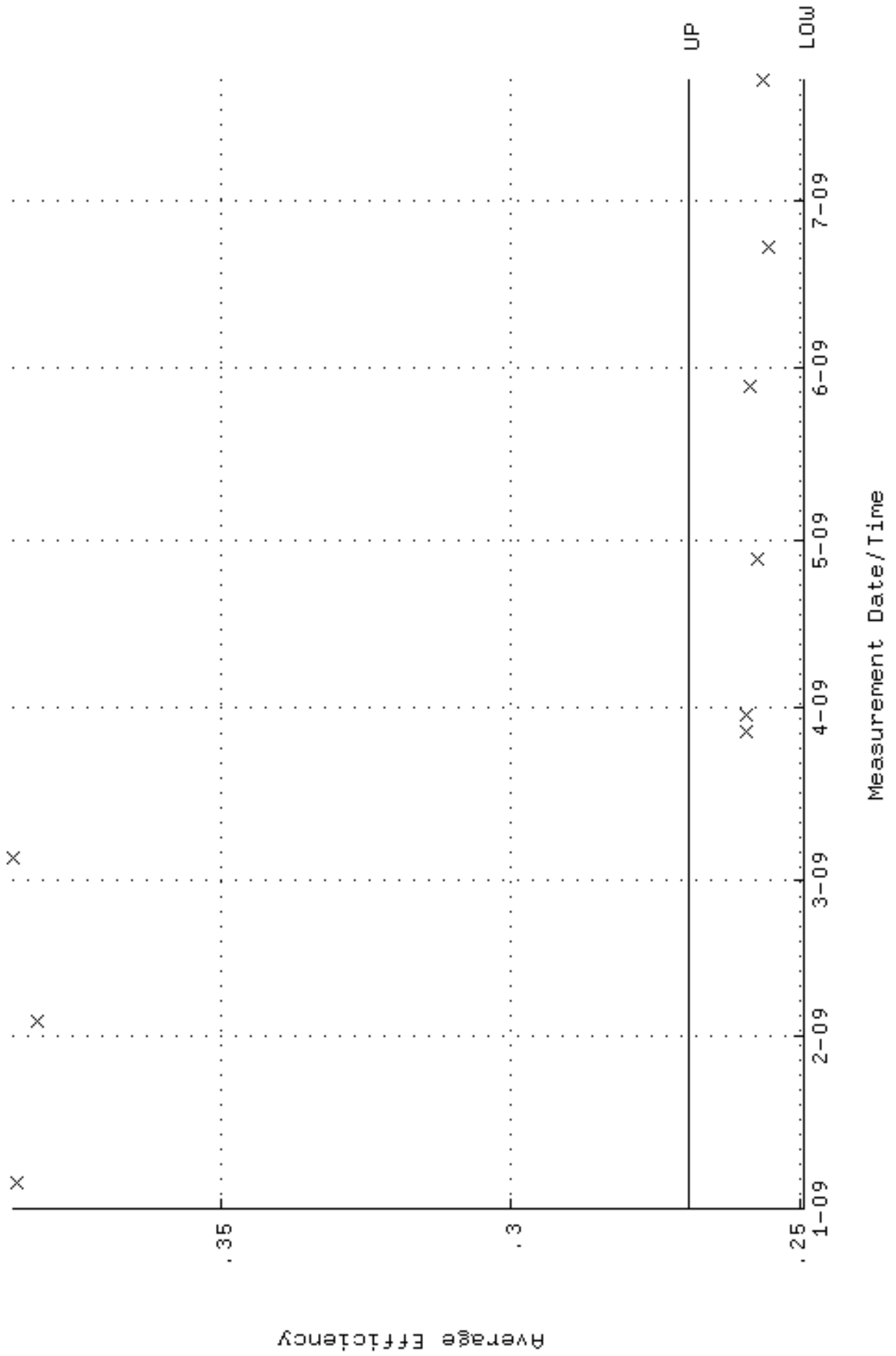
QA filename : DKA100:[ENV_ALPHA.QA.W]w177.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-JAN-2009 12:57:19 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 86.4857 through 95.5895



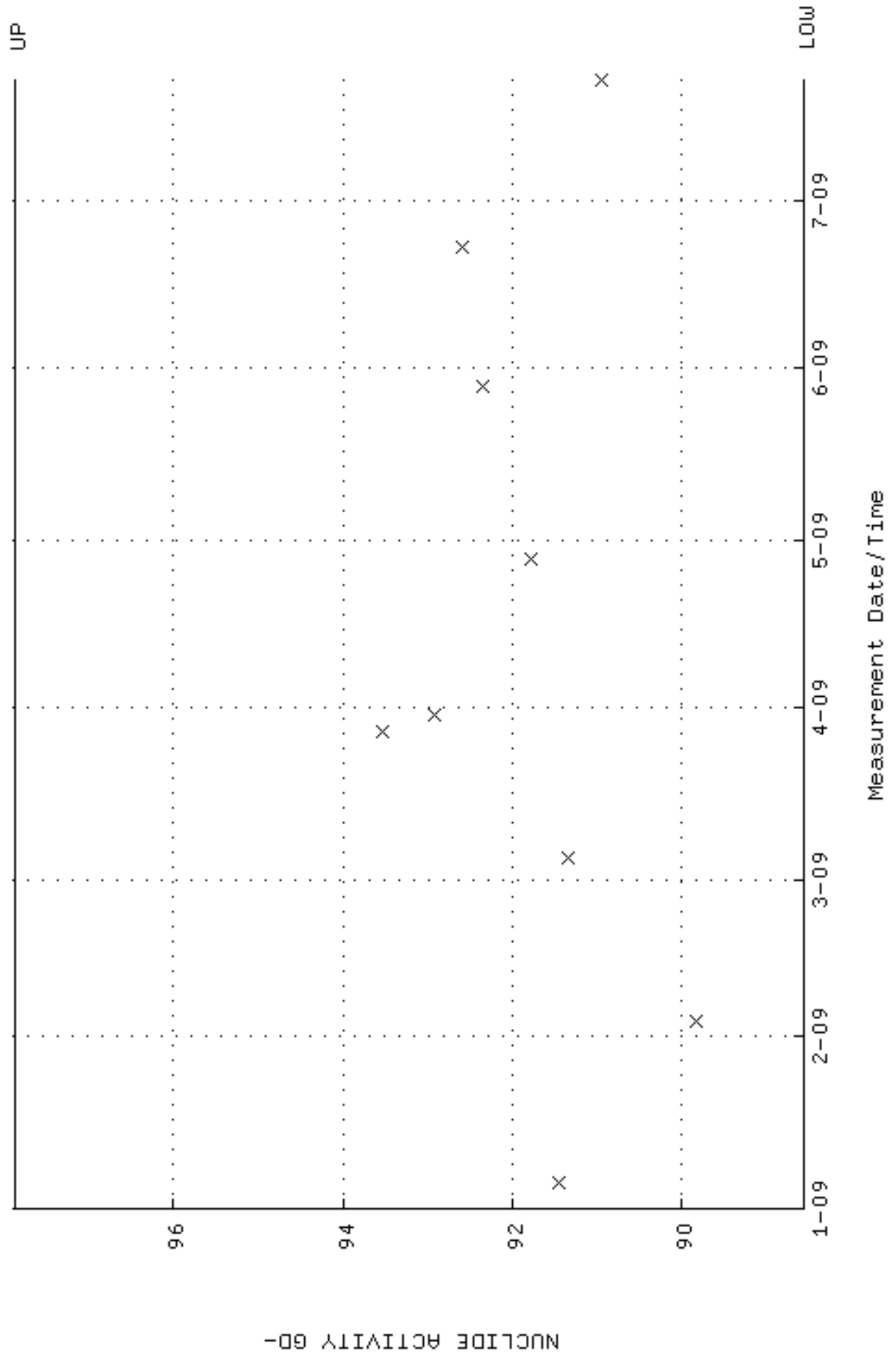
QA filename : DKA100:[ENV_ALPHA.QA.B]B177.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:05 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



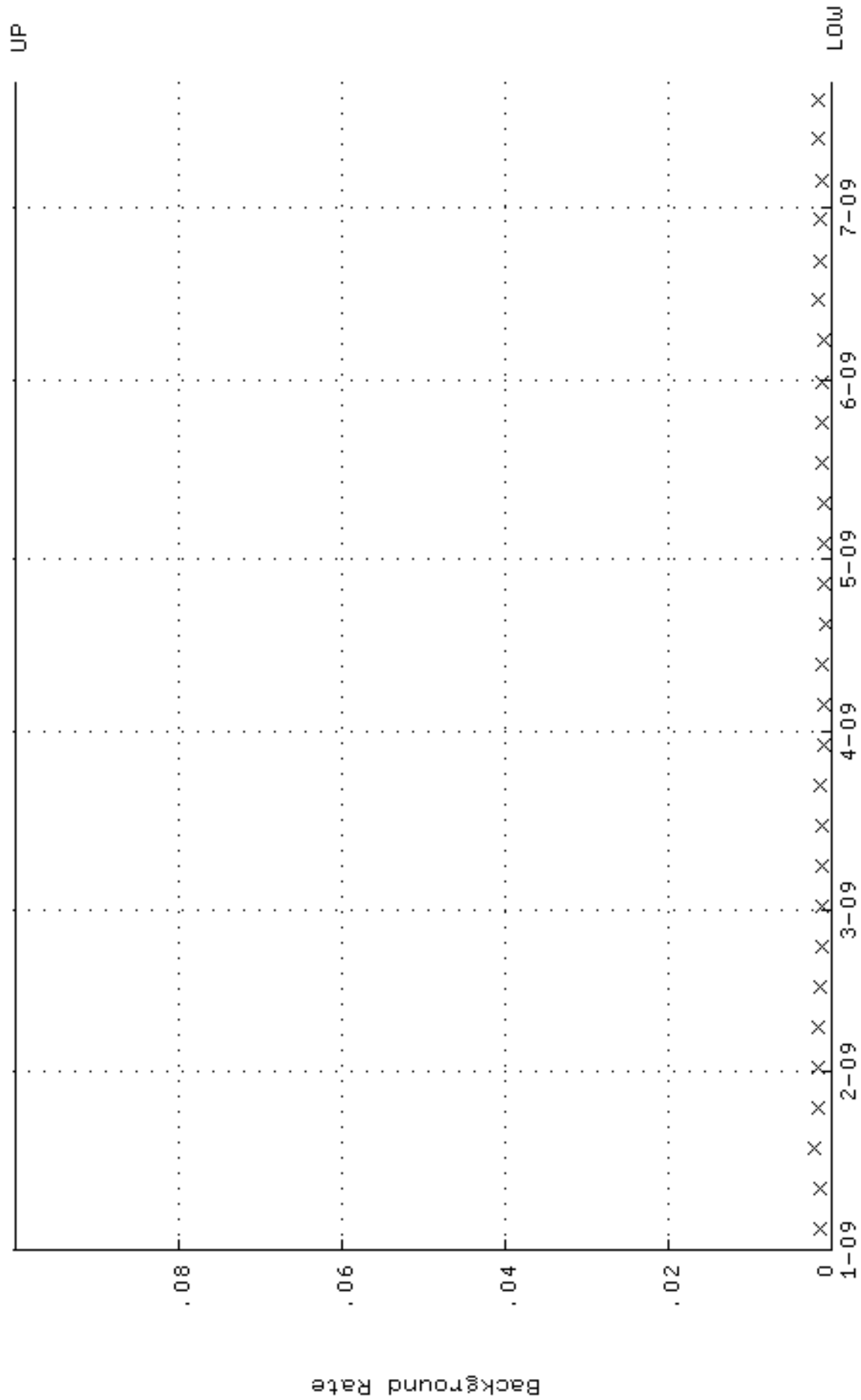
QA filename : DKA100:[ENV_ALPHA.QA.W]W178.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-JAN-2009 12:57:25 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.249490 through 0.269490



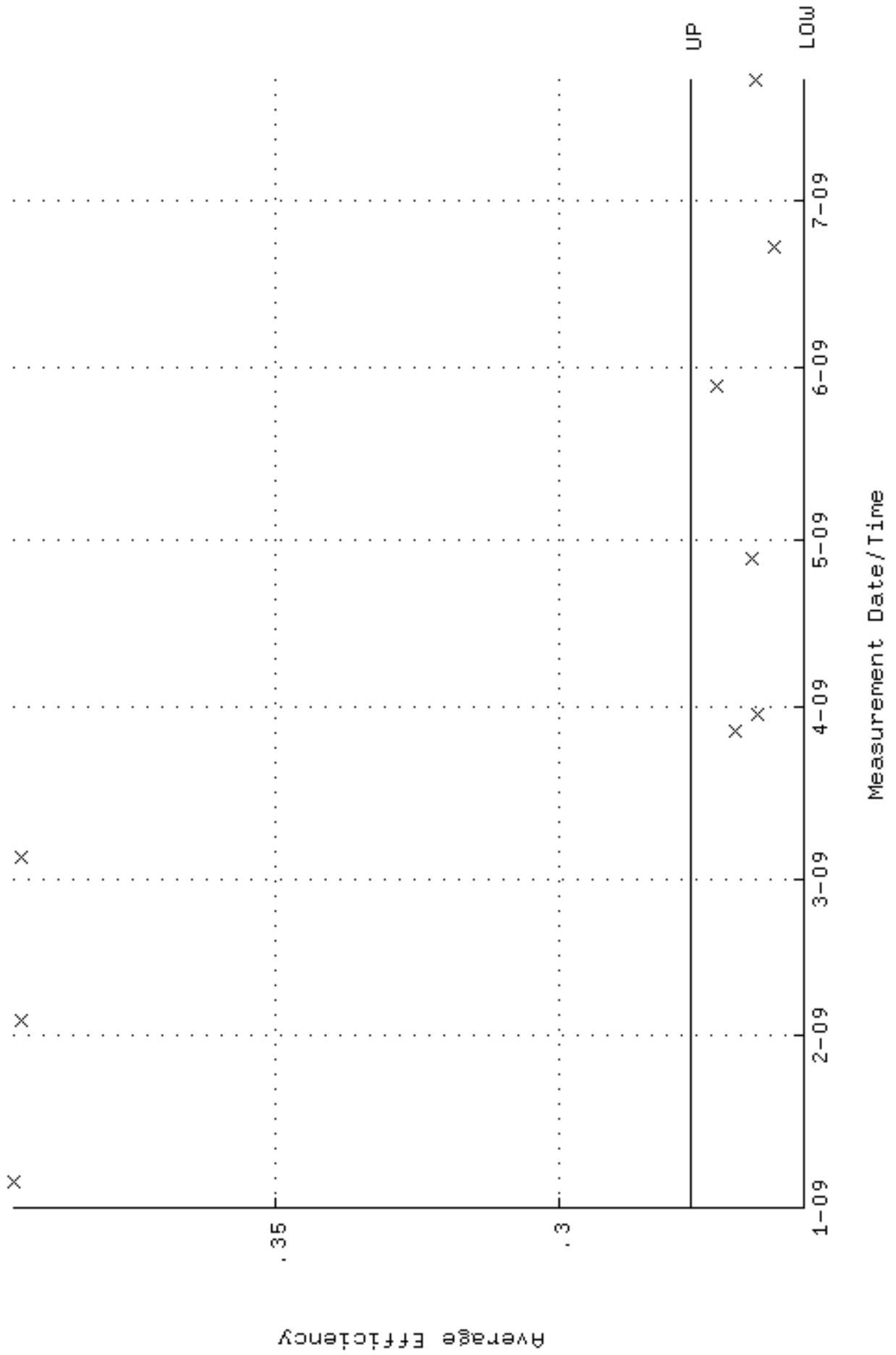
QA filename : DKA100:[ENV_ALPHA.QA.W]w178.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-JAN-2009 12:57:25 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 88.5525 through 97.8739



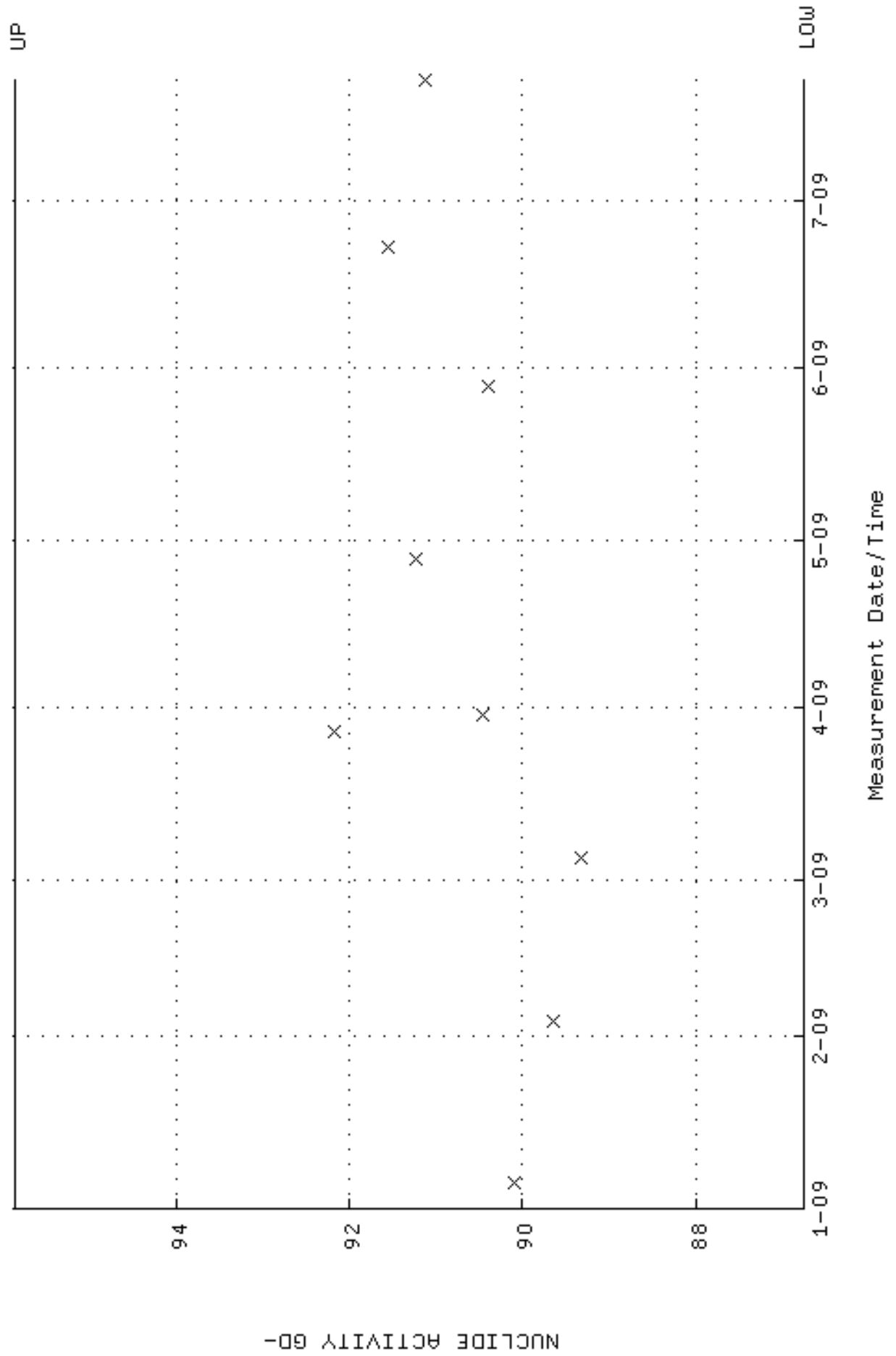
QA filename : DKA100:[ENV_ALPHA.QA.B]B178.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:09 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



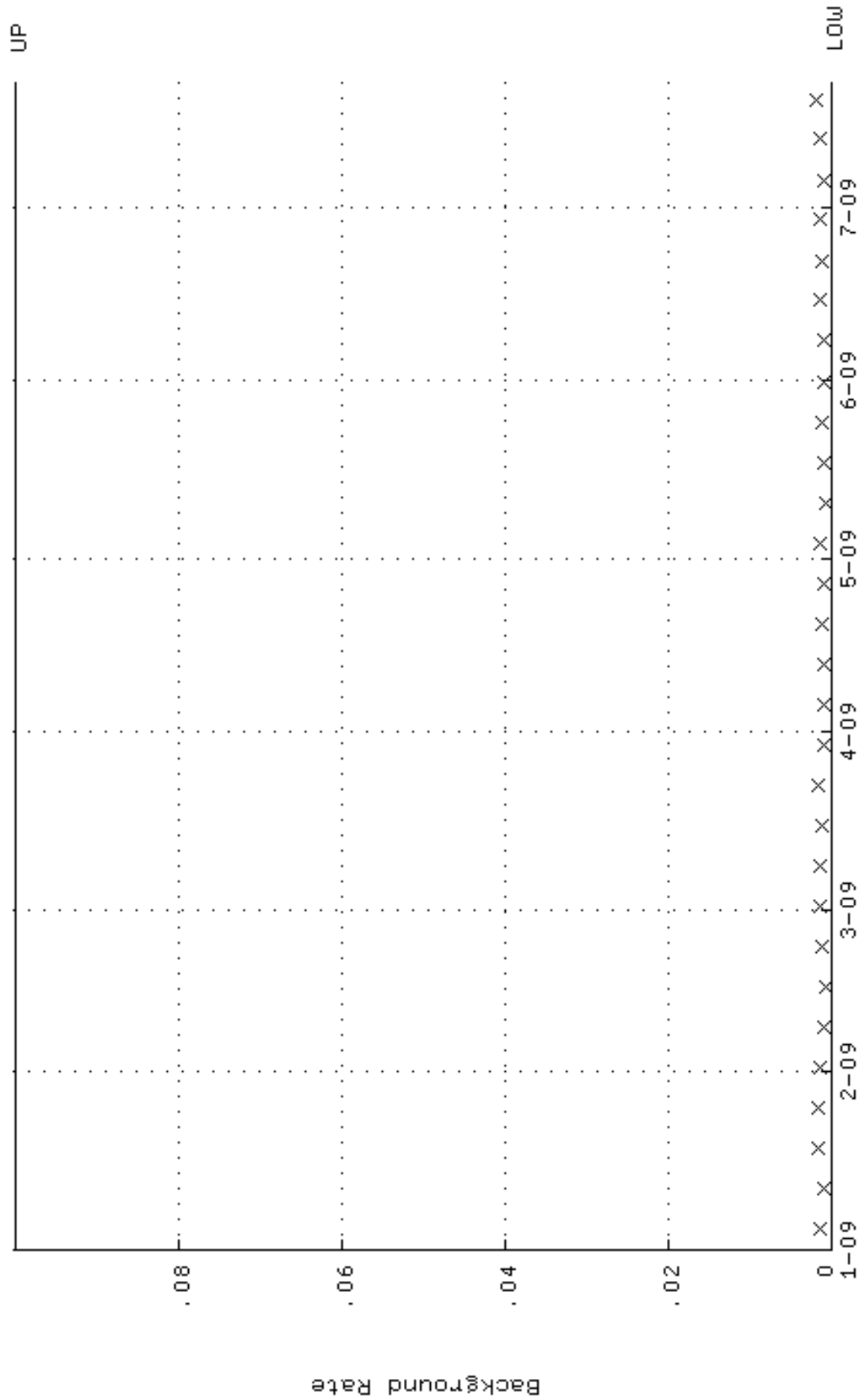
QA filename : DKA100:[ENV_ALPHA.QA.W]W179.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-JAN-2009 12:57:29 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.256911 through 0.276911



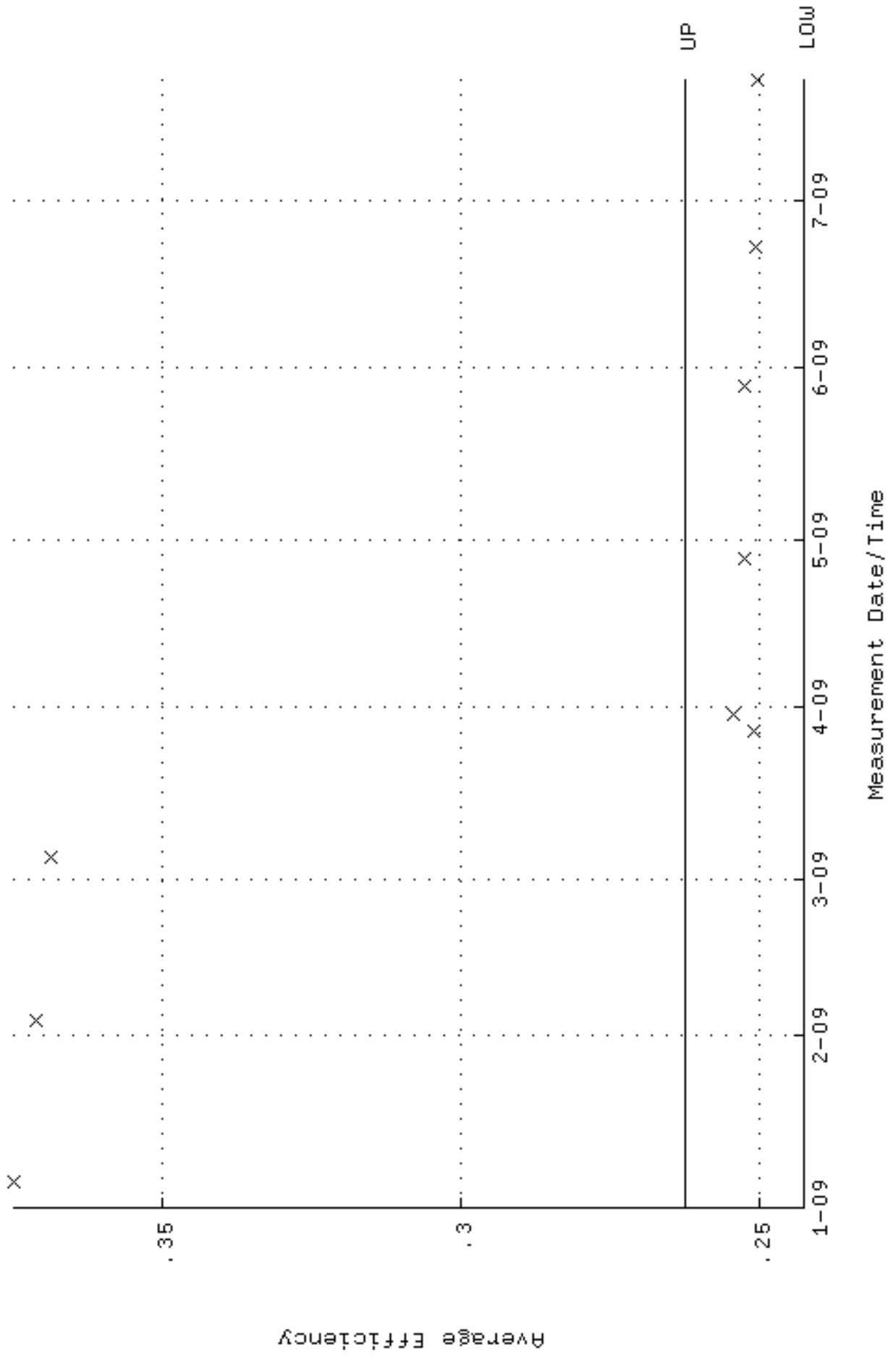
QA filename : DKA100:[ENV_ALPHA.QA.W]w179.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 5-JAN-2009 12:57:29 through 22-JUL-2009 12:00:00
Lower/Upper Lmts: 86.7434 through 95.8742



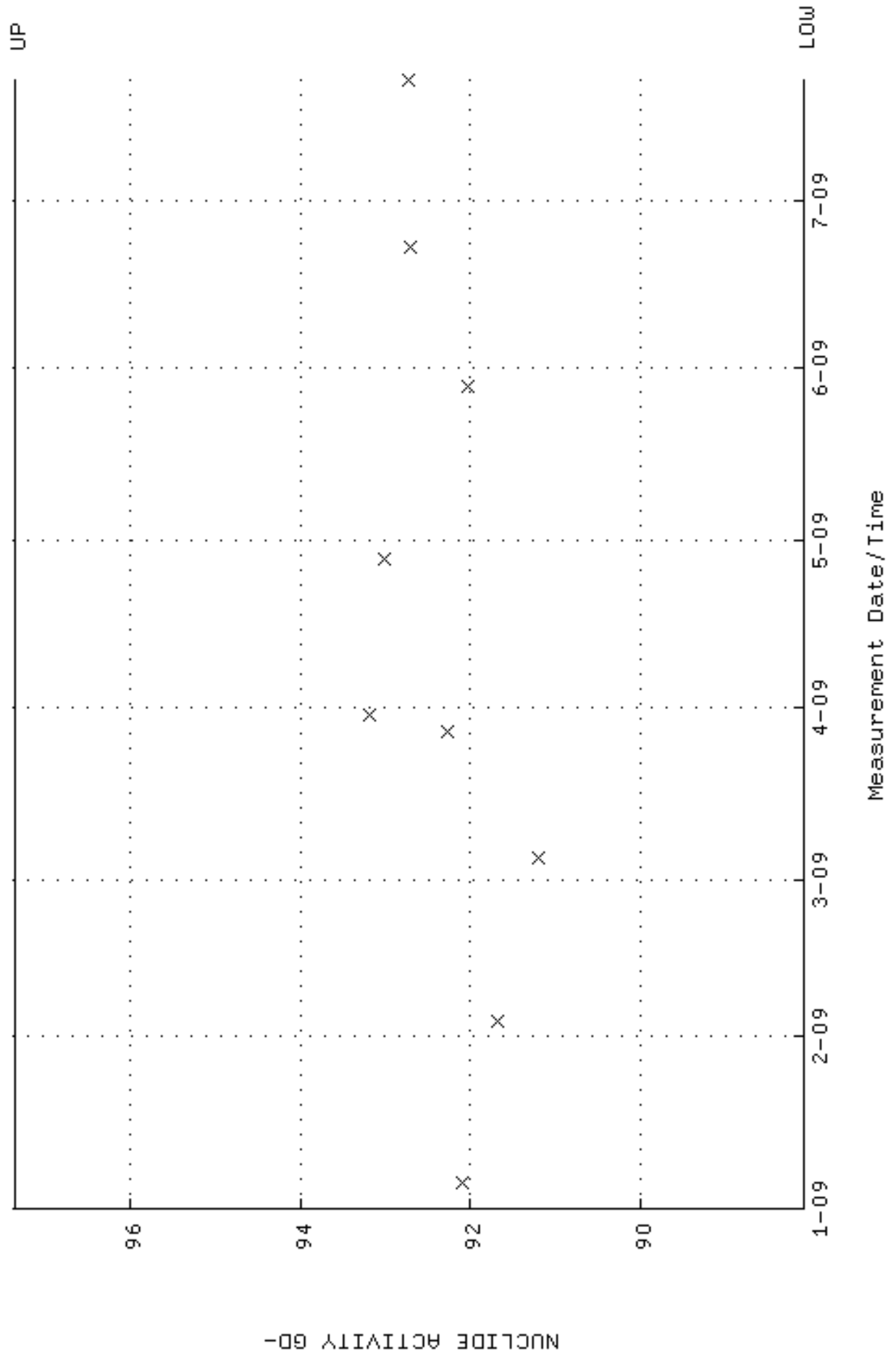
QA filename : DKA100:[ENV_ALPHA.QA.B]B179.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:13 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



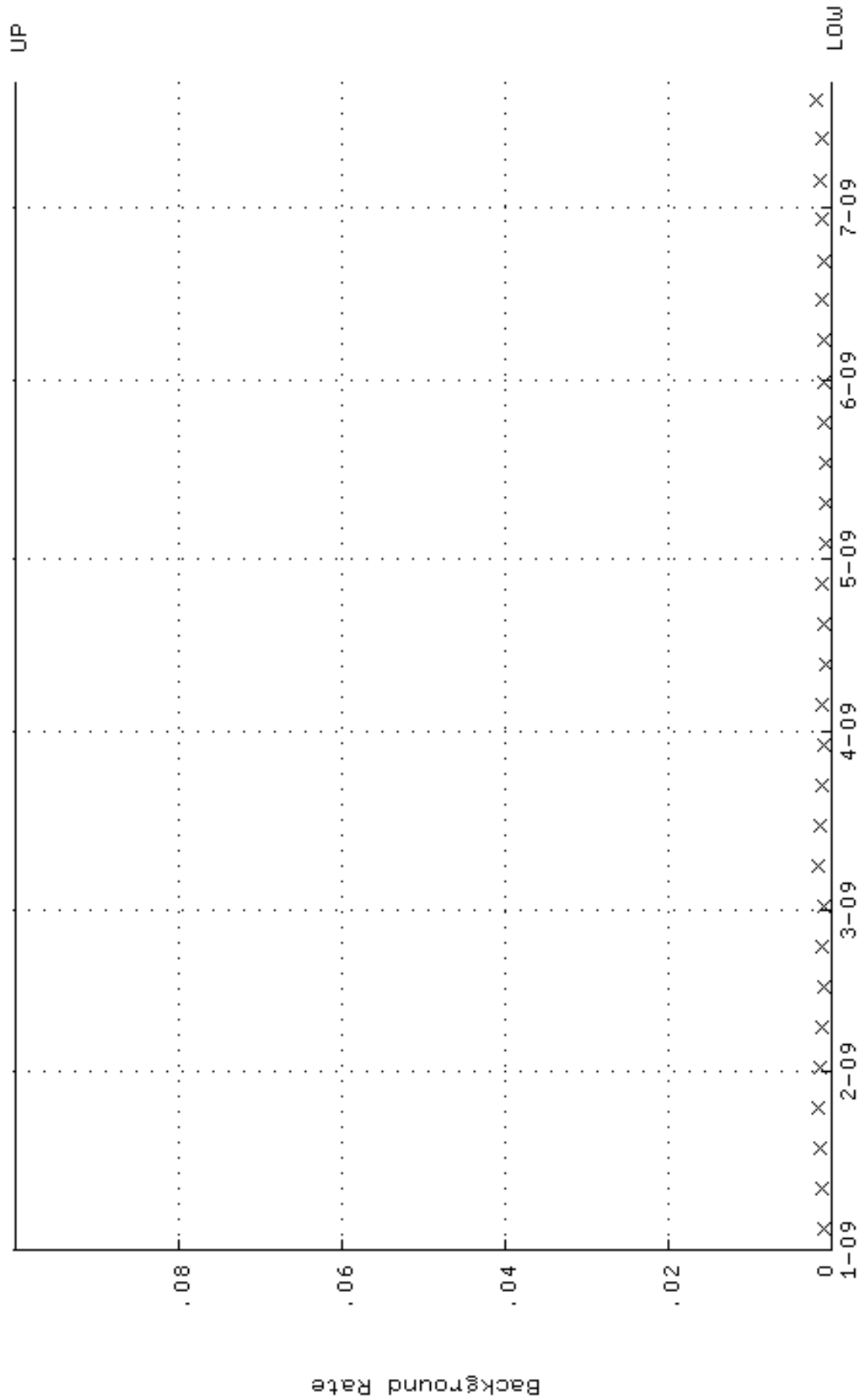
QA filename : DKA100:[ENV_ALPHA.QA.W]W180.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-JAN-2009 12:57:34 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.242633 through 0.262633



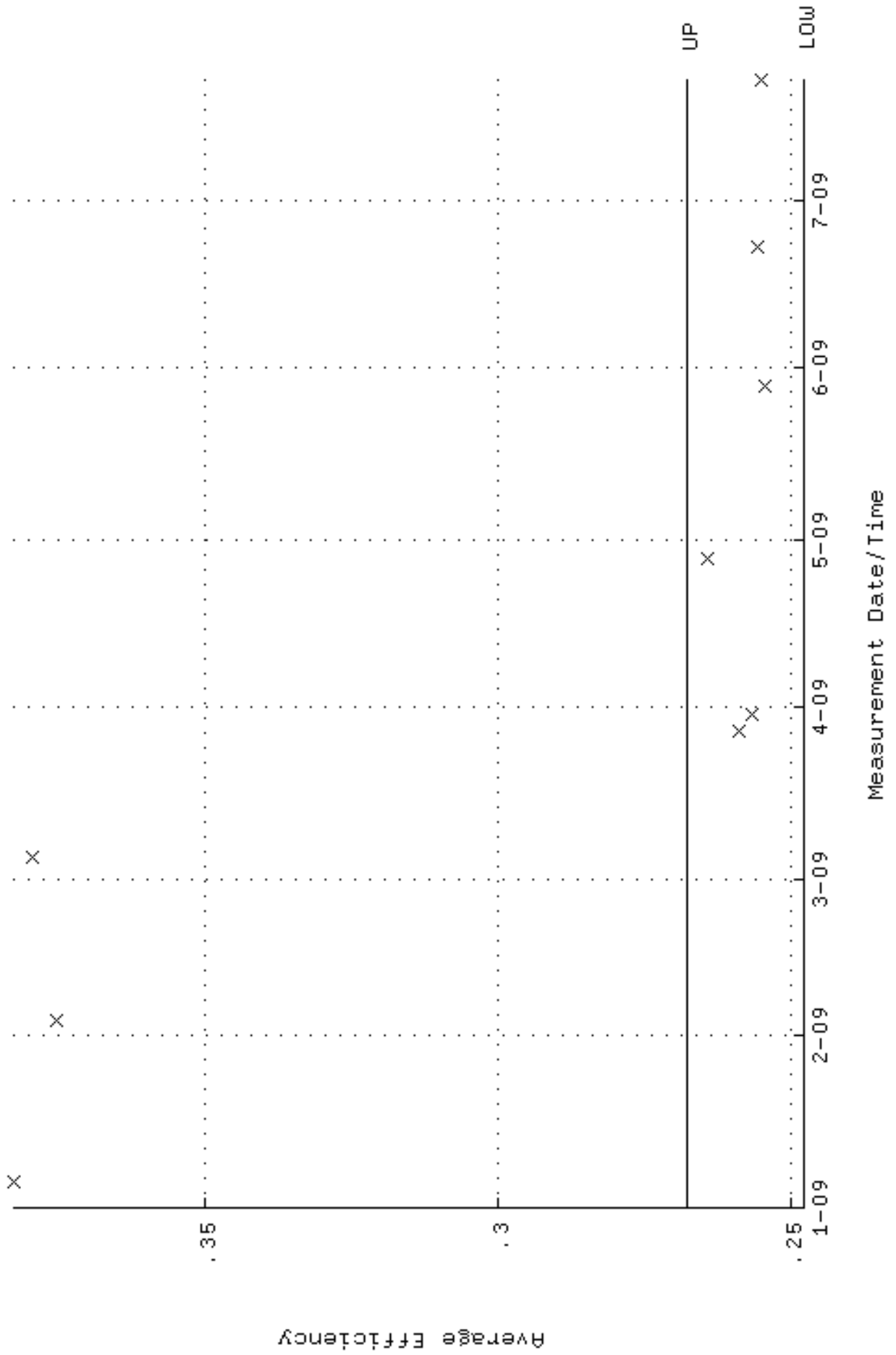
QA filename : DKA100:[ENV_ALPHA.QA.W]w180.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-JAN-2009 12:57:34 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 88.0803 through 97.3519



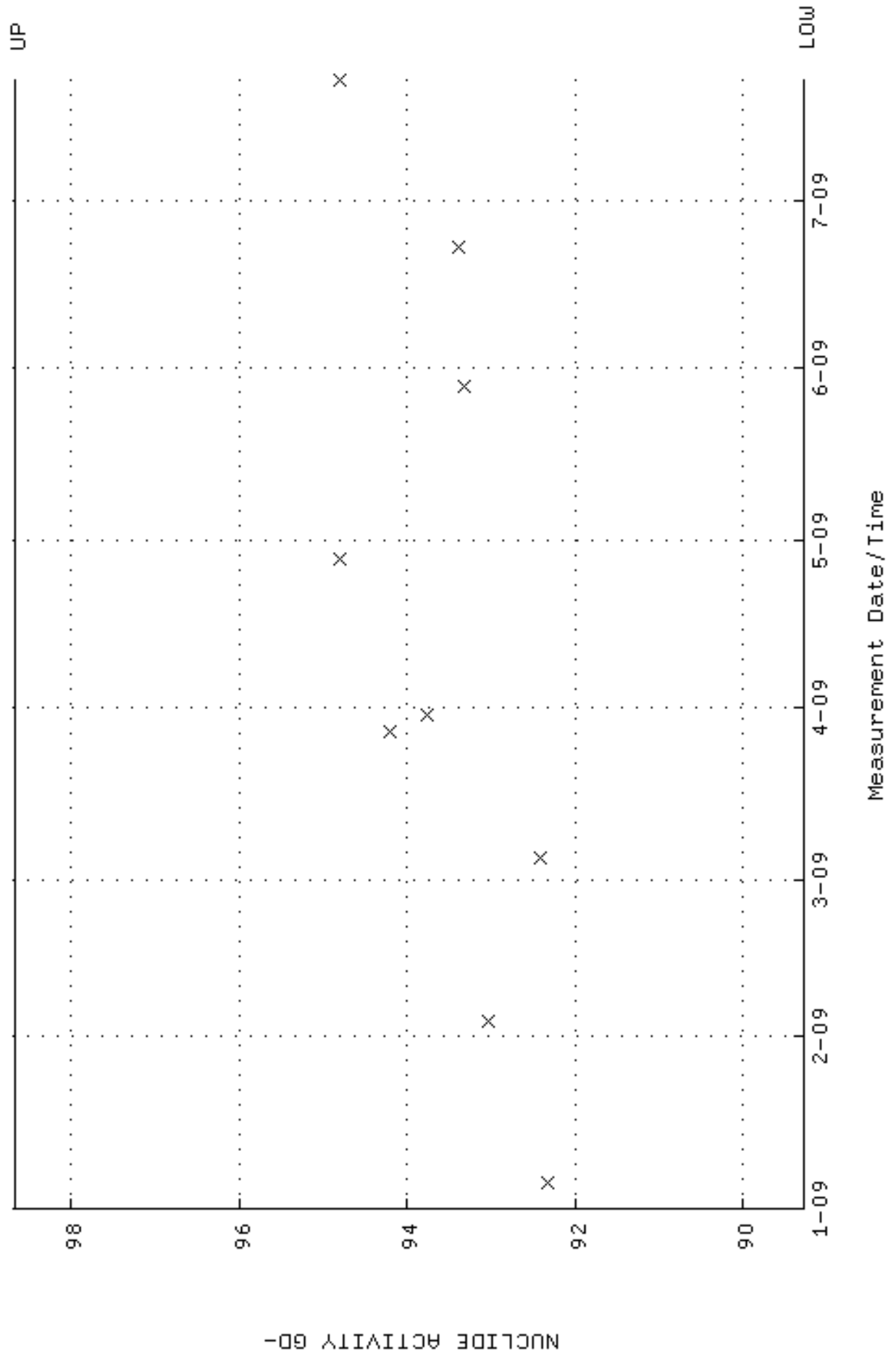
QA filename : DKA100:[ENV_ALPHA.QA.B]B180.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:17 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



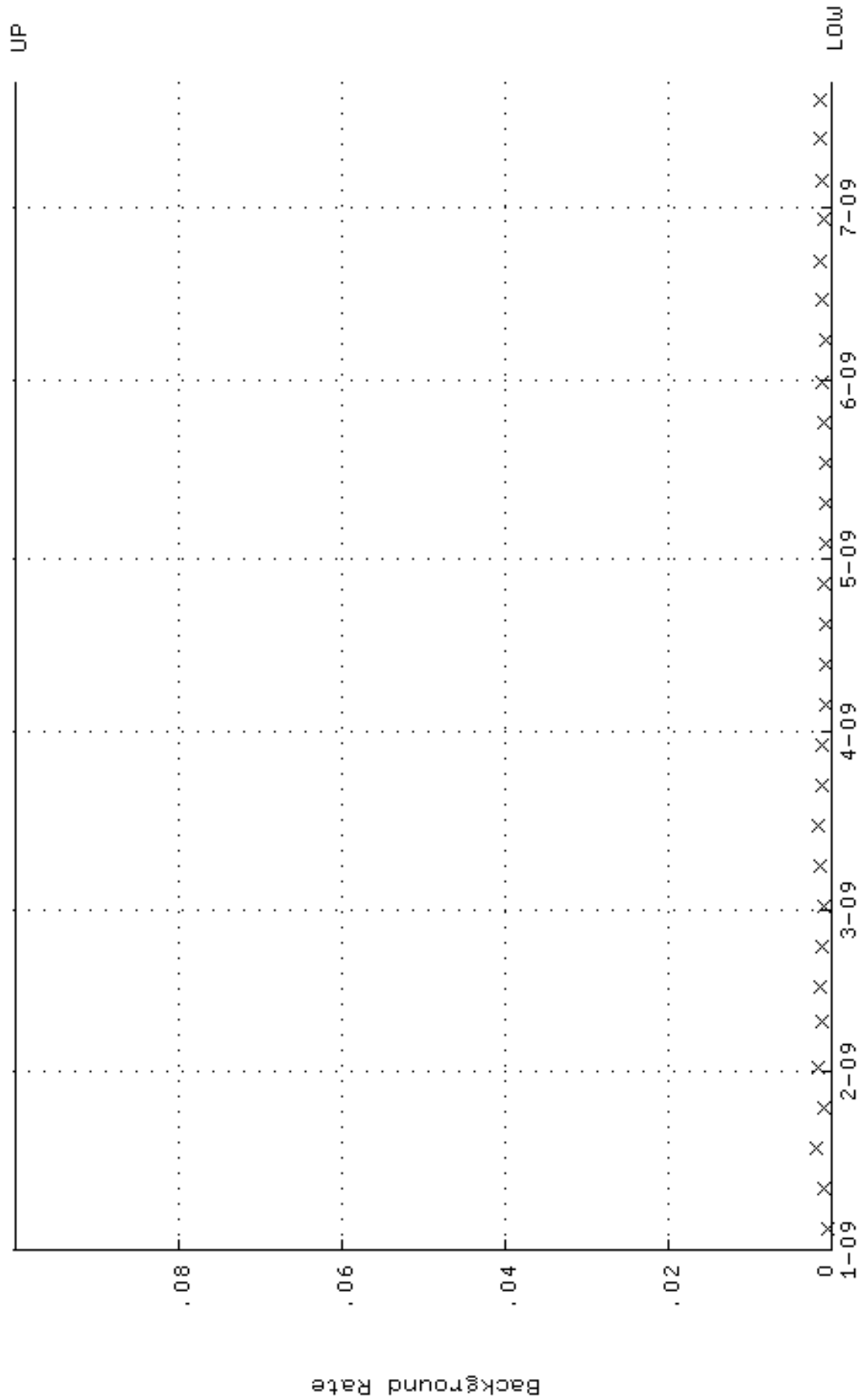
QA filename : DKA100:[ENV_ALPHA.QA.W]W181.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-JAN-2009 12:57:38 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.247722 through 0.267722



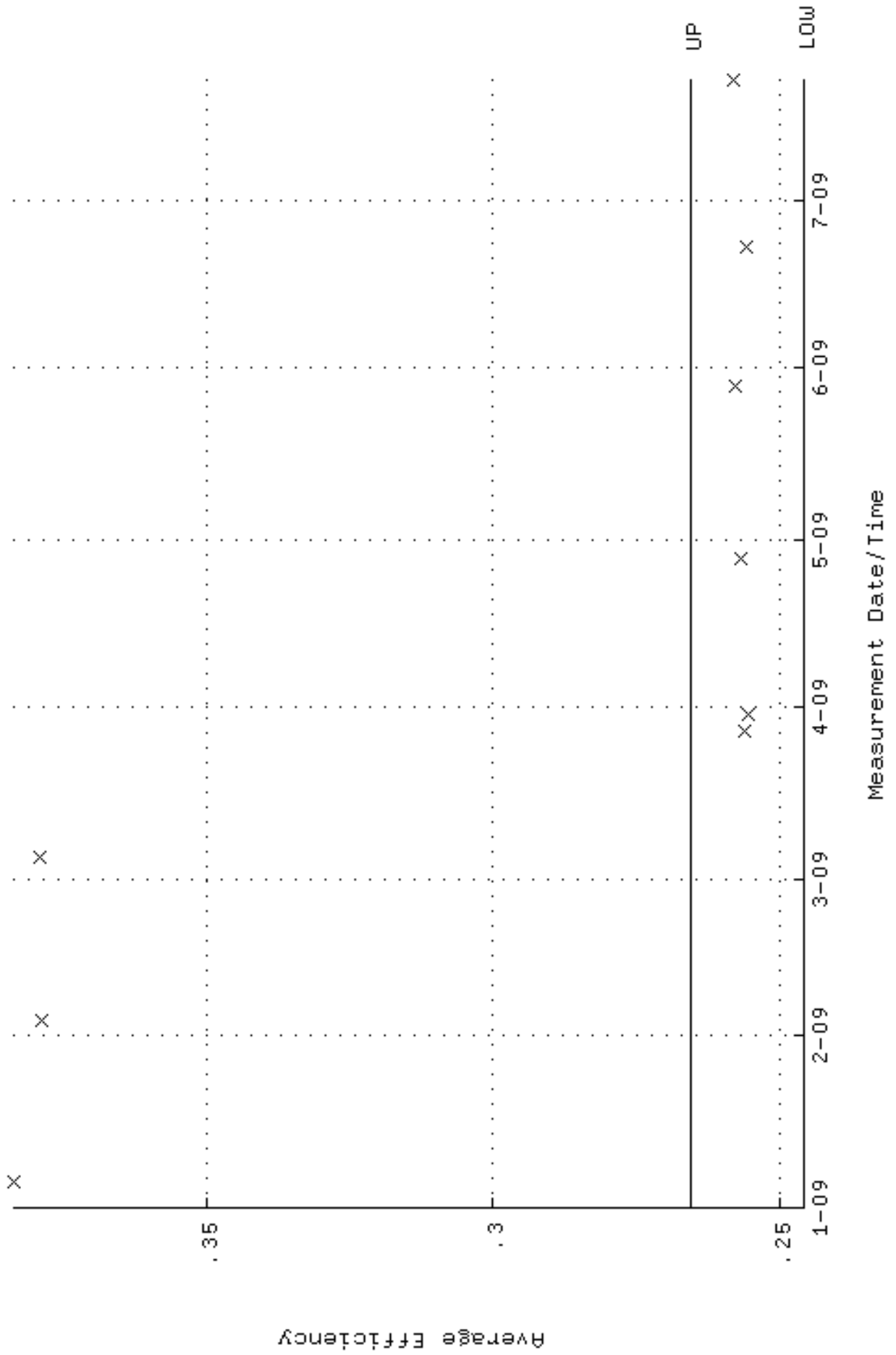
QA filename : DKA100:[ENV_ALPHA.QA.W]w181.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-JAN-2009 12:57:38 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 89.2737 through 98.6709



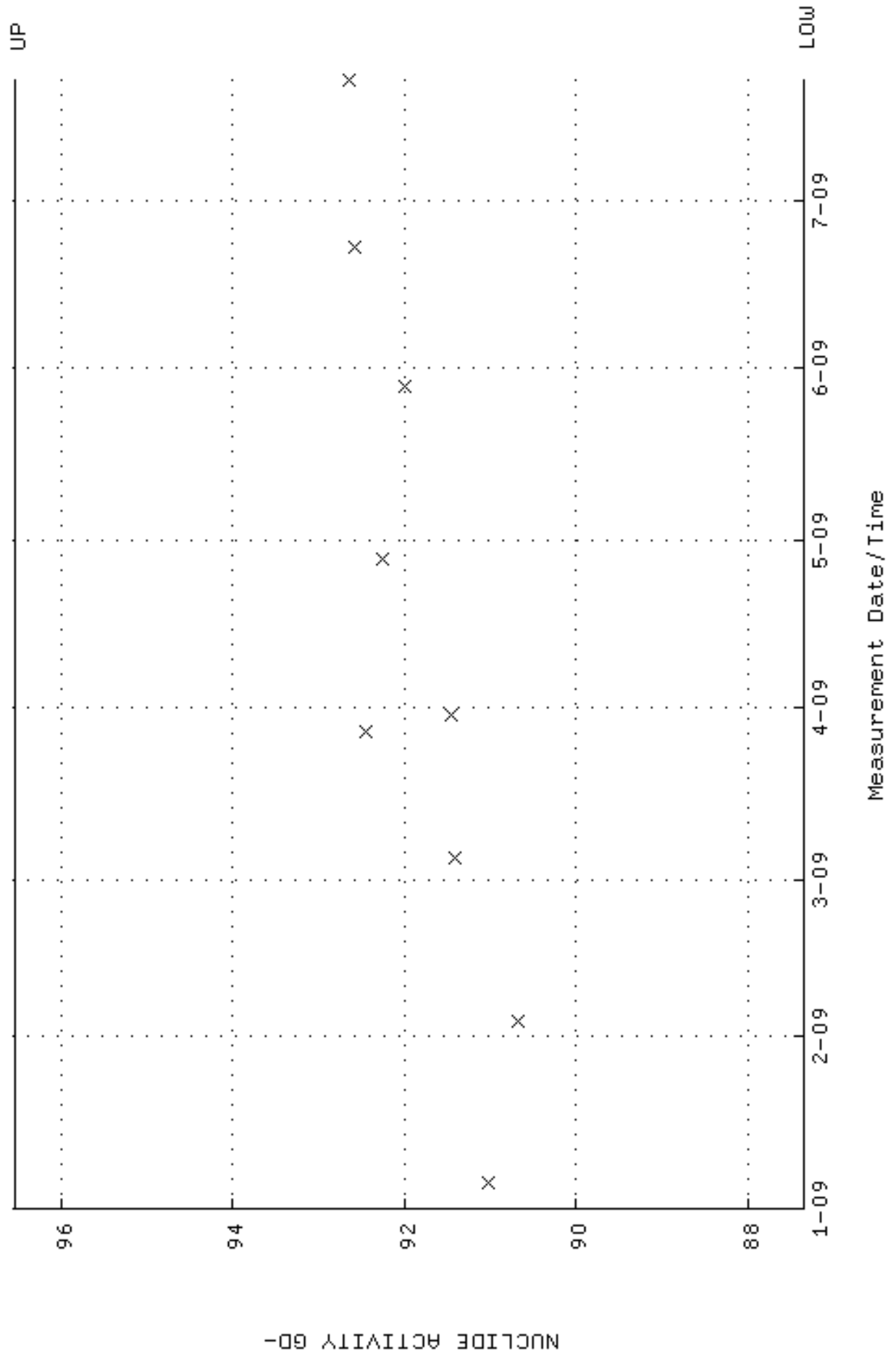
QA filename : DKA100:[ENV_ALPHA.QA.B]B181.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:21 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



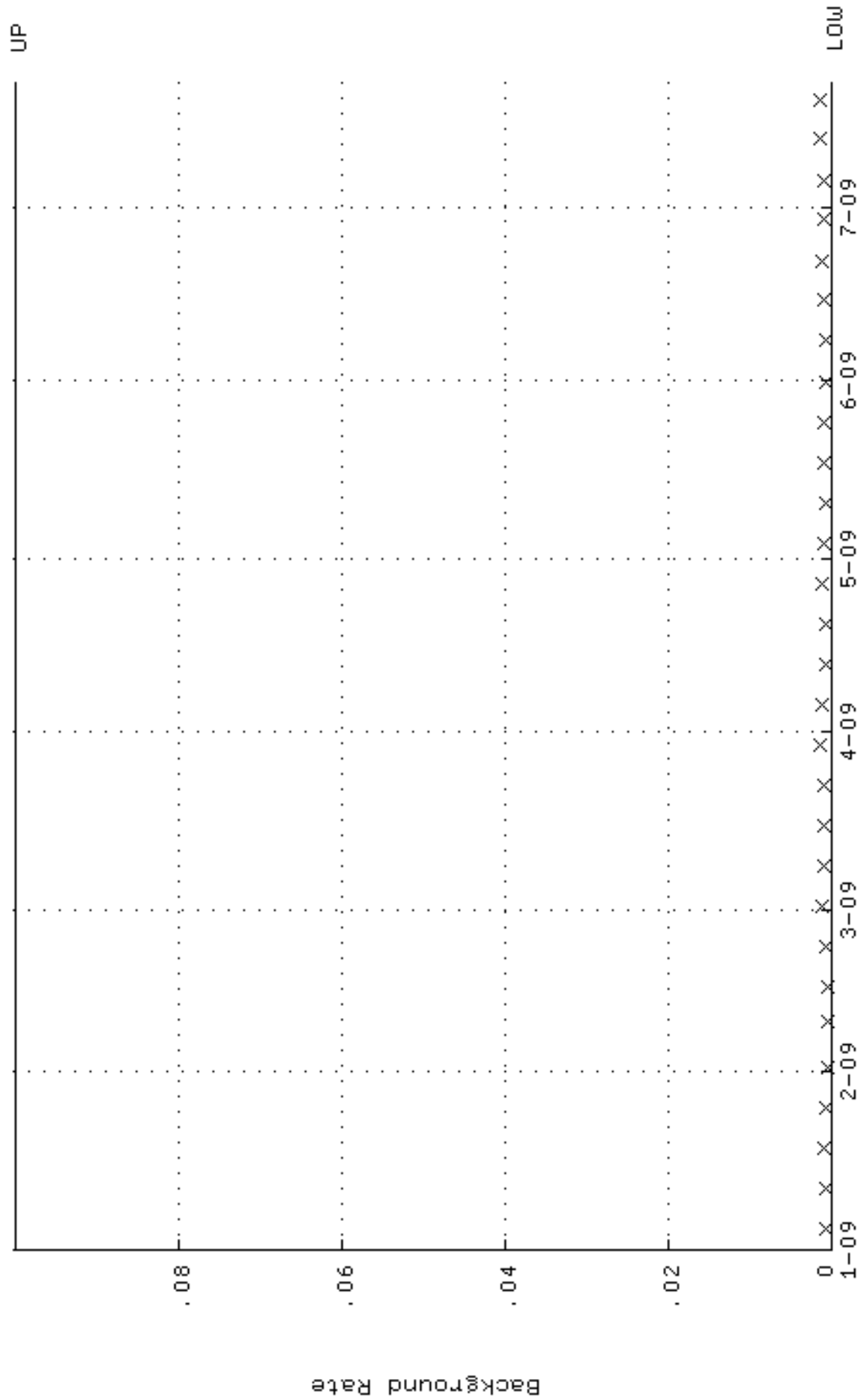
QA filename : DKA100:[ENV_ALPHA.QA.W]W182.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-JAN-2009 12:57:42 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.245707 through 0.265707



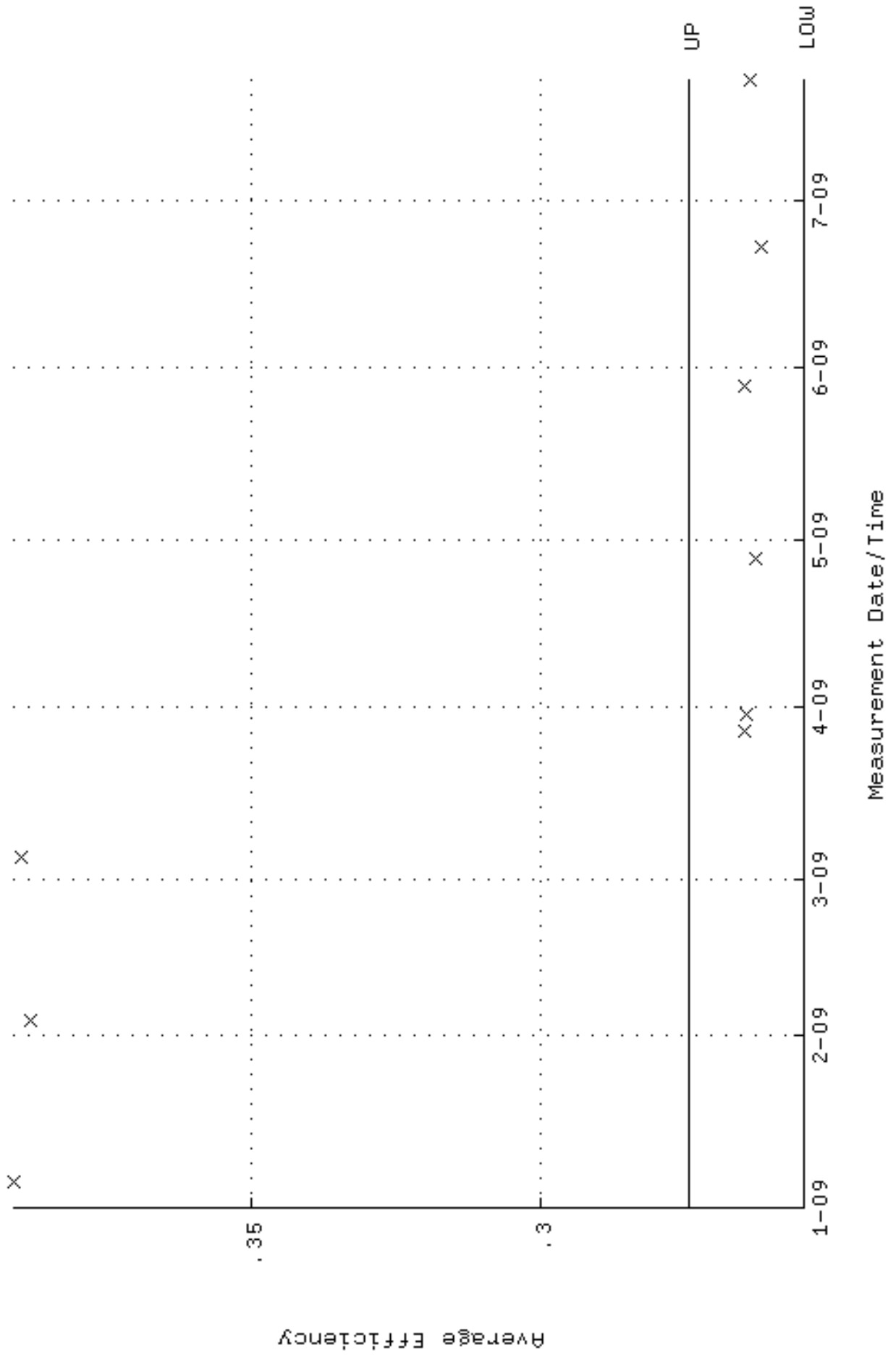
QA filename : DKA100:[ENV_ALPHA.QA.W]w182.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 5-JAN-2009 12:57:42 through 22-JUL-2009 12:00:00
Lower/Upper Lmts: 87.3454 through 96.5396



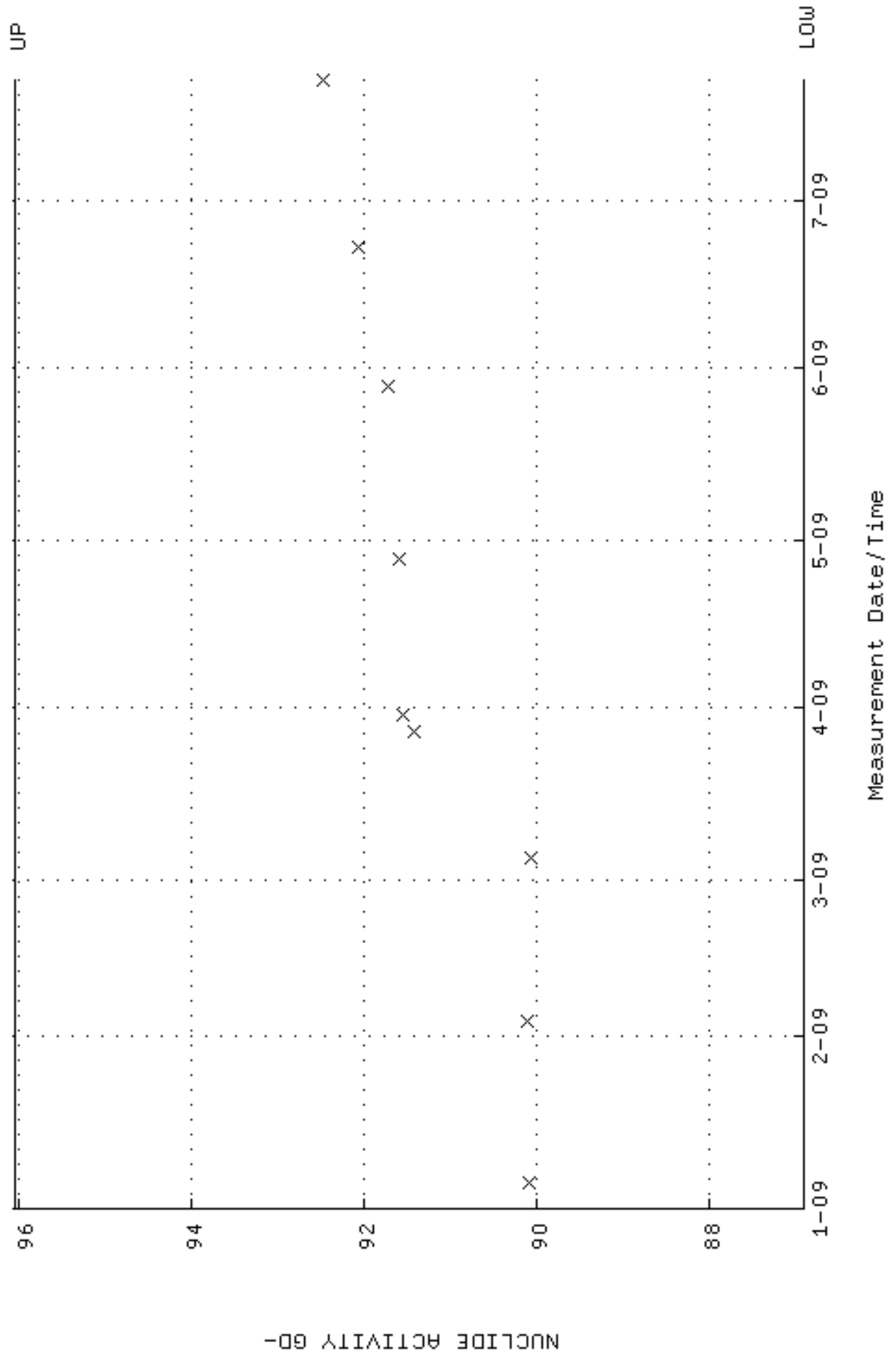
QA filename : DKA100:[ENV_ALPHA.QA.B]B182.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:24 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



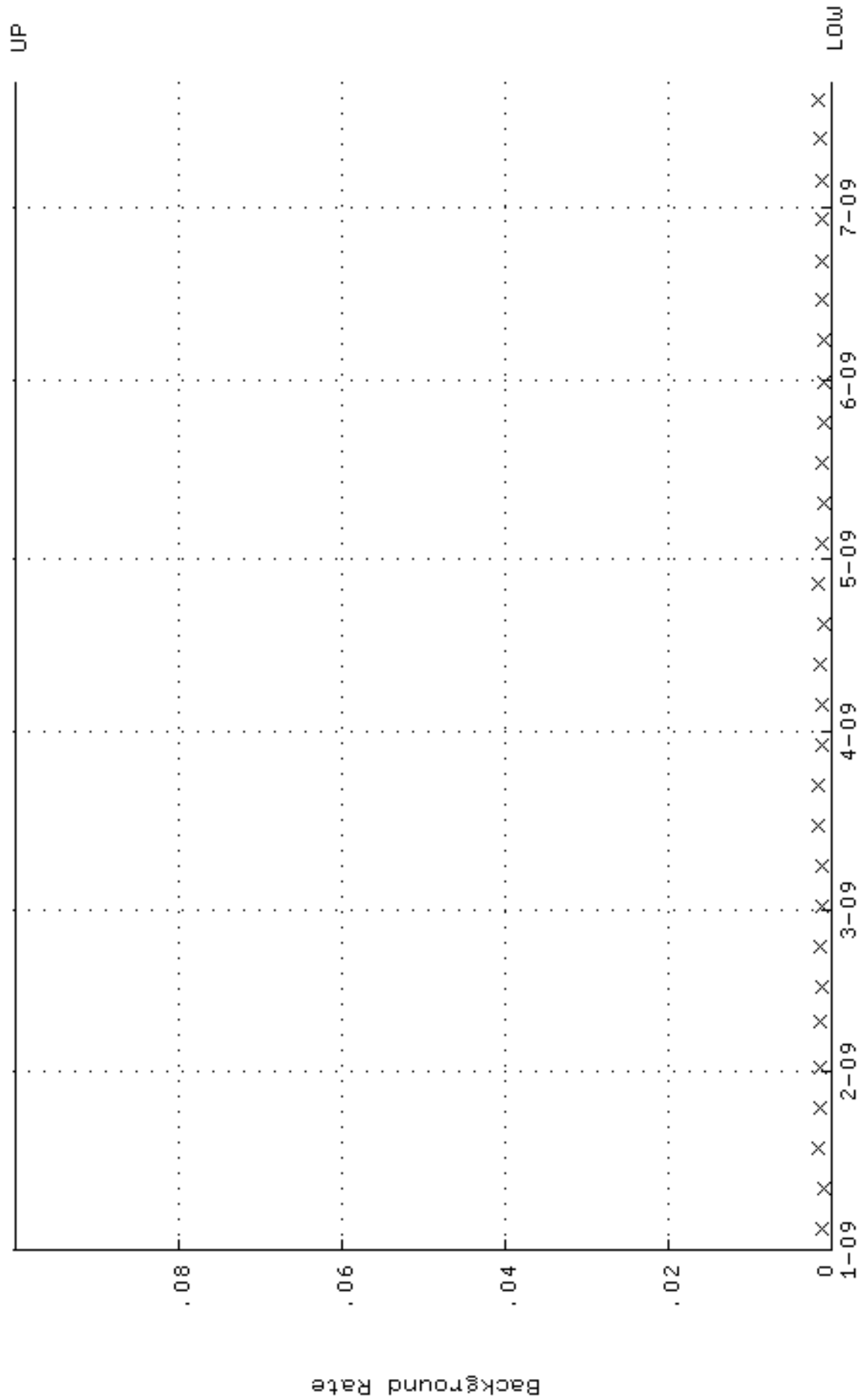
QA filename : DKA100:[ENV_ALPHA.QA.W]W183.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-JAN-2009 12:57:46 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.254364 through 0.274364



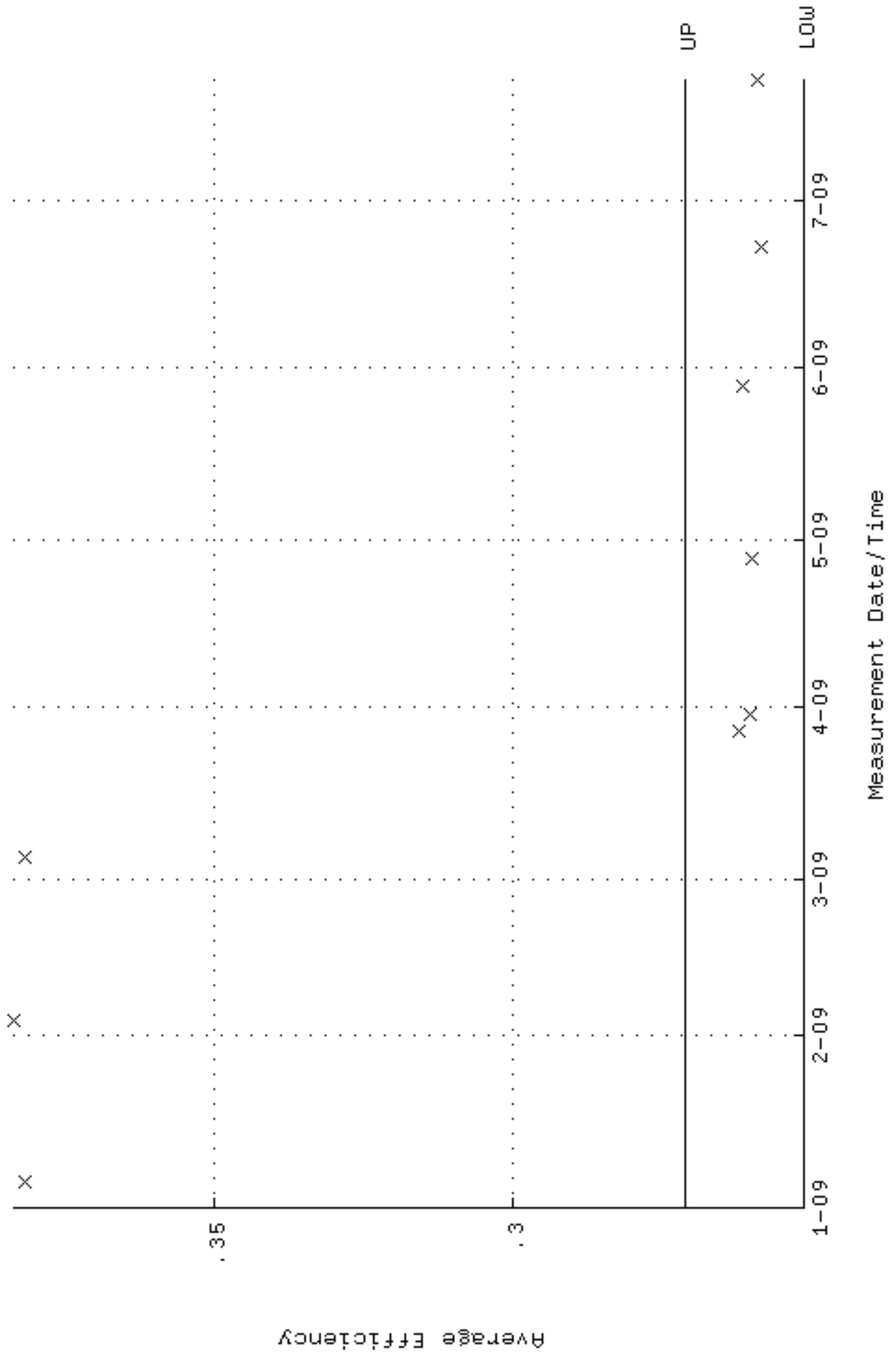
QA filename : DKA100:[ENV_ALPHA.QA.W]w183.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-JAN-2009 12:57:46 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 86.8927 through 96.0393



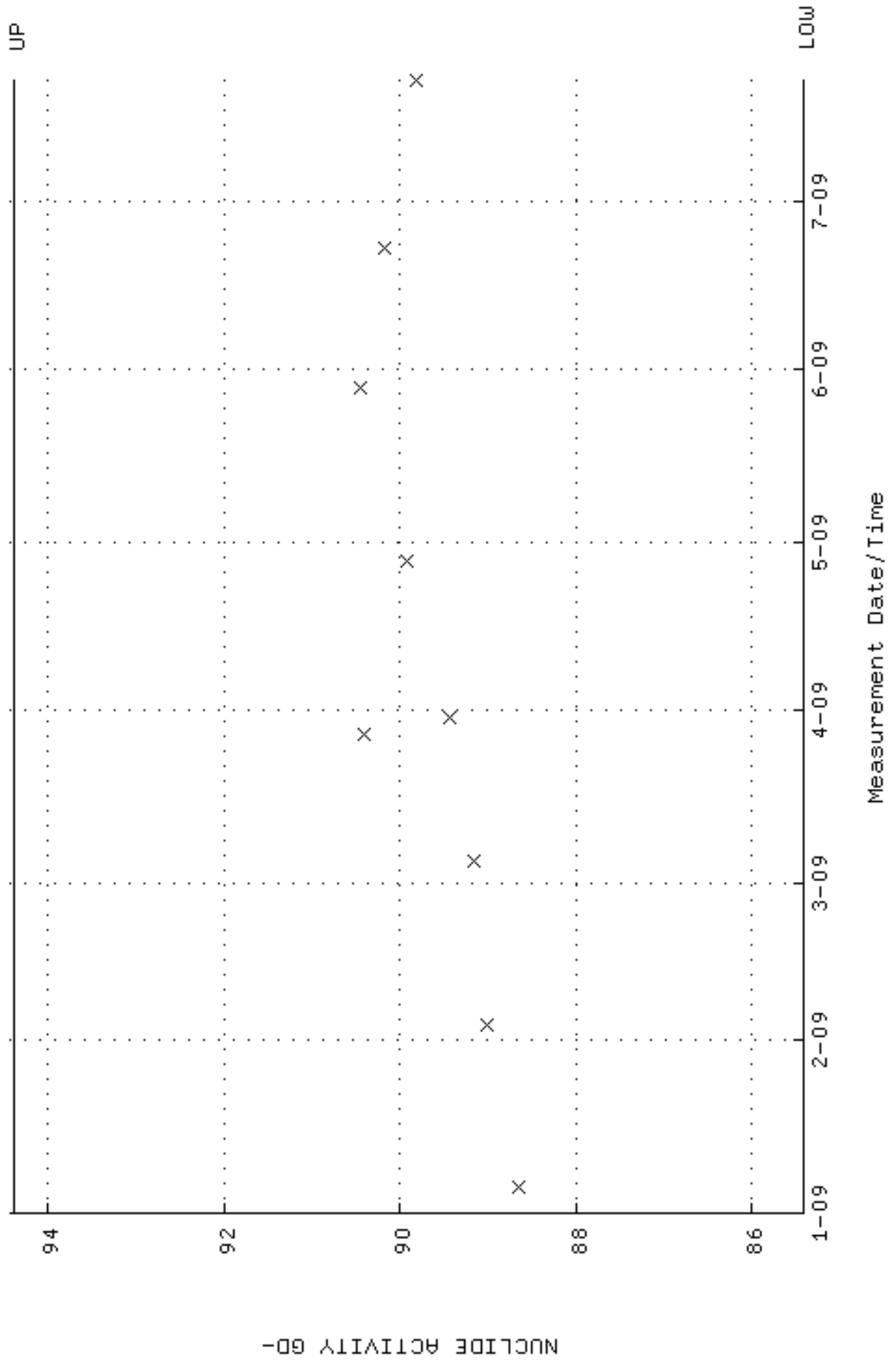
QA filename : DKA100:[ENV_ALPHA.QA.B]B183.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:28 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



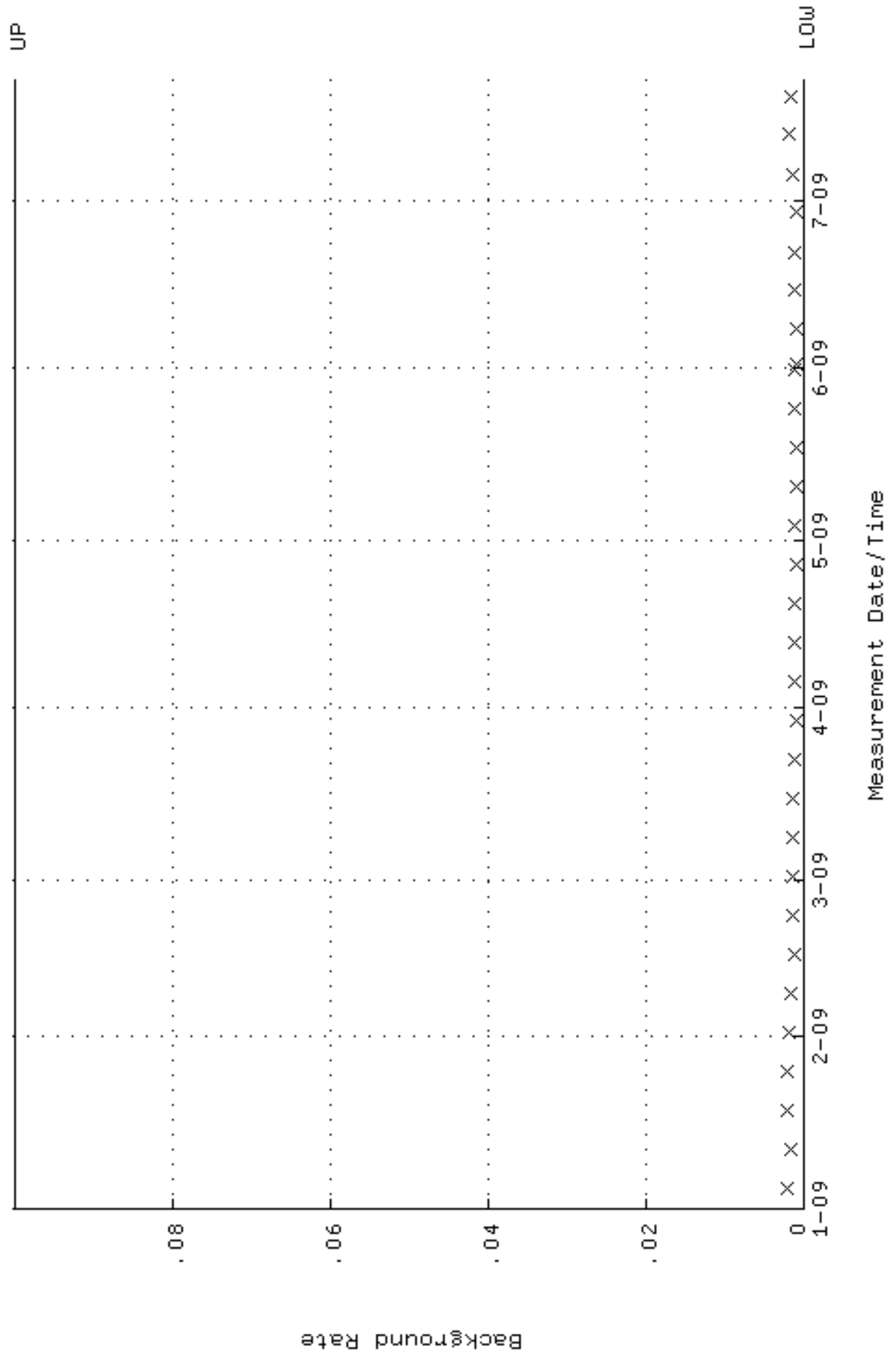
QA filename : DKA100:[ENV_ALPHA.QA.W]W184.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-JAN-2009 12:57:51 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.251367 through 0.271367



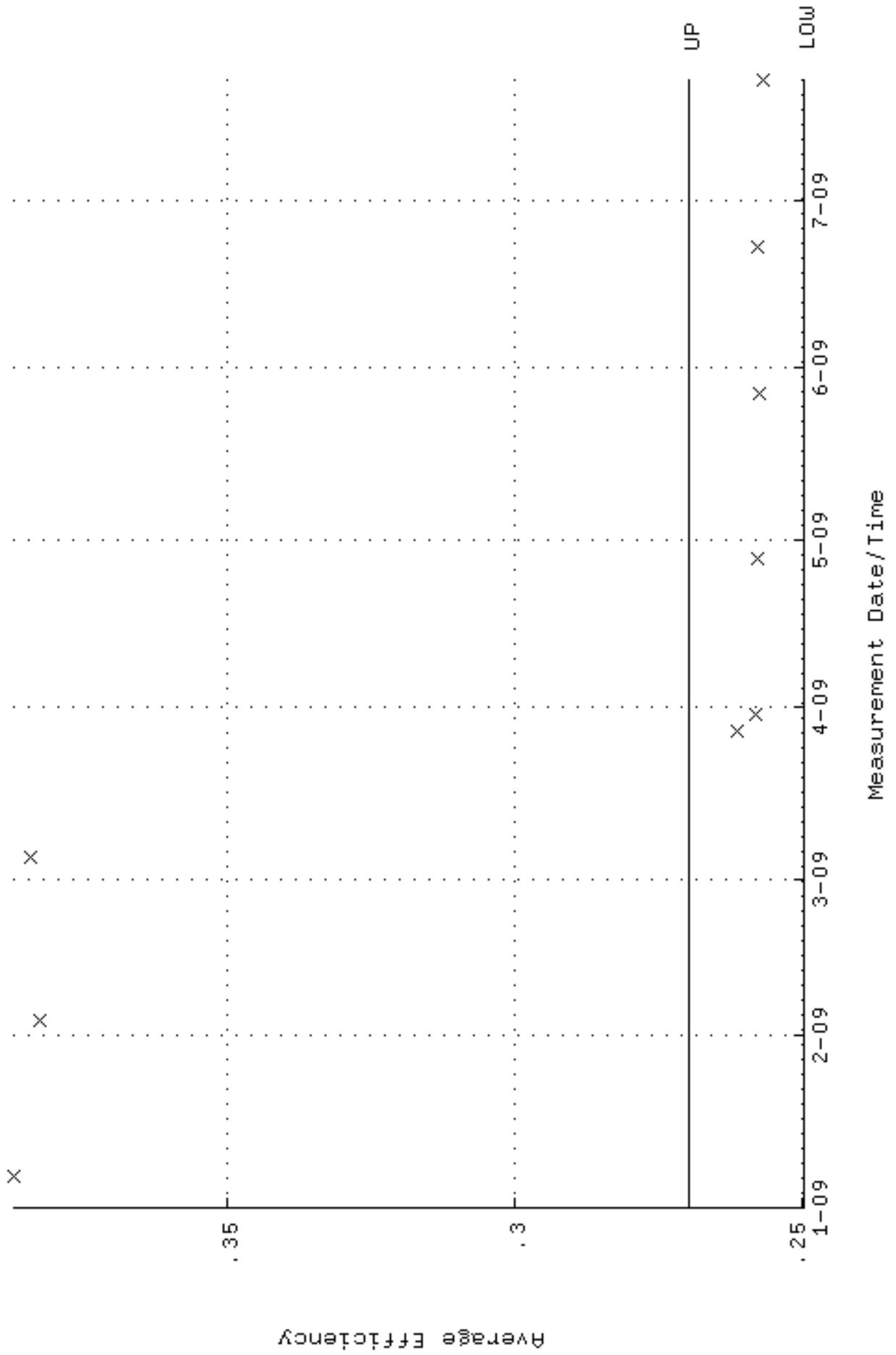
QA filename : DKA100:[ENV_ALPHA.QA.W]w184.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-JAN-2009 12:57:51 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 85.4139 through 94.4049



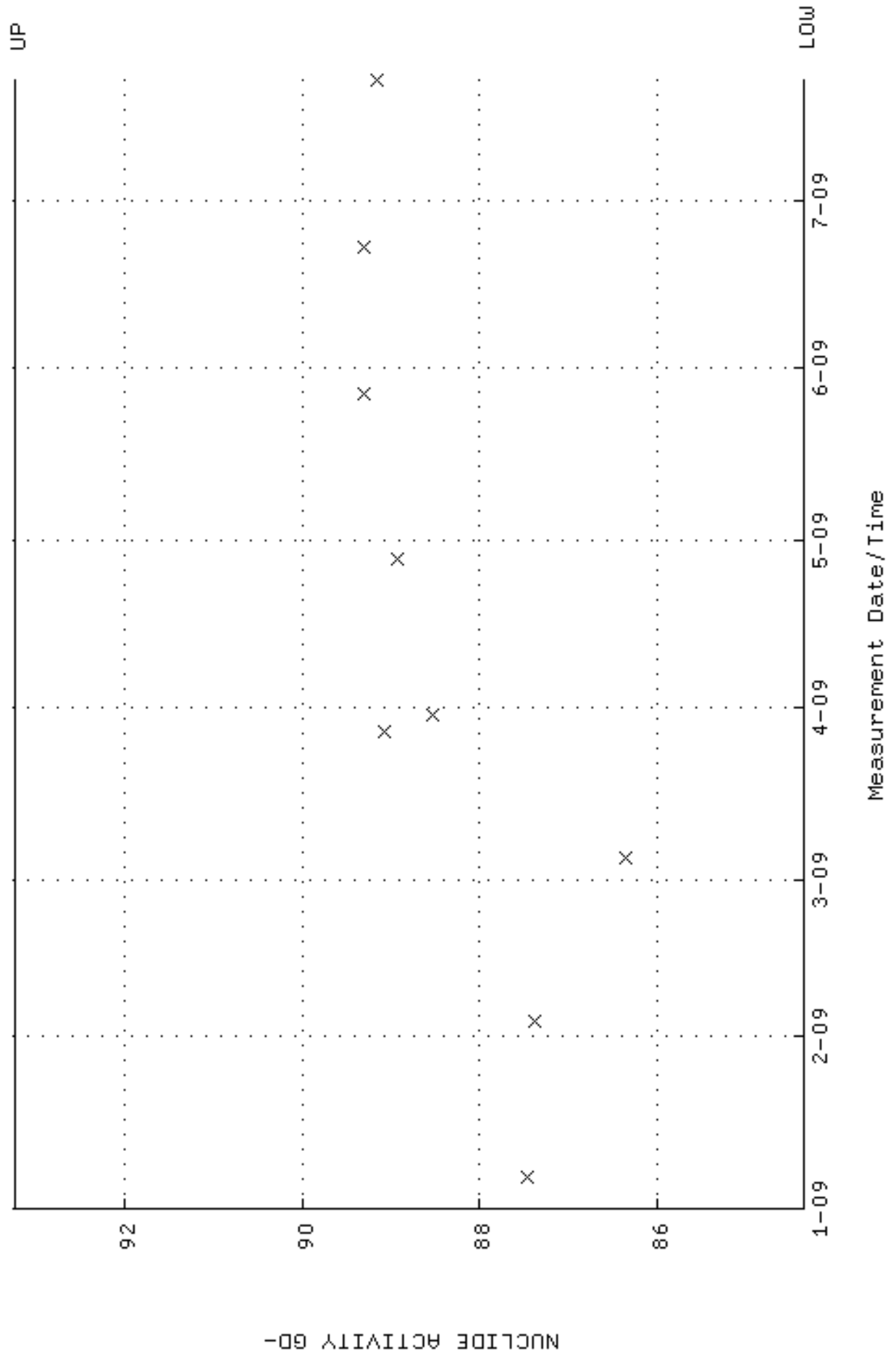
QA filename : DKA100:[ENV_ALPHA.QA.B]B184.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:32 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



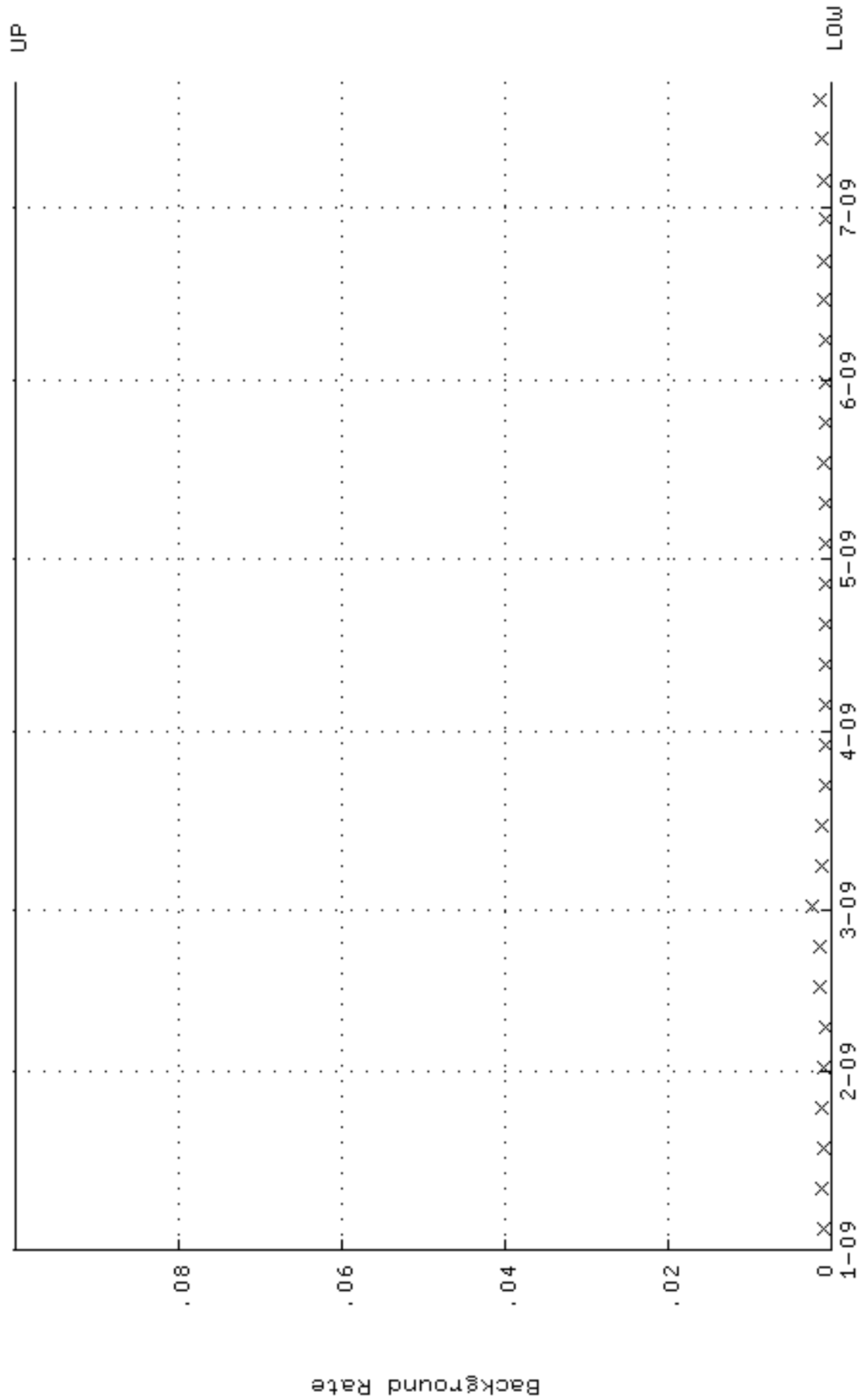
QA filename : DKA100:[ENV_ALPHA.QA.W]W185.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:31:29 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.249628 through 0.269628



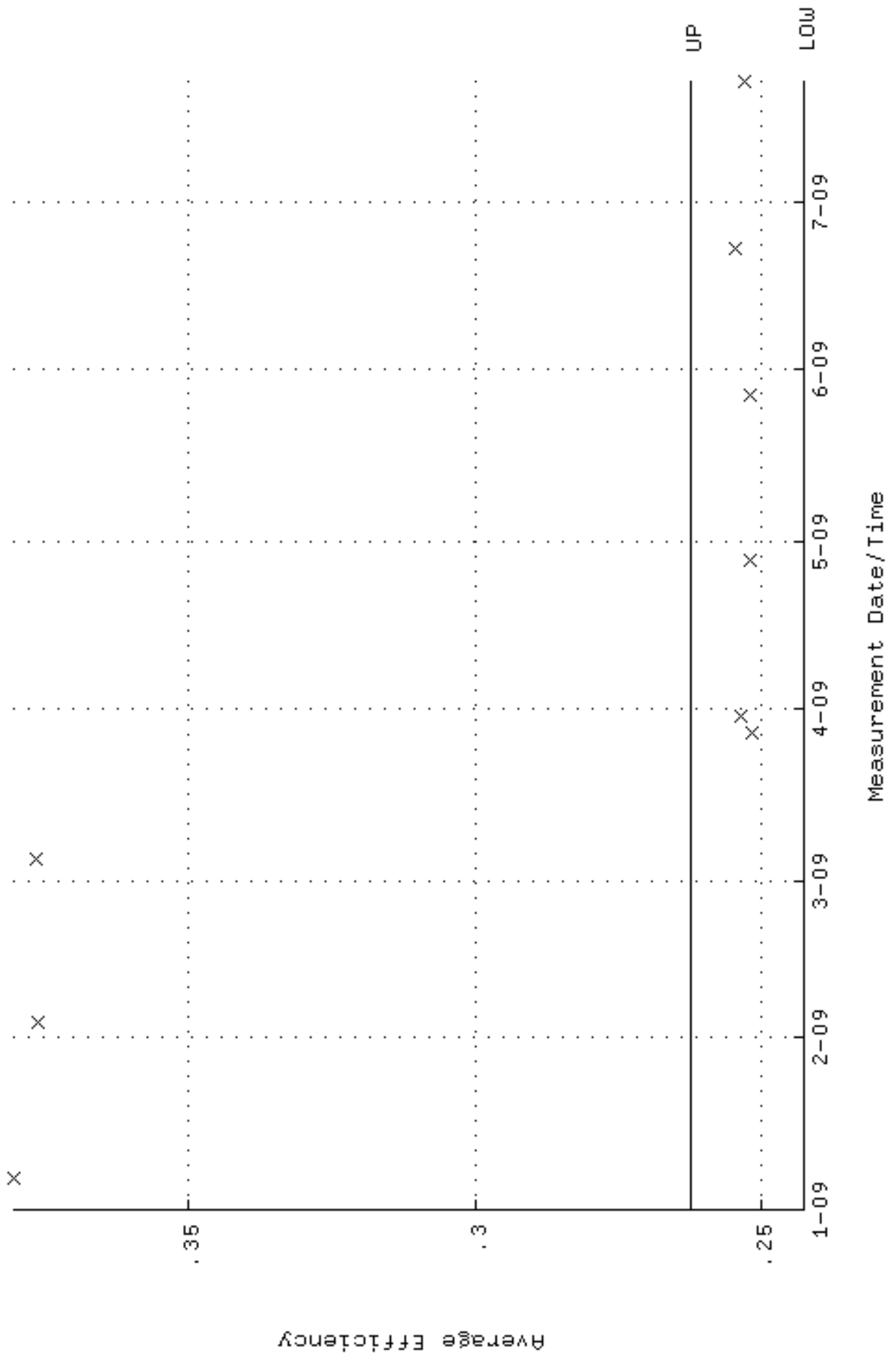
QA filename : DKA100:[ENV_ALPHA.QA.W]W185.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:31:29 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 84.3502 through 93.2292



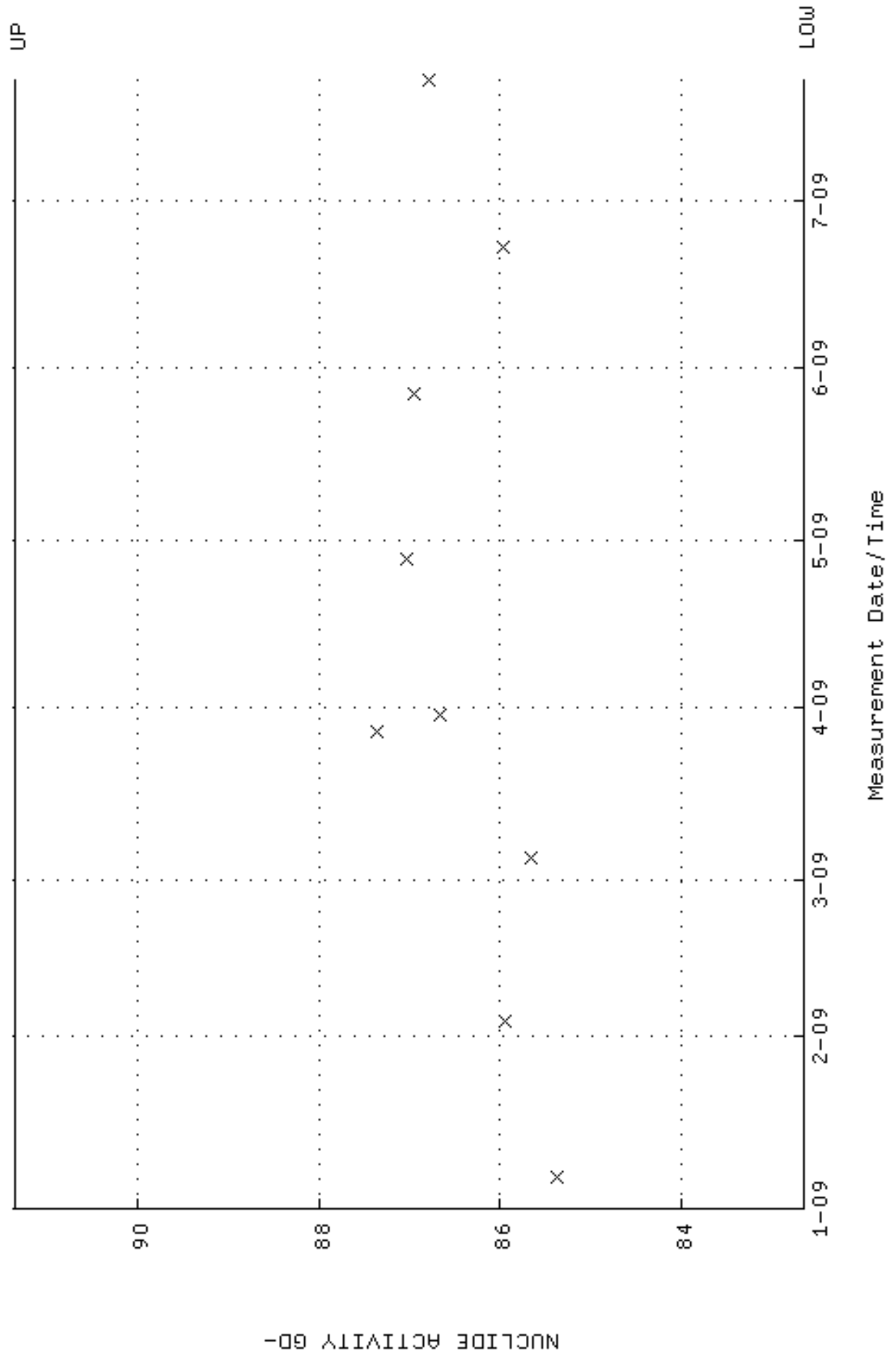
QA filename : DKA100:[ENV_ALPHA.QA.B]B185.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:36 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



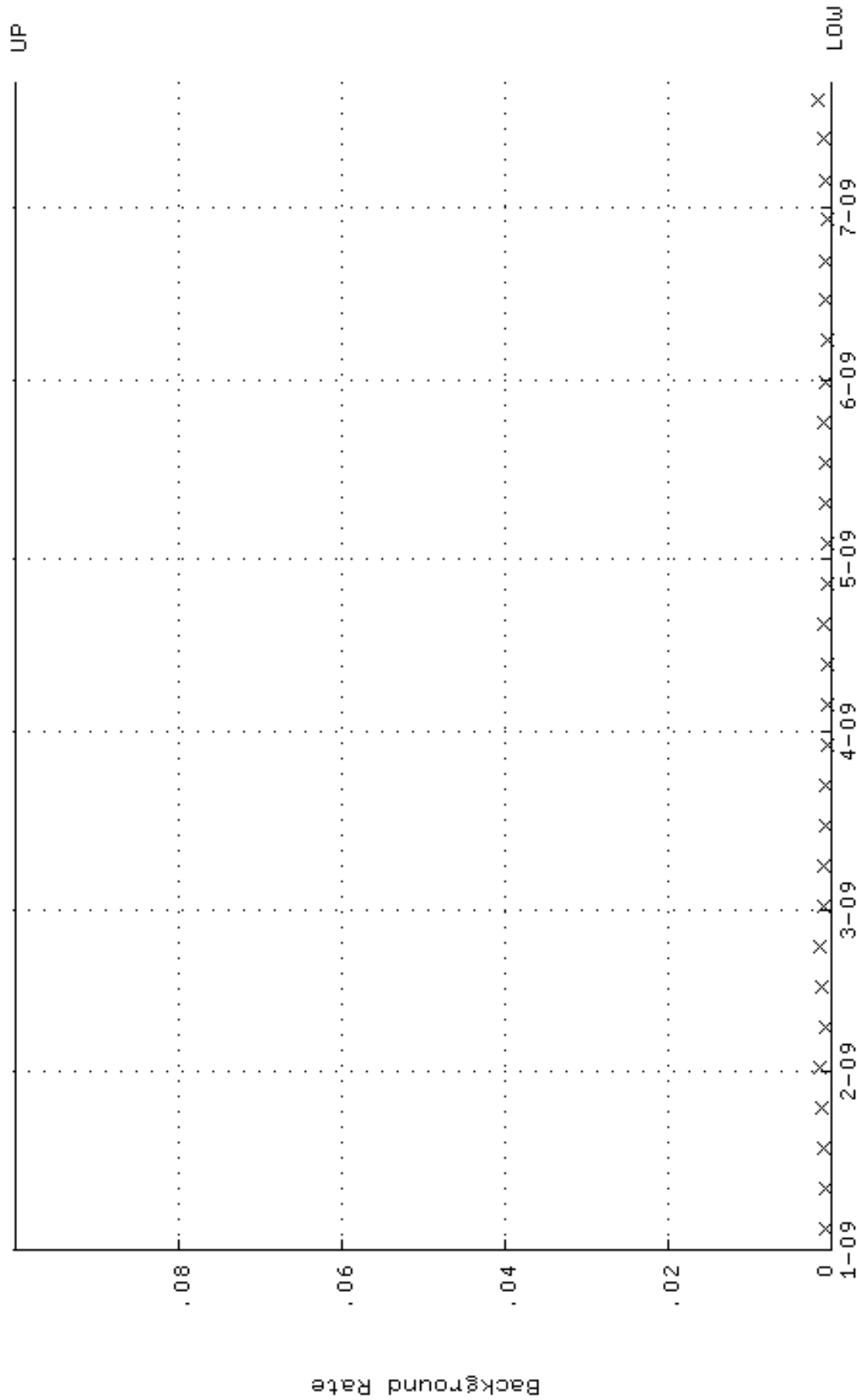
QA filename : DKA100:[ENV_ALPHA.QA.W]W186.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:31:33 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.242649 through 0.262649



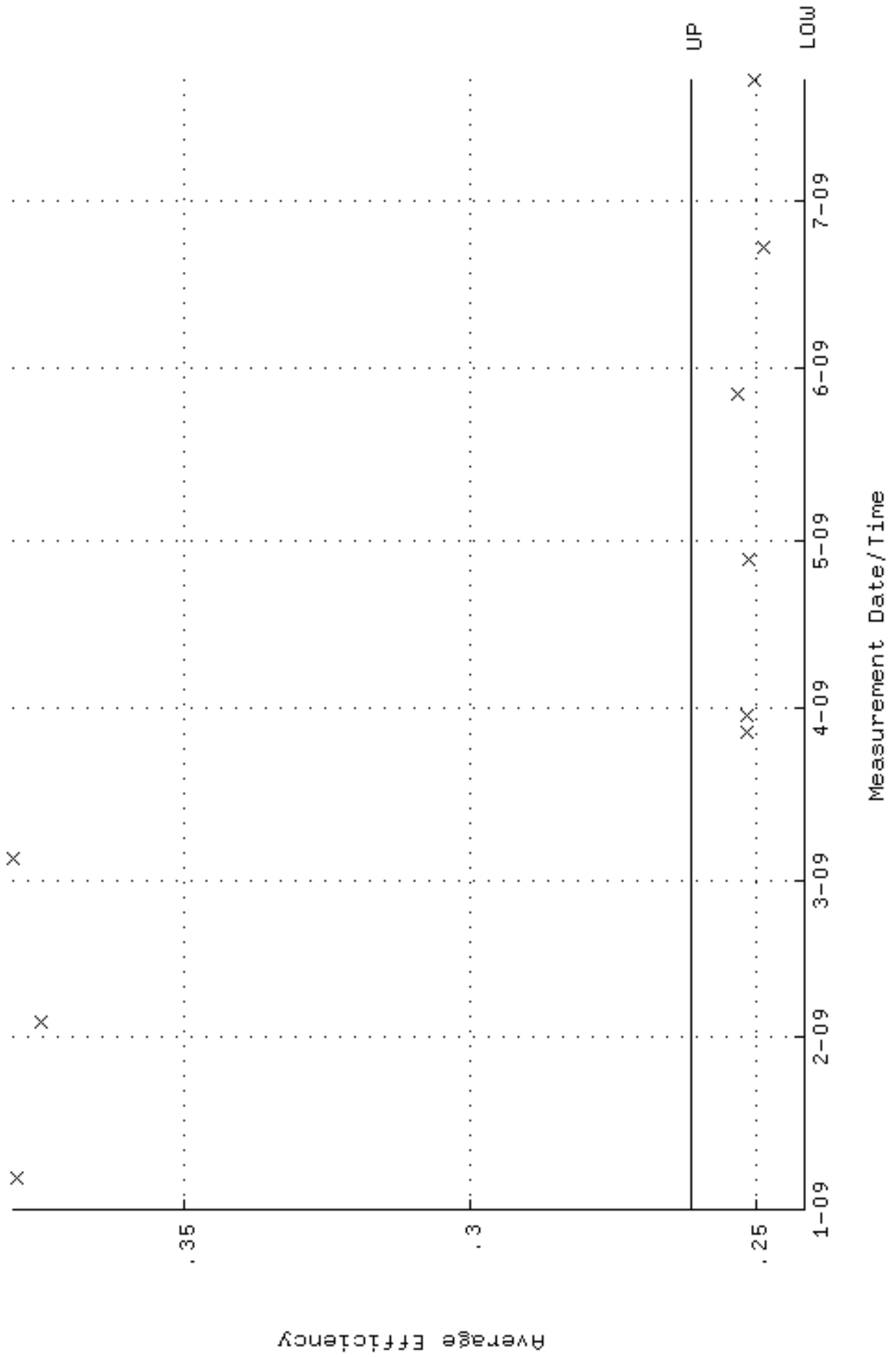
QA filename : DKA100:[ENV_ALPHA.QA.W]w186.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:31:33 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 82.6495 through 91.3495



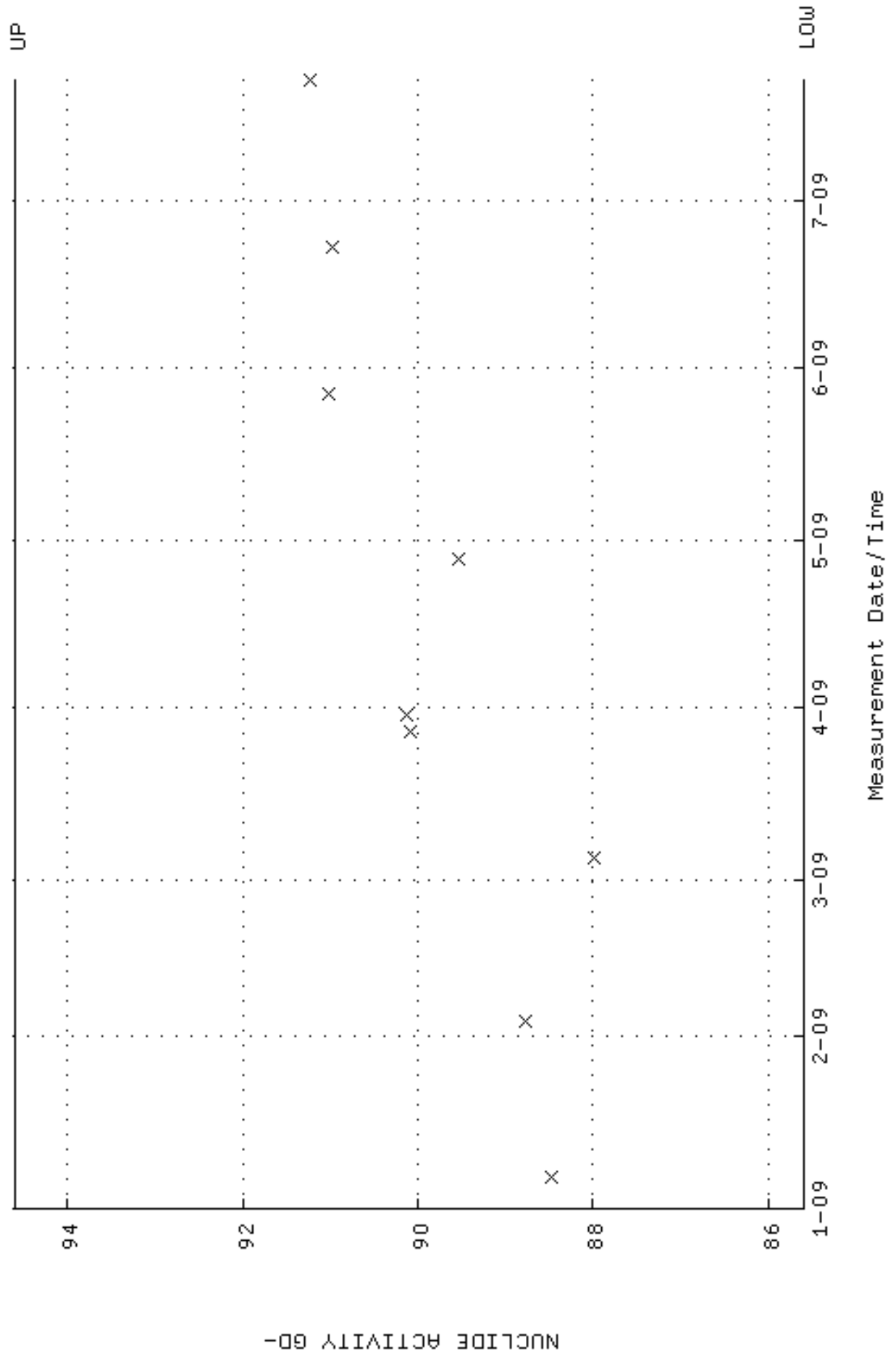
QA filename : DKA100:[ENV_ALPHA.QA.B]B186.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:40 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



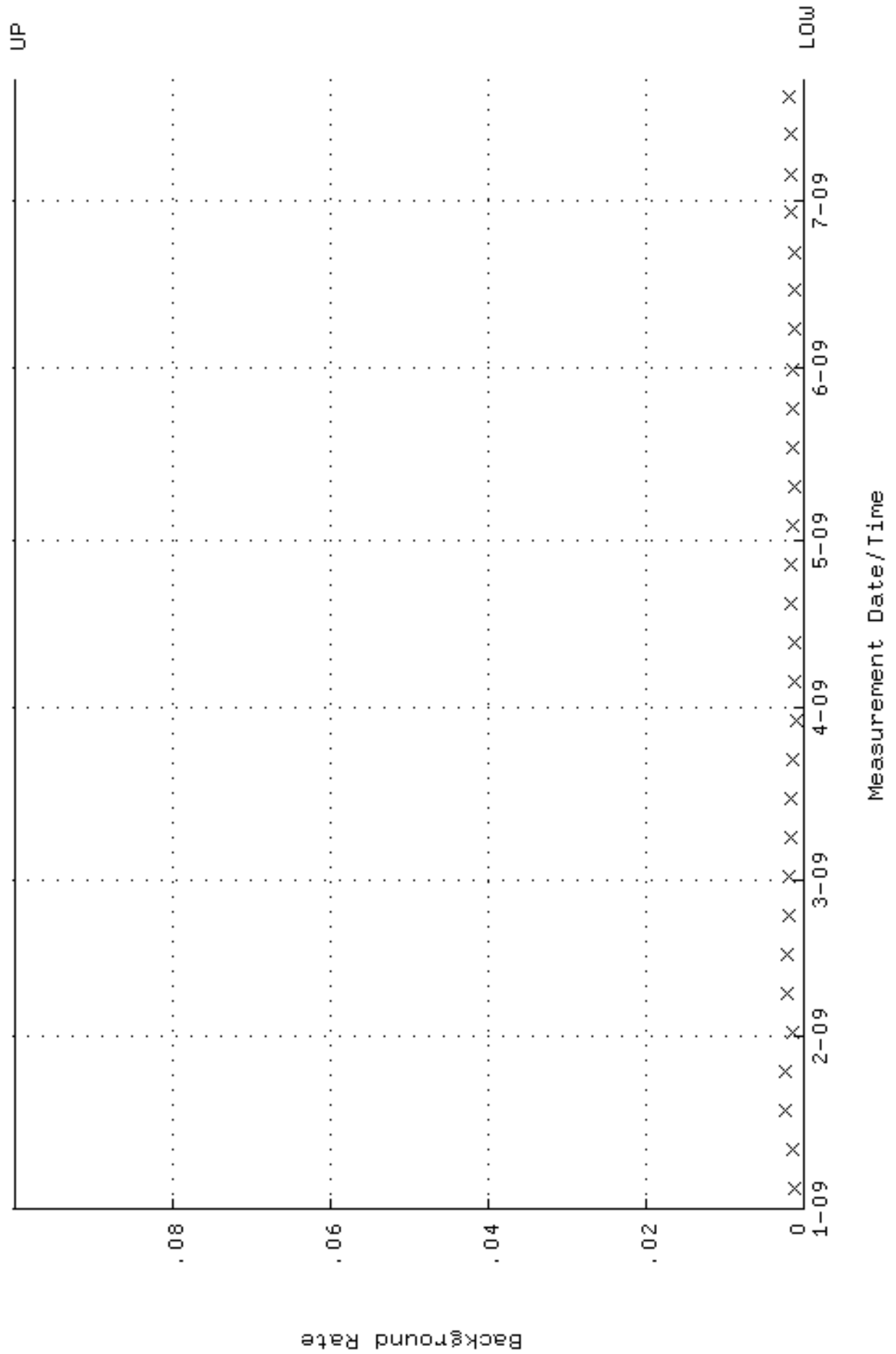
QA filename : DKA100:[ENV_ALPHA.QA.W]W187.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:31:37 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.241464 through 0.261464



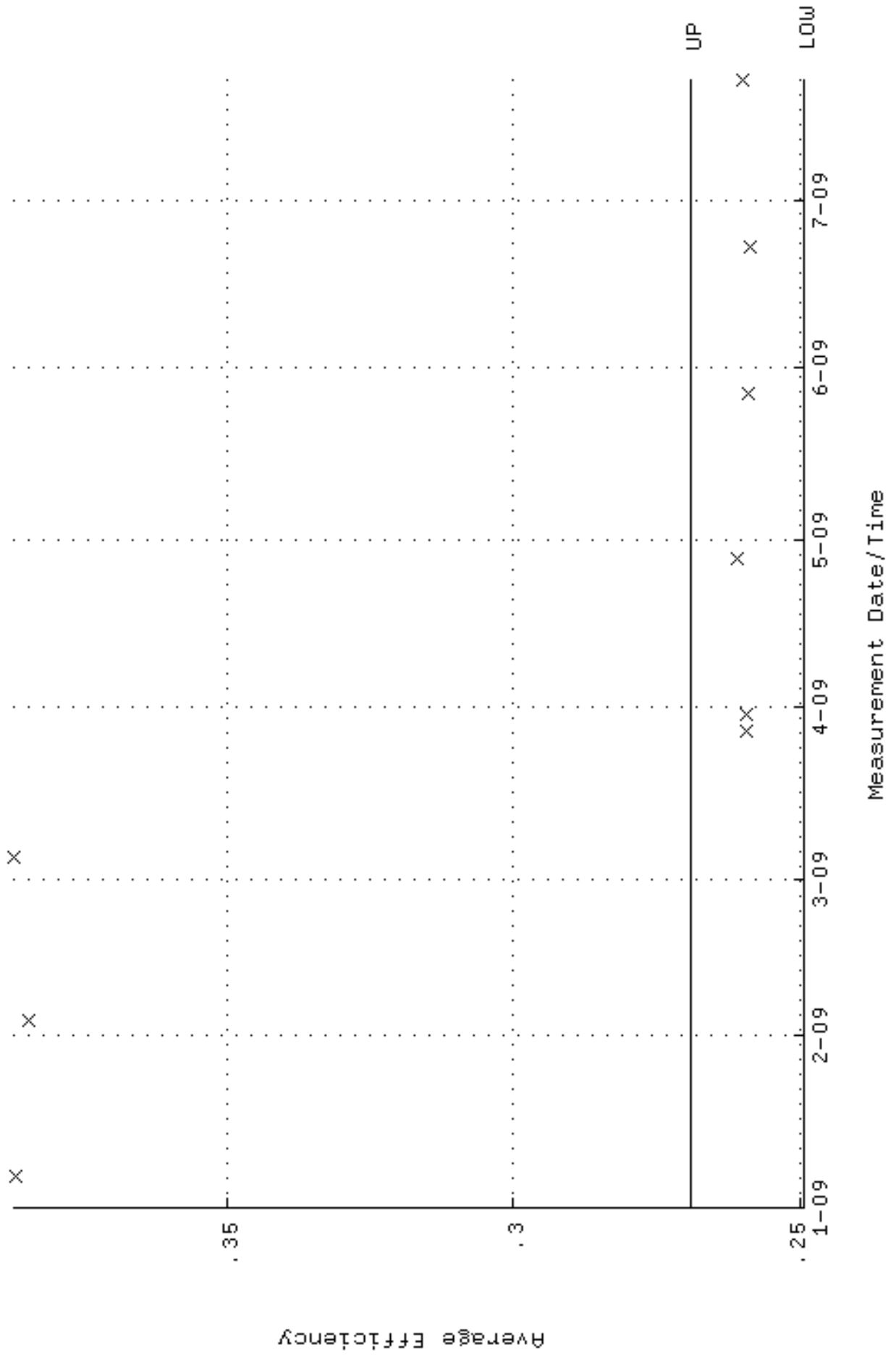
QA filename : DKA100:[ENV_ALPHA.QA.W]w187.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:31:37 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 85.5888 through 94.5982



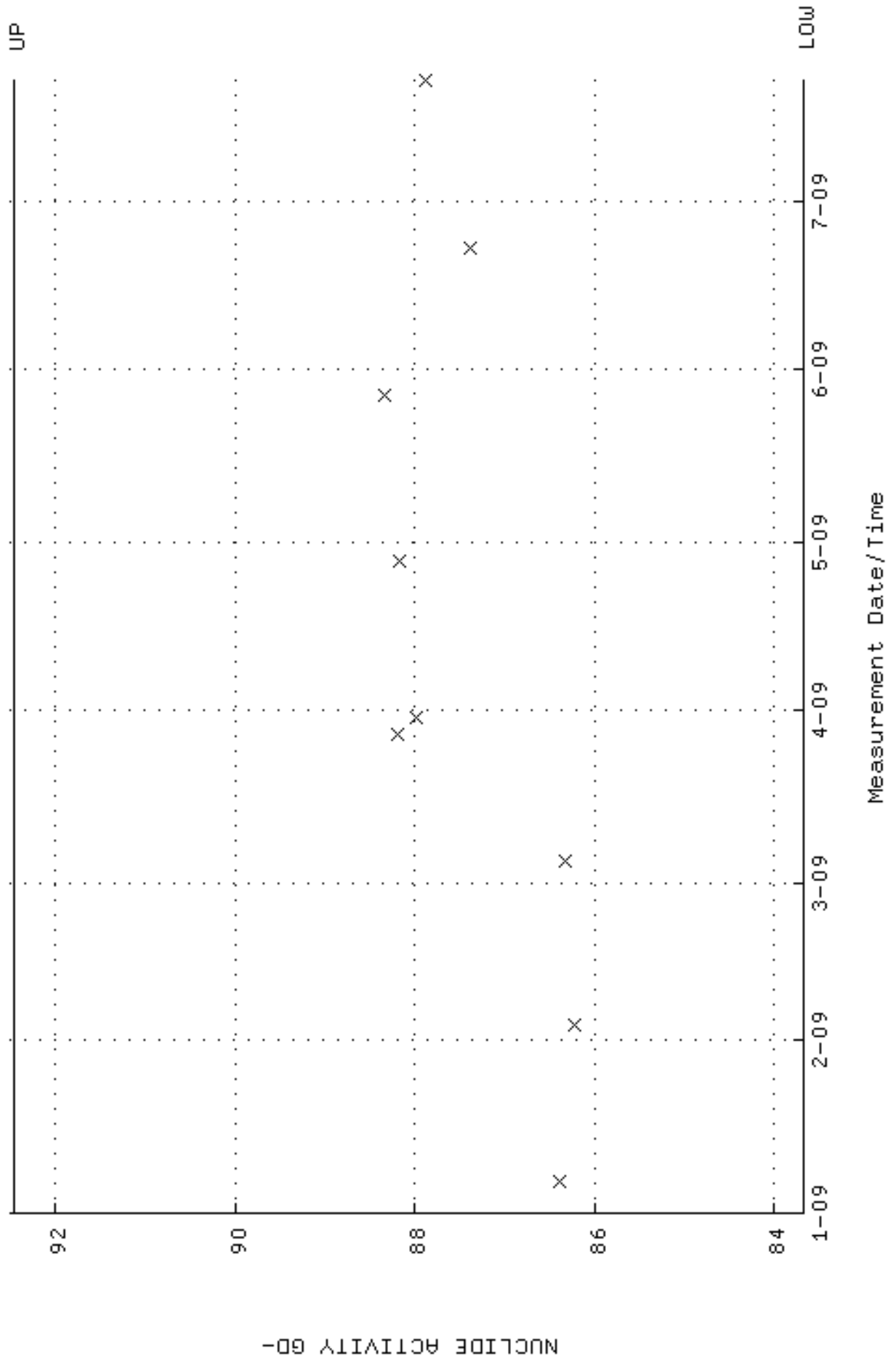
QA filename : DKA100:[ENV_ALPHA.QA.B]B187.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:44 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



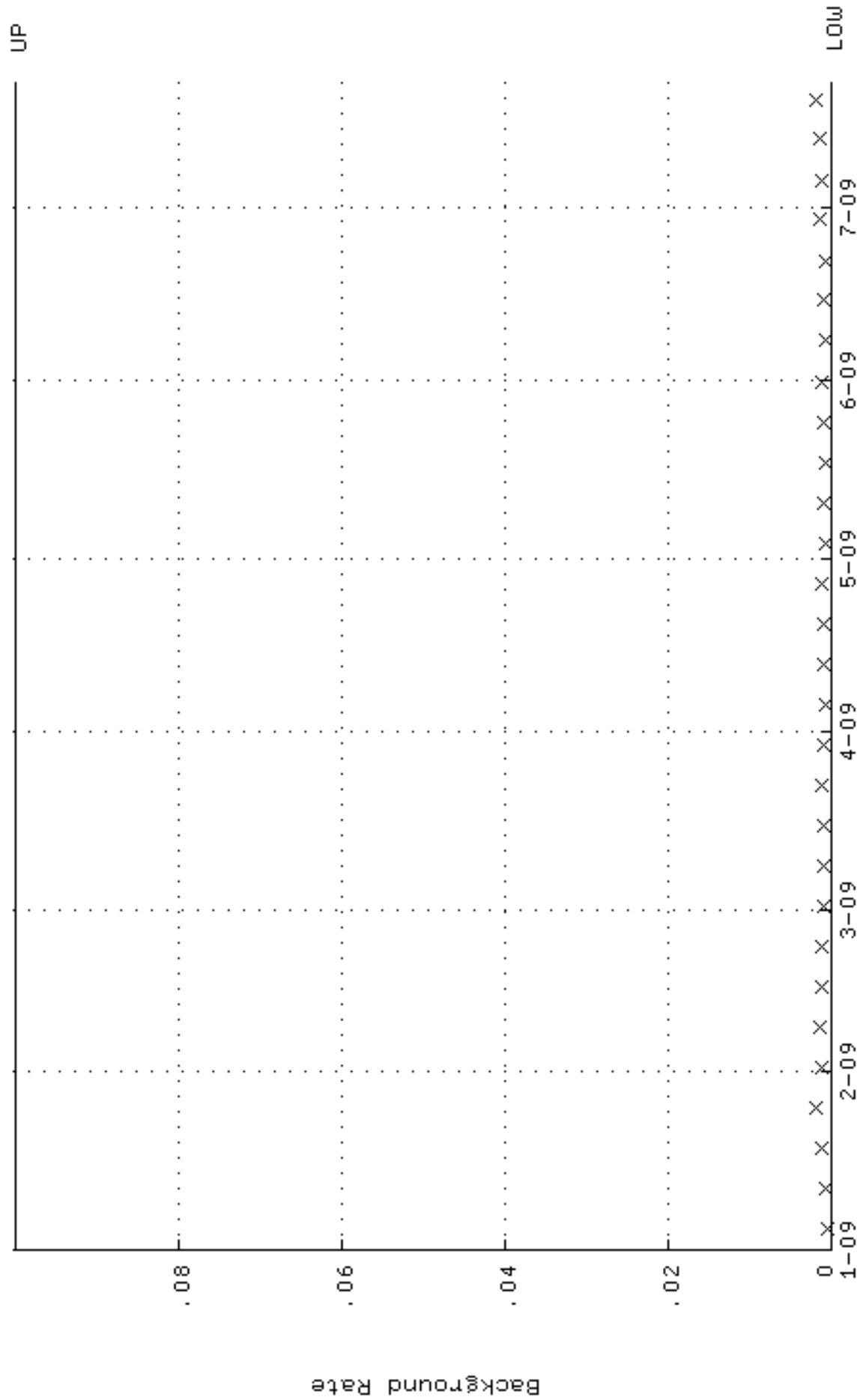
QA filename : DKA100:[ENV_ALPHA.QA.W]W188.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:31:41 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.249341 through 0.269341



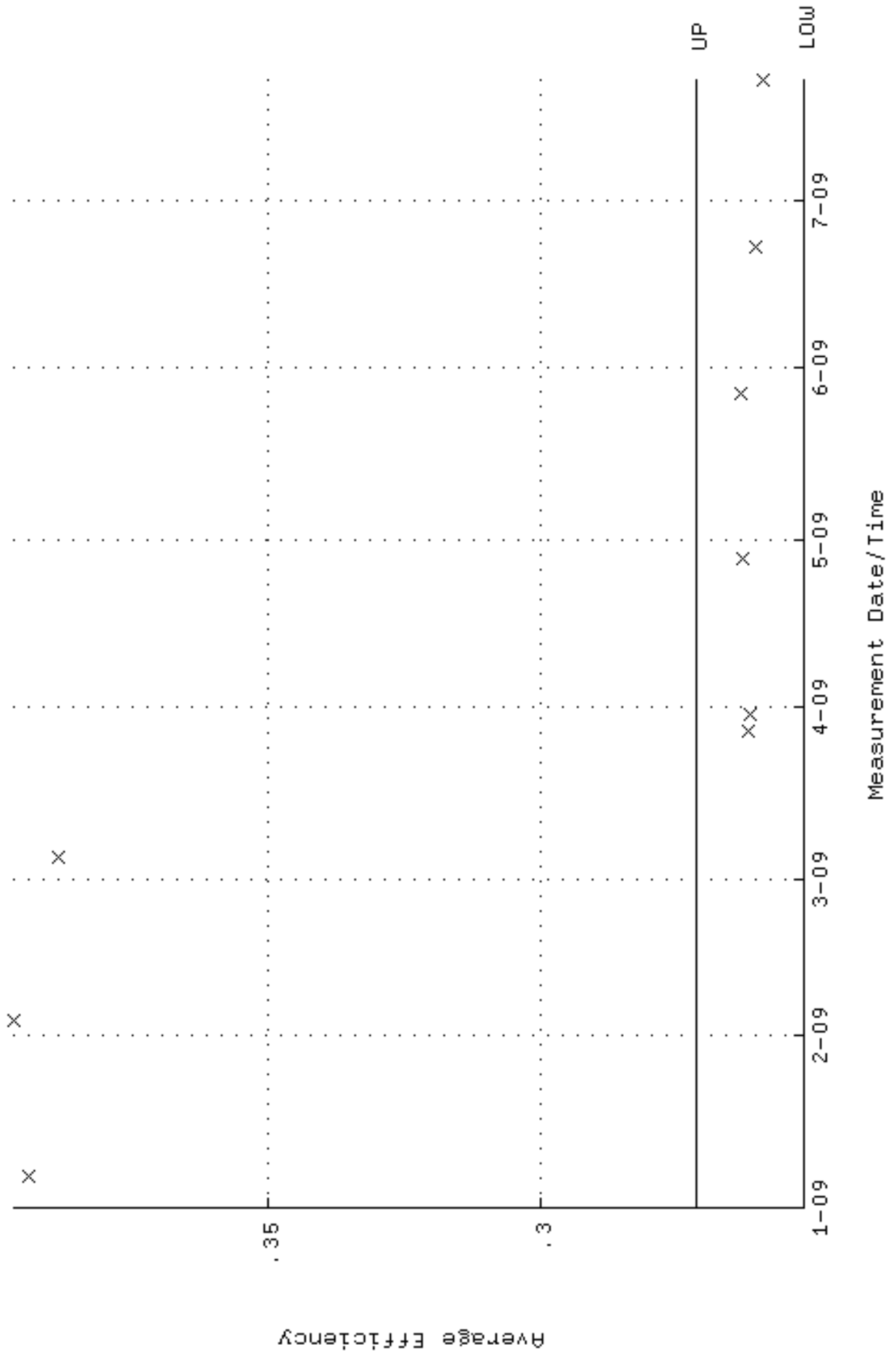
QA filename : DKA100:[ENV_ALPHA.QA.W]w188.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:31:41 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 83.6747 through 92.4825



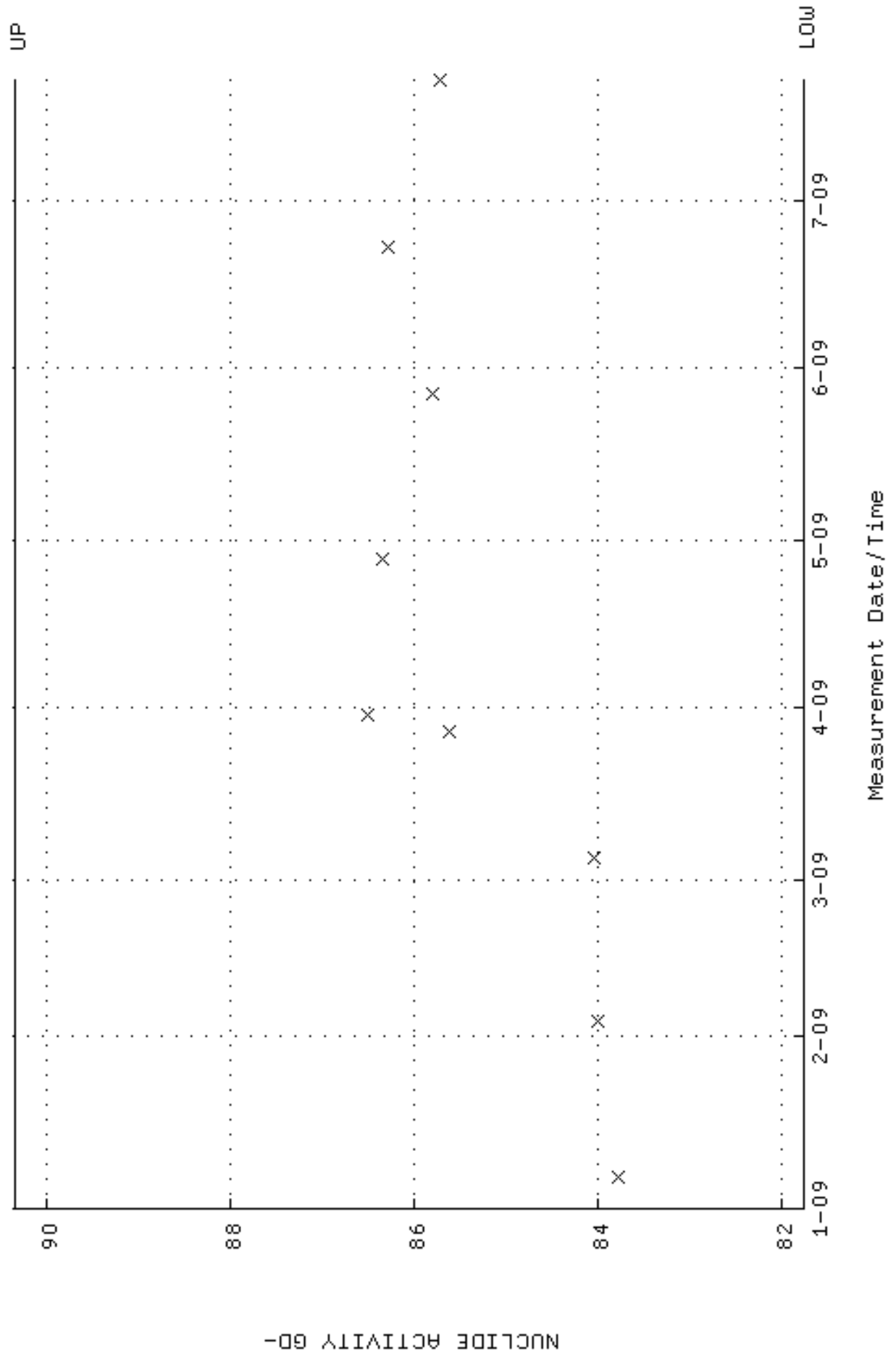
QA filename : DKA100:[ENV_ALPHA.QA.B]B188.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:47 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



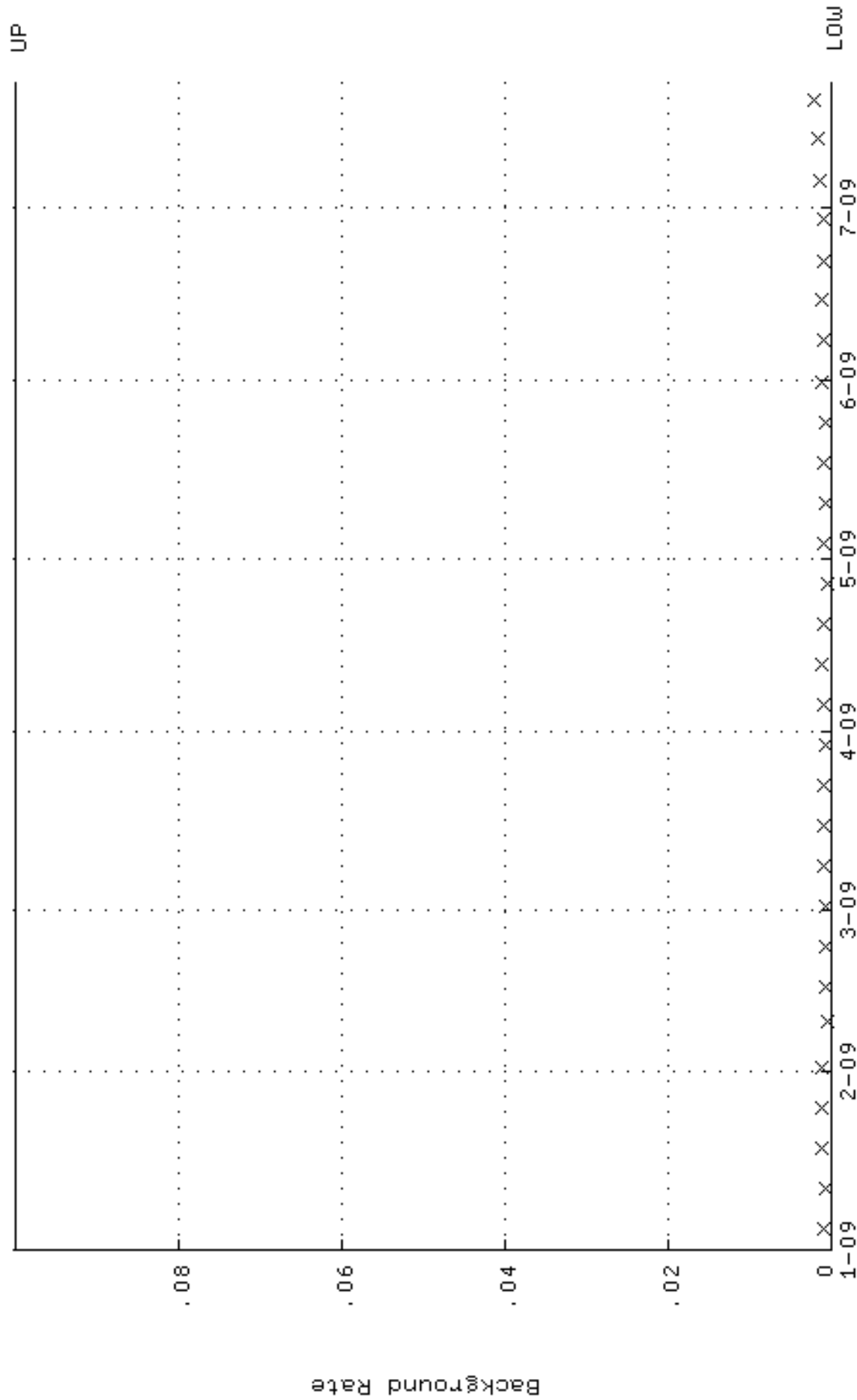
QA filename : DKA100:[ENV_ALPHA.QA.W]W189.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:31:46 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.251590 through 0.271590



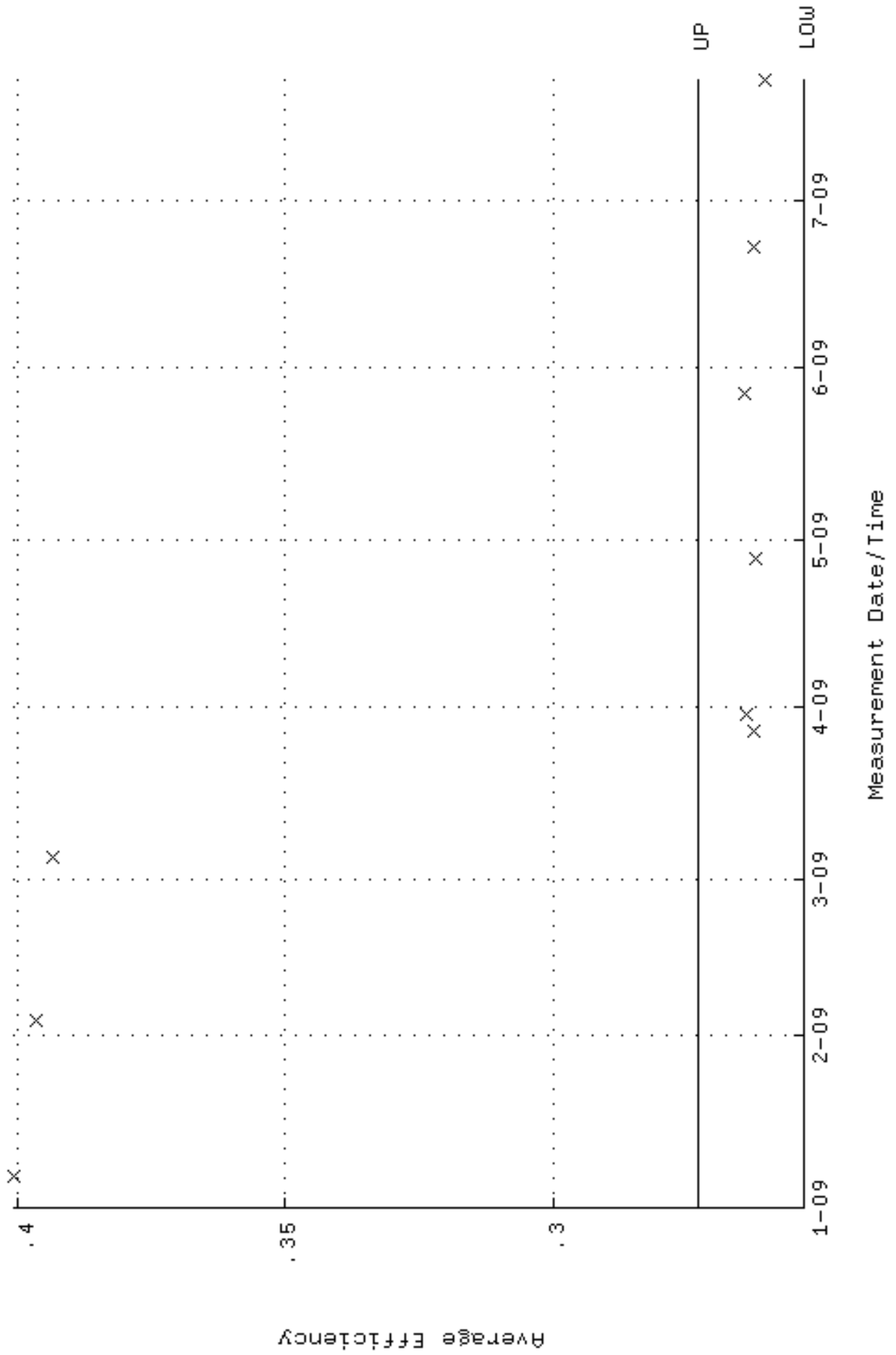
QA filename : DKA100:[ENV_ALPHA.QA.W]w189.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 6-JAN-2009 19:31:46 through 22-JUL-2009 12:00:00
Lower/Upper Lmts: 81.7473 through 90.3523



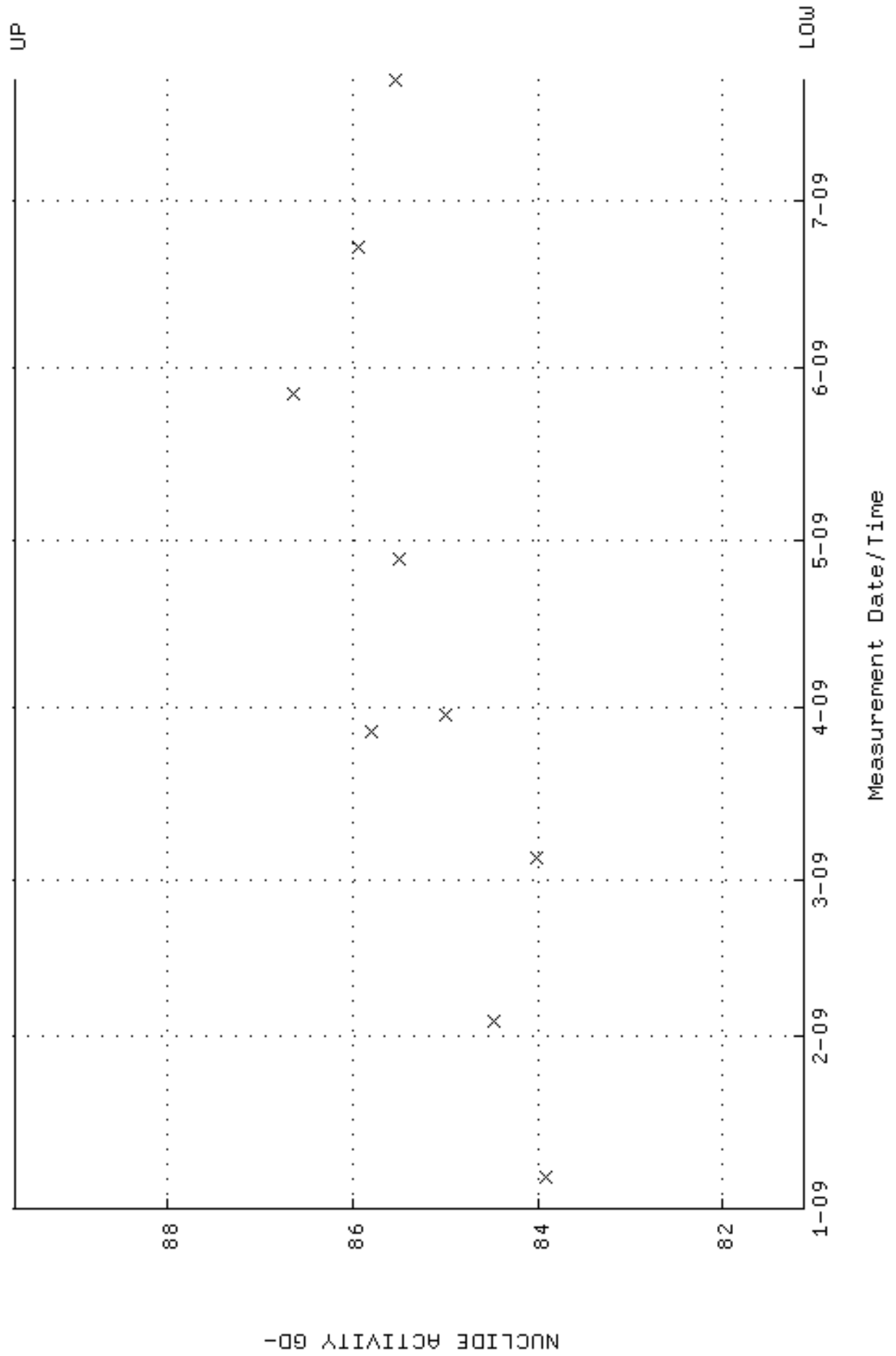
QA filename : DKA100:[ENV_ALPHA.QA.B]B189.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:51 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



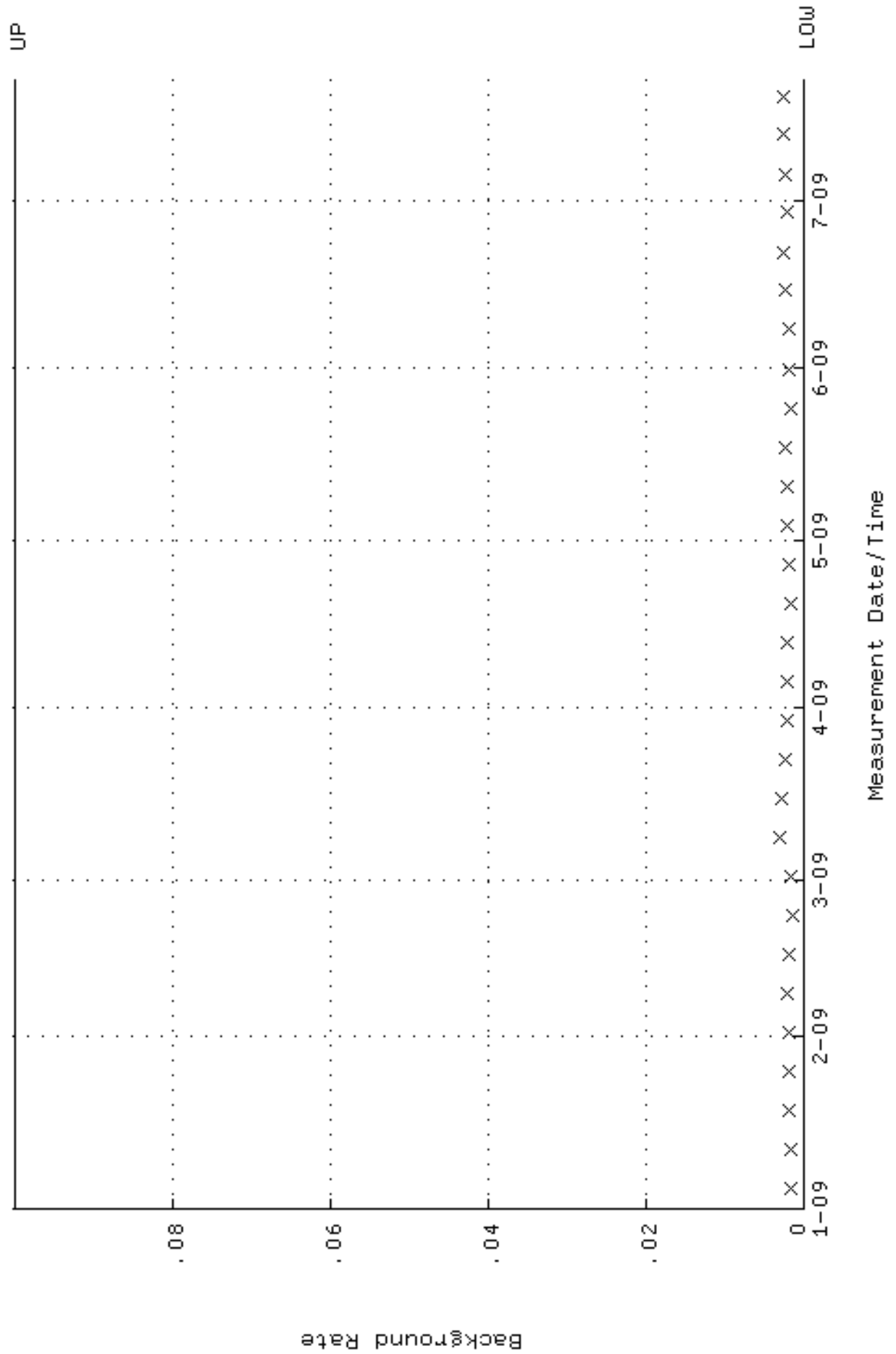
QA filename : DKA100:[ENV_ALPHA.QA.W]W190.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:31:49 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.253504 through 0.273504



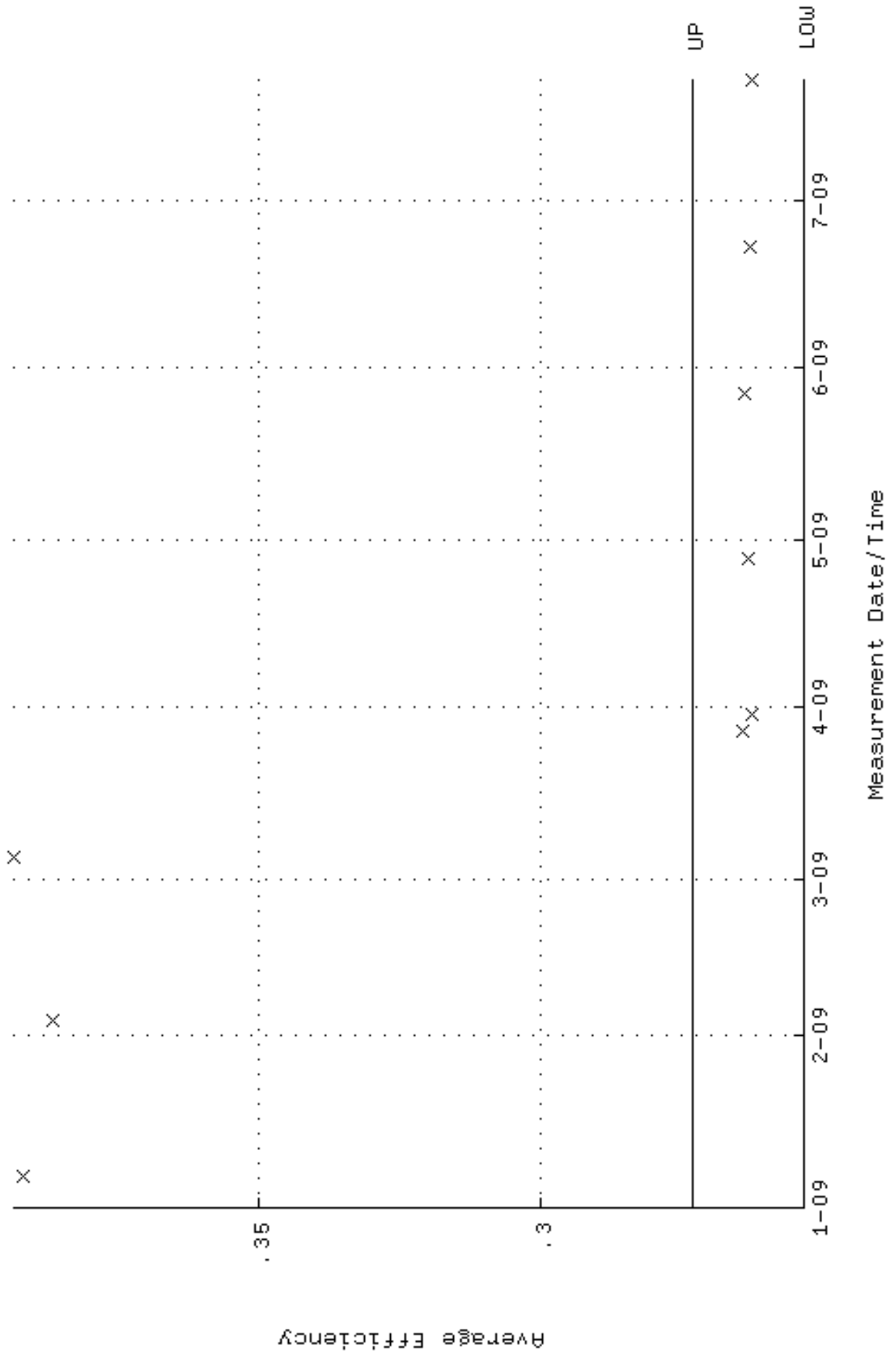
QA filename : DKA100:[ENV_ALPHA.QA.W]W190.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:31:49 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 81.1176 through 89.6562



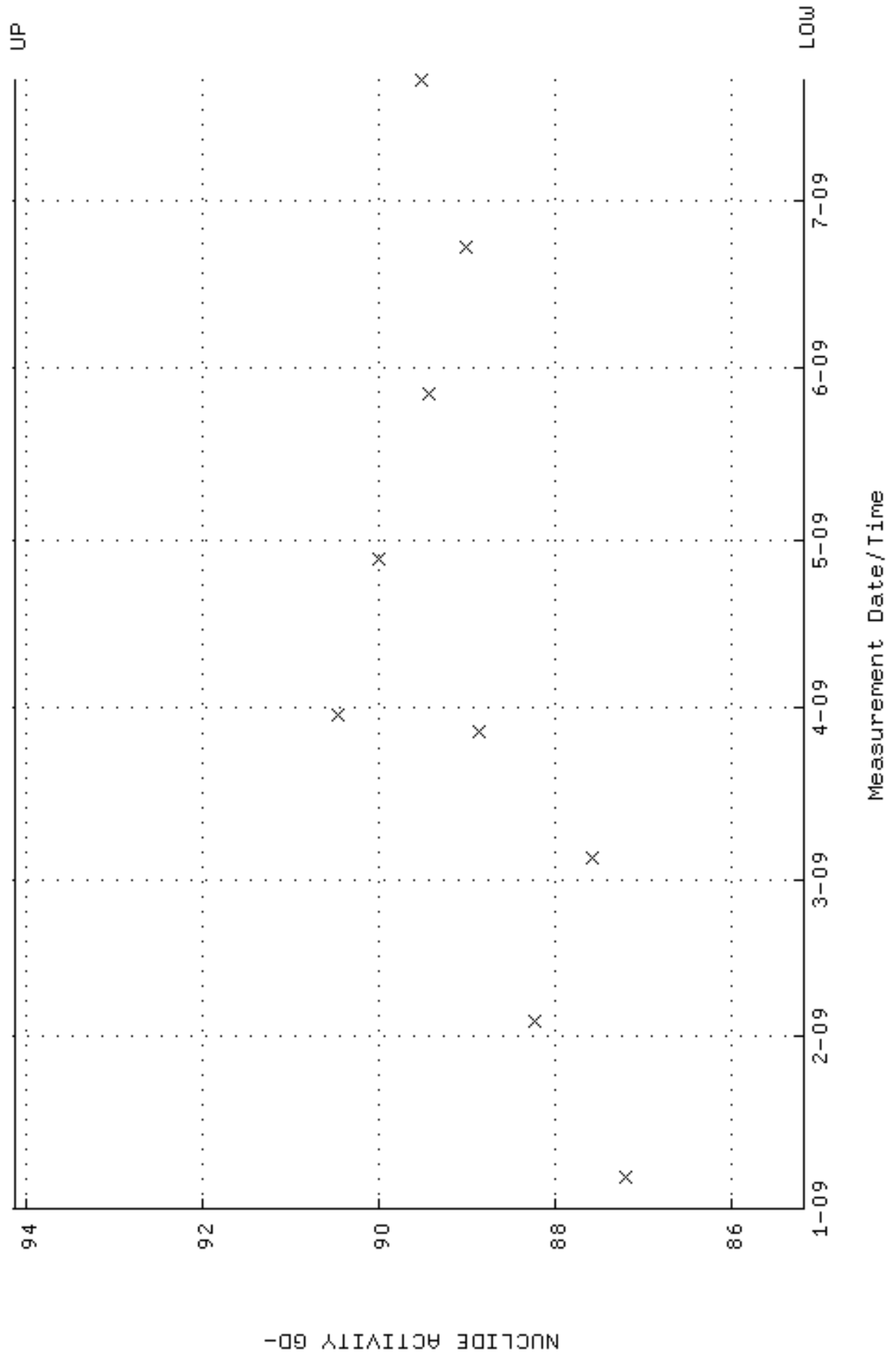
QA filename : DKA100:[ENV_ALPHA.QA.B]B190.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:55 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



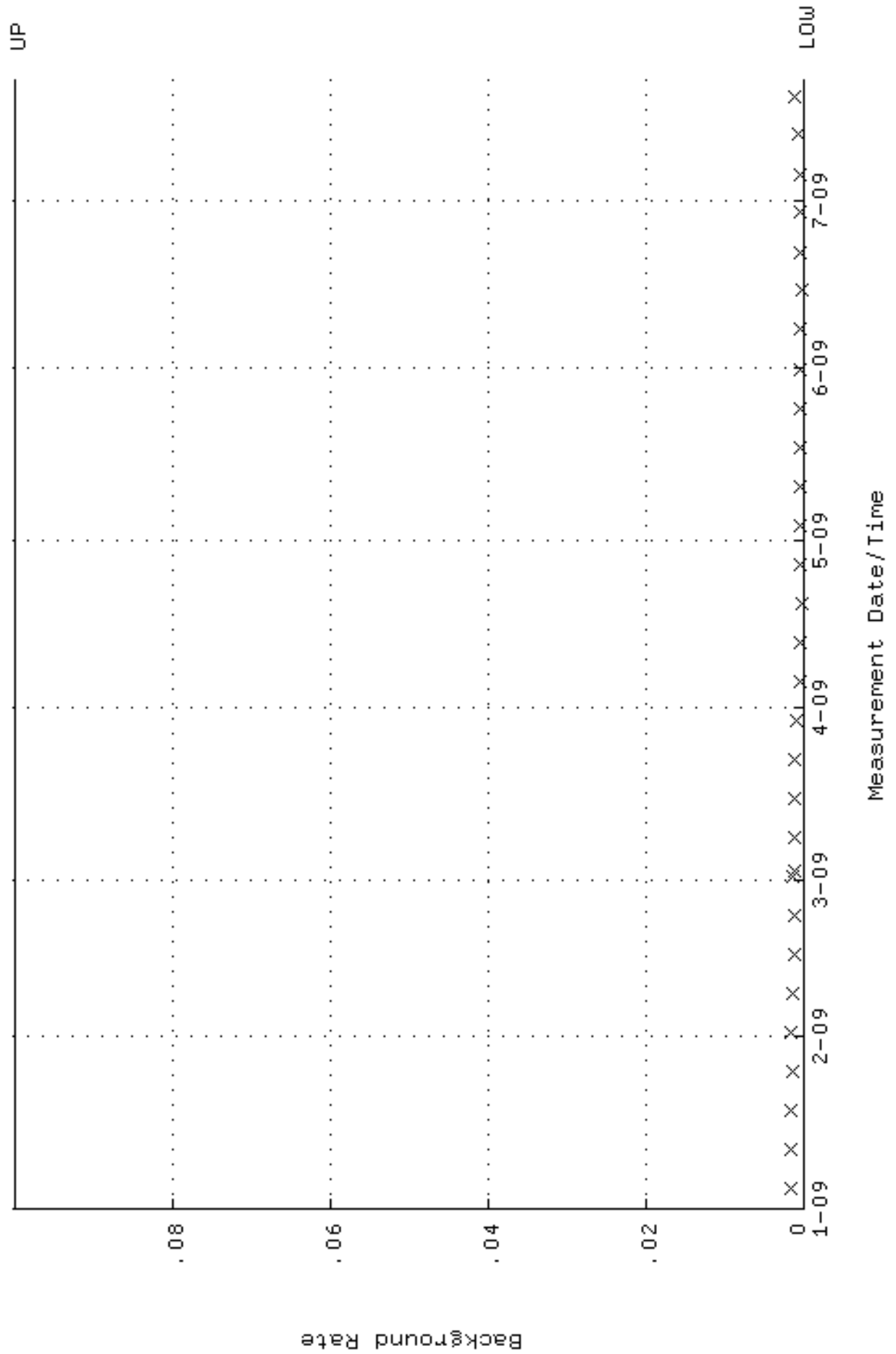
QA filename : DKA100:[ENV_ALPHA.QA.W]W191.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:31:54 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.252993 through 0.272993



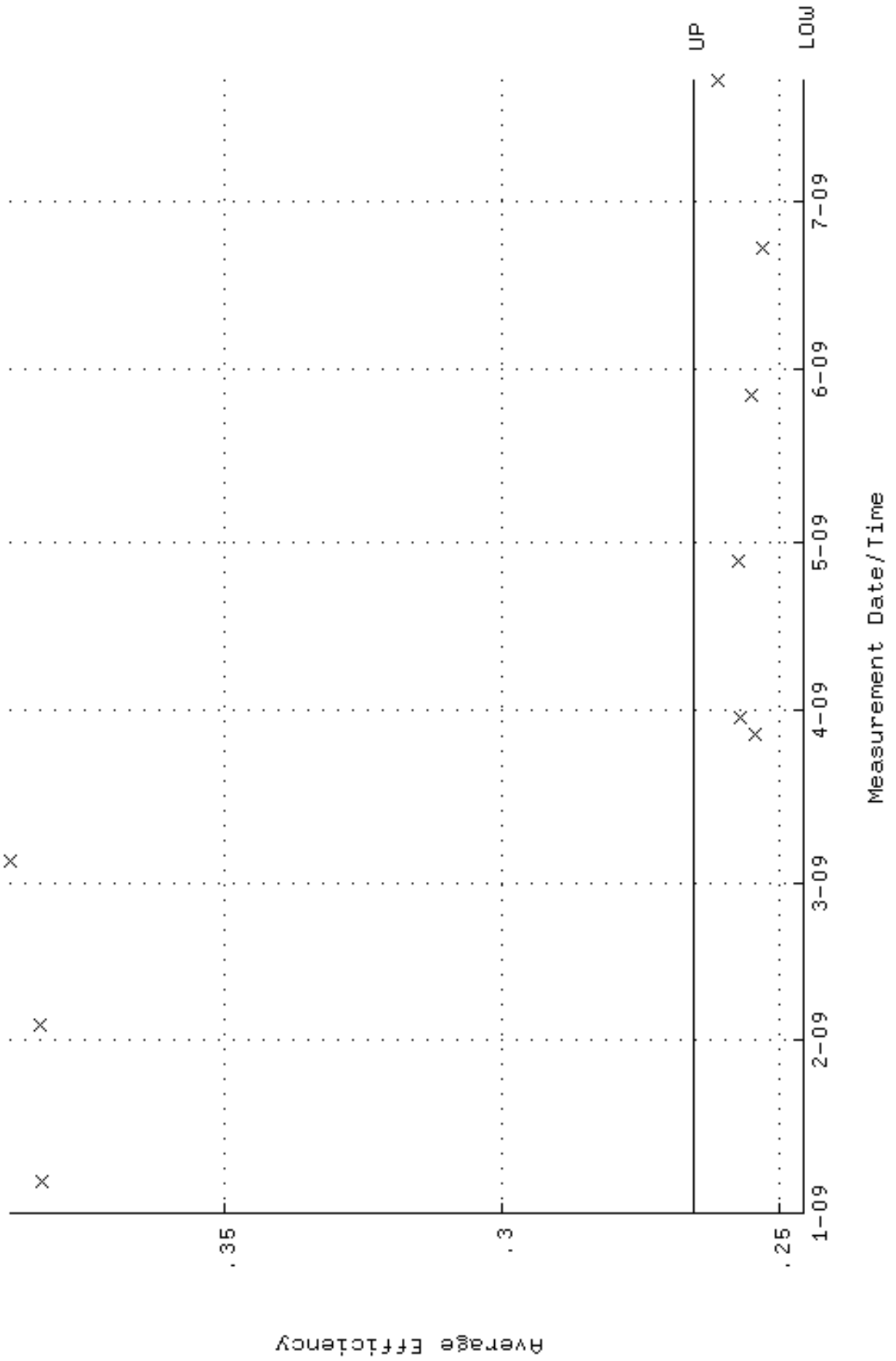
QA filename : DKA100:[ENV_ALPHA.QA.W]w191.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:31:54 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 85.1712 through 94.1366



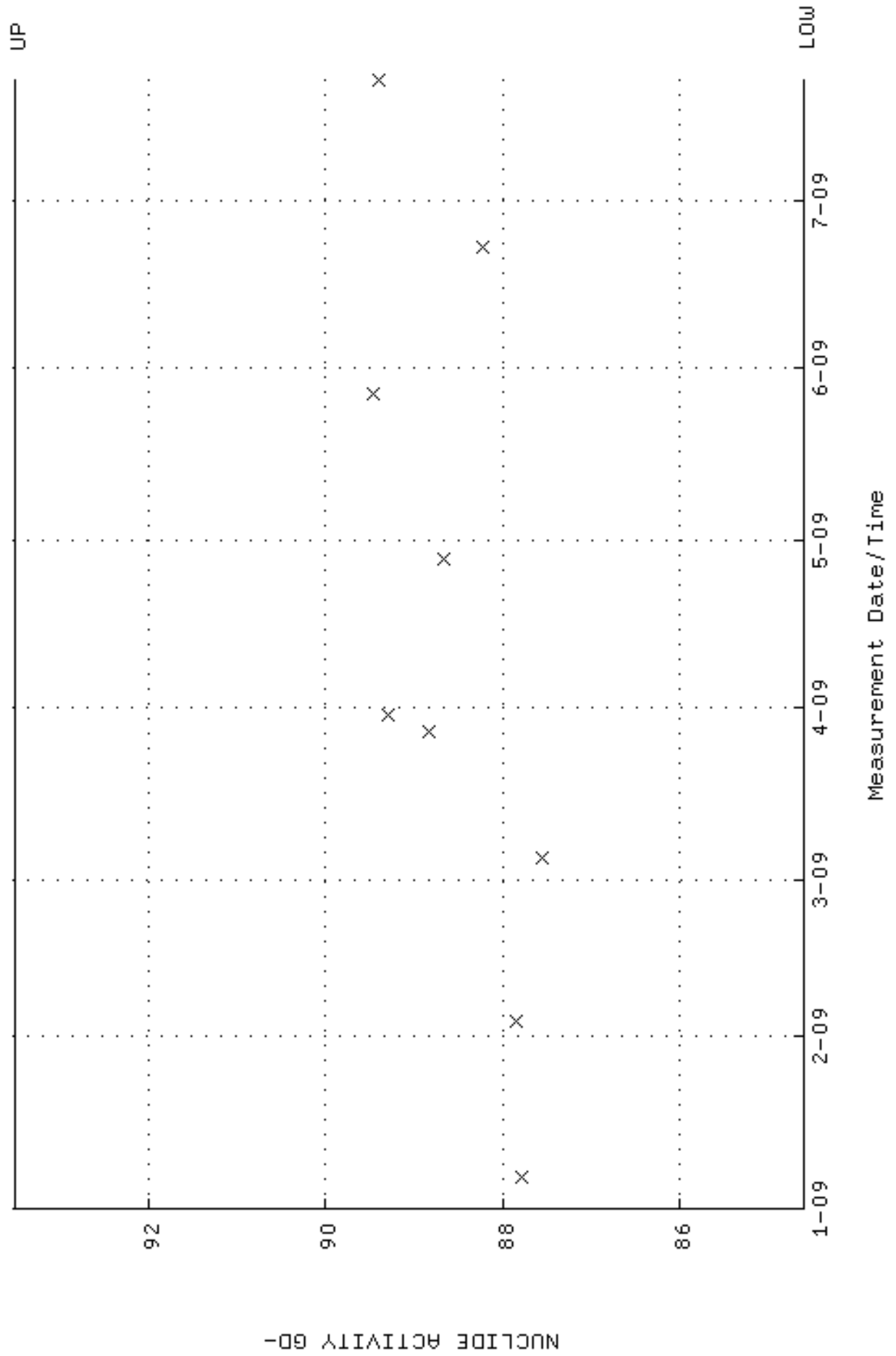
QA filename : DKA100:[ENV_ALPHA.QA.B]B191.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:26:58 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



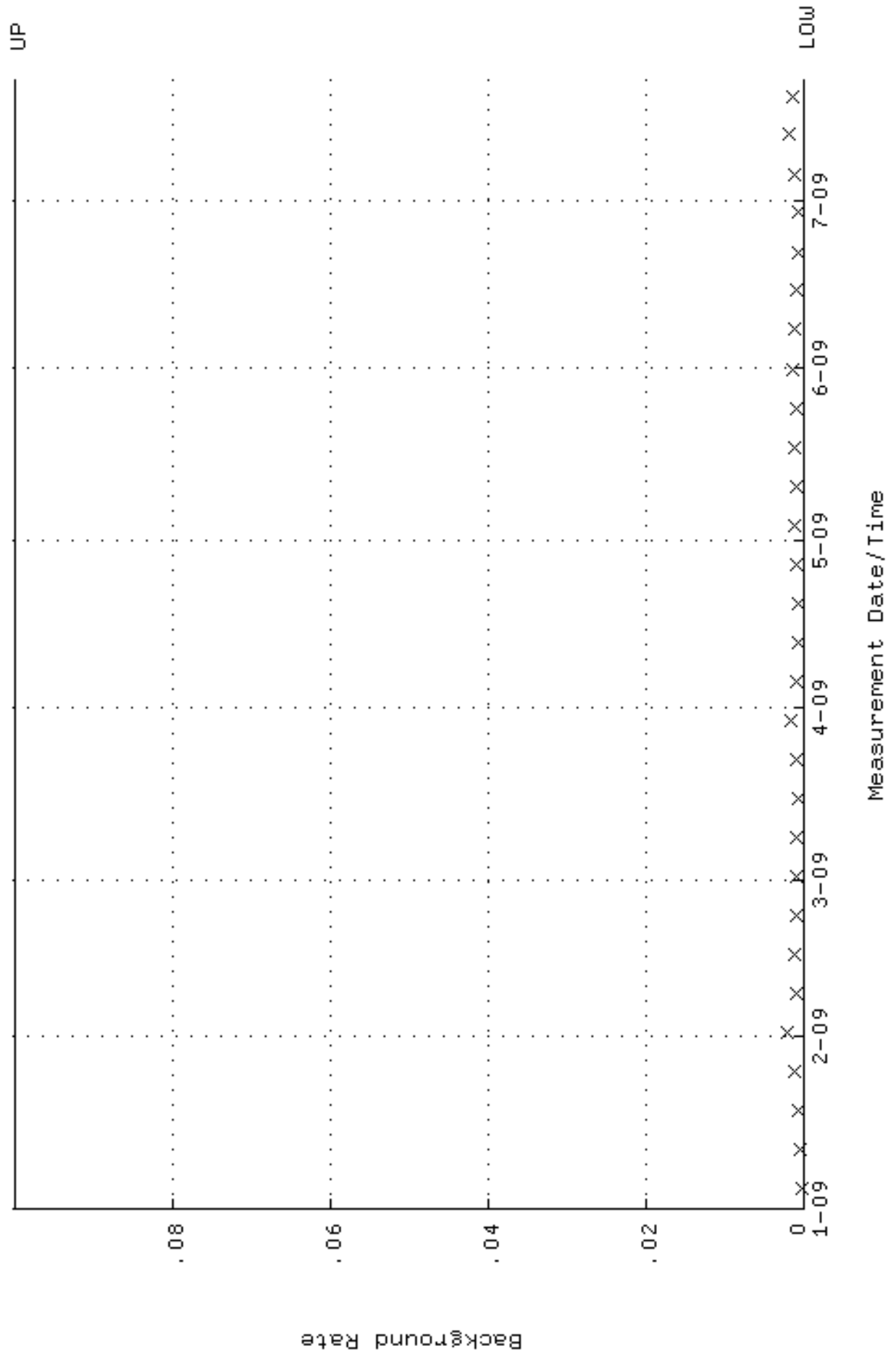
QA filename : DKA100:[ENV_ALPHA.QA.W]W192.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:31:58 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.245663 through 0.265663



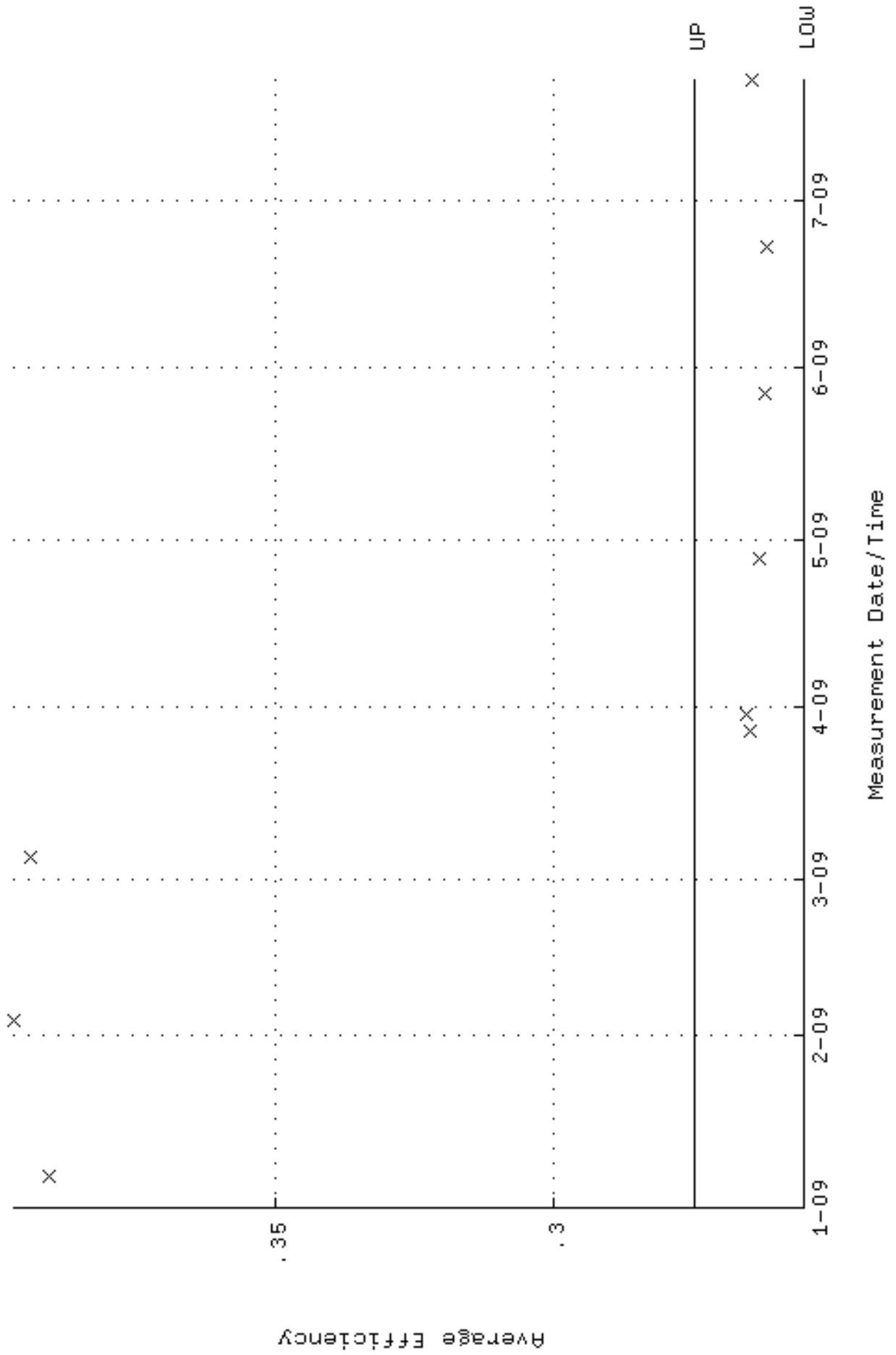
QA filename : DKA100:[ENV_ALPHA.QA.W]w192.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:31:58 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 84.6037 through 93.5093



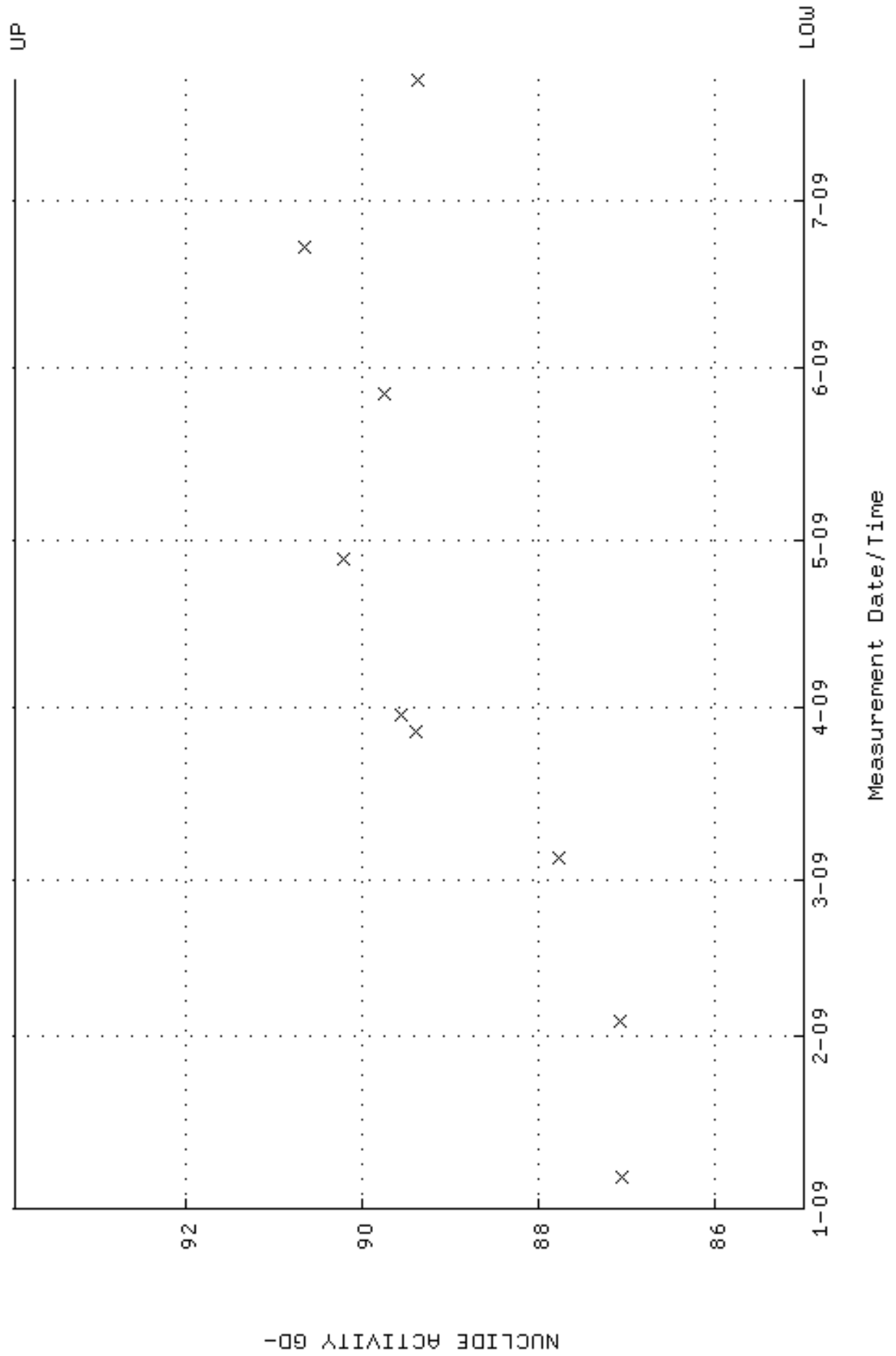
QA filename : DKA100:[ENV_ALPHA.QA.B]B192.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:27:03 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



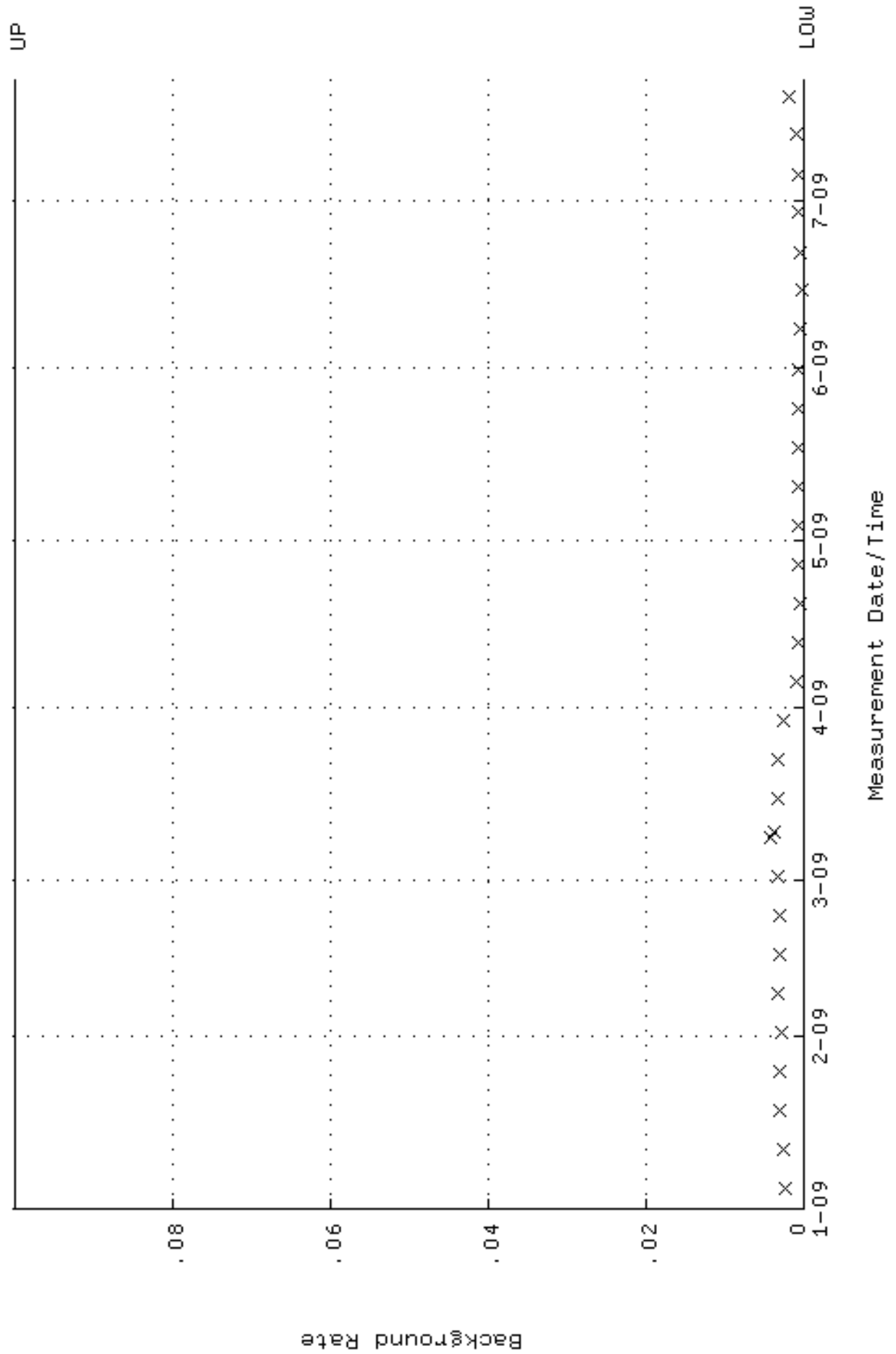
QA filename : DKA100:[ENV_ALPHA.QA.W]W193.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:32:01 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.254861 through 0.274861



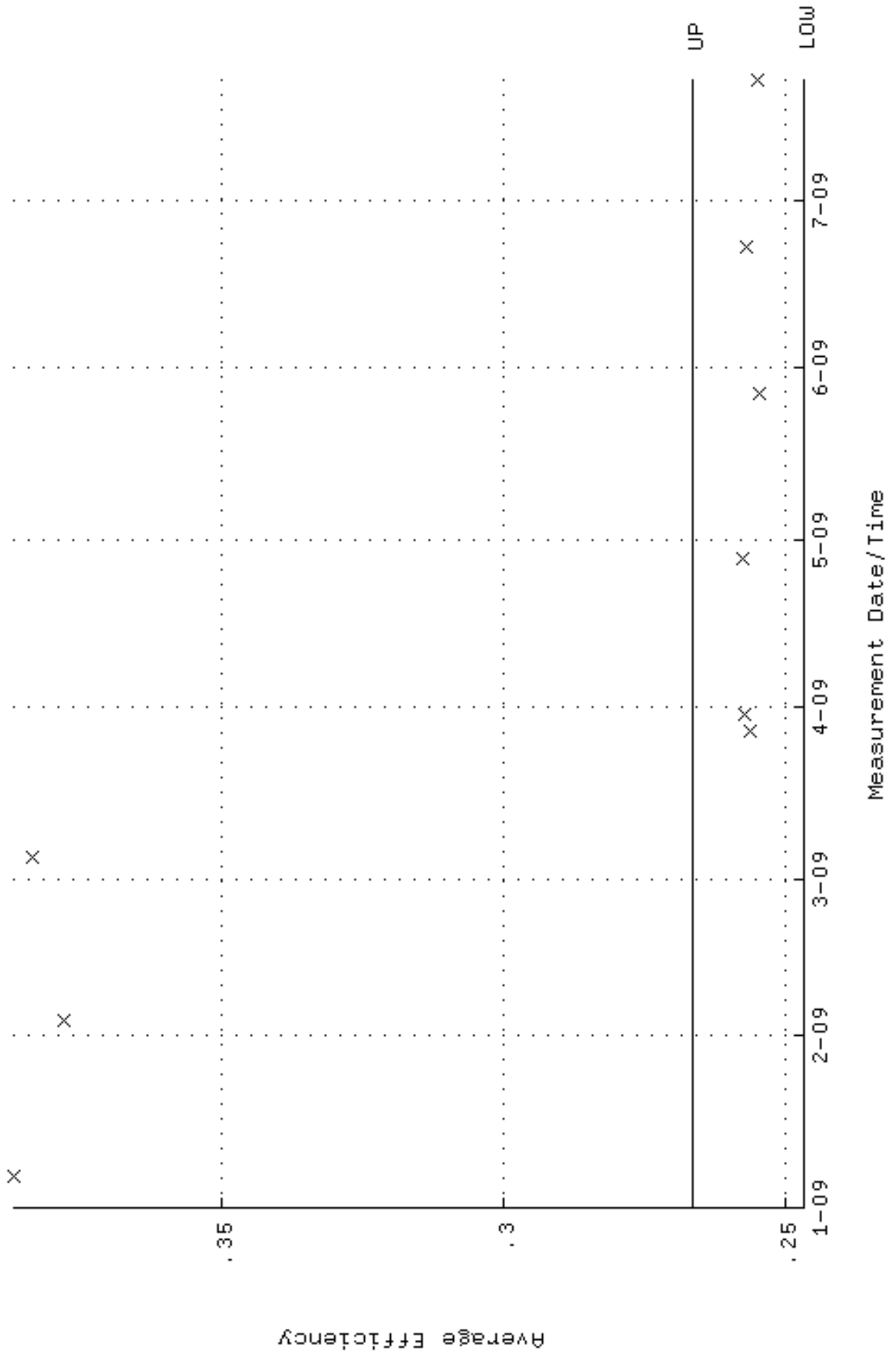
QA filename : DKA100:[ENV_ALPHA.QA.W]w193.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:32:01 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 84.9815 through 93.9269



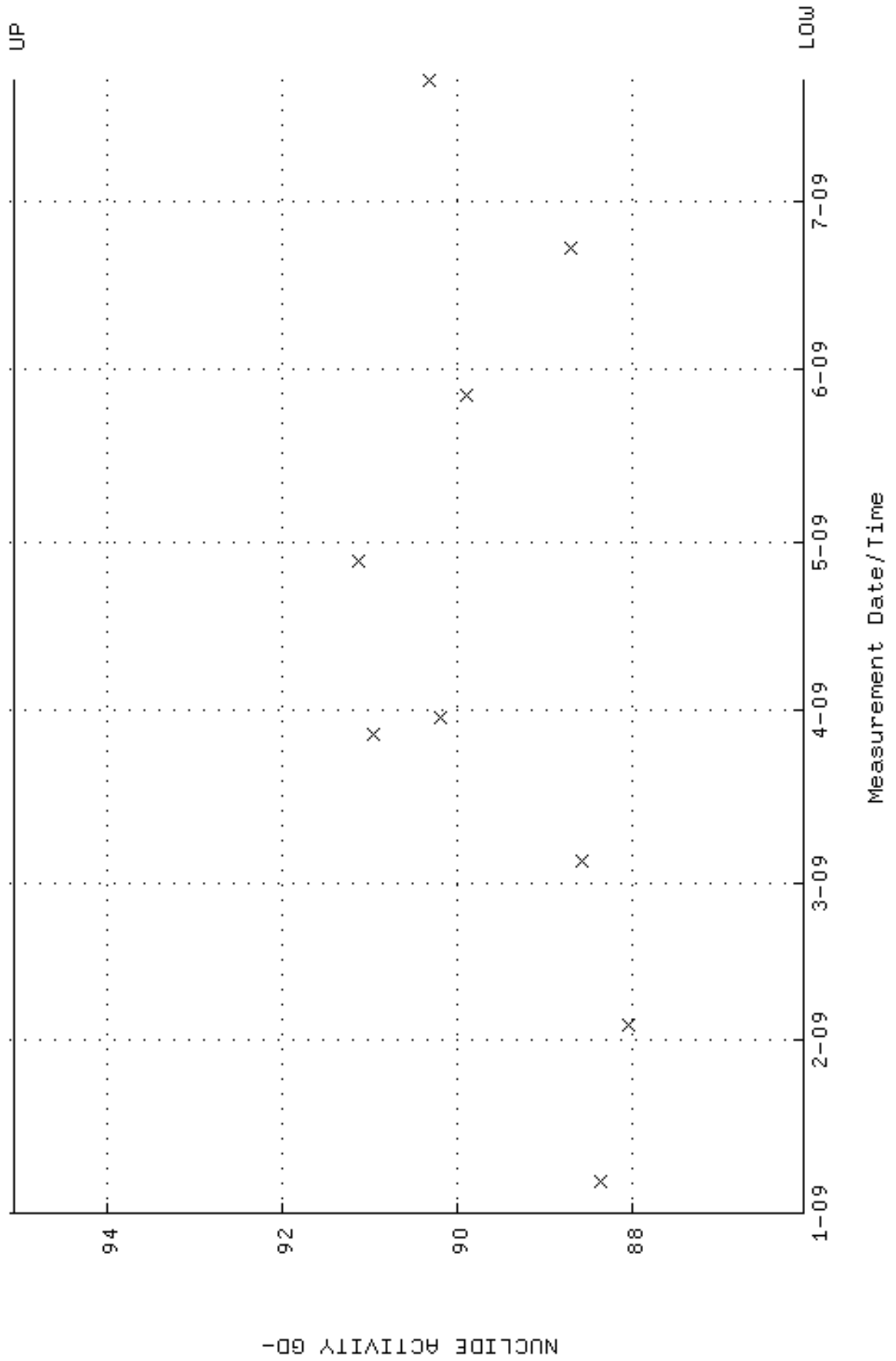
QA filename : DKA100:[ENV_ALPHA.QA.B]B193.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:27:07 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



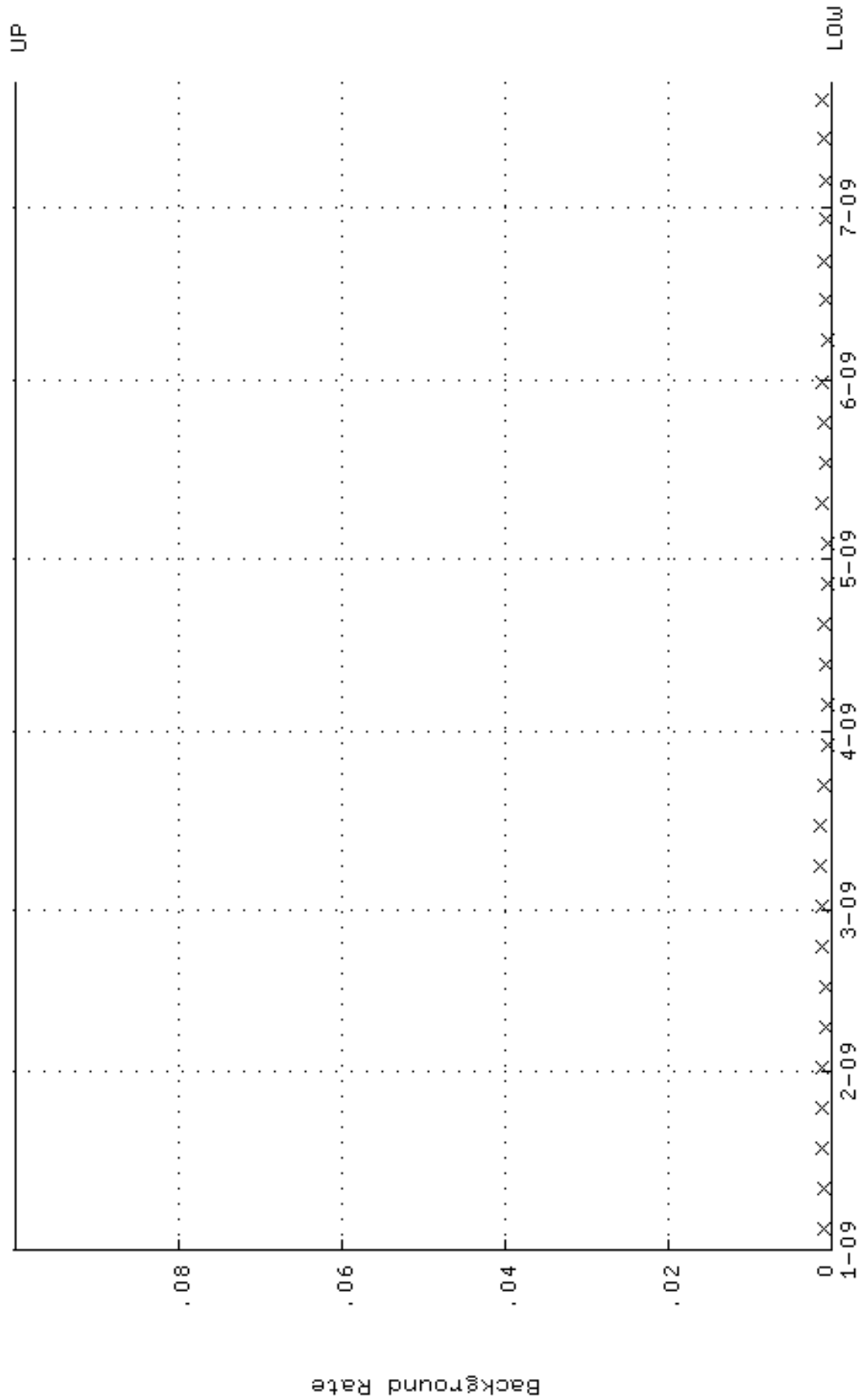
QA filename : DKA100:[ENV_ALPHA.QA.W]W194.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:32:05 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.246760 through 0.266760



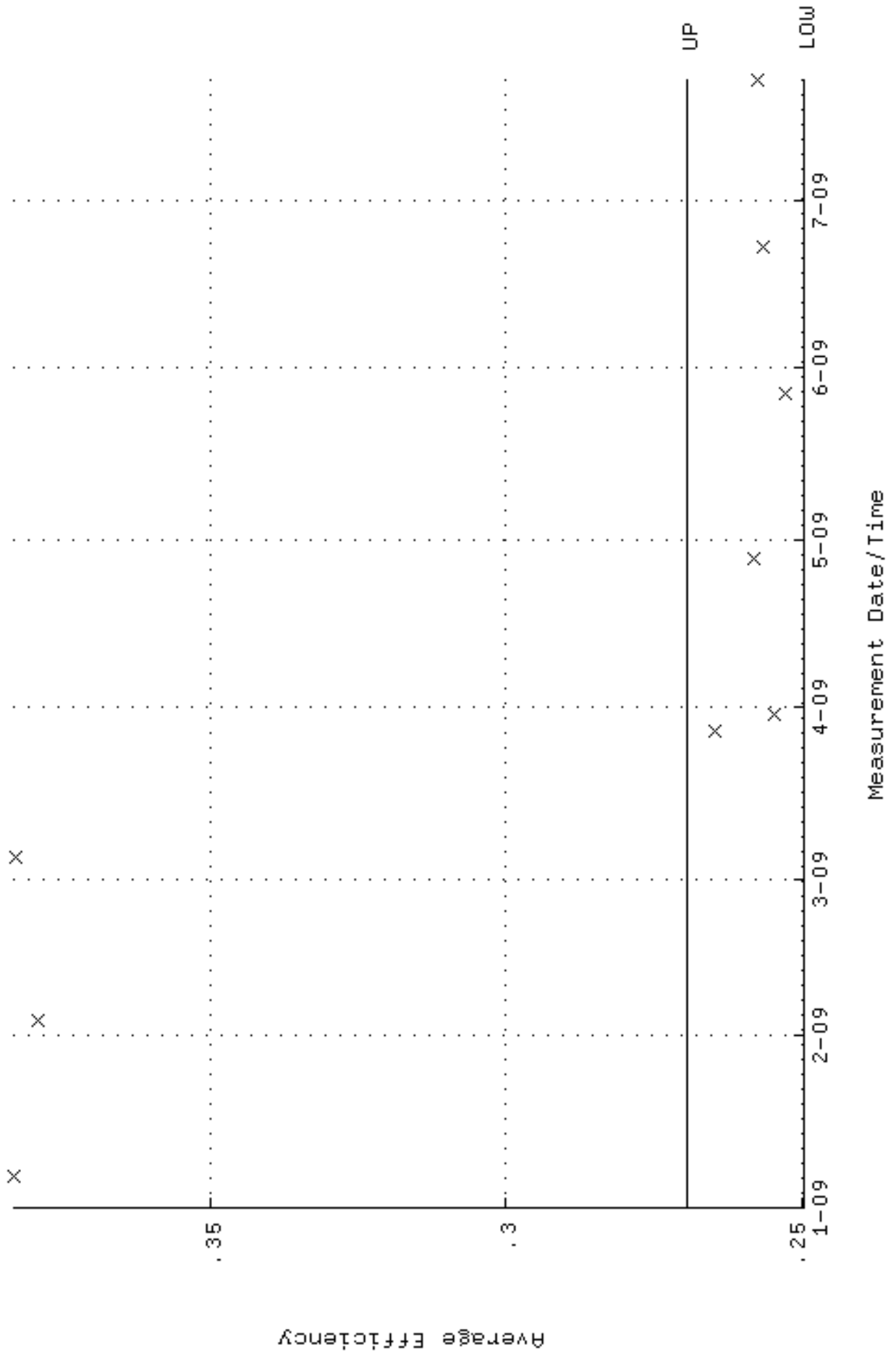
QA filename : DKA100:[ENV_ALPHA.QA.W]w194.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:32:05 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 86.0376 through 95.0942



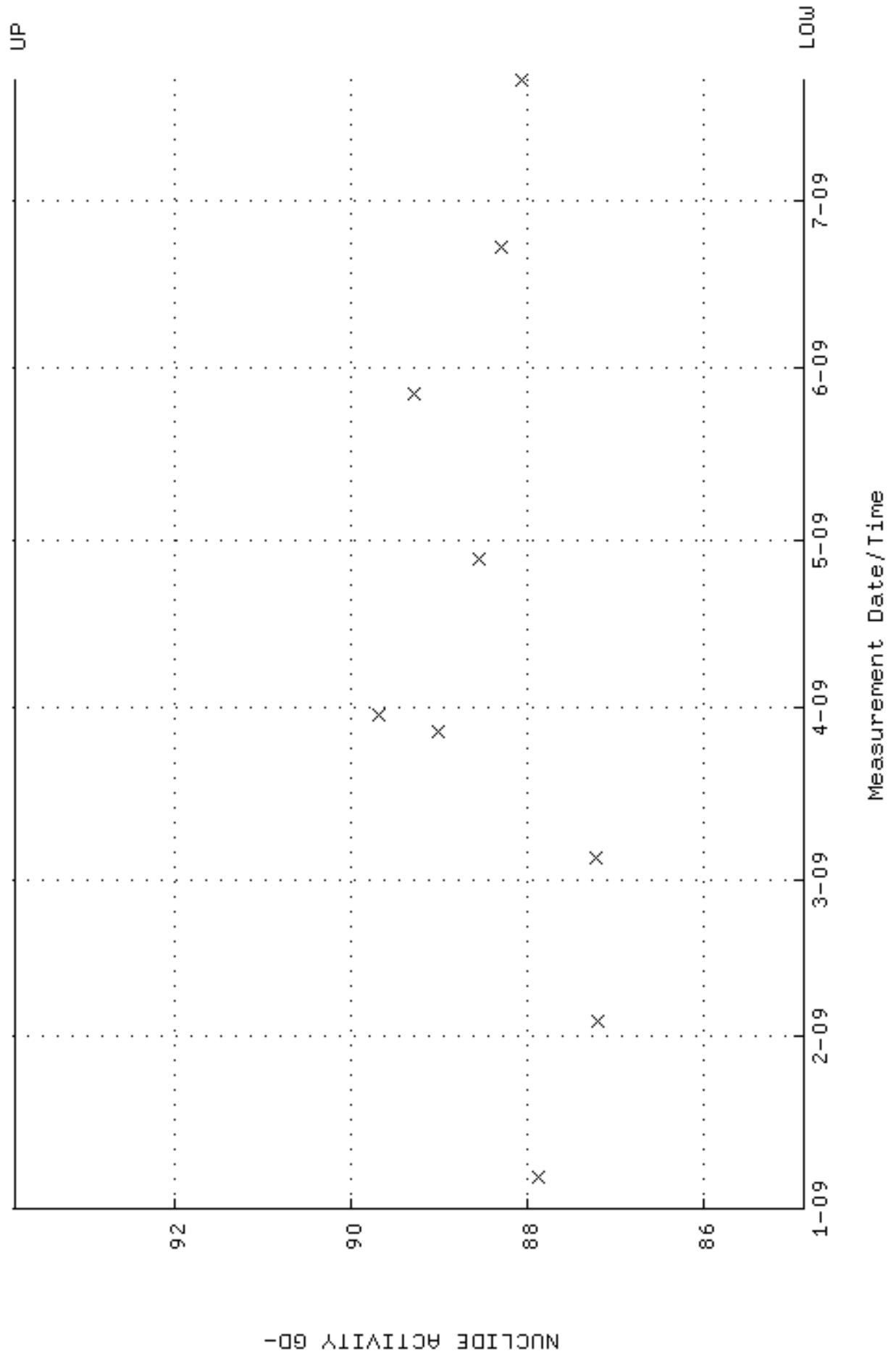
QA filename : DKA100:[ENV_ALPHA.QA.B]B194.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:27:10 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



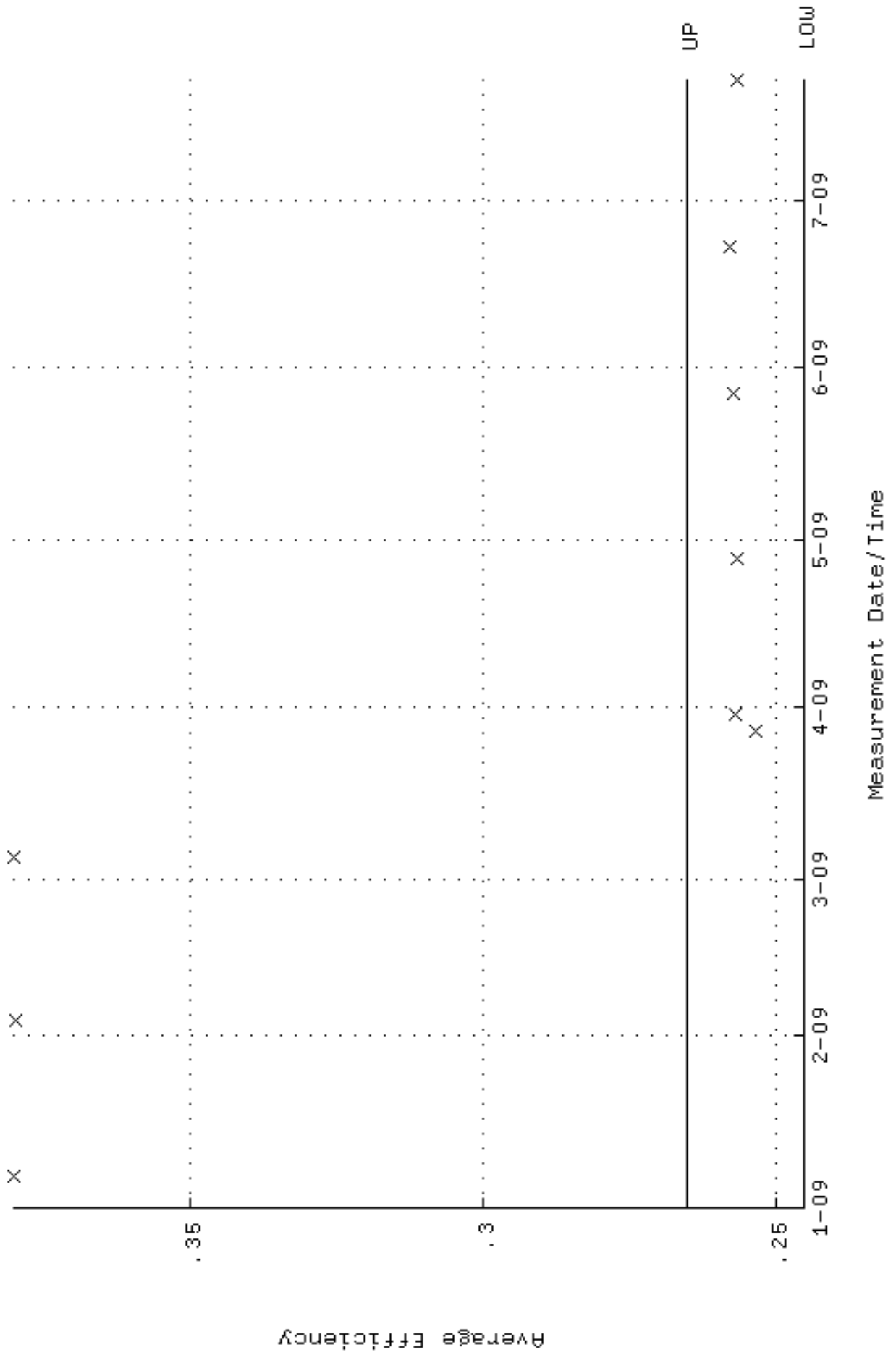
QA filename : DKA100:[ENV_ALPHA.QA.W]W195.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:32:09 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.249622 through 0.269622



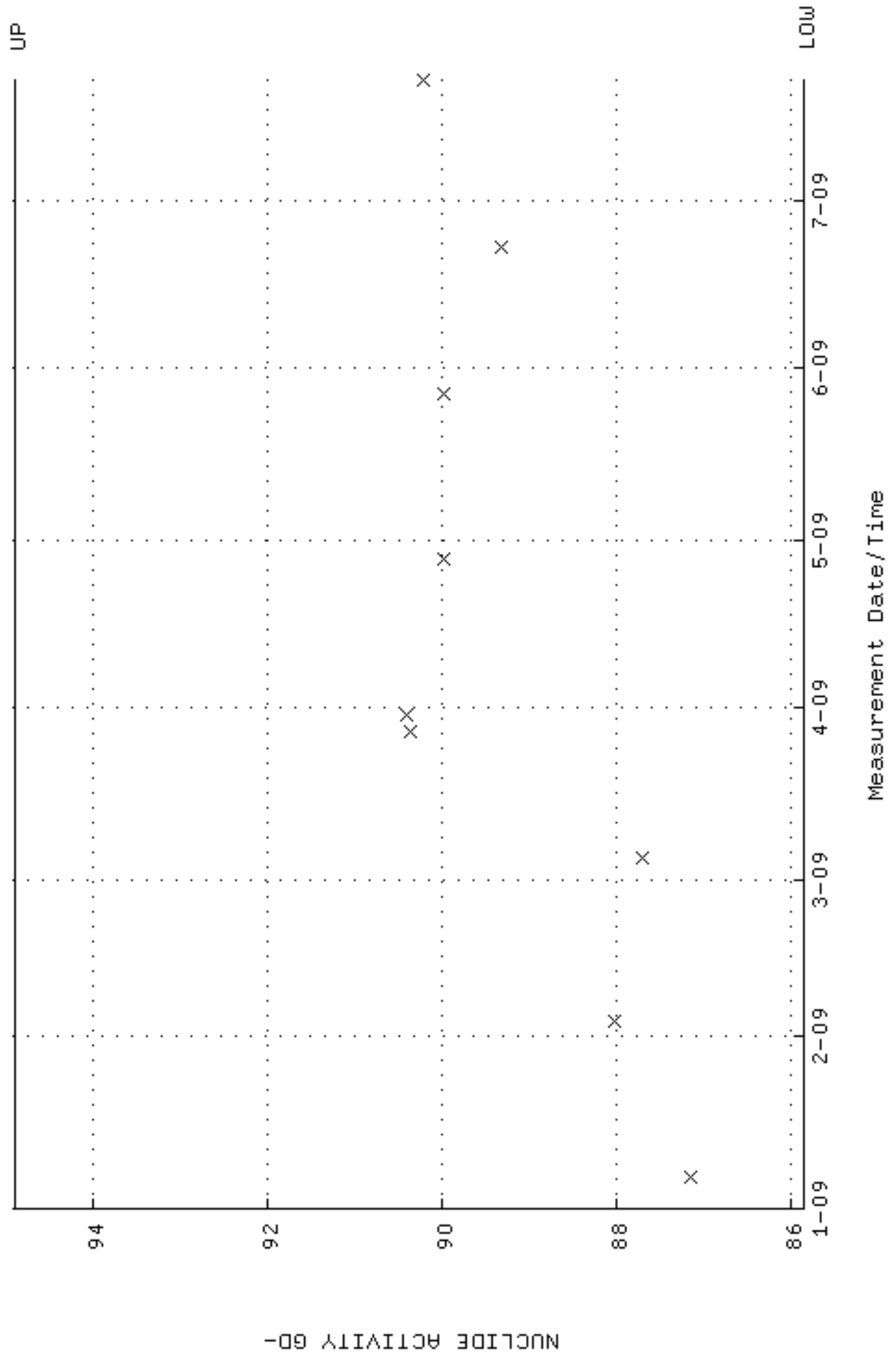
QA filename : DKA100:[ENV_ALPHA.QA.W]W195.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:32:09 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 84.8653 through 93.7985



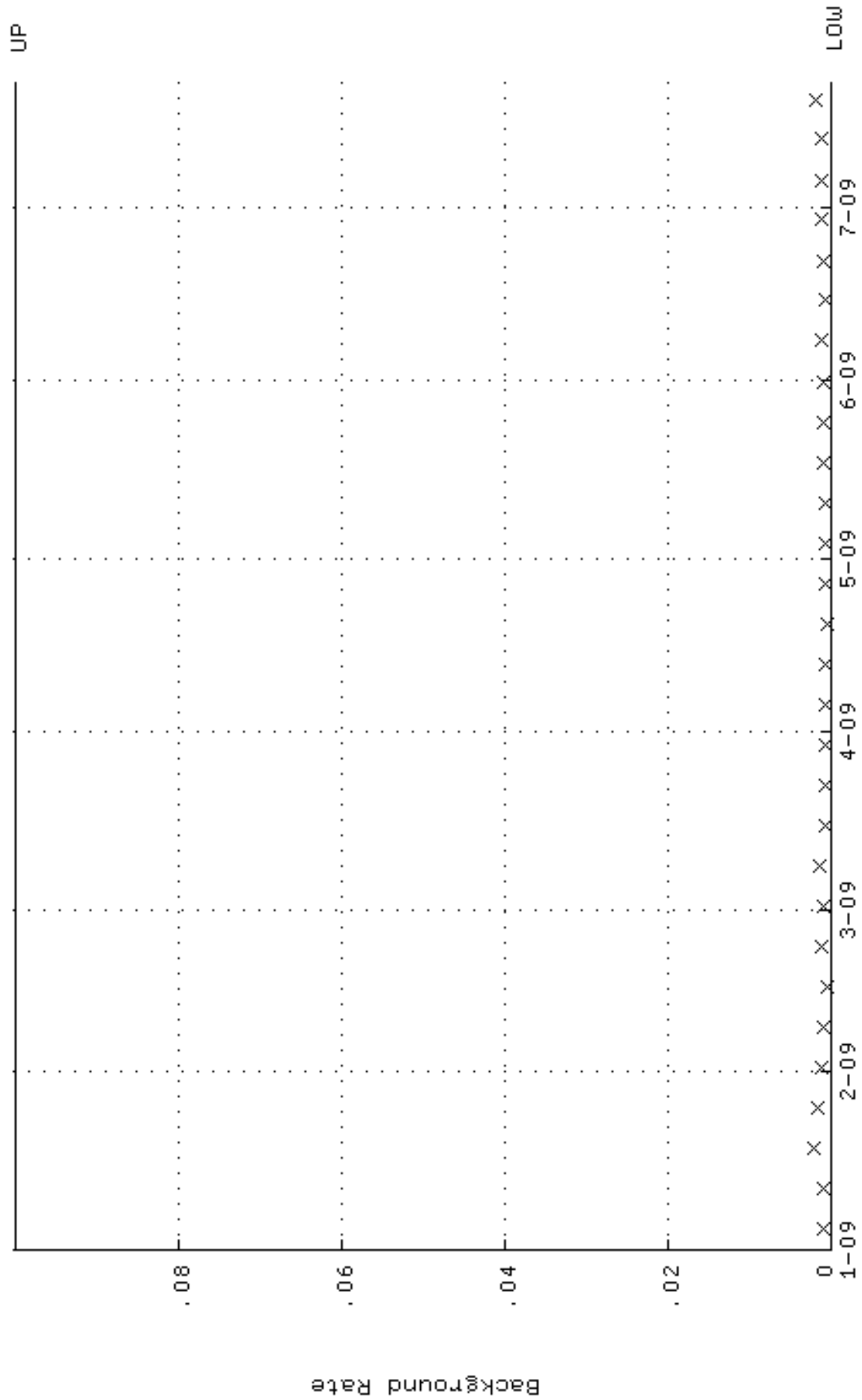
QA filename : DKA100:[ENV_ALPHA.QA.W]W196.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JAN-2009 19:32:14 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.245168 through 0.265168



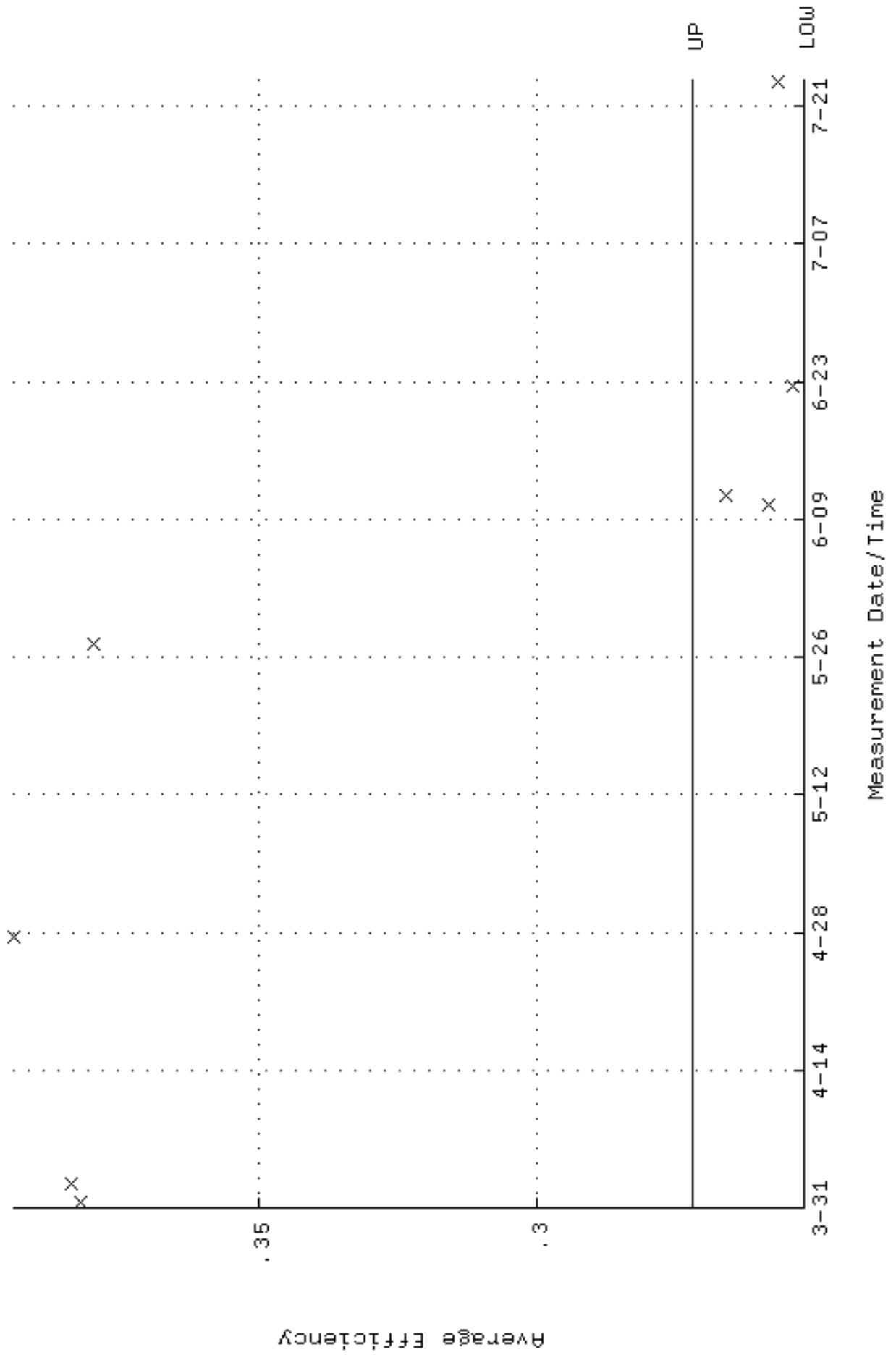
QA filename : DKA100:[ENV_ALPHA.QA.W]w196.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JAN-2009 19:32:14 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 85.8592 through 94.8970



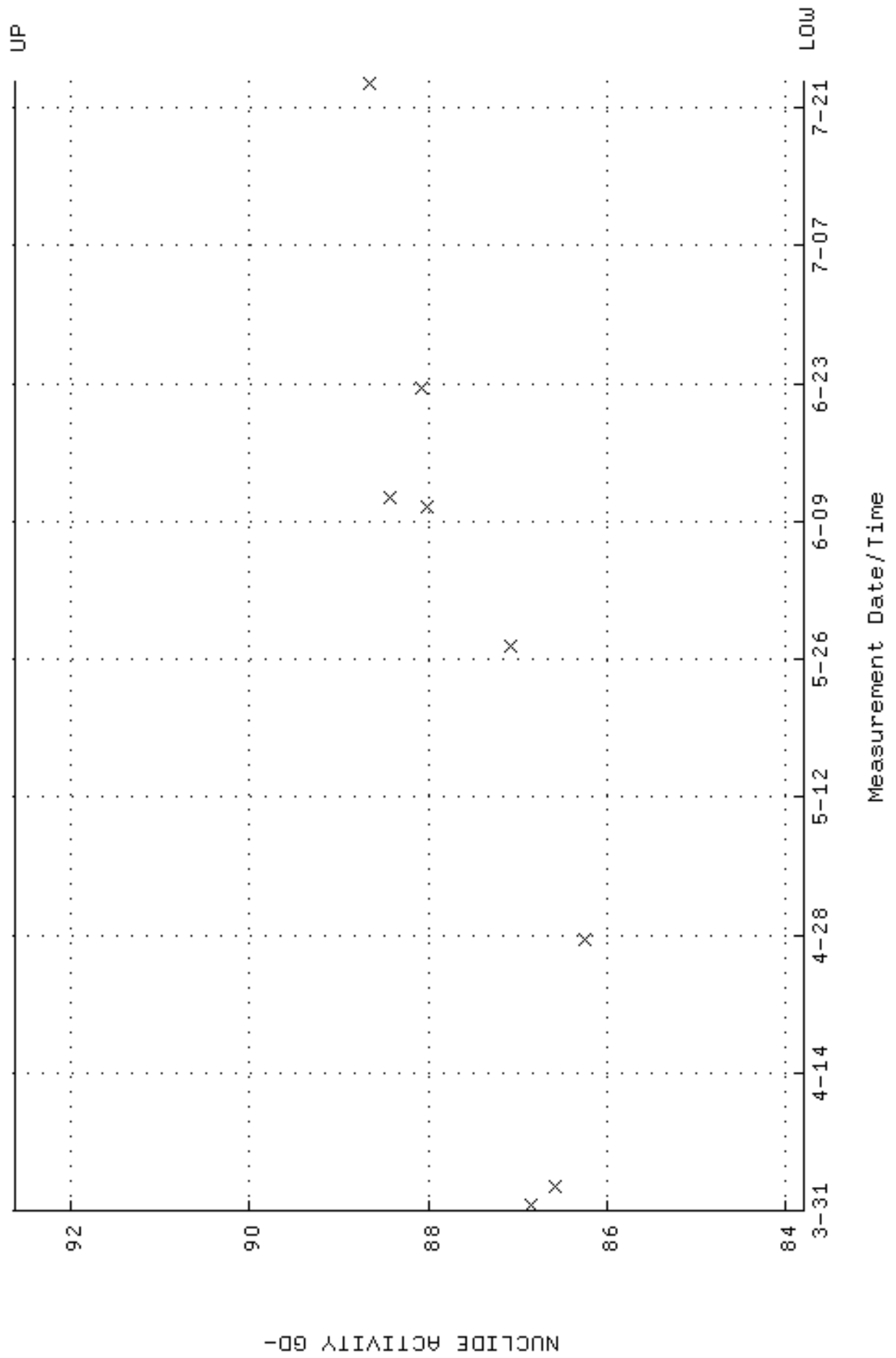
QA filename : DKA100:[ENV_ALPHA.QA.B]B196.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 4-JAN-2009 17:27:18 through 22-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



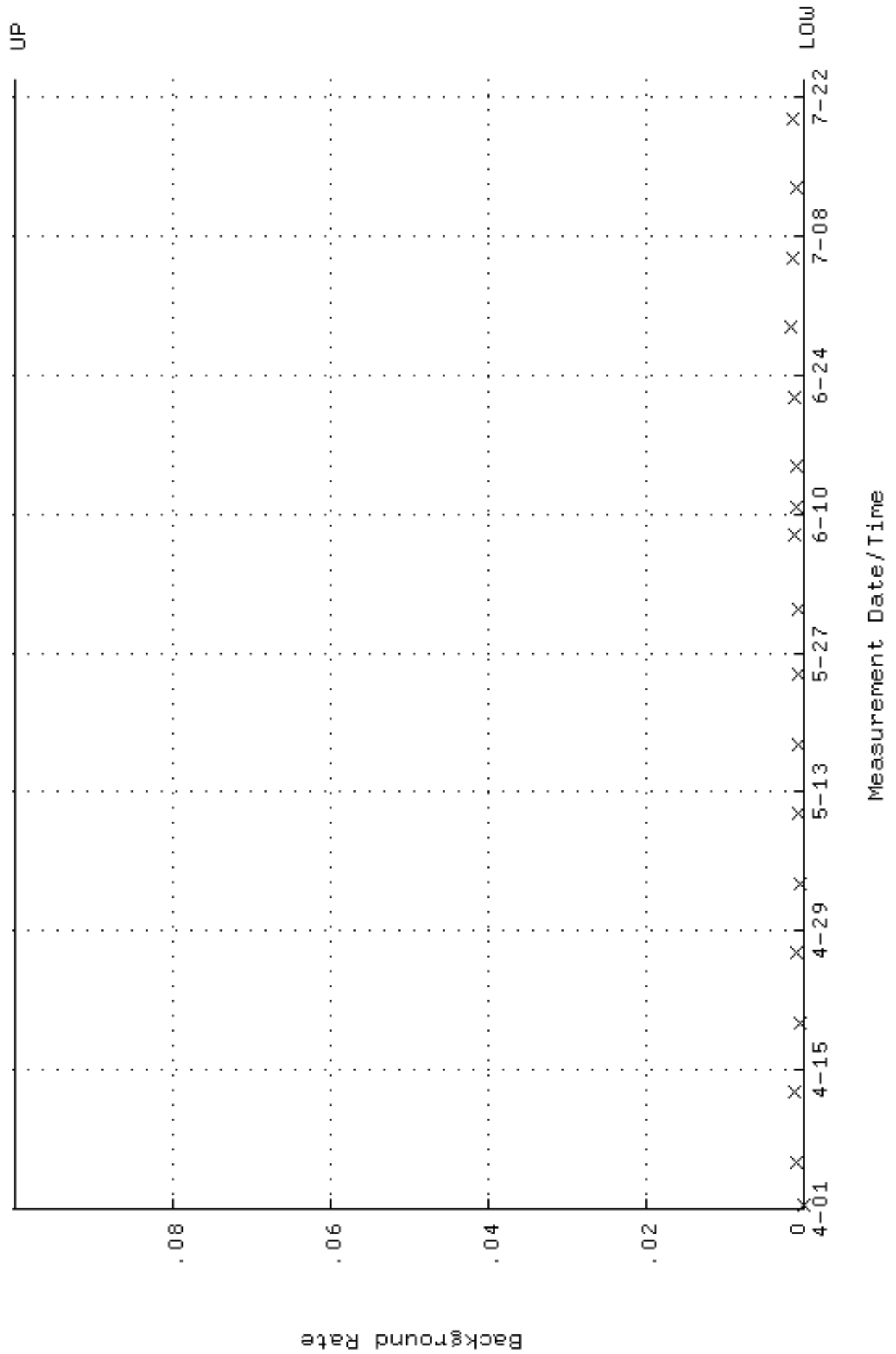
QA filename : DKA100:[ENV_ALPHA.QA.W]W203.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 31-MAR-2009 15:10:29 through 23-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.252203 through 0.272203



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 23-JUL-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 23-JUL-2009 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



RUNLOGS

Instrument Run Log

Instrument Type: GFPC

Batch ID: 882959

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
232395001	SAMPLE	DXM2	PIC1C	15-JUL-09 08:45	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395002	SAMPLE	DXM2	PIC5B	15-JUL-09 08:48	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395003	SAMPLE	DXM2	PIC5C	15-JUL-09 08:48	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395004	SAMPLE	DXM2	PIC5D	15-JUL-09 08:48	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395007	SAMPLE	DXM2	PIC7B	15-JUL-09 08:48	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395008	SAMPLE	DXM2	PIC7C	15-JUL-09 08:48	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395009	SAMPLE	DXM2	PIC7D	15-JUL-09 08:49	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395010	SAMPLE	DXM2	PIC8A	15-JUL-09 08:49	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395011	SAMPLE	DXM2	PIC8C	15-JUL-09 08:49	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395012	SAMPLE	DXM2	PIC9A	15-JUL-09 08:49	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395013	SAMPLE	DXM2	PIC9C	15-JUL-09 08:49	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395014	SAMPLE	DXM2	PIC10A	15-JUL-09 08:49	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395015	SAMPLE	DXM2	PIC10C	15-JUL-09 08:49	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395016	SAMPLE	DXM2	PIC10D	15-JUL-09 08:49	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395019	SAMPLE	DXM2	PIC11D	15-JUL-09 08:51	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395017	SAMPLE	DXM2	PIC11B	15-JUL-09 08:51	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395020	SAMPLE	DXM2	PIC12B	15-JUL-09 08:51	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201875399	MS	DXM2	PIC12D	15-JUL-09 08:51	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201875398	DUP	DXM2	PIC13A	15-JUL-09 08:52	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395006	SAMPLE	DXM2	PIC11B	15-JUL-09 12:06	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395018	SAMPLE	DXM2	PIC14D	15-JUL-09 12:06	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395005	SAMPLE	DXM2	PIC11B	16-JUL-09 16:55	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201875397	MB	DXM2	PIC12C	16-JUL-09 16:56	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201875400	LCS	DXM2	PIC14D	16-JUL-09 20:15	DONE	CeF on 25mm Filter	02-JUL-09 00:00

Instrument Run Log

Instrument Type: LUCAS CELL DETECTOR

Batch ID: 882996

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
232395001	SAMPLE	KSD1	LUCAS1	21-JUL-09 13:40	DONE	Lucas Cell	29-AUG-08 00:00
232395002	SAMPLE	KSD1	LUCAS2	21-JUL-09 13:40	DONE	Lucas Cell	19-DEC-08 00:00
232395003	SAMPLE	KSD1	LUCAS3	21-JUL-09 13:40	DONE	Lucas Cell	04-FEB-09 00:00
232395004	SAMPLE	KSD1	LUCAS4	21-JUL-09 13:40	DONE	Lucas Cell	02-MAR-09 00:00
232395005	SAMPLE	KSD1	LUCAS5	21-JUL-09 13:40	DONE	Lucas Cell	25-MAR-09 00:00
232395006	SAMPLE	KSD1	LUCAS7	21-JUL-09 13:40	DONE	Lucas Cell	21-NOV-08 00:00
232395007	SAMPLE	KSD1	LUCAS1	21-JUL-09 14:10	DONE	Lucas Cell	29-AUG-08 00:00
232395009	SAMPLE	KSD1	LUCAS3	21-JUL-09 14:10	DONE	Lucas Cell	04-FEB-09 00:00
232395010	SAMPLE	KSD1	LUCAS4	21-JUL-09 14:10	DONE	Lucas Cell	02-MAR-09 00:00
232395012	SAMPLE	KSD1	LUCAS7	21-JUL-09 14:10	DONE	Lucas Cell	21-NOV-08 00:00
232395014	SAMPLE	KSD1	LUCAS2	21-JUL-09 14:40	DONE	Lucas Cell	19-DEC-08 00:00
232395015	SAMPLE	KSD1	LUCAS3	21-JUL-09 14:40	DONE	Lucas Cell	04-FEB-09 00:00
232395016	SAMPLE	KSD1	LUCAS4	21-JUL-09 14:40	DONE	Lucas Cell	02-MAR-09 00:00
232395017	SAMPLE	KSD1	LUCAS5	21-JUL-09 14:40	DONE	Lucas Cell	25-MAR-09 00:00
232395018	SAMPLE	KSD1	LUCAS7	21-JUL-09 14:40	DONE	Lucas Cell	21-NOV-08 00:00
232395019	SAMPLE	KSD1	LUCAS1	21-JUL-09 15:15	DONE	Lucas Cell	29-AUG-08 00:00
232395020	SAMPLE	KSD1	LUCAS2	21-JUL-09 15:15	DONE	Lucas Cell	19-DEC-08 00:00
1201875526	DUP	KSD1	LUCAS4	21-JUL-09 15:15	DONE	Lucas Cell	02-MAR-09 00:00
1201875527	MS	KSD1	LUCAS5	21-JUL-09 15:15	DONE	Lucas Cell	25-MAR-09 00:00
232395008	SAMPLE	KSD1	LUCAS2	25-JUL-09 11:00	DONE	Lucas Cell	19-DEC-08 00:00
232395011	SAMPLE	KSD1	LUCAS3	25-JUL-09 11:00	DONE	Lucas Cell	04-FEB-09 00:00
232395013	SAMPLE	KSD1	LUCAS4	25-JUL-09 11:00	DONE	Lucas Cell	02-MAR-09 00:00
1201875525	MB	KSD1	LUCAS5	25-JUL-09 11:00	DONE	Lucas Cell	25-MAR-09 00:00
1201875528	LCS	KSD1	LUCAS7	25-JUL-09 11:00	DONE	Lucas Cell	21-NOV-08 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 883418

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
232395001	SAMPLE	CXM2	1174	17-JUL-09 07:21	DUSE		
232395002	SAMPLE	CXM2	1175	17-JUL-09 07:21	DUSE		
232395003	SAMPLE	CXM2	1176	17-JUL-09 07:21	DUSE		
232395004	SAMPLE	CXM2	1177	17-JUL-09 07:21	DUSE		
232395005	SAMPLE	CXM2	1178	17-JUL-09 07:21	DUSE		
232395006	SAMPLE	CXM2	1193	17-JUL-09 07:21	DUSE		
232395007	SAMPLE	CXM2	1194	17-JUL-09 07:21	DUSE		
232395008	SAMPLE	CXM2	1173	17-JUL-09 11:33	DUSE		
232395009	SAMPLE	CXM2	1174	17-JUL-09 11:33	DUSE		
232395010	SAMPLE	CXM2	1175	17-JUL-09 11:33	DUSE		
232395011	SAMPLE	CXM2	1176	17-JUL-09 11:33	DUSE		
232395012	SAMPLE	CXM2	1177	17-JUL-09 11:33	DUSE		
232395013	SAMPLE	CXM2	1178	17-JUL-09 11:33	DUSE		
232395014	SAMPLE	CXM2	1193	17-JUL-09 11:33	DUSE		
232395015	SAMPLE	CXM2	1194	17-JUL-09 11:33	DUSE		
232395016	SAMPLE	CXM2	1179	17-JUL-09 13:32	DUSE		
232395017	SAMPLE	CXM2	1180	17-JUL-09 13:32	DUSE		
232395018	SAMPLE	CXM2	1181	17-JUL-09 13:32	DUSE		
232395019	SAMPLE	CXM2	1182	17-JUL-09 13:32	DUSE		
232395020	SAMPLE	CXM2	1183	17-JUL-09 13:32	DUSE		
1201876621	MB	CXM2	1184	17-JUL-09 13:33	DUSE		
1201876622	DUP	CXM2	1185	17-JUL-09 13:33	DUSE		
1201876623	MS	CXM2	1186	17-JUL-09 13:33	DONE		
1201876624	LCS	CXM2	1187	17-JUL-09 13:33	DONE		
232395001	SAMPLE	CXM2	1177	21-JUL-09 14:59	DONE		
232395002	SAMPLE	CXM2	1178	21-JUL-09 14:59	DONE		
232395003	SAMPLE	CXM2	1179	21-JUL-09 15:00	DONE		
232395004	SAMPLE	CXM2	1180	21-JUL-09 15:00	DONE		
232395005	SAMPLE	CXM2	1181	21-JUL-09 15:00	DONE		
232395006	SAMPLE	CXM2	1182	21-JUL-09 15:00	DONE		
232395007	SAMPLE	CXM2	1183	21-JUL-09 15:00	DONE		
232395008	SAMPLE	CXM2	1184	21-JUL-09 15:00	DONE		
232395009	SAMPLE	CXM2	1185	21-JUL-09 15:00	DONE		
232395010	SAMPLE	CXM2	1186	21-JUL-09 15:00	DONE		
232395011	SAMPLE	CXM2	1187	21-JUL-09 15:00	DONE		
232395012	SAMPLE	CXM2	1188	21-JUL-09 15:00	DONE		
232395013	SAMPLE	CXM2	1189	21-JUL-09 15:00	DONE		
232395014	SAMPLE	CXM2	1190	21-JUL-09 15:00	DONE		
232395015	SAMPLE	CXM2	1191	21-JUL-09 15:00	DONE		
232395016	SAMPLE	CXM2	1192	21-JUL-09 15:00	DONE		
232395017	SAMPLE	CXM2	1193	21-JUL-09 15:00	DONE		
232395018	SAMPLE	CXM2	1194	21-JUL-09 15:00	DONE		
232395019	SAMPLE	CXM2	1195	21-JUL-09 15:00	DONE		
232395020	SAMPLE	CXM2	1196	21-JUL-09 15:00	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1201876621	MB	CXM2	1198	21-JUL-09 17:11	DUSE		
1201876622	DUP	CXM2	1203	21-JUL-09 17:11	DONE		
1201876621	MB	CXM2	1187	23-JUL-09 08:45	DONE		

Instrument Run Log

Instrument Type: LUCAS CELL DETECTOR

Batch ID: 883675

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
232135001	SAMPLE	KSD1	LUCAS2	14-JUL-09 13:10	DONE	Lucas Cell	19-DEC-08 00:00
232135002	SAMPLE	KSD1	LUCAS3	14-JUL-09 13:10	DONE	Lucas Cell	04-FEB-09 00:00
232135004	SAMPLE	KSD1	LUCAS4	14-JUL-09 13:10	DONE	Lucas Cell	02-MAR-09 00:00
232135005	SAMPLE	KSD1	LUCAS5	14-JUL-09 13:10	DONE	Lucas Cell	25-MAR-09 00:00
232135006	SAMPLE	KSD1	LUCAS7	14-JUL-09 13:10	DONE	Lucas Cell	21-NOV-08 00:00
232135007	SAMPLE	KSD1	LUCAS1	14-JUL-09 13:55	DONE	Lucas Cell	29-AUG-08 00:00
232135008	SAMPLE	KSD1	LUCAS2	14-JUL-09 13:55	DONE	Lucas Cell	19-DEC-08 00:00
232135009	SAMPLE	KSD1	LUCAS3	14-JUL-09 13:55	DONE	Lucas Cell	04-FEB-09 00:00
232135010	SAMPLE	KSD1	LUCAS4	14-JUL-09 13:55	DONE	Lucas Cell	02-MAR-09 00:00
232135011	SAMPLE	KSD1	LUCAS5	14-JUL-09 13:55	DONE	Lucas Cell	25-MAR-09 00:00
232135012	SAMPLE	KSD1	LUCAS7	14-JUL-09 13:55	DONE	Lucas Cell	21-NOV-08 00:00
232135013	SAMPLE	KSD1	LUCAS1	14-JUL-09 14:30	DONE	Lucas Cell	29-AUG-08 00:00
232395021	SAMPLE	KSD1	LUCAS2	14-JUL-09 14:30	DONE	Lucas Cell	19-DEC-08 00:00
232135015	SAMPLE	KSD1	LUCAS3	14-JUL-09 14:30	DONE	Lucas Cell	04-FEB-09 00:00
232135016	SAMPLE	KSD1	LUCAS4	14-JUL-09 14:30	DONE	Lucas Cell	02-MAR-09 00:00
232135017	SAMPLE	KSD1	LUCAS5	14-JUL-09 14:30	DONE	Lucas Cell	25-MAR-09 00:00
232135018	SAMPLE	KSD1	LUCAS7	14-JUL-09 14:30	DONE	Lucas Cell	21-NOV-08 00:00
232135019	SAMPLE	KSD1	LUCAS1	14-JUL-09 15:05	DONE	Lucas Cell	29-AUG-08 00:00
232727021	SAMPLE	KSD1	LUCAS2	14-JUL-09 15:05	DONE	Lucas Cell	19-DEC-08 00:00
1201877244	MB	KSD1	LUCAS3	14-JUL-09 15:05	DONE	Lucas Cell	04-FEB-09 00:00
1201877245	DUP	KSD1	LUCAS4	14-JUL-09 15:05	DONE	Lucas Cell	02-MAR-09 00:00
1201877247	LCS	KSD1	LUCAS7	14-JUL-09 15:05	DONE	Lucas Cell	21-NOV-08 00:00
1201877246	MS	KSD1	LUCAS5	14-JUL-09 16:05	DONE	Lucas Cell	25-MAR-09 00:00

Instrument Run Log

Instrument Type: GFPC

Batch ID: 885330

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
232135001	SAMPLE	MXS2	PIC1A	27-JUL-09 07:44	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201881212	MB	MXS2	PIC6D	27-JUL-09 07:44	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201881213	DUP	MXS2	PIC7A	27-JUL-09 07:44	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201881215	LCS	MXS2	PIC7C	27-JUL-09 07:45	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135002	SAMPLE	MXS2	PIC1C	27-JUL-09 07:45	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135004	SAMPLE	MXS2	PIC1D	27-JUL-09 07:45	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135005	SAMPLE	MXS2	PIC2A	27-JUL-09 07:45	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135006	SAMPLE	MXS2	PIC7D	27-JUL-09 07:46	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135008	SAMPLE	MXS2	PIC3A	27-JUL-09 07:46	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135009	SAMPLE	MXS2	PIC3B	27-JUL-09 07:46	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135010	SAMPLE	MXS2	PIC3C	27-JUL-09 07:46	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135011	SAMPLE	MXS2	PIC3D	27-JUL-09 07:46	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135012	SAMPLE	MXS2	PIC4A	27-JUL-09 07:46	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135013	SAMPLE	MXS2	PIC4C	27-JUL-09 07:46	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232395021	SAMPLE	MXS2	PIC4D	27-JUL-09 07:47	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135015	SAMPLE	MXS2	PIC5A	27-JUL-09 07:47	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135016	SAMPLE	MXS2	PIC5B	27-JUL-09 07:47	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135017	SAMPLE	MXS2	PIC5C	27-JUL-09 07:47	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135018	SAMPLE	MXS2	PIC5D	27-JUL-09 07:47	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135019	SAMPLE	MXS2	PIC8A	27-JUL-09 07:48	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232727021	SAMPLE	MXS2	PIC6B	27-JUL-09 07:48	DONE	CeF on 25mm Filter	02-JUL-09 00:00
232135007	SAMPLE	MXS2	PIC12B	27-JUL-09 11:12	DONE	CeF on 25mm Filter	02-JUL-09 00:00
1201881214	MS	MXS2	PIC8A	27-JUL-09 16:06	DONE	CeF on 25mm Filter	02-JUL-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 886690

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
232395001	SAMPLE	CXM2	1007	23-JUL-09 07:37	DONE		
232395002	SAMPLE	CXM2	1008	23-JUL-09 07:37	DONE		
232395003	SAMPLE	CXM2	1009	23-JUL-09 07:37	DONE		
232395004	SAMPLE	CXM2	1010	23-JUL-09 07:37	DUSE		
232395005	SAMPLE	CXM2	1011	23-JUL-09 07:37	DONE		
232395006	SAMPLE	CXM2	1012	23-JUL-09 07:37	DUSE		
232395007	SAMPLE	CXM2	1013	23-JUL-09 07:37	DONE		
232395008	SAMPLE	CXM2	1014	23-JUL-09 07:37	DONE		
232395009	SAMPLE	CXM2	1015	23-JUL-09 07:37	DONE		
232395010	SAMPLE	CXM2	1016	23-JUL-09 07:37	DONE		
232395011	SAMPLE	CXM2	1017	23-JUL-09 07:37	DONE		
232395012	SAMPLE	CXM2	1018	23-JUL-09 07:37	DONE		
232395019	SAMPLE	CXM2	1019	23-JUL-09 07:37	DONE		
232395020	SAMPLE	CXM2	1020	23-JUL-09 07:37	DONE		
1201884685	MB	CXM2	1021	23-JUL-09 07:37	DONE		
1201884686	DUP	CXM2	1022	23-JUL-09 07:37	DONE		
1201884687	MS	CXM2	1023	23-JUL-09 07:37	DONE		
1201884688	LCS	CXM2	1024	23-JUL-09 07:37	DONE		
232395013	SAMPLE	CXM2	1125	23-JUL-09 08:23	DONE		
232395014	SAMPLE	CXM2	1126	23-JUL-09 08:23	DONE		
232395015	SAMPLE	CXM2	1127	23-JUL-09 08:23	DONE		
232395016	SAMPLE	CXM2	1128	23-JUL-09 08:23	DONE		
232395017	SAMPLE	CXM2	1129	23-JUL-09 08:23	DONE		
232395018	SAMPLE	CXM2	1130	23-JUL-09 08:23	DONE		
232395004	SAMPLE	CXM2	1125	24-JUL-09 09:24	DONE		
232395006	SAMPLE	CXM2	1126	24-JUL-09 09:24	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 886957

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
232135001	SAMPLE	CXM2	1137	23-JUL-09 21:51	DONE		
232135002	SAMPLE	CXM2	1138	23-JUL-09 21:51	DONE		
232135004	SAMPLE	CXM2	1139	23-JUL-09 21:51	DONE		
232135005	SAMPLE	CXM2	1140	23-JUL-09 21:51	DONE		
232135006	SAMPLE	CXM2	1141	23-JUL-09 21:51	DONE		
232135007	SAMPLE	CXM2	1142	23-JUL-09 21:52	DONE		
232135008	SAMPLE	CXM2	1144	23-JUL-09 21:52	DONE		
232135009	SAMPLE	CXM2	1145	23-JUL-09 21:52	DONE		
232135010	SAMPLE	CXM2	1146	23-JUL-09 21:52	DONE		
232135011	SAMPLE	CXM2	1147	23-JUL-09 21:52	DONE		
232135012	SAMPLE	CXM2	1148	23-JUL-09 21:52	DONE		
232135013	SAMPLE	CXM2	1149	23-JUL-09 21:52	DONE		
232135015	SAMPLE	CXM2	1150	23-JUL-09 21:52	DONE		
232135016	SAMPLE	CXM2	1151	23-JUL-09 21:52	DONE		
232135017	SAMPLE	CXM2	1152	23-JUL-09 21:52	DONE		
232135018	SAMPLE	CXM2	1153	23-JUL-09 21:52	DONE		
232135019	SAMPLE	CXM2	1154	23-JUL-09 21:52	DONE		
232395021	SAMPLE	CXM2	1155	23-JUL-09 21:52	DONE		
232727021	SAMPLE	CXM2	1156	23-JUL-09 21:52	DONE		
1201885396	MB	CXM2	1157	23-JUL-09 21:52	DUSE		
1201885397	DUP	CXM2	1158	23-JUL-09 21:52	DONE		
1201885400	MS	CXM2	1159	23-JUL-09 21:52	DONE		
1201885403	LCS	CXM2	1160	23-JUL-09 21:52	DONE		
1201885396	MB	CXM2	1140	27-JUL-09 12:10	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 888328

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
232135001	SAMPLE	CXM2	1173	28-JUL-09 11:56	DONE		
232135008	SAMPLE	CXM2	1174	28-JUL-09 11:56	DONE		
232135002	SAMPLE	CXM2	1175	28-JUL-09 11:56	DONE		
232135009	SAMPLE	CXM2	1176	28-JUL-09 11:56	DONE		
232135004	SAMPLE	CXM2	1177	28-JUL-09 11:56	DONE		
232135010	SAMPLE	CXM2	1178	28-JUL-09 11:56	DONE		
232135005	SAMPLE	CXM2	1179	28-JUL-09 11:56	DONE		
232135011	SAMPLE	CXM2	1180	28-JUL-09 11:56	DONE		
232135006	SAMPLE	CXM2	1181	28-JUL-09 11:56	DONE		
232135012	SAMPLE	CXM2	1182	28-JUL-09 11:56	DONE		
232135007	SAMPLE	CXM2	1183	28-JUL-09 11:56	DONE		
232135013	SAMPLE	CXM2	1184	28-JUL-09 11:56	DONE		
232135015	SAMPLE	CXM2	1185	28-JUL-09 11:56	DONE		
232727021	SAMPLE	CXM2	1186	28-JUL-09 11:56	DONE		
232135016	SAMPLE	CXM2	1187	28-JUL-09 11:56	DONE		
233587015	SAMPLE	CXM2	1188	28-JUL-09 11:56	DONE		
232135017	SAMPLE	CXM2	1189	28-JUL-09 11:56	DONE		
1201888813	MB	CXM2	1190	28-JUL-09 11:56	DONE		
232135018	SAMPLE	CXM2	1191	28-JUL-09 11:57	DONE		
1201888814	DUP	CXM2	1192	28-JUL-09 11:57	DONE		
232135019	SAMPLE	CXM2	1193	28-JUL-09 11:57	DONE		
1201888818	MS	CXM2	1194	28-JUL-09 11:57	DONE		
232395021	SAMPLE	CXM2	1195	28-JUL-09 11:57	DONE		
1201888822	LCS	CXM2	1196	28-JUL-09 11:57	DONE		